Johnson Controls

HITACHI
Air conditioning solutions

HITACHI

2020

HITACHI

Catalogue PRO 2020

Johnson Controls Hitachi Air Conditioning Conditioning Europe SAS

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Hitachi Cooling & Heating Global

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Catalogue PRO



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Cooling & Heating

HITACHI



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Welcome to Hitachi Cooling & Heating Climate-control solutions

Over 100 years of history and culture

Japanese technology

15 factories around the world

Born in Japan, with a global presence

Hitachi is the global brand for premium climate-control solutions, renowned for its ability to create unique spaces, understand installation requirements, and provide customer satisfaction.

By designing, engineering and manufacturing reliable, efficient, high- quality heating and cooling systems, we help people find their optimal air-conditioning solution, always meeting their expectations.

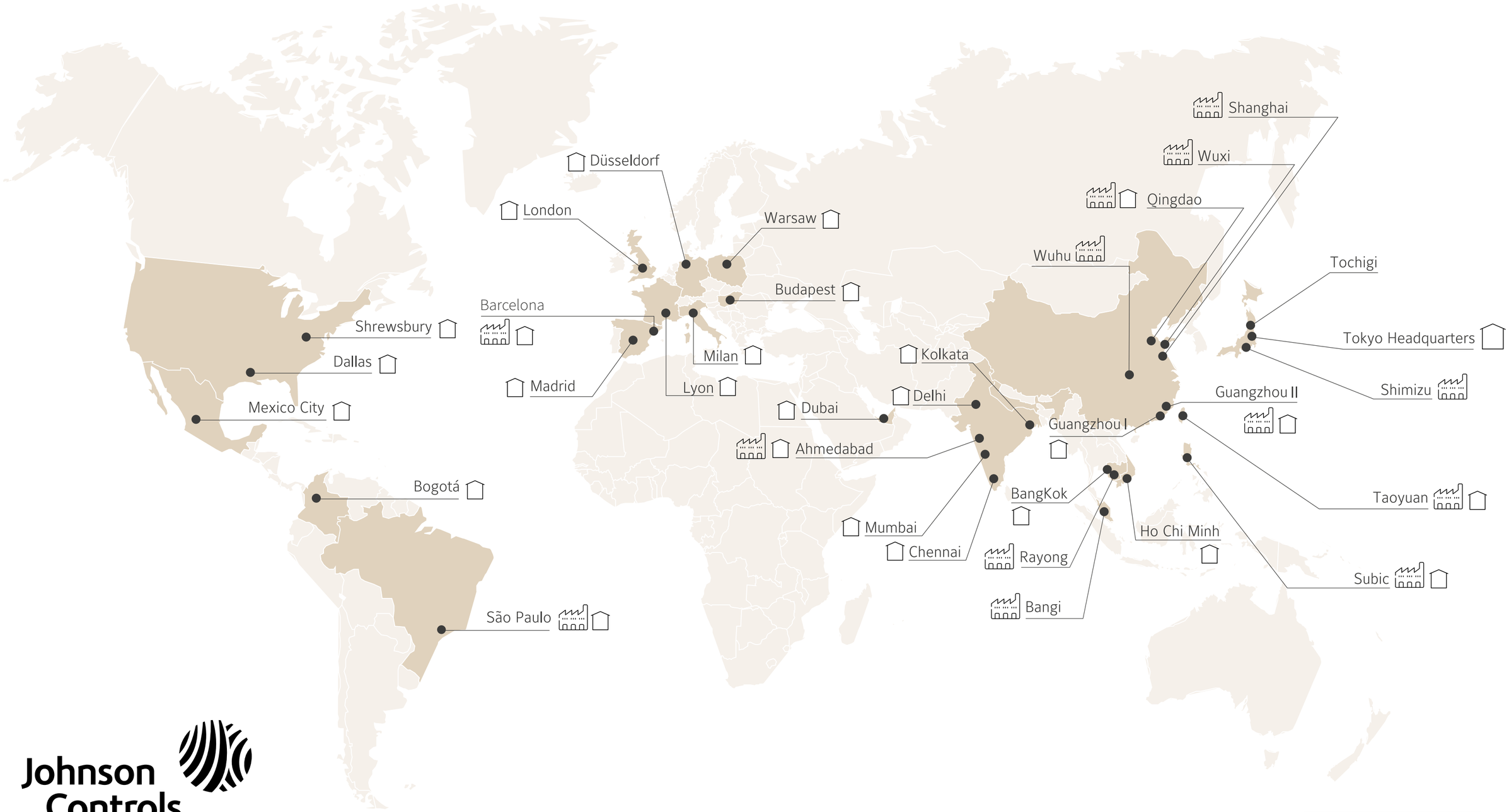
Our goal is to create a world where, thanks to our cutting-edge Japanese technology, people can live in harmony with themselves, their families, and the environment around them.

To ensure its global reach, Hitachi has 15 factories* around the world, producing the various Hitachi climate-control ranges and components: residential, commercial, heating, VRF, chillers and compressors.

* Including joint ventures.



Global climate-control solutions from Hitachi factories



Johnson Controls

HITACHI
Air conditioning solutions

Hitachi's European factory in Spain

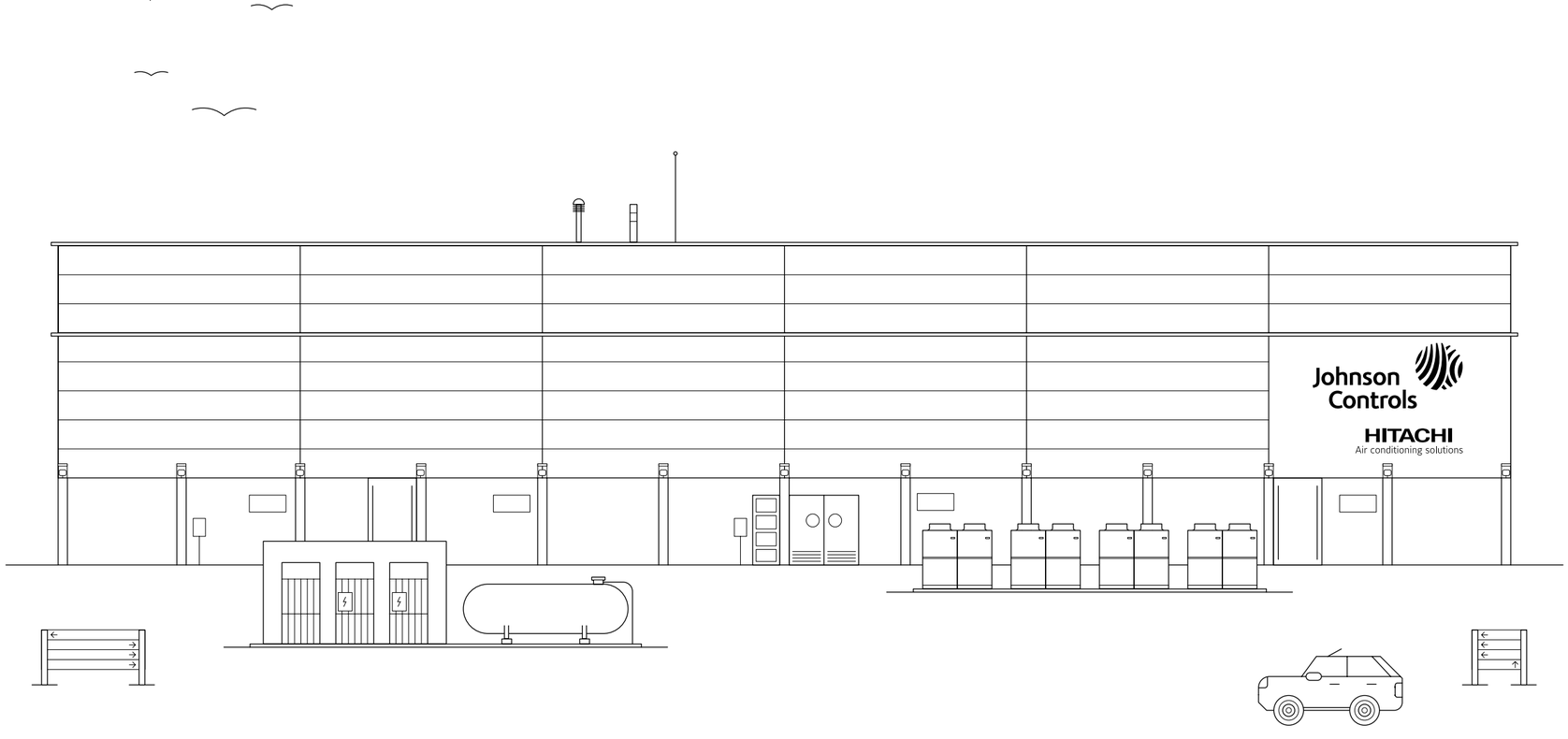
A look behind the scenes...



The Spanish factory in Vacarisses, Barcelona is responsible for designing, manufacturing and inspecting each climate-control unit. It also supplies equipment to Europe, Africa, Australasia and parts of South America.

Its location allows us to control the design and manufacturing process to ensure our units meet the highest quality, reliability and durability standards for our customers. We also offer fast delivery and high-availability of spare parts, and direct contact with the design area.

The factory currently produces the following product lines: Samurai L Chillers, VRF systems, Yutaki heat pumps, IVX commercial range and the System Free indoor units, representing almost the entire portfolio of Hitachi equipment.



We design cutting-edge technology to meet your needs and desires

Introduction

Johnson Controls

HITACHI
Air conditioning solutions

Johnson Controls Hitachi Air Conditioning Europe offers the world's most complete range of climate-control, heating and air-conditioning products.

Always at the forefront of technology, Johnson Controls Hitachi Air Conditioning Europe develops high-technology products for an environment with maximum comfort in any situation.

From professional or domestic environments to industrial climate control. From new constructions to renovation products. At Hitachi Cooling & Heating, you will always find a solution.

In addition, respect for the environment is also one of our priorities, from the design of the product to its production, through installation and startup.

Whatever your expectations are, the Hitachi network is there to support you and offer you the right solutions.

15,000
employees
worldwide

2019
Double digit growth
in Europe

15 factories*
owned by Johnson Controls Hitachi around the globe. Factory in Barcelona for the whole of Europe

More than
200
partners across Europe & Northern Africa

* Including joint ventures.

Space to add information

EU

More than
40 000m²
of manufacturing footprint in Europe

KIWA
Certification to testing laboratory V for heating

MSC
Certification to testing laboratory II for heating

Eurovent Certification
(WC commercial test) to water chilled laboratory

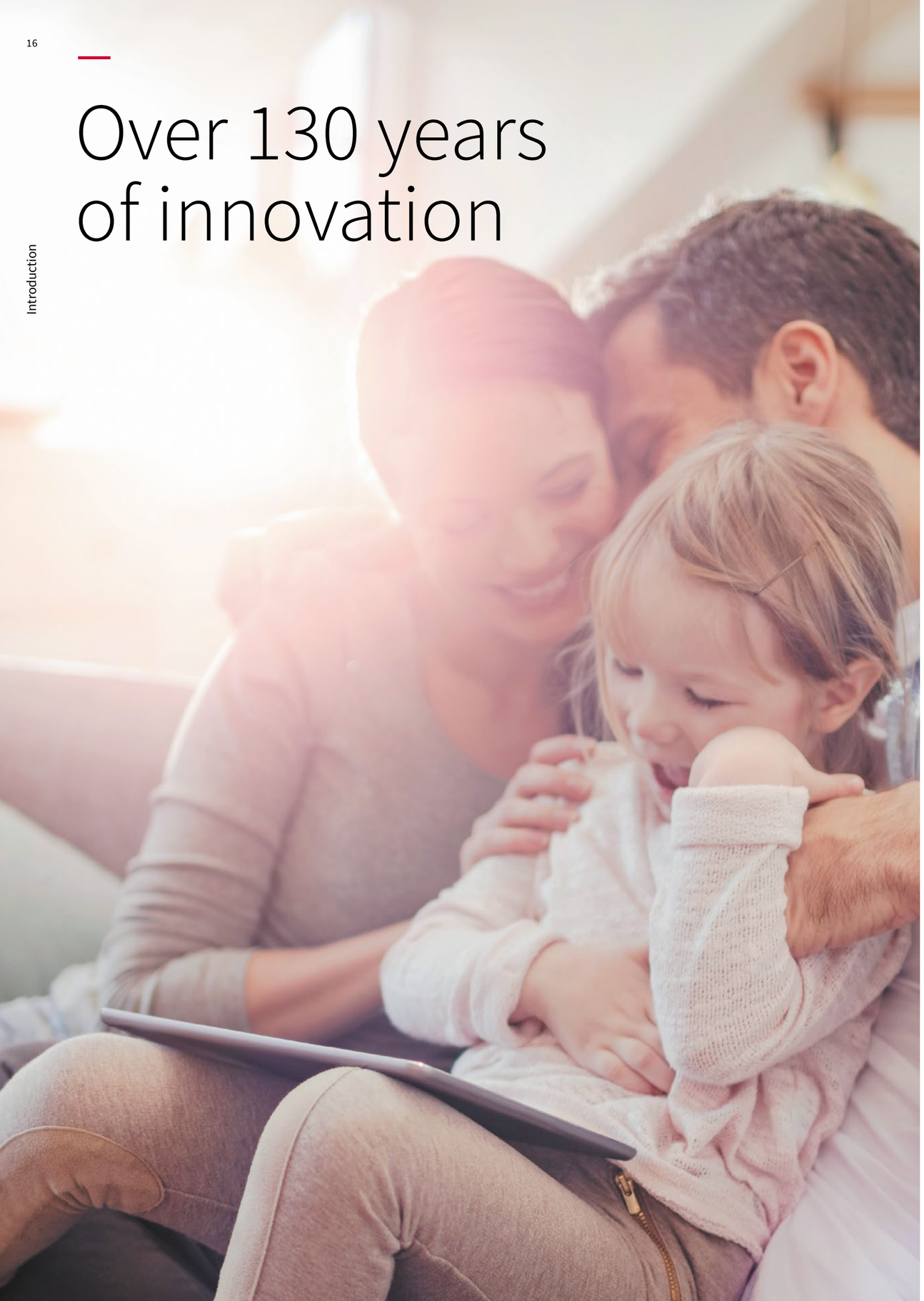
Zero Waste to Landfill
(Johnson Controls unique certification)

Over
1 200
employees
across the region

Sales offices
or partners in
44
countries across Europe and Northern Africa

9
training centers
in the region

Over 130 years of innovation



1883
In 1883, Warren S. Johnson registered a patent for the first electric thermostat. His invention launched the Johnson Controls building-control sector.

1910
In 1910, Namihei Odaira founded an electrical repair shop at Kuhara Mining in Hitachi (Ibaraki, Japan). The company has been a technology leader ever since.

1936
First fully climate-controlled office building with air conditioning.

1952
First air conditioner in Japan.

1958
First monobloc centrifugal chiller with water-cooled condenser

1962
First heat pump in Japan

1978
First chiller with variable speed drive

1983
First DC inverter air conditioner

1999
First graphic user interface (GUI) panel on a refrigerator.

2005
With the acquisition of the York® brand, the Group becomes the leading one-stop supplier of heating, ventilation, air-conditioning and refrigeration solutions.

2006
- First multi-split on the market with 6 outlets.
- First air-to-water heat pump.

2008
- First console designed for the heating market.
- First UTOPIA IVX on the market.

2010
Johnson's headquarters earns LEED Platinum certification. This green building label, given to cutting-edge programs of energy and environmental design, is developed by the United States Green Building Council.

2011
- First thermal-energy reservoir on the market.
- First 2-pipe / 3-pipe VRF on the market.

2013
First high-temperature air source heat pump.

2014
- First air source heat pump with DHW service and heating.
- Eurovent certificate for VRF.

2015
On October 1, launch of the new company Johnson Controls Hitachi Air Conditioning.

2016
- New range of YUTAKI residential air-to-water air source heat pump range.
- Hi Kumo app for PAC units.

2017
New Hydrofree solution: DHW production in VRF

2018
- Multi T solution, the first solution with a thermal energy reservoir and direct expansion units.
- New VRF SIGMA range.
- Complete new range of Samurai chillers.

2019
- FrostWash: freezes and eliminates dust, mold and bacteria for fresh, clean air.
- Side flow VRF, the only solution on the market with horizontal-discharge heat-recovery systems.
- Yutaki R32, air source heat pump with R32 for a more sustainable world

Hitachi
High technology

FrostWash
Automatic cleaning of wall-mounted exchanger

With this technology, the heat exchanger automatically freezes to eliminate all the impurities and maintain optimal performance.

Constant Power
Maintaining output down to -15°C ambient

Thanks to "Constant Power" technology, the exclusive design of our outdoor units is able to maintain output capacity at up to -15°C on the outside and operate at up to -25°C outside.

Yutaki Smart Cascade
Intelligent regulation for greater energy efficiency

Hitachi has an exclusive smart control, consisting of two refrigeration stages with R410A and R134A. Its functionality automatically changes, either to R410A only or to cascade (activating the second stage with R134A if necessary).

Wizard
Intuitive configuration assistant

With the wizard you can quickly configure Yutaki installations to adapt them to any environment: pool, boiler combination, solar…

4-Way Swing
Balanced horizontal and vertical

A technology that offers even more comfort in the Performance Wall-Mounted range.

Vector Control
Patented Hitachi system

Optimizes the operation of compressors on outdoor units to achieve unbeatable performance.

Hibernation
Intelligent regulation for outdoor units

Able to achieve a 70% reduction when stopped.

Gentle Cool
No cold drafts

This function restricts the off-temperature air to prevent cold drafts and ensure greater comfort.

2-pipe/3-pipe concept
Total flexibility

Outdoor units designed to work in applications in Heat-Pump or Heat-Recovery mode

System Free
Flexibility

System Free indoor units come with a switch, as standard, that allows them to adjust as finely as possible when they start up.

Power Switch
Adaptability

All the outdoor units of our tertiary range (Mono-split and VRF) are compatible with the indoor units and all the tertiary-supply control systems.

Smooth Drive Control
Comfort & Savings

This function is used to control the speed of the compressor down to 0.1 Hz, to guarantee the most constant possible comfort temperature.

Self-adjusting evaporation temperature
Energy saving

The Sigma range is equipped with a regulation that optimizes cold-start energy consumption while guaranteeing optimal comfort.

Smart defrosting
More comfort in heating mode

Thanks to new integrated electronics, in the Sigma outdoor units, the continuous heating periods are twice as long as they are in conventional systems (up to 250 mins). Defrosting time is reduced, ensuring optimal comfort.

All-included Smart buildings
Tertiary solutions

The standard electronics integrated in all contacts (input/output) mean it can be integrated in all cases.

Occupancy sensor
Savings

Detects human activity to keep energy costs down

R32 refrigerant, the new-generation green refrigerant

R32 regulation and specifications.

The goal of the European Regulation on Refrigerants (F-Gas) and the European Directive on ErP (energy-related products) is to achieve a 20% reduction in global greenhouse-gas emissions by 2030 and to gradually restrict the quantities emitted in CO2 equivalent, which it is possible to put on the market. These new regulations therefore encourage the use of products containing fluids with a lower global warming potential (GWP).

The inclusion of the R32 refrigerant in our Hitachi units coincides with F-Gas objectives, while at the same time helping to contribute to a more sustainable world and allowing our customers to enjoy these same benefits. Since 2013, Hitachi Cooling & Heating has dominated this technology and has produced R32 units for more than 40 countries.

In 2019, Hitachi Cooling & Heating expanded its offer, including the refrigerant R32 in a larger selection of products to offer its customers more quality, performance, longevity and comfort.

Hitachi Cooling & Heating ranges with R32

Choose the most eco-friendly presentation

Wall-mounted
≤ 7kW



Ducted
≤ 7kW



Cassettes
≤ 6 kW



Consoles
≤ 5 kW



Multi-splits
≤ 11kW



Yutaki
≤ 8kW

Hitachi Cooling & Heating units with R32 are compatible with all residential installations, as well as tertiary applications, and category-5 ERT and ERP.

R32 ranges are…

Those with the highest energy benefits

R32 has excellent thermal properties and greater energy efficiency compared to R410A, as it is 5 to 10% more efficient. R32 equipment performs better than equipment running R410A. Our R32 units earn an additional energy class.

Greener solutions

On the one hand, R32 is a solution that is three times more ecological than R410A, with a GWP of 675 compared to a GWP of 2088 for R410A. Its carbon footprint is three times smaller than that of R410A, so its impact is three times as low on global warming.

On the other hand, this fluid also has zero impact on the ozone layer: ODP (ozone depletion potential) = 0.

Use of a pure fluid

R32 is a pure fluid, so it is easy to recycle.
It also means the gas is easier to handle when charging, as it can be charged in both liquid and gaseous state, unlike R410A (which must always be charged in liquid state).

In terms of R32 installation and maintenance methods, they are still relatively identical to those of R410A, as both these fluids have very similar pressure ranges. (Design pressure: R410A = 4.15 MPa / R32 = 4.29 MPa.)

Safety approved

R32 belongs to the A2L safety class, which means it is non-toxic yet mildly inflammable, with a maximum combustion speed of under 7 cm/s, so it is safe to use in most air-conditioning and heating applications.

R32 is not explosive and the risks of combustion and fire spread are very low (as low as all gases in domestic appliances). In fact, R32 is inflammable if the following three elements are present:
Concentration in air> 0.307 kg/m3 + oxygen content + combustion source.
However, only people with experience should handle gases under pressure and it is important to observe the safety standards for use.
Handling and installation of units with R32 requires special precautions and adapted equipment:



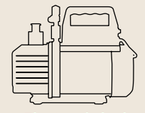
Pressure gauge with scale adapted to R32



Fluid-recovery bottle adapted for refrigerant



Station adapted for fluid recovery.



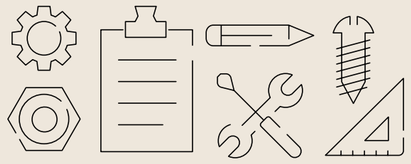
Electronic leaks detector

Precautions to keep in mind:
- Make sure there are no leaks so that no oxygen gets into the refrigerant.
- Ventilate the site of installation to reduce the concentration of gas in the room in case of problems.
- Regularly check for airtightness of the system and the quantity of refrigerant.

Quality you can count on

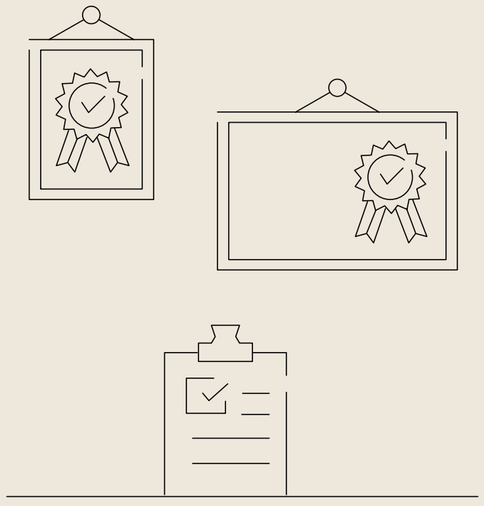


How do you view that quality in our products?



The different parts of our units are manufactured with the highest-quality materials sourced from carefully chosen suppliers. This is how you obtain worry-free lifelong climate control.

Quality control



Just as you do in each installation, we test the climate-control units one by one, without sampling. This is how you obtain standards of quality and guaranteed reliability in all our equipment.

No waste is sent to a landfill

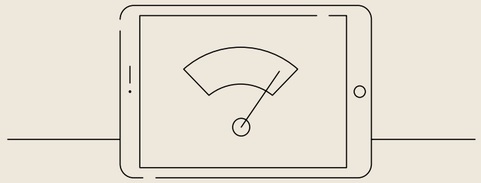


100% of the waste generated at the factory is recycled or its value increased. That way, our factory makes the most of its waste, contributing to environmental sustainability.

Automatic centralized spare parts warehouse

Our new spare parts warehouse in our European factory delivers optimal access to spare parts and we a have a policy in place to keep spares for 10 years after the discontinuation of the unit for most units.

Certified performance

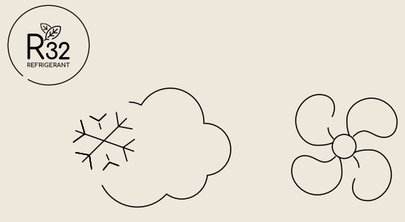


All our seasonal efficiency levels are certified by the Eurovent and Keymark certification programs.

We support your own commitment to sustainability

PASSION TO WIN
with customers
JCH Europe Business Unit
Johnson Controls
HITACHI
Air conditioning systems

Refrigerant



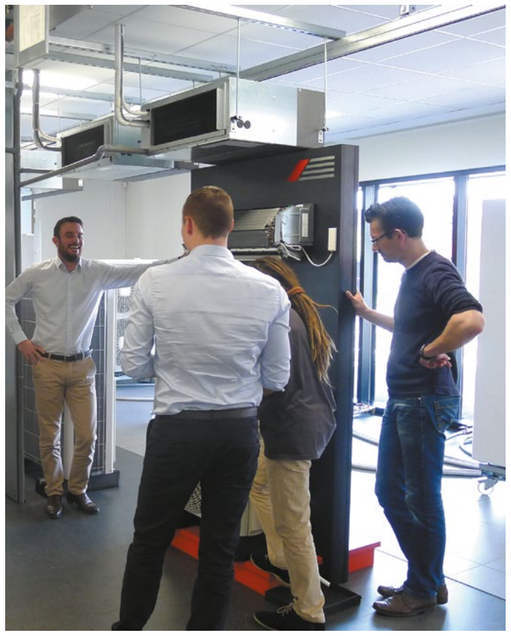
To help you with your commitment to the environment, a feature of many of our units is that they need less refrigerant to work, so they make a positive contribution to nature and society.

Technical training at Hitachi



Whatever your goals are, at our training centers we offer:

- In-depth knowledge of our products and the principles of their installation.
- Full mastery of the products
- Become an expert in the specific areas you need and be able to make accurate diagnoses of the products.



Educators: quality pedagogy and equipment

With their experience, your trainer will combine theory with practice so that you will end up with specific know-how at the end of the course.
At the Hitachi training center, our units (mono-split, multi-split, VRF, SET FREE and air-to-water heat pumps) are installed in real conditions to enable you to handle the products that are actually in operation.

BIM

The digitalization of the construction sector is increasing evidence of the proximity to design based on BIM (Building Information Modeling). To begin with, since December 17, 2018, all building construction projects with government financing in excess of two million euros are required by law to be executed in BIM.

Currently, as of July 26, 2019, all infrastructure construction projects with government financing must be executed in BIM.

The goal for 2020 is to have all public equipment and infrastructure of projects, new works and refurbishments presented in BIM.

What exactly is BIM (Building Information Modeling)?

BIM is a model designed to optimize the design, execution and management of construction, including integration with specific electronic methods and instruments, in the scope of the design of the building and its structure. With BIM we can process all the relevant data of the construction and present the results available at each stage of the process in an open digital format.

The mandatory use of specific electronic methods and tools is aimed at rationalizing the planning and the related verification activities, improving and removing processes that up to now have affected the times and means of participating in tenders.

Important construction data are collected, combined and compiled digitally, in order to have a visualization with a three-dimensional geometric model.

BIM is not only used in the sector of design and construction (architecture, engineering, technical implementations), but also in resource management.



The peace of mind you need with Hitachi support

Include country contact detail

Call us on:
T: 900 844 480
Hours: M-T 9:00-18:30; F 9:00-14:30

Or if you prefer, write to us at:
asistencia.tecnica@jci-hitachi.com
administracion.spain@jci-hitachi.com

If you need spare parts, write to:
recambios@jci-hitachi.com

The official Hitachi technical service

Because we know you are looking for quick, efficient response, our Official Hitachi Technical Service is quick to tackle any type of incident. The professionals who receive constant training by Hitachi at the European factory in Barcelona know the entire Hitachi range from top to bottom, and are capable of responding to any query or incident that might arise.

48 HOURS: Technical support's maximum response time

Hitachi offers a technical support period of two business days, from the time we receive the technical support request at our service department, unless circumstances are beyond Hitachi's control.

Ever-available stock of spare parts

Spare parts delivery, maximum two business days after receiving the order, unless circumstances are beyond Hitachi's control. These delivery times are possible thanks to an ever-available stock of spare parts. Hitachi guarantees the availability of functional spare parts for a period of ten years from the final manufacture date of each series.

Eurovent Certification. First Japanese manufacturer to certify its products at Eurovent

Hitachi's climate control systems are Eurovent certified for full reassurance in any type of application. Certification guarantees the performance of our systems under the most demanding conditions, as it complies with European legislation, giving consultants, fitters and end users the peace of mind that the systems they have selected will perform as specified.

Being in the directory of products certified by Eurovent means being a manufacturer that offers transparency and efficiency across the entire business chain.

Remember to ask for the Eurovent certificate for your equipment.

Recycling of electrical and electronic devices.

The Ecotic Foundation provides an integrated ECOinstallers management system for the service of collecting and handling air-conditioner waste.

Get rid of your electrical appliances at your nearest local waste facility for recycling

Call 900 103 281 or write to:
soporte@ecotic.es

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

HITACHI



Residential Innovations



Multi-split range with combinations of 2 to 5 indoor units and a power rating of up to 11 kW

A new range of high-performance indoor units with R32 that can be combined with multi-split and mono-split units.

Lorai Wall-Mounted

New Lorai wall-mounted range with a unique design that incorporates the novel FrostWash function developed by Hitachi for evaporator self-cleaning.

P. 110



RAI-RPE cassette from 2.5 to 6 kW

Innovative range of 600 x 600 R32 cassette units that incorporate individual control of the vent louvers.
Compatible with multi-split and mono-split.

P. 95 - P. 144



RAD-RPE duct from 2.5 to 6 kW

The new range of R32 ducts
allows adjustment of the available static pressure up to 150 Pa.
Compatible with multi-split and mono-split units.

P. 174



RAF-RXE console from 2.5 to 5 kW

The Takai console also uses R32, but with a higher performance level.

P. 93 - P. 127



Triple C

An innovative solution designed to combine air conditioning, heating and DHW production using the same outdoor unit.

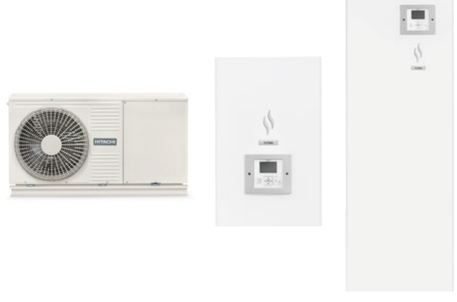
P. 86



Wall-Mounted R32 Light Commercial range from 5 to 7 kW

Wall-mounted units with the Human Sensor series occupancy detector in all power options, with multi-split and mono-split.

P. 118



Yutaki R32 range, 2, 2.5 and 3 metric HP

We are expanding our Yutaki R32 range to include a new compact unit: the 2 metric horsepower Yutaki M. P. 46 - P. 52 - P. 72



Hi Kumo PRO

Our app-based remote-control solution makes it possible to integrate our air-conditioning units with Yutaki units.

P. 108

Innovations in VRF Systems



Wall-Mounted RPK

A harmonious design with a range of power options from 0.4 to 4 metric HP and lower noise levels.

P. 276



VRF Set Free Mini

A wide range of power options in horizontal discharge systems, from 4, 5 and 6 metric HP outdoor units with two-pipe systems, to 8, 10 and 12 metric HP outdoor units with three-pipe systems.

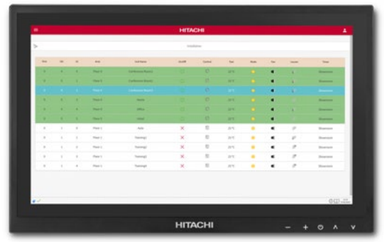
P. 244



Wired controls

Now with more functions, including the new GENTLE COOL, which prevents cold drafts in the indoor unit, with an adjustable setpoint temperature at intervals of 0.5°C.

P. 336



CSNet Manager centralized controls

Our CSNET centralized controls, revamped and expanded to control anything from small solutions to large buildings.

P. 340



New BACNET & KNX & MODBUS gateways

Preset communication gateways, certified and more direct for easier integration.

P. 337



Samurai Chillers

Our Samurai chillers with screw compressors and scroll inverter. Power ranges from 12 to 4000 kW.

P. 358

The Yutaki range of monobloc and split heat pumps now integrate R32 refrigerant for improved performance on small capacities designed for the new build market.
The ranges designed for renovation maintain R410A refrigerant.



Air to water heat pump



Heating, cooling and thermodynamic domestic hot water (DHW)

Yutaki S



Yutaki S Combi



Yutaki S Combi Solar



Yutaki S80



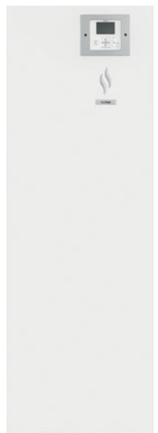
Yutaki S 80 Combi



Yutaki M



Yutaki S Combi Lite



Quick selection table

	Yutaki S	Yutaki S Combi	Yutaki S Combi Solar	Yutaki S80	Yutaki S80 Combi	Yutaki M	Yutaki S Combi Lite
	P. 46	P. 52	P. 54	P. 60	P. 62	P. 72	P. 68
	Heating, cooling	Heating, cooling and DHW	Heating, cooling and solar powered DHW	Heating	Heating and DHW	Heating, cooling	Heating, cooling and DHW
Range	**RWM-2~3.0NRE RWM-4 ~10.0NE**	**RWD-2~3.0NRWE RWD-4~6.0NWE**	**RWD-2~3.0NRWSE-260S RWD-4~6.0NWSE-260S**	**RWH-4~6.0(V)NFE**	**RWH-4~6.0(V)NFWE**	**RASM-2~3.0VRE RASM-4~6.0(V)NE**	**RWD-2~2.5.0NWLE-200S**
Applications	Low-temperature radiators, underfloor heating cooling, fan coil, DHW and pool heating. Ideal for new builds and replacing wall-mounted boilers.	Low-temperature radiators, underfloor heating cooling, fan coil, integrated DHW and pool heating. Ideal for installations with little indoor space thanks to the integrated DHW tank.	Low-temperature radiators, underfloor heating cooling, fan coil, solar powered DHW and pool heating. Ideal for installations with little indoor space thanks to the DHW tank and its integrated solar powered heating coil.	Low and/or high-temperature radiators, underfloor heating, fan coil (heating only) and pool heating. Ideal for installations requiring high temperatures, e.g. replacing fuel oil boilers.	Low and/or high-temperature radiators, underfloor heating, fan coil (heating only) integrated DHW and pool heating. Ideal for installations requiring high temperatures, e.g. replacing fuel oil boilers. Ideal for installations with little indoor space thanks to the integrated DHW tank.	Low-temperature radiators, underfloor heating cooling, fan coil, DHW and pool heating. Compact unit, ideal for installations with little indoor space.	Low-temperature radiators, underfloor heating cooling, fan coil, integrated DHW and pool heating. Ideal for installations with little indoor space thanks to the integrated DHW tank.
Heating capacity (kW)	4.3 - 24	4.3 - 16	4.3 - 16	4.3 - 17.8	4.3 - 17.8	4.3 - 16	4 - 6
COP 7 °C ext/30 - 35 °C water	5.25	5.25	5.25	5	5	5.25	4.7
Cooling capacity (kW)	4 - 17.5	4-10.5	4 - 10.5	-	-	4 - 10.5	5.5 - 6.6
EER 35 °C ext/7 - 12 °C water	4	3.54	4	-	-	4	3.15
Water output temperature °C	60	60	60	80	80	60	55
Heating operating range °C	-25/+25	-25 /+25	-25 /+25	-25 /+25	-25 /+25	-25 /+25	-15 /+25
Cooling operating range °C	+10/+46	+10/+46	+10/+45	-	-	+10/+46	+10/+43
Temperature range for DHW output °C	-	-	+30/+60	+30/+75	-	+30/+60	+30/+55
Compressor	Scroll DC Inverter	DC Inverter Rotary 2 cylinders	Scroll DC Inverter	Scroll DC Inverter	Scroll DC Inverter	Scroll DC Inverter	DC Inverter Rotary 2 cylinders
Energy class water at 35°C	A+++	A+++	A+++	A+++	A+++	A+++	A+++

Yutaki 2/2.5/3HP R32 : Diameters of refrigerant pipes

		Outdoor unit		Refrigerant pipes		Indoor unit	
		Dimensions of pipes connection		Between the outdoor and indoor unit		Dimensions of pipes connection	
Model	Length of pipes	Gas pipe	Fluid pipe	Gas pipe	Fluid pipe	Gas pipe	Fluid pipe
2 HP	3~50 m	Ø12.7 (1/2")	Ø6.35 (1/4")	Ø12.7 (1/2")	Ø6.35 (1/4")	Ø15.88 (5/8") (*)	Ø6.35 (1/4")
2.5 HP	3~50 m						Ø9.52 (3/8") (*)
3 HP	3~27 m	Ø15.88 (5/8") (*)	Ø9.52 (3/8") (*)	Ø15.88 (5/8")	Ø6.35 (1/4")	Ø15.88 (5/8")	Ø9.52 (3/8") (*)
	27~50 m	Ø15.88 (5/8")	Ø9.52 (3/8")	Ø15.88 (5/8")	Ø9.52 (3/8")	Ø15.88 (5/8")	Ø9.52 (3/8") (*)

***For models 2/2, 5/3 HP, indoor units and outdoor units have different diameters of refrigerant gas pipes and refrigerant fluid pipes. Adapters are therefore required for refrigerant pipes. These pipe adapters are supplied with the outdoor unit:**

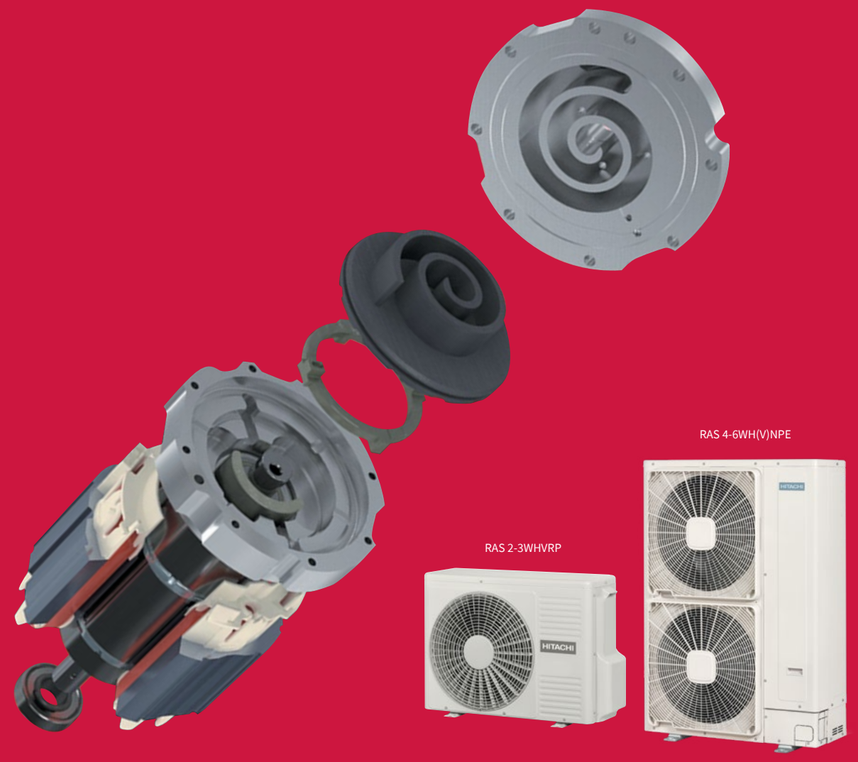
	Pipe adapter	
Model	Gas pipe	Fluid pipe
2 HP	Ø15.88 → Ø12.7	-
2.5 HP	Ø15.88 → Ø12.7	Ø9.52 → Ø6.35
3 HP	-	Ø9.52 → Ø6.35 (x2)

Air to water heat pumps range

	Fluid	R32			R410A						
	Capacity (kW)	4.3	6.0	8.0	4.3	6.0	11.0	14.0	16.0	20.0	24.0
Split solutions	Yutaki S Heating cooling P. 46	RWM-2.0NRE (Single)	RWM-2.5NRE (Single)	RWM-3.0NRE (Single)			RWM-4.0NE (Single/Three)	RWM-5.0NE (Single/Three)	RWM-6.0NE (Single/Three)	RWM-8.0NE (Three)	RWM-10.0NE (Three)
							+ The single/three hydraulic modules for these models are identical				
	Yutaki S Combi 200L/260L Heating cooling DHW P. 52	RWD-2.0NRWE-(200/260)S (Single)	RWD-2.5NRWE-(200/260)S (Single)"	RWD-3.0NRWE-(200/260)S (Single)			RWD-4.0NWE-(200/260)S (Single/Three)	RWD-5.0NWE-(200/260)S (Single/Three)	RWD-6.0NWE-(200/260)S (Single/Three)		
							+ The single/three hydraulic modules for these models are identical				
	Yutaki S Combi Solar 260L Heating cooling Solar powered DHW P. 54	RWD-2.0NRWSE-260S (Single)	RWD-2.5NRWSE-260S (Single)	RWD-3.0NRWSE-260S (Single)			RWD-4.0NWSE-260S (Single/Three)	RWD-5.0NWSE-260S (Single/Three)	RWD-6.0NWSE-260S (Single/Three)		
							+ The single/three hydraulic modules for these models are identical				
	Yutaki S 80 Heating P. 60						RWH-4.0(V)NFE (Single/Three)	RWH-5.0(V)NFE (Single/Three)	RWH-6.0(V)NFE (Single/Three)		
	Yutaki S 80 Combi 200 L/260 L Heating DHW P. 62						RWH-4.0(V)NFWE + DHWS (200/260)S-2.7H2E (Single/Three)	RWH-5.0(V)NFWE + DHWS (200/260)S-2.7H2E (Single/Three)	RWH-6.0(V)NFWE + DHWS (200/260)S-2.7H2E (Single/Three)		
	Yutaki outdoor units Applicable to all models except Combi Lite	Size 2.0 - 3.0 / Size 4.0 - 10.0									
		RAS-2WH-VRP (Single)	RAS-2.5WH-VRP (Single)	RAS-3WH-VRP (Single)			RAS-4WH(V)NPE (Single/Three)	RAS-5WH(V)NPE (Single/Three)	RAS-6WH(V)NPE (Single/Three)	RAS-8WHNPE (Three)	RAS-10WHNPE (Three)
		+ The outdoor units are the same for all Yutaki models except Combi Lite									
	Yutaki S Combi Lite 200L Heating cooling DHW P. 68				RWD-2.0NWLE-200S (Single)	RWD-2.5NWLE-200S (Single)					
	Outdoor units Yutaki S Combi Lite Unit compatible exclusively with Yutaki S Combi Lite				RAS-2.0WHVN (Single)	RAS-2.5WHVN (Single)					
Monobloc solution	Yutaki M Heating cooling DHW P. 72	Size 2.0 - 3.0 / Size 4.0 - 6.0									
		RASM-2VRE (Single)		RASM-3VRE (Single)			RASM-4(V)NE (Single/Three)	RASM-5(V)NE (Single/Three)	RASM-6(V)NE (Single/Three)		

(V) = single

Maximum reliability



The Scroll DC Inverter from Hitachi was designed to increase seasonal performance and reliability while reducing energy consumption.

The compressor is particularly efficient in intermediate seasons, offering high performance at low partial loads



The high performance Yutaki range

"Your needs change, Yutaki adapts"

The day-to-day needs of your customers change: heating, cooling in summer, domestic hot water all year round… but many will also want to connect their installations to solar panels and heat their pool.
It's therefore important to have a tailor-made system to meet all these needs. The Yutaki range is therefore compatible with all types of water heat emitters: radiators, underfloor heating/cooling and fan coils.
You can also have different heating zones, with radiators upstairs and underfloor heating downstairs.

The Yutaki range of monobloc and split heat pumps now integrate R32 refrigerant for improved performance on small capacities designed for the new build market.
The ranges designed for renovation maintain R410A refrigerant.

High performance reflected by its energy class

The Yutaki range offers reduced energy consumption, higher cost savings and less environmental impact thanks to its A+++ energy class as standard on all its equipment.

The widest range of capacities on the market

Maximum reliability

The Scroll DC Inverter from Hitachi was designed to increase seasonal performance and reliability while reducing energy consumption.
The compressor is particularly efficient in intermediate seasons, offering high performance at low partial loads



RAS 2-3WHVRP



RAS 4-6WH(V)NPE

Yutaki S and S Combi

Discover all the benefits of Yutaki S and S COMBI which combine performance, savings, design and ease-of-use.

① **Low consumption pump**
The low consumption pump adapts its flow to the heating requirements within the residence, offering up to 60% savings compared to a standard pump.

② **A solution adapted to your needs**
Even if additional capacity is required, three-stage electrical heating elements ensure that comfort is maintained for heating and domestic hot water.

③ **Reversible for all year round comfort**
You will appreciate the dual function keeping you warm in the winter and cool in the summer (underfloor heating or fan coils only).

④ **Integrated Domestic Hot Water**
(Yutaki S COMBI model)
The stainless steel tank (200L or 260L) can provide domestic hot water for a family of up to 6 people. The tank features dual protection for outstanding durability: passivation film + magnesium anode treatment.

⑤ **Healthy water**
With its anti-legionella function, the domestic hot water tank (200L or 260L) prevents the buildup of bacteria, even when not in use for long periods.

A concentrate of technology

Wizard
A 10-question user-friendly configuration assistant: your installation is configured in only 2 minutes. Simple, quick and always closer to requirements.

Yutaki S



Yutaki S Combi



⑥ **Simplified control by Hitachi**
Hitachi believe in simplicity! You will appreciate the:
- user-friendly interface.
- weekly programming.
- setting your ambient and domestic hot water temperatures.
- second heating zone control option.
- pool heating control.
- lower electrical consumption in standby mode.
- control over the relief of your boiler.
- control interface with ambient remote option (wired).

⑦ **Energy savings with Inverter technology**
The compressor developed and made by Hitachi integrates Inverter technology. This enables the heat pump to modulate its operating capacity precisely to the heating needs in the residence. The Inverter technology reduces consumption by 30% compared to a standard compressor, cutting your electricity bill.

⑧ **High quality DHW tank insulation**
NEOPOR technology offers insulating properties which clearly exceed other insulation methods. Ecological and efficient, Neopor requires less thickness (5mm) for improved performance and minimum energy losses.

⑨ **Easy cleaning**
The filter valve allows quick cleaning without draining the installation.

Yutaki S 80 and S80 Combi

Ideal for renovation

An exclusive twin stage compression system

① A first compression stage, in the outdoor unit as standard throughout the whole Yutaki R410A range (except Combi Lite).



* 7°C ext/35°C water.

5.00
HIGH COP
i.e. 1KW consumed
=5.00kW of heating

80°C

Yutaki S80
11.5kW - 16kW

② A second compression stage for very low temperatures, in the hydraulic module.

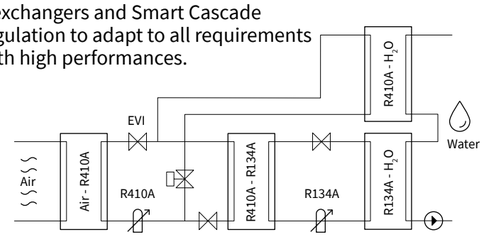


Yutaki S80 Combi
Integrated 200L or 260L DHW tanks

Comfort assured even at very low temperatures
Your heat pump heats up single-storey as well as multi-storey residences. Down to outside temperatures of -15°C, it ensures constant heating capacity while supplying water at 80°C to your radiators, without the need for the back up heating element.

Smart Cascade regulation
The Yutaki S80 range features a Smart Cascade cycle. This concept, exclusive to Hitachi, intelligently optimizes the heat pump performances. Based on a range of parameters, the regulation decides whether one or two compressors should operate. This provides considerable energy savings and high annual performances.

4 exchangers and Smart Cascade regulation to adapt to all requirements with high performances.



List of accessories and compatibilities

	Description	Yutaki S	Yutaki S Combi	Yutaki S Combi Solar	Yutaki S80	Yutaki S80 Combi	Yutaki M	Yutaki S Combi Lite	YUTAMPO R32	Price € pre-tax
PC-ARFH1E	Wired controller	•	•	•	•	•	•			
PC-ARFLE	Wired controller with 15m extension							•		
ATW-FCP-01	Cover	•	•	•	•	•		•		
ATW-HCD-01	HLINK adapter for wireless thermostats and Modbus/ KNX type centralized devices							•	•	
ATW-ITS-01	Wired ambient sensor	•	•	•	•	•	•	•		
ATW-RTU-04	On/off thermostat	•	•	•	•	•	•	•		
ATW-RTU-07	Ambient compensation wireless thermostat - 1st circuit	•	•	•	•	•	•	•		
ATW-RTU-06	Ambient compensation wireless thermostat - 2nd circuit	•	•	•	•	•	•	•		
ATW-AOS-02	4-port auxiliary output box	•	•	•	•	•	•			
AHP-SMB-01	Hi Box: domestic box Hi Kumo and Hi Kumo PRO	•	•	•	•	•	•	•	•	
1811527	SOMFY home automation box	•	•	•	•	•	•	•	•	
ATW-TAG-02	Hi Kumo/Hi Kumo PRO/ Somfy communication gateway	•	•	•	•	•	•	•	•	
ATW-KNX-02	KNX communication interface	•	•	•	•	•	•	•	•	
ATW-MBS-02	Modbus communication interface	•	•	•	•	•	•	•	•	
AEM-EM-2105	Single-phase use metering/Schneider (not commercialized by Hitachi)	•	•	•	•	•	•	•		
A9MEM3210	Single-phase use metering/Schneider (not commercialized by Hitachi)	•	•	•	•	•	•			
ATW-CKS-01	Yutaki S mini 2/2,5/3 HP* reversible kit	•*								
ATW-CKS-02	Yutaki S medium 4/5/6 HP* reversible kit	•*								
ATW-CKS-03	Yutaki S power 8/10 HP* reversible kit	•*								
ATW-CKM-01	Yutaki M reversible kit						•			
ATW-CKSC-01	Yutaki S Combi 2 - 6 HP reversible kit		•	•						

	Description	Yutaki S	Yutaki S Combi	Yutaki S Combi Solar	Yutaki S80	Yutaki S80 Combi	Yutaki M	Yutaki S Combi Lite	YUTAMPO R32	Price € pre-tax
ATW-CLSCL-01	Yutaki S Combi Lite reversible kit							•		
ATW-YCC-01	Cascade control cabinet	•	•	•	•	•	•			
ATW-YMM-01	Control cabinet (controller optional)						•			
ATW-2TK-07	2nd zone kit (non-integrable) for wall-mounted version	•	•	•	•	•	•	•		
ATW-2TK-06	2nd zone kit (integrable on 200L model)*		•*	•*						
ATW-2TK-05	2nd zone kit (integrable on 200L model)							•		
ATW-AQT-01	Safety aquastat maxi floor	•	•	•	•	•	•	•		
ATW-3WV-01	3-way valve - Application DHW, Pool	•	•	•	•	•	•			
ATW-DPOV-01	Differential pressure overflow valve	•	•	•	•	•	•	•		
ATW-HSK-01	Hydraulic separator cylinder	•	•	•	•	•	•	•		
DHWT-200S-3.0H2	Domestic Hot Water storage tank 200L - Stainless steel	•			•		•			
DHWT-300S-3.0H2E	Domestic Hot Water storage tank 300L - Stainless steel	•			•		•			
ATW-WTS-02Y	Universal water temperature sensor, hydraulic separator, 2nd circuit, pool, solar, DHW tank if not DHWT Hitachi	•	•	•	•	•	•	•		
ATW-2OS-02	Outdoor ambient temperature sensor	•	•	•	•	•	•	•		
ATW-FWP-03	Flexible water hose				•					
WEH6E	Electrical backup heater				•		•			
ATW-FWP-02	Yutaki S80 remote tank installation kit (DHW tank next to the indoor unit)					•				
ATW-4PE-02	15m cable for remote controller							•	•	
ATW-CP-05	Titane Anode								•	
ATW-OFC-02	**Connector cable input/outputs configurable**								•	

Tools for your projects

Hi-Toolkit for Home

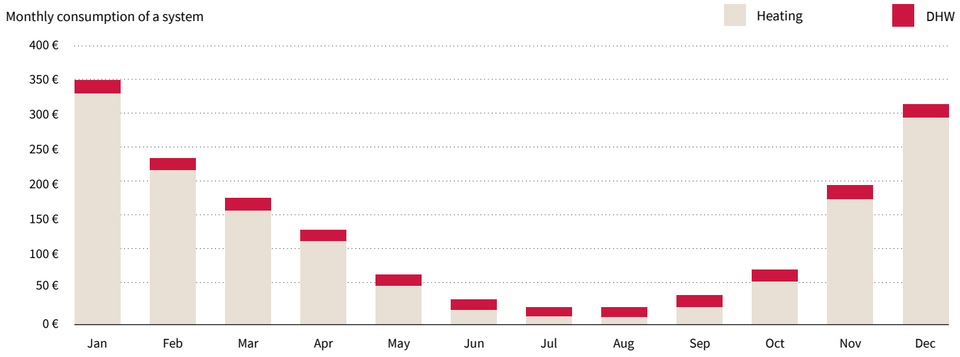
Evaluates the potential energy savings when installing Yutaki equipment.

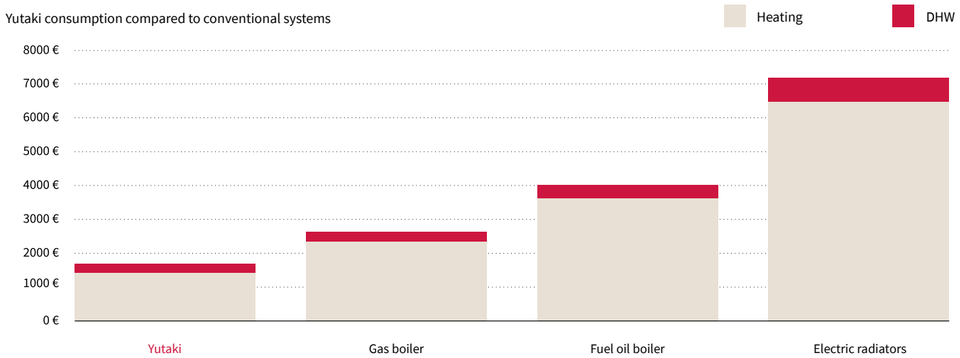
Hi-Toolkit for Home, the air source heat pump selection and simulation software.

This software can be used to quickly and easily select all equipment in Hitachi's Yutaki Air source heat pump range by generating a detailed report with information on the selected device.

It has a complete database of the main cities and their temperatures so that you can make an annual energy simulation for the 8760 hours of the year. Once the simulation is complete, the software also compares the energy consumption and CO_2 emissions with other conventional heating equipment so that you can evaluate the potential energy savings when installing Yutaki air source heat pump equipment.

The website can be found at:
www.hitachi-hitoolkit.com/heating





Your hydraulic configuration is only a few clicks away

Yutaki Applications, the free online tool for making simplified hydraulic configurations of the entire Yutaki range.

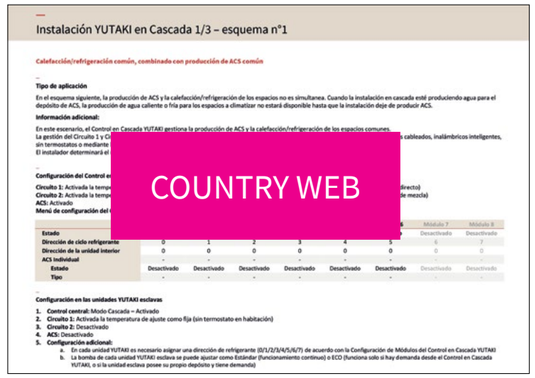
You can configure the main elements in the installation in just a few simple steps with basic questions.

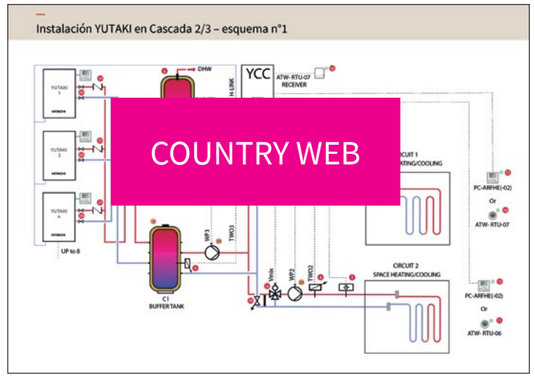
It also simplifies installation work by indicating the location of all the sensors, pump and every other element of the installation on the electric switchboard terminal.

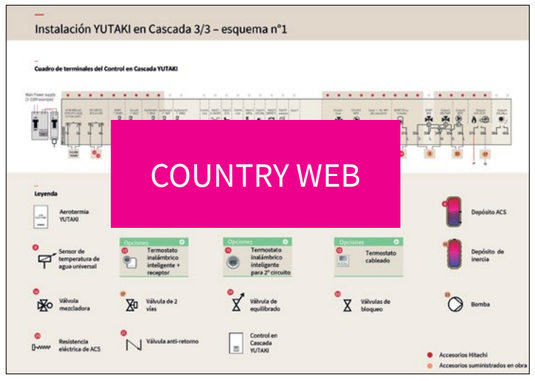
The website can be found at:
www.yutaki-applications.com/

Hydraulic configurations

Get in touch with your usual Hitachi contact for more detailed hydraulic configurations or any special configurations your installation requires.







Hi Kumo PRO

The remote maintenance solution for the entire residential and small commercial range.

Why choose Hi Kumo PRO?

Based on the Hi Kumo solution, Hi Kumo PRO goes even further. It enables your installer or maintenance company to offer your client a service with high added value: remote maintenance. Access to operating data is just a few clicks away on an online platform in the event of a breakdown or malfunction. No more lost time and repeated call outs. The problem can be identified remotely, very quickly and perhaps even before your client is affected.
This means productivity gains for you and satisfied customers!

Functions

Quick troubleshooting to optimize interventions thanks to an easy user-friendly interface.



Real-time access to machine operating data*
- Operating status/mode
- Current temperature setting
- Gas/backflow/evaporation temperatures
- Compressor current/frequency
- Water flow and temperatures
- Pump speed
- V3V position



Access a 3 month history, simultaneous display of 6 settings from a selection of over 80 including:
- Operating statuses
- Alarms
- Compressor frequency
- Flows/Temperatures…



Gateway status, restart and update.



Access to the entire installation base:
- Card or listing display
- Favorite installations option



Alarm information and troubleshooting assistance:
- Automatic email notification
- Online access to its description and troubleshooting assistance
- Download the troubleshooting guide and send it live to the technician on site



Remote control:
- Access the same control functions as the Hi Kumo solution except weekly programming.

https://hi-kumopro.com/#/login

* For the Air - Air products, access to indoor unit data only

How do I benefit from the Hi Kumo PRO service?

1. **The installation and maintenance engineer** or the maintenance company purchases its annual license and requests Hi Kumo PRO registration with its Hitachi dealer. The dealer provides the documents required for Hitachi to create the PRO account.
2. **The end client** purchases the Hi Kumo solution and associated gateways. No license is required for the end user.
3. **The installation and maintenance engineer** or the maintenance company sends an access request to its end client via their PRO* account (*Access may be restricted if the annual license is not renewed).
4. **The end client** accepts the access request and the data processing policy.
5. **That's it!** **The installation and maintenance engineer** or the maintenance company has access to all operating data for a unique service.



AIR - WATER Heat Pump communication gateways (from 2016) + DHW

AHP-SMB-01 *Hi-Box Gateway*
+
ATW-TAG-02 *Hi Kumo Gateway***
+
Annual license (for the maintenance company). Ask your Hitachi dealer

**1 gateway max/Hi Box

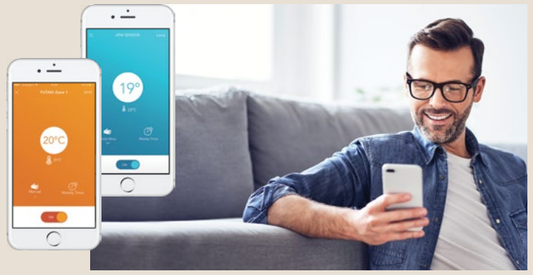


+
ATW-HCD-01 *Hlink adapter for DHW Yutampo R32 and S COMBI LITE*

Even more services for the end client with

Control all your new Hitachi residential equipment remotely with a single application.

Hi Kumo
IOS and Android application





Functions

Air - Water Heat Pump + TWH
- On/Off
- Temperature management
- Ventilation speed
- Swing direction selection
- Weekly programming
- Fault code display

The Hi Kumo allows you to control the entire Hitachi heat pump range remotely, including Air - Air or Air - Water or Thermodynamic Tank. It provides the end user with genuine comfort through a simple and user-friendly application. Do you think you might have forgotten to switch off the air-conditioning before going out? Do you want to cool down or warm up the place before coming home? It couldn't be easier with the Hi Kumo application!



AIR - WATER Heat Pump + DHW range compatibility gateway

AHP-SMB-01 *Hi-Box Gateway*
+
ATW-TAG-02 *Hi Kumo Gateway***
+
ATW-HCD-01 Hlink adapter
For DHW Yutampo R32 and S COMBI LITE

**1 gateway max/Hi - Box

Tahoma® by Somfy

The entire Hitachi residential range is now compatible with Tahoma® by Somfy.



Somfy® home automation box

1811527
Pre-tax price:



Communication interface for the Yutaki S, S Combi, S80, M and Yutampo R32 Air to Water heat pumps

ATW-TAG-02
Pre-tax price:

Yutaki S

Compact all-in-one system:
cooling and heating



Meets all requirements

Wide range of capacities from 4.3 kW to 24.00 kW heating and 4.00 kW to 17.50 kW cooling.
The 11 to 24 kW models have a three-phase power supply.

Smaller size

Its compact design and easy installation make it ideal for smaller spaces. The 4.30 to 8.00 kW models can even fit in a kitchen unit.

One of best performance on the market*

The Yutaki S range has amongst the highest COP.

It has the highest energy class A+++, which means reduced energy consumption and higher cost savings.

Controller included as standard

A user-friendly interface which can manage 2 zones, including an ambient sensor
To be used remotely as a modulative thermostat.

Exclusive design for working under the most extreme of conditions

Its wide operating range enables the equipment to work under extreme outdoor conditions:
-25 °C to 46 °C.

Reduced consumption

A water output temperature up to 60°C even at -5°C outside, without the need for an additional electrical heating element, for high cost savings.

Controls and controllers

Wired controller
PC-ARFH1E
Pre-tax price: P.
Included

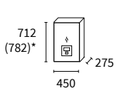
Wireless controller
ATW-RTU-07
Pre-tax price: P.

Others*:
- 2nd zone kit with a 3-way valve and wall mounted circulator ATW-2TK-07
- Hi-Box AHP-SMB-01: € 215
- Hi Kumo gateway for Hi-Box ATW -TAG-02

* All prices are pre-tax

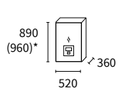
Indoor units

Yutaki S Mini
1.85 kW~ 11.00 kW



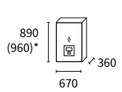
RWM-2.0NRE
RWM-2.5NRE
RWM-3.0NRE

Yutaki S Medium
4.30 kW~ 17.80 kW



RWM-4.0NE
RWM-5.0NE
RWM-6.0NE

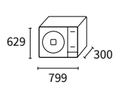
Yutaki S Big
9.00 kW~ 32.00 kW



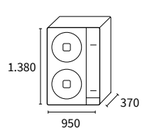
RWM-8.0NE
RWM-10.0NE

Outdoor units





RAS-2WHVRP
RAS-2.5WHVRP
RAS-3WHVRP



RAS-4WH(V)NPE
RAS-5WH(V)NPE
RAS-6WH(V)NPE
RAS-8WHNPE
RAS-10WHNPE

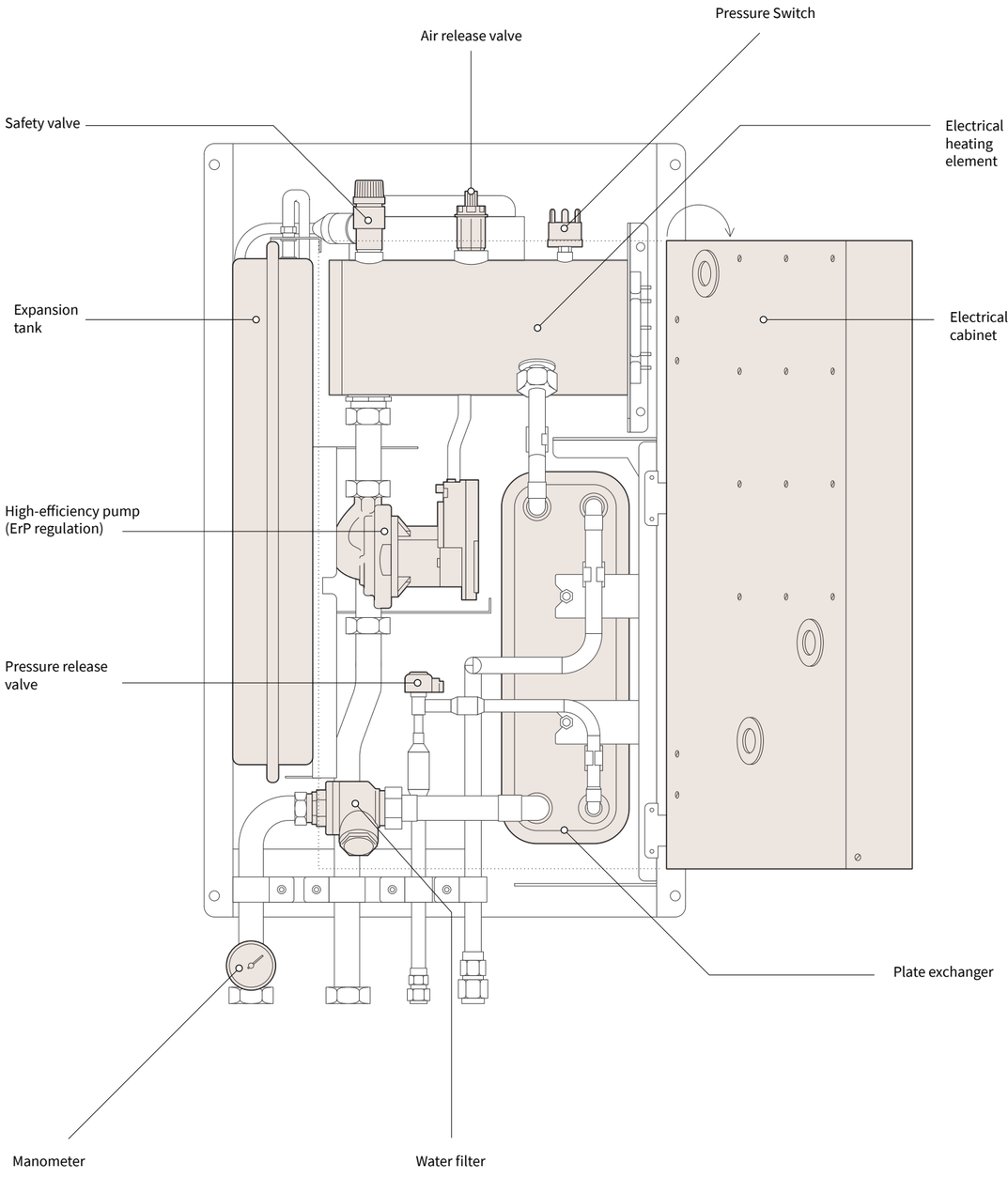
* with connections.

Model			R32 YUTAKI S 4.3KW	R32 YUTAKI S 6KW	R32 YUTAKI S 8KW	R410A YUTAKI S 11KW	R410A YUTAKI S 14KW	R410A YUTAKI S 16KW	R410A YUTAKI S 20KW	R410A YUTAKI S 24KW
Heating performances										
Min/nom./max capacity heating (7°c ext/35°c water)		kW	1.85/4.3/6.5	1.85/6/8.6	2.1/8 11	4.3/11/15.2	4.8/14/16.7	5.5/16/17.8	9/20/25.5	10/24/32
Nom./max capacity heating (-7°c ext/35°c water)		kW	4.5/5.3	5.3/6.2	5.8/7.5	9.7/10.6	11.5/12	12/13	14.2/17.9	16.5/21
Nom./max capacity heating (-7°c ext/45°c water)		kW	/5	/5.8	/6.67	10/10	11/11.6	11.5/12.5	15/16.6	16.5/18.5
Nom./max capacity heating (-7°c ext/55°c water)		kW	4/4.2	4.7/5	5/5.5	8.7/9.7	9.7/11.2	10.5/12	12.5/14.5	15.5/17.3
Power consumption heating (7°C ext/35°C water)		kW	0.77	1.21	1.6	2.2	2.97	3.5	4.65	5.59
COP (7°c ext/35°c water) acc. to EN14511			5.25	4.8	4.6	5	4.71	4.57	4.3	4.29
SCOP medium climate 35°c/55°c acc. to EN14825			4.6/3.4	4.5/3.25	4.5/3.2	4.8/3.5	4.48/3.43	3.9/3.23	3.88/3.13	3.6/2.98
Seasonal energy efficiency heating ηs (35°C) Single/Three[1]		%	183	179	175	189/188	176/176	153/154	-/152	-/142
Seasonal energy efficiency heating ηs (55°C) Single/Three[1]		%	135	132	125	137/137	134/135	126/127	-/122	-/118
Energy class 35°c/55°c			A+++/A++			A+++/A++		A++/A++	A++/A+	A+/A+
Water output temperature range (heating mode)		°C	20/60 °C			20/60 °C				
Max. water output temperature		°C	60°c down to -5 °c ext			60°c down to -10 °c ext				
Cooling Performances (option)										
Nom./max capacity cooling (35°c ext/7°c water)(reversible)		kW	4/6	5.3/6	6.5/7	7.2/11.8	9.5/12.6	10.5/13.7	14/16.4	17.5/20.6
Power consumption cooling (35°C ext/7°C water)		kW	1.17	1.54	2.14	2.18	2.95	3.72	4.48	4.08
EER (reversible model)			4	3.6	3.35	3.54	3.54	3.31	3.12	2.81
Reversible seasonal energy efficiency ηs (35°C) Single/Three[1]		%	188	182	178	191/191	178/178	155/155	-/154	-/144
Reversible seasonal energy efficiency ηs (55°C) Single/Three[1]		%	138	134	127	138/139	136/136	128/128	-/124	-/120
Hydraulic modules			RWM-2.0NRE	RWM-2.5NRE	RWM-3.0NRE	RWM-4.0NE	RWM-5.0NE	RWM-6.0NE	RWM-8.0NE	RWM-10.0NE
Backup electrical heating element as standard/three-stage		kW	3 (1+1+1)	3 (1+1+1)	3 (1+1+1)	6 (2+2+2)	6 (2+2+2)	6 (2+2+2)	9 (3+3+3)	9 (3+3+3)
Weight		kg	35	36	37	46	48	48	60	62
Dimensions (HxWxD)		mm	712 x 450 x 275			890 x 520 x 360			890 x 670 x 360	
Sound pressure level		dB(A)	37			39			47	
Controller			Included			Included			Included	
Hydraulic specifications										
Expansion tank		L	6			6			10	
Water flow (min/nom/max)		m^3/h	0.5/0.77/1.9	0.6/1.03/2	0.6/1.29/2.1	1/1.89/2.9	1.1/2.41/3	1.2/2.75/3	2/3.44/4.5	2.2/4.13/4.6
Heating hydraulic connections (male-male valves supplied)		inch	1"			1" 1/4			1" 1/4	
Minimum water volume for the installation		L	28			38	46	55	76	79
Electrical specifications										
Electrical power			230V/1Ph/50Hz			230V/1Ph/50Hz or 400V/3Ph/50Hz			400V/3Ph/50Hz	
SINGLE-PHASE 230V	Max. current with additional heating element	A	14.6			30.5			-	
	Cable diameter (mm^2)/max. length (m)		3 x 2.5/14			3 x 6/28			-	
	Max. current with additional heating element+ tank heating element/Yutaki S Option	A	28.9			45.5			-	
	Cable diameter (mm^2)/max. length (m)		3 x 6/28			3 x 10/30			-	
THREE-PHASE 400V	Max. current with additional heating element		-	-	-	10.3			15.3	
	Cable diameter (mm^2)/max. length (m)		-	-	-	5 x 2.5/20			5 x 4/20	
	Max. current with additional heating element+ tank heating element/Yutaki S Option		-	-	-	25.4			30.4	
	Cable diameter (mm^2)/max. length (m)		-	-	-	5 x 6/20			5 x 10/20	

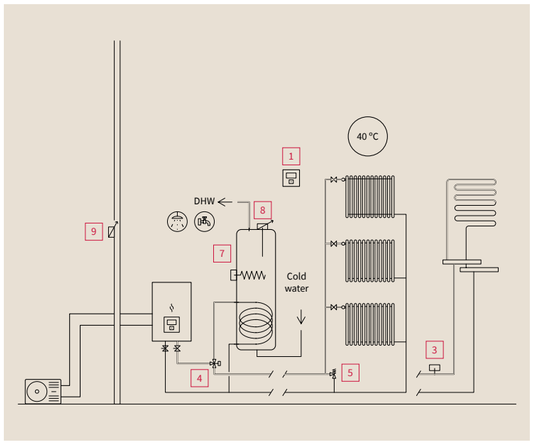
Premium outdoor units			RAS-2WHVRP	RAS-2.5WH-VRP	RAS-3WHVRP	RAS-4WH(V)NPE	RAS-5WH(V)NPE	RAS-6WH(V)NPE	RAS-8WHNPE	RAS-10WHNPE
Pressure level at 1m/Acoustic pressure heating mode		dB(A)	46/61	47/63	54/64	49/64	50/65	50/67	59/73	60/74
Airflow		m^3/h	2436			4800	5400	6000	7620	8040
Dimensions (H x W x D)		mm	629 x 799 x 300			1380 x 950 x 370				
Weight		kg	45		44	103			137	60/74
Operating ranges Cooling/Heating/DHW		°C	+10~+46BS //-20~+25BS //-20~+35			+10~+46BS //-25~+25BS //-25~+35				
Refrigerant specifications										
Refrigerant pipe diameter (Liq/gas)		inch	1/4" - 1/2"*		1/4" - 5/8" 3 - 27m* 3/8" 5/8" 27 - 50m*	3/8" 5/8"			3/8" 1"	1/2" 1"
Min max length/Max height difference		m	3 - 50/20			5 - 75/20			5 - 70/20	
Initial charge of pre-charged refrigerant/Additional charge		kg/g/m	1.2 for 10m/15	1.3 for 10m/15	1.3 for 10m/32	3.3 for 15m/60	3.4 for 15m/60		5 for 15m/65	5.3 for 15m/120
Refrigerant			R32			R410A				
Compressor			SCROLL		ROTARY	SCROLL				
Electrical specifications										
Electrical power			230V/1Ph/50Hz			230V/1Ph/50Hz or 400V/3Ph/50Hz			400V/3Ph/50Hz	
SINGLE-PHASE 230V	Max. current	A	10.4	12.9	15.8	30.5			-	-
	Cable diameter (mm^2)/max. length (m)		3 x 2.5/28	3 x 2.5/24	3 x 4/21	3 x 6/30			-	-
THREE-PHASE 400V	Max. current	A	-	-	-	14	16	24	24	
	Cable diameter (mm^2)/max. length (m)		-	-	-	5 x 2.5/16	5 x 2.5/16	5 x 6/26		
Int/Ext wiring section (shielded)		mm^2	2 x 0.75			2 x 0.75				

[1] Seasonal energy efficiency with integrated controller. (V) = single.
"* For the 2/2.5/3HP models with R32, indoor units and outdoor units have different diameters of refrigerant gas pipes and refrigerant fluid pipes. Adapters are therefore supplied with the outdoor unit.

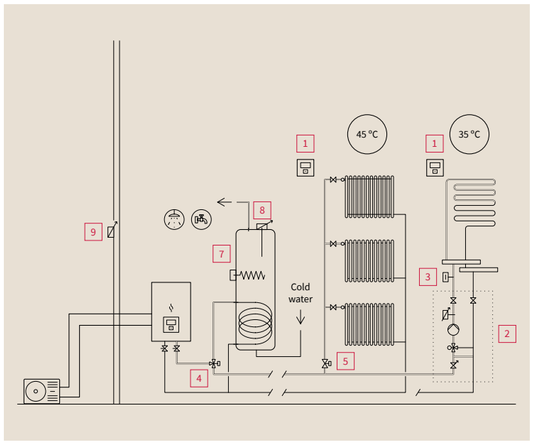
Internal design



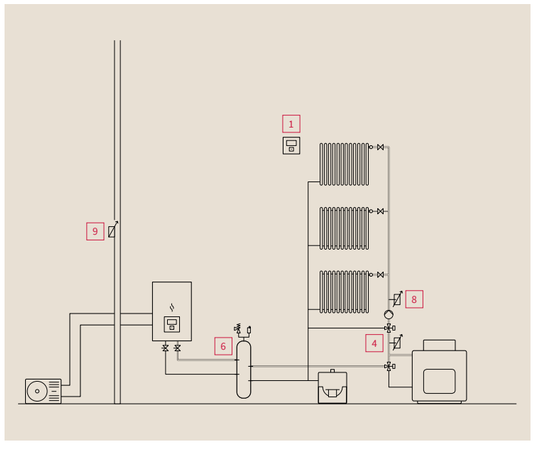
Hydraulic configurations
Yutaki S



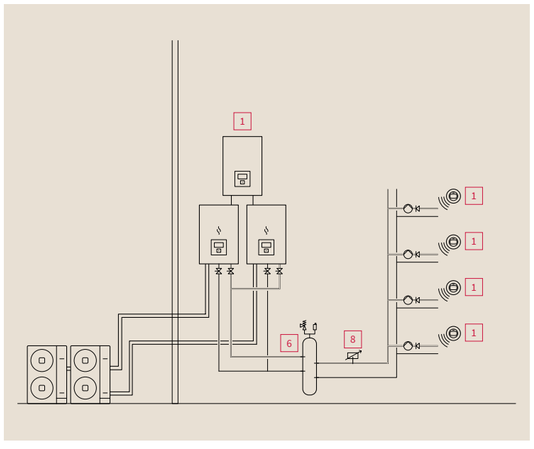
Individual
1 zone radiators or underfloor heating with or without DHW



Individual
2 zones with radiator circuits and underfloor heating with or without DHW



Individual
Relief boiler 1 radiator circuit



Collective
Cascade: individual central heating application

1 See P. 50 for the accessories.

Hydraulic accessories and regulators Yutaki S

1



Wired controller

PC-ARFH1E

Included

Pre-tax price: €



Cover

To be used if remote ambient controller.

ATW-FCP-01

Pre-tax price: €

1



Wired ambient sensor

ATW-ITS-01

Pre-tax price: €

1



Wireless on/off ambient thermostat

ATW-RTU-04

Pre-tax price: €



Meter by use (RT2012)

Schneider®

Not commercialized by Hitachi

AEM-EM-2105 (single-phase)
A9MEM3210 (three-phase)



Included in the reversible version.

Reversible kit

Equipment required for operating in cooling

ATW-CKS-01 (Yutaki S Mini 2/2.5/3HP)
Pre-tax price: € 170.00
ATW-CKS-02 (Yutaki S Medium 4/5/6HP)
ATW-CKS-03 (Yutaki S Power 8/10HP)

Pre-tax price: €

1



Cascade control cabinet

Cascade management of up to 8 Yutaki in the same range and with the same capacity (single/three-phase).

ATW-YCC-01

Pre-tax price: €

2



2nd zone kit with a 3-way valve and wall mounted circulator

This accessory is essential when 2 separate temperature levels need to be maintained.

ATW-2TK-07

Pre-tax price: €

1



Ambient compensation wireless controller

1st circuit

ATW-RTU-07

Pre-tax price: €

1



Ambient compensation wireless controller

2nd circuit

ATW-RTU-06

Pre-tax price: €



Auxiliary outputs box

4 ports available: operation, alarm, cooling, thermo-OFF.

ATW-AOS-02

Pre-tax price: €



Hi-Box: Hi Kumo home automation box

AHP-SMB-01

Pre-tax price: €

3



Safety aquastat maxi floor

This accessory is essential when the heat emitter is the underfloor type (DTU 65-14).

ATW-AQT-01

Pre-tax price: €

4



3-way valve

DHW and pool applications.

ATW-3WV-01

Pre-tax price: €

5



Differential pressure overflow valve

This accessory ensures constant flow to the Heat Pump condenser.

ATW-DPOV-01

Pre-tax price: €

6



Hydraulic separator cylinder for Heat Pump

This accessory hydraulically separates the network of emitters and boiler from that of the Heat Pump.

ATW-HSK-01

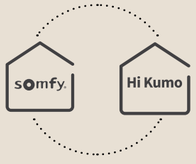
Pre-tax price: €



Somfy® home automation box

1811527

Pre-tax price: €



Somfy®/Hi Kumo Gateway

Communication gateway. Somfy® or Hi Kumo environment integration.

ATW-TAG-02

Pre-tax price: €



KNX® communication interface

Communication gateway. KNX® environment integration.

ATW-KNX-02

Pre-tax price: €



Modbus communication interface

Communication gateway. Modbus® environment integration.

ATW-MBS-02

Pre-tax price: €

7



Domestic Hot Water storage tank

Stainless steel tank

200 L: DHWT-200S-3.0H2
(H x D) 1270 x 595 mm
Pre-tax price: € 2,400.00

300 L: DHWT-300S-3.0H2E
(H x D) 1750 x 595 mm
Pre-tax price: €

8



Universal sensor

Hot water, hydraulic separator, 2nd circuit, pool, solar. (Required if the tank is not a Hitachi DHWT)

ATW-WTS-02Y

Pre-tax price: €

9



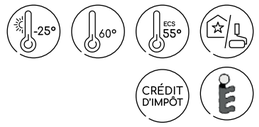
Outdoor ambient temperature sensor

ATW-2OS-02

Pre-tax price: €

Yutaki S Combi

Stainless steel tank: DHW, heating and cooling





Wide range of capacities

The Yutaki S Combi range is ideal for all types of installations thanks to its large range of capacities.
4.30kW - 16.00 kW heating and 4.00 kW - 10.50 kW cooling.

Space-saving with no noise issues

The Yutaki S Combi can be installed in the kitchen thanks to its small size and low noise level.
The integrated DHW tank in the indoor unit means it takes up to 70% less space compared to a separate tank.

Choose your DHW volume

The Yutaki S Combi range can integrate 2 different sizes of tank: 200 and 260 L.
The 2nd zone kit can also be integrated in the indoor unit (200 L model).

Easy installation and maintenance

When compared to a system with a separate tank, the Yutaki S Combi can be installed more quickly and more cost effectively:
- All the water and refrigerant connections are aligned in the upper part.
- Most components can be accessed from the front.
- Easy access to information from the LCD remote control without needing to open the indoor unit.

Stainless steel tank with integrated heating element

The Yutaki S Combi range has an additional electrical heating element. The BOOST DHW function can be activated in an emergency from a single button.

View from above

Controls and controllers

Wired controller

PC-ARFH1E

Pre-tax price:

Included

Wireless controller

ATW-RTU-07

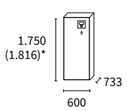
Pre-tax price:

Others*:

- 2nd zone kit with a 3-way valve and wall mounted circulator
  ATW-2TK-07
- Integrable separator collection for the 200 L version (2 circuits)
  ATW-2TK-06
- Hi-Box AHP-SMB-01 : € 215
- Hi Kumo gateway for Hi-Box ATW -TAG-02

* All prices are pre-tax

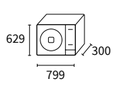
Indoor units



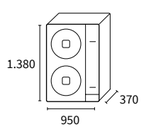
RWD-2.0NRWE RWD-4.0NWE
RWD-2.5NRWE RWD-5.0NWE
RWD-3.0NRWE RWD-6.0NWE

Outdoor units





RAS-2WHVRP
RAS-2.5WHVRP
RAS-3WHVRP



RAS-4WH(V)NPE
RAS-5WH(V)NPE
RAS-6WH(V)NPE

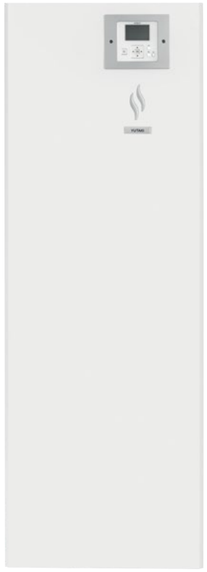
* with connections.

Model			R32			R410A		
			YUTAKI S COMBI 4.3KW	YUTAKI S COMBI 6KW	YUTAKI S COMBI 8KW	YUTAKI S COMBI 11KW	YUTAKI S COMBI 14KW	YUTAKI S COMBI 16KW
Heating performances								
Min/nom./max capacity heating (7°c ext/35°c water)		kW	1.85/4.3/6.5	1.85/6/8.6	2.1/8/11	4.3/11/15.2	4.8/14/16.7	5.5/16/17.8
Nom./max capacity heating (-7°c ext/35°c water)		kW	4.5/5.3	5.3/6.2	5.8/7.5	9.7/10.6	11.5/12	12/13
Nom./max capacity heating (-7°c ext/45°c water)		kW	/5	/5.8	/6.67	10/10	11/11.6	11.5/12.5
Nom./max capacity heating (-7°c ext/55°c water)		kW	4/4.2	4.7/5	5/5.5	8.7/9.7	9.7/11.2	10.5/12
Power consumption heating (7°C ext/35°C water)		kW	0.77	1.21	1.6	2.2	2.97	3.5
COP (7°c ext/35°c water) acc. to EN14511			5.25	4.8	4.6	5	4.71	4.57
SCOP medium climate 35°c/55°c acc. to EN14825			4.6/3.4	4.5/3.25	4.5/3.2	4.8/3.5	4.48/3.43	3.9/3.23
Seasonal energy efficiency heating ηs (35°C) Single/Three[1]		%	183	179	175	189/188	176/176	153/154
Seasonal energy efficiency heating ηs (55°C) Single/Three[1]		%	135	132	125	137/137	134/135	126/127
Energy class 35°c/55°c			A+++/A++			A+++/A++		A++/A++
Water output temperature range (heating mode)		°C	20/60 °C			20/60 °C		
Max. water output temperature		°C	60°c down to -5 °c ext			60°c down to -10 °c ext		
DHW performances								
COP DHW (200/260L)			3.3/3.4			3.25/3.35		
Seasonal energy efficiency nwh (200L cycle L/260L cycle XL)		%	132/136			130/134		
DHW energy class			A+			A+		
Water output temperature range (DHW mode)		°C	30/55 °C			30/55 °C		
Cooling Performances (option)								
Nom./max capacity cooling (35°c ext/7°c water)(reversible)		kW	4/6	5.3/6	6.5/7	7.2/11.8	9.5/12.6	10.5/13.7
Power consumption cooling (35°C ext/7°C water)		kW	1.17	1.54	2.14	2.18	2.95	3.72
EER (reversible model)			4	3.6	3.35	3.54	3.54	3.31
Reversible seasonal energy efficiency ηs (35°C) Single/Three[1]		%	188	182	178	191/191	178/178	155/155
Reversible seasonal energy efficiency ηs (55°C) Single/Three[1]		%	138	134	127	138/139	136/136	128/128
Hydraulic modules			RWD-2.0NRWE-(200/260)S	RWD-2.5NRWE-(200/260)S	RWD-3.0NRWE-(200/260)S	RWD-4.0NWE-(200/260)S	RWD-5.0NWE-(200/260)S	RWD-6.0NWE-(200/260)S
Additional electrical heating element as standard/three-stage		kW	3 (1+1+1)	3 (1+1+1)	3 (1+1+1)	6 (2+2+2)	6 (2+2+2)	6 (2+2+2)
DHW additional electrical heating element as standard		kW	3	3	3	3	3	3
Weight (200L/260L)		kg	120/135	120/135	121/136	120/130	122/135	122/132
Dimensions (HxWxD)		mm	1750 x 600 x 733			1750 x 600 x 733		
Sound pressure level		dB(A)	37			39		
DHW tank volume/DHW tank material		L	200 or 260 L/Stainless steel			200 or 260 L/Stainless steel		
Controller			Included			Included		
Hydraulic specifications								
Expansion tank		L	6			6		
Water flow (min/nom/max)		m^3/h	0.5/0.77/1.9	0.6/1.03/2	0.6/1.29/2.1	1/1.89/2.7	1.1/2.41/2.8	1.2/2.75/2.8
Hydraulic connections Heating (Male/male valves supplied)		inch	1"			1" 1/4		
Hydraulic connections DHW		inch	3/4"			3/4"		
Minimum water volume for the installation		L	28			38	46	55
Electrical specifications								
Electrical power			230V/1Ph/50Hz			230V/1Ph/50Hz or 400V/3Ph/50Hz		
SINGLE-PHASE 230V	Max. current with additional heating element + tank heating element	A	27.1			44.8		
	Cable diameter (mm^2)/max. length (m)		3 x 6/28			3 x 10/30		
THREE-PHASE 400V	Max. current with additional heating element+ tank heating element		-	-	-	14 16		
	Cable diameter (mm^2)/max. length (m)		-	-	-	5 x 2.5/16 5 x 2.5/16		
Premium outdoor units			RAS-2WHVRP	RAS-2.5WHVRP	RAS-3WHVRP	RAS-4WH(V)NPE	RAS-5WH(V)NPE	RAS-6WH(V)NPE
Pressure level at 1m/Acoustic pressure heating mode		dB(A)	46/61	47/63	54/67	49/64	50/65	50/67
Airflow		m^3/h	2436			4800	5400	6000
Dimensions (H x W x D)		mm	629 x 799 x 300			1380 x 950 x 370		
Weight		kg	45		44	103		
Operating ranges Cooling/Heating/DHW		°C	+10 ~ +46 //-20 ~ +25 //-20 ~ +35			+10 ~ +46 //-25 ~ +25 //-25 ~ +35		
Refrigerant specifications								
Refrigerant pipe diameter (Liq/gas)		inch	1/4" - 1/2"*		1/4" - 5/8" 3 - 27m* 3/8" 5/8" 27 - 50m*	3/8" 5/8"		
Min max length/Max height difference		m	3 - 50/20			5 - 75/20		
Initial charge of pre-charged refrigerant/Additional charge		kg/g/m	1.2 for 10m/15	1.3 for 10m/15	1.3 for 10m/32	3.3 for 15m/60	3.4 for 15m/60	
Refrigerant			R32			R410A		
Compressor			SCROLL		ROTARY	SCROLL		
Electrical specifications								
Electrical power			230V/1Ph/50Hz			230V/1Ph/50Hz or 400V/3Ph/50Hz		
SINGLE-PHASE 230V	Max. current	A	10.4	12.9	15.8	30.5		
	Cable diameter (mm^2)/max. length (m)		3 x 2.5/28	3 x 2.5/24	3 x 4/21	3 x 6/30		
THREE-PHASE 400V	Max. current	A	-	-	-	14	16	
	Cable diameter (mm^2)/max. length (m)		-	-	-	5 x 2.5/16	5 x 2.5/16	
Int/Ext wiring section (shielded)		mm^2	2 x 0.75			2 x 0.75		

[1] Seasonal energy efficiency with integrated controller. (V) = single.
* For the 2/2.5/3HP models with R32, indoor units and outdoor units have different diameters of refrigerant gas pipes and refrigerant fluid pipes. Adapters are therefore supplied with the outdoor unit.

Yutaki S Combi Solar

Stainless steel tank: Solar DHW, heating and cooling



Indoor units

- S COMBI SOLAR solution (260L): Heat Pump/ Solar double exchanger.
- Best performances on the market.
- Ultra quiet modules: 37dB(A)*.

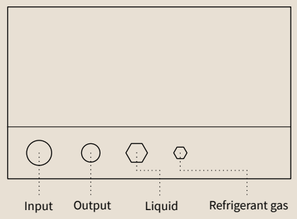
Outdoor units

- Compatible premium outdoor units YUTAKI S/S COMBI/S80 and S80 COMBI.
- Low sound levels.
- Lighter and more compact.

Save more

Use your solar exchanger to connect your Heat pump to solar panels to heat up part of your DHW for free. Everything is managed directly by the Heat pump controller included.

View from above



Controls and controllers

Wired controller

PC-ARFH1E

Pre-tax price:

Included

Wireless controller

ATW-RTU-07

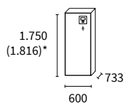
Pre-tax price:

Others*:

- 2nd zone kit with a 3-way valve and wall mounted circulator ATW-2TK-07
- Hi-Box AHP-SMB-01
- Hi Kumo gateway for Hi-Box ATW -TAG-02

* All prices are pre-tax

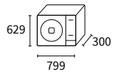
Indoor units



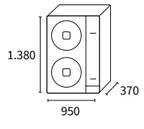
RWD-2.0NRWSE RWD-4.0NWSE
RWD-2.5NRWSE RWD-5.0NWSE
RWD-3.0NRWSE RWD-6.0NWSE

Outdoor units





RAS-2WHVRP
RAS-2.5WHVRP
RAS-3WHVRP



RAS-4WH(V)NPE
RAS-5WH(V)NPE
RAS-6WH(V)NPE

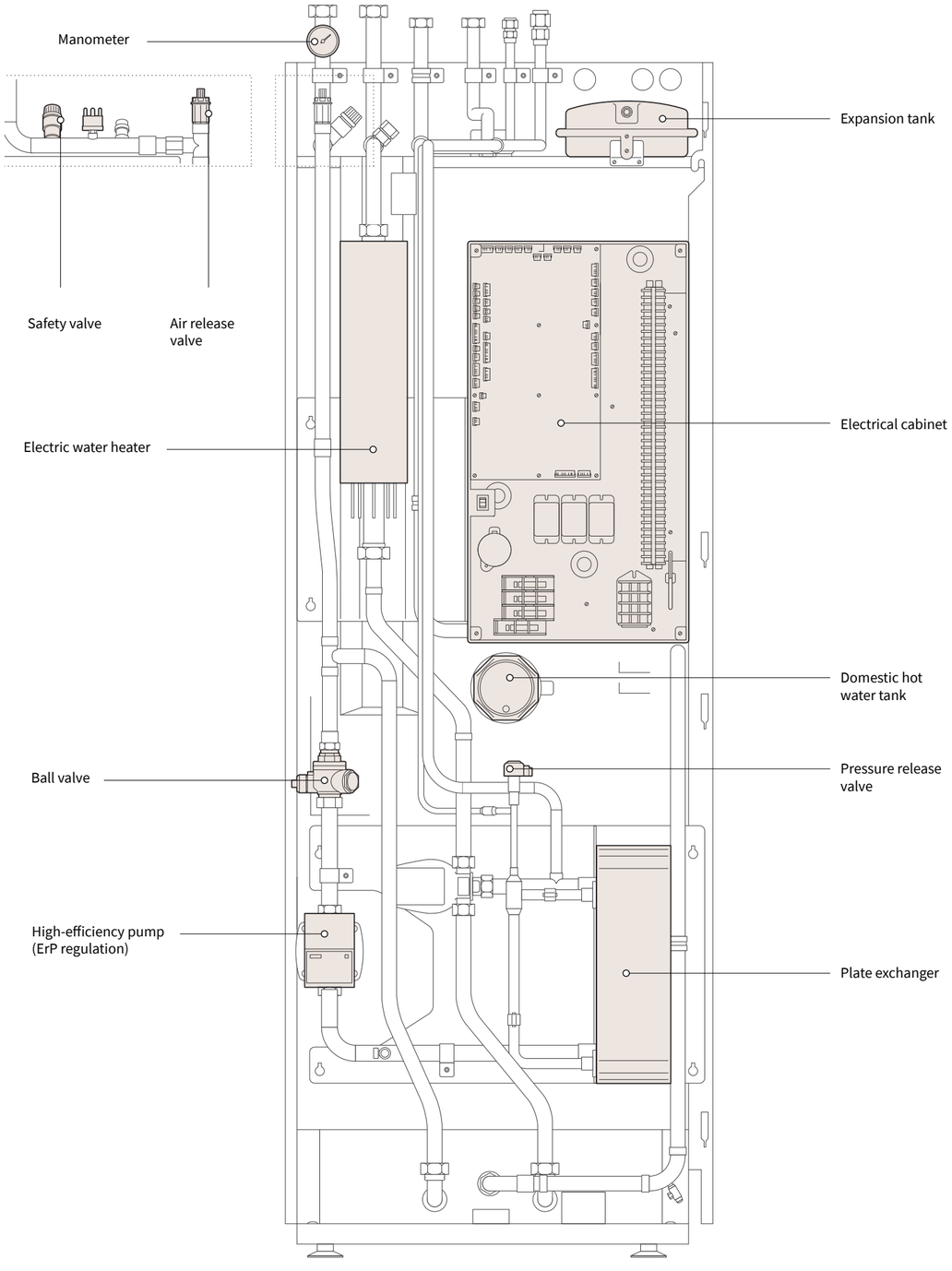
* with connections.

Yutaki S Combi Solar

Model			R32			R410A		
			YUTAKI S COMBI SOLAR 4.3KW	YUTAKI S COMBI SOLAR 6KW	YUTAKI S COMBI SOLAR 8KW	YUTAKI S COMBI SOLAR 11KW	YUTAKI S COMBI SOLAR 14KW	YUTAKI S COMBI SOLAR 16KW
Heating performances								
Min/nom./max capacity heating (7°c ext/35°c water)		kW	1.85/4.3/6.5	1.85/6/8.6	2.1/8/11	4.3/11/15.2	4.8/14/16.7	5.5/16/17.8
Nom./max capacity heating (-7°c ext/35°c water)		kW	4.5/5.3	5.3/6.2	5.8/7.5	9.7/10.6	11.5/12	12/13
Nom./max capacity heating (-7°c ext/45°c water)		kW	/5	/5.8	/6.67	10/10	11/11.6	11.5/12.5
Nom./max capacity heating (-7°c ext/55°c water)		kW	4/4.2	4.7/5	5/5.5	8.7/9.7	9.7/11.2	10.5/12
Power consumption heating (7°C ext/35°C water)		kW	0.77	1.21	1.6	2.2	2.97	3.5
COP (7°c ext/35°c water) acc. to EN14511			5.25	4.8	4.6	5	4.71	4.57
SCOP medium climate 35°c/55°c acc. to EN14825			4.6/3.4	4.5/3.25	4.5/3.2	4.8/3.5	4.48/3.43	3.9/3.23
Seasonal energy efficiency heating ηs (35°C) Single/Three[1]		%	183	179	175	189/188	176/176	153/154
Seasonal energy efficiency heating ηs (55°C) Single/Three[1]		%	135	132	125	137/137	134/135	126/127
Energy class 35°c/55°c				A+++/A++			A+++/A++	A++/A++
Water output temperature range (heating mode)		°C		20/60 °C			20/60 °C	
Max. water output temperature		°C		60°c down to -5 °c ext			60°c down to -10 °c ext	
DHW performances								
COP DHW (200/260L)				3.4			3.35	
Seasonal energy efficiency nwh (200L cycle L/260L cycle XL)		%		136			134	
DHW energy class				A+			A+	
Water output temperature range (DHW mode)		°C		30/55 °C			30/55 °C	
Cooling Performances (option)								
Nom./max capacity cooling (35°c ext/7°c water)(reversible)		kW	4/6	5.3/6	6.5/7	7.2/11.8	9.5/12.6	10.5/13.7
Power consumption cooling (35°C ext/7°C water)		kW	1.17	1.54	2.14	2.18	2.95	3.72
EER (reversible model)			4	3.6	3.35	3.54	3.22	2.82
Reversible seasonal energy efficiency ηs (35°C) Single/Three[1]		%	188	182	178	191/191	178/178	155/155
Reversible seasonal energy efficiency ηs (55°C) Single/Three[1]		%	138	134	127	138/139	136/136	128/128
Hydraulic modules			RWD-2.0NRWSE-260S	RWD-2.5NRWSE-260S	RWD-3.0NRWSE-260S	RWD-4.0NWSE-260S	RWD-5.0NWSE-260S	RWD-6.0NWSE-260S
Additional electrical heating element as standard/three-stage		kW	3 (1+1+1)	3 (1+1+1)	3 (1+1+1)	6 (2+2+2)	6 (2+2+2)	6 (2+2+2)
DHW additional electrical heating element as standard		kW	3	3	3	3	3	3
Weight (200L/260L)		kg	135	135	136	135	135	135
Dimensions (HxWxD)		mm		1750 x 600 x 733			1750 x 600 x 733	
Sound pressure level		dB(A)		37			39	
DHW tank volume/DHW tank material		L		260 L/Stainless steel			260 L/Stainless steel	
Controller				Included			Included	
Hydraulic specifications								
Expansion tank		L		6			6	
Water flow (min/nom/max)		m^3/h	0.5/0.77/1.9	0.6/1.03/2	0.6/1.29/2.1	1/1.89/2.7	1.1/2.41/2.8	1.2/2.75/2.8
Hydraulic connections Heating (Male/male valves supplied)		inch		1"			1" 1/4	
Hydraulic connections DHW		inch		3/4"			3/4"	
Solar hydraulic connections (G Male)		inch		1/2"			1/2"	
Minimum water volume for the installation		L		28		38	46	55
Electrical specifications								
Electrical power				230V/1Ph/50Hz			230V/1Ph/50Hz or 400V/3Ph/50Hz	
SINGLE-PHASE 230V	Max. current with additional heating element + tank heating element	A		27.1			44.8	
	Cable diameter (mm^2)/max. length (m)			3 x 6/28			3 x 10/30	
THREE-PHASE 400V	Max. current with additional heating element+ tank heating element		-	-	-		24.7	
	Cable diameter (mm^2)/max. length (m)		-	-	-		5 x 6/20	
Premium outdoor units			RAS-2WHVRP	RAS-2.5WHVRP	RAS-3WHVRP	RAS-4WH(V)NPE	RAS-5WH(V)NPE	RAS-6WH(V)NPE
Pressure level at 1m/Acoustic pressure heating mode		dB(A)	46/61	47/63	54/67	49/64	50/65	50/67
Airflow		m^3/h		2436		4800	5400	6000
Dimensions (H x W x D)		mm		629 x 799 x 300			1380 x 950 x 370	
Weight		kg		45	44		103	
Operating ranges Cooling/Heating/DHW		°C		+10~+46 //-20~+25 //-20~+35			+10~+46 //-25~+25 //-25~+35	
Refrigerant specifications								
Refrigerant pipe diameter (Liq/gas)		inch		1/4" - 1/2"*	1/4" - 5/8" 3 - 27m* 3/8" 5/8" 27 - 50m*		3/8" 5/8"	
Min max length/Max height difference		m		3 - 50/20			5 - 75/20	
Initial charge of pre-charged refrigerant/Additional charge		kg/g/m	1.2 for 10m/15	1.3 for 10m/15	1.3 for 10m/32	3.3 for 15m/60	3.4 for 15m/60	
Refrigerant				R32			R410A	
Compressor				SCROLL	ROTARY		SCROLL	
Electrical specifications								
Electrical power				230V/1Ph/50Hz			230V/1Ph/50Hz or 400V/3Ph/50Hz	
SINGLE-PHASE 230V	Max. current	A	10.4	12.9	15.8		30.5	
	Cable diameter (mm^2)/max. length (m)		3 x 2.5/28	3 x 2.5/24	3 x 4/21		3 x 6/30	
THREE-PHASE 400V	Max. current	A	-	-	-	14		16
	Cable diameter (mm^2)/max. length (m)		-	-	-	5 x 2.5/16		5 x 2.5/16
Int/Ext wiring section (shielded)		mm^2		2 x 0.75			2 x 0.75	

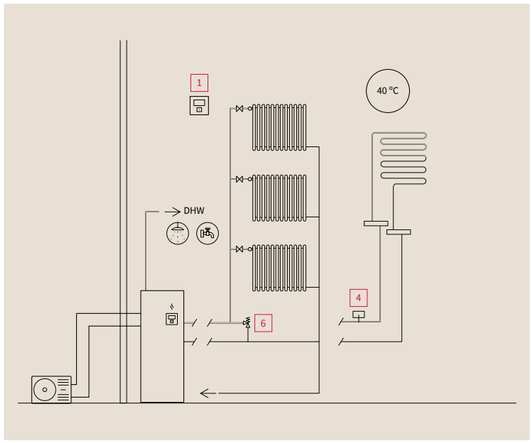
[1] Seasonal energy efficiency with integrated controller. (V) = single.
* For the 2/2.5/3HP models with R32, indoor units and outdoor units have different diameters of refrigerant gas pipes and refrigerant fluid pipes. Adapters are therefore supplied with the outdoor unit.

Internal design

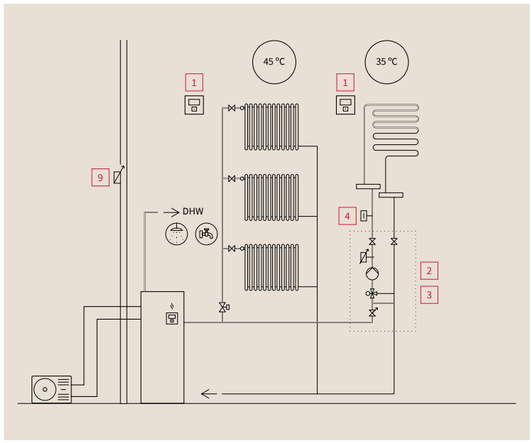


Hydraulic configurations

Yutaki S Combi

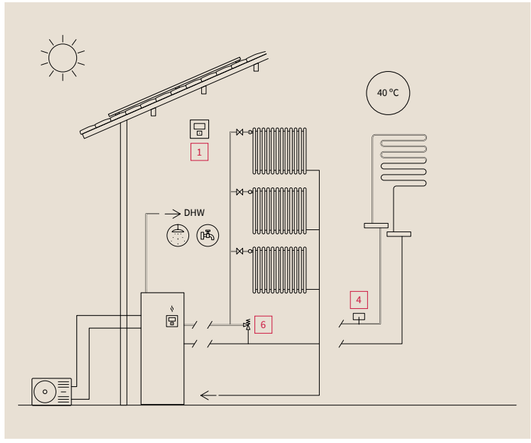


Heating 1 radiator circuit or underfloor heating + DHW

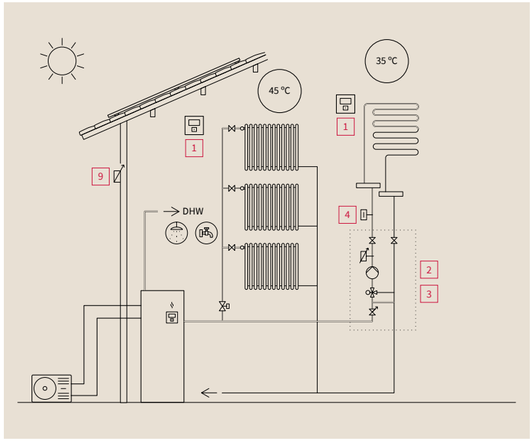


Heating 2 zones with radiator circuits and underfloor heating + DHW

Yutaki S Combi Solar



Heating 1 radiator circuit or underfloor heating + DHW



Heating 1 radiator circuit and underfloor heating + DHW

1 See P. 58 for the accessories.

Hydraulic accessories and regulators Yutaki S Combi & Yutaki S Combi Solar

1



Wired controller

PC-ARFH1E

Included

Pre-tax price: €



Cover

To be used if remote ambient controller.

ATW-FCP-01

Pre-tax price: €

1



Wired ambient sensor

ATW-ITS-01

Pre-tax price: €

1



Wireless on/off ambient thermostat

ATW-RTU-04

Pre-tax price: €

1



Ambient compensation wireless controller

1st circuit

ATW-RTU-07

Pre-tax price: €

1



Ambient compensation wireless controller

2nd circuit

ATW-RTU-06

Pre-tax price: €



Auxiliary outputs box

4 ports available: operation, alarm, cooling, thermo-OFF.

ATW-AOS-02

Pre-tax price: €



Hi - Box: Hi Kumo and Hi Kumo PRO home automation box

AHP-SMB-01

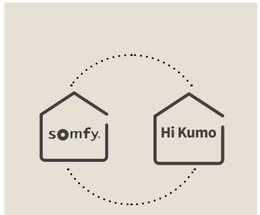
Pre-tax price: €



Somfy® home automation box

1811527

Pre-tax price: €



Somfy®/Hi Kumo Gateway

Communication gateway. Somfy® or Hi Kumo environment integration.

ATW-TAG-02

Pre-tax price: €



KNX® communication interface

Communication gateway. KNX® environment integration.

ATW-KNX-02

Pre-tax price: €



Modbus communication interface

Communication gateway. Modbus® environment integration.

ATW-MBS-02

Pre-tax price: €



Meter by use (RT2012)

Schneider®

Not commercialized by Hitachi

AEM-EM-2105 (single-phase)
A9MEM3210 (three-phase)

Pre-tax price: €



Reversible kit

Equipment required for operating in cooling (included in the reversible version).

ATW-CKSC-01

Pre-tax price: €



Cascade control cabinet

Cascade management of up to 8 Yutaki in the same range and with the same capacity (single/three-phase).

ATW-YCC-01

Pre-tax price: €

2



2nd integrable zones kit

(200L tank only)

ATW-2TK-06

Pre-tax price: €

3



2nd zone kit with a 3-way valve and wall mounted circulator

This accessory is essential when 2 separate temperature levels need to be maintained.

ATW-2TK-07

Pre-tax price: €

4



Safety aquastat maxi floor

This accessory is essential when the heat emitter is the underfloor type (DTU 65-14).

ATW-AQT-01

Pre-tax price: €

5



3-way valve

DHW and pool applications.

ATW-3WV-01

Pre-tax price: €

6



Differential pressure overflow valve

This accessory ensures constant flow to the Heat Pump condenser.

ATW-DPOV-01

Pre-tax price: €

7



Hydraulic separator cylinder for Heat pump

This accessory hydraulically separates the network of emitters and boiler from that of the Heat Pump.

ATW-HSK-01

Pre-tax price: €

8



Universal sensor

Hot water, hydraulic separator, 2nd circuit, pool, solar. (Required if the tank is not a Hitachi DHWT)

ATW-WTS-02Y

Pre-tax price: €

9



Outdoor ambient temperature sensor

ATW-2OS-02

Pre-tax price: €

Yutaki S80

Up to 80°C start temperature without electric heating element



Smart Cascade regulation

The Yutaki S80 range features a Smart Cascade cycle, (unique on the market), which automatically adjusts Heat Pump operation based on heating requirements. This way, when heating requirements are less (water temperature until 53°C), the Heat Pump only uses the R410A refrigerant. When the requirement increases (water temperature up to 80°C), the second cycle of R134A refrigerant is activated. This way, consumption is reduced to a minimum and comfort is always guaranteed. (Fig. 1)

Modularity to adapt to each client's needs

To meet all market requirements, the Yutaki S80 can add a separate tank of up to 3000L to meet domestic hot water requirements in multi-residence accommodation.

Constant heating all year round down to -25°C

This equipment heats water up to 80°C using renewable energy, including extreme temperatures down to -25°C.

Easy installation and maintenance

Its design means easy access to water and refrigerant connections and they are located in the upper part of the indoor unit.

Fig. 1: Smart Cascade cycle configuration

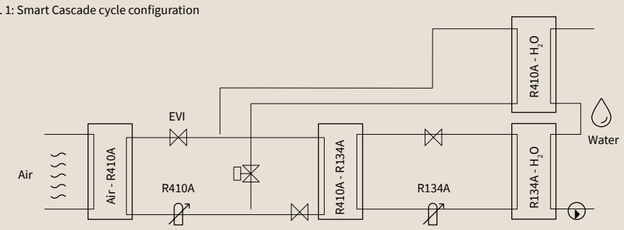


Fig. 2



Controls and controllers

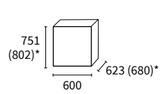
Wired controller
PC-ARFH1E
Pre-tax price:
Not included

Wireless controller
ATW-RTU-07
Pre-tax price:

Others*:
- 2nd zone kit with a 3-way valve and wall mounted circulator ATW-2TK-07
- Hi-Box AHP-SMB-01
- Hi Kumo gateway for Hi-Box ATW -TAG-02

* All prices are pre-tax

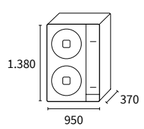
Indoor units



RWH-4.0VNFE
RWH-5.0VNFE
RWH-6.0VNFE

Outdoor units





RAS-4WH(V)NPE
RAS-5WH(V)NPE
RAS-6WH(V)NPE

* with connections.

Model			FLUIDE R410A + R134A YUTAKI S80 11KW	YUTAKI S80 14KW	YUTAKI S80 16KW
Heating performances					
Min/nom./max capacity heating (7°c ext/35°c water)		kW	11/15.2	14/16.7	16/17.8
Nom./max capacity heating (-7°c ext/35°c water)		kW	9.7/10.6	11.5/12.2	12.1/13
Nom./max capacity heating (-7°c ext/45°c water)		kW	11/12.5	14/14.5	16/16
Nom./max capacity heating (-7°c ext/55°c water)		kW	11/12.5	14/14.5	16/16
Power consumption heating (7°C ext/35°C water)		kW	2.2	2.97	3.5
COP (7°c ext/35°c water) acc. to EN14511			5	4.71	4.57
SCOP medium climate 35°c/55°c acc. to EN14825			4.75/3.63	4.43/3.35	3.88/3.23
Seasonal energy efficiency heating ηs (35°C) Single/Three[1]		%	189/188	177/176	155/154
Seasonal energy efficiency heating ηs (55°C) Single/Three[1]		%	138/137	135/135	127/127
Energy class 35°c/55°c			A+++/A++		A++/A++
Water output temperature range (heating mode)		°C	20/80 °C		
Max. water output temperature		°C	80°c down to -20 °c ext		
Hydraulic modules			RWH-4.0(V)NFE	RWH-5.0(V)NFE	RWH-6.0(V)NFE
Weight		kg	135/137	139/146	139/146
Dimensions (HxWxD)		mm	751 x 600 x 623		
Sound pressure level		dB(A)	57	57	58
Controller			Not included		
Hydraulic specifications					
Expansion tank		L	12		
Water flow (min/nom/max)		m^3/h	1/1.89/2.5	1.1/2.41/3.2	1.3/2.75/3.2
Heating hydraulic connections (male-male valves supplied)		inch	1" 1/4		
Minimum water volume for the installation		L	40	50	50
Refrigerant specifications					
Fluid			R134A		
Initial refrigerant charge pre-charged		kg	1.9 kg for 15m		
Compressor			SCROLL		
Electrical specifications					
Electrical power			230V/1Ph/50Hz or 400V/3Ph/50Hz		
SINGLE-PHASE 230V	Max. current	A	24	28	31
	Cable diameter (mm^2)/max. length (m)		3 x 6		
THREE-PHASE 400V	Max. current	A	10	10	10
	Cable diameter (mm^2)/max. length (m)		5 x 2.5		
Premium outdoor units			RAS-4WH(V)NPE	RAS-5WH(V)NPE	RAS-6WH(V)NPE
Pressure level at 1m/Acoustic pressure heating mode		dB(A)	49/61	50/63	50/64
Airflow		m^3/h	4800	5400	6000
Dimensions (H x W x D)		mm	1380 x 950 x 370		
Weight		kg	103		
Operating ranges Heating/DHW		°C	-25/+25 //-25/+35		
Refrigerant specifications					
Refrigerant pipe diameter (Liq/gas)		inch	3/8" 5/8"		
Min max length/Max height difference		m	5 - 75/20		
Initial charge of pre-charged refrigerant/Additional charge		kg/g/m	3.3 for 15m/60	3.4 for 15m/60	
Refrigerant			R410A		
Compressor			SCROLL		
Electrical specifications					
Electrical power			230V/1Ph/50Hz or 400V/3Ph/50Hz		
SINGLE-PHASE 230V	Max. current	A	30.5		
	Cable diameter (mm^2)/max. length (m)		3 x 6/30		
THREE-PHASE 400V	Max. current	A	14		16
	Cable diameter (mm^2)/max. length (m)		5 x 2.5/16		5 x 2.5/16
Int/Ext wiring section (shielded)		mm^2	2 x 0.75		

[1] Seasonal energy efficiency with integrated controller(V) = single.
* For the 2/2.5/3HP models with R32, indoor units and outdoor units have different diameters of refrigerant gas pipes and refrigerant fluid pipes. Adapters are therefore supplied with the outdoor unit.

Yutaki S80 Combi

Up to 80°C start temperature without electric heating element for heating and DHW



Smart Cascade regulation

The Yutaki S80 range features a Smart Cascade cycle, (unique on the market), which automatically adjusts Heat Pump operation based on heating requirements. This way, when heating requirements are less (water temperature until 53°C), the Heat Pump only uses the R410A refrigerant. When the requirement increases (water temperature up to 80°C), the second cycle of R134A refrigerant is activated. This way, consumption is reduced to a minimum and comfort is always guaranteed. (Fig. 1)

Constant heating all year round down to -25°C

This equipment heats water up to 80°C using renewable energy, including extreme temperatures down to -25°C.

Easy installation and maintenance

Its design means easy access to water and refrigerant connections and they are located in the upper part of the indoor unit.

Fig. 1: Smart Cascade cycle configuration

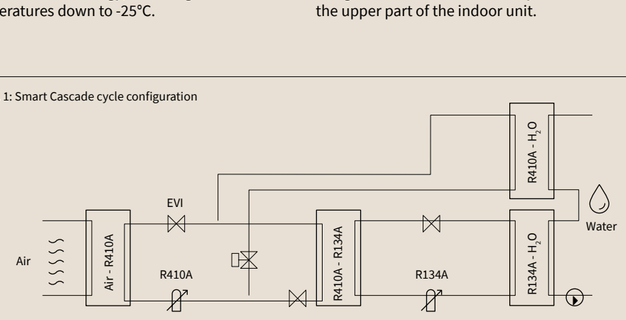
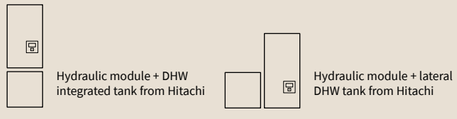


Fig. 2



Controls and controllers

Wired controller

PC-ARFH1E

Pre-tax price:

Included

Wireless controller

ATW-RTU-07

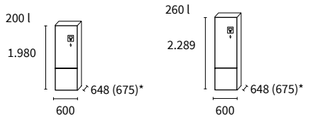
Pre-tax price:

Others*:

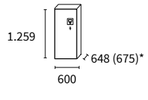
- 2nd zone kit with a 3-way valve and wall mounted circulator ATW-2TK-07
- Hi-Box AHP-SMB-01
- Hi Kumo gateway for Hi-Box ATW -TAG-02

* All prices are pre-tax

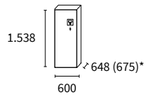
Indoor units



RWH-4.0(V)NFWE
RWH-5.0(V)NFWE
RWH-6.0(V)NFWE



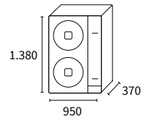
DHWS200S-2.7H2E



DHWS260S-2.7H2E

Outdoor units





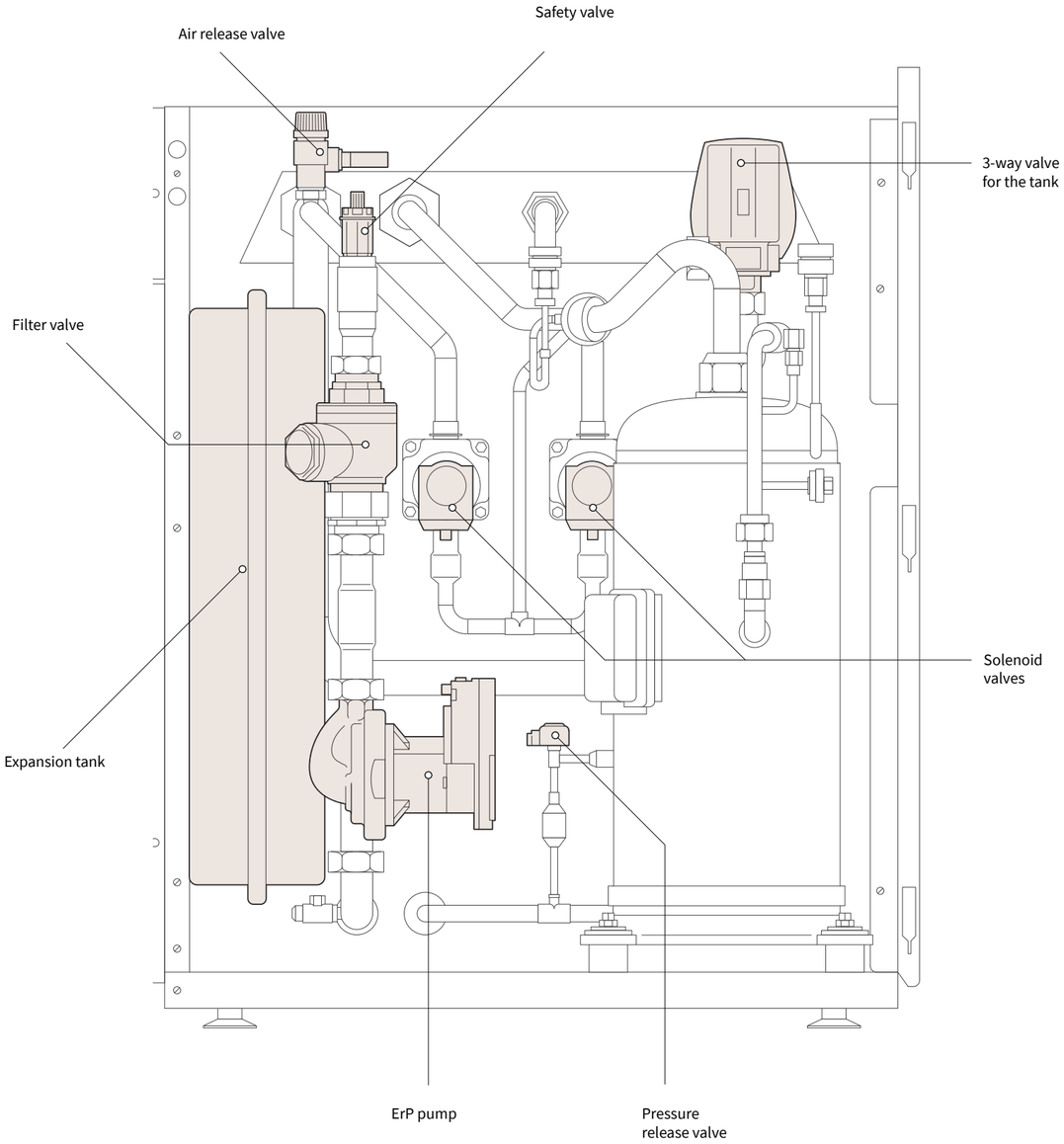
RAS-4WH(V)NPE
RAS-5WH(V)NPE
RAS-6WH(V)NPE

* with connections.

Model			R410A + R134A		
			YUTAKI S80 COMBI 11KW	YUTAKI S80 COMBI 14KW	YUTAKI S80 COMBI 16KW
Heating performances					
Min/nom./max capacity heating (7°c ext/35°c water)		kW	11/15.2	14/16.7	16/17.8
Nom./max capacity heating (-7°c ext/35°c water)		kW	9.7/10.6	11.5/12.2	12.1/13
Nom./max capacity heating (-7°c ext/55°c water)		kW	11/12.5	14/14.5	16/16
Power consumption heating (7°C ext/35°C water)		kW	2.2	2.97	3.5
COP (7°c ext/35°c water) acc. to EN14511			5	4.71	4.57
SCOP medium climate 35°c/55°c acc. to EN14825			4.75/3.63	4.43/3.35	3.88/3.23
Seasonal energy efficiency heating ηs (35°C) Single/Three[1]		%	189/188	177/176	155/154
Seasonal energy efficiency heating ηs (55°C) Single/Three[1]		%	138/137	135/135	127/127
Energy class 35°c/55°c			A+++/A++		A++/A++
Water output temperature range (heating mode)		°C	20/80 °C		
Max. water output temperature		°C	80°c down to -20 °c ext		
DHW performances					
Seasonal energy efficiency nwh (200L cycle L/260L cycle XL)		%	130/134		
DHW energy class			A+		
Water output temperature range (DHW mode)		°C	30/75 °C		
Hydraulic modules			RWH-4.0VNFWE + DWHS(200/260)S-2.7H2E	RWH-5.0VNFWE + DWHS(200/260)S-2.7H2E	RWH-6.0VNFWE + DWHS(200/260)S-2.7H2E
Single/Three-phase hydraulic module weight		kg	135/137	139/146	139/146
DHW tank weight (200L/260L)		kg	62/81		
Dimensions (HxWxD) with integrated DHW tank 200L /260L		mm	1980 x 600 x 648 //2289 x 600 x 648		
Sound pressure level		dB(A)	57		58
DHW tank volume/DHW tank material		L	200 or 260 L/Stainless steel		
Controller			Included		
Hydraulic specifications					
Expansion tank		L	12		
Water flow (min/nom/max)		m^3/h	1/1.89/2.5	1.1/2.41/3.2	1.2/2.75/3.2
Hydraulic connections Heating (Male/male valves supplied)		inch	1"1/4 female		
Hydraulic connections DHW		inch	3/4" male		
Minimum water volume for the installation		L	40	50	50
Refrigerant specifications					
Fluid			R134A		
Initial refrigerant charge pre-charged		kg	1.9 kg for 15m		
Compressor			SCROLL		
Electrical specifications					
Electrical power			230V/1Ph/50Hz or 400V/3Ph/50Hz		
SINGLE-PHASE 230V	Max. current	A	30.5		
	Cable diameter (mm^2)/max. length (m)		3 x 6/30		
THREE-PHASE 400V	Max. current	A	14		16
	Cable diameter (mm^2)/max. length (m)		5 x 2.5/16		5 x 2.5/16
Premium outdoor units			RAS-4WH(V)NPE	RAS-5WH(V)NPE	RAS-6WH(V)NPE
Pressure level at 1m/Acoustic pressure heating mode		dB(A)	49/61	50/63	50/64
Airflow		m^3/h	4800	5400	6000
Dimensions (H x W x D)		mm	1380 x 950 x 370		
Weight		kg	103		
Operating ranges Heating/DHW		°C	-25~+25 //-25~+35		
Refrigerant specifications					
Refrigerant pipe diameter (Liq/gas)		inch	3/8" 5/8"		
Min max length/Max height difference		m	5 - 75/20		
Initial charge of pre-charged refrigerant/Additional charge		kg/g/m	3.3 for 15m/60	3.4 for 15m/60	
Refrigerant			R410A		
Compressor			SCROLL		
Electrical specifications					
Electrical power			230V/1Ph/50Hz or 400V/3Ph/50Hz		
SINGLE-PHASE 230V	Max. current	A	30.5		
	Cable diameter (mm^2)/max. length (m)		3 x 6/30		
THREE-PHASE 400V	Max. current	A	14		16
	Cable diameter (mm^2)/max. length (m)		5 x 2.5/16		5 x 2.5/16
Int/Ext wiring section (shielded)		mm^2	2 x 0.75		

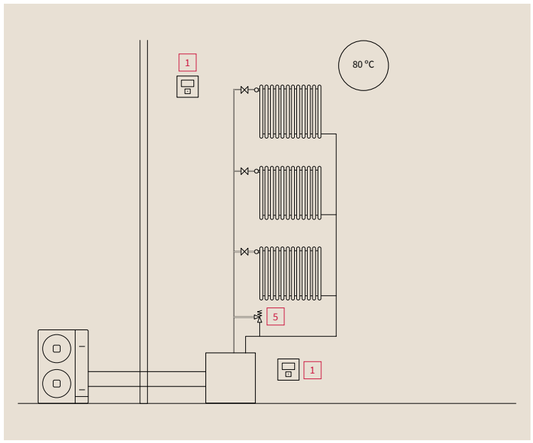
[1] Seasonal energy efficiency with integrated controller(V) = single.
* For the 2/2.5/3HP models with R32, indoor units and outdoor units have different diameters of refrigerant gas pipes and refrigerant fluid pipes. Adapters are therefore supplied with the outdoor unit.

Internal design

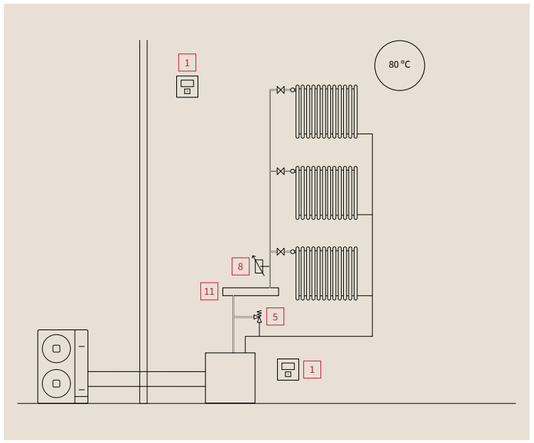


Its flexible design enables a variety of installation and pipe connection options.
- Hydraulic module
- Hydraulic module + Hitachi domestic hot water tank, integrated.
- Hydraulic module + Hitachi domestic hot water tank, lateral.
- Hydraulic module + domestic hot water tank from other manufacturers.

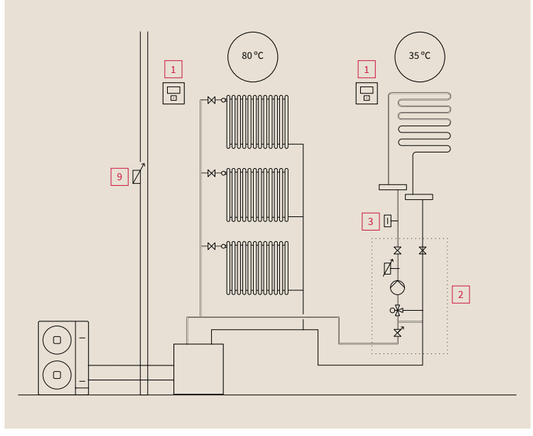
Hydraulic configurations
Yutaki S80 and S80 Combi



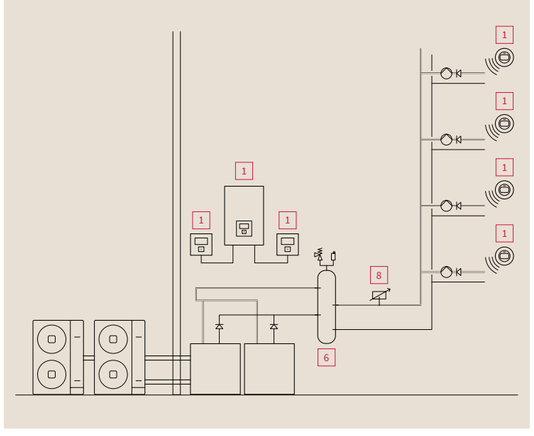
Boiler replacement
Heating 1 circuit



Boiler replacement
Heating 1 circuit



Boiler replacement
Heating 2 circuits



Boiler replacement
Cascade: individual central heating application

1 See P. 66 for the accessories.

Hydraulic accessories and regulators
Yutaki S80 & S80 Combi

1



Wired controller
PC-ARFH1E
Heating only version not included
S80 Combi version included

Pre-tax price: €



Cover
To be used if remote ambient controller.
ATW-FCP-01

Pre-tax price: €

1



Wired ambient sensor
ATW-ITS-01

Pre-tax price: €

1



Wireless on/off ambient thermostat
ATW-RTU-04

Pre-tax price: €

1



Ambient compensation wireless controller
1st circuit
ATW-RTU-07

Pre-tax price: €

1



Ambient compensation wireless controller
2nd circuit
ATW-RTU-06

Pre-tax price: €



Auxiliary outputs box
4 ports available: operation, alarm, cooling, thermo-OFF.
ATW-AOS-02

Pre-tax price: €



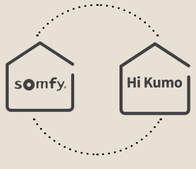
Hi - Box: Hi Kumo and Hi Kumo PRO home automation box
AHP-SMB-01

Pre-tax price: €



Somfy® home automation box
1811527

Pre-tax price: €



Somfy®/Hi Kumo Gateway
Communication gateway. Somfy® or Hi Kumo environment integration.
ATW-TAG-02

Pre-tax price: €



KNX® communication interface
Communication gateway. KNX® environment integration.
ATW-KNX-02

Pre-tax price: €



Modbus communication interface
Communication gateway. Modbus® environment integration.
ATW-MBS-02

Pre-tax price: €



Meter by use (RT2012)
Schneider®
Not commercialized by Hitachi
AEM-EM-2105 (single-phase)
A9MEM3210 (three-phase)

Pre-tax price: €

1



Cascade control cabinet
Cascade management of up to 8 Yutaki in the same range and with the same capacity (single/three-phase).
ATW-YCC-01

Pre-tax price: €

2



2nd zone kit with a 3-way valve and wall mounted circulator
This accessory is essential when 2 separate temperature levels need to be maintained.
ATW-2TK-07
Pre-tax price: €

3



Safety aquastat maxi floor
This accessory is essential when the heat emitter is the underfloor type (DTU 65-14).
ATW-AQT-01

Pre-tax price: €

4



3-way valve
DHW and pool applications.
ATW-3WV-01

Pre-tax price: €

5



Differential pressure overflow valve
This accessory ensures constant flow to the Heat Pump condenser.
ATW-DPOV-01

Pre-tax price: €

6



Hydraulic separator cylinder for Heat Pump
This accessory hydraulically separates the network of emitters and boiler from that of the Heat Pump.
ATW-HSK-01

Pre-tax price: €



Domestic Hot Water storage tank
Stainless steel tank
200 L: DHWT-200S-3.0H2
(H x D) 1270 x 595 mm
Pre-tax price: €
300 L: DHWT-300S-3.0H2E
(H x D) 1750 x 595 mm
Pre-tax price: €

8



Universal sensor
Hot water, hydraulic separator, 2nd circuit, pool, solar. (Required if the tank is not a Hitachi DHWT)
ATW-WTS-02Y

Pre-tax price: €

9



Outdoor ambient temperature sensor
ATW-2OS-02

Pre-tax price: €

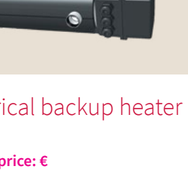
10



Flexible water hose
ATW-FWP-03

Pre-tax price: €

11



Electrical backup heater
WEH-6

Pre-tax price: €

12 Kit for installation with separate tank
Kit for installing the DHW tank next to the indoor unit.
ATW-FWP-02

Pre-tax price: €

Yutaki S Combi Lite

Dual service Heat Pump in new builds: DHW, heating and cooling



Indoor units

- Heat Pump Air - Water dual services.
- 200 L capacity.
- Available in 2 and 2.5 HP.
- Additional 3 kW heating element in the circuit (1 stage).
- Simplified electronic card.
- 1.5 kW additional electric tank heating element.

Outdoor units

- A Hitachi DC Inverter compressor, guaranteeing operation down to -15°C.
- 20 m refrigerant length, offering a range of installation options.

Controller

- 2 circuits.
- 3 configurable inputs.
- 4 configurable outputs.
- 1 configurable sensor.

Compatible controls and accessories



Wired controller
PC-ARFLE
Pre-tax price:



H-Link adapter
ATW-HCD-01
Pre-tax price:



Cover
ATW-FCP-01
Pre-tax price:



Reversible kit
ATW-CKSCL-01
Pre-tax price:

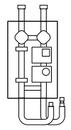


Hi-Box: Hi Kumo home automation box
AHP-SMB-01
Pre-tax price:

Somfy®/Hi Kumo Gateway
ATW-TAG-02
Pre-tax price:

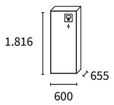


15m cable for remote controller
ATW-4PE-01
Pre-tax price:



2nd zone kit
ATW-2TK-05
Pre-tax price:

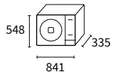
Indoor units



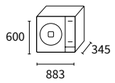
RWD-2.0NWLE-200S
RWD-2.5NWLE-200S

Outdoor units





RAS-2.0WHVN



RAS-2.5WHVN

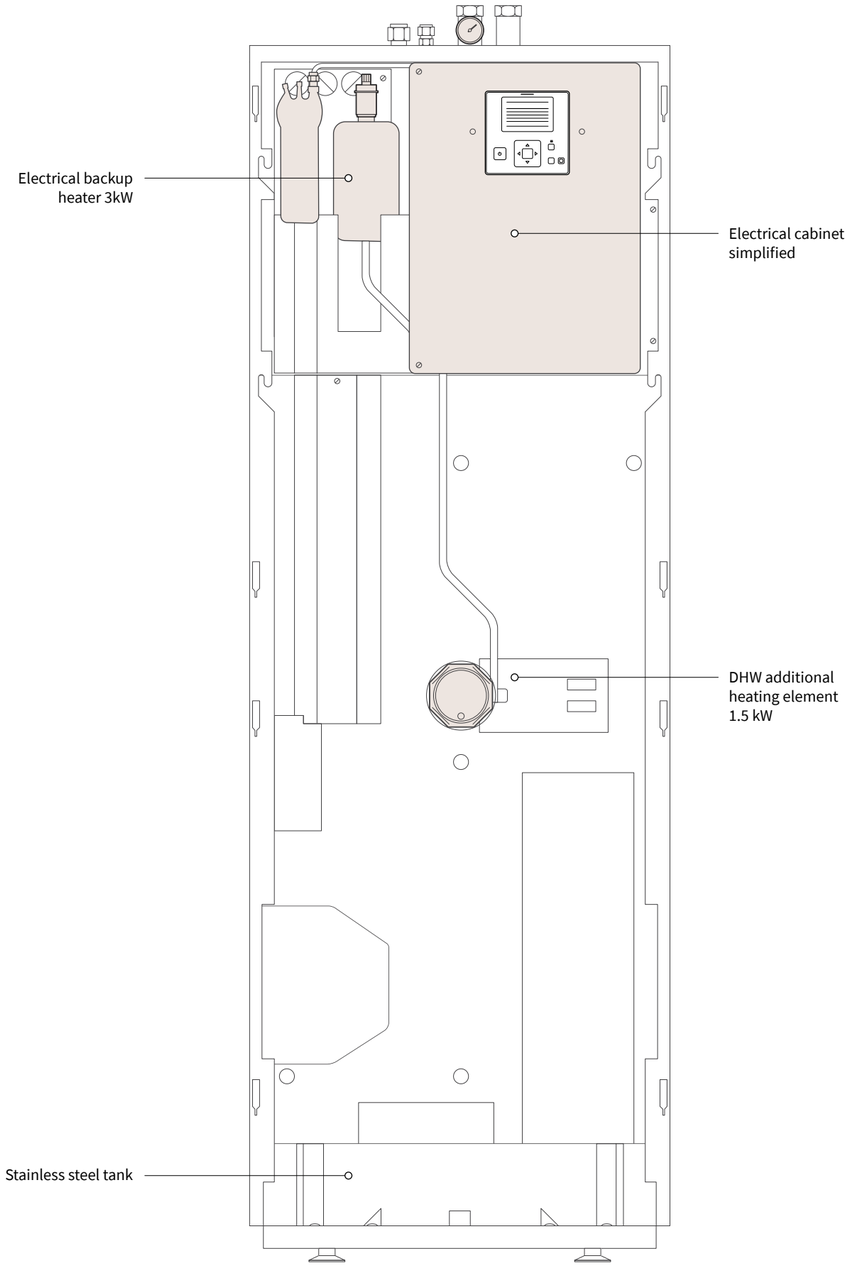
* with connections.

Yutaki S Combi Lite

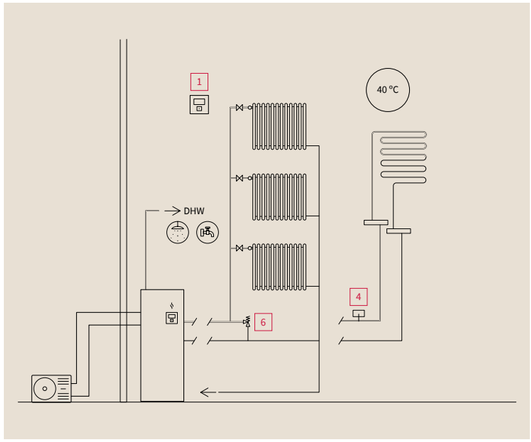
Model		FLUIDE R410A	
		YUTAKI S COMBI LITE 4KW	YUTAKI S COMBI LITE 6KW
Heating performances			
Min/nom./max capacity heating (7°c ext/35°c water)	kW	4/5.7	6/8
Nom./max capacity heating (-7°c ext/35°c water)	kW	3.55/4	4.55/5.3
Nom./max capacity heating (-7°c ext/55°c water)	kW	3.05/3.2	4/4
Power consumption heating (7°C ext/35°C water)	kW	1.39	1.71
COP (7°c ext/35°c water) acc. to EN14511		4.7	4.5
SCOP medium climate 35°c/55°c acc. to EN14825		4.25/3	4.21/3.2
Seasonal energy efficiency heating ηs (35°C) Single/Three[1]	%	167	165
Seasonal energy efficiency heating ηs (55°C) Single/Three[1]	%	117	125
Energy class 35°c/55°c		A++/A+	A++/A++
Water output temperature range (heating mode)	°C	20/55 °C	
Max. water output temperature	°C	55°c down to -10 °c ext	
DHW performances			
COP DHW 200L		3.3	
Seasonal energy efficiency nwh 200L cycle L	%	125	
DHW energy class		A+	
Water output temperature range (DHW mode)	°C	30/55 °C	
Cooling Performances (option)			
Nom. capacity cooling (35°c ext/7°c water)(reversible)	kW	3.8	5
Power consumption cooling (35°C ext/7°C water)	kW	-	-
EER (reversible model)		3.12	3.15
Reversible seasonal energy efficiency ηs (35°C) [1]	%	168	166
Reversible seasonal energy efficiency ηs (55°C) [1]	%	117	125
Hydraulic modules		RWD-2.0NWLE-200S	RWD-2.5NWLE-200S
Additional electrical heating element as standard	kW	3	3
DHW additional electrical heating element as standard	kW	1.5	
Weight 200L	kg	99	
Dimensions (HxWxD)	mm	1816 x 600 x 655	
Sound pressure level	dB(A)	37	
DHW tank volume/DHW tank material	L	200 L/Stainless steel	
Controller		Included	
Hydraulic specifications			
Expansion tank	L	6	
Water flow (min/nom/max)	m^3/h	0.5/0.77/1.8	0.6/1.03/1.9
Hydraulic connections Heating (Male/male valves supplied)	inch	1"	
Hydraulic connections DHW	inch	3/4"	
Minimum water volume for the installation	L	28	
Electrical specifications			
Electrical power		230V/1Ph/50Hz	
SINGLE-PHASE 230V — Max. current	A	19.4	
SINGLE-PHASE 230V — Cable diameter (mm^2)/max. length (m)		3 x 6/30	
Premium outdoor units		RAS-2.0WHVN	RAS-2.5WHVN
Pressure level at 1m/Acoustic pressure heating mode	dB(A)	/63	/63
Airflow	m^3/h	2436	
Dimensions (H x W x D)	mm	548 x 841 x 335	600 x 883 x 345
Weight	kg	33	41
Operating ranges Cooling/Heating/DHW	°C	+10~+43 // -15~+25 // -15~+35	
Refrigerant specifications			
Refrigerant pipe diameter (Liq/gas)	inch	1/4" 3/8"	1/4" 1/2"
Min max length/Max height difference	m	5 - 20/10	
Initial refrigerant charge pre-charged	kg	1.2 for 20m	1.3 for 20m
Refrigerant		R410A	
Compressor		ROTARY	
Electrical specifications			
Electrical power		230V/1Ph/50Hz	
SINGLE-PHASE 230V — Max. current	A	14.1	
SINGLE-PHASE 230V — Cable diameter (mm^2)/max. length (m)		3 x 2.5/24	
Int/Ext wiring section (shielded)	mm^2	2 x 0.75	

[1] Seasonal energy efficiency with integrated controller. (V) = single.

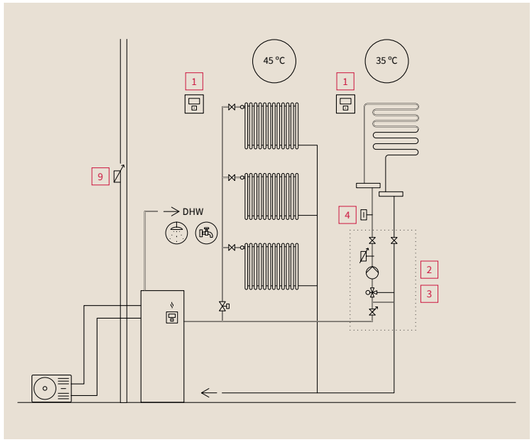
Internal design



Hydraulic configurations
Yutaki S Combi Lite



Heating 1 radiator circuit or underfloor heating + DHW



Heating
2 zones with radiator circuits and underfloor heating + DHW

Yutaki M

Without refrigerant connections:
heating, cooling and DHW



Ideal for small spaces

The monobloc heating solution is ideal for small spaces because it comprises a single unit installed outside. Your interior therefore remains unchanged.

Easy installation

Installing a monobloc unit is quick and economical because all components are connected and there are no refrigerants connections.

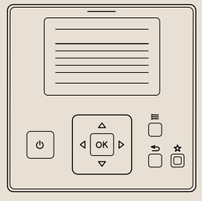
Cooling and heating in the same system all year round

By combining the Yutaki M monobloc with the reversible kit, the accessory for inverting heat pump operation, maximum comfort is guaranteed all year round. The installation provides heating in winter and cooling in summer.

Easy, smart control

The LCD controller can plan daily and weekly programs, manage water production temperature, operating modes etc. (Fig. 1)

Fig. 1



PC-ARFH1E controller

Controls and controllers

Wired controller

PC-ARFH1E

Pre-tax price:

Not included

Wireless controller

ATW-RTU-07

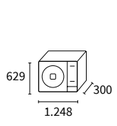
Pre-tax price:

Others*:

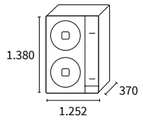
- 2nd zone kit with a 3-way valve and wall mounted circulator ATW-2TK-07
- Hi-Box AHP-SMB-01
- Hi Kumo gateway for Hi-Box ATW -TAG-02

* All prices are pre-tax

Outdoor units



RASM-2VRE
RASM-3VRE

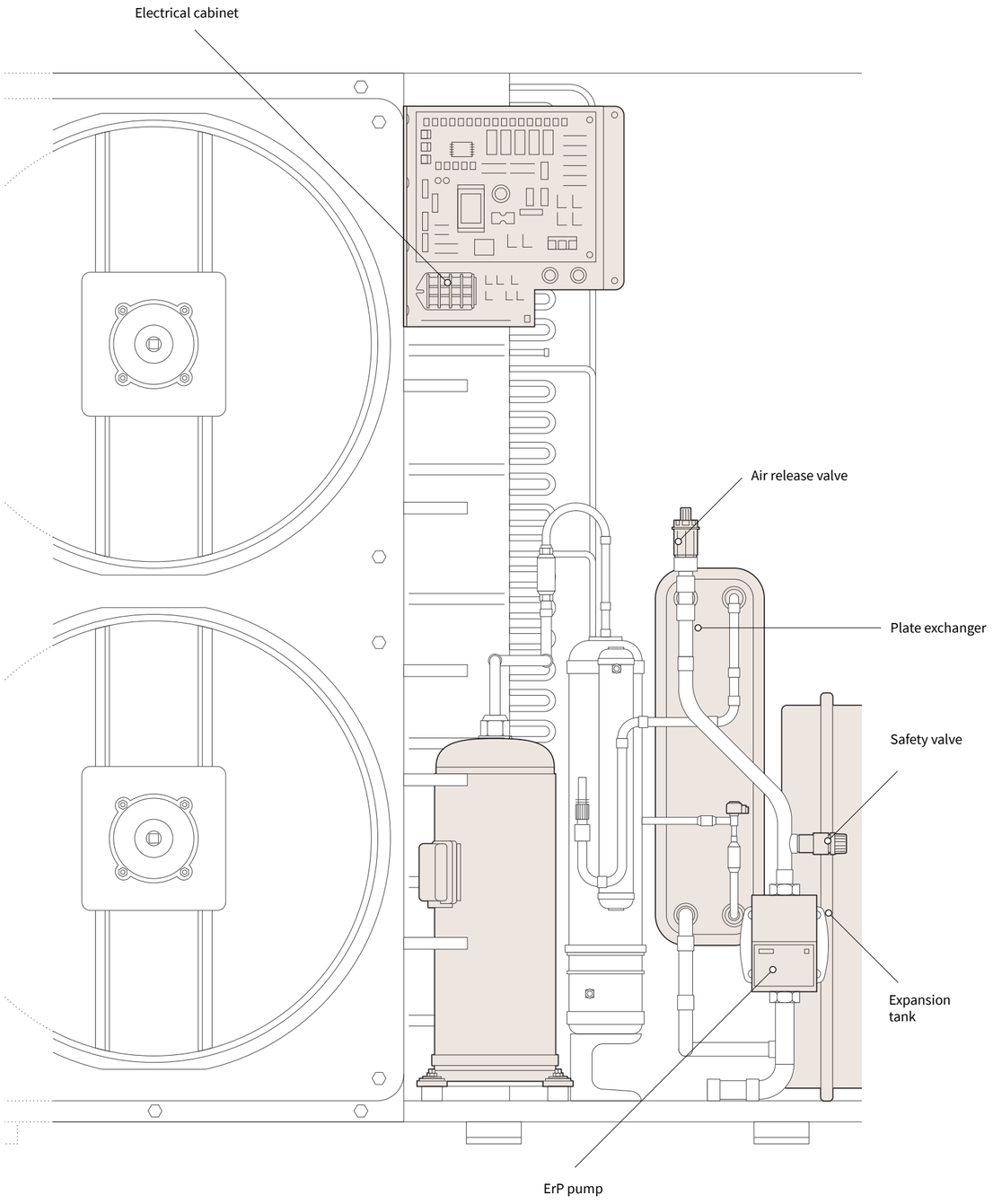


RASM-4(V)NE
RASM-5(V)NE
RASM-6(V)NE

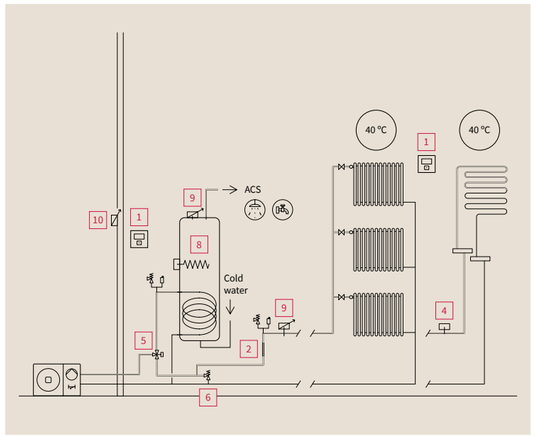
Model			R32		R410A		
			YUTAKI M 4.3KW	YUTAKI M 8KW	YUTAKI M 11KW	YUTAKI M 14KW	YUTAKI M 16KW
Heating performances							
Min/nom./max capacity heating (7°c ext/35°c water)		kW	1.85/4.3/6.5	2.1/8/11	11/15.2	14/16.7	16.0/17.8
Nom./max capacity heating (-7°c ext/35°c water)		kW	4.5/5.3	5.8/7.5	9.7/10.6	11.5/12	12/13
Nom./max capacity heating (-7°c ext/45°c water)		kW	/5	/6.67	10/10.3	11/11.6	11.5/12.5
Nom./max capacity heating (-7°c ext/55°c water)		kW	4/4.2	5/5.5	8.7/9.8	9.7/11.2	10.5/12
Power consumption heating (7°C ext/35°C water)		kW	1	1.94	2.2	2.97	3.5
COP (7°c ext/35°c water) acc. to EN14511			5.25	4.6	5	4.71	4.57
SCOP medium climate 35°c/55°c acc. to EN14825			4.73/3.48	4.55/3.25	4.8/3.5	4.48/3.43	3.9/3.23
Seasonal energy efficiency heating ηs (35°C) Single/Three[1]		%	181	177	187/186	175/174	153/152
Seasonal energy efficiency heating ηs (55°C) Single/Three[1]		%	133	125	136/135	133/133	125/125
Energy class 35°c/55°c			A+++/A+++		A+++/A++		A++/A++
Water output temperature range (heating mode)		°C	20/60 °C		20/60 °C		
Max. water output temperature		°C	60°c down to -5 °c ext		60°c down to -10 °c ext		
DHW performances							
Nom./max capacity cooling (35°c ext/7°c water)(reversible)		kW	4/5	6.5/7	7.2/11.8	9.5/12.6	10.5/13.7
Power consumption cooling (35°C ext/7°C water)		kW	0.8	1.7	2.18	2.95	3.72
EER (reversible model)			4	3.35	3.3	3.22	2.82
Reversible seasonal energy efficiency ηs (35°C) Single/Three[1]		%	186	179	189	176	153
Reversible seasonal energy efficiency ηs (55°C) Single/Three[1]		%	136	127	137	134	126
Monobloc unit			RASM-2VRE	RASM-3VRE	RASM-4(V)NE	RASM-5(V)NE	RASM-6(V)NE
Heating additional electrical heating element (option)		kW	6 (2 + 2 + 2)	6 (2 + 2 + 2)		6 (2 + 2 + 2)	
Weight		kg	76	78	131	133	133
Dimensions (HxWxD)		mm	704 x 1248 x 300			1380 x 1252/370	
Sound pressure level/sound power		dB(A)	46/61	54/67	-/64	-/65	-/67
Airflow		m^3/h	2682	4800	4800	5400	6000
Operating ranges Cooling/Heating/DHW		°C	+10~+46 //-20~+25 //-20~+35			+10~+46 //-25~+25 //-20~+35	
Controller			Not included			Not included	
Hydraulic specifications							
Expansion tank		L	6			6	
Water flow (min/nom/max)		m^3/h	0.5/0.77/1.9	0.6/1.29/2.1	1/1.89/2.8	1.1/2.41/3	1.2/2.75/3
Heating hydraulic connections (male-male valves supplied)		inch	1"			1" 1/4	
Minimum water volume for the installation		L	28		38	46	55
Electrical specifications							
Electrical power			230V/1Ph/50Hz		230V/1Ph/50Hz or 400V/3Ph/50Hz		
SINGLE-PHASE 230V	Max. current with additional heating element	A	10.6	16	30.8	30.8	30.8
	Cable diameter (mm^2)/max. length (m)		3 x 2.5/14	3 x 4/16	3 x 6/		
	Max. current with additional heating element + tank heating element/Yutaki S Option	A	23.1	28.5	43.3	43.3	43.3
	Cable diameter (mm^2)/max. length (m)		3 x 6/28			3 x 10	
THREE-PHASE 400V	Max. current with additional heating element		-	-	14.3	14.3	16.3
	Cable diameter (mm^2)/max. length (m)		-	-		5 x 6	
	Max. current with additional heating element + tank heating element/Yutaki S Option		-	-	26.8	26.8	28.8
	Cable diameter (mm^2)/max. length (m)		-	-		5 x 10	
Refrigerant specifications							
Initial refrigerant charge pre-charged		kg	1.2	1.3	2.8	3.1	3.1
Refrigerant			R32			R410A	
Compressor			SCROLL	ROTARY	SCROLL	SCROLL	SCROLL

[1] Seasonal energy efficiency with integrated controller(V) = single.

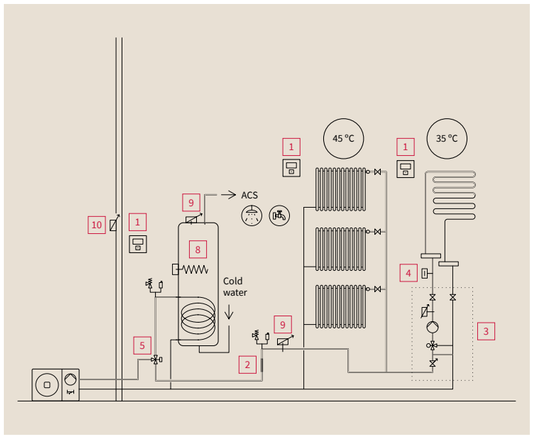
Internal design



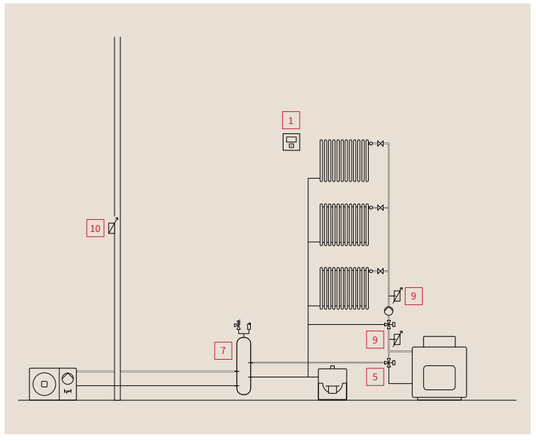
Hydraulic configurations
Yutaki M



Application for new build and renovation



Application for new build and renovation



Application for renovation

1 See P. 76 for the accessories.

Hydraulic accessories and regulators
Yutaki M

1



Wired controller
PC-ARFH1E

Pre-tax price: €

1



Wired ambient sensor
ATW-ITS-01

Pre-tax price: €

1



Wireless on/off ambient thermostat
ATW-RTU-04

Pre-tax price: €

1



Ambient compensation wireless controller
1st circuit
ATW-RTU-07

Pre-tax price: €

1



Ambient compensation wireless controller
2nd circuit
ATW-RTU-06

Pre-tax price: €

1



Auxiliary outputs box
4 ports available: operation, alarm, cooling, thermo-OFF.
ATW-AOS-02

Pre-tax price: €

1



Hi - Box: Hi Kumo and Hi Kumo PRO home automation box
AHP-SMB-01

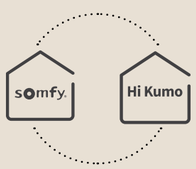
Pre-tax price: €

1



Somfy® home automation box
1811527

Pre-tax price: €



Somfy®/Hi Kumo Gateway
Communication gateway. Somfy® or Hi Kumo environment integration.
ATW-TAG-02

Pre-tax price: €



KNX® communication interface
Communication gateway. KNX® environment integration.
ATW-KNX-02

Pre-tax price: €



Modbus communication interface
Communication gateway. Modbus® environment integration.
ATW-MBS-02

Pre-tax price: €



Meter by use (RT2012)
Schneider®
Not commercialized by Hitachi
AEM-EM-2105 (single-phase)
A9MEM3210 (three-phase)

Pre-tax price: €



Reversible kit
Equipment required for operating in cooling (included in the reversible version).
ATW-CKM-01

Pre-tax price: €

1



Cascade control cabinet
Cascade management of up to 8 Yutaki in the same range and with the same capacity (single/three-phase).
ATW-YCC-01

Pre-tax price: €

1



Control cabinet
Contains electrical connections and the controller. Controller PC-ARFHE optional.
ATW-YMM-01

Pre-tax price: €

2



Electrical backup heater
WEH-6

Pre-tax price: €

3



2nd zone kit with a 3-way valve and wall mounted circulator
This accessory is essential when 2 separate temperature levels need to be maintained.
ATW-2TK-07

Pre-tax price: €

4



Safety aquastat maxi floor
This accessory is essential when the heat emitter is the underfloor type (DTU 65-14).
ATW-AQT-01

Pre-tax price: €

5



3-way valve
DHW and pool applications.
ATW-3WV-01

Pre-tax price: €

6



Diffenrential pressure overflow valve
This accessory ensures constant flow to the Heat Pump condenser.
ATW-DPOV-01

Pre-tax price: €

7



Hydraulic separator cylinder for Heat Pump
This accessory hydraulically separates the network of emitters and boiler from that of the Heat Pump.
ATW-HSK-01

Pre-tax price: €

8



Domestic Hot Water storage tank
Stainless steel tank
200 L: DHWT-200S-3.0H2
(H x D) 1270 x 595 mm
Pre-tax price: €
300 L: DHWT-300S-3.0H2E
(H x D) 1750 x 595 mm
Pre-tax price: €

9



Universal sensor
Hot water, hydraulic separator, 2nd circuit, pool, solar. (Required if the tank is not a Hitachi DHWT)
ATW-WTS-02Y

Pre-tax price: €

10



Outdoor ambient temperature sensor
ATW-2OS-02

Pre-tax price: €

The SPLIT thermodynamic centralized or individual storage solutions guarantee energy savings and comfort, while respecting the environment.
In addition, the French RT2012 energy regulations impose the implementation of renewable energy-based low-consumption systems in new builds and renovations.



Domestic hot water



Yutampo R32



Quick selection table

	Yutampo R32
	NEW / R32 REFRIGERANT
	CETD SPLIT
Application	Residential
Capacity (kW)	3.5
Capacities (liters)	190 270
COP	3.2* * preliminary data



Yutampo R32

The most economic solution to produce hot water



Maximum comfort, minimum consumption

The Yutampo R32 thermodynamic water heater provides domestic hot water for a family of six, using the renewable energy contained in the air outside.
This means 70% energy savings compared with a standard water heater.

Made-to-measure tank

The Yutampo R32 comes with two models offering capacities of 190 and 270 liters, adapted to the requirements of every household. Only 60 cm wide, the thermodynamic tank is as compact as a standard kitchen unit.

Fast water heating

Thanks to its heating power, the YUTAMPO R32 is one of the fastest water heaters on the market, requiring only 3 hours and 15 minutes to heat the water in the entire tank to an ultra-precise temperature, even during winter at temperatures as low as -15°C.

Improved durability and water purity

The storage tank is made of very high quality food-grade stainless steel.
It provides greater resistance to high temperatures and corrosion.
Its anti-bacteria function also rules out any risk of the development of impurities.

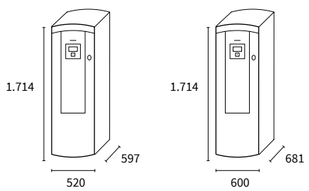
Remote control

The tank can be remotely controled with Hi Kumo App, from your smartphone.
The tank can also be connected to KNX for integration with different domestic automation systems.



Controller inspired by the Yutaki range

Indoor units



TAW-190RHC TAW-270RHC

Outdoor units



RAW-35RHC

Yutampo R32

Tank	Unit	VERSION 190L	VERSION 270L
COP according to EN16147 (190L profil L / 270L profil XL)*		3,12	3,22
Seasonal energetic efficiency nwh (190L profil L / 270L profil XL)*		125	127
Energy efficiency class*		A	A
Water temperature without / with backup electric heater	°C	55 / 75	
Heating time according EN16147*	h:mn	1h40	1h43
Water volume available at 40°c according to EN16147*	L	256	356
Tank		**TAW-190RHC**	**TAW-270RHC**
Volume	L	190	270
DHW connections	Pouce	3/4" M	
Refrigerant Flare connections	Pouce	1/4" - 3/8"	
Tank material		Acier Inox	
Electrical backup heater	kW	1,5	
Tank dimensions ((HxØxD)	mm	1714x520x597	1714x600x681
Weight	kg	54	65
Pes*	W	24,9	20
Outdoor Unit		**RAW-35RHC**	
Working range	°C	-15~+37	
Average heating capacity returned	kW	3,5	
Min. length/max. length/Max. height difference	m	5 - 20 / 10	
Max Intensity	A	7,9	
Sound pressure at 1m / Sound Power	dB(A)	- / 63	
Dimensions (HxLxD)	mm	548x841x335	
Weight	kg	32,5	
Refrigerant quantity	kg	1	
Refrigerant		R32	

Electrical connections		3 possibilities		
Supply		**Par la ballon From the tank**	**Par le groupe From the outdoor unit**	**Commune ballon + groupe Common tank + outdoor unit**
Max Intensity	A	7,4	7,9	15,4
CABLE SECTION (MM^2) / MAX LENGTH		3 x 1,5	3 x 1,5	3 x 4
Indoor/Outdoor connection	mm^2	2 x 0,75	2 X 0,75	2 X 0,75

* Preliminary data

Compatible controls and accessories



TAHOMA® SOMFY® domestic control
1811527
Price pre-tax:

SOMFY® / Hi Kumo gateway
ATW-TAG-02
Price pre-tax:



KNX communication interface
ATW-KNX-02
Price pre-tax: €



Adaptateur H-Link
ATW-HCD-01
Prix HT : €



Hi-box: Hi Kumo domestic control box
AHP-SMB-01
Price pre-tax:

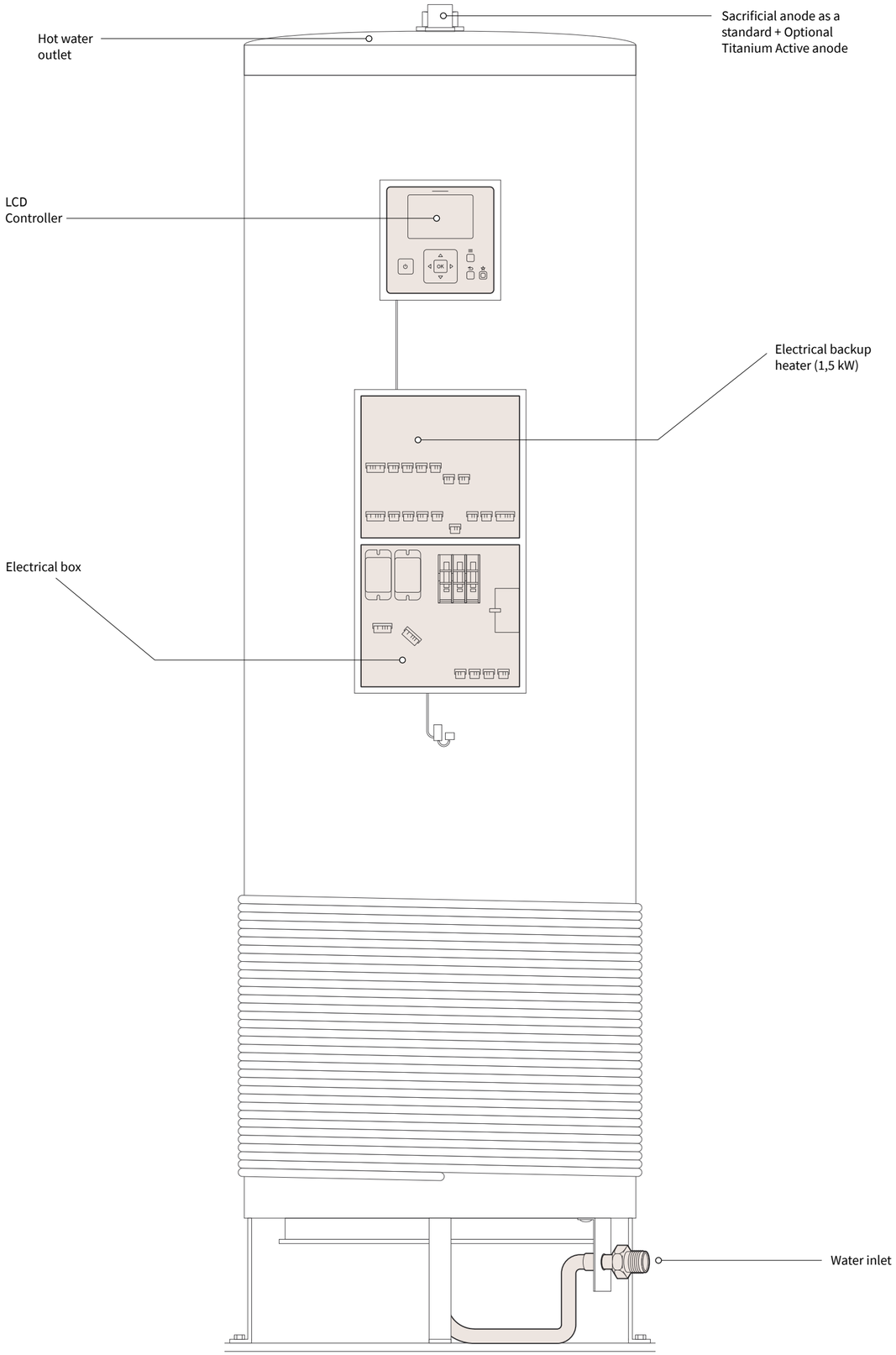


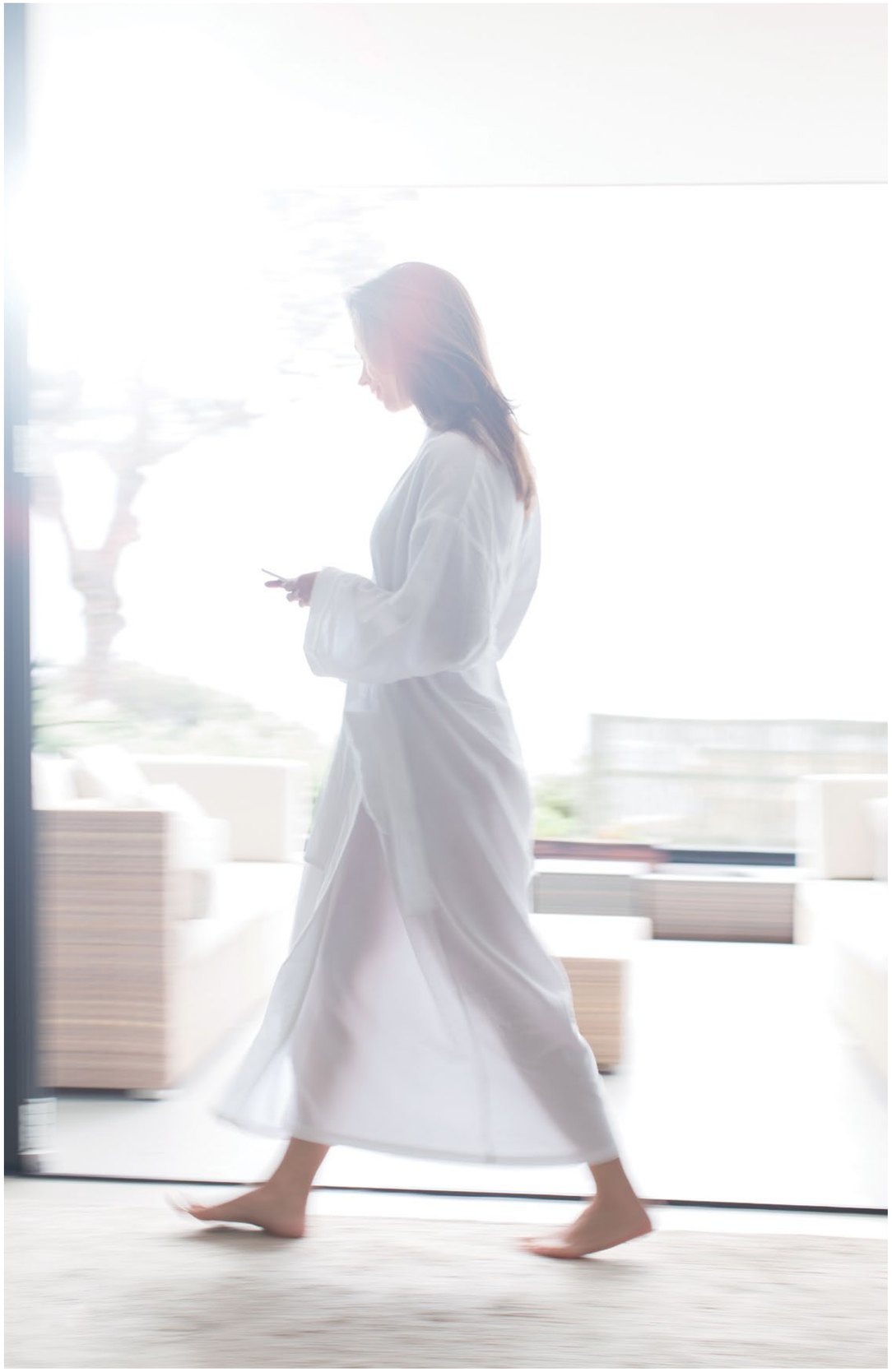
Input/output connector cable
ATW-OFC-02
Price pre-tax: €



Active Anode
ATW-CP-05
Prix HT : €

Internal Design





The 1st Multi-splits R32 thermodynamic water heater.
Water heater/Heating/Air-conditioning.
Ideal for both houses and apartments, the Triple C solution can reach a comfortable heating and cooling temperature in just a few minutes and covers an entire family's hot water requirements. Discreetly installed, it offers genuine space savings with convectors or radiators no longer needed on the walls. It supplies quiet and gentle heating and cooling.



Triple C R32

Multi-split thermodynamic water heater



Wall



Consoles



Cassettes



Ducted





* JOHNSON CONTROLS - HITACHI AIR CONDITIONING EUROPE SAS participate in the Eurovent Certification Program for the AC/VRF/LCP-HP categories. Information on certified models can be found in the Eurovent Directory (www.eurovent-certification.com).

Multi-split thermodynamic water heater



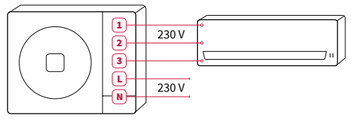


1. *Outdoor unit*
2. *Hot water tank*
3. *Wireless or wired controller*
4. *SHIROKUMA console unit*
5. *TAKAI wall unit*
6. *MOKAI wall unit*

Please note

The supplied capacity of each indoor unit depends on the outdoor unit, the selected combination, pipe length and outdoor temperature. The pipe length used to determine the values above is 10 m. Total capacity cannot exceed the unit capacity: please refer to the combination table. For more information on selecting, please refer to our technical documentation or use the Hi-ToolKit software.

Indoor units are powered with 220-230 V from the outdoor unit.



Performances

A market leader
- Efficient heating: high capacities down to -7 °C for maximum comfort.
- Quiet outdoor units.

Design

The Triple C range offers a multitude of combinations
- Combine a Takai wall unit and Shirokuma console for harmonious design.
- Install ducted units for complete discretion.
- Ducted: Up to 150 Pa available pressure for more flexible installation.
- Use Cassettes to save floorspace.

Hitachi exclusive

Vector control
- This Hitachi-patented system optimizes outdoor unit compressor operation for unmatched performance.

Hibernate
- Intelligent outdoor unit control reduces their consumption by over 70% in standby mode.

Compatible controls and accessories



Wireless weekly controller

Standard on Wall units, Consoles or Cassettes. Option on Ducted units.



Programmable wired controller

SPX-WKT3

Price (pre-tax):



Simplified wired controller

Multi-split thermodynamic water heater R32



NEW

Availbale in June 2020

Stainless steel water tanks

- Compact
(L520 x H1714 x P597mm).
- Refrigerant connections at the front.
- Grab handles.
- Refrigerant connections up to 20 m.
- Highest energy class (A).
- High-speed heating time:
2 hours 10 mins (190 L) and 2 hours 55 mins (270 L).
- DHW boost function for special requirements.
- Silent: split technology ensures installation within the heated area without noise pollution.
- Range compatible with the Hi Kumo connected solution.
- One of the only tanks on the market in stainless steel: ensured durability.
- Remote control option.

Multi-split outdoor units

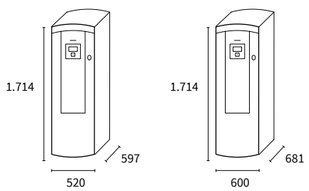
- Up to 11.5 kW of available capacity for heating.
- Excellent max capacity at -7°C equivalent to 7.8 kW.
- Able to connect a tank with a minimum of 1 indoor unit. Up to 4 possible.
- 3 groups available : 6,8kW, 8,5kW, 10,0kW.

Applicable only on tank + unit combinations:

- RAM-53NYP3E + TAW-190RHC
- RAM-53NYP3E + TAW-270RHC
- RAM-70NYP4E + TAW-190RHC
- RAM-70NYP4E + TAW-270RHC
- RAM-90NYP5E +TAW-190RHC
- RAM-90NYP5E + TAW-270RHC

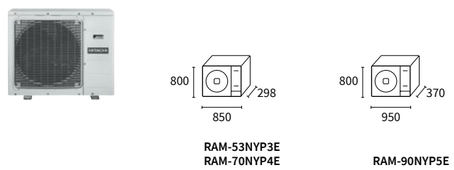
(Indoor units excluded from these devices).

Indoor units



TAW-190RHC **TAW-270RHC**

Outdoor units



RAM-53NYP3E
RAM-70NYP4E

RAM-90NYP5E

Yutampo R32 (Preliminary data)

Tank	Unit	TAW-190RHC	TAW-270RHC
Capacity	L	**190**	**270**
DHW connections	inch	3/4 M	
FLARE refrigerant connections	inch	1/4 - 3/8	
Tank		**STAINLESS STEEL**	
Electrical heating element	W	1500	
DHW temperature without additional source (with additional source)	°C	**55 (75)**	
Available or supplied heating time (15°C - 55°C)	h	**2h10**	**2h55**
Available or supplied water volume (at 40°C)	L	**256**	**356**
PES	W	24.9	20.0
Tank dimensions (H × Ø × D)	mm	1620 x 520 x 594	1620 x 600 x 674
Weight	kg	49	54
Seasonal energy efficiency nwh (190L cycle L/270L cycle XL)**	%	125	125

Outdoor unit	Unit	RAM-53NYP3E	RAM-70NYP4E	RAM-90NYP5E
Number of connectable units (min - max)		1/2	2/3	2/4
Capacity Cooling (min-max)	kW	**5.30** (1.50 - 6.60)	7.00 (2.40 - 8.80)	8.50 (1.52 - 9.50)
Capacity Heating (min-max)	kW	6.80 (1.50 - 7.20)	8.50 (2.60 - 9.50)	10.0 (1.50 - 11.50)
Capacity at full charge at -7°C [1]	kW	**5.50**	**6.50**	**7.80**
Absorbed nom. capacity Cooling (min-max)	kW	1.29 (0.20 - 1.68)	1.89 (0.46 - 3.20)	2.50 (0.50 - 3.85)
Absorbed nom. capacity Heating (min-max)	kW	1.61 (0.20 - 2.01)	2.02 (0.48 - 3.12)	2.56 (0.50 - 3.85)
EER/COP		**4.10/4.20**	**3.70/4.20**	**3.40/3.90**
SEER/SCOP (medium climate)		**8.50/4.60**	**8.10/4.60**	**7.90/4.30**
Seasonal energy class (Cooling/Heating)		**A+++/A++**	**A++/A++**	**A++/A+**
Sound level Cooling (pressure)	dB(A)	50		53
Sound pressure	dB(A)	50/61	57/63	57/66
Air flow (Cooling/Heating)	m^3/h	2160/2160	2700/2700	3900/3900
Dimensions (H x W x D)	mm	800 x 850 x 298	800 x 850 x 298	800 x 950 x 370
Weight	kg	54	58	71
Electrical power		220-230V		
Maximum current	A	8	10	12
Cable diameter (EN 60 335 - 1)	mm^2	2.50 x 2+T		
Indoor/outdoor wiring section	mm^2	1.50 x 3+T		
Pipe diameter (Liq/gas)	inch	(1/4 x 3/3/8 x 3)	(1/4 x 4/3/8 x 3 + 1/2 x 1)	1/4 x 5/(3/8 x 3) + (1/2 x 2)
Initial refrigerant charge	kg	2.05		2.40
Pre-charged for	m	30		35
Minimum length	m	3		
Maximum length/Additional refrigerant	m/g/m	60/20		75/15
Maximum height difference	m	20		
Guaranteed performances Cooling/Heating	°C	+46°C/-10 °C		
Refrigerant		**R32**		
Compressor		**TWIN ROTARY**		

* Provisional data

Price	Ref.	Pre-tax price	
Yutampo R32 190L tank	TAW-190RHC		
Yutampo R32 270L tank	TAW-270RHC		
5.3kW outdoor unit	RAM-53NYP3E		
6.8kW outdoor unit	RAM-70NYP4E		
8.5kW outdoor unit	RAM-90NYP5E		

** Acc. to standards 1647. Energy efficiency.
[1] Data includes defrosting. For the data corresponding to your project, use our technical catalogs or the Hi-ToolKit for business software.

Control & controllers	Ref.	Pre-tax price	
SOMFY® home automation box	1811527		
Hi-Box: Hi Kumo home automation box	AHP-SMB-01		
SOMFY®/Hi Kumo Gateway	ATW-TAG-02		
H-Link adapter	ATW-HCD-01		
KNX COMMUNICATION INTERFACE	ATW-KNX-02		
15 m cable for remote controller	ATW-4PE-01		-
Connector cable configurable input/outputs	ATW-OFC-01		-
Front cover	ATW-FCP-02		-
MODBUS adapter	ATW-MBS-02		

Compatible indoor units



Takai wall
RAK-18QXE
RAK-25~50RXE



Shirokuma console
RAF 25~50RXE



Mokai wall
RAK-15QPE
RAK-18~50RPE

Light commercial wall
RAK-60RPE



Light commercial cassette
RAI-25~60RPE



R32 Duct
RAD-18QPE
RAD-25~60RPE

Multi-splits

Indoor units

Takai wall



Takai wall range

Perfectly suited to all installation types, with special models available for smaller surface areas. The size 18 model can be switched to reduce the capacity
(1.8 kW > 1.2 kW* cooling and 2.5 kW > 1.8 kW* heating).

Motion sensor

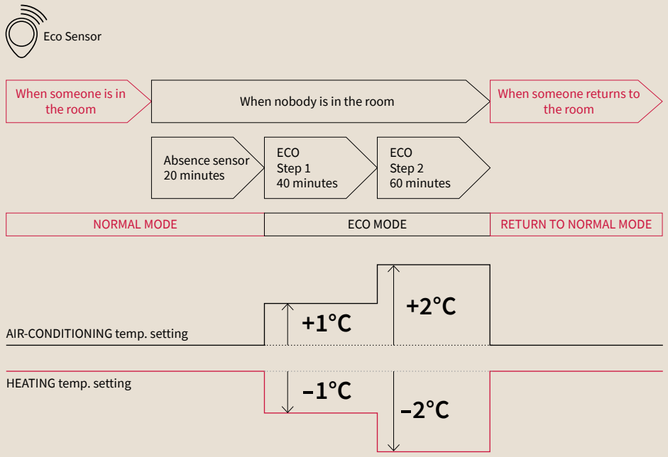
It adjusts indoor unit operation depending on whether anyone is in the room. See Eco Sensor illustration opposite.

Ultra-efficient filtration

STAINLESS pre-filters and Active Carbon filters as standard.

Extra quiet units

20 dB(A) for size 25.



Indoor units		RAK-18QXE	RAK-25RXE	RAK-35RXE	RAK-50RXE
Capacity Cooling (min-max)	kW	**1.80** (1.00 - 2.50)	**2.50** (0.90 - 3.10)	**3.50** (0.90 - 4.00)	**5.00** (1.90 - 5.20)
Capacity Heating (min-max)	kW	**2.50** (1.10 - 3.20)	**3.20** (0.90 - 4.20)	**4.00** (0.90 - 4.80)	**5.80** (2.20 - 7.00)
Sound pressure Cooling (Very low - Low - Medium - High)[2]	dB(A)	**20/25/30/36**	**20/27/35/43**	**22/29/37/45**	**25/31/39/47**
Sound pressure	dB(A)	49	58	60	
Air flow Cooling (Very low - Low - Medium - High)	m^3/h	300/330/430/500	300/330/510/600	320/340/520/660	350/400/580/720
Dehumidification	l/h	1.2	1.4	1.6	2.0
Dimensions (H x W x D)	mm	295 x 900 x 210			
Pipe diameter (Liq/gas)	inch	1/4 - 3/8			1/4 - 1/2
Weight	kg	11.0			
Electrical power	V	220 - 230V			
Cable diameter (EN 60 335 - 1)	mm^2	3 x 1.50+T			3 x 2.50+T
Wireless		controller included			
Indoor unit price	(pre-tax)				

[2] Sound pressure measurements were taken at 1 meter from the unit free field (refer to the technical catalog).

Shirokuma console



Removable base

The Shirokuma console's removable base means it can be installed in all surroundings. Installation is also simplified. (Fig. 1)

Comparison in heating mode

The Shirokuma console ensures better air delivery than a standard console. This way, comfort is improved. (Fig. 2)

‘Extended’ function

In large volumes (long rooms), this function can increase air delivery range and therefore achieve better mixing. (Fig. 3)

Fig. 1

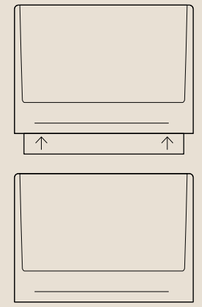


Fig. 2

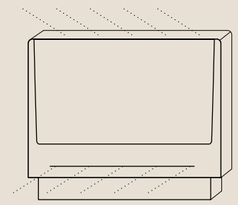
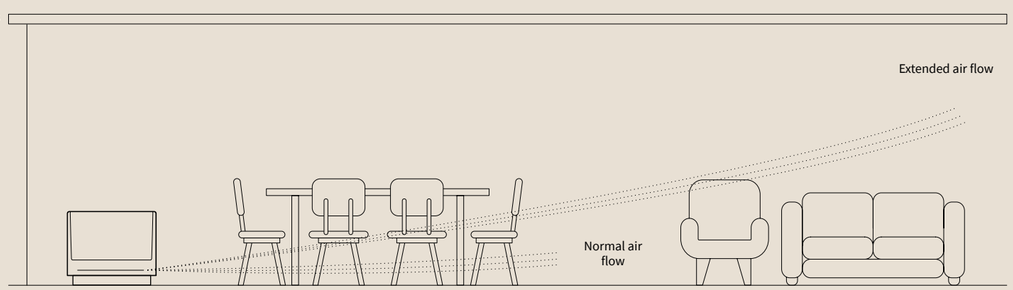


Fig. 3



Indoor units	Unit	RAF-25RXE	RAF-35RXE	RAF-50RXE
Capacity Cooling (min-max)	kW	**2.50** (0.90 - 3.10)	**3.50** (0.90 - 4.00)	**5.00** (0.90 - 5.20)
Capacity Heating (min-max)	kW	**3.40** (0.90 - 4.40)	**4.50** (0.90 - 5.00)	**6.00** (0.90 - 8.10)
Sound pressure Cooling (Very low - Low - Medium - High)[2]	dB(A)	20/26/31/38	20/26/31/39	22/29/36/43
Sound pressure	dB(A)	52		56
Air flow Cooling (Very low - Low - Medium - High)	m^3/h	270/390/510/630	270/390/510/660	300/450/540/720
Dehumidification	l/h	1.4	1.9	2.8
Dimensions (H x W x D)	mm	590 x 750 x 215		
Condensate pipe diameter (out)	mm	16		
Pipe diameter (Liq/gas)	inch	1/4 - 3/8		1/4 - 1/2
Weight	kg	15		
Electrical power		220 - 230 V		
Cable diameter (EN 60 335-1)	mm^2	3 x 1.50+T		3 x 2.50+T
Wireless		weekly controller RAR-6NE1 (included)		
Indoor unit price	(pre-tax)			
	(pre-tax)			

[2] Sound pressure measurements were taken at 1 meter from the unit free field (refer to the technical catalog).

Mokai Wall and Light commercial



The Mokai Wall range

Perfectly suited to all installation types, with special models available for smaller surface areas. The size 15 model can be switched to reduce the capacity (1.5 kW > 1 kW* cooling and 2 kW > 1.5 kW* heating).

Ultra compact

With an overall width of only 78 cm, it is the most compact unit on the market.
It will blend in perfectly with your interior and can simply be installed above a door. (Fig.3)

4 Way Swing

Thanks to the vertical and horizontal flap movement, air distribution is more regular, making the room more comfortable. (Fig. 1)

Motion sensor

Technology saving you money thanks to the motion sensor which continuously analyses if anybody is in the room.
If nobody is detected after 20 min, the temperature setting is moved by one degree and by a further degree after 40 min. (Fig. 2)

Fig. 1

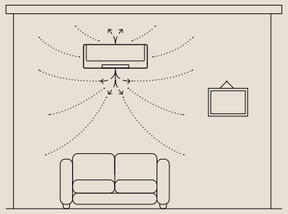


Fig. 2

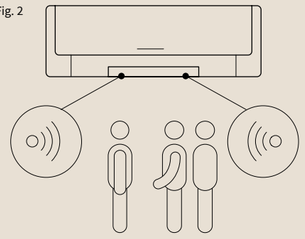
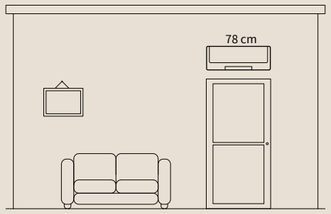


Fig. 3



Indoor units	Unit	RAK-15QPE	RAK-18RPE	RAK-25RPE	RAK-35RPE	RAK-42RPE	RAK-50RPE	RAK-60RPE
Capacity Cooling (min-max)	kW	**1.50** (0.90 - 2.00)	**2.00** (0.90 - 2.50)	**2.50** (0.90 - 3.10)	**3.50** (0.90 - 4.00)	**4.20** (1.70 - 5.00)	**5.00** (1.90 - 5.20)	**6.00** (1.20 - 6.50)
Capacity Heating (min-max)	kW	**2.00** (1.00 - 2.50)	**2.50** (0.90 - 3.20)	**3.40** (0.90 - 4.40)	**4.20** (0.90 - 5.00)	**5.40** (1.70 - 6.00)	**6.00** (2.20 - 7.30)	**7.00** (1.20 - 8.00)
Sound pressure Cooling (Very low - Low - Medium - High)[2]	dB(A)	20/24/30/34	21/24/33/37	22/24/33/40	25/26/36/43	25/28/39/46	25/28/39/46	30/33/42/48
Air flow Cooling (Very low - Low - Medium - High)	m^3/h	312/350/400 420	312/350/400 440	333/370/430 510	353/420/485 680	353/410/540 720	353/410/540 750	310/410/570/ 720
Dehumidification	l/h	1.20	1.20	1.40	1.60	1.80	2.00	2.8
Dimensions (H x W x D)	mm	280 x 780 x 230						300 x 900 x 230
Pipe diameter (Liq/gas)	inch	1/4 - 3/8				1/4 - 1/2		
Weight	kg	8.5						11.5
Electrical power	V	220 - 230V						220-230V
Cable diameter (EN 60 335 - 1)	mm^2	3 x 1.50+T				3 x 2.50+T		2 x 1.50+T
Wireless		controller weekly RAR-6NE1 (included)						Not supplied (SPX-RCKA2/ SPX-RCDB/SPX-WKT3)

[2] Sound pressure measurements were taken at 1 meter from the unit free field (refer to the technical catalog).

Indoor unit price	(pre-tax)							

Cassette
600 × 600



Condensate pump included

TheLight commercial includes its own condensate pump for immediate elimination. This means no other elements need to be added to the installation.
(Fig. 1)

Motion sensor

Air-conditioning with no wasted consumption thanks to the motion sensor which gradually reduces equipment energy consumption when the room is empty and switches on again when movement of people is detected.

Improved comfort

This equipment can be used to select the location where the temperature setting should be measured (on the controller, the recirculation or with the average of both values). This feature ensures superior comfort levels in the room.

Flexible installation

The equipment can be installed in any location within the building because refrigerant pipe lengths go up to 30 m between the indoor unit and the outdoor unit. The height difference between the two can also go up to 20 m. Measuring 600 x 600 mm, they can be integrated in standard ceiling tiles.

Individual louver control

The cassette's 4 louvers can be configured separately with the SPX-WKT3 so that each one operates in a certain way: by delivering air directly towards the user, directing it to the ceiling, floor etc. This means comfort is guaranteed. (Fig. 2)

Fig. 1

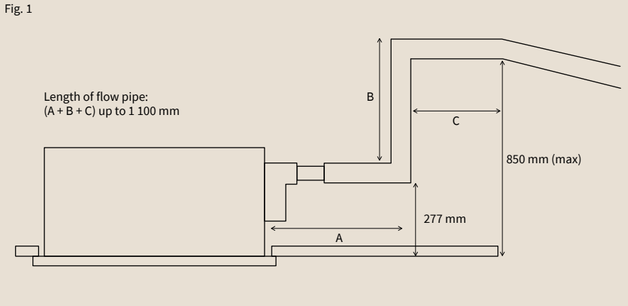
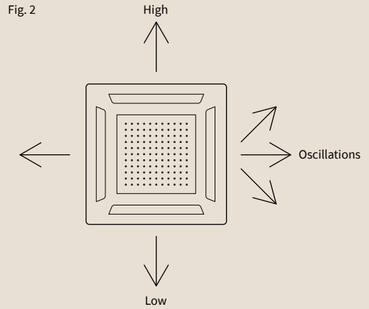


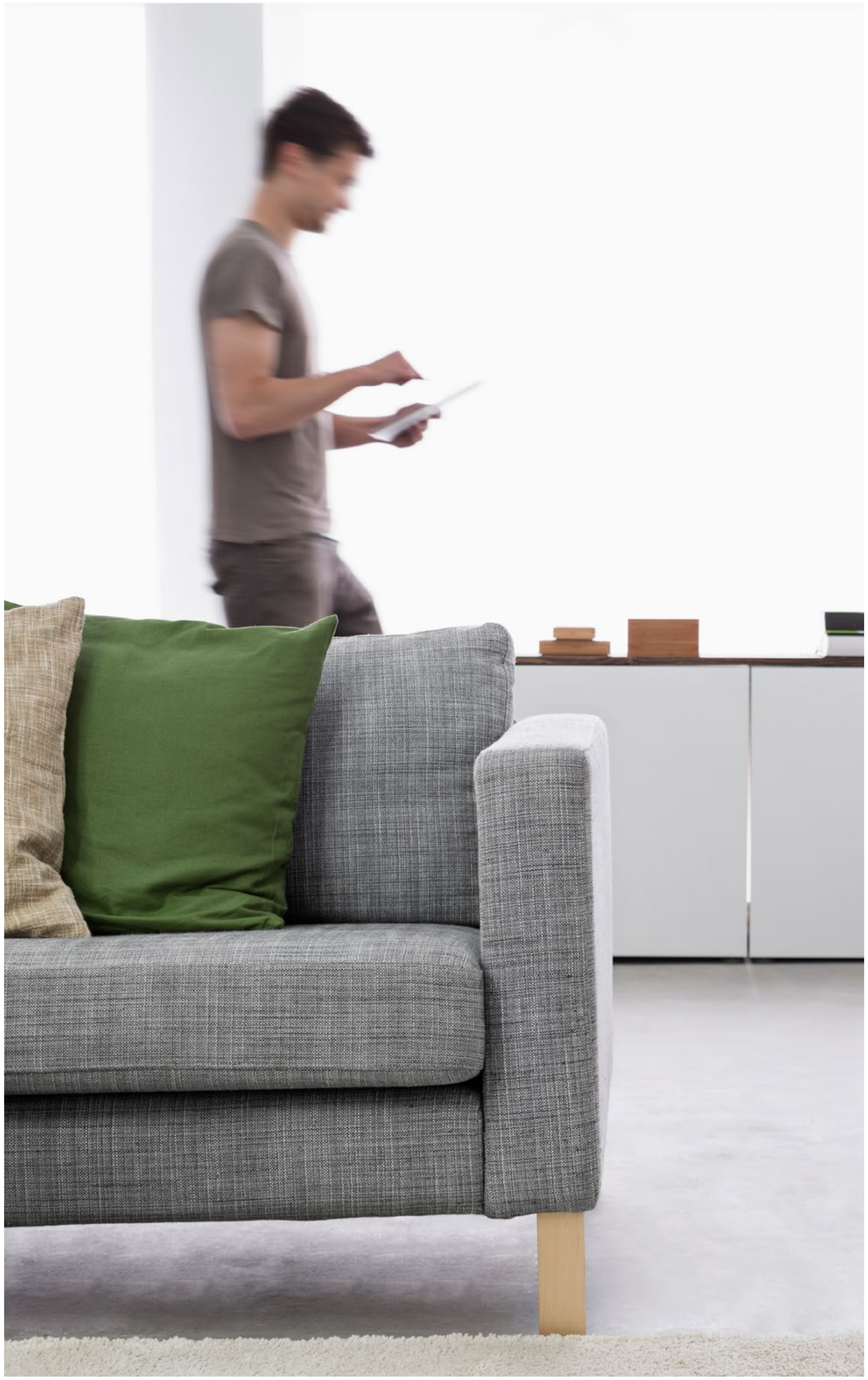
Fig. 2



Indoor units	Unit	RAI-25RPE	RAI-35RPE	RAI-50RPE	RAI-60RPE
Capacity Cooling (min-max)	kW	**2.50** (0.90 - 3.00)	**3.50** (0.90 - 4.00)	**5.00** (1.20 - 5.80)	**6.00** (1.20 - 6.50)
Capacity Heating (min-max)	kW	**3.50** (0.90 - 5.00)	**4.80** (0.90 - 6.60)	**6.00** (1.20 - 6.80)	**7.00** (1.20 - 8.00)
Sound pressure Cooling (Very low - Low - Medium - High)[2]		27/31/35/38	27/33/37/40	29/35/39/43	
Sound pressure Heating (Very low - Low - Medium - High)[2]		28/32/36/39	28/34/38/41	30/36/40/44	
Sound pressure	dB(A)	54	56	56	
Air flow Cooling (Very low - Low - Medium - High) [2]	m^3/h	360/505/590/660		390/540/630/720	
Dehumidification	l/h	1.4	1.8	2.8	3.8
Dimensions (H x W x D)	mm	285 x 570 x 570			
Dimensions panel (H x W x D)	mm	30 x 620 x 620			
Condensate pipe diameter (out)	mm	32			
Condensate pump		yes			
Pipe diameter (Liq/gas)	Inch	1/4 - 3/8		1/4 - 1/2	1/4 - 1/2
Case weight	kg	17			
Panel weight	kg	2.8			
Reference of panel		P-AP56NAMS			
Electrical power	V	220-230V			
Cable diameter (EN 60 335-1)	mm^2	1.5 x 3+T			
Controller		OPTION (SPX-RCKA3/SPX-RCDB/SPX-WKT3)			

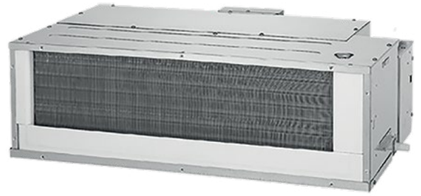
[2] Sound pressure measurements were taken at 1 meter from the unit free field (refer to the technical catalog).

Indoor unit price	(pre-tax)				



R32 Ducted





The ducted indoor units RAD-18QPE /RAD-25~60RPE

They now feature static pressure control available via 2 modes:
- Standard: 0 - 40 Pa.
- High: 40 - 70 Pa.

Installation in new builds with a VMC HYGRO B

Hitachi were validated with the CSTB and obtained the ducted ATEC so this solution can now be installed in new builds with a VMC HYGRO B ventilation system.

Airzone compatibility

With a single ducted unit, users can control up to 6 rooms individually using Airzone's motorized plenums which fit directly to the Hitachi units. This compatibility means you can use the full Airzone ambient control range.
(See P. <?>).

Plenums (optional)

- Air delivery plenum 2 x D200 (without filter holder).
- Air delivery plenum 2 x D200 (with filter holder).

Remote sensor (optional)

For maximum residential comfort
- Reference: SPX-RTH1
- Price (pre-tax):

Indoor units	Unit	RAD-18QPE	RAD-25RPE	RAD-35RPE	RAD-50RPE	RAD-60RPE
Capacity Cooling (min-max)	kW	**1.80** (0.90 - 2.50)	**2.50** (0.90 - 3.00)	**3.50** (0.90 - 4.00)	**5.00** (1.20 - 5.80)	**6.00** (1.20 - 6.50)
Capacity Heating (min-max)	kW	**2.50** (0.90 - 3.20)	**3.50** (0.90 - 5.50)	**4.80** (0.90 - 6.60)	**6.00** (1.20 - 6.80)	**7.00** (1.20 - 8.00)
Sound pressure Cooling (Very low - Low - Medium - High)(2)	dB(A)	30/33/37/41			29/32/35/39	
Sound pressure Heating (Very low - Low - Medium - High)(2)	dB(A)	330/390/450/510	30/34/38/42		29/32/35/40	
Sound pressure(2)	dB(A)	57			53	
Air flow Cooling (Very low - Low - Medium - High)	m^3/h	330/390/450/510			350/540/800/1140	
Static pressure (Low - Medium - High)	Pa	*/*/70			50/100/150	
Dehumidification	l/h	1.4		1.6	2.8	2.8
Dimensions (H x W x D)	mm	235 x 750 x 400			270 x 900 x 720	
Condensate pipe diameter (out)	mm	16				
Condensate pump		YES				
Pipe diameter (Liq/gas)	Inch	1/4 - 3/8			1/4 - 1/2	
Weight	kg	16			35	
Electrical power	V	220-230V				
Cable diameter (EN 60 335-1)	mm^2	1.50 x 3+T			2.50 x 3+T	
Controller		Not supplied (SPX-RCKA1/SPX-RCDB/SPX-WKT3)				
Indoor unit price	(pre-tax)					

(2) Sound pressure measurements were taken at 1 meter from the unit free field (refer to the technical catalog).

Reference	Description	Length	Height	Depth	Compatibility	Number of connections
PIM1SOURADNH	PLENUM ISOLATED M1 2XD200 AIR DELIVERY	720	200	300+ 50	RAD-18QPE*/RAD 25-35RPE	2 x 200
PIM1REPRADNH	PLENUM ISOLATED M1 2XD200 RETURN	655	205	200+ 50	RAD-18QPE/RAD 25-35RPE	2 x 200
PIM1REPRADNHF	PLENUM ISOLATED M1 FilterHolder 2XD200 RETURN	655	205	200+ 50	RAD-18QPE / RAD 25-35RPE	2 x 200
PIM1SOURADDH	PLENUM ISOLATED M1 3XD200 AIR DELIVERY	810	225	250+ 50	RAD-50-60RPE/RAD-70PPD	3 x 200
PIM1REPRADDH	PLENUM ISOLATED M1 2XD200 RETURN	820	225	200+ 50	RAD-50-60RPE/RAD-70PPD	2 x 200

* Available in multi only

Indoor unit combinations

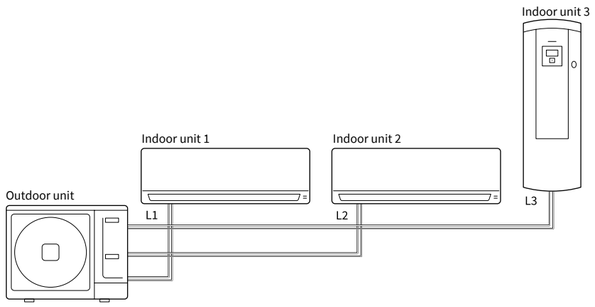
Multi-splits

RAM - 53NYP3E		COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
1 unit*	15	1.50	1.50 (1.00 - 1.60)	430 (200 - 480)	3.49	2.00	2.00 (1.10 - 2.20)	560 (320 - 850)	3.57
	18	1.80	1.80 (1.50 - 2.00)	495 (280 - 500)	3.64	2.50	2.50 (1.80 - 3.50)	720 (320 - 1130)	3.47
	25	2.50	2.50 (1.50 - 2.80)	700 (280 - 720)	3.57	3.40	3.40 (1.80 - 4.70)	980 (320 - 1480)	3.47
	35	3.50	3.50 (1.50 - 3.90)	1030 (280 - 1130)	3.40	4.30	4.30 (1.80 - 5.80)	1150 (320 - 1950)	3.74
	42	4.20	4.20 (1.50 - 5.60)	1450 (280 - 1800)	2.90	6.50	6.50 (1.80 - 7.20)	1800 (320 - 2010)	3.61
	50	5.00	5.00 (1.50 - 5.60)	1480 (280 - 1800)	3.38	6.50	6.50 (1.80 - 7.20)	1880 (320 - 2530)	3.46
	60	6.00	5.30 (1.50 - 6.60)	1481 (280 - 1930)	3.58	7.30	6.80 (1.80 - 7.80)	1880 (320 - 2530)	3.62
2 units	15+ 15	1.50+ 1.50	3.00 (1.50 - 3.50)	870 (380 - 980)	3.45	2.00+ 2.00	4.00 (2.20 - 4.70)	1080 (200 - 1100)	3.70
	15+ 18	1.50+ 1.80	3.30 (1.50 - 3.50)	950 (380 - 1000)	3.47	2.00+ 2.50	4.50 (2.20 - 5.20)	1200 (200 - 1300)	3.75
	15+ 25	1.50+ 2.50	4.00 (1.50 - 4.00)	1300 (380 - 1300)	3.08	2.00+ 3.40	5.40 (2.20 - 6.40)	1450 (200 - 1780)	3.72
	15+ 35	1.50+ 3.50	5.00 (1.50 - 5.20)	1450 (380 - 1450)	3.45	2.00+ 4.30	6.30 (2.20 - 7.20)	1660 (200 - 2010)	3.80
	15 + 42[1]	1.39+ 3.91	5.30 (1.50 - 5.90)	1580 (380 - 2380)	3.35	1.60+ 5.20	6.80 (2.20 - 7.20)	1680 (320 - 2010)	4.05
	15 + 50[1]	1.22+ 4.08	5.30 (1.50 - 6.30)	1700 (380 - 2380)	3.12	1.60+ 5.20	6.80 (2.20 - 7.20)	1770 (320 - 2010)	3.84
	15 + 60[1]	1.06+ 4.24	5.30 (1.50 - 6.30)	1700 (380 - 2380)	3.12	1.51+ 5.29	6.80 (2.20 - 7.20)	1950 (320 - 2010)	3.49
	18+ 18	1.80+ 1.80	3.60 (1.50 - 5.90)	1020 (380 - 1020)	3.53	2.50+ 2.50	5.00 (2.20 - 6.40)	1380 (320 - 2010)	3.62
	18 + 25	1.80 + 2.50	4.30 (1.50 - 5.90)	1200 (380 - 1360)	3.58	2.50 + 3.40	5.90 (2.20 - 7.20)	1580 (320 - 2010)	3.73
	18 + 35	1.80 + 3.50	5.30 (1.50 - 5.90)	1290 (380 - 1950)	4.11	2.50 + 4.30	6.80 (2.20 - 7.20)	1650 (320 - 2010)	4.12
	18 + 42[1]	1.80 + 5.00	5.30 (1.50 - 5.90)	1620 (380 - 2820)	3.27	1.89 + 4.91	6.80 (2.20 - 9.50)	1700 (430 - 2600)	4.00
	18 + 50[1]	1.80 + 5.00	5.30 (1.50 - 5.90)	1800 (380 - 2820)	2.94	1.89 + 4.91	6.80 (2.20 - 9.50)	2100 (430 - 2600)	3.24
	18 + 60[1]	1.80 + 6.00	5.30 (1.50 - 5.90)	1800 (380 - 2820)	2.94	1.79 + 5.01	6.80 (2.20 - 9.50)	2100 (430 - 2600)	3.24
	25 + 25	2.50 + 2.50	5.00 (2.00 - 5.50)	1480 (380 - 1720)	3.38	3.40 + 3.40	6.80 (2.20 - 9.50)	1770 (430 - 2010)	3.84
	25 + 35	2.50 + 3.50	5.30 (2.00 - 6.60)	1640 (380 - 2380)	3.23	3.00 + 3.80	6.80 (2.20 - 9.50)	1880 (430 - 2010)	3.62
	25 + 42[1]	1.98 + 3.32	5.30 (2.00 - 7.20)	1640 (380 - 2820)	3.23	2.34 + 4.46	6.80 (2.20 - 9.50)	2000 (430 - 2600)	3.40
	25 + 50[1]	1.77 + 3.53	5.30 (2.00 - 7.20)	1610 (380 - 2820)	3.29	2.34 + 4.46	6.80 (2.20 - 9.50)	2100 (430 - 2600)	3.24
	25 + 60[1]	1.56 + 3.74	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	2.22 + 4.58	6.80 (2.20 - 9.50)	1880 (430 - 2600)	3.62
	35 + 35	2.65 + 2.65	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	3.40 + 3.40	6.80 (2.20 - 9.50)	1880 (430 - 3120)	3.62
	35 + 42[1]	2.41 + 2.89	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	2.71 + 4.09	6.80 (2.20 - 9.50)	1880 (430 - 2600)	3.62
	35 + 50[1]	2.18 + 3.12	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	2.71 + 4.09	6.80 (2.20 - 9.50)	1880 (430 - 2600)	3.62
	35 + 60[1]	1.95 + 3.35	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	2.59 + 4.21	6.80 (2.20 - 9.50)	1880 (430 - 2600)	3.62
	42 + 42[1]	2.65 + 2.65	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	3.40 + 3.40	6.80 (2.20 - 9.50)	1880 (430 - 2600)	3.62
	42 + 50[1]	2.42 + 2.88	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	3.40 + 3.40	6.80 (2.20 - 9.50)	1880 (430 - 2600)	3.62
	42 + 60[1]	2.18 + 3.12	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	3.27 + 3.53	6.80 (2.20 - 9.50)	1880 (430 - 2600)	3.62
	50 + 50[1]	2.65 + 2.65	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	3.40 + 3.40	6.80 (2.20 - 9.50)	1880 (430 - 2600)	3.62

* For information: these are performances when a single unit is in operation.
[1] For each output corresponding to units 42, 50 and 60, a refrigerant adapter to switch from 3/8 to 1/2 is required.
RAM - 53NYP3E + RAK - 18QXE + RAK - 35RPE

L1 + L2 + L3 **= Max. 75 m**
L1 **< 25 m** ; L2 **< 25 m** ; L3 **< 25 m** ;
Maximum height between the highest indoor unit and the lowest indoor unit: 5 m.
Pre-charged for 30 m.
An additional 15 g/m required beyond 30 m.

Always connect the most powerful indoor unit to the lowest connector. Connector 3 is designed for indoor units 18, 25 or 35. Otherwise, a 3/8 to 1/2 adapter is required. Connectors 4 and 5 are designed for indoor units 50 or 60. Otherwise, a 1/2 to 3/8 adapter is required.

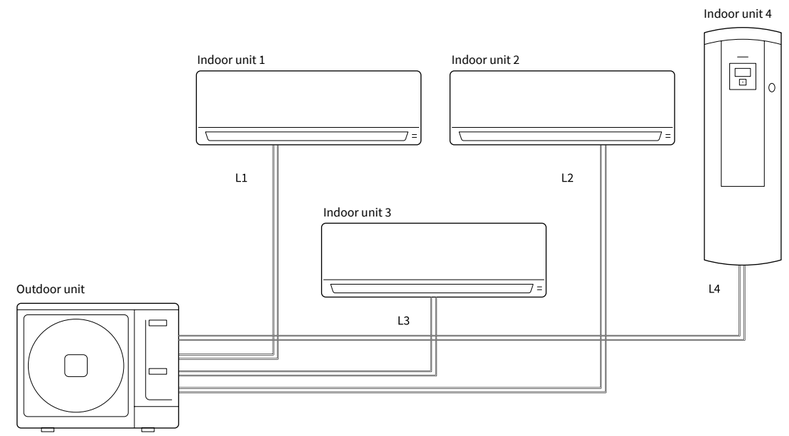


RAM - 70NYP4E		COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
1 unit*	15	1.50	1.50 (1.00 - 1.60)	400 (200 - 480)	3.75	2.00	2.00 (1.10 - 2.20)	560 (320 - 850)	3.57
	18	1.80	1.80 (1.50 - 2.00)	450 (280 - 500)	4.00	2.50	2.50 (1.80 - 3.50)	720 (320 - 1130)	3.47
	25	2.50	2.50 (1.50 - 2.80)	650 (280 - 720)	3.85	3.40	3.40 (1.80 - 4.70)	980 (320 - 1480)	3.47
	35	3.50	3.50 (1.50 - 3.90)	1030 (280 - 1130)	3.40	4.30	4.30 (1.80 - 5.80)	1150 (320 - 1950)	3.74
	42	4.20	4.20 (1.50 - 5.60)	1450 (280 - 1800)	2.90	6.50	6.50 (1.80 - 7.20)	2030 (320 - 2530)	3.20
	50	5.00	5.00 (1.50 - 5.60)	1450 (280 - 1800)	3.45	6.50	6.50 (1.80 - 7.20)	2030 (320 - 2530)	3.20
	60	6.00	6.00 (1.50 - 6.60)	1450 (280 - 2290)	4.14	7.30	7.30 (1.80 - 8.50)	2100 (320 - 2860)	3.48
2 units	15+ 15	1.50+ 1.50	3.00 (1.50 - 2.80)	870 (380 - 980)	3.45	2.00+ 2.00	4.00 (2.20 - 4.70)	1080 (200 - 1100)	3.70
	15+ 18	1.50+ 1.80	3.30 (1.50 - 3.50)	950 (380 - 1000)	3.47	2.00+ 2.50	4.50 (2.20 - 5.20)	1200 (200 - 1300)	3.75
	15+ 25	1.50+ 2.50	4.00 (1.50 - 4.00)	1150 (380 - 1300)	3.48	2.00+ 3.40	5.40 (2.20 - 6.40)	1450 (200 - 1780)	3.72
	15+ 35	1.50+ 3.50	5.00 (1.50 - 5.20)	1450 (380 - 1450)	3.45	2.00+ 4.30	6.30 (2.20 - 7.20)	1660 (200 - 2010)	3.80
	15+ 42	1.50+ 4.20	5.70 (1.50 - 5.90)	1950 (380 - 2380)	2.92	2.00+ 6.50	8.50 (2.20 - 7.20)	2200 (390 - 3120)	3.86
	15+ 50	1.50+ 5.00	6.50 (1.50 - 5.90)	2000 (380 - 2380)	3.25	2.00+ 6.50	8.50 (2.20 - 7.20)	2200 (390 - 3120)	3.86
	15+ 60	1.40+ 5.60	7.00 (1.50 - 6.50)	2000 (380 - 2580)	3.50	1.83+ 6.67	8.50 (2.20 - 8.60)	2200 (390 - 3120)	3.86
	18+ 18	1.80+ 1.80	3.60 (2.00 - 4.00)	1020 (380 - 1020)	3.53	2.50+ 2.50	5.00 (2.20 - 6.40)	1380 (390 - 2750)	3.62
	18 + 25	1.80 + 2.50	4.30 (2.00 - 4.70)	1120 (380 - 1360)	3.84	2.50 + 3.40	5.90 (2.20 - 7.20)	1610 (390 - 3000)	3.66
	18 + 35	1.80 + 3.50	5.30 (2.00 - 5.80)	1600 (380 - 1950)	3.31	2.50 + 4.30	6.80 (2.20 - 7.20)	1850 (390 - 3120)	3.68
	18 + 42	1.80 + 4.20	6.00 (2.00 - 7.10)	1800 (380 - 2820)	3.33	2.36 + 6.14	8.50 (2.20 - 9.50)	2110 (390 - 3120)	4.03
	18 + 50	1.80 + 5.00	6.80 (2.00 - 7.10)	1830 (380 - 2820)	3.72	2.36 + 6.14	8.50 (2.20 - 9.50)	2120 (390 - 3120)	4.01
	18 + 60	1.70 + 5.40	7.00 (2.00 - 7.50)	2100 (380 - 2980)	3.33	2.17 + 6.33	8.50 (2.20 - 9.50)	2150 (390 - 3120)	3.95
	25 + 25	2.50 + 2.50	5.00 (2.00 - 5.50)	1410 (380 - 1720)	3.55	3.40 + 3.40	6.80 (2.20 - 9.50)	1850 (390 - 3120)	3.68
	25 + 35	2.50 + 3.50	6.00 (2.00 - 6.60)	1850 (380 - 2380)	3.24	3.60 + 4.30	7.70 (2.20 - 9.50)	2120 (390 - 3120)	3.63
	25 + 42	2.50 + 4.20	6.70 (2.00 - 7.50)	2100 (380 - 2980)	3.19	2.92 + 5.58	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	25 + 50	2.33 + 4.67	7.00 (2.00 - 7.50)	2100 (380 - 2980)	3.33	2.92 + 5.58	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	25 + 60	2.06 + 4.94	7.00 (2.00 - 7.50)	2100 (380 - 2980)	3.33	2.70 + 5.80	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	35 + 35	3.50 + 3.50	7.00 (2.00 - 7.40)	1890 (380 - 2940)	3.70	4.25 + 4.25	8.50 (2.20 - 9.50)	2020 (390 - 3120)	4.21
	35 + 42	3.18 + 3.82	7.00 (2.00 - 7.50)	2100 (380 - 2890)	3.33	3.38 + 5.12	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	35 + 50	2.88 + 4.12	7.00 (2.00 - 7.50)	2100 (380 - 2890)	3.33	3.38 + 5.12	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	35 + 60	2.58 + 4.42	7.00 (2.00 - 7.80)	2100 (380 - 3100)	3.33	3.15 + 5.35	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	42 + 42	3.50 + 3.50	7.00 (2.00 - 8.00)	2100 (380 - 3170)	3.33	4.25 + 4.25	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	42 + 50	3.20 + 3.80	7.00 (2.00 - 8.00)	2100 (380 - 3170)	3.33	4.25 + 4.25	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	42 + 60	2.88 + 4.12	7.00 (2.00 - 8.00)	2100 (380 - 3170)	3.33	4.25 + 4.25	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	50 + 50	3.50 + 3.50	7.00 (2.00 - 8.00)	2100 (380 - 3170)	3.33	4.25 + 4.25	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	50 + 60	3.18 + 3.82	7.00 (2.00 - 8.00)	2100 (380 - 3170)	3.33	4.00 + 4.50	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62

* For information: these are performances when a single unit is in operation. However, a minimum of 2 units must be connected to the outdoor unit.
RAM - 70NYP4E + RAK - 35RPE + RAK - 35RPE.

L1 + L2 + L3 + L4 **= Maximum 75 m**
L1 **< 25 m** ; L2 **< 25 m** ; L3 **< 25 m** ;
L4 **< 25 m**
Maximum height between the highest indoor unit and the lowest indoor unit: 5 m.
Pre-charged for 30 m.
An additional 15 g/m required beyond 30 m.

Always connect the most powerful indoor unit to the lowest connector. Connector 3 is designed for indoor units 18, 25 or 35. Otherwise, a 3/8 to 1/2 adapter is required. Connectors 4 and 5 are designed for indoor units 50 or 60. Otherwise, a 1/2 to 3/8 adapter is required.



Indoor unit combinations

Multi-splits

	RAM - 70NYP4E	COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
3 units	15 + 15 + 15	1.50 + 1.50 + 1.50	4.50 (2.20 - 5.00)	1400 (420 - 1680)	3.21	2.00 + 2.00 + 2.00	6.00 (2.40 - 6.50)	1650 (430 - 1800)	3.64
	15 + 15 + 18	1.50 + 1.50 + 1.80	4.80 (2.20 - 5.50)	1480 (240 - 1880)	3.24	2.00 + 2.00 + 2.50	6.50 (2.40 - 7.00)	1750 (430 - 2100)	3.71
	15 + 15 + 25	1.50 + 1.50 + 2.50	5.50 (2.20 - 6.00)	1680 (420 - 2280)	3.27	2.00 + 2.00 + 3.40	7.40 (2.20 - 9.30)	2010 (430 - 2200)	3.68
	15 + 15 + 35	1.50 + 1.50 + 3.50	6.50 (2.20 - 7.00)	2010 (420 - 2480)	3.23	2.00 + 2.00 + 4.30	8.30 (2.40 - 9.50)	2260 (430 - 2500)	3.67
	15 + 15 + 42	1.46 + 1.46 + 4.08	7.00 (2.20 - 7.50)	2100 (420 - 2890)	3.33	1.62 + 1.62 + 5.26	8.50 (2.40 - 9.50)	2300 (430 - 2600)	3.70
	15 + 15 + 50	1.31 + 1.31 + 4.38	7.00 (2.20 - 7.50)	2100 (420 - 2890)	3.33	1.62 + 1.62 + 5.26	8.50 (2.40 - 9.50)	2300 (430 - 2600)	3.70
	15 + 15 + 60	1.17 + 1.17 + 4.67	7.00 (2.20 - 8.00)	2100 (420 - 2960)	3.33	1.53 + 1.38 + 5.59	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	15 + 18 + 18	1.50 + 1.80 + 1.80	5.10 (2.20 - 5.60)	1550 (420 - 2280)	3.29	2.00 + 2.50 + 2.50	7.00 (2.20 - 9.30)	1900 (430 - 2400)	3.68
	15 + 18 + 25	1.50 + 1.80 + 2.50	5.80 (2.20 - 6.30)	1800 (420 - 2480)	3.22	2.00 + 2.50 + 3.40	7.90 (2.40 - 9.50)	2150 (430 - 2600)	3.67
	15 + 18 + 35	1.50 + 1.80 + 3.50	6.80 (2.20 - 7.50)	2100 (420 - 2480)	3.24	1.93 + 2.41 + 4.15	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	15 + 18 + 42	1.40 + 1.68 + 3.92	7.00 (2.20 - 7.50)	2100 (420 - 2890)	3.33	1.55 + 1.93 + 5.02	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	15 + 18 + 50	1.27 + 1.52 + 4.22	7.00 (2.20 - 7.50)	2100 (420 - 2890)	3.33	1.55 + 1.93 + 5.02	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	15 + 18 + 60	1.13 + 1.35 + 4.52	7.00 (2.20 - 8.00)	2100 (420 - 2960)	3.33	1.44 + 1.80 + 5.26	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	15 + 25 + 25	1.50 + 2.50 + 2.50	6.50 (2.20 - 7.00)	2020 (420 - 2480)	3.22	1.93 + 3.28 + 3.28	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	15 + 25 + 35	1.40 + 2.33 + 3.27	7.00 (2.20 - 7.80)	2100 (420 - 2890)	3.33	1.75 + 2.98 + 3.77	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	15 + 25 + 42	1.28 + 2.13 + 3.59	7.00 (2.20 - 8.00)	2100 (420 - 2960)	3.33	1.43 + 2.43 + 4.64	8.50 (2.40 - 9.50)	2310 (430 - 2600)	3.68
	15 + 25 + 50	1.17 + 1.94 + 3.89	7.00 (2.20 - 8.00)	2100 (420 - 2960)	3.33	1.43 + 2.43 + 4.64	8.50 (2.40 - 9.50)	2310 (430 - 2600)	3.68
	15 + 25 + 60	1.05 + 1.75 + 4.20	7.00 (2.20 - 8.00)	2100 (420 - 2960)	3.33	1.34 + 2.28 + 4.89	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	15 + 35 + 35	1.24 + 2.88 + 2.88	7.00 (2.20 - 8.00)	2100 (420 - 2890)	3.33	1.60 + 3.45 + 3.45	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	15 + 35 + 42	1.14 + 2.66 + 3.20	7.00 (2.20 - 8.00)	2100 (420 - 2960)	3.33	1.33 + 2.86 + 4.32	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	15 + 35 + 50	1.05 + 2.45 + 3.50	7.00 (2.20 - 8.00)	2100 (420 - 2960)	3.33	1.33 + 2.86 + 4.32	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	15 + 35 + 60	0.95 + 2.23 + 3.82	7.00 (2.20 - 8.00)	2100 (420 - 2960)	3.33	1.25 + 2.69 + 4.56	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	15 + 42 + 42	1.06 + 2.97 + 2.97	7.00 (2.20 - 8.00)	2100 (420 - 2960)	3.33	1.13 + 3.68 + 3.68	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	15 + 42 + 50	0.98 + 2.75 + 3.27	7.00 (2.20 - 8.00)	2100 (420 - 2960)	3.33	1.13 + 3.68 + 3.68	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	15 + 50 + 50	0.91 + 3.04 + 3.04	7.00 (2.20 - 8.00)	2100 (420 - 2960)	3.33	1.13 + 3.68 + 3.68	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	18 + 18 + 18	1.80 + 1.80 + 1.80	5.40 (2.20 - 5.90)	1450 (420 - 2190)	3.72	2.50 + 2.50 + 2.50	7.50 (2.40 - 9.50)	2050 (430 - 2600)	3.66
	18 + 18 + 25	1.80 + 1.80 + 2.50	6.10 (2.20 - 6.70)	1720 (420 - 2480)	3.55	2.50 + 2.50 + 3.40	8.40 (2.40 - 9.50)	2290 (430 - 2600)	3.67
	18 + 18 + 35	1.77 + 1.77 + 3.45	7.00 (2.20 - 7.80)	2080 (420 - 2890)	3.37	2.28 + 2.28 + 3.93	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	18 + 18 + 42	1.62 + 1.62 + 3.77	7.00 (2.20 - 8.00)	2080 (420 - 2890)	3.37	1.85 + 1.85 + 4.80	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	18 + 18 + 50	1.47 + 1.47 + 4.07	7.00 (2.20 - 8.00)	2080 (420 - 2890)	3.37	1.85 + 1.85 + 4.80	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	18 + 18 + 60	1.35 + 1.35 + 4.40	7.00 (2.20 - 8.00)	2100 (420 - 2960)	3.33	1.73 + 1.73 + 5.04	8.50 (2.40 - 9.50)	2320 (430 - 2600)	3.66
	18 + 25 + 25	1.80 + 2.50 + 2.50	6.8 (2.20 - 7.50)	2080 (420 - 2780)	3.27	2.28 + 3.11 + 3.11	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	18 + 25 + 35	1.62 + 2.24 + 3.14	7.00 (2.20 - 8.00)	2080 (420 - 2890)	3.37	2.08 + 2.83 + 3.58	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	18 + 25 + 42	1.48 + 2.06 + 3.46	7.00 (2.20 - 8.00)	2080 (420 - 2770)	3.37	1.71 + 2.33 + 4.46	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	18 + 25 + 50	1.35 + 1.88 + 3.76	7.00 (2.20 - 8.00)	2080 (420 - 2770)	3.37	1.71 + 2.33 + 4.46	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	18 + 25 + 60	1.25 + 1.70 + 4.15	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	1.61 + 2.19 + 4.70	8.50 (2.40 - 9.50)	2320 (430 - 2600)	3.66
	18 + 35 + 35	1.43 + 2.78 + 2.78	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	1.91 + 3.29 + 3.29	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	18 + 35 + 42	1.33 + 2.58 + 3.09	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	1.60 + 2.75 + 4.15	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	18 + 35 + 50	1.22 + 2.38 + 3.40	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	1.60 + 2.75 + 4.15	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	18 + 42 + 42	1.24 + 2.88 + 2.88	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	1.60 + 2.75 + 4.15	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	18 + 42 + 50	1.15 + 2.67 + 3.18	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	1.60 + 2.75 + 4.15	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	25 + 25 + 25	2.33 + 2.33 + 2.33	7.00 (2.20 - 7.80)	2080 (420 - 2890)	3.37	2.83 + 2.83 + 2.83	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	25 + 25 + 35	2.06 + 2.06 + 2.88	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	2.60 + 2.60 + 3.29	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	25 + 25 + 42	1.90 + 1.90 + 3.20	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	2.17 + 2.17 + 4.15	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	25 + 25 + 50	1.75 + 1.75 + 3.50	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	2.17 + 2.17 + 4.15	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	25 + 25 + 60	1.60 + 1.60 + 3.90	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	2.05 + 2.05 + 4.40	8.50 (2.40 - 9.50)	2320 (430 - 2600)	3.66
	25 + 35 + 35	1.84 + 2.58 + 2.58	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	2.41 + 3.05 + 3.05	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	25 + 35 + 42	1.72 + 2.40 + 2.88	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	2.04 + 2.57 + 3.89	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	25 + 35 + 50	1.59 + 2.23 + 3.18	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	2.04 + 2.57 + 3.89	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	35 + 35 + 35	2.33 + 2.33 + 2.33	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	2.83 + 2.83 + 2.83	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73

RAM - 70NYP4E + RAK - 35RPE + RAK - 35RPE.



Indoor unit combinations

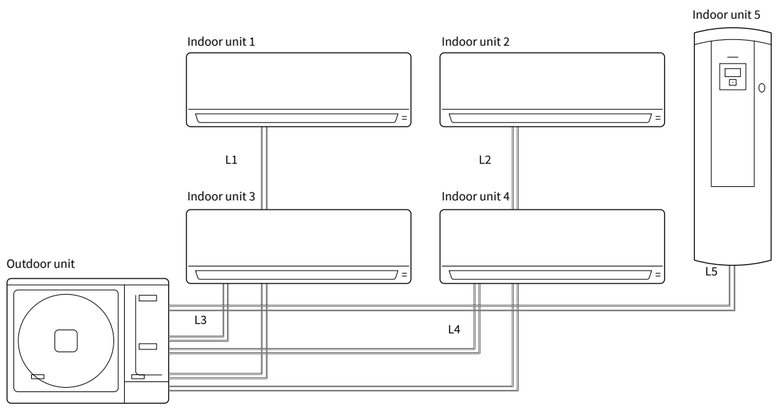
Multi-splits

	RAM - 90NYP5E	COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
1 units*	15	1.50	1.50 (1.00 - 1.60)	420 (320 - 480)	3.57	2.00	2.00 (1.50 - 2.20)	620 (360 - 850)	3.23
	18	2.00	1.80 (1.70 - 2.00)	500 (320 - 610)	3.60	2.50	2.50 (2.00 - 3.00)	780 (360 - 920)	3.21
	25	2.50	2.50 (1.70 - 2.80)	700 (320 - 860)	3.57	3.40	3.40 (2.00 - 4.00)	1140 (360 - 1340)	2.98
	35	3.50	3.50 (1.70 - 3.90)	1040 (320 - 1270)	3.37	4.30	4.30 (2.00 - 5.20)	1420 (360 - 1720)	3.03
	42	4.20	4.20 (1.70 - 4.20)	1250 (320 - 1270)	3.36	5.20	4.30 (2.00 - 6.50)	1420 (360 - 1720)	3.66
	50	5.00	5.00 (1.70 - 5.50)	1540 (320 - 1860)	3.25	6.50	6.50 (2.00 - 7.30)	2300 (360 - 2580)	2.83
	60	6.00	6.00 (1.70 - 6.60)	1630 (320 - 1860)	3.68	7.50	7.50 (2.00 - 8.20)	2300 (360 - 2950)	3.26
2 units	15 + 15	1.50 + 1.50	3.00 (2.40 - 3.50)	850 (500 - 1020)	3.53	2.00 + 2.00	4.00 (2.70 - 4.50)	950 (500 - 1140)	4.21
	15 + 18	1.50 + 1.80	3.30 (2.40 - 3.80)	950 (500 - 1140)	3.47	2.00 + 2.50	4.50 (2.70 - 5.00)	1180 (500 - 1416)	3.81
	15 + 25	1.50 + 2.50	4.00 (2.40 - 4.50)	1250 (500 - 1500)	3.20	2.00 + 3.40	5.40 (2.70 - 5.90)	1320 (500 - 1584)	4.09
	15 + 35	1.50 + 3.50	5.00 (2.40 - 5.50)	1550 (500 - 1860)	3.23	2.00 + 4.30	6.30 (2.70 - 6.80)	1550 (500 - 1860)	4.06
	15 + 42	1.50 + 4.20	5.70 (2.40 - 7.00)	1600 (500 - 1860)	3.56	2.00 + 5.20	7.20 (2.70 - 8.0)	1850 (500 - 2560)	3.89
	15 + 50	1.50 + 5.00	6.50 (2.40 - 7.00)	2100 (500 - 2520)	3.10	2.00 + 6.50	8.50 (2.70 - 9.00)	2300 (500 - 2760)	3.70
	15 + 60	1.50 + 6.00	7.50 (2.40 - 7.00)	2100 (500 - 2520)	3.57	2.00 + 7.50	9.50 (2.70 - 10.0)	2300 (500 - 2760)	4.13
	18 + 18	1.80 + 1.80	3.60 (2.40 - 4.00)	970 (500 - 860)	3.71	2.50 + 2.50	5.00 (2.70 - 6.90)	1240 (500 - 1710)	4.03
	18 + 25	1.80 + 2.50	4.30 (2.40 - 4.70)	1000 (500 - 1190)	4.30	2.50 + 3.40	5.90 (2.70 - 7.70)	1530 (500 - 1990)	3.86
	18 + 35	1.80 + 3.50	5.30 (2.40 - 5.80)	1590 (500 - 1900)	3.33	2.50 + 4.30	6.80 (2.70 - 8.50)	1870 (500 - 2320)	3.64
	18 + 42	1.80 + 4.20	6.00 (2.40 - 5.80)	1850 (500 - 1900)	3.24	2.50 + 5.20	7.70 (2.70 - 10.00)	2200 (500 - 2880)	3.50
	18 + 50	1.80 + 5.00	6.80 (2.40 - 7.50)	2370 (450 - 2970)	2.87	2.50 + 6.50	9.00 (2.70 - 10.00)	2470 (500 - 2880)	3.64
	18 + 60	1.80 + 6.00	7.80 (2.40 - 8.50)	2370 (450 - 3120)	3.29	2.50 + 7.50	10.00 (2.70 - 10.00)	2470 (500 - 2880)	4.05
	25 + 25	2.50 + 2.50	5.00 (2.40 - 5.50)	1370 (500 - 1640)	3.65	3.40 + 3.40	6.80 (2.70 - 8.50)	1920 (500 - 2250)	3.54
	25 + 35	2.50 + 3.50	6.00 (2.40 - 6.60)	2000 (500 - 2400)	3.00	3.40 + 4.30	7.70 (2.70 - 9.20)	2280 (500 - 2590)	3.38
	25 + 42	2.50 + 4.20	6.70 (2.40 - 6.60)	2000 (500 - 3470)	3.35	3.40 + 5.20	8.60 (2.70 - 9.20)	2400 (500 - 3110)	3.58
	25 + 50	2.50 + 5.00	7.50 (2.40 - 7.00)	2580 (500 - 3470)	2.91	3.40 + 6.50	9.90 (2.70 - 10.50)	2720 (500 - 3110)	3.64
	25 + 60	2.50 + 6.00	8.50 (2.40 - 8.80)	2580 (500 - 3470)	3.29	3.12 + 6.88	10.00 (2.70 - 11.00)	2720 (500 - 3110)	3.68
	35 + 35	3.50 + 3.50	7.00 (2.40 - 7.70)	2490 (450 - 2990)	2.81	4.30 + 4.30	8.60 (2.70 - 10.00)	2460 (500 - 2860)	3.50
	35 + 42	3.50 + 4.20	7.70 (2.40 - 7.70)	2490 (500 - 2990)	3.09	4.30 + 5.20	9.50 (2.70 - 11.00)	2680 (500 - 3320)	3.54
	35 + 50	3.50 + 5.00	8.50 (2.40 - 8.80)	2900 (500 - 3270)	2.93	3.98 + 6.02	10.00 (2.70 - 11.00)	2940 (500 - 3320)	3.40
	35 + 60	3.13 + 5.37	8.50 (2.40 - 9.10)	2900 (500 - 3270)	2.93	3.64 + 6.36	10.00 (2.70 - 11.40)	2940 (500 - 3320)	3.40
	42 + 42	4.20 + 4.20	8.40 (2.40 - 8.80)	2490 (450 - 3270)	3.37	4.30 + 4.30	8.60 (2.70 - 11.00)	2460 (500 - 3200)	3.50
	42 + 50	3.88 + 4.62	8.50 (2.40 - 8.80)	2900 (450 - 3270)	2.93	4.30 + 5.20	9.50 (2.70 - 11.00)	2940 (500 - 3200)	3.23
	42 + 60	3.50 + 5.00	8.50 (2.40 - 9.10)	2900 (450 - 3420)	2.93	3.98 + 6.02	10.00 (2.70 - 11.40)	2940 (500 - 3200)	3.40
	50 + 50	4.25 + 4.25	8.50 (2.40 - 9.20)	2900 (450 - 3460)	2.93	5.00 + 5.00	10.00 (2.70 - 11.40)	2940 (500 - 3200)	3.40
	50 + 60	3.86 + 4.64	8.50 (2.40 - 9.60)	2900 (450 - 3570)	2.93	4.44 + 5.56	10.00 (2.70 - 11.60)	2940 (500 - 3200)	3.40
	60 + 60	4.25 + 4.25	8.50 (2.40 - 9.90)	2900 (450 - 3870)	2.93	5.00 + 5.00	10.00 (2.70 - 12.10)	2940 (500 - 3200)	3.40
3 units	15 + 15 + 15	1.50 + 1.50 + 1.50	4.50 (2.70 - 5.00)	1250 (510 - 1500)	3.60	2.00 + 2.00 + 2.00	6.00 (2.90 - 6.50)	1540 (520 - 1848)	3.90
	15 + 15 + 18	1.50 + 1.50 + 1.80	4.80 (2.70 - 5.30)	1350 (510 - 1620)	3.56	2.00 + 2.00 + 2.50	6.50 (2.90 - 7.00)	1800 (520 - 2160)	3.61
	15 + 15 + 25	1.50 + 1.50 + 2.50	5.50 (2.70 - 6.00)	1490 (510 - 1788)	3.69	2.00 + 2.00 + 3.40	7.40 (2.90 - 7.90)	2010 (520 - 2412)	3.68
	15 + 15 + 35	1.50 + 1.50 + 3.50	6.50 (2.70 - 7.00)	2100 (510 - 2678)	3.10	2.00 + 2.00 + 4.30	8.30 (2.90 - 8.80)	2420 (520 - 2904)	3.43
	15 + 15 + 42	1.50 + 1.50 + 4.20	7.20 (2.70 - 8.50)	2150 (510 - 2676)	3.35	2.00 + 2.00 + 5.20	9.20 (2.90 - 11.00)	2180 (520 - 1848)	4.22
	15 + 15 + 50	1.50 + 1.50 + 5.00	8.00 (2.70 - 8.50)	2230 (510 - 2676)	3.59	1.90 + 1.90 + 6.19	10.00 (2.90 - 11.00)	2730 (520 - 1848)	3.66
	15 + 15 + 60	1.42 + 1.42 + 5.67	8.50 (2.70 - 8.50)	2230 (510 - 2676)	3.81	1.74 + 1.74 + 6.52	10.00 (2.90 - 11.50)	2730 (520 - 1848)	3.66
	15 + 18 + 18	1.50 + 1.80 + 1.80	5.10 (2.70 - 5.60)	1350 (510 - 1620)	3.78	2.00 + 2.50 + 2.50	7.00 (2.90 - 7.50)	1880 (520 - 2280)	3.72

* For information: these are performances when a single unit is in operation. However, a minimum of 2 units must be connected to the outdoor unit.
RAM - 90NYP5E + RAK - 25RPE + RAK - 25RPE + RAK - 35RPE.

L1 + L2 + L3 + L4 + L5 **= Maximum 75 m**
L1 **< 25 m** ; L2 **< 25 m** ; L3 **< 25 m** ;
L4 **< 25 m** ; L5 **< 25 m**
Maximum height between the highest indoor unit and the lowest indoor unit: 5 m.
Pre-charged for 30 m.
An additional 15 g/m required beyond 30 m.

Always connect the most powerful indoor unit to the lowest connector. Connector 3 is designed for indoor units 18, 25 or 35. Otherwise, a 3/8 to 1/2 adapter is required. Connectors 4 and 5 are designed for indoor units 50 or 60. Otherwise, a 1/2 to 3/8 adapter is required.



	RAM - 90NYP5E	COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
3 units	15 + 18 + 25	1.50 + 1.80 + 2.50	5.80 (2.70 - 6.30)	1350 (510 - 1620)	4.30	2.00 + 2.50 + 3.40	7.90 (2.90 - 8.40)	2130 (520 - 2616)	3.71
	15 + 18 + 35	1.50 + 1.80 + 3.50	6.80 (2.70 - 7.30)	1850 (510 - 2844)	3.68	2.00 + 2.50 + 4.30	8.80 (2.90 - 9.30)	2350 (520 - 1848)	3.74
	15 + 18 + 42	1.50 + 1.80 + 4.20	7.50 (2.40 - 7.00)	1950 (510 - 2844)	3.85	2.00 + 2.50 + 5.20	9.70 (2.90 - 11.00)	2350 (520 - 3360)	4.13
	15 + 18 + 50	1.50 + 1.80 + 5.00	8.30 (2.70 - 8.80)	2230 (510 - 2844)	3.72	1.82 + 2.27 + 5.91	10.00 (2.90 - 11.50)	2850 (520 - 3360)	3.51
	15 + 18 + 60	1.37 + 1.65 + 5.48	8.50 (2.70 - 8.80)	2230 (510 - 2844)	3.81	1.67 + 2.08 + 6.25	10.00 (2.90 - 11.50)	2850 (520 - 3360)	3.51
	15 + 25 + 25	1.50 + 2.50 + 2.50	6.50 (2.70 - 7.00)	1800 (510 - 2520)	3.61	2.00 + 3.40 + 3.40	8.80 (2.90 - 9.30)	2350 (520 - 1848)	3.74
	15 + 25 + 35	1.50 + 2.50 + 3.50	7.50 (2.40 - 7.00)	2100 (510 - 3096)	3.57	2.00 + 3.40 + 4.30	9.70 (2.90 - 10.20)	2620 (520 - 1848)	3.70
	15 + 25 + 42	1.50 + 2.50 + 4.20	8.20 (2.70 - 9.50)	2200 (510 - 3360)	3.73	1.89 + 3.21 + 4.91	10.00 (2.70 - 11.00)	2620 (520 - 1848)	3.82
	15 + 25 + 50	1.42 + 2.36 + 4.72	8.50 (2.70 - 9.50)	2680 (510 - 3360)	3.17	1.68 + 2.86 + 5.46	10.00 (2.70 - 11.50)	2890 (520 - 3360)	3.46
	15 + 25 + 60	1.28 + 2.13 + 5.10	8.50 (2.70 - 9.50)	2680 (510 - 3360)	3.17	1.55 + 2.64 + 5.81	10.00 (2.70 - 11.50)	2890 (520 - 3360)	3.46
	15 + 35 + 35	1.50 + 3.50 + 3.50	8.50 (2.70 - 9.00)	2560 (510 - 3360)	3.32	1.89 + 4.06 + 4.06	10.00 (2.90 - 11.10)	2990 (520 - 3360)	3.34
	15 + 35 + 42	1.39 + 3.23 + 3.88	8.50 (2.70 - 9.50)	2560 (510 - 3216)	3.32	1.74 + 3.74 + 4.52	10.00 (2.90 - 11.10)	2990 (520 - 3360)	3.34
	15 + 35 + 50	1.28 + 2.98 + 4.25	8.50 (2.70 - 9.50)	2740 (510 - 3216)	3.10	1.56 + 3.36 + 5.08	10.00 (2.90 - 11.50)	2890 (520 - 3360)	3.46
	15 + 35 + 60	1.16 + 2.70 + 4.64	8.50 (2.70 - 9.50)	2740 (510 - 3216)	3.10	1.45 + 3.12 + 5.43	10.00 (2.90 - 11.50)	2890 (520 - 3360)	3.46
	15 + 42 + 42	1.29 + 3.61 + 3.61	8.50 (2.70 - 9.50)	2560 (510 - 3216)	3.32	1.61 + 4.19 + 4.19	10.00 (2.90 - 11.10)	2990 (520 - 3360)	3.34
	15 + 42 + 50	1.19 + 3.34 + 3.97	8.50 (2.70 - 9.50)	2740 (510 - 3216)	3.10	1.46 + 3.80 + 4.74	10.00 (2.90 - 11.50)	2890 (520 - 3360)	3.46
	15 + 42 + 60	1.09 + 3.05 + 4.36	8.50 (2.70 - 9.50)	2740 (510 - 3216)	3.10	1.36 + 3.54 + 5.10	10.00 (2.90 - 11.50)	2890 (520 - 3360)	3.46
	15 + 50 + 50	1.11 + 3.70 + 3.70	8.50 (2.70 - 9.50)	2740 (510 - 3216)	3.10	1.33 + 4.33 + 4.33	10.00 (2.90 - 11.50)	2890 (520 - 3360)	3.46
	15 + 50 + 60	1.02 + 3.40 + 4.08	8.50 (2.70 - 9.50)	2740 (510 - 3216)	3.10	1.25 + 4.06 + 4.69	10.00 (2.90 - 11.50)	2890 (520 - 3360)	3.46
	15 + 60 + 60	0.94 + 3.78 + 3.78	8.50 (2.70 - 9.50)	2740 (510 - 3288)	3.10	1.18 + 4.41 + 4.41	10.00 (2.90 - 11.50)	2890 (520 - 3360)	3.46
	18 + 18 + 18	1.80 + 1.80 + 1.80	5.40 (2.70 - 5.90)	1480 (510 - 1780)	3.65	2.50 + 2.50 + 2.50	7.50 (2.90 - 9.10)	2020 (520 - 2440)	3.71
	18 + 18 + 25	1.80 + 1.80 + 2.50	6.10 (2.70 - 6.70)	1780 (510 - 2150)	3.43	2.50 + 2.50 + 3.40	8.40 (2.90 - 9.50)	2210 (520 - 2620)	3.80
	18 + 18 + 35	1.80 + 1.80 + 3.50	7.10 (2.70 - 7.80)	1910 (510 - 2310)	3.72	2.50 + 2.50 + 4.29	9.30 (2.90 - 10.20)	2370 (520 - 2740)	3.92
	18 + 18 + 42	1.80 + 1.80 + 4.20	7.80 (2.70 - 7.80)	1910 (510 - 3260)	4.08	2.45 + 2.45 + 5.09	10.00 (2.90 - 10.20)	2370 (520 - 3060)	4.22
	18 + 18 + 50	1.78 + 1.78 + 4.94	8.50 (2.70 - 9.50)	2650 (510 - 3260)	3.21	2.17 + 2.17 + 5.64	10.00 (2.90 - 11.30)	2730 (520 - 3060)	3.66
	18 + 18 + 60	1.59 + 1.59 + 5.31	8.50 (2.70 - 9.90)	2650 (510 - 3270)	3.21	2.00 + 2.00 + 5.99	10.00 (2.90 - 11.60)	2730 (520 - 3060)	3.66
	18 + 25 + 25	1.80 + 2.50 + 2.50	6.80 (2.70 - 7.50)	1860 (510 - 2260)	3.66	2.49 + 3.41 + 3.41	9.30 (2.90 - 10.00)	2370 (520 - 2760)	3.92
	18 + 25 + 35	1.80 + 2.50 + 3.50	7.80 (2.7 - 8.6)	2190 (510 - 2660)	3.56	2.45 + 3.33 + 4.22	10.00 (2.90 - 10.70)	2530 (520 - 2880)	3.95
	18 + 25 + 42	1.80 + 2.50 + 4.20	8.50 (2.7 - 8.6)	2190 (510 - 3270)	3.88	2.25 + 3.06 + 4.68	10.00 (2.90 - 11.00)	2530 (520 - 3220)	3.95
	18 + 25 + 50	1.66 + 2.26 + 4.58	8.50 (2.70 - 9.90)	2550 (510 - 3270)	3.33	2.02 + 2.74 + 5.24	10.00 (2.90 - 11.60)	2890 (520 - 3220)	3.46
	18 + 25 + 60	1.50 + 2.04 + 4.96	8.50 (2.70 - 9.90)	2550 (510 - 3320)	3.33	1.87 + 2.54 + 5.60	10.00 (2.90 - 11.60)	2890 (520 - 3220)	3.46
	18 + 35 + 35	1.74 + 3.38 + 3.38	8.50 (2.70 - 9.70)	2600 (510 - 3260)	3.27	2.25 + 3.87 + 3.87	10.00 (2.90 - 11.60)	2750 (520 - 3060)	3.64
	18 + 35 + 42	1.61 + 3.13 + 3.76	8.50 (2.70 - 9.70)	2600 (510 - 3320)	3.27	2.08 + 3.58 + 4.33	10.00 (2.90 - 11.60)	2750 (520 - 3330)	3.64
	18 + 35 + 50	1.47 + 2.88 + 4.16	8.50 (2.70 - 9.90)	2590 (510 - 3320)	3.28	1.88 + 3.23 + 4.90	10.00 (2.90 - 11.60)	2990 (520 - 3330)	3.34
	18 + 35 + 60	1.33 + 2.62 + 4.54	8.50 (2.70 - 9.90)	2590 (510 - 3320)	3.28	1.75 + 3.01 + 5.25	10.00 (2.90 - 11.60)	2990 (520 - 3330)	3.34
	18 + 42 + 42	1.50 + 3.50 + 3.50	8.50 (2.70 - 9.90)	2600 (510 - 3320)	3.27	2.25 + 3.87 + 3.87	10.00 (2.90 - 11.60)	2750 (520 - 3330)	3.64
	18 + 42 + 50	1.37 + 3.24 + 3.89	8.50 (2.70 - 9.90)	2590 (510 - 3320)	3.28	2.08 + 3.58 + 4.34	10.00 (2.90 - 11.60)	2990 (520 - 3330)	3.34
	18 + 42 + 60	1.26 + 2.97 + 4.28	8.50 (2.70 - 9.90)	2590 (510 - 3320)	3.28	1.88 + 3.23 + 4.90	10.00 (2.90 - 11.60)	2990 (520 - 3330)	3.34
	18 + 50 + 50	1.31 + 3.60 + 3.60	8.50 (2.70 - 9.90)	2590 (510 - 3320)	3.28	1.52 + 3.94 + 4.55	10.00 (2.90 - 11.60)	2990 (520 - 3330)	3.34
	18 + 50 + 60	1.21 + 3.32 + 3.98	8.50 (2.70 - 9.90)	2590 (510 - 3280)	3.28	1.94 + 4.03 + 4.03	10.00 (2.90 - 11.70)	2990 (520 - 3330)	3.34
	18 + 60 + 60	1.12 + 3.70 + 3.70	8.50 (2.70 - 9.90)	2590 (510 - 3320)	3.28	1.76 + 3.66 + 4.58	10.00 (2.90 - 12.10)	2990 (520 - 3330)	3.34
	25 + 25 + 25	2.50 + 2.50 + 2.50	7.50 (2.40 - 7.00)	2120 (510 - 2580)	3.54	3.33 + 3.33 + 3.33	10.00 (2.90 - 10.40)	2540 (520 - 2920)	3.94
	25 + 25 + 35	2.50 + 2.50 + 3.50	8.50 (2.70 - 9.4)	2560 (510 - 3110)	3.32	3.06 + 3.06 + 3.87	10.00 (2.90 - 11.20)	2730 (520 - 3070)	3.66
	25 + 25 + 42	2.31 + 2.31 + 3.88	8.50 (2.70 - 9.4)	2560 (510 - 3360)	3.32	2.83 + 2.83 + 4.33	10.00 (2.90 - 11.60)	2730 (520 - 3330)	3.66
	25 + 25 + 50	2.13 + 2.13 + 4.25	8.50 (2.70 - 9.90)	2620 (510 - 3360)	3.24	2.56 + 2.56 + 4.89	10.00 (2.90 - 11.60)	2990 (520 - 3330)	3.34
	25 + 25 + 60	1.93 + 1.93 + 4.64	8.50 (2.70 - 9.90)	2620 (510 - 3360)	3.24	2.38 + 2.38 + 5.24	10.00 (2.90 - 11.60)	2990 (520 - 3330)	3.34
	25 + 35 + 35	2.23 + 3.13 + 3.13	8.50 (2.70 - 9.90)	2600 (510 - 3330)	3.27	2.83 + 3.58 + 3.58	10.00 (2.90 - 11.60)	2890 (520 - 3220)	3.46
	25 + 35 + 42	2.07 + 2.92 + 3.50	8.50 (2.70 - 9.90)	2600 (510 - 3350)	3.27	2.64 + 3.33 + 4.03	10.00 (2.90 - 11.60)	2890 (520 - 3330)	3.46
	25 + 35 + 50	1.93 + 2.69 + 3.87	8.50 (2.70 - 9.90)	2620 (510 - 3350)	3.24	2.39 + 3.02 + 4.59	10.00 (2.90 - 11.60)	2990 (520 - 3330)	3.34
	25 + 35 + 60	1.77 + 2.47 + 4.26	8.50 (2.70 - 9.90)	2620 (510 - 3350)	3.24	2.24 + 2.82 + 4.94	10.00 (2.90 - 11.70)	2990 (520 - 3330)	3.34
	25 + 42 + 42	1.94 + 3.28 + 3.28	8.50 (2.70 - 9.90)	2600 (510 - 3360)	3.27	2.83 + 3.58 + 3.58	10.00 (2.90 - 11.70)	2890 (520 - 3330)	3.46
	25 + 42 + 50	1.82 + 3.04 + 3.64	8.50 (2.70 - 9.90)	2620 (510 - 3360)	3.24	2.64 + 3.32 + 4.04	10.00 (2.90 - 11.60)	2990 (520 - 3330)	3.34
	25 + 42 + 60	1.67 + 2.80 + 4.03	8.50 (2.70 - 9.90)	2620 (510 - 3360)	3.24	2.39 + 3.02 + 4.59	10.00 (2.90 - 11.70)	2990 (520 - 3330)	3.34
	25 + 50 + 50	1.70 + 3.40 + 3.40	8.50 (2.70 - 9.90)	2620 (510 - 3360)	3.24	1.95 + 3.74 + 4.31	10.00 (2.90 - 11.70)	2990 (520 - 3330)	3.34
	25 + 50 + 60	1.57 + 3.15 + 3.78	8.50 (2.70 - 9.90)	2620 (510 - 3360)	3.24	2.46 + 3.77 + 3.77	10.00 (2.90 - 11.70)	2990 (520 - 3330)	3.34
	25 + 60 + 60	1.47 + 3.52 + 3.52	8.50 (2.70 - 9.90)	2620 (510 - 3350)	3.24	2.25 + 3.44 + 4.30	10.00 (2.90 - 12.10)	2990 (520 - 3330)	3.34
	35 + 35 + 35	2.83 + 2.83 + 2.83	8.50 (2.70 - 9.90)	2600 (510 - 3320)	3.27	3.33 + 3.33 + 3.33	10.00 (2.90 - 11.60)	2990 (520 - 3330)	3.34
	35 + 35 + 42	2.66 + 2.66 + 3.19	8.50 (2.70 - 9.90)	2600 (510 - 3360)	3.27	3.12 + 3.12 + 3.77	10.00 (2.90 - 11.70)	2990 (520 - 3330)	3.34
	35 + 35 + 50	2.50 + 2.50 + 3.49	8.50 (2.70 - 9.90)	2620 (510 - 3360)	3.24	2.85 + 2.87 + 4.25	10.00 (2.90 - 11.70)	2990 (520 - 3330)	3.34
	35 + 35 + 60	2.31 + 2.31 + 3.87	8.50 (2.70 - 9.90)	2620 (510 - 3360)	3.24	2.67 + 2.69 + 4.61	10.00 (2.90 - 11.70)	2990 (520 - 3330)	3.34
	35 + 42 + 42	2.50 + 3.00 + 3.00	8.50 (2.70 - 9.90)	2600 (510 - 3360)	3.27	2.93 + 3.54 + 3.54	10.00 (2.90 - 11.70)	2990 (520 - 3330)	3.34
	35 + 42 + 50	2.36 + 2.83 + 3.30	8.50 (2.70 - 9.90)	2620 (510 - 3360)	3.24	2.69 + 3.27 + 4.01	10.00 (2.90 - 11.70)	2990 (520 - 3330)	3.34
	35 + 42 + 60	2.19 + 2.63 + 3.67	8.50 (2.70 - 9.90)	2620 (510 - 3360)	3.24	2.53 + 3.08 + 4.36	10.00 (2.90 - 11.70)	2990 (520 - 3330)	3.34
	35 + 50 + 50	2.17 + 3.17 + 3.17	8.50 (2.70 - 9.90)	2620 (510 - 3360)	3.24	2.49 + 3.78 + 3.78	10.00 (2.90 - 12.10)	2990 (520 - 3330)	3.34
	35 + 50 + 60	2.02 + 2.95 + 3.54	8.50 (2.70 - 9.90)	2620 (510 - 3450)	3.24	2.35 + 3.57 + 4.12	10.00 (2.90 - 12.10)	2990 (520 - 3330)	3.34
	35 + 60 + 60	1.89 + 3.31 + 3.31	8.50 (2.70 - 9.90)	2620 (510 - 3450)	3.24	2.23 + 3.91 + 3.91	10.00 (2.90 - 12.10)	2990 (520 - 3330)	3.34
	42 + 42 + 42	2.80 + 2.85 + 2.85	8.50 (2.70 - 9.90)	2620 (510 - 3450)	3.24	3.33 + 3.35 + 3.35	10.00 (2.90 - 12.10)	2990 (520 - 3180)	3.34
	42 + 42 + 50	2.63 + 2.68 + 3.19	8.50 (2.70 - 9.90)	2620 (510 - 3450)	3.24	3.08 + 3.10 + 3.87	10.00 (2.90 - 12.10)	2990 (520 - 3180)	3.34
	42 + 42 + 60	2.45 + 2.50 + 3.56	8.50 (2.70 - 9.90)	2620 (510 - 3450)	3.24	2.91 + 2.93 + 4.21	10.00 (2.90 - 12.10)	2990 (520 - 3180)	3.34
	42 + 50 + 50	2.48 + 3.01 + 3.01	8.50 (2.70 - 9.90)	2620 (510 - 3450)	3.24	2.91 + 2.93 + 4.21	10.00 (2.90 - 12.10)	2990 (520 - 3180)	3.34
	42 + 50 + 60	2.32 + 2.82 + 3.38	8.50 (2.70 - 9.90)	2620 (510 - 3450)	3.24	2.91 + 2.93 + 4.21	10.00 (2.90 - 12.10)	2990 (520 - 3180)	3.34
	50 + 50 + 50	2.83 + 2.83 + 2.83	8.50 (2.70 - 9.90)	2690 (510 - 3450)	3.16	3.33 + 3.33 + 3.33	10.00 (2.90 - 12.10)	2890 (520 - 3180)	3.46

RAM - 90NYP5E - 25RPE + RAK - 25RPE + RAK - 35RPE.

Indoor unit combinations

Multi-splits

RAM - 90NYP5E		COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
4 units	15 + 15 + 42 + 42	1.12 + 1.12 + 3.13 + 3.13	8.50 (2.90 - 8.50)	2600 (550 - 3120)	3.27	1.59 + 1.59 + 3.41 + 3.41	10.00 (3.00 - 11.30)	2890 (540 - 3360)	3.46
	15 + 15 + 42 + 50	1.05 + 1.05 + 2.93 + 3.48	8.50 (2.90 - 8.50)	2600 (550 - 3210)	3.27	1.48 + 1.48 + 3.19 + 3.85	10.00 (3.00 - 11.30)	2890 (540 - 3360)	3.46
	15 + 15 + 42 + 60	0.97 + 0.97 + 2.70 + 3.86	8.50 (2.9 - 8.50)	2600 (550 - 3210)	3.27	1.35 + 1.35 + 2.91 + 4.39	10.00 (3.00 - 11.30)	2890 (540 - 3360)	3.46
	15 + 15 + 50 + 50	0.98 + 0.98 + 3.27 + 3.27	8.50 (2.50 - 8.50)	2600 (550 - 3210)	3.27	1.39 + 1.39 + 3.61 + 3.61	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 15 + 50 + 60	0.91 + 0.91 + 3.04 + 3.64	8.50 (2.50 - 8.50)	2600 (550 - 3210)	3.27	1.27 + 1.27 + 3.31 + 4.14	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 15 + 60 + 60	0.85 + 0.85 + 3.40 + 3.40	8.50 (2.50 - 8.50)	2600 (550 - 3210)	3.27	1.27 + 1.27 + 3.31 + 4.14	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 18 + 18 + 18	1.50 + 1.80 + 1.80 + 1.80	6.90 (2.50 - 7.40)	2140 (550 - 2244)	3.22	2.00 + 2.50 + 2.50 + 2.50	9.50 (3.00 - 10.0)	2750 (540 - 3144)	3.45
	15 + 18 + 18 + 25	1.50 + 1.80 + 1.80 + 2.50	7.60 (2.50 - 8.10)	2140 (550 - 2568)	3.55	1.92 + 2.40 + 2.40 + 3.27	10.00 (3.00 - 10.90)	2750 (540 - 3468)	3.64
	15 + 18 + 18 + 35	1.48 + 1.78 + 1.78 + 3.46	8.50 (2.50 - 8.50)	2140 (550 - 3060)	3.97	1.77 + 2.21 + 2.21 + 3.81	10.00 (3.00 - 11.50)	2750 (540 - 3360)	3.64
	15 + 18 + 18 + 42	1.37 + 1.65 + 1.65 + 3.84	8.50 (2.50 - 8.50)	2550 (550 - 3120)	3.33	1.64 + 2.05 + 2.05 + 4.26	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 18 + 18 + 50	1.26 + 1.51 + 1.51 + 4.21	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.48 + 1.85 + 1.85 + 4.81	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 18 + 18 + 60	1.15 + 1.38 + 1.38 + 4.59	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.38 + 1.72 + 1.72 + 5.17	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 18 + 25 + 25	1.50 + 1.80 + 2.50 + 2.50	8.30 (2.50 - 8.3)	2740 (550 - 3288)	3.03	1.77 + 2.21 + 3.01 + 3.01	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 18 + 25 + 35	1.37 + 1.65 + 2.28 + 3.20	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.64 + 2.05 + 2.79 + 3.52	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 18 + 25 + 42	1.28 + 1.53 + 2.13 + 3.57	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.53 + 1.91 + 2.60 + 3.97	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 18 + 25 + 50	1.18 + 1.42 + 1.97 + 3.94	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.39 + 1.74 + 2.36 + 4.51	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 18 + 25 + 60	1.08 + 1.30 + 1.80 + 4.32	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.30 + 1.62 + 2.21 + 4.87	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 18 + 35 + 35	1.24 + 1.49 + 2.89 + 2.89	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.53 + 1.91 + 3.28 + 3.28	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 18 + 35 + 42	1.16 + 1.39 + 2.70 + 3.25	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.43 + 1.79 + 3.07 + 3.71	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 18 + 35 + 50	1.08 + 1.30 + 2.52 + 3.60	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.31 + 1.63 + 2.81 + 4.25	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 18 + 35 + 60	1.00 + 1.20 + 2.32 + 3.98	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.23 + 1.53 + 2.64 + 4.60	10.00 (3.00 - 11.30)	2890 (540 - 3360)	3.46
	15 + 18 + 42 + 42	1.09 + 1.31 + 3.05 + 3.05	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.53 + 1.91 + 3.28 + 3.28	10.00 (3.00 - 10.50)	2800 (540 - 3360)	3.57
	15 + 18 + 42 + 50	1.02 + 1.22 + 2.86 + 3.40	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.43 + 1.79 + 3.07 + 3.71	10.00 (3.00 - 10.50)	2800 (540 - 3360)	3.57
	15 + 18 + 42 + 60	0.94 + 1.13 + 2.64 + 3.78	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.31 + 1.63 + 2.81 + 4.25	10.00 (3.00 - 10.50)	2800 (540 - 3360)	3.57
	15 + 18 + 50 + 50	0.96 + 1.15 + 3.20 + 3.20	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.34 + 1.68 + 3.49 + 3.49	10.00 (3.00 - 10.50)	#N/A	#N/A
	15 + 18 + 50 + 60	0.89 + 1.07 + 2.97 + 3.57	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.23 + 1.54 + 3.21 + 4.01	10.00 (3.00 - 10.50)	2800 (540 - 3360)	3.57
	15 + 18 + 60 + 60	0.83 + 1.00 + 3.33 + 3.33	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.14 + 1.43 + 3.71 + 3.71	10.00 (3.00 - 10.50)	2800 (540 - 3360)	3.57
	15 + 25 + 25 + 25	1.42 + 2.36 + 2.36 + 2.36	8.50 (2.50 - 8.50)	2600 (550 - 3132)	3.27	1.64 + 2.79 + 2.79 + 2.79	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 25 + 35	1.28 + 2.13 + 2.13 + 2.98	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.53 + 2.60 + 2.60 + 3.28	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 25 + 42	1.19 + 1.99 + 1.99 + 3.34	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.43 + 2.43 + 2.43 + 3.71	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 25 + 50	1.11 + 1.85 + 1.85 + 3.70	8.50 TBA	2600 (550 - 3120)	3.27	1.31 + 2.22 + 2.22 + 4.25	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 25 + 60	1.02 + 1.70 + 1.70 + 4.08	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.23 + 2.09 + 2.09 + 4.60	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 35 + 35	1.16 + 1.93 + 2.70 + 2.70	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.43 + 2.43 + 3.07 + 3.07	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 35 + 42	1.09 + 1.82 + 2.54 + 3.05	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.34 + 2.28 + 2.89 + 3.49	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 35 + 50	1.02 + 1.70 + 2.38 + 3.40	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.23 + 2.10 + 2.65 + 4.01	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 35 + 60	0.94 + 1.57 + 2.20 + 3.78	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.16 + 1.98 + 2.50 + 4.36	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 42 + 42	1.03 + 1.71 + 2.88 + 2.88	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.27 + 2.15 + 3.29 + 3.29	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 42 + 50	0.97 + 1.61 + 2.70 + 3.22	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.17 + 1.99 + 3.04 + 3.80	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 42 + 60	0.90 + 1.50 + 2.51 + 3.59	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.10 + 1.88 + 2.87 + 4.14	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 50 + 50	0.91 + 1.52 + 3.04 + 3.04	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.09 + 1.85 + 3.53 + 3.53	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 50 + 60	0.85 + 1.42 + 2.83 + 3.40	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.03 + 1.75 + 3.35 + 3.87	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 35 + 35 + 35	1.06 + 2.48 + 2.48 + 2.48	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.34 + 2.89 + 2.89 + 2.89	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 35 + 35 + 42	1.00 + 2.34 + 2.34 + 2.81	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.27 + 2.72 + 2.72 + 3.29	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 35 + 35 + 50	0.94 + 2.20 + 2.20 + 3.15	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.17 + 2.51 + 2.51 + 3.80	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 35 + 35 + 60	0.88 + 2.05 + 2.05 + 3.52	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.10 + 2.38 + 2.38 + 4.14	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 35 + 42 + 42	0.95 + 2.22 + 2.66 + 2.66	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.20 + 2.57 + 3.11 + 3.11	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 35 + 42 + 50	0.90 + 2.10 + 2.51 + 2.99	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.11 + 2.39 + 2.89 + 3.61	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 35 + 42 + 60	0.84 + 1.96 + 2.35 + 3.36	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.05 + 2.26 + 2.74 + 3.95	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 35 + 50 + 50	0.85 + 1.98 + 2.83 + 2.83	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.04 + 2.23 + 3.37 + 3.37	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 42 + 42 + 42	0.90 + 2.53 + 2.53 + 2.53	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.14 + 2.95 + 2.95 + 2.95	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 42 + 42 + 50	0.86 + 2.40 + 2.40 + 2.85	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.06 + 2.75 + 2.75 + 3.44	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	18 + 18 + 18 + 18	1.80 + 1.80 + 1.80 + 1.80	7.20 (2.90 - 7.90)	2330 (550 - 2292)	3.09	2.50 + 2.50 + 2.50 + 2.50	10.00 (3.00 - 10.90)	2400 (540 - 2720)	4.17
	18 + 18 + 18 + 25	1.80 + 1.80 + 1.80 + 2.50	7.90 (2.90 - 8.70)	2380 (550 - 3120)	3.32	2.29 + 2.29 + 2.29 + 3.12	10.00 (3.00 - 11.10)	2700 (540 - 3050)	3.70
	18 + 18 + 18 + 35	1.72 + 1.72 + 1.72 + 3.34	8.50 (2.90 - 9.80)	2630 (550 - 3120)	3.23	2.12 + 2.12 + 2.12 + 3.64	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 18 + 18 + 42	1.59 + 1.59 + 1.59 + 3.72	8.50 (2.90 - 9.80)	2640 (550 - 3260)	3.22	1.97 + 1.97 + 1.97 + 4.09	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 18 + 18 + 50	1.46 + 1.46 + 1.46 + 4.11	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.79 + 1.78 + 1.78 + 4.66	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 18 + 18 + 60	1.33 + 1.33 + 1.33 + 4.49	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.67 + 1.66 + 1.66 + 5.02	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 18 + 25 + 25	1.78 + 1.78 + 2.47 + 2.47	8.50 (2.90 - 9.50)	2690 (550 - 3040)	3.16	2.12 + 2.12 + 2.88 + 2.88	10.00 (3.00 - 11.20)	2700 (540 - 3020)	3.70
	18 + 18 + 25 + 35	1.59 + 1.59 + 2.21 + 3.10	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.97 + 1.97 + 2.68 + 3.39	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70

RAM - 90NYP5E + RAK - 25RPE + RAK - 25RPE + RAK - 35RPE.

RAM - 90NYP5E		COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
4 units	18 + 18 + 25 + 42	1.49 + 1.49 + 2.06 + 3.47	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.84 + 1.84 + 2.50 + 3.82	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 18 + 25 + 50	1.37 + 1.37 + 1.90 + 3.88	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.68 + 1.67 + 2.27 + 4.41	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 18 + 25 + 60	1.25 + 1.25 + 1.75 + 4.26	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.57 + 1.56 + 2.13 + 4.77	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 18 + 35 + 35	1.44 + 1.44 + 2.81 + 2.81	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.84 + 1.84 + 3.16 + 3.16	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 18 + 35 + 42	1.35 + 1.35 + 2.63 + 3.16	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.72 + 1.72 + 2.97 + 3.59	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 18 + 35 + 50	1.27 + 1.27 + 2.46 + 3.49	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.58 + 1.59 + 2.72 + 4.09	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 18 + 35 + 60	1.18 + 1.18 + 2.27 + 3.87	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.49 + 1.50 + 2.56 + 4.44	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 18 + 42 + 42	1.28 + 1.28 + 2.98 + 2.98	8.50 (2.90 - 9.90)	2390 (550 - 3230)	3.56	1.62 + 1.62 + 3.38 + 3.38	10.00 (3.00 - 11.60)	2700 (540 - 3020)	3.70
	18 + 18 + 42 + 50	1.21 + 1.21 + 2.79 + 3.30	8.50 (2.90 - 9.90)	2390 (550 - 3230)	3.56	1.50 + 1.51 + 3.11 + 3.87	10.00 (3.00 - 11.60)	2700 (540 - 3020)	3.70
	18 + 18 + 42 + 60	1.12 + 1.12 + 2.59 + 3.68	8.50 (2.90 - 9.90)	2390 (550 - 3230)	3.56	1.41 + 1.42 + 2.94 + 4.22	10.00 (3.00 - 11.60)	2700 (540 - 3020)	3.70
	18 + 18 + 50 + 50	1.14 + 1.14 + 3.12 + 3.12	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.39 + 1.40 + 3.60 + 3.60	10.00 (3.00 - 11.60)	2700 (540 - 3020)	3.70
	18 + 18 + 50 + 60	1.06 + 1.06 + 2.90 + 3.48	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.32 + 1.33 + 3.41 + 3.94	10.00 (3.00 - 12.10)	2700 (540 - 3020)	3.70
	18 + 25 + 25 + 25	1.68 + 2.28 + 2.28 + 2.28	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.97 + 2.70 + 2.70 + 2.62	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 25 + 25 + 35	1.52 + 2.08 + 2.08 + 2.83	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.84 + 2.52 + 2.52 + 3.10	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 25 + 25 + 42	1.42 + 1.92 + 1.92 + 3.24	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.72 + 2.33 + 2.33 + 3.58	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 25 + 25 + 50	1.33 + 1.79 + 1.79 + 3.59	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.58 + 2.14 + 2.14 + 4.10	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 25 + 25 + 60	1.23 + 1.65 + 1.65 + 3.97	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.49 + 2.01 + 2.01 + 4.45	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 25 + 35 + 35	1.32 + 1.89 + 2.64 + 2.64	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.72 + 2.35 + 2.98 + 2.98	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 25 + 35 + 42	1.25 + 1.78 + 2.49 + 2.99	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.62 + 2.22 + 2.80 + 3.39	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 25 + 35 + 50	1.23 + 1.65 + 2.31 + 3.30	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.50 + 2.03 + 2.56 + 3.87	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 25 + 35 + 60	1.14 + 1.53 + 2.15 + 3.68	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.41 + 1.91 + 2.42 + 4.22	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 25 + 42 + 42	1.22 + 1.65 + 2.81 + 2.81	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.53 + 2.07 + 3.19 + 3.19	10.00 (3.00 - 12.10)	2630 (540 - 2890)	3.80
	18 + 25 + 42 + 50	1.15 + 1.55 + 2.64 + 3.15	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.42 + 1.91 + 2.95 + 3.69	10.00 (3.00 - 12.10)	2630 (540 - 2890)	3.80
	18 + 25 + 42 + 60	1.08 + 1.45 + 2.46 + 3.52	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.34 + 1.81 + 2.80 + 4.03	10.00 (3.00 - 12.10)	2630 (540 - 2890)	3.80
	18 + 25 + 50 + 50	1.09 + 1.47 + 2.97 + 2.97	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.32 + 1.78 + 3.44 + 3.44	10.00 (3.00 - 12.10)	2630 (540 - 2890)	3.80
	18 + 25 + 50 + 60	1.02 + 1.37 + 2.78 + 3.33	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.26 + 1.69 + 3.27 + 3.77	10.00 (3.00 - 12.10)	2630 (540 - 2890)	3.80
	18 + 35 + 35 + 35	1.21 + 2.43 + 2.43 + 2.43	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.62 + 2.80 + 2.80 + 2.80	10.00 (3.00 - 12.10)	2700 (540 - 3020)	3.70
	18 + 35 + 35 + 42	1.15 + 2.30 + 2.30 + 2.76	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.53 + 2.65 + 2.65 + 3.20	10.00 (3.00 - 12.10)	2700 (540 - 3080)	3.70
	18 + 35 + 35 + 50	1.14 + 2.15 + 2.15 + 3.06	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.42 + 2.43 + 2.43 + 3.67	10.00 (3.00 - 12.10)	2700 (540 - 3080)	3.70
	18 + 35 + 35 + 60	1.06 + 2.00 + 2.00 + 3.43	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.34 + 2.30 + 2.30 + 4.01	10.00 (3.00 - 12.10)	2700 (540 - 3080)	3.70
	18 + 35 + 42 + 42	1.14 + 2.15 + 2.61 + 2.61	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.45 + 2.48 + 3.02 + 3.02	10.00 (3.00 - 12.10)	2630 (540 - 2890)	3.80
	18 + 35 + 42 + 50	1.08 + 2.03 + 2.46 + 2.93	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.35 + 2.30 + 2.81 + 3.51	10.00 (3.00 - 12.10)	2630 (540 - 2890)	3.80
	18 + 35 + 42 + 60	1.01 + 1.90 + 2.30 + 3.29	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.28 + 2.19 + 2.67 + 3.85	10.00 (3.00 - 12.10)	2630 (540 - 2890)	3.80
	18 + 35 + 50 + 50	1.02 + 1.92 + 2.78 + 2.78	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.26 + 2.15 + 3.28 + 3.28	10.00 (3.00 - 12.10)	2630 (540 - 2890)	3.80
	18 + 42 + 42 + 42	1.08 + 2.46 + 2.48 + 2.48	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.38 + 2.85 + 2.87 + 2.87	10.00 (3.00 - 12.10)	2630 (540 - 2890)	3.80
	18 + 42 + 42 + 50	1.03 + 2.33 + 2.35 + 2.80	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.21 + 2.49 + 3.14 + 3.14	10.00 (3.00 - 12.10)	2630 (540 - 2890)	3.80
	25 + 25 + 25 + 25	2.13 + 2.13 + 2.13 + 2.13	8.50 (2.90 - 9.90)	2370 (550 - 3260)	3.59	2.50 + 2.50 + 2.50 + 2.50	10.00 (3.00 - 11.4)	2700 (540 - 3020)	3.70
	25 + 25 + 25 + 35	1.93 + 1.93 + 1.93 + 2.69	8.50 (2.90 - 9.90)	2370 (550 - 3260)	3.59	2.34 + 2.34 + 2.34 + 2.96	10.00 (3.00 - 11.4)	2700 (540 - 3010)	3.70
	25 + 25 + 25 + 42	1.82 + 1.82 + 1.82 + 3.04	8.50 (2.90 - 9.90)	2370 (550 - 3260)	3.59	2.21 + 2.21 + 2.21 + 3.37	10.00 (3.00 - 11.4)	2700 (540 - 3010)	3.70
	25 + 25 + 25 + 50	1.70 + 1.70 + 1.70 + 3.40	8.50 (2.90 - 9.90)	2370 (550 - 3260)	3.59	2.04 + 2.04 + 2.04 + 3.89	10.00 (3.00 - 11.60)	2700 (540 - 3010)	3.70
	25 + 25 + 25 + 60	1.57 + 1.57 + 1.57 + 3.78	8.50 (2.90 - 9.90)	2370 (550 - 3260)	3.59	1.92 + 1.92 + 1.92 + 4.24	10.00 (3.00 - 11.60)	2700 (540 - 3010)	3.70
	25 + 25 + 35 + 35	1.77 + 1.77 + 2.47 + 2.47	8.50 (2.90 - 9.90)	2370 (550 - 3260)	3.59	2.21 + 2.21 + 2.78 + 2.78	10.00 (3.00 - 11.4)	2700 (540 - 3020)	3.70
	25 + 25 + 35 + 42	1.67 + 1.67 + 2.33 + 2.80	8.50 (2.90 - 9.90)	2370 (550 - 3260)	3.59	2.09 + 2.09 + 2.63 + 3.18	10.00 (3.00 - 12.10)	2700 (540 - 3010)	3.70
	25 + 25 + 35 + 50	1.57 + 1.57 + 2.20 + 3.15	8.50 (2.90 - 9.90)	2370 (550 - 3260)	3.59	1.93 + 1.93 + 2.44 + 3.69	10.00 (3.00 - 12.10)	2700 (540 - 3010)	3.70
	25 + 25 + 35 + 60	1.47 + 1.47 + 2.05 + 3.52	8.50 (2.90 - 9.90)	2370 (550 - 3260)	3.59	1.83 + 1.83 + 2.31 + 4.03	10.00 (3.00 - 12.10)	2700 (540 - 3010)	3.70
	25 + 25 + 42 + 42	1.59 + 1.59 + 2.65 + 2.65	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.98 + 1.98 + 3.01 + 3.01	10.00 (3.00 - 12.10)	2700 (540 - 2890)	3.70
	25 + 25 + 42 + 50	1.50 + 1.50 + 2.51 + 2.99	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.93 + 1.93 + 2.44 + 3.69	10.00 (3.00 - 12.10)	2700 (540 - 2890)	3.70
	25 + 25 + 42 + 60	1.40 + 1.40 + 2.35 + 3.36	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.83 + 1.83 + 2.31 + 4.03	10.00 (3.00 - 12.10)	2700 (540 - 2890)	3.70
	25 + 25 + 50 + 50	1.42 + 1.42 + 2.83 + 2.83	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.72 + 1.72 + 3.28 + 3.28	10.00 (3.00 - 12.10)	2630 (540 - 2890)	3.80
	25 + 35 + 35 + 35	1.64 + 2.29 + 2.29 + 2.29	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	2.09 + 2.64 + 2.64 + 2.64	10.00 (3.00 - 11.60)	2700 (540 - 3010)	3.70
	25 + 35 + 35 + 42	1.56 + 2.17 + 2.17 + 2.61	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.98 + 2.50 + 2.50 + 3.02	10.00 (3.00 - 12.10)	2700 (540 - 2890)	3.70
	25 + 35 + 35 + 50	1.48 + 2.05 + 2.05 + 2.93	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.84 + 2.32 + 2.32 + 3.51	10.00 (3.00 - 12.10)	2630 (540 - 2890)	3.80
	25 + 35 + 35 + 60	1.38 + 1.92 + 1.92 + 3.29	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.74 + 2.21 + 2.21 + 3.85	10.00 (3.00 - 12.10)	2630 (540 - 2890)	3

Compliant with F-Gas regulations, our new R32 Hitachi are part of our commitment to the environment. We have been getting ready for these changes since 2013 by developing R32 solutions in Japan.
A range designed for commercial applications is also available in R410A in order to meet the regulatory challenges facing ERP.



Wall



* JOHNSON CONTROLS - HITACHI AIR CONDITIONING EUROPE SAS participate in the Eurovent Certification Program for the AC/VRF/LCP-HP categories. Information on certified models can be found in the Eurovent Directory (www.eurovent-certification.com).

Lorai Air Pur



Takai



Mokai



Dodai 2

NEW



Light Commercial Wall



Micro VRF IVX Comfort

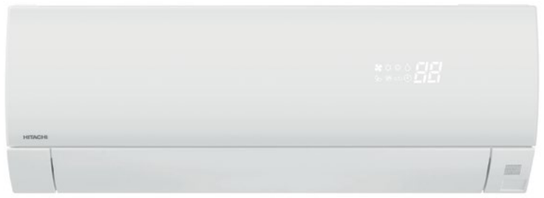


Quick selection guide

Indoor units		Fluid	Perfor-mance	Hi Kumo and Hi Kumo Pro compatible	Ultra compact	Weekly program-ming	4 Way Swing	Motion sensor	FrosWash	Up to -15°C	Self-cleaning filter robot	SCOP	SEER
Wall Lorai Air Pur	Single (2.5 - 3.5 and 5.0 kW)	R32	++++	•	-	•	•	•	•	•	•	5.10	9.00
Wall Takai	Single/Multi (2.5 - 3.5 and 5.0 kW)	R32	++++	•	-	•	•	•	•	•	-	5.20	8.70
Wall Mokai	Single/Multi (2.5 - 3.5 - 4.2 and 5.0 kW)	R32	+++	•	•	•	•	•	•	-	-	4.90	8.50
NEW Wall Dodai 2	Single/Multi (1.8- 2.5 - 3.5 and 5.0 kW)	R32	++	•	•	Option	-	-	•	-	-	4.30	6.10
Wall Light Commercial		R32	+++	•	-	•	•	•	-	-	-	4.60	7.30
Wall Micro VRF IVX Comfort		R410A	-	-	-	Option	-	-	-	-	-	4.14	5.56

Lorai Air Pur

For improved air quality all year round, combining a range of exclusive and innovative functions



RAK-PSEW



RAK-PSES

FrostWash

Automatically and regularly cleans the heat exchanger for the distribution of clean and pure air. (Fig .1)

Stainless Clean

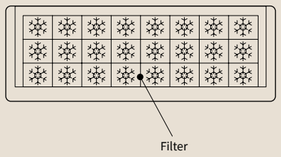
The interior of the Hitachi Premium range is made of stainless steel, with 51% less dust build up compared to units with plastic interiors.

Auto filter Clean

The filters capture and get rid of ultra-fine particles including allergens and pollutants.

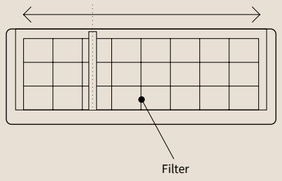
Fig. 1

Frosting 20 min



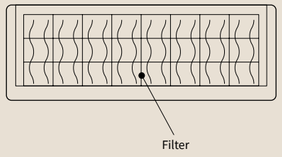
Frosting on the indoor unit exchanger.

Defrosting and cleaning 1 min



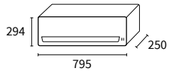
Cleaning the exchanger by defrosting.

Drying up to 60 min



Drying the exchanger.

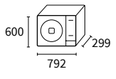
Indoor units



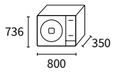
RAK-25PSEW RAK-35PSES
RAK-25PSES RAK-50PSEW
RAK-35PSEW RAK-50PSES

Outdoor units





RAC-25WSE
RAC-35WSE



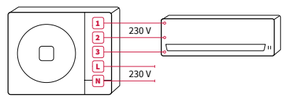
RAC-50WSE

Lorai Air Pur

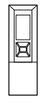
Cooling performances	Unit	2.5KW	3.5KW	5KW
Cooling Capacity (min-max)	kW	2.50 (0.50 - 3.40)	3.50 (0.50 - 4.10)	5.00 (1.90 - 5.20)
Absorbed capacity Cooling (min-max)	kW	**0.490 (0.300 - 0.920)**	**0.778 (0.350 - 1.350)**	**1.389 (0.400 - 1.820)**
EER		5.10	4.50	3.60
Energy class Cooling		A+++	A+++	A++
SEER (medium climate)		9.00	9.00	7.50
Guaranteed performances Cooling	°C	-10°C/+ 43°C	-10°C/+ 43°C	-10°C/+ 43°C
Heating performances				
Heating Capacity (min-max)	kW	3.20 (0.60 - 5.80)	4.00 (0.60 - 6.60)	6.00 (2.20 - 7.00)
Capacity at full charge at -7°C [1]	kW	3.20	3.90	5.40
Absorbed Heating Capacity (min-max)	kW	0.621 (0.440 - 1.500)	0.800 (0.500 - 2.000)	1.622 (0.600 - 2.650)
COP		5.15	5.00	3.70
Energy class Heating		A+++	A+++	A++
SCOP (medium climate)		5.10	5.10	4.70
Guaranteed performances Heating	°C	-20°C/+ 24°C	-20°C/+ 24°C	-20°C/+ 24°C
Indoor Units	**Unit**	**RAK-25PSE(W/S)**	**RAK-35PSE(W/S**	**RAK-50PSE(W/S)**
Sound pressure Cooling (Very low - Low - Medium - High)[2]	dB(A)	22/28/34/41	22/29/36/43	25/31/38/46
Sound pressure Heating (Very low - Low - Medium - High)[2]	dB(A)	22/28/34/42	22/29/36/44	25/31/38/48
Sound pressure Cooling	dB(A)	55	57	60
Air flow Cooling (Very low - Low - Medium - High)	m^3/h	270/320/420/510	270/340/440/540	300/400/490/590
Dehumidification	l/h	1.4	1.6	2.0
Dimensions (H x W x D)	mm	294 x 795 x 250	294 x 795 x 250	294 x 795 x 250
Weight	kg	11	11	11
Controller		Infrared weekly (included)	Infrared weekly (included)	Infrared weekly (included)
Outdoor units	**Unit**	**RAC-25WSE**	**RAC-35WSE**	**RAC-50WSE**
Sound Pressure Cooling [2]	dB(A)	47	48	51
Sound pressure Cooling	dB(A)	61	62	65
Air flow (Cooling/Heating)	m^3/h	1860/1620	1920/1620	2160/2160
Dimensions (H x W x D)	mm	600 x 792 x 299	600 x 792 x 299	736 x 800 x 350
Weight	kg	37	37	51
Refrigeration specifications				
Pipe diameter (Liq/gas)	Inch	1/4"/3/8"	1/4"/3/8"	1/4"/1/2"
Initial refrigerant charge	kg	0.98	0.98	1.3
Pre-charged for	m	20	20	30
Minimum length	m	3	3	3
Maximum length/Additional refrigerant	m/g/m	20/-	20/-	30/-
Maximum height difference (highest OU/lowest OU)	m	20/10	20/10	30/10
Refrigerant		R32	R32	R32
Electrical specifications				
Electrical power	V/Ph/Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	230V/1Ph/50Hz
Current during operation (Cooling/Heating)	A	2.26/2.85	3.56/3.65	6.33/7.38
Cable diameter (EN 60 335-1)	mm^2	1.50x 2+T	1.50x 2+T	2.50x 2+T
Indoor/outdoor wiring section (shielded)	mm^2	1.50x 3+T	1.50x 3+T	2.50x 3+T
Compressor		Rotary	Rotary	Rotary 2 cylinders
	Ref.	**XRAK-25PSEW/ XRAK-25PSES**	**XRAK-35PSEW / XRAK-35PSES**	**XRAK-50PSEW / XRAK-50PSES**
Price				
Environmental contribution	**Ref.**			

[1] Data includes defrosting. For the data corresponding to your project, use our technical catalogs or the Hitoolkit softward.
[2] Sound pressure measurements were taken at 1 meter from the unit free field (refer to the technical catalog).

Indoor units are powered with 220-230 V from the outdoor unit.



Compatible controls and accessories



Infrared controller

RAR-6NE1

Included



Simplified wired control

SPX-RCDB

Pre-tax price:



Programmable wired control

SPX-WKT3

Pre-tax price:



H-Link box

PSC-6RAD

Pre-tax price:

Others*:

- Multi-indoor units control box SPX-DST1 + SPX-WDST8M
- Hi Kumo Wifi gateway SPX-WFG01:
- Hi-Box AHP-SMB-01 :
- Hi Kumo gateway for Hi-Box SPX-TAG01:
- Dry contact kit only SPX-WDC3:
- Fault report kit only SPX-WDC7 + HA-S100TSA

* All prices are pre-tax

Takai

Power and comfort in complete harmony



Motion sensor

Technology saving you money thanks to the motion sensor which continuously analyses if anybody is in the room.
If nobody is detected after 20 min, the temperature setting is moved by one degree and by a further degree after 40 min. (Fig. 1)

4 Way Swing

Thanks to the vertical and horizontal flap movement, air distribution is more regular, making the room more comfortable. (Fig. 2)

Constant Power Technology

CONSTANT POWER technology was specially developed by HITACHI.
It improves the performance of your heat pump and can maintain its heating capacity up to an outside temperature of -15°C and ensure heating up to -20°C. (Fig. 3)

Double ventilation blade

In order to ensure a pleasant and more regular air flow in the room, the Takai features a double ventilation blade. This double blade ensures discrete comfortable air flows, preventing the unpleasant ‘oscillating ventilator’ effect.

FrostWash Technology

The Takai was designed to provide effective air purification throughout the year with its exclusive and innovative function: FrostWash. It automatically and regularly cleans the heat exchanger for the distribution of clean and pure air.

Low sound level

The Takai's indoor units were designed with a sound level from 20dB(A) for very discrete operation.

Fig. 1

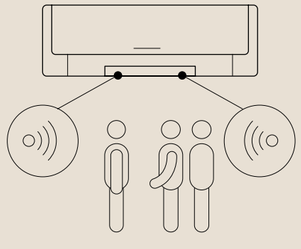


Fig. 2

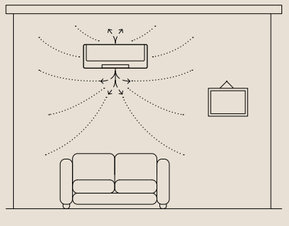
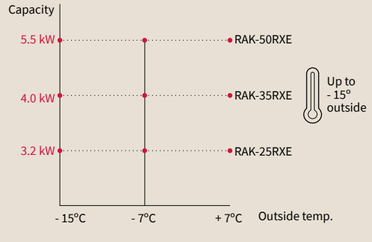
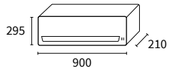


Fig. 3



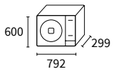
Indoor units



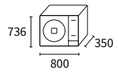
RAK-25RXE
RAK-35RXE
RAK-50RXE

Outdoor units





RAC-25WXE
RAC-35WXE



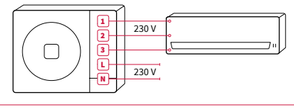
RAC-50WXE

Discover Takai

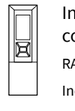
Cooling performances	Unit	2.5KW	3.5KW	5KW
Cooling Capacity (min-max)	kW	2.50 (0.90 - 3.10)	3.50 (0.90 - 4.00)	5.00 (1.90 - 5.20)
Absorbed capacity Cooling (min-max)	kW	**0.481 (0.25 - 1.00)**	**0.814 (0.25 - 1.40)**	**1.397 (0.50 - 2.10)**
EER		5.20	4.30	3.58
Energy class Cooling		A+++	A+++	A++
SEER (medium climate)		8.50	8.70	7.50
Guaranteed performances Cooling	°C	-10°C/+ 43°C	-10°C/+ 43°C	-10°C/+ 43°C
Heating performances				
Heating Capacity (min-max)	kW	3.20 (0.90 - 4.20)	4.00 (0.90 - 4.80)	5.80 (2.2 - 7.00)
Capacity at full charge at -7°C [1]	kW	3.20	4.00	5.50
Absorbed Heating Capacity (min-max)	kW	0.593 (0.25 - 1.20)	0.800 (0.25 - 1.60)	1.415 (0.50 - 2.70)
COP		5.40	5.00	4.10
Energy class Heating		A+++	A+++	A++
SCOP (medium climate)		5.20	5.20	4.70
Guaranteed performances Heating	°C	-20°C/+ 21°C	-20°C/+ 21°C	-20°C/+ 21°C
Indoor Units	**Unit**	**RAK-25RXE**	**RAK-35RXE**	**RAK-50RXE**
Sound pressure Cooling (Very low - Low - Medium - High)[2]	dB(A)	20/27/35/43	22/29/37/45	25/31/39/47
Sound pressure Heating (Very low - Low - Medium - High)[2]	dB(A)	20/28/36/43	22/30/37/45	25/31/39/48
Sound pressure Cooling	dB(A)	58	60	60
Air flow Cooling (Very low - Low - Medium - High)	m^3/h	300/330/510/600	320/340/520/660	350/400/580/720
Dehumidification	l/h	1.4	1.6	2
Dimensions (H x W x D)	mm	295 x 900 x 210	295 x 900 x 210	295 x 900 x 210
Weight	kg	11	11	11
Controller		Infrared weekly (included)	Infrared weekly (included)	Infrared weekly (included)
Outdoor units	**Unit**	**RAC-25WXE**	**RAC-35WXE**	**RAC-50WXE**
Sound Pressure Cooling [2]	dB(A)	47	48	51
Sound pressure Cooling	dB(A)	61	62	65
Air flow (Cooling/Heating)	m^3/h	1860/1620	1920/1620	2160/2160
Dimensions (H x W x D)	mm	600 x 792 x 299	600 x 792 x 299	736 x 800 x 350
Weight	kg	37.5	37.5	51
Compressor		Rotary	Rotary	Rotary 2 cylinders
Refrigeration specifications				
Pipe diameter (Liq/gas)	Inch	1/4"/3/8"	1/4"/3/8"	1/4"/1/2"
Initial refrigerant charge	kg	0.98	0.98	1.3
Pre-charged for	m	20	20	30
Minimum length	m	3	3	3
Maximum length/Additional refrigerant	m/g/m	20/-	20/-	30
Maximum height difference (highest OU/lowest OU)	m	10	10	10
Refrigerant		R32	R32	R32
Electrical specifications				
Electrical power	V/Ph/Hz	230V/1Ph/50Hz ge	230V/1Ph/50Hz ge	230V/1Ph/50Hz ge
Current during operation (Cooling/Heating)	A	1.09 - 4.35/1.09 - 5.22	1.09 - 6.09/1.09 - 6.96 2.17 - 9.13/2.17 - 11.74	1.30 - 8.70/2.17 - 11.96
Cable diameter (EN 60 335-1)	mm^2	1.50 x 2+T	1.50 x 2+T	2.50 x 2+T
Indoor/outdoor wiring section (shielded)	mm^2	1.50 x 3+T	1.50 x 3+T	2.50 x 3+T
	Ref.	**XRAK-25RXE**	**XRAK-35RXE**	**XRAK-50RXE**
Price				
Environmental contribution	**Ref.**			

[1] Data includes defrosting. For the data corresponding to your project, use our technical catalogs or the Hitoolkit softward.
[2] Sound pressure measurements were taken at 1 meter from the unit free field (refer to the technical catalog).

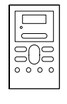
Indoor units are powered with 220-230 V from the outdoor unit.



Compatible controls and accessories



Infrared remote control
RAR-6NE1
Included



Simplified wired control
SPX-RCDB
Pre-tax price:



Programmable wired control
SPX-WKT3
Pre-tax price:



H-Link box
PSC-6RAD
Pre-tax price:

Others*:
- Multi-indoor units control box SPX-DST1 + SPX-WDST8M
- Hi Kumo Wifi gateway SPX-WFG01:
- Hi-Box AHP-SMB-01 :
- Hi Kumo gateway for Hi-Box SPX-TAG01:
- Dry contact kit only SPX-WDC3:
- Fault report kit only SPX-WDC7 + HA-S100TSA

* All prices are pre-tax

Mokai

A concentrate of technology



Ultra compact

With an overall width of only 78 cm, it is the most compact unit on the market. It will blend in perfectly with your interior and can simply be installed above a door. (Fig.3)

4 Way Swing

Thanks to the vertical and horizontal flap movement, air distribution is more regular, making the room more comfortable. (Fig. 1)

Motion sensor

Technology saving you money thanks to the motion sensor which continuously analyses if anybody is in the room.

If nobody is detected after 20 min, the temperature setting is moved by one degree and by a further degree after 40 min. (Fig. 2)

Compatible with the Hi Kumo remote control

This application allows you to turn the unit on or off, raise or lower the temperature or set the timer from wherever you may be around the world. All you need is a smartphone, an Internet connection and Wi-Fi equipment (optional) to connect to the equipment.

FrostWash Technology

The Mokai was designed to provide effective air purification throughout the year with its exclusive and innovative function: FrostWash. It automatically and regularly cleans the heat exchanger for the distribution of clean and pure air.

Silent operation

Enjoy complete comfort without even noticing that the indoor unit is on, thanks to its low sound level of only 20 dB(A)*.

*For RAK-25RPE in very low speed ventilation

Fig. 1

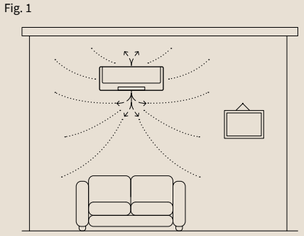


Fig. 2

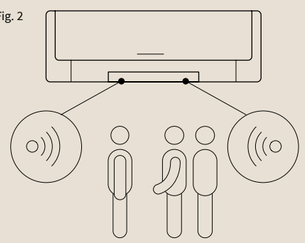
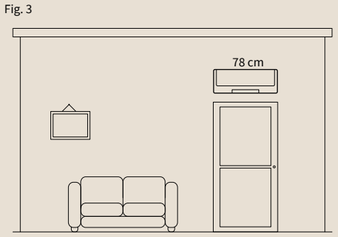


Fig. 3



Indoor units



RAK-18RPE
RAK-25RPE
RAK-35RPE
RAK-42RPE
RAK-50RPE

Outdoor units





RAC-18WPE
RAC-25WPE
RAC-35WPE



RAC-42WPE
RAC-50WPE

Discover Mokai

*20 dB(A) acoustic pressure at low air delivery speed.

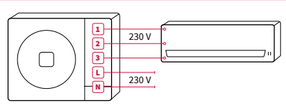
Mokai

Cooling performances	Unit	1.8KW	2.5KW	3.5KW	4.2KW	5KW
Cooling Capacity (min-max)	kW	2.00 (0.90 - 2.50)	2.50 (0.90 - 3.10)	3.50 (0.90 - 4.00)	4.20 (1.70 - 5.00)	5.00 (1.90 - 5.20)
Absorbed capacity Cooling (min-max)	kW	**0.419 (0.25 - 1.01)**	**0.549 (0.25 - 1.29)**	**0.941 (0.25 - 1.46)**	**1.120 (0.30 - 1.70)**	**1.471 (0.30 - 2.10)**
EER		4.77	4.55	3.72	3.75	3.40
Energy class Cooling		A+++	A+++	A+++	A++	A++
SEER (medium climate)		8.50	8.50	7.80	7.50	7.35
Guaranteed performances Cooling	°C	-10°C/+ 43°C	-10°C/+ 43°C	-10°C/+ 43°C	-10°C/+ 43°C	-10°C/+ 43°C
Heating performances						
Heating Capacity (min-max)	kW	2.50 (0.90 - 3.20)	3.40 (0.90 - 4.40)	4.20 (0.90 - 5.00)	5.40 (1.7 - 6.00)	6.00 (2.2 - 7.30)
Capacity at full charge at -7°C [1]	kW	2.30	3.00	3.40	3.80	4.10
Absorbed Heating Capacity (min-max)	kW	0.519 (0.25 - 0.97)	0.733 (0.25 - 1.50)	1.000 (0.25 - 1.70)	1.317 (0.50 - 2.10)	1.558 (0.50 - 2.75)
COP		4.82	4.64	4.20	4.10	3.85
Energy class Heating		A+++	A+++	A+++	A++	A++
SCOP (medium climate)		4.90	4.90	4.90	4.60	4.60
Guaranteed performances Heating	°C	-15°C/+ 21°C	-15°C/+ 21°C	-15°C/+ 21°C	-15°C/+ 21°C	-15°C/+ 21°C
Indoor Units		**RAK-18RPE**	**RAK-25RPE**	**RAK-35RPE**	**RAK-42RPE**	**RAK-50RPE**
Sound pressure Cooling (Very low - Low - Medium - High)[2]	dB(A)	21/24/33/37	22/24/33/40	25/26/36/43	25/28/39/46	25/28/39/46
Sound pressure Heating (Very low - Low - Medium - High)[2]	dB(A)	19/22/33/38	20/23/34/41	26/27/36/44	27/31/39/46	25/28/39/46
Sound pressure Cooling	dB(A)	51	54	57	60	60
Air flow Cooling (Very low - Low - Medium - High)	m^3/h	312/350/400/440	333/370/430/510	353/420/485/680	353/410/540/720	353/410/540/720
Dehumidification	l/h	1.2	1.4	1.6	1.8	2
Dimensions (H x W x D)	mm	280 x 780 x 230	280 x 780 x 230	280 x 780 x 230	280 x 780 x 230	280 x 780 x 230
Weight	kg	8.5	8.5	8.5	8.5	8.5
Controller		Infrared weekly (included)	Infrared weekly (included)	Infrared weekly (included)	Infrared weekly (included)	Infrared weekly (included)
Outdoor units	**Unit**	**RAC-18WPE**	**RAC-25WPE**	**RAC-35WPE**	**RAC-42WPE**	**RAC-50WPE**
Sound Pressure Cooling [2]	dB(A)	44	46	48	49	49
Sound pressure Cooling	dB(A)	58	60	61	63	63
Air flow (Cooling/Heating)	m^3/h	1860/1620	1860/1620	1920/1620	2160/2160	2160 / 2160
Dimensions (H x W x D)	mm	548 x 750 x 288	548 x 750 x 288	548 x 750 x 288	600 x 792 x 299	600 x 792 x 299
Weight	kg	32.5	32.5	32.5	39	39
Compressor		Rotary	Rotary	Rotary	Rotary	Rotary
Refrigeration specifications						
Pipe diameter (Liq/gas)	Inch	1/4"/3/8"	1/4"/3/8"	1/4"/3/8"	1/4"/1/2"	1/4"/1/2"
Initial refrigerant charge	kg	0.870	0.870	0.870	1.050	1.050
Pre-charged for	m	20	20	20	20	20
Minimum length	m	3	3	3	3	3
Maximum length/Additional refrigerant	m/g/m	20/-	20/-	20/-	20/-	20/-
Maximum height difference (highest OU/lowest OU)	m	20/10	20/10	20/10	20/10	20/10
Refrigerant		R32	R32	R32	R32	R32
Electrical specifications						
Electrical power	V	220 - 230V	220 - 230V	220 - 230V	220 - 230V	220 - 230V
Electrical power	V/Ph/Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	230V/1Ph/50Hz
Current during operation (Cooling/Heating)	A	1.09 - 4.39/1.09 - 4.22	1.09 - 5.61/1.09 - 6.52	1.09 - 6.35/1.09 - 7.39	1.30 - 7.39/2.17 - 8.70	1.30 - 8.70/2.17 - 11.96
Cable diameter (EN 60 335-1)	mm^2	1.50 x 2+T	1.50 x 2+T	1.50 x 2+T	2.50 x 2+T	2.50 x 2+T
Indoor/outdoor wiring section (shielded)	mm^2	1.50 x 3+T	1.50 x 3+T	1.50 x 3+T	2.50 x 3+T	2.50 x 3+T
	Ref.	**XRAK-18RPE**	**XRAK-25RPE**	**XRAK-35RPE**	**XRAK-42RPE**	**XRAK-50RPE**
Price						

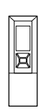
Environmental contribution	Ref.

[1] Data includes defrosting. For the data corresponding to your project, use our technical catalogs or the Hitoolkit softward.
[2] Sound pressure measurements were taken at 1 meter from the unit free field (refer to the technical catalog).

Indoor units are powered with 220-230 V from the outdoor unit.



Compatible controls and accessories



Infrared controller

RAR-6NE1

Included



Simplified wired control

SPX-RCDB

Pre-tax price:



Programmable wired control

SPX-WKT3

Pre-tax price:



H-Link box

PSC-6RAD

Pre-tax price:

Others*:

- Multi-indoor units control box SPX-DST1 + SPX-WDST8M
- Hi Kumo Wifi gateway SPX-WFG01:
- Hi-Box AHP-SMB-01 :
- Hi Kumo gateway for Hi-Box SPX-TAG01:
- Dry contact kit only SPX-WDC3:
- Fault report kit only SPX-WDC7 + HA-S100TSA

* All prices are pre-tax

Dodai 2

Efficiency and simplicity



Exclusive and innovative technology: FrostWash*

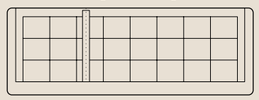
for the distribution of clean air.

*FrostWash steps

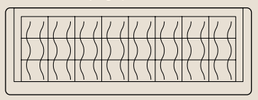
1 Frosting 20 min



2 Defrosting and cleaning 1 min



3 Drying up to 60 min



Compatible with the Hi Kumo remote control

This application allows you to turn the unit on or off, raise or lower the temperature or set the timer from wherever you may be around the world. All you need is a smartphone, an Internet connection and Wi-Fi equipment (optional) to connect to the equipment.

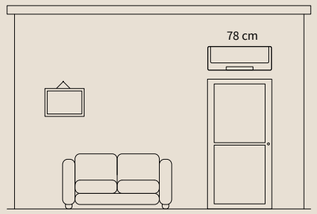
Maximum space savings

It's small enough for discrete installation. Above a door, for example, because it is only 780 mm wide. (Fig. 1)

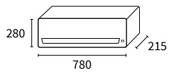
Silent operation

Enjoy complete comfort without even noticing that the indoor unit is on, thanks to its low sound level of only 19dB*.

Fig. 1



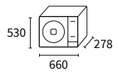
Indoor units



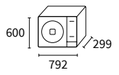
RAK-18REF
RAK-25REF
RAK-35REF
RAK-50REF

Outdoor units





RAC-18WEF
RAC-25WEF
RAC-35WEF



RAC-50WEF

Discover Dodai 2

* See model.

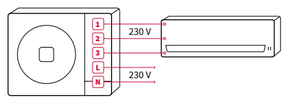
Dodai 2

Cooling performances	Unit	1.8KW	2.5KW	3.5KW	5KW
Cooling Capacity (min-max)	kW	2 (0.90 - 2.50)	2.50 (0.90 - 3.10)	3.50 (0.90 - 4.00)	5.00 (1.90 - 5.20)
Absorbed capacity Cooling (min-max)	kW	**0.58 (0.25 - 1.01)**	**0.70 (0.25 - 1.29)**	**1.090 (0.25 - 1.46)**	**1.560 (0.50 - 2.10)**
EER		3.45	3.57	3.21	3.21
Energy class Cooling		A++	A++	A++	A++
SEER (medium climate)		6.10	6.10	6.10	6.10
Guaranteed performances Cooling	°C	-10°C/+ 43°C	-10°C/+ 43°C	-10°C/+ 43°C	-10°C/+ 43°C
Heating performances					
Heating Capacity (min-max)	kW	2.50 (0.90 - 3.20)	3.40 (0.90 - 4.40)	4.20 (0.90 - 5.00)	6.00 (2.2 - 7.30)
Capacity at full charge at -7°C [1]	kW	2	2.5	3.00	4.00
Absorbed Heating Capacity (min-max)	kW	0.62 (0.25 - 0.97)	0.88 (0.25 - 1.25)	1.100 (0.25 - 1.70)	1.660 (0.50 - 2.75)
COP		4.03	3.86	3.82	3.61
Energy class Heating		A+	A+	A+	A+
SCOP (medium climate)		4.20	4.20	4.20	4.30
Guaranteed performances Heating	°C	-15°C/+ 21°C	-15°C/+ 21°C	-15°C/+ 21°C	-15°C/+ 21°C
Indoor Units	**Unit**	**RAK-18REF**	**RAK-25REF**	**RAK-35REF**	**RAK-50REF**
Sound pressure Cooling (Very low - Low - Medium - High)[2]	dB(A)	21/24/33/37	22/24/33/40	25/26/36/43	28/30/40/46
Sound pressure Heating (Very low - Low - Medium - High) [2]	dB(A)	19/22/33/38	20/23/34/41	26/27/36/44	25/30/39/47
Sound pressure Cooling	dB(A)	51	54	57	60
Air flow Cooling (Very low - Low - Medium - High)	m^3/h	312/350/400/440	333/370/430/510	333/400/485/600	333/450/600/700
Dehumidification	l/h	1.2	1.4	1.6	2
Dimensions (H x W x D)	mm	280 x 780 x 215	280 x 780 x 215	280 x 780 x 215	280 x 780 x 215
Weight	kg	7.7	7.7	7.7	8.2
Controller		Infrared (included)	Infrared (included)	Infrared (included)	Infrared (included)
Outdoor units	**Unit**	**RAC-18WEF**	**RAC-25WEF**	**RAC-35WEF**	**RAC-50WEF**
Sound Pressure Cooling [2]	dB(A)	45	47	48	50
Sound pressure Cooling	dB(A)	59	61	62	64
Air flow (Cooling/Heating)	m^3/h	1860/1620	1860/1620	1860/1620	2160/2160
Dimensions (H x W x D)	mm	530 x 660 x 278	530 x 660 x 278	530 x 660 x 278	600 x 792 x 299
Weight	kg	23.70	23.70	25.00	39.50
Compressor		Rotary	Rotary	Rotary	Rotary double twin
Refrigeration specifications					
Pipe diameter (Liq/gas)	Inch	1/4"/3/8"	1/4"/3/8"	1/4"/3/8"	1/4"/1/2"
Initial refrigerant charge	kg	0.53	0.53	0.70	0.93
Pre-charged for	m	20	20	20	20
Minimum length	m	3	3	3	3
Maximum length/Additional refrigerant	m/g/m	20/-	20/-	20/-	20/-
Maximum height difference (highest OU/lowest OU)	m	20/10	20/10	20/10	20/10
Refrigerant		R32	R32	R32	R32
Electrical specifications					
Electrical power	V/Ph/Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	230V/1Ph/50Hz
Current during operation (Cooling/Heating)	A	1.09 - 4.39/1.09 - 4.22	1.09 - 5.61/1.09 - 5.43	1.09 - 6.35/1.09 - 7.39	2.17 - 9.13/2.17 - 11.96
Cable diameter (EN 60 335-1)	mm^2	1.50x 2+T	1.50x 2+T	1.50x 2+T	2.50x 2+T
Indoor/outdoor wiring section (shielded)	mm^2	1.50x 3+T	1.50x 3+T	1.50x 3+T	2.50x 3+T
	Ref.	**XRAK-18REF**	**XRAK-25REF**	**XRAK-35REF**	**XRAK-50REF**
Price					

Environmental contribution	Ref.

[1] Data includes defrosting. For the data corresponding to your project, use our technical catalogs or the Hitoolkit softward.
[2] Sound pressure measurements were taken at 1 meter from the unit free field (refer to the technical catalog).

Indoor units are powered with 220-230 V from the outdoor unit.



Compatible controls and accessories



Infrared controller

RAR-7PE1

Included



Simplified wired control

SPX-RCDB

Pre-tax price:



Programmable wired control

SPX-WKT3

Pre-tax price:



H-Link box

PSC-6RAD

Pre-tax price:

Others*:

- Multi-indoor units control box SPX-DST1 + SPX-WDST8M
- Hi Kumo Wifi gateway SPX-WFG01:
- Hi-Box AHP-SMB-01 :
- Hi Kumo gateway for Hi-Box SPX-TAG01:
- Dry contact kit only SPX-WDC3:
- Fault report kit only SPX-WDC7 + HA-S100TSA

* All prices are pre-tax

Light Commercial Wall

A range of functions to adapt to all configurations



4 Way Swing

Thanks to the vertical and horizontal flap movement, air distribution is more regular, making the room more comfortable.(Fig. 1)

Motion sensor

Technology saving you money thanks to the motion sensor which continuously analyses if anybody is in the room.
If nobody is detected after 20 min, the temperature setting is moved by one degree and by a further degree after 40 min. (Fig. 2)

Improved comfort

The SPX-WKT3 wired controller can be used to select the location where the temperature setting should be measured (on the controller, the recirculation or with the average of both values). This feature will improve the comfort in your room.

Flexible installation

The indoor unit can be installed in any location within the building because refrigerant pipe lengths go up to 30 m between the indoor unit and the outdoor unit. The height difference between the two can also go up to 20 m.

Compatible with the Hi Kumo remote control

This application allows you to turn the unit on or off, raise or lower the temperature or set the timer from wherever you may be around the world. All you need is a smartphone, an Internet connection and Wi-Fi equipment (optional) to connect to the equipment.

Compact indoor unit

The indoor unit is only 900 mm wide so it can be installed anywhere without interfering with other elements.

Fig. 1

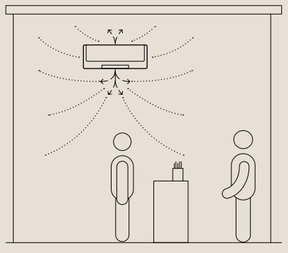
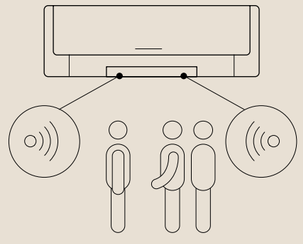
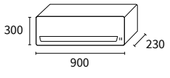


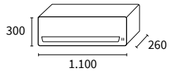
Fig. 2



Indoor units



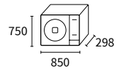
RAK-50RPE1
RAK-60RPE



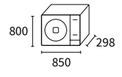
RAK-70PPD

Outdoor units





RAC-50NPE
RAC-60NPE



RAC-70NPD

Light Commercial Wall

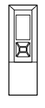
Cooling performances	Unit	5KW	6KW	7KW
Cooling Capacity (min-max)	kW	5.00 (1.20 - 5.80)	6.00 (1.20 - 6.50)	7.00 (1.50 - 8.00)
Absorbed capacity Cooling (min-max)	kW	**1.42 (0.30 - 2.500)**	**1.71 (0.30 - 2.65)**	**2.00 (0.50 - 2.70**
EER		3.52	3.51	3.50
Energy class Cooling		A++	A++	A++
SEER (medium climate)		7.30	6.50	7.00
Guaranteed performances Cooling	°C	-15°C/+ 46°C	-15°C/+ 46°C	-15°C/+ 46°C
Heating performances				
Heating Capacity (min-max)	kW	6.00 (1.20 - 6.80)	7.00 (1.20 - 8.00)	8.00 (1.50 - 8.50)
Capacity at full charge at -7°C [1]	kW	4.20	4.80	5.80
Absorbed Heating Capacity (min-max)	kW	1.50 (0.30 - 2.650)	1.84 (0.30 - 2.65)	2.10 (0.50 - 2.80
COP		4.00	3.80	3.81
Energy class Heating		A++	A+	A++
SCOP (medium climate)		4.60	4.20	4.60
Guaranteed performances Heating	°C	-15°C/+ 24°C	-15°C/+ 24°C	-15°C/+ 24°C
Indoor Units	**Unit**	**RAK-50RPE1**	**RAK-60RPE**	**RAK-70PPD**
Sound pressure Cooling (Very low - Low - Medium - High)[2]	dB(A)	26/33/39/47	30/33/42/48	30/35/42/47
Sound pressure Heating (Very low - Low - Medium - High)[2]	dB(A)	26/33/39/47	33/34/42/49	30/36/42/47
Sound pressure Cooling	dB(A)	60	60	60
Air flow Cooling (Very low - Low - Medium - High)	m^3/h	310/410/570/720	310/410/570/720	510/630/870/1020
Dehumidification	l/h	2.8	2.8	4.8
Dimensions (H x W x D)	mm	300 x 900 x 230	300 x 900 x 230	300 x 1100 x 260
Weight	kg	11.5	11.5	15.0
Controller		Not included	Not included	Not included
Outdoor units	**Unit**	**RAC-50NPE**	**RAC-60NPE**	**RAC-70NPD**
Sound Pressure Cooling [2]	dB(A)	50	50	52
Sound pressure Cooling	dB(A)	65	65	67
Air flow (Cooling/Heating)	m^3/h	2160/2160	2160/2160	2700/2700
Dimensions (H x W x D)	mm	750 x 850 x 298	750 x 850 x 298	800 x 850 x 298
Weight	kg	50	50	52
Compressor		Rotary	Rotary	Rotary
Refrigeration specifications				
Pipe diameter (Liq/gas)	Inch	1/4"/1/2"	1/4"/1/2"	1/4"/5/8"
Initial refrigerant charge	kg	1.5	1.5	1.6
Pre-charged for	m	30	30	30
Maximum length	m	3	3	3
Maximum length/Additional refrigerant	m/g/m	30 / -	30/-	30/-
Maximum height difference (highest OU/lowest OU)	m	20/20	20/20	20/20
Refrigerant		R32	R32	R32
Electrical specifications				
Electrical power	V/Ph/Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	230V/1Ph/50Hz
Current during operation (Cooling/Heating)	A	5.98-6.52/6.31-6.89	7.20-7.85/7.74-8.45	8.42-9.18 / 8.84-9.64
Cable diameter (EN 60 335-1)	mm^2	2.50 x 2+T	2.50 x 2+T	2.50 x 2+T
Indoor/outdoor wiring section (shielded)	mm^2	1.50 x 3+T	1.50 x 3+T	1.50 x 3+T

		Delivered without controller		
	Ref.	**XRAK-50RPE1**	**XRAK-60RPE**	**XRAK-70PPD**
Price				

Environmental contribution	Ref.			

[1] Data includes defrosting. For the data corresponding to your project, use our technical catalogs or the Hitoolkit softward.
[2] Sound pressure measurements were taken at 1 meter from the unit free field (refer to the technical catalog).

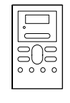
Compatible controls and accessories



Infrared controller

SPX-RCKA2

Pre-tax price:



Simplified wired control

SPX-RCDB

Pre-tax price:



Programmable wired control

SPX-WKT3

Pre-tax price:



H-Link box

PSC-6RAD

Pre-tax price:

Others*:

- Multi-indoor units control box SPX-DST1 + SPX-WDST8M
- Hi Kumo Wifi gateway SPX-WFG01:
- Hi-Box AHP-SMB-01:
- Hi Kumo gateway for Hi-Box SPX-TAG01:
- Dry contact kit only SPX-WDC3:

* All prices are pre-tax

Micro VRF IVX Comfort

A compact VRF solution to meet larger technical constraints



Optimum air distribution

The 4 ventilation speeds adapt the air flow for greater comfort in each room.

Easy and discreet integration

Compact and lightweight, our units can be installed discreetly above a door. Their new design brings improvements including replacing the turbine without removing the exchanger and easier access to the filters.

Simplify control

Our wall units are compatible with all types of controllers and come with an infrared receiver as standard.

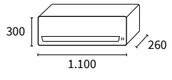
Wide operating ranges

This equipment can operate in heating mode up to -20°C and up to 46°C in cooling mode. A heating-only mode is also available.

Compact

The outdoor units are exceptionally compact, taking up just 0.23 m³ of floorspace.

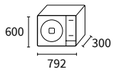
Indoor units



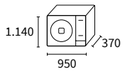
RPK-2.0 FSN4M
RPK-2.5 FSN4M
RPK-3.0 FSN4M
RPK-4.0 FSN4M

Outdoor units





RAS-2HVNP1
RAS-2.5HVNP1
RAS-3HVNC1



RAS-4H(V)NC1E

Wall Comfort

Indoor units	Unit	RPK-2.0FSN4M	RPK-2.5FSN4M	RPK-3.0FSN4M	RPK-4.0FSN4M
Cooling Capacity (min-max)	kW	**5.00** (2.20 - 5.60)	**5.60** (2.20 - 6.30)	**7.10** (3.20 - 8.00)	**10.00** (4.50 - 11.20)
Heating Capacity (min-max)	kW	**5.60** (2.20 - 7.10)	**6.30** (2.20 - 8.00)	**8.00** (3.50 - 10.60)	**11.20** (5.00 - 14.00)
Capacity at -7°C[1]	kW	**4.90**	**5.80**	**6.30**	**10.10**
Cooling capacity SET FREE	kW	**5.60**	**7.10**	**8.00**	**11.20**
Heating capacity SET FREE	kW	**6.30**	**8.50**	**9.00**	**12.50**
Sound pressure Cooling (Very low - Low - Medium - High) [1]	dB(A)	31/34/37/40	35/38/42/45	35/40/44/47	39/44/48/51
Sound power	dB(A)	47 - 50- 53 - 55	51 - 54- 58 - 60	51 - 56- 60 - 63	54 - 60- 64 - 65
Air flow Cooling (Very low - Low - Medium - High)	m³/h	570/660/780/870	720/840/990/1110	750/930/1050/1200	870/1050/1200/1380
Condensate pump included		No			
Diameter of refrig. pipes (Liq/Gas)	inch	1/4 /1/2	3/8 /5/8		
Condensate pipe diameter (out)	mm	20			
Dimensions (H x W x D)	mm	300 x 1100 x 260			
Weight	kg	14.5	15		
Electrical power		230V/1Ph/50Hz			
Cable diameter (EN 60 335-1) [3]	mm²	3 x 1.5			
Controller		Infrared (included)			

[1] Data includes defrosting. For the data corresponding to your project, use our technical catalogs.
[2] The sound pressure measurements were taken according to the applicable standards used as part of the Eurovent program.
[3] Information provided for informational purposes only. The person fitting the equipment is responsible for checking that these cable diameters meet installation requirements and correspond to applicable standards.

Outdoor units	Unit	RAS-2HVNP1	RAS-2.5HVNP1	RAS-3HVNC1	RAS-4H(V)NC1E
Absorbed capacity Cooling	kW	**1.55**	**1.69**	**2.64**	**4.65**
Absorbed Heating Capacity	kW	**1.51**	**1.68**	**2.73**	**3.56**
EER/COP		**3.23/3.70**	**3.31/3.75**	**2.69/2.93**	**2.15/3.15**
Energy class (Cooling/Heating)		**A+/A++**	**A/A**	**D/D**	**E/D**
SEER/SCOP (medium climate)		**5.47/4.01**	**5.24/4.14**	**5.35/3.80**	**5.56/3.83**
Seasonal energy class (Cooling/Heating)		**A/A+**		**A/A**	
Sound pressure Cooling (night mode) [2]	dB(A)	44 (42)	45 (43)	48 (46)	52 (50)
Sound power	dB(A)	62	63	66	68
Weight	kg	43		44	79
Dimensions (H x W x D)	mm	600 x 792 x 300			1140 x 950 x 370
Electrical power		1~ 230V 50Hz			3N~ 400V 50Hz (1~ 230V 50Hz)
Maximum current	A	13.8	15.8	17.8	15.5 (28.5)
Cable diameter (EN 60 335-1) [1]	mm²	3 x 2.50	3 x 4.00		5 x 4.00 (3 x 6.00)
Indoor/outdoor wiring section (shielded)	mm²	2 x 0.75			
Pipe diameter (Liq/gas)	inch	1/4 - 1/2*	3/8 - 5/8		
Maximum length/Additional refrigerant	m/g/m	50/30	50/40		70/40
Initial refrigerant charge	kg	1.6	1.9		3.2
Pre-charged for	m	30	20		30
Air flow (Cooling/Heating)	m³/h	2436	2682		3720
Maximum height difference (highest OU/lowest OU)	m	30/20			
Guaranteed performance Cooling*//Heating	°C	(OPT) -15°C/+46°C (DB)//-20°C/+15°C (WB)			
Refrigerant		**R410A**			
Compressor		**SCROLL**			

[1] Information provided for informational purposes only. The person fitting the equipment is responsible for checking that these cable diameters meet installation requirements and correspond to applicable standards.
[2] Sound pressure measurements were taken at 1 meter from the unit free field (refer to the technical catalog).
*The option must be enabled to ensure the cold mode at -15°C.

	Ref.	X-RPK-2.0HVNP1	X-RPK-2.5HVNP1	X-RPK-3.0HVNC1	X-RPK-4.0H(V)NC1E
Price for the Single-phase/Three-phase) kit					

	Ref.

The kit includes: the wall unit, the infrared receiver, PC-AWR infrared controller, the outdoor unit.

Compatible controls and accessories (see DRV Controls tab)



Simplified wired control
PC-ARH1E



Infrared controller
Included
PC-AWR



User-friendly multifunction wired control
PC-ARFP1E



Remote sensor
THM-R2AE



Input/output configura-ble contact connectors
PCC-1A



Condensate removal kit
DBS-26 (IVX Comfort 4HP models)
DBS-12L (IVX Comfort 2/2.5/3HP models)

Ideal for residential applications, the Shirokuma console is able to reach comfortable heating and cooling temperatures in a few minutes.
Its elegant and simple design means it fits in with all interiors.



Console



* JOHNSON CONTROLS - HITACHI AIR CONDITIONING EUROPE SAS participate in the Eurovent Certification Program for the AC/VRF/LCP-HP categories. Information on certified models can be found in the Eurovent Directory (www.eurovent-certification.com).

Benefits

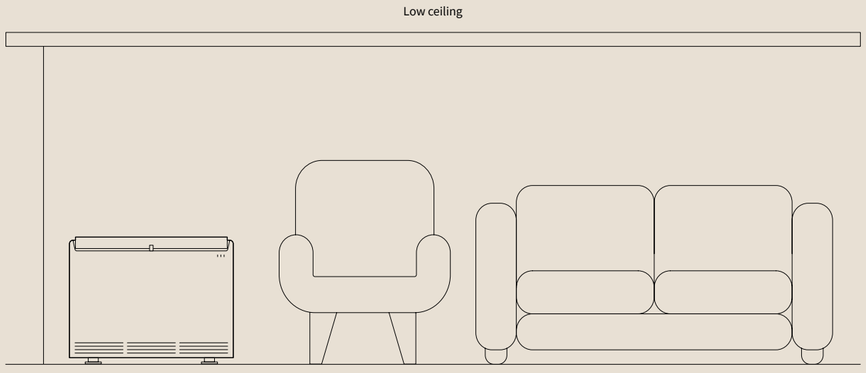
SCOP 8.50 SEER 4.60

1 A unique design to fit in with all types of interiors



Its design means the unit is as unobtrusive as possible and can even be installed in the wall.

2 The ideal unit for smaller spaces

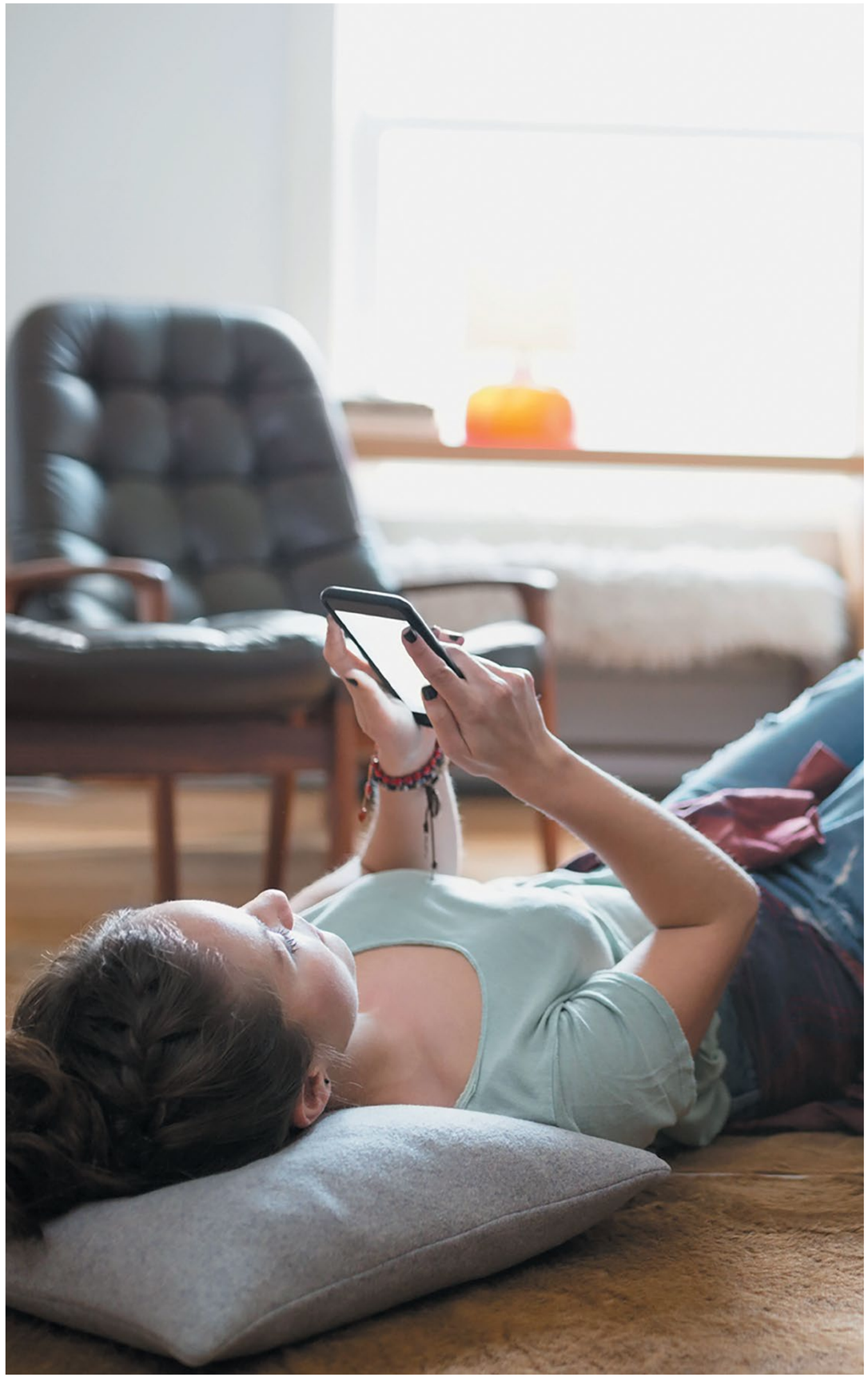


With their compact design, consoles are particularly suited for installation in smaller rooms.

3 Greater heating comfort



The distribution of hot air towards the lower part of the room means the temperature setting is reached quickly and constantly.



Shirokuma console

High-performance equipment with unique design



Extended air flow

Thanks to a larger dynamic air flow, air can reach all parts of the room. The room is air-conditioned (heating or cool air) at the touch of a button on the controller. (Fig. 1)

Flexibility with the Multizone range

The Shirokuma console indoor unit is compatible with all Multi-split outdoor units. This means that several indoor units can be installed in different rooms with the same outdoor unit.

High performance

The console's energy class is A+++.
Energy savings - guaranteed!

Control options

The console comes with a wireless controller as standard. It is also compatible with the wired controller SPX-WKT3 with hourly programming.

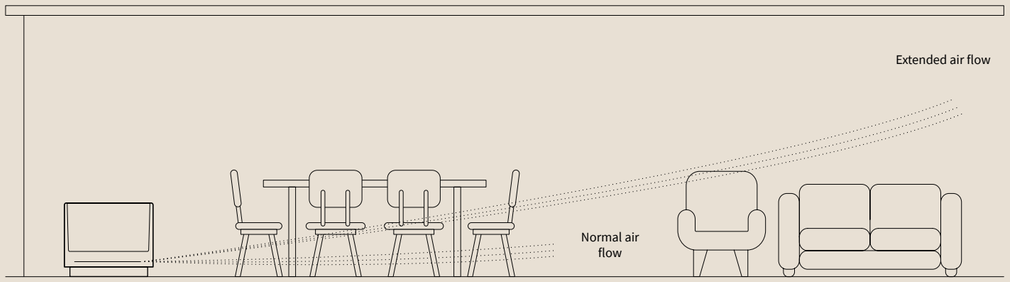
Flexible installation

Wall-mounted or floor standing on base (supplied)

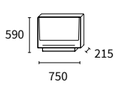
Compatible with Hi Kumo

The entire Hitachi residential range is compatible with the Hi Kumo system which can control equipment from any mobile device which acts as a controller.

Fig. 1



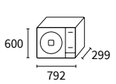
Indoor units



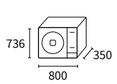
RAF-25RXE
RAF-35RXE
RAF-50RXE

Outdoor units



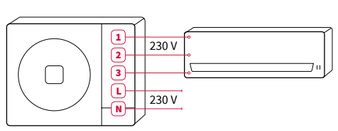


RAC-25FXE
RAC-35FXE



RAC-50FXE

Indoor units are powered with 220-230 V from the outdoor unit.



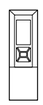
Shirokuma console

Cooling performances	Unit	2.5KW	3.5KW	5KW
Capacity Cooling (min-max)	kW	2.50 (0.90 - 3.10)	3.50 (0.90 - 4.00)	5.00 (0.90 - 5.20)
Absorbed capacity Cooling (min-max)	kW	**0.54 (0.25 - 1.00)**	**0.93 (0.25 - 1.38)**	**1.39 (0.5 - 2.10)**
EER		4.65	3.75	3.6
Energy class Cooling		A+++	A++	A++
SEER (medium climate)		8.50	8.20	6.80
Guaranteed performances Cooling	°C	-10°C/+46°C	-10°C/+46°C	-10°C/+46°C
Heating performances				
Capacity Heating (min-max)	kW	3.40 (0.90 - 4.40)	4.50 (0.90 - 5.00)	6.00 (0.90 - 8.10)
Capacity at full charge at -7°C [1]	kW	3.40	4.20	5.50
Absorbed capacity Heating (min-max)	kW	0.76 (0.25 - 1.20)	1.15 (0.25 - 1.5)	1.58 (0.5 - 2.70)
COP		4.50	3.90	3.80
Energy class Heating		A++	A++	A+
SCOP (medium climate)		4.60	4.60	4.30
Guaranteed performances Heating	°C	-20°C/+24°C	-20°C/+24°C	-20°C/+24°C
Indoor Units	**Unit**	**RAF-25RXE**	**RAF-35RXE**	**RAF-50RXE**
Sound pressure Cooling (Very low - Low - Medium - High)[2]	dB(A)	20/26/31/38	20/26/31/39	22/29/36/43
Sound pressure Cooling	dB(A)	52	52	56
Air flow Cooling (Very low - Low - Medium - High)	m^3/h	270/390/510/630	270/390/510/630	300/450/540/700
Dehumidification	l/h	1.4	1.9	2
Dimensions (H x W x D)	mm	590 x 750 x 215	590 x 750 x 215	590 x 750 x 215
Weight	kg	15	15	15
Controller		Weekly wireless controller (included)	Weekly wireless controller (included)	Weekly wireless controller (included)
Outdoor units	**Unit**	**RAC-25FXE**	**RAC-35FXE**	**RAC-50FXE**
Sound pressure Cooling (night mode) [2]	dB(A)	45	39	43
Sound pressure Cooling	dB(A)	59	61	65
Air flow (Cooling/Heating)	m^3/h	1860/1620	1920/1620	2160/2160
Dimensions (H x W x D)	mm	600 x 792 x 299	600 x 792 x 299	736 x 800 x 350
Weight	kg	37	37	51
Compressor		Scroll	Scroll	Rotary
Refrigeration specifications				
Pipe diameter (Liq/gas)	Inch	1/4"/3/8"	1/4"/3/8"	1/4"/1/2"
Condensate pipe diameter (out)	mm	16	16	16
Initial refrigerant charge	kg	0.98	0.98	1.2
Pre-charged for	m	20	20	30
Minimum length	m	3	3	3
Maximum length/Additional refrigerant	m/g/m	20/-	20/-	30/-
Maximum height difference (highest OU/lowest OU)	m	10/10	10/10	10/10
Refrigerant		R32	R32	R32
Electrical specifications				
Electrical power	V/Ph/Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	230V/1Ph/50Hz
Maximum current	A	5	7	12
Cable diameter (EN 60 335-1)	mm^2	2 x 1.50+T	2 x 1.50+T	2 x 2.50+T
Indoor/outdoor wiring section (shielded)	mm^2	3 x 1.50+T	3 x 1.50+T	3 x 2.50+T
	Ref.	**XRAF-25RXE**	**XRAF-35RXE**	**XRAF-50RXE**
Kit price	(pre-tax)			

	Ref.
	(pre-tax)

[1] Data includes defrosting. For the data corresponding to your project, use our technical catalogs or the Hitoolkit softward.
[2] Sound pressure measurements were taken at 1 meter from the unit free field (refer to the technical catalog).

Compatible controls and accessories



Wireless controller

RAR-6NE4

Included



Simplified wired controller

SPX-RCDB

Pre-tax price:



Programmable wired controller

SPX-WKT3

Pre-tax price:



H-Link box

PSC-6RAD

Pre-tax price:

Others*:

- Multi-indoor units control box SPX-DST1 (€ 36) + SPX-WDST8M (€ 21)
- Hi Kumo Wifi gateway SPX-WFG01:
- Hi-Box AHP-SMB-01 :
- Hi Kumo gateway for Hi-Box SPX-TAG01:
- Dry contact kit only SPX-WDC3:
- Leak sensor SPX-RAFGLS :

* All prices are pre-tax

A ducted unit combines comfort and design. With this type of installation, the grills are the only elements visible in the room, allowing for harmonious integration with all types of designs.
Combined with a "zoning solution", the ducted unit can provide heating and cooling for different rooms from a single indoor unit.
This solution is ideally suited for commercial buildings, but also residential applications, wherever discretion is important. Our large range available in both R410A and R32 means there is something for every project.



Ducted



* JOHNSON CONTROLS - HITACHI AIR CONDITIONING EUROPE SAS participate in the Eurovent Certification Program for the AC/VRF/LCP-HP categories. Information on certified models can be found in the Eurovent Directory (www.eurovent-certification.com).

Quick selection table

Light commercial ducted



Primairy R32



Primairy R410A



Micro VRF IVX Comfort



	Residential and small commercial applications	Medium commercial applications		Residential and medium commercial applications
		Generic applications		Technical applications
	Light commercial ducted	Primairy R32	Primairy R410A	Micro VRF IVX Comfort
Refrigerant	R32	R32	R410A	R410A
Type of Heat pump	Monosplits	Monosplits	Monosplits	Monosplits
Capacity cooling (kW)	2.5 3.5 5.0 6.0 7.0	7.1 8.8 10.5 12.5 14.0 17.0	6.8 10.1 12.0 13.4 15.7	5.0 5.6 7.1 10.0 12.5 14.0 20.0 25.0
Power supply	Single-phase	Single-phase (3/3.5/4/5/6HP) Three-phase (5/6/6.5 HP)	Single-phase (3/4 HP) Three-phase (5/6/6.5 HP)	Single-phase (up to 6 HP Three-phase (4 to 10 HP)
COP up to	4.0	3.46	3.46	4.03
Heating/Cooling	A+/A++	A+/A++	A+/A++	A+/A++
Heating down to	-15 °C	-15 °C	-15 °C	-20 °C
Cooling up to	+46 °C	+48 °C	+48 °C	+46 °C
Maximum static pressure up to	150 Pa	120 Pa	120 Pa	220 Pa
Length/Height difference max. (m) OU-IU up to	30/20	50/30	50/30	100/30

Light commercial ducted

The high-performance and discreet luxury solution



Installation in new builds with a VMC HYGRO B

Hitachi were validated with the CSTB and obtained the ducted ATEC so this solution can now be installed in new builds with a VMC HYGRO B ventilation system.

Condensate pump included

The ducted unit has its own condensate pump for automatic condensate removal, so you don't have to worry about adding additional units to the installation. (Fig. 1)

High static pressure

The ducted unit has a pressure of 150 Pa so that you can install it in the location of your choice. This way, users don't have to worry about a sufficient quantity of air arriving in the room which is furthest away.

Flexible installation

The indoor unit can be installed in any location within the building because refrigerant pipe lengths go up to 30 m between the indoor unit and the outdoor unit. The height difference between the two can also go up to 20 m.

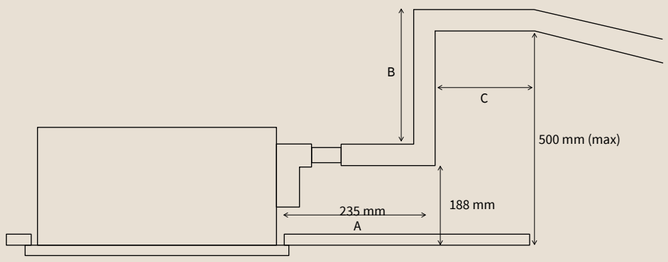
Compatible with the Hi Kumo wireless controller

This application allows you to turn the unit on or off, raise or lower the temperature or set the timer from wherever you may be around the world. All you need is a smartphone, an Internet connection and Wi-Fi equipment (optional) to connect to the equipment.

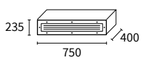
Airzone compatibility

With a single ducted unit, users can control up to 6 rooms individually using Airzone's motorized plenums which fit directly to the Hitachi units. This compatibility means you can use the full Airzone ambient control range.
(See P. 140).

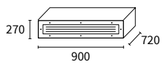
Fig. 1



Indoor units



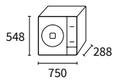
RAD-25RPE
RAD-35RPE



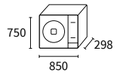
RAD-50RPE
RAD-60RPE
RAD-70PPD

Outdoor units

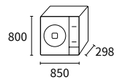




RAC-25NPE
RAC-35NPE



RAC-50NPE
RAC-60NPE



RAC-70NPD

Light commercial ducted

Cooling performances	Unit	2.5KW	3.5KW	5KW	6KW	7KW
Capacity Cooling (min-max)	kW	2.50 (0.90 - 3.00)	3.50 (0.90 - 4.00)	5.00 (1.20 - 5.80)	6.00 (1.20 - 6.50)	7.00 (1.50 - 8.00)
Absorbed capacity Cooling (min-max)	kW	**0.595 (0.25 - 1.29)**	**0.945 (0.25 - 1.46)**	**1.42 (0.30 - 2.50)**	**1.71 (0.30 - 2.60)**	**2.11 (0.50 - 2.70)**
EER		4.20	3.70	3.52	3.51	3.32
Energy class Cooling		A++	A++	A++	A++	A++
SEER (medium climate)		6.20	6.50	6.20	6.20	6.10
Guaranteed performances Cooling	°C	-10°C/+43°C	-15°C/+46°C	-15°C/+46°C	-15°C/+46°C	-15°C/+46°C
Heating performances						
Capacity Heating (min-max)	kW	3.50 (0.90 - 5.50)	4.80 (0.90 - 6.60)	6.00 (1.20 - 6.80)	7.00 (1.20 - 8.00)	8.00 (1.50 - 8.50)
Capacity at full charge at -7°C [1]	kW	2.50	3.20	4.20	5.00	5.50
Absorbed capacity Heating (min-max)	kW	0.875 (0.25 - 1.50)	1.260 (0.25 - 1.92)	1.57 (0.30 - 2.65)	1.84 (0.30 - 2.65)	2.20 (0.50 - 2.80)
COP		4.00	3.81	3.82	3.80	3.64
Energy class Heating		A+	A+	A+	A+	A+
SCOP (medium climate)		4.30	4.30	4.00	4.00	4.00
Guaranteed performances Heating	°C	-15°C/+21°C	-15°C/+24°C	-15°C/+24°C	-15°C/+24°C	-15°C/+24°C
Indoor Units		**RAD-25RPE**	**RAD-35RPE**	**RAD-50RPE**	**RAD-60RPE**	**RAD-70PPD**
Sound pressure Cooling (Very low - Low - Medium - High)[2]	dB(A)	30/33/37/41	30/33/37/41	29/32/35/39	29/32/35/39	29/32/35/39
Sound pressure Heating (Very low - Low - Medium - High)[2]	dB(A)	30/34/38/42	30/34/38/42	29/32/35/40	29/32/35/40	29/32/35/40
Sound pressure Cooling	dB(A)	57	57	53	53	53
Static pressure (Low - Medium - High)	Pa	*/*/70	*/*/70	50/100/150	50/100/150	50/100/150
Air flow Cooling (Very low - Low - Medium - High)	m^3/h	330/390/450/510	330/390/450/510	350/540/800/1140	350/540/800/1140	350/540/800/1140
Dehumidification	l/h	1.4	1.6	2.8	2.8	4.8
Dimensions (H x W x D)	mm	235 x 750 x 400	235 x 750 x 400	270 x 900 x 720	270 x 900 x 720	270 x 900 x 720
Weight	kg	16	16	35	35	35
Condensate pump		Included	Included	Included	Included	Included
Controller		Not included	Not included	Not included	Not included	Not included
Outdoor units	**Unit**	**RAC-25NPE**	**RAC-35NPE**	**RAC-50NPE**	**RAC-60NPE**	**RAC-70NPD**
Sound Pressure Cooling [2]	dB(A)	48	48	50	50	50
Sound pressure Cooling	dB(A)	61	61	65	65	65
Air flow (Cooling/Heating)	m^3/h	1920/1620	1920/1620	2160/2160	2160/2160	2700/2700
Dimensions (H x W x D)	mm	548 x 750 x 288	548 x 750 x 288	750 x 850 x 298	750 x 850 x 298	800 x 850 x 298
Weight	kg	32.5	32.5	50	50	52
Compressor		Rotary	Rotary	Rotary	Rotary	Rotary
Refrigeration specifications						
Pipe diameter (Liq/gas)	inch	1/4"/3/8"	1/4"/3/8"	1/4"/1/2"	1/4"/1/2"	1/4"/5/8"
Initial refrigerant charge	kg	0.86	0.86	1.50	1.50	1.60
Pre-charged for	m	20	20	30	30	30
Minimum length	m	3	3	3	3	3
Maximum length/Additional refrigerant	m/g/m	20/-	20/-	30/-	30/-	30/-
Maximum height difference (highest OU/lowest OU)	m	10/10	10/10	20/20	20/20	20/20
Refrigerant		R32	R32	R32	R32	R32
Electrical specifications						
Electrical power	V/Ph/Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	230V/1Ph/50Hz
Maximum current	A	15	15	10	10	10
Cable diameter (EN 60 335-1)	mm^2	2 x 1.50+T	2 x 1.50+T	2 x 2.50+T	2 x 2.50+T	2 x 2.50+T
Indoor/outdoor wiring section (shielded)	mm^2	3 x 1.50+T	3 x 1.50+T	3 x 1.50+T	3 x 1.50+T	3 x 1.50+T

		Delivered without controller				
Single zone wired		**XRAD-25RPE**	**XRAD-35RPE**	**XRAD-50RPE**	**XRAD-60RPE**	**XRAD-70PPD**
Price	(pre-tax)					

[1] Data includes defrosting. For the data corresponding to your project, use our technical catalogs or the Hi-ToolKit software.
[2] Sound pressure measurements were taken at 1 meter from the unit free field (refer to the technical catalog).
* Information pending.

Reference	Description	Length	Height	Depth	Compatibility	Number of connections	Pre-tax price
PIM1SOURADNH	PLENUM ISOLATED M1 2XD200 AIR DELIVERY	720	200	300+ 50	RAD-18QPE*/RAD 25-35RPE	2 x 200	
PIM1REPRADNH	PLENUM ISOLATED M1 2XD200 RETURN	655	205	200+ 50	RAD-18QPE/RAD 25-35RPE	2 x 200	
PIM1REPRADNHF	PLENUM ISOLATED M1 FilterHolder 2XD200 RETURN	655	205	200+ 50	RAD-18QPE/RAD 25-35RPE	2 x 200	
PIM1SOURADDH	PLENUM ISOLATED M1 3XD200 AIR DELIVERY	810	225	250+ 50	RAD-50-60RPE/RAD-70PPD	3 x 200	
PIM1REPRADDH	PLENUM ISOLATED M1 2XD200 RETURN	820	225	200+ 50	RAD-50-60RPE/RAD-70PPD	2 x 200	

* Available in multi only

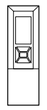
Compatible controls and accessories



Programmable wired control

SPX-WKT3

Pre-tax price:



Wireless controller

SPX-RCKA1

Pre-tax price:



Simplified wired controller

SPX-RCDA

Pre-tax price:

Others**:

- H-Link box - PSC-6RAD:
- Multi-indoor units control box SPX-DST1 + SPX-WDST8M
- Hi Kumo Wifi gateway SPX-WFG01:
- Hi-Box AHP-SMB-01 :
- Hi Kumo gateway for Hi-Box SPX-TAG01:
- Dry contact kit only SPX-WDC2:
- Remote sensor SPX-RTH1 :

** All prices are pre-tax

Primairy R32

R32 ecofriendly option for your commercial applications

Sizes 5 and 6 HP Single-phase available from October 2020.



Integrated condensate pump

With a discharge head of 700 mm, these ducted units are easily integrated in most projects.

Flexible air circulation from below or behind

This solution offers genuine installation flexibility depending on the type of configuration. Equipment air circulation can be modified from below or behind. This does not require a change of equipment, simply an adjustment of the static pressure. (Fig. 1)

Wide static pressure adjustment range

Wide static pressure range (up to 120 Pa) for long ducts and multizone applications means more practical and more flexible installation.

Long refrigerant links and large height differences

With up to 50 m of ducts for an installation up to 30 m high, the Primairy range offers great flexibility when it comes to installation configuration. (Fig.2)

Efficiency guaranteed

The Primairy ducted range performances are guaranteed in cooling and heating until an outside temperature of -15°C.
The DC Inverter technology precisely adjusts the capacity required to heat residential or commercial premises and ensures the installation's comfort and durability.

Automatic reboot after a power outage

When power returns after an outage, all pre-configurations are maintained and air-conditioning operates based on previous configuration.

Fig. 1

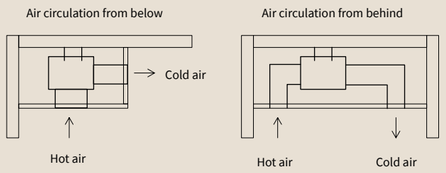
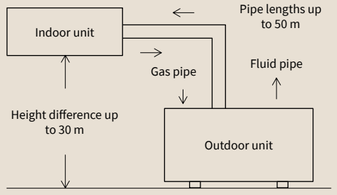
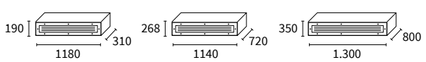


Fig. 2



Indoor units

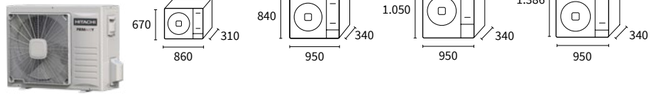


RPIL-3.0UFE1NH
RPIH-3.5UFE1NH

RPIH-3.5UFE1NH
RPIH-4.0UFE1NH

RPIH-4.0UFE1NH
RPIH-5.0UFE1NH
RPIH-6.0UFE1NH
RPIH-6.5UFE1NH

Outdoor units



RAS-3.0UFESNH1
RAS-3.5UFESNH1

RAS-4.0UFESNH1

RAS-5.0UFESMH1

RAS-6.0UFESMH1
RAS-6.5UFESMH1

Primairy R32

Cooling performances	Unit	6.90KW 3 HP	8.5KW 3.5 HP	10.10KW 4 HP	12.10KW 5 HP	14.19KW 6 HP	17.10KW 6.5 HP
Capacity Cooling (min-max)	kW	6.9 (2.45 - 7.85)	8.50 (4.00 - 9.50)	10.10 (1.20 - 5.80)	12.10 (3.30 - 13.20)	14.19 (3.20 - 16.00)	17.10 (3.30 - 18.50)
Absorbed power Cooling (min-max)	kW	**2.16**	**2.67**	**3.8**	**4.22**	**4.78**	**6.6**
EER		3.19	3.18	2.66	2.87	2.97	2.59
Energy class Cooling		A++	A++	A++			
SEER (medium climate)		6.29	6.20	6.10	6.28/248%	5.94/235%	5.81/229.4%
Annual energy consumption	kWh/year	395.00	499.00	577.00	761.00	849.00	943.00
Guaranteed performances Cooling	°C	-15°C/+48°C	-15°C/+48°C	-15°C/+48°C	-15°C/+48°C	-15°C/+48°C	-15°C/+48°C
Heating performances							
Capacity Heating (min-max)	kW	8.3 (2.20 - 8.70)	9.00 (3.50 - 9.40)	10.50 (3.50 - 11.00)	13.4 (3.00 - 14.60)	13.4 (3.00 - 14.60)	18 (3.00 - 19.50)
Capacity at full charge at -7°C (1)	kW	4	5,6	6,5	8,4	9,9	11,1
Absorbed power Heating (min-max)	kW	2.22	2.4	3.5	4.07	4.65	6.1
COP		3.74	3.75	3	3.29	3.47	2.95
Energy class Heating		A+	A+	A			
SCOP (medium climate)		4.05	4.00	3.92	3.7/145%	3.7/145%	3.72/146%
Pdesignh	kW	6.00	6.50	8.20	9.50	12.40	12.40
Annual energy consumption	kWh/year	2007.00	2313.00	2926.00	3674.00	4694.00	4205.00
Guaranteed performances Heating	°C	-15°C/+24°C	-15°C/+24°C	-15°C/+24°C	-15°C/+24°C	-15°C/+24°C	-15°C/+24°C
Indoor Units		**RPIL-3.0UFE1NH**	**RPIH-3.5UFE1NH**	**RPIH-4.0UFE1NH**	**RPIH-5.0UFE1NH**	**RPIH-6.0UFE1NH**	**RPIH-6.5UFE1NH**
Sound pressure Cooling (Low - Medium - High)	dB(A)	31/34/38	41/38/33	38/40/42	37/40/43	42/45/47	43/45/48
Sound power Cooling	dB(A)	61	63	65	69	77	77
Air flow Cooling (Low - Medium - High)	m^3/h	490/700/1000	900/1120/1450	1400/1600//1800	1300/1500/1750	1900/2200/2400	1900/2200/2400
Nom. available pressure (min-max)	Pa	25.0 (0 - 40)	37.0 (0 - 120)	37.0 (0 - 120)	50.0 (0 - 120)	50.0 (0 - 120)	50.0 (0 - 120)
Dimensions (H x W x D)	mm	190x1180×445	268x1140x720	268x1140x720	350x1300x800	350x1300x800	350x1300x800
Case weight	kg	24.0	37.5	37.5	51	51	51
Condensate pump		Included	Included	Included	Included	Included	Included
Condensate pipe diameter (out)	mm	32	32	32	32	32	32
Air filter		included	included	included	included	included	included
Electrical power	V/Ph/Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	230V/1Ph/50Hz
Controller		Wired included (HCWA21NEWH)	Wired included (HCWA21NEWH)	Wired included (HCWA21NEWH)	Wired included (HCWA21NEWH)	Wired included (HCWA21NEWH)	Wired included (HCWA21NEWH)
Outdoor units	**Unit**	**RAS-3.0UFESNH1**	**RAS-3.5UFESNH1**	**RAS-4.0UFESNH1**	**RAS-5.0UFESMH1**	**RAS-6.0UFESMH1**	**RAS-6.5UFESMH1**
Sound Pressure Cooling	dB(A)	54	54	58	62	62	67
Sound pressure Cooling	dB(A)	69	70	70	76	76	80
Air flow (Cooling)	m^3/h	3150	3150	3800	5800	6300	6300
Dimensions (H x W x D)	mm	670x860×310	670x860×310	840 x 950 x 340	1050x950×340	1386x950×340	1386x950×340
Weight	kg	49.0	49.0	70.0	85.0	101.5	109.0
Refrigeration specifications							
Pipe diameter (Liq/gas)	inch	3/8"/5/8"	3/8"/5/8"	3/8"/3/4"	3/8"/3/4"	3/8"/3/4"	3/8"/3/4"
Initial refrigerant charge	kg/ TeqCO2	1.4/0.95	1.45/0.98	2.00/1.35	2.50/1.69	2.50/1.69	2.50/1.69
Pre-charged for	m	5	5	5	5	5	5
Max pipe length	m	30	50	50	50	50	50
Additional refrigerant	g/m	28	28	28	28	28	28
Maximum height difference (highest OU/lowest OU)	m	15/15	30/30	30/30	30/30	30/30	30/30
Refrigerant		R32	R32	R32	R32	R32	R32
OU Electrical specifications							
Electrical power	V/Ph/Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	400V/3Ph/50Hz	400V/3Ph/50Hz	400V/3Ph/50Hz
Maximum current	A	18.1	18	22.5	11.6	11.6	11.6
Cable diameter (EN 60 335-1)	mm^2	3 x 2.5	3 x 2.5	3 x 4	3 x 4	3 x 4	3 x 4
Indoor/outdoor wiring section (shielded)	mm^2	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5
Compressor type Inverter		Rotary	Rotary	Rotary	Rotary	Rotary	Rotary

	Ref.	3 HP	3.5 HP	4 HP	5 HP	6 HP	6.5 HP
Outdoor unit price:	(pre-tax)						
Wired controller included:							
Wired controller included:							

	Ref.								
Kit	(pre-tax)								
Wireless controller price	**Ref.**	**X-RPIM-3.0UNE1NHI**	**X-RPIM-3.5UNE1NHF**	**X-RPIM-4UNE1NHF**	**X-RPIH-5.0UNE1NHI**	**X-RPIH-6.0UNE1NHI**	**X-RPIH-5.0UNE1NHI**	**X-RPIH-6.0UNE1NHI**	**X-RPIH-6.5UNE1NHI**
Kit price	(pre-tax)								

	Ref.
Kit	(pre-tax)

The kit includes: the ducted unit, the wired or wireless controller with receiver, the outdoor unit.

Compatible controls and accessories (see DRV Controls tab)



Wired controller
HCWA21NEWH
Pre-tax price:



Wireless controller
HRBA31NEGH
Pre-tax price:

Discover Primairy

Primairy R410A

Perfect fit for your commercial applications



Integrated condensate pump

With a discharge head of 700 mm, these ducted units are easily integrated in most projects.

Flexible air circulation from below or behind

This solution offers genuine installation flexibility depending on the type of configuration. Equipment air circulation can be modified from below or behind. This does not require a change of equipment, simply an adjustment of the static pressure. (Fig. 1)

Wide static pressure adjustment range

Wide static pressure range (up to 120 Pa) for long ducts and multizone applications means more practical and more flexible installation.

Long refrigerant links and large height differences

With up to 50 m of ducts for an installation up to 30 m high, the Primairy range offers great flexibility when it comes to installation configuration. (Fig.2)

Efficiency guaranteed

The Primairy ducted range performances are guaranteed in cooling and heating until an outside temperature of -15°C.
The DC Inverter technology precisely adjusts the capacity required to heat residential or commercial premises and ensures the installation's comfort and durability.

Automatic reboot after a power outage

When power returns after an outage, all pre-configurations are maintained and air-conditioning operates based on previous configuration.

Fig. 1

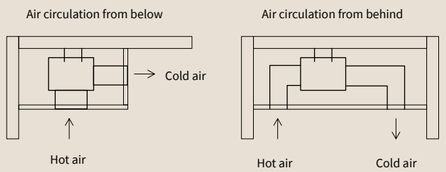
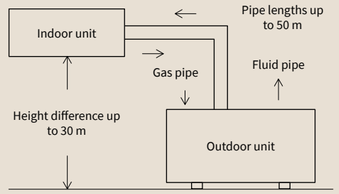
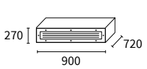


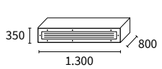
Fig. 2



Indoor units



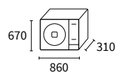
RPIM-3.0UNE1NH



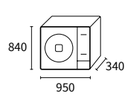
RPIH-4.0UNE1NH
RPIH-5.0UNE1NH
RPIH-6.0UNE1NH
RPIH-6.5UNE1NH

Outdoor units

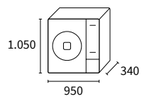




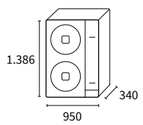
RAS-3.0UNESNH1



RAS-4.0UNESNH1



RAS-5.0UNESMH1



RAS-6.0UNESMH1
RAS-6.5UNESMH1

Primairy R410A

Indoor units	Unit	RPIM-3.0UNE1NH	RPIH-4.0UNE1NH	RPIH-5.0UNE1NH	RPIH-6.0UNE1NH	RPIH-6.5UNE1NH
Capacity Cooling (min-max)	kW	**6.80** (2.70 - 7.85)	**10.10** (2.93 - 12.00)	**12.03** (3.30 - 13.20)	**13.48** (3.20 - 16.00)	**15.76** (4.98 - 18.00)
Capacity Heating (min-max)	kW	**7.94** (2.77 - 8.70)	**11.45** (3.32 - 13.00)	**14.00** (3.00 - 14.60)	**16.99** (3.40 - 18.50)	**18.46** (5.20 - 20.50)
Capacity at full charge at -7°C [1]	kW	5.9	8.48	10.36	12.6	15.52
Sound pressure Cooling (Low - Medium - High)[2]	dB(A)	34/36/38	35/36/39	35/39/41	40/43/46	40/43/46
Sound power	dB(A)	60	62	68	72	73
Air flow Cooling (Low - Medium - High)	m^3/h	852/976/1100	1050/1250/1450	1300/1500/1750	1900/2200/2400	
Nom. static pressure (min/max)	Pa	25 (0~80)	37 (0~120)	50 (0~120)		
Dehumidification	l/h	1.8	2.5	3.2	4.0	4.5
Condensate pump		Yes				
Maximum discharge head	mm	700				
Dimensions (H x W x D)	mm	270 x 900 x 720	350 x 1300 x 800			
Weight	kg	32	51			
Electrical power	V/Ph/Hz	230 V/1 Ph/50 Hz				
Pipe diameter (Liq/gas)	Inch	3/8 - 5/8	3/8 - 3/4			
Condensate pipe diameter (out)	mm	32				
Controller		Wired or wireless				

[1] Data includes defrosting. For the data corresponding to your project, use our technical catalogs.
[2] Sound pressure measurements were taken at 1 meter from the unit free field (refer to the technical catalog).

Outdoor units	Unit	RAS-3.0UNESNH1	RAS-4.0UNESNH1	RAS-5.0UNESMH1	RAS-6.0UNESMH1	RAS-6.5UNESMH1
Absorbed power in Cooling	kW	**2.23**	**3.31**	**4.30**	**4.46**	**6.06**
Absorbed power in Heating	kW	**2.37**	**3.40**	**4.10**	**4.90**	**5.60**
EER/COP		**3.05/3.46**	**3.05/3.38**	**2.80/3.41**	**3.02/3.42**	**2.60/3.23**
Seasonal energy class (Cooling/Heating)		**A++/A**			**A+/A**	
SEER/SCOP (medium climate)		**6.17/3.85**	**6.23/3.80**	**5.71/3.77**	**6.08/3.78**	**5.99/3.68**
Sound Pressure Cooling	dB(A)	53	55	58	53	58
Sound power	dB(A)	69	70	75		76
Pipe diameter (Liq/gas)	inch	3/8 - 5/8		3/8 - 3/4		
Air flow (Cooling/Heating)	m^3/h	3 000	3 500	5 800	6 200	
Initial refrigerant charge	kg	1.7	2.8	3.2	3.78	3.95
Pre-charged for	m	5				
Minimum length	m	5				
Maximum length/Additional refrigerant	m/g/m	50/35				
Maximum height difference	m	30				
Dimensions (H x W x D)	mm	670 x 860 x 310	840 x 950 x 340	1050 x 950 x 340	1386 x 950 x 340	
Weight	kg	51	70	85	113	117
Electrical power	V/Ph/Hz	230 V/1 Ph/50 Hz			400 V/3 Ph/50 Hz	
Maximum current	A	18.1	22.5	11.6	12.0	13.1
Cable diameter (EN 60 335-1)	mm^2	3 x 2.5	3 x 4.0	5 x 2.5		
Indoor/outdoor wiring section (shielded)	mm^2	4 x 1.5				
Guaranteed performances Cooling	°C	-15~48				
Guaranteed performances Heating	°C	-15~24				
Refrigerant		**R410A**				
Compressor Inverter	Type	**ROTARY**				

Single zone wired control	Ref.	X-RPIM-3.0UNE1NHF	X-RPIH-4.0UNE1NHF	X-RPIH-5.0UNE1NHF	X-RPIH-6.0UNE1NHF	X-RPIH-6.5UNE1NHF
Public Price 2019 for the kit	(pre-tax)					

	Ref.
Kit	(pre-tax)

Single zone wireless controller	Ref.	X-RPIM-3.0UNE1NHI	X-RPIH-4.0UNE1NHI	X-RPIH-5.0UNE1NHI	X-RPIH-6.0UNE1NHI	X-RPIH-6.5UNE1NHI
Kit price	(pre-tax)					

	Ref.
Kit	(pre-tax)

The kit includes: the ducted unit, the wired or wireless controller with receiver, the outdoor unit.

Compatible controls and accessories (see DRV Controls tab)



Wired controller
HCWA21NEWH
Pre-tax price:



Wireless controller
HRBA31NEGH
Pre-tax price:

Discover Primairy

Micro VRF IVX Comfort

A compact VRF solution to meet projects with larger technical constraints



Integrated condensate pump

Hitachi ducted units are fitted as standard with a condensate pump up to 850 mm, offering greater flexibility during installation (models up to 6 HP).

Flexible air circulation from below or behind

This solution offers genuine installation flexibility depending on the type of configuration. Equipment air circulation can be modified from below or behind on sizes 2 to 6 HP by role switching. (Fig. 1)

New air

In order to improve indoor air quality, an Econofresh kit can be combined with the ducted unit to ensure new air management (see Econofresh P. <DB>).

Wide static pressure adjustment range

Static pressure available up to 120 Pa, with 3 level options, including zero pressure for air delivery on the grill.

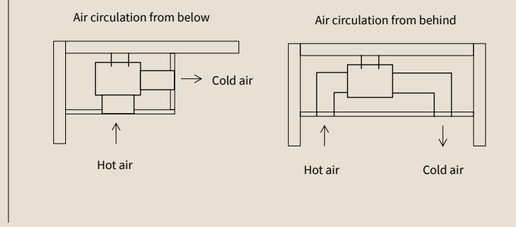
Airzone compatibility

A single ducted indoor unit can handle up to 6 zones individually thanks to the Airzone motorized plenums and their control solutions (see P. 140).

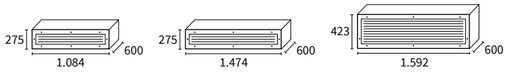
Compact

The outdoor units are exceptionally compact, taking up just 0.23m³ of floorspace.

Fig. 1



Indoor units

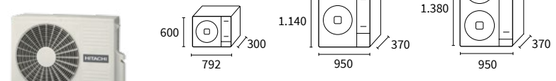


RPI-2.0FSN5E
RPI-2.5FSN5E
RPI-3.0FSN5E

RPI-4.0FSN5E
RPI-5.0FSN5E
RPI-6.0FSN5E

RPI-8.0FSN3E(-f)
RPI-10.0FSN3E(-f)

Outdoor units



RAS-2HVNP1
RAS-2.5HVNP1
RAS-3HVNC1

RAS-4H(V)NC1E
RAS-5H(V)NC1E
RAS-6H(V)NC1E

RAS-8HNCE
RAS-10HNCE

Ducted Comfort

Indoor units	Unit	RPI-2.0FSN5E	RPI-2.5FSN5E	RPI-3.0FSN5E	RPI-4.0FSN5E	RPI-5.0FSN5E	RPI-6.0FSN5E	RPI-8.0FSN3E(-F)	RPI-10.0FSN3E(-F)
Capacity Cooling (min-max)	kW	**5.00** (2.20 - 5.60)	**5.60** (2.20 - 6.30)	**7.10** (3.20 - 8.00)	**10.00** (4.50 - 11.20)	**12.50** (5.70 - 14.00)	**14.00** (6.00 - 16.00)	**20.00** (8.00 - 22.40)	**25.00** (10.00 - 28.00)
Capacity Heating (min-max)	kW	**5.60** (2.20 - 7.10)	**6.30** (2.20 - 8.00)	**8.00** (3.50 - 10.60)	**11.20** (5.00 - 14.00)	**14.00** (5.00 - 18.00)	**16.00** (5.00 - 20.00)	**22.40** (6.30 - 28.00)	**28.00** (8.00 - 35.00)
Max. capacity Heating at -7°C[1]	kW	**5.00**	**5.80**	**6.40**	**10.20**	**11.90**	**13.30**	**18.00**	**23.00**
Sound pressure Cooling (Very low - Low - Medium - High) [2]	dB(A)	27/29/29	28/30/30	29/31/31	32/35/37	33/35/38	33/36/39	51/54/54	52/55/55
Sound power	dB(A)	55	56	57	62	65	66	77	78
Air flow Cooling (Low - Medium - High)	m³/h	600/750/960	780/960/1140	960/1140/1320	1500/1680/1800	1740/1920/2100	1800/1980/2160	4056/4500/4500	
Static pressure (min/max)	Pa	30 (0~120)	30 (0~125)		45 (0~120)	50 (0~140)		180~220	
Dehumidification	l/h	2	2.4	3	4.5	5.9	6.6	7.7	8
Condensate pump		yes						no	
Maximum removal height	mm	850						-	
Dimensions (H x W x D)	mm	275 x 1084 x 600			275 x 1474 x 600			423 x 1592 x 600	
Weight	kg	35	36		48			85	87
Electrical power		1~ 230V 50Hz							
Cable diameter (EN 60 335-1) [3]	mm²	3 x 0.75						3 x 2.5	
Pipe diameter (Liq/gas)	inch	1/4 - 5/8	3/8 - 5/8					3/8 - 3/4	3/8 - 7/8
Condensate pipe diameter (out)	mm	32						25	
Controller		PC-ARFP1E (simplified possibility, wireless with option)							

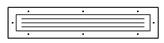
[1] Data includes defrosting. For the data corresponding to your project, use our technical catalogs or the Hi-ToolKit software.
[2] Sound pressure measurements were taken under the following conditions: 1.5 meters under the unit.
[3] Information provided for informational purposes only. The person fitting the equipment is responsible for checking that these cable diameters meet installation requirements and correspond to applicable standards.
* The version (-F) corresponds to the fire safety compliant model M0/M.

Outdoor units	Unit	RAS-2HVNP1	RAS-2.5HVNP1	RAS-3HVNC1	RAS-4H(V)NC1E	RAS-5H(V)NC1E	RAS-6H(V)NC1E	RAS-8HNCE	RAS-10HNCE
Absorbed power in Cooling	kW	**1.41**	**1.60**	**2.53**	**3.10**	**3.93**	**4.55**	**5.95**	**8.27**
Absorbed power in Heating	kW	**1.50**	**1.65**	**2.26**	**2.78**	**3.95**	**4.40**	**5.88**	**7.71**
EER/COP		**3.54/3.73**	**3.49/3.81**	**2.81/3.54**	**3.23/4.03**	**3.18/3.54**	**3.08/3.64**	**3.36/3.81**	**3.02/3.63**
Energy class (Cooling/Heating)		**A/A**		**C/B**	**B/A**				
SEER/SCOP (medium climate)		**5.60/4.01**	**5.51/4.33**	**4.97/3.80**	**5.38(V) - 5.27/4.01**	**5.88(V) - 5.84/3.91**	**5.67(V) - 5.64/3.96**	-	
Seasonal energy class (Cooling/Heating)		**A+/A+**	**A/A+**	**B/A**	**A/A+**	-			
Sound pressure Cooling (night mode) [2]	dB(A)	44 (42)	45 (43)	48 (46)	52 (50)		55 (53)	57 (55)	58 (56)
Sound power	dB(A)	62	63	66	68		71	76	
Weight	kg	43		44	79	89		133	138
Dimensions (H x W x D)	mm	600 x 792 x 300			1140 x 950 x 370			1380x 950 x 370	
Electrical power		1~ 230V 50Hz			3N~ 400V 50Hz (1~ 230V 50Hz)			3N~ 400V 50Hz	
Maximum current	A	13.8	15.8	17.8	15.5 (28.5)			24	
Cable diameter (EN 60 335-1) [3]	mm²	3 X 2.50	3 x 4.00		5x 4.00 (3 x 6.00)			5 x 6.00	
Indoor/outdoor wiring section (shielded)	mm²	2 x 0.75							
Pipe diameter (Liq/gas)	inch	1/4 - 1/2*			3/8 - 5/8			3/8(1*) - 1	1/2 - 1
Maximum length/Additional refrigerant	m/g/m	50/30		50/40	70/40	75/60		100/to be calculated according to technical documentation	
Initial refrigerant charge	kg	1.6	1.9	3.2	2.9	3.2	5.3	6	
Pre-charged for	m	30	20			30			
Air flow (Cooling/Heating)	m³/h	2436	2682	3720	4080	4800	7620	8040	
Maximum height difference (highest OU/lowest OU)	m	30/20							
Guaranteed performance Cooling*//Heating	°C	(OPT) -15°C/+46°C (DB)//-20°C/+15°C (WB)							
Refrigerant		**R410A**							
Compressor		**SCROLL**							

[1*] When the length exceeds 70 m, the diameter of the liquid tube must be 1/2 ".

Kit price	Ref	X-RPI-2.0HVNP1	X-RPI-2.5HVNP1	X-RPI-3.0HVNC1	X-RPI-4.0H(V)NC1E	X-RPI-5.0H(V)NC1E	X-RPI-6.0H(V)NC1E	X-RPI-8.0HNCE(-F)	X-RPI-10.0HNCE(-F)
Single-phase kit price	(pre-tax)							-	
Three-phase kit price	(pre-tax)		-						
Three-phase kit price M0 (-f)	(pre-tax)		-			-			
		The kit includes the indoor unit, wired control and the outdoor unit.							
Kit	(pre-tax)								

The kit includes the ducted unit, wired controller PC-ARFP1E and the outdoor unit.



Version M0
Models RPI-8.0FSN3E(-f) and RPI-10.0FSN3E(-f) recommended for a ducted installation in a 1st group ERP (category 1 to 4) :
- Either in a room larger than 300 m²;
- Or in a system supplying several rooms smaller than 300 m².

Compatible controls and accessories (see DRV Controls tab)



Simplified wired control
PC-ARH1E



User-friendly multifunction wired control
PC-ARFP1E



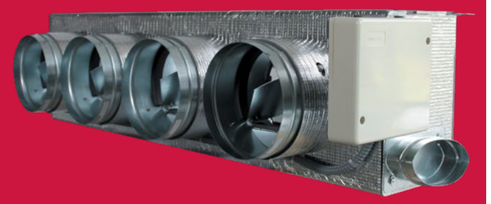
Wireless controller
PC-AWR

Others:
- Remote sensor THM-R2AE
- Input/output configurable contact connectors PCC-1A
- Condensate removal kit DBS-26 (models IVX Comfort 4HP) DBS-12L (models IVX Comfort 2/2.5/3HP)
- Air circulation below (RPI-0.6~1.5FSN5E) D-ICA15/(RPI-0.4FSN5E) D-ICA04
- Motion sensor for Ducted Low Height SOR-MSK

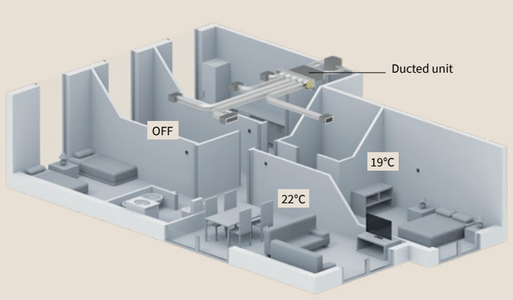
Zoning solution

Precise temperature control in each room from a single ducted unit!

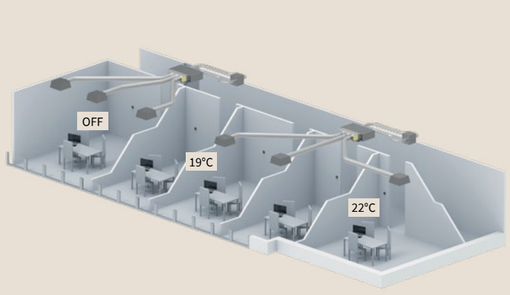
A single ducted unit allows you to control up to 6 rooms individually thanks to the motorized plenums which fit directly to the Hitachi units.



Ideal for residential and commercial applications



Detached house



Offices

A range of benefits with the zoning solution!

Simplified installation

- Plug & Play solution.
- Pre-cabled motorized plenums.
- Fewer indoor units to install.

Improved comfort

- Up to 6 rooms can be controlled individually.
- Temperature adjustment by 0.5°C increments.
- Temperature maintained at 0.3°C for both heating and cooling.
- New air intake possible on the standard model.

Ideal for new builds and renovation

- RT2012: certified eu.bac with CA certified 0.3K.
- Heating version only for applications RT2012.
- Reversible version for comfort all year round.
- Eligible for tax deduction*: 30% CITE/reduced French sales tax 5.5%.

* Please go to impots.gouv.fr for more details

Connected and user-friendly interfaces



Airzone Blueface thermostat

Wired connection/3.5" touchscreen: Configurable as Main or zone thermostat. Numerous functions and settings, ideal for maximum control of your entire system: more efficient and responsible heating. Complete and user-friendly interface. Eco-adapt function and standby function for real energy savings. Control the temperature, operating mode and ventilation speed. Timer. Access forecasts (via the Webserver Airzone Cloud connection) to anticipate weather changes.



Airzone Think thermostat

Wired or wireless connection/2.7" screen: Configurable as Main or zone thermostat. Low consumption device: the easy way to cut energy costs. Attractive and user-friendly interface. Control the temperature, operating mode and ventilation speed. Access forecasts (via the Webserver Airzone Cloud connection) to anticipate weather changes.



Airzone Lite thermostat

Wired or wireless connection: Within an installation with the Blueface interface, this is the ideal solution for rapid access to main functions. Its modern and fun interface uses colors to indicate the mode and zone temperature. Zone start/stop function. Control the temperature setting by 1°C increments with amplitudes of ±3°C.



Airzone Cloud webserver

The Airzone Cloud application for smartphone, tablet and PC offers full remote control of the installation anywhere, anytime! Several servers and up to 32 systems can be controlled simultaneously with a single webserver. All your thermostat functions are located in the Cloud: Temperature control, timer, Weather forecasts, access rights…

Control	Airzone Blueface	Airzone Think	Airzone Lite	Airzone Cloud webserver
Reference	AZCE6BLUEFACEB	AZCE6THINKCB	AZCE6LITECB	AZX6WSCLOUDDINC
Wireless Connection	-	AZCE6THINKRB	AZCE6LITERB	AZX6WSCLOUDDINR
10M cable	AZX6CABLEBUS10	AZX6CABLEBUS10	AZX6CABLEBUS10	AZX6CABLEBUS10

	Ducted References	Capacity	Plenum version	Motorized air delivery plenums: 2 outputs	3 outputs	4 outputs	5 outputs	6 outputs	Return plenum
Commercial application	RPI-FSN5E	0.8HP 1HP 1.5HP	Standard	-	-	-	-	-	AZCEZHIPR05S 999.2 x 129.3 (1x D250)
			Medium	-	-	AZEZ6HITBS05S4 1140 x 250 x 454	-	-	
		2.0HP 2.5HP 3.0HP	Standard	-	-	-	-	-	AZCEZHIPR05M 999.2 x 200.2 (2xD250)
			Medium	-	-	AZEZ6HITBS05M4 1140 x 250 x 454	AZEZ6HITBS05M5 1425 x 250 x 454	AZEZ6HITBS05M6 1638 x 250 x 454	
		4.0HP 5.0HP 6.0HP	Standard	-	-	-		AZEZ6HITST05L6 1638 x 300 x 454	AZCEZHIPR05L 1389.2 x 200.2 (4x D250)
			Medium	-	-	-	AZEZ6HITBS05L5 1425 x 250 x 454	AZEZ6HITBS05L6 1638 x 250 x 454	
	RPIM-FSN4E	0.8HP 1.0HP 1.5HP	Standard	AZEZ6HITST02S2 930 x 300 x 454	AZEZ6HITST02S3 930 x 300 x 454	AZEZ6HITST02S4 1140 x 300 x 454	-	-	AZCEZHIPR02S 527.6 x 195 (1x D250)
			Medium	AZEZ6HITBS02S2 930 x 250 x 454	AZEZ6HITBS02S3 930 x 250 x 454		-	-	
Residential Application	RAD-RPE	5.0kW 6.0kW 7.0kW	Standard	AZEZ6HITST03M2 930 x 300 x 454	AZEZ6HITST03M3 930 x 300 x 454	AZEZ6HITST03M4 1140 x 300 x 454	AZEZ6HITST03M5 1425 x 300 x 454	AZEZ6HITST03M6 1638 x 300 x 454	AZCEZHIPR03M 818 x 223.8 (2xD250)
			Medium	AZEZ6HITBS03M2 930 x 250 x 454	AZEZ6HITBS03M3 930 x 250 x 454	AZEZ6HITBS03M4 1140 x 250 x 454	AZEZ6HITBS03M5 1425 x 250 x 454	AZEZ6HITBS03M6 1638 x 250 x 454	
	RAD-RPE	2.5kW 3.5kW	Standard	AZEZ6HITST04S2 930 x 300 x 454	AZEZ6HITST04S3 930 x 300 x 454	AZEZ6HITST04S4 1140 x 300 x 454		-	AZCEZHIPR04S 647.2 x 208.1 (1x D250)
			Medium	AZEZ6HITBS04S2 930 x 250 x 454	AZEZ6HITBS04S3 930 x 250 x 454	AZEZ6HITBS04S4 1140 x 250 x 454	-	-	

There are two versions of plenums available: standard version (300 mm) and medium version with new air supply (250 mm). Plenum dimensions are indicated under the reference.

Simple and quick to install, the cassette is the ideal solution for offices and small shops. Available in 600 x 600 or 800 x 800 versions, their independent 4-way air delivery provide optimum comfort levels.
Pre-charged with R32 or R410A, our ranges provide you with a solution regardless of the regulatory constraints facing your projects.



Cassette



* JOHNSON CONTROLS - HITACHI AIR CONDITIONING EUROPE SAS participate in the Eurovent Certification Program for the AC/VRF/LCP-HP categories. Information on certified models can be found in the Eurovent Directory (www.eurovent-certification.com).

Quick selection table

Light Commercial Cassette R32



Primairy R32



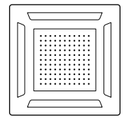
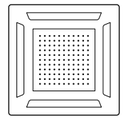
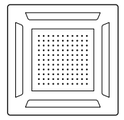
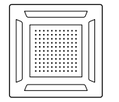
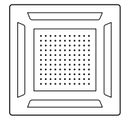
Primairy R410A



Micro VRF IVX Comfort





	Small commercial applications	Medium commercial applications			
		Generic applications		Technical applications	
	Light Commercial Cassette R32	Primairy R32	Primairy R410A	Micro VRF IVX Comfort 600 x 600	Micro VRF IVX Comfort 800 x 800
					
Refrigerant	R32	R32	R410A	R410A	
Type	Monosplits 600 x 600	Monosplits 800 x 800		Monosplits 600 x 600	Monosplits 800 x 800
Cooling Capacity (kW)	2.5 3.5 5.0 6.0	7.1 8.8 10.5 12.5 14.0 17.0	7.0 10.3 12.0 13.4 14.5	5.0 5.6	5.0 5.6 7.1 10.0 12.5 14.0
Power supply	Single-phase	Single-phase (3/3.5/4/5/6CV) Three-phase (5/6/6,5CV)	Single-phase (3/4CV) Three-phase (5/6/6,5CV)	Single-phase	Single-phase 2/2.5/3CV Three-phase 4/5/6CV
COP	4.00	3.59		4.02	4.92
Energy rating Heating/Cooling	A+/A++	A+/A++		A+/A+	A+/A++
Cooling until	+46 °C	+48 °C		+46 °C	
Heating until	-15 °C	-15 °C		-20 °C	
Discretion	++	+		++	+
Motion sensor	•	-	-	Option	

Light Commercial Cassette R32

Design and comfort



Condensate pump included

The Small Commercial Cassette includes its own condensate pump for immediate elimination. This means no other elements need to be added to the installation. (Fig. 1)

Motion sensor

Air-conditioning with no wasted consumption thanks to the motion sensor which gradually reduces equipment energy consumption when the room is empty and switches on again when movement of people is detected.

Improved comfort

This equipment can be used to select the location where the temperature setting should be measured (on the controller, the recirculation or with the average of both values). This feature ensures superior comfort levels in the room.

Flexible installation

The equipment can be installed in any location within the building because refrigerant pipe lengths go up to 30 m between the indoor unit and the outdoor unit. The height difference between the two can also go up to 20 m. Measuring 600 x 600 mm, they can be integrated in standard ceiling tiles.

Compatible with the Hi Kumo remote control

This application allows you to turn the unit on or off, raise or lower the temperature or set the timer from wherever you may be around the world. All you need is a smartphone, an Internet connection and Wi-Fi equipment (optional) to connect to the indoor unit.

Individual louver control

The cassette's 4 louvers can be configured separately with the SPX-WKT3 so that each one operates in a certain way: by delivering air directly towards the user, directing it to the ceiling, floor etc. This means comfort is guaranteed. (Fig. 2)

Fig. 1

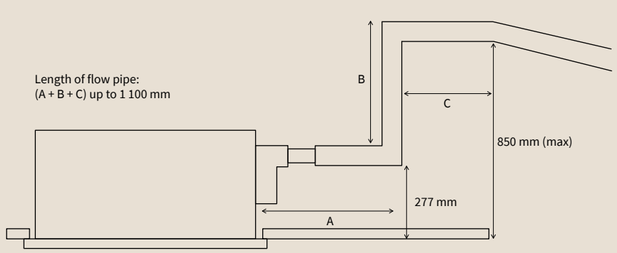
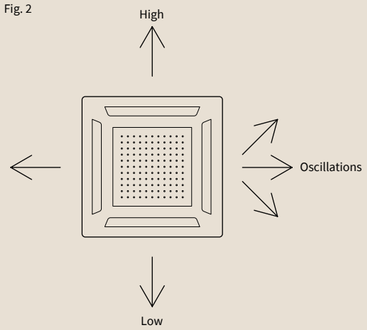
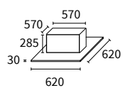


Fig. 2



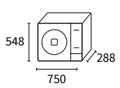
Indoor units



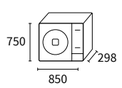
RAI-25RPE RAI-50RPE
RAI-35RPE RAI-60RPE

Outdoor units





RAC-25NPE
RAC-35NPE



RAC-50NPE
RAC-60NPE

Light Small Commercial Cassette R32

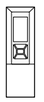
Cooling performances	Unit	2.5KW	3.5KW	5KW	6KW
Cooling Capacity (min-max)	kW	2.50 (0.90 - 3.00)	3.50 (0.90 - 4.00)	5.00 (1.20 - 5.80)	6.00 (1.20 - 6.50)
Absorbed capacity Cooling (min-max)	kW	**0.595 (0.25 - 1.29)**	**0.875 (0.25 - 1.46)**	**1.42 (0.30 - 2.50)**	**1.71 (0.30 - 2.60)**
EER		4.20	4.00	3.52	3.51
Energy class Cooling		A++	A++	A++	A++
SEER (medium climate)		6.20	6.50	6.20	6.20
Guaranteed Cooling performance	°C	-10°C/+43°C	-10°C/+43°C	-15°C/+46°C	-15°C/+46°C
Heating performances					
Heating Capacity (min-max)	kW	3.50 (0.90 - 5.00)	4.80 (0.90 - 6.60	6.00 (1.20 - 6.80)	7.00 (1.20 - 8.00)
Capacity at full charge at -7°C [1]	kW	2.70	3.20	4.20	4.80
Absorbed capacity Heating (min-max)	kW	0.875 (0.25 - 1.50)	1.230 (0.25 - 1.92	1.57 (0.30 - 2.65)	1.84 (0.30 - 2.65)
COP		4	3.9	3.82	3.8
Energy class Heating		A+	A+	A+	A+
SCOP (medium climate)		4.30	4.30	4.40	4.40
Guaranteed Heating performances	°C	-15°C/+21°C	-15°C/+21°C	-15°C/+24°C	-15°C/+24°C
Indoor Units	**Unit**	**RAI-25RPE**	**RAI-35RPE**	**RAI-50RPE**	**RAI-60RPE**
Sound pressure Cooling (Very low - Low - Medium - High)[2]	dB(A)	27/31/35/38	27/33/37/40	29/35/39/43	29/35/39/43
Sound pressure Heating (Very low - Low - Medium - High)[2]	dB(A)	28/32/36/39	28/34/38/41	30/36/40/44	30/36/40/44
Sound pressure Cooling	dB(A)	54	56	56	56
Air flow Cooling (Very low - Low - Medium - High)	m^3/h	360/505/590/660	360/505/590/660	390/540/630/720	390/540/630/720
Dehumidification	l/h	1.4	1.8	2.8	3.8
Dimensions (H x W x D)	mm	285 x 570 x 570	285 x 570 x 570	285 x 570 x 570	285 x 570 x 570
Panel dimensions (H x W x D)	mm	30 x 620 x 620	30 x 620 x 620	30 x 620 x 620	30 x 620 x 620
Case weight	kg	17	17	17	17
Panel weight	kg	2.8	2.8	2.8	2.8
Panel reference		P-AP56NAMS	P-AP56NAMS	P-AP56NAMS	P-AP56NAMS
Controller		Not included	Not included	Not included	Not included
Outdoor units	**Unit**	**RAC-25NPE**	**RAC-35NPE**	**RAC-50NPE**	**RAC-60NPE**
Sound Pressure Cooling [2]	dB(A)	48	48	50	50
Sound pressure Cooling	dB(A)	61	61	65	65
Air flow (Cooling/Heating)	m^3/h	1920/1620	1920/1620	2160/2160	2160/2160
Dimensions (H x W x D)	mm	548 x 750 x 288	548 x 750 x 288	750 x 850 x 298	750 x 850 x 298
Weight	kg	32.5	32.5	50	50
Compressor		Rotary	Rotary	Rotary	Rotary
Refrigeration specifications					
Pipe diameter (Liq/gas)	Inch	1/4"/3/8"	1/4"/3/8"	1/4"/1/2"	1/4"/1/2"
Condensate pipe diameter (out)	mm	32	32	32	32
Condensate pump		Included	Included	Included	Included
Initial refrigerant charge	kg	0.86	0.86	1.50	1.50
Pre-charged for	m	20	20	30	30
Minimum length	m	3	3	3	3
Maximum length/Additional refrigerant	m/g/m	20/-	20/-	30/-	30/-
Maximum height difference (highest OU/lowest OU)	m	10/10	10/10	20/20	20/20
Refrigerant		R32	R32	R32	R32
Electrical specifications					
Electrical power	V/Ph/Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	230V/1Ph/50Hz
Maximum current	A	15	15	10	10
Cable diameter (EN 60 335-1)	mm^2	2 x 1.50+T	2 x 1.50+T	2 x 2.50+T	2 x 2.50+T
Indoor/outdoor wiring section (shielded)	mm^2	3 x 1.50+T	3 x 1.50+T	3 x 1.50+T	3 x 1.50+T

		Delivered without controller			
	Ref.	**XRAI-25RPE**	**XRAI-35RPE**	**XRAI-50RPE**	**XRAI-60RPE**
Price	(pre-tax)				
Price of the panel P-AP56NAMS	(pre-tax)				

	Ref.
	(pre-tax)
	(pre-tax)
	(pre-tax)

[1] Data includes defrosting. For the data corresponding to your project, use our technical catalogs or the Hitoolkit softward.
[2] Sound pressure measurements were taken at 1 meter from the unit free field (refer to the technical catalog).

Compatible controls and accessories



Infrared controller

SPX-RCKA3

Pre-tax price:



Simplified wired controller

SPX-RCDB

Pre-tax price:



Programmable wired control

SPX-WKT3

Pre-tax price:



H-Link box

PSC-6RAD

Pre-tax price:

Others**:

- Multi-indoor units control box SPX-DST1 + SPX-WDST8M
- Hi Kumo Wifi gateway SPX-WFG01:
- Hi-Box AHP-SMB-01:
- Hi Kumo gateway for Hi-Box SPX-TAG01:
- Dry contact kit only SPX-WDC3:

** All prices are pre-tax

Primairy R32

R32 ecofriendly option for your commercial applications



Temperature compensation

On the cassette model, heat compensation is an option via a wired controller. This function can compensate air stratification to ensure a level of comfort in the entire room, regardless of the height of the ceiling. (Fig. 1)

Efficiency guaranteed

The Primairy cassette range performances are guaranteed in cooling and heating until an outside temperature of -15°C. The DC Inverter technology precisely adjusts the required heating capacity and ensures the installation's comfort and durability.

Wireless controller supplied

Wireless controller supplied, compatible with wired remote. (Fig. 2)

New air intake

New air intake is available, improving air quality indoors.

Compatible with technical room applications

The unit is fitted as standard with free inputs / outputs for a fault report or for remote start/stop control. Ideal for installation in a service room.

Fig. 1

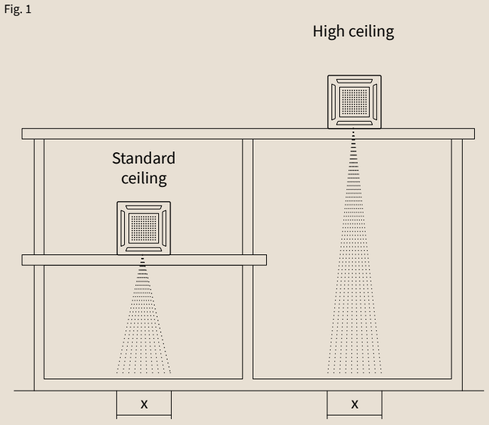
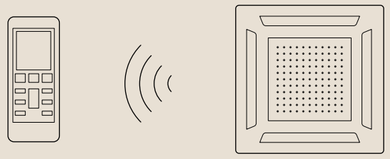
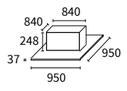


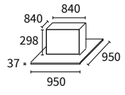
Fig. 2



Indoor units



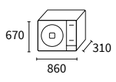
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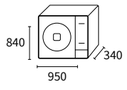
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RCI-6.0UFE1NH
RCI-6.5UFE1NH

Outdoor units

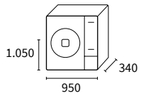




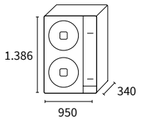
RAS-3.0UFESNH1
RAS- 3.5UFESNH1



RAS-4.0UFESNH1



RAS-5.0UFESMH1



RAS-6.0UFESMH1
RAS-6.5UFESMH1

Primairy R32

		6.90KW	8.5KW	10.10KW	12.10KW	14.19KW	17.10KW
Cooling performances	**Unit**	**3 HP**	**3.5 HP**	**4 HP**	**5 HP**	**6 HP**	**6.5 HP**
Cooling Capacity (min-max)	kW	6.9 (2.45 - 7.85)	8.50 (4.00 - 9.50)	10.10 (1.20 - 5.80)	12.10 (3.30 - 13.20)	14.19 (3.20 - 16.00)	17.10 (3.30 - 18.50)
Absorbed power in Cooling (min-max)	kW	**2.16**	**2.67**	**3.8**	**4.22**	**4.78**	**6.6**
EER		3.19	3.18	2.66	2.87	2.97	2.59
Energy class Cooling		A++	A++	A++			
SEER (medium climate)/ηs,c		6.29	6.20	6.10	6.28/248%	5.94/235%	5.81/229.4%
Annual energy consumption	kWh/year	395.00	499.00	577.00	761.00	849.00	943.00
Guaranteed performances Cooling							
Heating performances			-15°C/ +48°C	-15°C/ +48°C	-15°C/ +48°C		
Heating Capacity (min-max)	kW	8.3 (2.20 - 8.70)	9.00 (3.50 - 9.40)	10.50 (3.50 - 11.00)	13.4 (3.00 - 14.60)	13.4 (3.00 - 14.60)	18 (3.00 - 19.50)
Capacity at full charge at -7°C	kW	4,50	5,55	6,50	8,70	10,50	11,50
Absorbed power in Heating (min-max)	kW	2.22	2.4	3.5	4.07	4.65	6.1
COP		3.74	3.75	3	3.29	3.47	2.95
Energy class Heating		A+	A+	A			
SCOP (medium climate)/ηs,h		4.05	4.00	3.92	3.7/145%	3.7/145%	3.72/146%
Pdesignh	kW	6.00	6.50	8.20	9.50	12.40	12.40
Annual energy consumption	kWh/year	2007.00	2313.00	2926.00	3674.00	4694.00	4205.00
Guaranteed performances Heating	°C	-15°C/+24°C	-15°C/+24°C	-15°C/+24°C	-15°C/+24°C	-15°C/+24°C	-15°C/+24°C
Indoor Units		**RCI-3.0UFE1NH**	**RCI-3.5UFE1NH**	**RCI-4.0UFE1NH**	**RCI-5.0UFE1NH**	**RCI-6.0UFE1NH**	**RCI-6.5UFE1NH**
Sound pressure Cooling (Low - Medium - High)	dB(A)	37/42/45	42/46/48	42/45/50	47/49/51	42/45/51	43/45/48
Sound power Cooling	dB(A)	59	62	65	64	65	68
Air flow Cooling (Low - Medium - High)	m^3/h	720/980/1180	900/1120/1400	1000/1300//1600	1550/1700/1850	1400/1700/2100	1400/1700/2100
Dimensions (H x W x D)	mm	248x840×840	248x840×840	248x840×840	298x840×840	298x840x840	298x840x840
Panel Dimensions (H x W x D):	mm	37x950x950	37x950x950	37x950x950	37x950x950	37x950x950	37x950x950
Case weight	kg	25.0	27.0	27.0	32.0	32.0	32.0
Condensate pump		Included					
Condensate pipe diameter (out)	mm	32					
Air filter		Included					
Electrical power	V/Ph/Hz	230V / 1Ph / 50Hz	230V / 1Ph / 50Hz	230V / 1Ph / 50Hz	230V / 1Ph / 50Hz	230V / 1Ph / 50Hz	230V / 1Ph / 50Hz
Panel Reference		PHKF160SAH1	PHKF160SAH1	PHKF160SAH1	PHKF160SAH1	PHKF160SAH1	PHKF160SAH1
Controller		Infrared included (HRBA31NEGH)					
Outdoor units	**Unit**	**RAS-3.0UFESNH1**	**RAS-3.5UFESNH1**	**RAS-4.0UFESNH1**	**RAS-5.0UFESMH1**	**RAS-6.0UFESMH1**	**RAS-6.5UFESMH1**
Sound pressure Cooling	dB(A)	54	54	58	62	62	67
Sound power Cooling	dB(A)	69	70	70	76	76	80
Air flow (Cooling)	m^3/h	3150	3150	3800	5800	6300	6300
Dimensions (H x W x D)	mm	670x860×310	670x860×310	840 x 950 x 340	1050x950×340	1386x950×340	1386x950×340
Weight	kg	49.0	49.0	70.0	85.0	101.5	109.0
Refrigeration specifications							
Pipe diameter (Liq/gas)	(inch)	3/8"/5/8"	3/8"/5/8"	3/8"/3/4"	3/8"/3/4"	3/8"/3/4"	3/8"/3/4"
Initial refrigerant charge	kg/TeqCO2	1.4/0.95	1.45/0.98	2.00/1.35	2.50/1.69	2.50/1.69	2.50/1.69
Pre-charged for	m	5	5	5	5	5	5
Max pipe length	m	30	50	50	50	50	50
Additional refrigerant	g/m	28	28	28	28	28	28
Maximum height difference (highest OU/lowest OU)	m	15/15	30/30	30/30	30/30	30/30	30/30
Refrigerant		R32	R32	R32	R32	R32	R32
OU Electrical specifications							
Electrical power	V/Ph/Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	400V/3Ph/50Hz	400V/3Ph/50Hz	400V/3Ph/50Hz
Maximum current	A	18.1	18	22.5	11.6	11.6	11.6
Cable diameter (EN 60 335-1)	mm^2	3 x 2.5	3 x 2.5	3 x 4	3 x 4	3 x 4	3 x 4
Indoor/outdoor wiring section (shielded)	mm^2	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5
Compressor type Inverter		Rotary	Rotary	Rotary	Rotary	Rotary	Rotary
Single zone wired control	**Ref.**	**X-RCI-3.0UNE1NHF**	**X-RCI-3.5UNE1NHF**	**X-RCI-4.0UNE1NHF**	**X-RCI-5.0UNE1NHF**	**X-RCI-6.0UNE1NHF**	**X-RCI-5.0UNE1NHF**	**X-RCI-6.0UNE1NHF**	**X-RCI-6.5UNE1NHF**
Kit price	(pre-tax)								
Environmental contribution									
Kit	(pre-tax)								
Single zone infrared control	**Ref.**	**X-RCI-3.0UNE1NHI**	**X-RCI-3.5UNE1NHI**	**X-RCI-4.0UNE1NHI**	**X-RCI-5.0UNE1NHI**	**X-RCI-6.0UNE1NHI**	**X-RCI-5.0UNE1NHI**	**X-RCI-6.0UNE1NHI**	**X-RCI-6.5UNE1NHI**
Kit price	(pre-tax)								

The kit includes: the cassette and its panel, the wired or infrared remote control with receiver, the outdoor unit.

Compatible controls and accessories (see DRV Controls tab)



Weekly wired controller
HCWA21NEWH



Infrared controller
HRBA31NEGH

Discover Primairy

Primairy R410A

Perfect fit for your commercial applications



Temperature compensation

On the cassette model, heat compensation is an option via a wired controller. This function can compensate air stratification to ensure a level of comfort in the entire room, regardless of the height of the ceiling. (Fig. 1)

Efficiency guaranteed

The Primairy cassette range performances are guaranteed in cooling and heating until an outside temperature of -15°C. The DC Inverter technology precisely adjusts the required heating capacity and ensures the installation's comfort and durability.

Wireless controller supplied

Wireless controller supplied, compatible with wired remote (Fig. 2)

New air intake

New air intake is available, improving air quality indoors.

Compatible with technical room applications

The unit is fitted as standard with free inputs / outputs for a fault report or for remote start/stop control. Ideal for installation in a service room.

Fig. 1

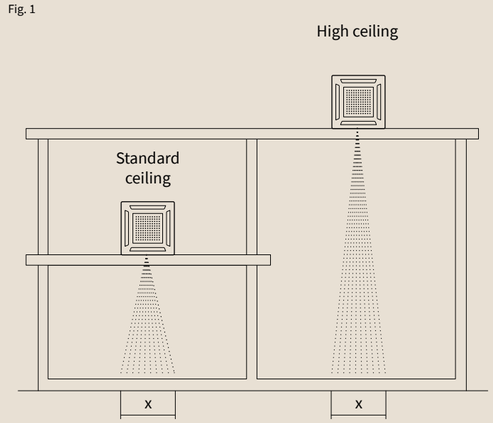
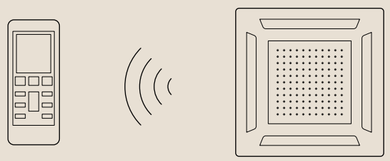
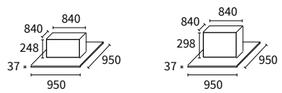


Fig. 2



Indoor units

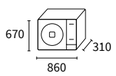


RCI-3.0UNE1NH
RCI-4.0UNE1NH

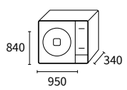
RCI-5.0UNE1NH
RCI-6.0UNE1NH
RCI-6.5UNE1NH

Outdoor units

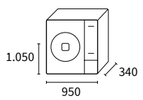




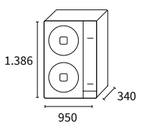
RAS-3.0UNESNH1



RAS-4.0UNESNH1



RAS-5.0UNESMH1



RAS-6.0UNESMH1
RAS-6.5UNESMH1

Primairy R410A

Indoor units	Unit	RCI-3.0UNE1NH	RCI-4.0UNE1NH	RCI-5.0UNE1NH	RCI-6.0UNE1NH	RCI-6.5UNE1NH
Cooling Capacity (min-max)	kW	**7.07** (2.70 - 7.85)	**10.30** (2.93 - 12.00)	**12.07** (3.30 - 13.20)	**13.40** (3.40 - 16.20)	**14.50** (4.98 - 18.00)
Heating capacity (min-max)	kW	**8.21** (2.77 - 8.80)	**11.50** (3.32 - 13.00)	**14.00** (3.00 - 14.60)	**16.44** (3.30 - 18.00)	**17.59** (5.00 - 21.00)
Heating capacity at full charge at -7°C [1]	kW	**6.1**	**8.48**	**10.36**	**12.18**	**13**
Sound pressure Cooling (Low - Medium - High)[2]	dB(A)	36/38/41	37/40/45	41/43/46	46/48/50	46/48/50
Sound power	dB(A)	58	62	63	66	66
Air flow Cooling (Low - Medium - High)	m^3/h	1100/976/852	1600/1300/1000	1850/1700/1550	2000/1900/1700	2000/1900/1700
Dehumidification	l/h	1.8	2.5	3.2	4	4.5
Condensate pump				Yes		
Maximum lift height	mm			800		
Pipe diameter (Liq/gas)	Inch	3/8 - 5/8		3/8 - 3/4		
Condensate pipe diameter (out)	mm			32		
Dimensions case (H x W x D)	mm	248 x 840 x 840			298 x 840 x 840	
Dimensions panel (H x W x D)				37 x 950 x 950		
Weight	kg	25	27		32	
Electrical power	V/Ph/Hz			230 V/1 Ph/50 Hz		
Reference of panel				PHKF160SAH1		
Controller				Infrared included		

[1] Data includes defrosting. For the data corresponding to your project, use our technical catalogs.
[2] Sound pressure measurements were taken at 1 meter from the unit free field (refer to the technical catalog).

Outdoor units	Unit	RAS-3.0UNESNH1	RAS-4.0UNESNH1	RAS-5.0UNESMH1	RAS-6.0UNESMH1	RAS-6.5UNESMH1
Absorbed power in Cooling	kW	**2.21**	**3.43**	**4.19**	**4.62**	**5.49**
Absorbed power in Heating	kW	**2.37**	**3.61**	**3.90**	**4.85**	**5.71**
EER/COP		**3.2/3.46**	**3/3.19**	**2.88/3.59**	**2.9/3.39**	**2.64/3.08**
Seasonal energy class (Cooling/Heating)		**A++/A+**	**A++/A**	**A+/A**	**A+/A**	**A+/A**
SEER/SCOP (medium climate)		**6.46/4.08**	**6.13/3.90**	**5.72/3.80**	**6.01/3.87**	**5.87/3.80**
Sound Pressure Cooling	dB(A)	53	55	58	53	58
Sound power	dB(A)	69	70	75		76
Pipe diameter (Liq/gas)	(inch)	3/8 - 5/8		3/8 - 3/4		
Air flow (Cooling/Heating)	m^3/h	3 000	3 500	5 800	6 200	
Initial refrigerant charge	kg	1.70	2.80	3.20	3.78	3.95
Pre-charged for	m			5		
Minimum length	m			5		
Maximum length	m/g/m			50		
Maximum height difference	m			30		
Dimensions (H x W x D)	mm	670 x 860 x 310	840 x 950 x 340	1050 x 950 x 340	1386 x 950 x 340	
Weight	kg	51	70	85	113	117
Electrical power	V/Ph/Hz	230 V/1 Ph/50 Hz			400 V/3 Ph/50 Hz	
Maximum current	A	18.1	22.5	11.6	11.0	13.1
Cable diameter (EN 60 335-1)	mm^2	3 x 2.5	3 x 4.0		5 x 2.5	
Indoor/outdoor wiring section (shielded)	mm^2			4 x 1.5		
Guaranteed Cooling performances	°C			-15~48		
Guaranteed Heating performances	°C			-15~24		
Refrigerant				**R410A**		
Compressor	Type			**ROTARY**		

Single zone wired control	Ref.	X-RCI-3.0UNE1NHF	X-RCI-4.0UNE1NHF	X-RCI-5.0UNE1NHF	X-RCI-6.0UNE1NHF	X-RCI-6.5UNE1NHF
Kit price	(pre-tax)					

Single zone infrared control	Ref.	X-RCI-3.0UNE1NHI	X-RCI-4.0UNE1NHI	X-RCI-5.0UNE1NHI	X-RCI-6.0UNE1NHI	X-RCI-6.5UNE1NHI
Kit price	(pre-tax)					

The kit includes: the cassette and its panel, the wired or infrared remote control with receiver, the outdoor unit.

Compatible controls and accessories (see DRV Controls tab)



Weekly wired controller
HCWA21NEWH



Infrared controller
HRBA31NEGH

Discover Primairy

Micro VRF IVX Comfort 600 x 600

A compact VRF solution to meet larger technical constraints



Low sound level

Thanks to its 4 ventilation speeds, the 600 x 600 cassette is one of the quietest on the market.

Customizable individual comfort

The GENTLE COOL function can be accessed with the new wired controllers for customized comfort. In summer, cold drafts are avoided thanks to adjustable minimal delivery temperature programming.

Unmatched comfort

Independent control of air delivery louvers and COANDA effect air distribution to completely remove any sensation of discomfort.

Energy savings

The motion sensor (optional) optimizes comfort automatically while at the same time limiting energy consumption in areas which are not permanently occupied. It continuously analyses differences in heat and the presence of people in the room and adjusts its temperature setting (drop up to 2°C), ventilation speed and air flow direction. (Fig. 1)

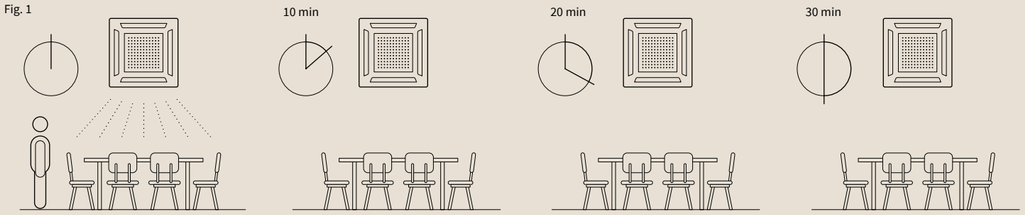
Easy installation

The 600 x 600 integrates perfectly in suspended ceilings thanks to its compact design (570 x 570mm recess) and its non-overlapping panel. All cassettes also come with a pump for removing condensate up to 850 mm.

Compact

The outdoor units are exceptionally compact, taking up just 0.23m² of floorspace.

Fig. 1



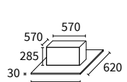
The cassette will operate at the set temperature and selected ventilator speed.

- Adjustment of the temperature by +/- 1°C depending on the operating mode.
- Ventilator speed reduced by one level.

- Adjustment of the temperature by +/- 2°C depending on the operating mode.
- Ventilator speed reduced by two levels.

- 1. MODE ON : maintains operation of phase C.
- 2. STANDBY MODE: the indoor unit enters Unit-OFF mode and returns to normal operation when motion is detected.
- 3. MODE OFF : the indoor unit switches off and switches on manually.

Indoor units



RCIM-2.0FSN4E
RCIM-2.5FSN4E

Outdoor units





RAS-2HVNP1
RAS-2.5HVNP1

Comfort 600 x 600 cassette

Indoor units	Unit	RCIM-2.0FSN4E	RCIM-2.5FSN4E
Cooling Capacity (min-max)	kW	**5.00**	**5.60**
Heating Capacity (min-max)	kW	**5.60**	**6.30**
Capacity at -7°C(1)	kW	5.15	5.75
Sound pressure Cooling (Very low - Low - Medium - High) (2)	dB(A)	31/35/39/45	35/39/43/47
Sound power	dB(A)	56	60
Air flow Cooling (Very low - Low - Medium - High)	m³/h	480/600/720/900	600/720/840/960
Condensate pump		yes	
Maximum removal height	mm	850	
Pipe diameter (Liq/gas)	inch	1/4 - 1/2	3/8 - 5/8
Condensate pipe diameter (out)	mm	32	
Dimensions case (H x W x D)	mm	285 x 570 x 570	
Dimensions panel (H x W x D)	mm	30 x 620 x 620	
Case and panel weight	kg	17+ 2.5	
Electrical power		1~ 230V 50Hz	
Cable diameter (EN 60 335-1) (3)	mm²	3 x 1.5	
Reference of facade		P-AP56NAM	
Controller		PC-ARFP1E (infrared, optional simplified wired control)	

(1) Data excluded defrosting. For the data corresponding to your project, use our technical catalogs.
(2) Sound pressure measurements were taken under the following conditions: 1.5 meters under the unit.

Outdoor units	Unit	RAS-2HVNP1	RAS-2.5HVNP1
Absorbed power Cooling	kW	**1.45**	**1.72**
Absorbed power Heating	kW	**1.47**	**1.57**
EER/COP		**3.45/3.80**	**3.25/4.02**
Energy class (Cooling/Heating)		**A/A**	**A/A**
SEER/SCOP (medium climate)		**5.67/4.00**	**5.61/4.41**
Seasonal energy class (Cooling/Heating)		**A+/A+**	**A+/A+**
Sound pressure Cooling (night mode)	dB(A)	44 (42)	45 (43)
Sound power	dB(A)	62	63
Weight	kg	43	
Dimensions (H x W x D)	mm	600 x 792 x 300	
Electrical power		1~ 230V 50Hz	
Maximum current	A	13.8	15.8
Cable diameter (EN 60 335-1) (3)	mm²	3 x 2.50	
Indoor/outdoor wiring section (shielded)	mm²	2 x 0.75	
Pipe diameter (Liq/gas)	inch	1/4 - 1/2*	
Maximum length/Additional refrigerant	m/g/m	50/30	
Initial refrigerant charge	kg	1.6	
Pre-charged for	m	30	
Air flow (Cooling)	m³/h	2436	
Maximum height difference (highest OU/lowest OU)	m	30/20	
Guaranteed performances Cooling (4)//Heating	°C	(OPT) -15°C/+46°C (DB)//-20°C/+15°C (WB)	
Refrigerant		**R410A**	
Compressor		**SCROLL**	

(3) Information provided for informational purposes only. The person fitting the equipment is responsible for checking that these cable diameters meet installation requirements and correspond to applicable standards.
(4) The option must be enabled to ensure a cold mode at -15 °C.
* Pipes leaving the indoor unit same diameter as the outdoor unit. Adapt as required.

Price	Ref.	X-RCIM-2.0HVNP1	X-RCIM-2.5HVNP1
Single-phase kit price	(pre-tax)		

The kit includes: the cassette and its panel, the wired controller PC-ARFP1E, the outdoor unit.

Compatible controls and accessories (see DRV Controls tab)

Simplified wired control
PC-ARH1E - Option

Infrared controller
PC-AWR - Option

User-friendly multifunction wired control
PC-ARFP1E

Remote sensor
THM-R2AE

Infrared receiver
PC-ALHC1 - Option

New air intake kit
PD-75C

Motion sensor
SOR-NEC

Input/output configurable contact connectors
PCC-1A

Condensate removal kit
DBS-26 (models IVX Comfort 4CV)
DBS-12L (models IVX Comfort 2/2.5/3CV)

Micro VRF IVX Comfort 800 x 800

A compact VRF solution to meet larger technical constraints



Unmatched comfort

Independent control of air delivery louvers and COANDA effect air distribution to completely remove any sensation of discomfort.

Energy savings

The motion sensor (optional) optimizes comfort automatically while at the same time limiting energy consumption in areas which are not permanently occupied. It continuously analyses differences in heat and the presence of people in the room and adjusts its temperature setting (drop up to 2°C), ventilation speed and air flow direction. (Fig. 1)

Easy installation

The 800 x 800 cassette integrates perfectly in suspended ceilings thanks to its low recess height (248 mm) and in high ceilings with installation possible up to 4.20 m, depending on the model. All cassettes also come with a pump for removing condensate up to 850 mm.

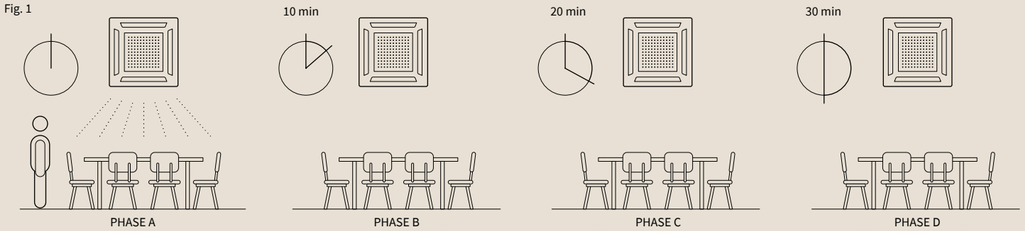
Customizable individual comfort

The GENTLE COOL function can be accessed with the new wired controllers for customized comfort. In summer, cold drafts are avoided thanks to adjustable minimal delivery temperature programming.

Compact

The outdoor units are exceptionally compact, taking up just 0.23m² of floorspace.

Fig. 1



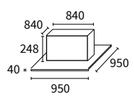
The cassette will operate at the set temperature and selected ventilator speed.

- Adjustment of the temperature by +/- 1°C depending on the operating mode.
- Ventilator speed reduced by one level.

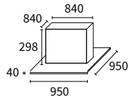
- Adjustment of the temperature by +/- 2°C depending on the operating mode.
- Ventilator speed reduced by two levels.

- 1. ON MODE : maintains operation of phase C.
- 2. STANDBY MODE: the indoor unit enters Unit-OFF mode and returns to normal operation when motion is detected.
- 3. OFF MODE : the indoor unit switches off and switches on manually.

Indoor units



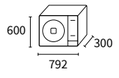
RCI-2.0FSN4
RCI-2.5FSN4



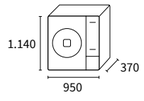
RCI-3.0FSN4
RCI-4.0FSN4
RCI-5.0FSN4
RCI-6.0FSN4

Outdoor units





RAS-2HVNP1
RAS-2.5HVNP1
RAS-3HVNC1



RAS-4H(V)NC1E
RAS-5H(V)NC1E
RAS-6H(V)NC1E

Comfort 800 x 800 cassette

Indoor units	Unit	RCI-2.0FSN4	RCI-2.5FSN4	RCI-3.0FSN4	RCI-4.0FSN4	RCI-5.0FSN4	RCI-6.0FSN4
Capacity (adjustable)	HP	**1.8 ← 2.0**	**2.3 ← 2.5**	**3.0**	**4.0**	**5.0**	**6.0**
Nominal capacity Cooling	kW	**5.00**	**5.60**	**7.10**	**10.00**	**12.50**	**14.00**
Nominal capacity Heating	kW	**5.60**	**6.30**	**8.00**	**11.20**	**14.00**	**16.00**
Heating Capacity at -7°C[1]	kW	5.15	5.75	6.07	10.34	12.13	13.15
Sound pressure Cooling (Very low - Low - Medium - High)[2]	dB(A)	27/30/32/37	28/32/36/42		33/39/43/48	35/40/45/48	37/41/46/48
Sound power	dB(A)	55	56	57	64		65
Air flow Cooling (Very low - Low - Medium - High)	m³/h	660/840/1020/1320	840/1080/1380/1620		1200/1440/1860/2220	1260/1560/1980/2220	1320/1680/2100/2220
Condensate pump		Yes					
Maximum removal height	mm	850					
Pipe diameter (Liq/gas)	inch	1/4 - 1/2	3/8 - 5/8				
Condensate pipe diameter (out)	mm	25					
Dimensions case (H x W x D)	mm	248 x 840 x 840		298 x 840 x 840			
Dimensions panel (H x W x D)	mm	40 x 950 x 950					
Case and panel weight	kg	21+ 6.5	22+ 6.5	26+ 6.5			
Electrical power		1~ 230V 50Hz					
Cable diameter (EN 60 335-1) [3]	mm²	3 x 1.5					
Reference of panel		P-N23NA2					
Controller		PC-ARFP1E (infrared, optional simplified wired control)					

[1] Data excluded defrosting. For the data corresponding to your project, use our technical catalogs.
[2] Sound pressure measurements were taken under the following conditions: 1.5 meters under the unit.

Outdoor units	Unit	RAS-2HVNP1	RAS-2.5HVNP1	RAS-3HVNC1	RAS-4H(V)NC1E	RAS-5H(V)NC1E	RAS-6H(V)NC1E
Absorbed power Cooling	kW	**1.24**	**1.34**	**2.26**	**2.70**	**3.71**	**4.29**
Absorbed power Heating	kW	**1.20**	**1.28**	**2.00**	**2.45**	**3.60**	**3.78**
EER/COP		**4.03/4.68**	**4.18/4.92**	**3.14/4.00**	**3.70/4.57**	**3.37/3.89**	**3.26/4.23**
Energy class (Cooling/Heating)		**A/A**	**A/A**	**B/A**	**A/A**		
SEER/SCOP (medium climate)		**6.49/4.67**	**6.05/4.77**	**6.00/4.21**	**6.57(V) - 6.41/4.47**	**6.1(V) - 6.06/4.0**	**5.88(V) - 5.85/4.05**
Seasonal energy class (Cooling/Heating)		**A++/A++**	**A+/A++**	**A+/A+**	**A++/A+**	-	
Sound pressure Cooling (night mode)	dB(A)	44 (42)	45 (43)	48 (46)	52 (50)		55 (53)
Sound power	dB(A)	62	63	66	68	69	71
Weight	kg	43		44	79	89	
Dimensions (H x W x D)	mm	600 x 792 x 300			1140 x 950 x 370		
Electrical power		1~ 230V 50Hz			3N~ 400V 50Hz (1~ 230V 50Hz)		
Maximum current	A	13.8	15.8	17.8	15.5 (28.5)		
Cable diameter (EN 60 335-1) [3]	mm²	3 x 2.50	3 x 4.00		5 x 4.00 (3 x 6.00)		
Indoor/outdoor wiring section (shielded)	mm²	2 x 0.75					
Pipe diameter (Liq/gas)	inch	1/4 - 1/2*			3/8 - 5/8		
Maximum length/Additional refrigerant	m/g/m	50/30		50/40	70/40	75/60	
Initial refrigerant charge	kg	1.6		1.9	3.2	2.9	3.2
Pre-charged for	m	30		20		30	
Air flow (Cooling/Heating)	m³/h	2436		2682/-	3720/-	4080/-	4800/-
Maximum height difference (highest OU/lowest OU)	m	30/20					
Guaranteed performance Cooling [4]//Heating	°C	(OPT) -15°C/+46°C (DB)//-20°C/+15°C (WB)					
Refrigerant		**R410A**					
Compressor		**SCROLL**					

[3] Information provided for informational purposes only. The person fitting the equipment is responsible for checking that these cable diameters meet installation requirements and correspond to applicable standards.
[4] The option must be enabled to ensure a cold mode at -15 °C.
* Pipes leaving the indoor unit same diameter as the outdoor unit. Adapt as required.

Price	Ref.	X-RCI-2.0HVNP1	X-RCI-2.5HVNP1	X-RCI-3.0HVNC1	X-RCI-4.0H(V)NC1E	X-RCI-5.0H(V)NC1E	X-RCI-6.0H(V)NC1E
Single-phase kit price	(pre-tax)						
Three-phase kit price			-				

	Ref.

The environmental contribution is a fixed pre-tax net unit amount. It is in addition to the net price.
The kit includes: the cassette and its panel, the wired controller PC-ARFP1E, the outdoor unit.

Compatible controls and accessories (see DRV Controls tab)



Simplified wired control
PC-ARH1E - Option



Infrared controller
PC-AWR - Option



User-friendly multifunction wired control
PC-ARFP1E



Remote sensor
THM-R2AE



Infrared receiver
PC-ALHC3



New air intake kit
PD-75C



Motion sensor
PS-MSK2



Input/output configurable contact connectors
PCC-1A



Condensate removal kit
DBS-26 (models IVX Comfort 4CV)
DBS-12L (models IVX Comfort 2/2.5/3CV)

With its extended air delivery range, the Ceiling-mounted system is an ideal solution for long office spaces and commercial premises. Fitted to the ceiling means floorspace can be saved.
With guaranteed heating until -15°C for the Primairy range and -20°C for the IVX Comfort range, this solution ensures genuine occupant comfort.



Ceiling-mounted system



* JOHNSON CONTROLS - HITACHI AIR CONDITIONING EUROPE SAS participates in the Eurovent Certification Program for the AC/VRF/LCP-HP categories. Information on certified models can be found in the Eurovent Directory (www.eurovent-certification.com).

Quick selection table

Primairy R32
(Floor-Ceiling)



Primairy R410A
(Floor-Ceiling)



Micro VRF IVX Comfort
(Ceiling-mounted system)



	Small commercial applications	Medium commercial applications	
		Generic applications	Technical applications
	Primairy R32 (Floor-Ceiling)	Primairy R410A (Floor-Ceiling)	Micro VRF IVX Comfort (Ceiling-mounted system)
			
Refrigerant	R32	R410A	R410A
HP capacity	7.1 8.8 10.5 12.5 14.0 17.0	3 4 5 6 6.5	2 2.5 3 4 5 6
Power supply	Single-phase (3/4 CV) Three-phase (5/6/6.5 CV)	Single-phase (3/4 CV) Three-phase (5/6/6.5 CV)	Single-phase (full power) Three-phase (4/5/6 CV)
COP	3.43	3.43	4.12
Energy rating	SCOP A SEER A+	SCOP A SEER A+	SCOP A SEER A+
Cooling until	-15 °C	-15 °C	-15 °C
Heating until	-15 °C	-15 °C	-20 °C
Max length/height difference (m) OU-IU	50/30	50/30	75/30

Primairy R32 (Floor-Ceiling)

R32 ecofriendly option for your commercial applications



Flexible positioning

The unit can be installed on the floor or on the ceiling. The Hitachi Primairy range console can be installed both on the floor and on the ceiling, allowing the user to choose the most optimal room location for maximum comfort. (Fig. 1)

Efficiency guaranteed

The Primairy ceiling range performances are guaranteed in cooling and heating until an outside temperature of -15°C.
The DC Inverter technology precisely adjusts the capacity required to heat commercial premises and ensures the installation's comfort and durability.

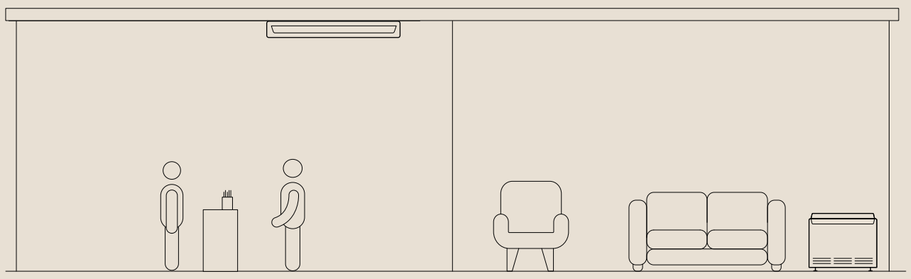
Compatible with technical room applications

The unit is fitted as standard with free inputs / outputs for a fault report or for remote start/stop control. Ideal for installation in a service room.

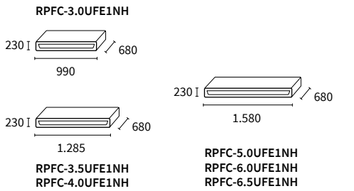
New air intake

New air intake improves air quality indoors.

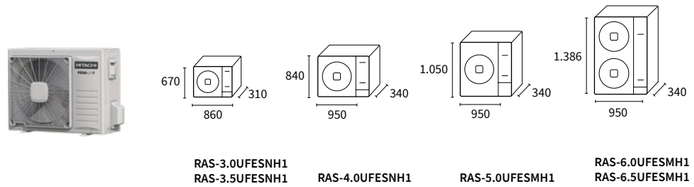
Fig. 1



Indoor units



Outdoor units



Primairy R32 (Floor-Ceiling)

		7.00KW	8.70KW	10.10KW	12.10KW	13.89KW	16.90KW
Cooling performances	**Unit**	**3 HP**	**3.5 HP**	**4 HP**	**5 HP**	**6 HP**	**6.5 HP**
Capacity Cooling (min-max)	kW	6.5 (2.45 - 7.85)	8.70 (4.00 - 9.20)	10.10 (3.50 - 11.00)	12.10 (3.30 - 13.20)	13.89 (3.40 - 16.20)	16.9 (3.30 - 18.00)
Absorbed power Cooling (min-max)	kW	**1.94**	**2.71**	**3.8**	**4.24**	**4.81**	**6.72**
EER		3.35	3.21	2.72	2.85	2.89	2.51
Energy class Cooling		A++	A++	A++			
SEER (medium climate)/ηs,c		5.81	6.20	6.10	6.28/248%	5.64/223%	5.60/221.0%
Annual energy consumption	kWh/year	391.00	499.00	580.00	761.00	894.00	883.00
Guaranteed performances Cooling							
Heating performances		-15°C/+48°C	-15°C/+48°C	-15°C/+48°C	-15°C/+48°C	-15°C/+48°C	-15°C/+48°C
Capacity Heating (min-max)	kW	7.35 (2.20 - 8.70)	9.00 (3.50 - 9.50)	11.2 (3.32 - 12.00)	13.50 (3.00 - 14.60)	16.53 (3.70 - 18.00)	19.49 (3.00 - 21.00)
Capacity at full charge at -7°C	kW	4,80	5,80	6,30	10,10	10,50	12
Absorbed power Heating (min-max)	kW	2.07	2.25	3.5	3.7	4.65	6.1
COP		3.55	4	3	3.65	3.47	2.95
Energy class Heating		A+	A+	A			
SCOP (medium climate)/ηs,h		4.33	4.20	3.92	3.98/156%	3.81/149.4%	3.87/152.2%
Pdesignh	kW	6.00	6.50	8.20	9.50	13.50	13.50
Annual energy consumption	kWh/year	2168.00	2423.00	2926.00	3674.00	5086.00	4037.00
Guaranteed performances Heating	°C	-15°C/+24°C	-15°C/+24°C	-15°C/+24°C	-15°C/+24°C	-15°C/+24°C	-15°C/+24°C
Indoor Units		**RPFC-3.0UFE1NH**	**RPFC-3.5UFE1NH**	**RPFC-4.0UFE1NH**	**RPFC-5.0UFE1NH**	**RPFC-6.0UFE1NH**	**RPFC-6.5UFE1NH**
Sound pressure Cooling (Low - Medium - High)	dB(A)	44/48/51	43/48/54	51/52/54	48/51/54	46/52/58	48/53/56
Sound pressure Cooling	dB(A)	65	65	65	68	75	74
Air flow Cooling (Low - Medium - High)	m^3/h	800/950/1100	900/1120/1450	1300/1500/1700	1600/1800/2000	1200/1600/2000	1500/1700/2000
Dimensions (H x W x D)	mm	230x990x680	230x1285x680	230x1285x680	230x1580x680	230x1580x680	230x1580x680
Case weight	kg	30.0	37.0	37.0	48.0	48.0	48.0
Condensate pump		Optional	Optional	Optional	Optional	Optional	Optional
Condensate pipe diameter (out)	mm	32	32	32	32	32	32
Air filter		included	included	included	included	included	included
Electrical power	V/Ph/Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	230V/1Ph/50Hz
Remote control	Standard	Infrared included (HRBA31NEGH)	Infrared included (HRBA31NEGH)	Infrared included (HRBA31NEGH)	Infrared included (HRBA31NEGH)	Infrared included (HRBA31NEGH)	Infrared included (HRBA31NEGH)
Outdoor units	**Unit**	**RAS-3.0UFESNH1**	**RAS-3.5UFESNH1**	**RAS-4.0UFESNH1**	**RAS-5.0UFESMH1**	**RAS-6.0UFESMH1**	**RAS-6.5UFESMH1**
Sound Pressure Cooling	dB(A)	54	54	58	62	62	67
Sound pressure Cooling	dB(A)	69	70	70	76	76	80
Air flow (Cooling)	m^3/h	3150	3150	3800	5800	6300	6300
Dimensions (H x W x D)	mm	670x860×310	670x860×310	840 x 950 x 340	1050x950×340	1386x950×340	1386x950×340
Weight	kg	49.0	49.0	70.0	85.0	101.5	109.0
Refrigeration specifications							
Pipe diameter (Liq/gas)	inch	3/8"/5/8"	3/8"/5/8"	3/8"/3/4"	3/8"/3/4"	3/8"/3/4"	3/8"/3/4"
Initial refrigerant charge	kg/ TeqCO2	1.4/0.95	1.45/0.98	2.00/1.35	2.50/1.69	2.50/1.69	2.50/1.69
Pre-charged for	m	5	5	5	5	5	5
Max pipe length	m	30	50	50	50	50	50
Additional refrigerant	g/m	28	28	28	28	28	28
Maximum height difference (highest OU/lowest OU)	m	15/15	30/30	30/30	30/30	30/30	30/30
Refrigerant		R32	R32	R32	R32	R32	R32
OU Electrical specifications							
Electrical power	V/Ph/Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	230V/1Ph/50Hz	400V/3Ph/50Hz	400V/3Ph/50Hz	400V/3Ph/50Hz
Maximum current	A	18.1	18	22.5	11.6	11.6	11.6
Cable diameter (EN 60 335-1)	mm^2	3 x 2.5	3 x 2.5	3 x 4	3 x 4	3 x 4	3 x 4
Indoor/outdoor wiring section (shielded)	mm^2	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5	4 x 1.5
Compressor type		Rotary	Rotary	Rotary	Rotary	Rotary	Rotary

Single zone wired control	**Ref.**	**X-RPFC-3.0UNE1NHF**	**X-RPFC-3.5UNE1NHF**	**X-RPFC-4.0UNE1NHF**	**X-RPFC-5.0UNE1NHF**	**X-RPFC-6.0UNE1NHF**	**X-RPFC-5.0UNE1NHF**	**X-RPFC-6.0UNE1NHF**	**X-RPFC-6.5UNE1NHF**
Public Price 2019 for the kit	(pre-tax)								
Kit	(pre-tax)								

Single zone infrared control	**Ref.**	**X-RPFC-3.0UNE1NHI**	**X-RPFC-3.5UNE1NHI**	**X-RPFC-4.0UNE1NHI**	**X-RPFC-5.0UNE1NHI**	**X-RPFC-6.0UNE1NHI**	**X-RPFC-5.0UNE1NHI**	**X-RPFC-6.0UNE1NHI**	**X-RPFC-6.5UNE1NHI**
Kit price	(pre-tax)								
Kit	(pre-tax)								

The kit includes: the cassette and its panel, the wired or infrared remote control with receiver, the outdoor unit.

Compatible controls and accessories

Wired control
HCWA21NEWH
Option

Condensate removal pump
P26(E)-1/P26(E)-2/P26(E)-3
Option

Discover Primairy

Primairy R410A (Floor-Ceiling)

Perfect fit for your commercial applications



Flexible positioning: The unit can be installed on the floor or on the ceiling

The Hitachi Primairy range console can be installed both on the floor and on the ceiling, allowing the user to choose the most optimal room location for maximum comfort. (Fig. 1)

Efficiency guaranteed

The Primairy ceiling range performances are guaranteed in cooling and heating until an outside temperature of -15°C.
The DC Inverter technology precisely adjusts the capacity required to heat commercial premises and ensures the installation's comfort and durability.

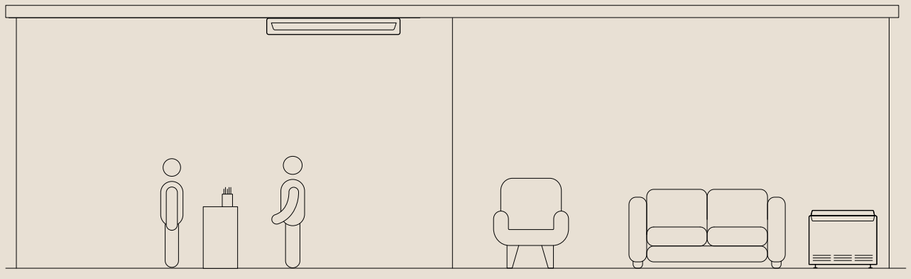
Compatible with technical room applications

The unit is fitted as standard with free inputs / outputs for a fault report or for remote start/stop control. Ideal for installation in a service room.

New air intake

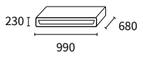
New air intake improves air quality indoors.

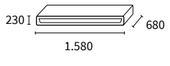
Fig. 1



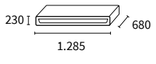
Indoor units

RPFC-3.0UNE1NH





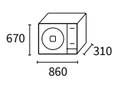
RPFC-5.0UNE1NH
RPFC-6.0UNE1NH
RPFC-6.5UNE1NH



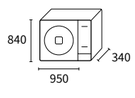
RPFC-4.0UNE1NH

Outdoor units

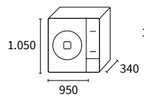




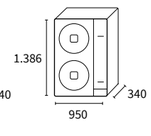
RAS-3.0UNESNH1



RAS-4.0UNESNH1



RAS-5.0UNESMH1



RAS-6.0UNESMH1
RAS-6.5UNESMH1

Primairy R410A (Floor-Ceiling)

Indoor units	Unit	RPFC-3.0UNE1NH	RPFC-4.0UNE1NH	RPFC-5.0UNE1NH	RPFC-6.0UNE1NH	RPFC-6.5UNE1NH
Capacity Cooling (min-max)	kW	**6.75** (2.70 - 7.85)	**10.23** (2.80 - 11.00)	**12.05** (3.30 - 13.20)	**12.89** (3.10 - 16.10)	**14.42** (4.98 - 18.00)
Capacity Heating (min-max)	kW	**8.21** (2.70 - 9.20)	**11.25** (3.32 - 12.00)	**14.00** (3.00 - 14.60)	**16.12** (3.30 - 18.00)	**17.59** (3.30 - 18.00)
Capacity at full charge at -7°C [1]	kW	**6.1**	**8.38**	**10.36**	**11.94**	**13**
Sound pressure Cooling (Low - Medium - High)[2]	dB(A)	48/46/42	50/49/48	50/48/45	51/45/41	51/46/43
Sound power	dB(A)	64	65	67	68	
Air flow Cooling (Low - Medium - High)	m^3/h	1100/950/800	1700/1500/1300	2000/1800/1600	2000/1600/1200	2000/1700/1500
Dehumidification	l/h	1.8	2.5	3.2	4.0	4.5
Condensate pump		Yes (optional)				
Maximum lift height	mm	550				
Pipe diameter (Liq/gas)	Inch	3/8 - 5/8	3/8 - 3/4			
Condensate pipe diameter (out)	mm	25				
Dimensions (H x W x D)	mm	230 x 990 x 680	230 x 1285 x 680	230 x 1580 x 680		
Weight	kg	30	37	48		50
Electrical power	V/Ph/Hz	230 V/1 Ph/50 Hz				
Remote control		Infrared or wired				

[1] Data includes defrosting. For the data corresponding to your project, use our technical catalogs or the Hi-ToolKit software.
[2] Sound pressure measurements were taken at 1 meter from the unit free field (refer to the technical catalog).

Outdoor units	Unit	RAS-3.0UNESNH1	RAS-4.0UNESNH1	RAS-5.0UNESMH1	RAS-6.0UNESMH1	RAS-6.5UNESMH1
Absorbed power Cooling	kW	**2.16**	**3.68**	**4.87**	**4.25**	**5.38**
Absorbed power Heating	kW	**2.39**	**3.75**	**4.50**	**5.15**	**6.40**
EER/COP		**3.12/3.43**	**2.78/3.00**	**2.48/3.11**	**3.03/3.13**	**2.68/2.75**
Seasonal energy class (Cooling/Heating)		**A+/A**	**A+/A**	**A/A**	**A+/A**	**A+/A**
SEER/SCOP (medium climate)		**5.79/3.92**	**6.07/3.97**	**5.41/3.79**	**5.99/3.80**	**5.90/3.80**
Sound Pressure Cooling	dB(A)	53	54	58	53	58
Sound power	dB(A)	69	70	75		76
Pipe diameter (Liq/gas)	inch	3/8 - 5/8		3/8 - 3/4		
Air flow (Cooling/Heating)	m^3/h	3000	3500	5800	6200	
Initial refrigerant charge	kg	1.70	2.80	3.20	3.78	3.95
Pre-charged for	m	5				
Minimum length	m	5				
Maximum length	m/g/m	50				
Maximum height difference	m	30				
Dimensions (H x W x D)	mm	670 x 860 x 310	840 x 950 x 340	1050 x 950 x 340	1386 x 950 x 340	
Weight	kg	51	70	85	113	117
Electrical power	V/Ph/Hz	230 V/1 Ph/50 Hz			400 V/3 Ph/50 Hz	
Maximum current	A	18.1	22.5	11.6	11.0	13.1
Cable diameter (EN 60 335-1)	mm^2	3 x 2.5	3 x 4.0		5 x 2.5	
Indoor/outdoor wiring section (shielded)	mm^2	4 x 1.5				
Guaranteed performances Cooling	°C	-15~48				
Guaranteed performances Heating	°C	-15~24				
Refrigerant		**R410A**				
Compressor	Type	**ROTARY**				

Single zone wired control	Ref.	X-RPFC-3.0UNE1NHF	X-RPFC-4.0UNE1NHF	X-RPFC-5.0UNE1NHF	X-RPFC-6.0UNE1NHF	X-RPFC-6.5UNE1NHF
Kit Price	(pre-tax)					

	Ref.
Kit	(pre-tax)

Single zone infrared control	Ref.	X-RPFC-3.0UNE1NHI	X-RPFC-4.0UNE1NHI	X-RPFC-5.0UNE1NHI	X-RPFC-6.0UNE1NHI	X-RPFC-6.5UNE1NHI
Kit Price	(pre-tax)					

Éco-participation	Ref.
Kit	(pre-tax)

The kit includes: the ceiling system, the wired or infrared remote control with receiver, the outdoor unit.

Compatible controls and accessories

Wired control
HCWA21NEWH
Option

Condensate removal pump
P26(E)-1/P26(E)-2/P26(E)-3
Option

Discover Primairy

Micro VRF IVX Comfort

A compact VRF solution to meet larger technical constraints



Compact

The outdoor units are exceptionally compact, taking up just 0.23m² of floorspace.

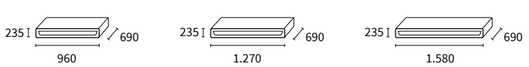
Easy installation

There are a range of options available to facilitate your installation:
- different types of electrical power supply
- wide operating range
- long pipe length
- on/off switches and fault report available
- compatible with all System Free control systems

Energy savings

The presence sensor (optional) optimizes comfort automatically while at the same time limiting energy consumption in areas which are not permanently occupied. It continuously analyses differences in heat and the presence of people in the room and adjusts its temperature setting (drop up to 2°C), ventilation speed and air flow direction.

Indoor units

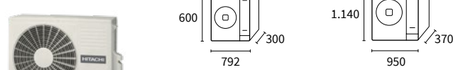


RPC-2.0FSN3

RPC-2.5FSN3
RPC-3.0FSN3

RPC-4.0FSN3
RPC-5.0FSN3
RPC-6.0FSN3

Outdoor units



RAS-2HVNP1
RAS-2.5HVNP1
RAS-3HVNC1

RAS-4H(V)NC1E
RAS-5H(V)NC1E
RAS-6H(V)NC1E

Comfort Ceiling-mounted system

Indoor units	Unit	RPC-2.0FSN3	RPC-2.5FSN3	RPC-3.0FSN3	RPC-4.0FSN3	RPC-5.0FSN3	RPC-6.0FSN3
Capacity Cooling (min-max)	kW	**5.00** (2.20 - 5.60)	**5.60** (2.20 - 6.30)	**7.10** (3.20 - 8.00)	**10.00** (4.50 - 11.20)	**12.50** (5.70 - 14.00)	**14.00** (6.00 - 16.00)
Capacity Heating (min-max)	kW	**5.60** (2.20 - 7.10)	**6.30** (2.20 - 8.00)	**8.00** (3.50 - 10.60)	**11.20** (5.00 - 14.00)	**14.00** (5.00 - 18.00)	**16.00** (5.00 - 20.00)
Capacity at -7°C [1]	kW	**4.80**	**5.80**	**6.30**	**10.10**	**10.50**	**12.00**
Sound pressure Cooling (Very low - Low - Medium - High) [2]	dB(A)	28/31/35/38		29/33/37/40	32/37/42/44	35/41/45/48	36/42/47/49
Sound pressure	dB(A)	54		56	60	64	65
Air flow Cooling (Very low - Low - Medium - High)	m^3/h	450/660/580/900	690/840/990/1140	750/930/1110/1260	1020/1320/1590/1800	1200/1530/1860/2100	1260/1620/1950/2220
Condensate pump		No					
Pipe diameter (Liq/gas):	inch	1/4 - 5/8	3/8 - 5/8				
Condensate pipe diameter (out)	mm	25					
Dimensions (H x W x D)	mm	235 x 960 x 690	235 x 1270 x 690		235 x 1580 x 690		
Weight	kg	27	35		41		
Electrical power		1~ 230V 50Hz					
Cable diameter (EN 60 335-1) [3]	mm^2	3 x 1.5					
Remote control		PC-ARFP1E (infrared, optional simplified wired control)					

[1] Data includes defrosting. For the data corresponding to your project, use our technical catalogs.
[2] Sound pressure measurements were taken under the following conditions: 1 meter under the unit and 1 meter from the air louver.
[3] Information provided for informational purposes only. The person fitting the equipment is responsible for checking that these cable diameters meet installation requirements and correspond to applicable standards.

Outdoor units	Unit	RAS-2HVNP1	RAS-2.5HVNP1	RAS-3HVNC1	RAS-4H(V)NC1E	RAS-5H(V)NC1E	RAS-6H(V)NC1E
Absorbed power in Cooling	kW	**1.34**	**1.40**	**2.29**	**3.25**	**4.60**	**5.49**
Absorbed power in Heating	kW	**1.38**	**1.53**	**2.33**	**2.91**	**3.94**	**4.40**
EER/COP		**3.72/4.06**	**4.00/4.12**	**3.10/3.43**	**3.08/3.85**	**2.72/3.55**	**2.55/3.64**
Energy class (Cooling/Heating)		**A/A**		**B/B**	**B/A**	**D/B**	**E/B**
SEER/SCOP (medium climate)		**5.63/4.44**	**5.49/4.49**	**5.29/4.13**	**5.02(V) - 4.93/3.90**	**5.74(V) - 5.71/4.00**	**5.56(V) - 5.53/4.04**
Seasonal energy class (Cooling/Heating)		**A+/A+**	**A/A+**	**A/A+**	**B/A**	**-**	
Sound pressure Cooling (night mode) [2]	dB(A)	44 (42)	45 (43)	48 (46)	52 (50)		55 (53)
Sound pressure	dB(A)	62	63	66	68	69	71
Weight	kg	43		44	79	89	
Dimensions (H x W x D)	mm	600 x 792 x 300			1140 x 950 x 370		
Electrical power		1~ 230V 50Hz			3N~ 400V 50Hz (1~ 230V 50Hz)		
Maximum current	A	13.8	15.8	17.8	15.5 (28.5)		
Cable diameter (EN 60 335-1) [1]	mm^2	3 x 2.50	3 x 4.00		5 x 4.00 (3 x 6.00)		
Indoor/outdoor wiring section (shielded)	mm^2	2 x 0.75					
Pipe diameter (Liq/gas)	inch	1/4 - 1/2*			3/8 - 5/8		
Maximum length/Additional refrigerant	m/g/m	50/30		50/40	70/40	75/60	75/60
Initial refrigerant charge	kg	1.6		1.9	3.2	2.9	3.2
Pre-charged for	m	30		20		30	
Air flow (Cooling/Heating)	m^3/h	2436		2682	3720	4080	4800
Maximum height difference (highest OU/lowest OU)	m	30/20					
Guaranteed performance Cooling [2]//Heating	°C	(OPT) -15°C/+46°C (DB)//-20°C/+15°C (WB)					
Refrigerant		**R410A**					
Compressor		**SCROLL**					

[1] Information provided for informational purposes only. The person fitting the equipment is responsible for checking that these cable diameters meet installation requirements and correspond to applicable standards.
[2] The option must be enabled to ensure a cold mode at -15 °C.
* Pipes leaving the indoor unit same diameter as the outdoor unit. Adapt as required.

Price	Ref.	X-RPC-2.0HVNP1	X-RPC-2.5HVNP1	X-RPC-3.0HVNC1	X-RPC-4.0H(V) NC1E	X-RPC-5.0H(V) NC1E	X-RPC-6.0H(V) NC1E
Single-phase kit price	(pre-tax)						
Three-phase kit price	(pre-tax)		-				
Environmental contribution							
Kit	(pre-tax)						

It is in addition to the net price.
The kit includes the indoor unit, wired control PC-ARFP1E and the outdoor unit.

Compatible controls and accessories (see DRV Controls tab)

Simplified wired control
PC-ARH1E

Infrared control
PC-AWR

User-friendly wfunction wired control
PC-ARFP1E

Remote sensor
THM-R2AE

Infrared receiver
PC-ALHC1 (integrated)/PC-ALHZ1 (external)

Condensate removal kit
DBS-26 (IVX Comfort 4HP models)
DBS-12L (IVX Comfort 2/2.5/3HP models)

Presence sensor
SOR-NEP

Connectors
PCC-1A

The standard multi-splits range comprises 5 outdoor units capable of air conditioning up to five different areas with the same unit. The capacity of its units and its wide-ranging combinations mean it can be adapted to suit all installation configurations
The new Dodai 2 multi-splits range features 2 and 3 outputs to connect up to 3 Dodai 2 indoor wall units



Multi-splits

Standard multi-split outdoor units



Indoor units









Dodai 2 multi-split outdoor units



Indoor units



* JOHNSON CONTROLS - HITACHI AIR CONDITIONING EUROPE SAS participate in the Eurovent Certification Program for the AC/VRF/LCP-HP categories. Information on certified models can be found in the Eurovent Directory (www.eurovent-certification.com).

Quick selection guide

		Nom. capacity Cooling (kW)	3.3	4.0	5.3	6.8/7.0	8.5	10.0
RAM- NPE standard multi-split outdoor units		Capacity at full charge at -7°C Heating (kW)	Up to 3.5	Up to 4.0	Up to 5.5	Up to 6.5	Up to 7.8	Up to 8.0
R32 REFRIGERANT	(3.3 and 4.0 kW) (5.3 kW)	2 outputs	SEER A+++ 8.50 SCOP A++ 4.60	SEER A+++ 8.50 SCOP A++ 4.60	SEER A+++ 8.50 SCOP A++ 4.60			
	(5.3 and 6.8 kW)	3 outputs			SEER A+++ 8.50 SCOP A++ 4.60	SEER A++ 8.10 SCOP A++ 4.60		
	(7.0 kW)	4 outputs				SEER A++ 8.10 SCOP A++ 4.60		
	(8.5 and 10.0 kW)	5 outputs					SEER A++ 7.90 SCOP A++ 4.30	SEER A++ 6.52 SCOP A++ 4.22

HYBERNATE
Putting electronic components into standby mode

HIGH CAPACITY at -7°C

VECTOR CONTROL
Compressor control at very low frequency
Reduced sound level
Energy savings

Compatible indoor units

Mono/Multi-Splits indoor units



Takai wall
RAK-18QXE
25~50 RXE



Mokai wall
RAK-15QPE
RAK-18~50RPE



Light commercial wall
RAK-60RPE



Cassette 600x600 R32
RAI-25~ 60RPE



Shirokuma console
RAF-25~50RXE



R32 Ducted
RAD-18QPE
RAD-25~60RPE

		Nom. capacity Cooling (kW)	4.0	5.3
RAM-NEF Dodai 2 multi-split outdoor units		Capacity at full charge at -7°C Heating (kW)	Up to 3,5	Up to 4,3
R32 REFRIGERANT	(4 and 5.3 kW)	2 outputs	SEER A++ 8.25 SCOP A+ 4.30	SEER A++ 8.10 SCOP A+ 4.10
	(5.3 kW)	3 outputs		SEER A++ 8.10 SCOP A+ 4.10

Compatible indoor units

NEW

Mono/Multi-Splits indoor units



Dodai 2
RAK-15QEF
RAK-18~50REF

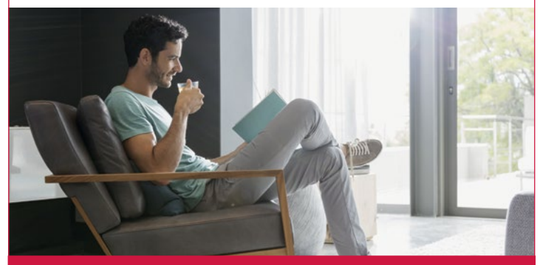
Benefits
Multi-splits

1 Discrete and harmonious design



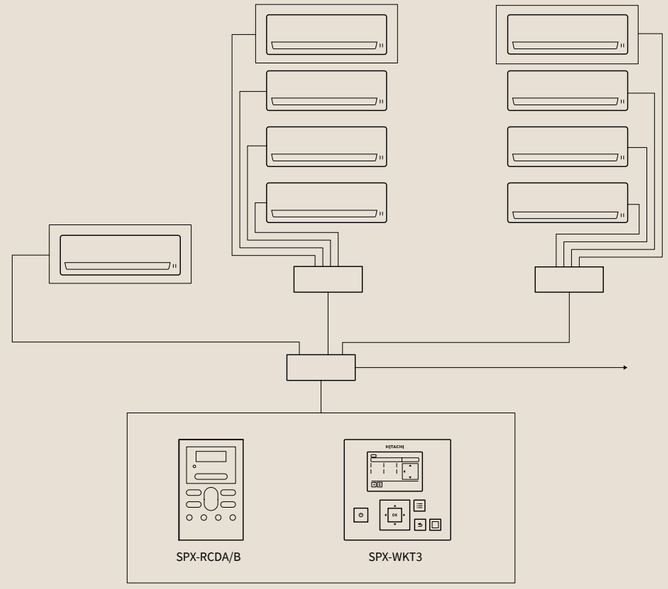
Thanks to their harmonized design, the Shirokuma and Takai consoles are perfectly suited to all interiors.

2 Simplified maintenance and installation



- The ducted type units adapt the static pressure according to the requirements of individual installations.
- The bi-split outdoor units are delivered pre-charged with R32 refrigerant. No additional refrigerant is required. This means savings on installation costs and times.
- Alarm codes are indicated on the remote control, saving troubleshooting time.

3 Regulation solutions for centralized installation control



- Centralized control of up to 13 indoor units with the SPX-WTK3 wired control unit and SPX-DST1 + SPX-WDST8M box

Multi-splits

R32 standard outdoor units



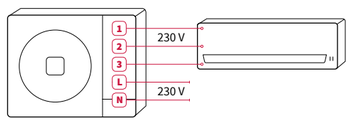
	Ref.	RAM-33NP2E	RAM-40NP2E	RAM-53NP2E	RAM-53NP3E	RAM-68NP3E	RAM-70NP4E	RAM-90NP5E	RAM-110NP5E
Number of connectible units (min-max)		2			2/3		2/4	2/5	2/5
Capacity Cooling (min-max)	kW	3.3 (1.50 - 3.80)	4.00 (1.50 - 4.20)	5.30 (1.50 - 6.60)		6.80 (2.40 - 8.00)	7.00 (2.40 - 8.80)	8.50 (1.52 - 9.50)	10.00 (1.50 - 12.50)
Capacity Heating (min-max)	kW	4.00 (1.50 - 4.60)	5.20 (1.50 - 5.50)	6.80 (1.50 - 7.20)		8.50 (2.40 - 9.50)	8.50 (2.60 - 9.50)	10.0 (1.50 - 11.50)	12.00 (1.50 - 12.70)
Capacity at full charge at -7°C [1]	kW	**3.20**	**3,80**	**4.50**	**5.00**	**6.50**		**7.80**	**8.00**
Absorbed nom. capacity Cooling (min-max)	kW	0.73 (0.20 - 1.05)	0.95 (0.20 - 1.15)	1.26 (0.20 - 1.66)	1.29 (0.20 - 1.68)	1.83 (0.46 - 2.96)	1.89 (0.46 - 3.20)	2.50 (0.50 - 3.85)	3.096 (0.50 - 4.50)
Absorbed nom. capacity Heating (min-max)	kW	0.90 (0.20 - 1.50)	1.18 (0.20 - 1.50)	1.61 (0.20 - 2.01)	1.61 (0.20 - 2.01)	2.12 (0.43 - 2.60)	2.02 (0.48 - 3.12)	2.56 (0.50 - 3.85)	3.158 (0.50 - 5.00)
EER/COP		**4.50/4.40**	**4.20/4.40**	**4.20/4.20**	**4.10/4.20**	**3.70/4.00**	**3.70/4.20**	**3.40/3.90**	**3.23/3.8**
SEER/SCOP (medium climate)		**8.50/4.60**				**8.10/4.60**		**7.90/4.30**	**6.52/4.22**
Seasonal energy class (Cooling/Heating)		**A+++ / A++**				**A++ / A++**			**A++ / A+**
Sound Pressure Cooling	dB(A)	48	49	50				53	54
Sound pressure	dB(A)	47/60		50/61		50/63	57/63	57/66	68
Air flow (Cooling/Heating)	m³/h	1620/1620		2160/2160		2700/2700		3900/3900	4000/4000
Dimensions (HxWxD)	mm	570 x 750 x 280		750 x 850 x 298		800 x 850 x 298		800 x 950 x 370	
Weight	kg	38	41	53	54	58		71	76
Electrical power		220 - 230V							
Maximum current	A	6		8		10		12	20
Cable diameter (EN 60 335-1)	mm²	2.50 x 2+T							
Indoor/outdoor wiring section	mm²	1.50 x 3+T							
Pipe diameter (Liq/gas)	inch	(1/4 x 2 / 3/8 x 2)		(1/4 x 3 / 3/8 x 3)		(1/4 x 4 / 3/8 x 3 + 1/2 x 1)		1/4 x 5 / (3/8 x 3) + (1/2 x 2)	
Initial refrigerant charge	kg	1.02	1.80	2.05				2.40	
Pre-charged for	m	35		30				35	30
Minimum length	m	3							
Maximum length/Additional refrigerant	m/g/m	35 / -		60/20				75/15	75/13
Maximum height difference	m	15		20					
Operating range Cooling	°C	-10°C/+46°C							
Operating range Heating	°C	-15°C/+24°C							
Refrigerant		R32							
Compressor		ROTARY		TWIN ROTARY					
Outdoor unit price	(pre-tax)								
	(pre-tax)								

[1] Data includes defrosting. For the data corresponding to your project, use our technical catalogs or the Hi-ToolKit for business software.

Please note

The returned capacity of each indoor unit depends on the outdoor unit, the selected combination, pipe length and outdoor temperature. The pipe length used to determine the values above is 10 m. Total capacity cannot exceed the unit capacity: please refer to the combination table. For more information on selecting, please refer to our technical documentation or use the Hi-ToolKit software.

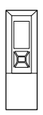
Indoor units are powered with 220-230 V from the outdoor unit.



Compatible controls and accessories



Programmable wired control
SPX-WKT3
Pre-tax price: P. <?>



Infrared remote control
SPX-RCKA1 for ducted
SPX-RCKA2 for RAK-60RPE
SPX-RCKA3 for cassette
Pre-tax price: P. <?>



Simplified wired control
SPX-RCDA
Pre-tax price: P. <?>



Simplified wired control
SPX-RCDB
Pre-tax price: P. <?>

Multi-splits

Indoor units

Takai wall



Takai wall range

Perfectly suited to all installation types, with special models available for smaller surface areas. The size 18 model can be switched to reduce capacity (1.8 kW > 1.2 kW* cooling and 2.5 kW > 1.8 kW* heating).

Presence sensor

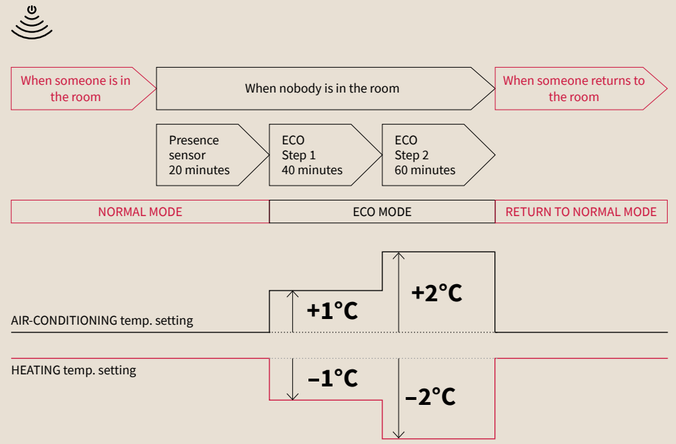
It adjusts indoor unit operation depending on whether anyone is in the room. See Eco Sensor illustration opposite.

Ultra-efficient filtration

STAINLESS pre-filters and Active Carbon filters as standard.

Extra quiet units

20 dB(A) for size 25.



	Ref.	RAK-18QXE	RAK-25RXE	RAK-35RXE	RAK-50RXE
Capacity Cooling (min-max)	kW	**1.80** (1.00 - 2.50)	**2.50** (0.90 - 3.10)	**3.50** (0.90 - 4.00)	**5.00** (1.90 - 5.20)
Capacity Heating (min-max)	kW	**2.50** (1.10 - 3.20)	**3.20** (0.90 - 4.20)	**4.00** (0.90 - 4.80)	**5.80** (2.20 - 7.00)
Sound pressure Cooling (Very low - Low - Medium - High)[2]	dB(A)	**20/25/30/36**	**20/27/35/43**	**22/29/37/45**	**25/31/39/47**
Sound pressure	dB(A)	49	58	60	
Air flow Cooling (Very low - Low - Medium - High)	m³/h	300/330/430/500	300/330/510/600	320/340/520/660	350/400/580/720
Dehumidification	l/h	1.2	1.4	1.6	2.0
Dimensions (H x W x D)	mm	295 x 900 x 210			
Pipe diameter (Liq/gas)	inch	1/4 - 3/8			1/4 - 1/2
Weight	kg	11.0			
Electrical power	V	220 - 230V			
Cable diameter (EN 60 335 - 1)	mm²	3 x 1.50+T			3 x 2.50+T
Remote control		infrared weekly RAR-6NE1 (included)			
Indoor unit price	(pre-tax)				
	(pre-tax)				

Multi-splits

Indoor units

Mokai Wall and Small Commercial



The Mokai Wall range

Perfectly suited to all installation types, with special models available for smaller surface areas.
The size 15 model can be switched to reduce the capacity (1.5 kW > 1 kW* cooling and 2 kW > 1.5 kW* heating).

	Unit	RAK-15QPE	RAK-18RPE	RAK-25RPE	RAK-35RPE	RAK-42RPE	RAK-50RPE	RAK-60RPE
Capacity Cooling (min-max)	kW	**1.50** (0.90 - 2.00)	**2.00** (0.90 - 2.50)	**2.50** (0.90 - 3.10)	**3.50** (0.90 - 4.00)	**4.20** (1.70 - 5.00)	**5.00** (1.90 - 5.20)	**6.00** (1.20 - 6.50)
Capacity Heating (min-max)	kW	**2.00** (1.00 - 2.50)	**2.50** (0.90 - 3.20)	**3.40** (0.90 - 4.40)	**4.20** (0.90 - 5.00)	**5.40** (1.70 - 6.00)	**6.00** (2.20 - 7.30)	**7.00** (1.20 - 8.00)
Sound pressure Cooling (Very low - Low - Medium - High)[1]	dB(A)	20/24/30/34	21/24/33/37	22/24/33/40	25/26/36/43	25/28/39/46	25/28/39/46	30/33/42/48
Air flow Cooling (Very low - Low - Medium - High)	m³/h	312/350/400 420	312/350/400 440	333/370/430 510	353/420/485 680	353/410/540 720	353/410/540 750	310 / 410 / 570 / 720
Dehumidification	l/h	1.20	1.20	1.40	1.60	1.80	2.00	2.8
Dimensions (H x W x D)	mm	280 x 780 x 230						300 x 900 x 230
Pipe diameter (Liq/gas)	inch	1/4 - 3/8					1/4 - 1/2	
Weight	kg	8.5						11.5
Electrical power	V	220 - 230V						
Cable diameter (EN 60 335 - 1)	mm²	3 x 1.50+T				3 x 2.50+T		3 x 1.50+T
Remote control		infrared weekly RAR-6NE1 (included)						Not supplied (SPX-RCKA2 / SPX-RCDB / SPX-WKT3)
Indoor unit price	(pre-tax)							
	(pre-tax)							

[1] Sound pressure measurements were taken at 1 meter from the unit free field (refer to the technical catalog).

Cassette 600 × 600



Indoor units	Unit	RAI-25RPE	RAI-35RPE	RAI-50RPE	RAI-60RPE
Capacity Cooling (min-max)	kW	**2.50** (0.90 - 3.00)	**3.50** (0.90 - 4.00)	**5.00** (1.20 - 5.80)	**6.00** (1.20 - 6.50)
Capacity Heating (min-max)	kW	**3.50** (0.90 - 5.00)	**4.80** (0.90 - 6.60)	**6.00** (1.20 - 6.80)	**7.00** (1.20 - 8.00)
Capacity at full charge at -7°C with defrosting [1]	kW	2.70	3.20	4.20	4.80
Sound pressure Cooling (Very low - Low - Medium - High)[2]		27/31/35/38	27/33/37/40	29/35/39/43	
Sound pressure Heating (Very low - Low - Medium - High)[2]		28/32/36/39	28/34/38/41	30/36/40/44	
Sound pressure	dB(A)	54	56	56	
Air flow Cooling (Very low - Low - Medium - High) [2]	m³/h	360/505/590/660		390/540/630/720	
Dehumidification	l/h	1.4	1.8	2.8	3.8
Dimensions (H x W x D)	mm	285 x 570 x 570			
Dimensions facade (H x W x D)	mm	30 x 620 x 620			
Condensate pipe diameter (out)	mm	32			
Condensate pump		yes			
Pipe diameter (Liq/gas)	Inch	1/4 - 3/8		1/4 - 1/2	1/4 - 1/2
Case weight	kg	17			
Facade weight	kg	2.8			
Reference of facade		P-AP56NAMS			
Electrical power	V	220 - 230V			
Cable diameter (EN 60 335-1)	mm²	1.5 x 3+T			
Remote control		Not supplied (SPX-RCKA3 / SPX-RCDB / SPX-WKT3)			
Indoor unit price	(pre-tax)				
	(pre-tax)				
	(pre-tax)				

[1] Data includes defrosting. For the data corresponding to your project, use our technical catalogs or the Hi-ToolKit software.
[2] Sound pressure measurements were taken at 1 meter from the unit free field (refer to the technical catalog).
* Information pending.

Shirokuma console



Extended air flow

Thanks to a larger dynamic air flow, air can reach all parts of the room. The room is air-conditioned (heating or cool air) at the touch of a button on the remote control. (Fig. 1)

Flexibility with the Multi-splits range

The Shirokuma console indoor unit is compatible with all outdoor units multi-splits. This means that several indoor units can be installed in different rooms with the same outdoor unit.

High performance

The console's energy class is A+++.
Energy savings - guaranteed!

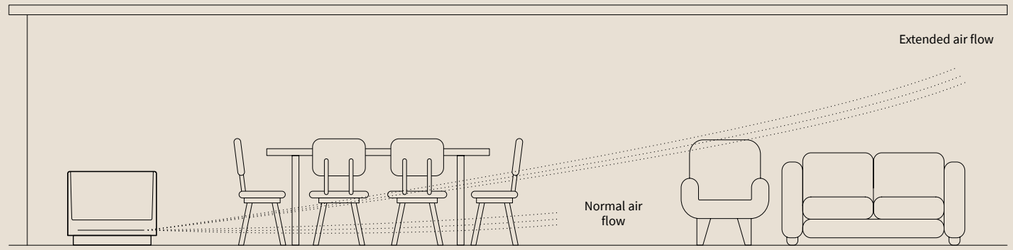
Control options

The console comes with an infrared remote control as standard. It is also compatible with the SPX-WKT3 wired control with timer.

Compatible with Hi Kumo

The entire Hitachi residential range is compatible with the Hi Kumo system which can control equipment from any mobile device which acts as a remote control.

Fig. 1



Indoor units	Unit	RAF-25RXE	RAF-35RXE	RAF-50RXE
Capacity Cooling (min-max)	kW	**2.50** (0.90 - 3.10)	**3.50** (0.90 - 4.00)	**5.00** (0.90 - 5.20)
Capacity Heating (min-max)	kW	**3.40** (0.90 - 4.40)	**4.50** (0.90 - 5.00)	**6.00** (0.90 - 8.10)
Capacity at full charge at -7°C [1]	kW	**3.10**	**3.80**	**5.00**
Sound pressure Cooling (Very low - Low - Medium - High)[2]	dB(A)	20/26/31/38	20/26/31/39	22/29/36/43
Sound pressure	dB(A)	52		56
Air flow Cooling (Very low - Low - Medium - High)	m³/h	270/390/510/630	270/390/510/660	300/450/540/720
Dehumidification	l/h	1.4	1.9	2.8
Dimensions (H x W x D)	mm	590 x 750 x 215		
Condensate pipe diameter (out)	mm	16		
Pipe diameter (Liq/gas)	inch	1/4 - 3/8		1/4 - 1/2
Weight	kg	15		
Electrical power		220 - 230 V		
Cable diameter (EN 60 335-1)	mm²	3 x 1.50+T		3 x 2.50+T
Remote control		infrared weekly RAR-6NE1 (included)		
Indoor unit price	(pre-tax)			
	(pre-tax)			

[1] Data includes defrosting. For the data corresponding to your project, use our technical catalogs or the Hi-ToolKit software.
[2] Sound pressure measurements were taken at 1 meter from the unit free field (refer to the technical catalog).

Compatible controls and accessories

Leak detector

SPX-RAFGLS

Pre-tax price:

Programmable wired control

SPX-WKT3

Pre-tax price:

Infrared remote control

SPX-RCKA1 for ducted
SPX-RCKA2 for RAK-60RPE
SPX-RCKA3 for cassette

Pre-tax price:

Simplified wired control

SPX-RCDB

Pre-tax price:

Multi-splits

Indoor units

Ducted



Ducted indoor units

They now feature static pressure control: from 40 to 150 Pa.

Plenums (optional)

- Air delivery plenum 2 x D200.
- Return plenum 2 x D200 (with or without filter holder).

Remote sensor (optional)

For maximum residential comfort
- Reference: SPX-RTH1
- Price (pre-tax):

Indoor units	Unit	RAD - 18QPE	RAD-25RPE	RAD-35RPE	RAD-50RPE	RAD-60RPE
Capacity Cooling (min-max)	kW	**1.80** (0.90 - 2.50)	**2.50** (0.90 - 3.00)	**3.50** (0.90 - 4.00)	**5.00** (1.20 - 5.80)	**6.00** (1.20 - 6.50)
Capacity Heating (min-max)	kW	**2.50** (0.90 - 3.20)	**3.50** (0.90 - 5.50)	**4.80** (0.90 - 6.60)	**6.00** (1.20 - 6.80)	**7.00** (1.20 - 8.00)
Capacity at full charge at -7°C [1]	kW	*	**2.50**	**3.20**	**4.20**	**5.00**
Sound pressure Cooling (Very low - Low - Medium - High)[2]	dB(A)	30/33/37/41			29/32/35/39	
Sound pressure Heating (Very low - Low - Medium - High)[2]	dB(A)	330/390/450/510	30/34/38/42		29/32/35/40	
Sound pressure[2]	dB(A)	57			53	
Air flow Cooling (Very low - Low - Medium - High)	m^3/h	330/390/450/510			350/540/800/1140	
Static pressure (Low - Medium - High)	Pa	* / * / 70			50/100/150	
Dehumidification	l/h	1.4		1.6	2.8	2.8
Dimensions (H x W x D)	mm	235 x 750 x 400			270 x 900 x 720	
Condensate pipe diameter (out)	mm	16				
Condensate pump		YES				
Pipe diameter (Liq/gas)	Inch	1/4 - 3/8			1/4 - 1/2	
Weight	kg	16			35	
Electrical power	V	220 - 230V				
Cable diameter (EN 60 335-1)	mm^2	1.50 x 3+T			2.50 x 3+T	
Remote control		Not supplied (SPX-RCKA1 / SPX-RCDB / SPX-WKT3)				

* Information pending.

Indoor unit price	(pre-tax)					
	(pre-tax)					

* Information pending.

Reference	Description	Length	Height	Depth	Compatibility	Number of connections
PIM1SOURADNH	PLENUM ISOLATED M1 2XD200 AIR DELIVERY	720	200	300+ 50	RAD-18QPE* / RAD 25-35RPE	2 x 200
PIM1REPRADNH	PLENUM ISOLATED M1 2XD200 RETURN	655	205	200+ 50	RAD-18QPE / RAD 25-35RPE	2 x 200
PIM1REPRADNHF	PLENUM ISOLATED M1 FilterHolder 2XD200 RETURN	655	205	200+ 50	RAD-18QPE / RAD 25-35RPE	2 x 200
PIM1SOURADDH	PLENUM ISOLATED M1 3XD200 AIR DELIVERY	810	225	250+ 50	RAD-50-60RPE / RAD-70PPD	3 x 200
PIM1REPRADDH	PLENUM ISOLATED M1 2XD200 RETURN	820	225	200+ 50	RAD-50-60RPE / RAD-70PPD	2 x 200

* Available in multi only

Connected and user-friendly interfaces



Airzone Blueface thermostat

Wired connection/3.5" touchscreen: Configurable as Main or zone thermostat. Numerous functions and settings, ideal for maximum control of your entire system: more efficient and responsible heating. Complete and user-friendly interface. Eco-adapt function and standby function for real energy savings. Control the temperature, operating mode and ventilation speed. Timer. Access forecasts (via the Webserver Airzone Cloud connection) to anticipate weather changes.



Airzone Think thermostat

Wired or remote connection/2.7" screen: Configurable as Main or zone thermostat. Low consumption device: the easy way to cut energy costs. Attractive and user-friendly interface. Control the temperature, operating mode and ventilation speed. Access forecasts (via the Webserver Airzone Cloud connection) to anticipate weather changes.



Airzone Lite thermostat

Wired or remote connection: Within an installation with the Blueface interface, this is the ideal solution for rapid access to main functions. Its modern and fun interface uses colors to indicate the mode and zone temperature. Zone start/stop function. Control the temperature setting by 1°C increments with amplitudes of ±3°C.



Airzone Cloud webserver

The Airzone Cloud application for smartphone, tablet and PC offers full remote control of the installation anywhere, anytime! Several servers and up to 32 systems can be controlled simultaneously with a single webserver. All your thermostat functions are located in the Cloud: Temperature control, timer, Weather forecasts, access rights…

Interface	Airzone Blueface	Airzone Think	Airzone Lite	Airzone Cloud webserver
Reference	AZCE6BLUEFACEB	AZCE6THINKCB	AZCE6LITECB	AZX6WSCLOUDDINC
Remote Connection	-	AZCE6THINKRB	AZCE6LITERB	AZX6WSCLOUDDINR
10M cable	AZX6CABLEBUS10	AZX6CABLEBUS10	AZX6CABLEBUS10	AZX6CABLEBUS10

	Ducted References	Capacity	Plenum version	Motorized air delivery plenums: 2 outputs	3 outputs	4 outputs	5 outputs	6 outputs	Return plenum
Residential Application	RAD-RPE	5.0kW 6.0kW 7.0kW	Standard	AZEZ6HITST03M2 930 x 300 x 454	AZEZ6HITST03M3 930 x 300 x 454	AZEZ6HITST03M4 1140 x 300 x 454	AZEZ6HITST03M5 1425 x 300 x 454	AZEZ6HITST03M6 1638 x 300 x 454	AZCEZHIPR03M 818 x 223.8 (2xD250)
			Public price pre-tax						
			Medium	AZEZ6HITBS03M2 930 x 250 x 454	AZEZ6HITBS03M3 930 x 250 x 454	AZEZ6HITBS03M4 1140 x 250 x 454	AZEZ6HITBS03M5 1425 x 250 x 454	AZEZ6HITBS03M6 1638 x 250 x 454	
			Public price pre-tax						
		2.5kW 3.5kW	Standard	AZEZ6HITST04S2 930 x 300 x 454	AZEZ6HITST04S3 930 x 300 x 454	AZEZ6HITST04S4 1140 x 300 x 454		-	AZCEZHIPR04S 647.2 x 208.1 (1x D250)
			Public price pre-tax					-	
			Medium	AZEZ6HITBS04S2 930 x 250 x 454	AZEZ6HITBS04S3 930 x 250 x 454	AZEZ6HITBS04S4 1140 x 250 x 454	-	-	
			Public price pre-tax						

There are two versions of plenums available: standard version (300 mm) and medium version with new air supply (250 mm). Plenum dimensions are indicated under the reference.

Compatible controls and accessories



Programmable wired control

SPX-WKT3

Pre-tax price:



Infrared remote control

SPX-RCKA1 for ducted
SPX-RCKA2 for RAK-60RPE
SPX-RCKA3 for cassette

Pre-tax price:



Simplified wired control

SPX-RCDA

Pre-tax price:

Multi-splits

Dodai 2 outdoor units







Outdoor units	Unit	RAM-40NE2F	RAM-53NE2F	RAM-53NE3F
Number of connectible units (min-max)		2 / 2		2 / 3
Capacity Cooling (min-max)	kW	4,0 (1,5-4,4)	5,3 (1,5-6,0)	
Capacity Heating (min-max)	kW	5,1 (1,5-5,5)	6,3 (1,5-6,6)	
Absorbed nom. capacity Cooling (min-max)	kW	1,026 (0,25-1,27)	1,293 (0,35-1,71)	1,293 (0,35-2,16)
Absorbed nom. capacity Heating (min-max)	kW	1,243 (0,25-1,70)	1,615 (0,35-2,25)	
EER/COP		3,90 / 4,10	4,10 / 3,90	
SEER/SCOP (medium climate)		8,25 / 4,30	8,10 / 4,10	
Seasonal energy class (Cooling/Heating)		A++/A+		
Sound Pressure Cooling	dB(A)	49	50	
Sound pressure	dB(A)	60	61	
Air flow (Cooling/Heating)	m^3/h	1620 / 1620	2160 / 2160	
Dimensions (HxWxD)	mm	570 x 750 x 280	750 x 850 x 298	
Weight	kg	41	51	52
Electrical power		220 - 230V		
Maximum current	A	6	8	
Cable diameter (EN 60 335-1)	mm^2	2 x 2,5 +T		
Indoor/outdoor wiring section	mm^2	3 x 1,5 +T		
Pipe diameter (Liq/gas)	inch	(1/4" x 2 / 3/8" x 2)		
Initial refrigerant charge	kg	0,93	1,59	
Pre-charged for	m	35		
Minimum length	m	3		
Maximum length/Additional refrigerant	m/g/m	35/-		45/20
Maximum height difference	m	10	20	
Operating range Cooling	°C	-10°C / 46°C		
Operating range Heating	°C	-15°C / 24°C		
Refrigerant		R32		
Compressor		Rotatif		

Multi-splits

Indoor units

Dodai 2 wall



Compatible with the Hi Kumo remote control

This application allows you to turn the unit on or off, raise or lower the temperature or set the timer from wherever you may be around the world. All you need is a smartphone, an Internet connection and Wi-Fi equipment (optional) to connect to the equipment.

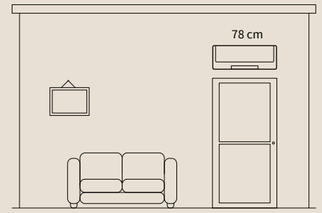
Maximum space savings

It's small enough for discrete installation. Above a door, for example, because it is only 780 mm wide. (Fig. 1)

Silent operation

Enjoy complete comfort without even noticing that the indoor unit is on, thanks to its low sound level of only 19dB*.

Fig. 1



Indoor units	Unit	RAK-15QEF*	RAK-18REF	RAK-25REF	RAK-35REF	RAK-50REF
Capacity Cooling (min-max)	kW	**1.50** (0.90 - 2.00)	**1.8** (0.90 - 2.50)	**2.50** (0.90 - 3.10)	**3.50** (0.90 - 4.00)	**5.00** (1.90 - 5.20)
Capacity Heating (min-max)	kW	**2.00** (1.00 - 2.50)	**2.50** (0.90 - 3.20)	**3.40** (0.90 - 4.40)	**4.20** (0.90 - 5.00)	**6.00** (2.2 - 7.30)
Sound pressure Cooling (Very low - Low - Medium - High)[2]	dB(A)	21/24/33/37	21/24/33/37	22/24/33/40	25/26/36/43	28/30/40/46
Sound pressure Heating (Very low - Low - Medium - High)[2]	dB(A)	19/22/33/38	19/22/33/38	20/23/34/41	26/27/36/44	25/30/39/47
Sound pressure	dB(A)	52	51	54	57	60
Air flow Cooling (Very low - Low - Medium - High)	m^3/h	312/350/400/440	312/350/400/440	333/370/430/510	333/400/485/600	333/450/600/700
Dehumidification	l/h	1.2	1.2	1.4	1.6	2.0
Dimensions (H x W x D)	mm	280 x 780 x 215				
Pipe diameter (Liq/gas)	Inch	1/4 - 3/8				1/4 - 1/2
Weight	kg	7.5				8
Electrical power	V	220 - 230V				
Cable diameter (EN 60 335-1)	mm^2	1.50 x 2+T				2.50 x 2+T
Remote control		infrared RAR-7PE1 (included)				

[2] Sound pressure measurements were taken at 1 meter from the unit free field (refer to the technical catalog).
* Available in multi only

Compatible controls and accessories



Infrared remote control

Included

RAR-7PE1



Simplified wired control

SPX-RCDB

Pre-tax price:



Programmable wired control

SPX-WKT3

Pre-tax price:



H-Link box

PSC-6RAD

Pre-tax price:

Others*:

- Multi-indoor units control box SPX-DST1 + SPX-WDST8M
- Hi Kumo Wifi gateway SPX-WFG01:
- Hi-Box AHP-SMB-01 :
- Hi Kumo gateway for Hi-Box SPX-TAG01:
- Dry contact kit only SPX-WDC3:
- Fault report kit only SPX-WDC7 + HA-S100TSA

* All prices are pre-tax

Indoor unit combinations

Dodai 2 multi-splits

RAM - 33NP2E		COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
1 unit*	15	1.50	1.50 (1.00 - 2.20)	380 (250 - 480)	3.95	2.00	2.00 (1.10 - 3.20)	530 (250 - 970)	3.77
	18	1.80	1.80 (1.00 - 2.50)	455 (250 - 750)	3.96	2.50	2.50 (1.10 - 3.20)	690 (250 - 970)	3.62
	25	2.50	2.50 (1.00 - 3.10)	650 (250 - 880)	3.85	3.50	3.50 (1.10 - 4.40)	990 (250 - 1120)	3.54
	35	3.50	3.50 (1.00 - 3.80)	780 (250 - 1300)	4.49	4.00	4.60 (1.10 - 4.60)	1200 (250 - 1300)	3.33
2 units	15 + 15	1.50 + 1.50	3.00 (1.50 - 2.80)	730 (250 - 780)	4.11	2.00 + 2.00	4.00 (1.50 - 4.60)	890 (250 - 950)	4.49
	15 + 18	1.50 + 1.80	3.30 (1.50 - 3.50)	730 (250 - 1050)	4.52	1.78 + 2.22	4.00 (1.50 - 4.60)	900 (250 - 1020)	4.44
	15 + 25	1.24 + 2.06	3.30 (1.50 - 3.80)	950 (250 - 1050)	3.47	1.45 + 2.55	4.00 (1.50 - 4.60)	1080 (250 - 1500)	3.70
	15 + 35	0.99 + 2.31	3.30 (1.50 - 4.20)	1050 (250 - 1050)	3.14	1.18 + 2.82	4.00 (1.50 - 4.60)	1230 (250 - 1500)	3.25
	18 + 18	1.65 + 1.65	3.30 (1.50 - 3.80)	1050 (250 - 1050)	3.14	2.00 + 2.00	4.00 (1.50 - 4.60)	1250 (250 - 1500)	3.20
	18 + 25	1.38 + 1.92	3.30 (1.50 - 4.20)	1050 (250 - 1050)	3.14	1.67 + 2.33	4.00 (1.50 - 4.60)	1250 (250 - 1500)	3.20
	18 + 35	1.12 + 2.18	3.30 (1.50 - 4.20)	1050 (250 - 1050)	3.14	1.37 + 2.63	4.00 (1.50 - 4.60)	1250 (250 - 1500)	3.20
	25 + 25	1.65 + 1.65	3.30 (1.50 - 4.20)	1050 (250 - 1050)	3.14	2.00 + 2.00	4.00 (1.50 - 4.60)	1250 (250 - 1500)	3.20

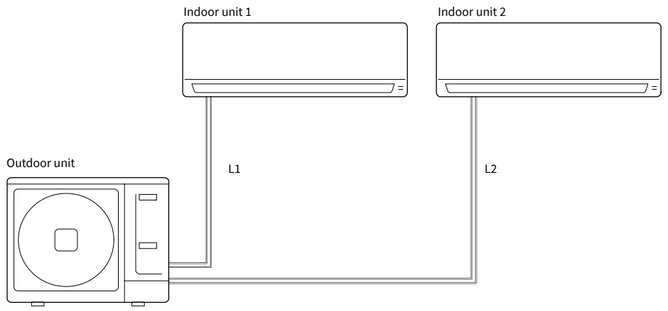
* For information: these are performances when a single unit is in operation. However, a minimum of 2 units must be connected to the outdoor unit.
**RAM-40NE2F+ RAK -18RPE + RAK- 18RPE

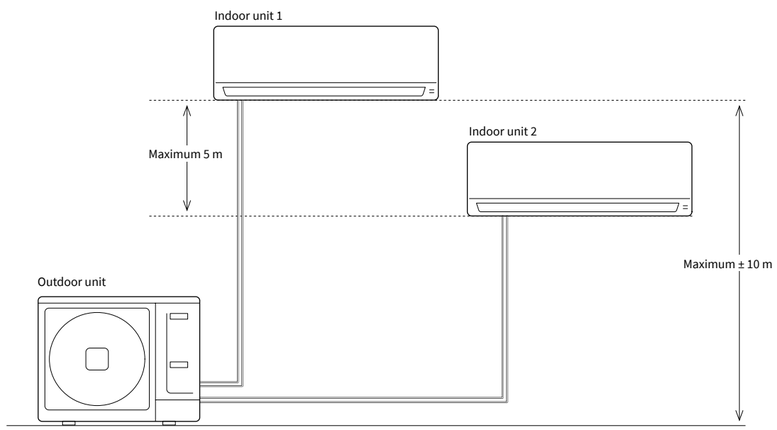
Refrigerant lengths

RAM - 40NE2F

L1 + L2 < 35 m
L1 < 25 m ; L2 < 25 m

Always connect the most powerful indoor unit to the lowest connector.
No additional charge required.





RAM - 40NP2E		COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
1 unit*	15	1.50	1.50 (1.00 - 2.20)	380 (200 - 480)	3.95	2.00	2.00 (1.10 - 3.20)	530 (250 - 970)	3.77 A
	18	1.80	1.80 (1.00 - 2.50)	455 (200 - 750)	3.96	2.50	2.50 (1.10 - 3.20)	690 (250 - 970)	3.62 A
	25	2.50	2.50 (1.00 - 3.10)	650 (200 - 880)	3.85	3.50	3.50 (1.10 - 4.40)	990 (250 - 1120)	3.54 B
	35	3.50	3.50 (1.00 - 4.00)	780 (200 - 1150)	4.49	4.80	4.80 (1.10 - 5.00)	1200 (250 - 1300)	4.00 A
2 units	15 + 15	1.50 + 1.50	3.00 (1.50 - 2.80)	700 (200 - 780)	4.29	2.00 + 2.00	4.00 (1.50 - 4.60)	890 (250 - 950)	4.49 A
	15 + 18	1.50 + 1.80	3.30 (1.50 - 3.50)	730 (200 - 930)	4.52	2.00 + 2.50	4.50 (1.50 - 5.00)	940 (250 - 1020)	4.79 A
	15 + 25	1.50 + 2.50	4.00 (1.50 - 4.00)	950 (200 - 1150)	4.21	1.89 + 3.31	5.20 (1.50 - 5.50)	1080 (250 - 1500)	4.81 A
	15 + 35	1.20 + 2.80	4.00 (1.50 - 4.20)	1100 (200 - 1150)	3.64	1.53 + 3.67	5.20 (1.50 - 5.50)	1230 (250 - 1500)	4.23 A
	18 + 18	1.80 + 1.80	3.60 (1.50 - 4.00)	1050 (200 - 1050)	3.43	2.50 + 2.50	5.00 (1.50 - 5.00)	1250 (250 - 1500)	4.00 A
	18 + 25	1.67 + 2.33	4.00 (1.50 - 4.20)	1090 (200 - 1150)	3.67	2.17 + 3.03	5.20 (1.50 - 5.50)	1250 (250 - 1500)	4.16 A
	18 + 35	1.36 + 2.64	4.00 (1.50 - 4.20)	1130 (200 - 1150)	3.54	1.78 + 3.42	5.20 (1.50 - 5.50)	1250 (250 - 1500)	4.16 A
	25 + 25	2.00 + 2.00	4.00 (1.50 - 4.20)	1150 (200 - 1150)	3.48	2.60 + 2.60	5.20 (1.50 - 5.50)	1250 (250 - 1500)	4.16 A

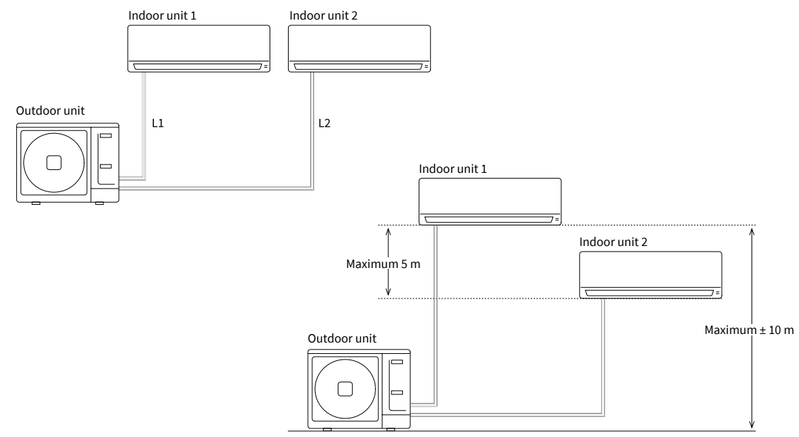
* For information: these are performances when a single unit is in operation. However, a minimum of 2 units must be connected to the outdoor unit.
(1) For each output corresponding to units 42. 50 and 60. a refrigerant adapter to switch from 3/8 to 1/2 is required.
** RAM-53NE2F+ RAK-18QXE + RAK-35RXE.

Refrigerant lengths

RAM-53NE2F

L1 + L2 < 35 m
L1 < 25 m ; L2 < 25 m

Always connect the most powerful indoor unit to the lowest connector.
No additional charge required.



Indoor unit combinations

Dodai 2 multi-splits

	RAM - 53NP2E	COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
1 unit*	15	1.50	1.50 (1.00 - 2.20)	430 (350 - 480)	3.49	2.00	2.00 (1.10 - 2.20)	610 (350 - 650)	3.28
	18	1.80	1.80 (1.00 - 2.00)	495 (350 - 750)	3.64	2.50	2.50 (1.10 - 3.20)	690 (350 - 1050)	3.62
	25	2.50	2.50 (1.00 - 2.80)	700 (350 - 980)	3.57	3.90	3.90 (1.10 - 4.70)	1060 (350 - 1380)	3.68
	35	3.50	3.50 (1.00 - 3.90)	1030 (350 - 1280)	3.40	4.80	4.80 (1.10 - 5.80)	1320 (350 - 1870)	3.64
	42	4.20	4.20 (1.00 - 5.50)	1500 (350 - 1660)	2.80	6.50	6.50 (1.10 - 7.20)	1680 (350 - 2010)	3.87
	50	5.00	5.00 (1.00 - 5.50)	1510 (350 - 1660)	3.31	6.80	6.50 (1.10 - 7.20)	1680 (350 - 2010)	3.87
	60	6.00	5.30 (1.00 - 5.50)	1510 (350 - 1660)	3.51	7.00	6.50 (1.10 - 7.20)	1680 (350 - 2010)	3.87
2 units	15 + 15	1.50 + 1.50	3.00 (1.50 - 3.90)	920 (350 - 1000)	3.26	2.00 + 2.00	4.00 (1.50 - 4.70)	1060 (350 - 1380)	3.77
	15 + 18	1.50 + 1.80	3.30 (1.50 - 3.90)	1020 (350 - 1300)	3.24	2.00 + 2.50	4.50 (1.50 - 5.20)	1250 (350 - 1870)	3.6
	15 + 25	1.50 + 2.50	4.00 (1.50 - 4.50)	1180 (350 - 1250)	3.39	2.00 + 3.90	5.90 (1.50 - 6.50)	1550 (350 - 2010)	3.81
	15 + 35	1.50 + 3.50	5.00 (1.50 - 5.90)	1480 (350 - 1660)	3.38	2.00 + 4.80	6.80 (1.50 - 7.20)	1590 (350 - 2010)	4.28
	15 + 42[1]	1.39 + 3.91	5.30 (1.50 - 5.90)	1550 (350 - 1660)	3.42	1.60 + 5.20	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	15 + 50 [1]	1.22 + 4.08	5.30 (1.50 - 5.90)	1660 (350 - 1660)	3.19	1.60 + 5.20	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	15 + 60 [1]	1.06 + 4.24	5.30 (1.50 - 5.90)	1660 (350 - 1660)	3.19	1.60 + 5.20	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	18 + 18	1.80 + 1.80	3.60 (1.50 - 4.00)	1080 (350 - 1300)	3.33	2.50 + 2.50	5.00 (1.50 - 5.20)	1290 (350 - 1550)	3.88
	18 + 25	1.80 + 2.50	4.30 (1.50 - 4.60)	1220 (350 - 1450)	3.52	2.50 + 3.90	6.40 (1.50 - 6.30)	1530 (350 - 1920)	4.18
	18 + 35	1.80 + 3.50	5.30 (1.50 - 5.60)	1260 (350 - 1660)	4.21	2.31 + 4.49	6.80 (1.50 - 7.20)	1610 (350 - 2010)	4.22
	18 + 42[1]	1.59 + 3.71	5.30 (1.50 - 5.90)	1550 (350 - 1660)	3.42	1.80 + 5.00	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	18 + 50[1]	1.40 + 3.90	5.30 (1.50 - 5.90)	1550 (350 - 1660)	3.42	1.80 + 5.00	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	18 + 60[1]	1.22 + 4.08	5.30 (1.50 - 5.90)	1660 (350 - 1660)	3.19	1.80 + 5.00	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	25 + 25	2.50 + 2.50	5.00 (1.50 - 5.60)	1470 (350 - 1660)	3.40	3.40 + 3.40	6.80 (1.50 - 7.20)	1780 (350 - 2010)	3.82
	25 + 35	2.21 + 3.09	5.30 (1.50 - 5.70)	1550 (350 - 1660)	3.42	2.83 + 3.97	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	25 + 42[1]	1.98 + 3.32	5.30 (1.50 - 5.90)	1550 (350 - 1660)	3.42	2.27 + 4.53	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	25 + 50[1]	1.77 + 3.53	5.30 (1.50 - 5.90)	1660 (350 - 1660)	3.19	2.27 + 4.53	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	25 + 60[1]	1.56 + 3.74	5.30 (1.50 - 5.90)	1660 (350 - 1660)	3.19	2.27 + 4.53	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	35 + 35	2.65 + 2.65	5.30 (1.50 - 5.90)	1660 (350 - 1660)	3.19	3.40 + 3.40	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	35 + 42[1]	2.41 + 2.89	5.30 (1.50 - 6.60)	1660 (350 - 1660)	3.19	2.80 + 4.00	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	35 + 50[1]	2.18 + 3.12	5.30 (1.50 - 6.60)	1660 (350 - 1660)	3.19	2.80 + 4.00	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	42 + 42[1]	2.65 + 2.65	5.30 (1.50 - 6.60)	1660 (350 - 1660)	3.19	2.80 + 4.00	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74

* For information: these are performances when a single unit is in operation. However. a minimum of 2 units must be connected to the outdoor unit.
[1] For each output corresponding to units 42. 50 and 60. a refrigerant adapter to switch from 3/8 to 1/2 is required.
** RAM-53NP3E + RAK-18QXE + RAK-35RPE

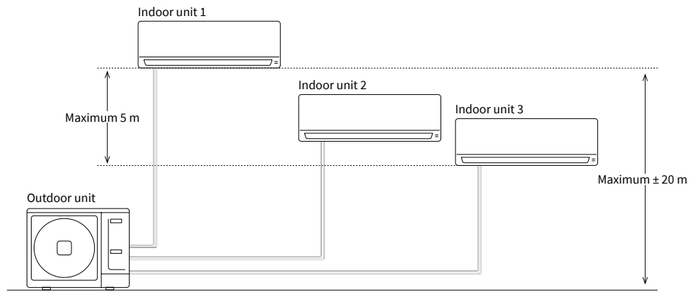
Refrigerant lengths

RAM-53NE3F

L1 + L2 + L3 < 45 m
L1 < 25 m ; L2 < 25 m ; L3 < 25 m

Pre-charged for 35 m.
Additional 20g/m required beyond 35 m.

Always connect the most powerful indoor unit to the lowest connector.



	RAM - 53NP3E	COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
1 unit*	15	1.50	1.50 (1.00 - 1.60)	430 (200 - 480)	3.49	2.00	2.00 (1.10 - 2.20)	560 (320 - 850)	3.57
	18	1.80	1.80 (1.50 - 2.00)	495 (280 - 500)	3.64	2.50	2.50 (1.80 - 3.50)	720 (320 - 1130)	3.47
	25	2.50	2.50 (1.50 - 2.80)	700 (280 - 720)	3.57	3.40	3.40 (1.80 - 4.70)	980 (320 - 1480)	3.47
	35	3.50	3.50 (1.50 - 3.90)	1030 (280 - 1130)	3.40	4.30	4.30 (1.80 - 5.80)	1150 (320 - 1950)	3.74
	42	4.20	4.20 (1.50 - 5.60)	1450 (280 - 1800)	2.90	6.50	6.50 (1.80 - 7.20)	1800 (320 - 2010)	3.61
	50	5.00	5.00 (1.50 - 5.60)	1480 (280 - 1800)	3.38	6.50	6.50 (1.80 - 7.20)	1880 (320 - 2530)	3.46
	60	6.00	5.30 (1.50 - 6.60)	1481 (280 - 1930)	3.58	7.30	6.80 (1.80 - 7.80)	1880 (320 - 2530)	3.62
2 units	15 + 15	1.50 + 1.50	3.00 (1.50 - 3.50)	870 (380 - 980)	3.45	2.00 + 2.00	4.00 (2.20 - 4.70)	1080 (200 - 1100)	3.70
	15 + 18	1.50 + 1.80	3.30 (1.50 - 3.50)	950 (380 - 1000)	3.47	2.00 + 2.50	4.50 (2.20 - 5.20)	1200 (200 - 1300)	3.75
	15 + 25	1.50 + 2.50	4.00 (1.50 - 4.00)	1300 (380 - 1300)	3.08	2.00 + 3.40	5.40 (2.20 - 6.40)	1450 (200 - 1780)	3.72
	15 + 35	1.50 + 3.50	5.00 (1.50 - 5.20)	1450 (380 - 1450)	3.45	2.00 + 4.30	6.30 (2.20 - 7.20)	1660 (200 - 2010)	3.80
	15 + 42[1]	1.39 + 3.91	5.30 (1.50 - 5.90)	1580 (380 - 2380)	3.35	1.60 + 5.20	6.80 (2.20 - 7.20)	1680 (320 - 2010)	4.05
	15 + 50[1]	1.22 + 4.08	5.30 (1.50 - 6.30)	1700 (380 - 2380)	3.12	1.60 + 5.20	6.80 (2.20 - 7.20)	1770 (320 - 2010)	3.84
	15 + 60[1]	1.06 + 4.24	5.30 (1.50 - 6.30)	1700 (380 - 2380)	3.12	1.51 + 5.29	6.80 (2.20 - 7.20)	1950 (320 - 2010)	3.49
	18 + 18	1.80 + 1.80	3.60 (1.50 - 5.90)	1020 (380 - 1020)	3.53	2.50 + 2.50	5.00 (2.20 - 6.40)	1380 (320 - 2010)	3.62
	18 + 25	1.80 + 2.50	4.30 (1.50 - 5.90)	1200 (380 - 1360)	3.58	2.50 + 3.40	5.90 (2.20 - 7.20)	1580 (320 - 2010)	3.73
	18 + 35	1.80 + 3.50	5.30 (1.50 - 5.90)	1290 (380 - 1950)	4.11	2.50 + 4.30	6.80 (2.20 - 7.20)	1650 (320 - 2010)	4.12
	18 + 42[1]	1.80 + 5.00	5.30 (1.50 - 5.90)	1620 (380 - 2820)	3.27	1.89 + 4.91	6.80 (2.20 - 9.50)	1700 (430 - 2600)	4.00
	18 + 50[1]	1.80 + 5.00	5.30 (1.50 - 5.90)	1800 (380 - 2820)	2.94	1.89 + 4.91	6.80 (2.20 - 9.50)	2100 (430 - 2600)	3.24
	18 + 60[1]	1.80 + 6.00	5.30 (1.50 - 5.90)	1800 (380 - 2820)	2.94	1.79 + 5.01	6.80 (2.20 - 9.50)	2100 (430 - 2600)	3.24
	25 + 25	2.50 + 2.50	5.00 (2.00 - 5.50)	1480 (380 - 1720)	3.38	3.40 + 3.40	6.80 (2.20 - 9.50)	1770 (430 - 2010)	3.84
	25 + 35	2.50 + 3.50	5.30 (2.00 - 6.60)	1640 (380 - 2380)	3.23	3.00 + 3.80	6.80 (2.20 - 9.50)	1880 (430 - 2010)	3.62
	25 + 42[1]	1.98 + 3.32	5.30 (2.00 - 7.20)	1640 (380 - 2820)	3.23	2.34 + 4.46	6.80 (2.20 - 9.50)	2000 (430 - 2600)	3.40
	25 + 50[1]	1.77 + 3.53	5.30 (2.00 - 7.20)	1610 (380 - 2820)	3.29	2.34 + 4.46	6.80 (2.20 - 9.50)	2100 (430 - 2600)	3.24
	25 + 60[1]	1.56 + 3.74	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	2.22 + 4.58	6.80 (2.20 - 9.50)	1880 (430 - 2600)	3.62
	35 + 35	2.65 + 2.65	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	3.40 + 3.40	6.80 (2.20 - 9.50)	1880 (430 - 3120)	3.62
	35 + 42[1]	2.41 + 2.89	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	2.71 + 4.09	6.80 (2.20 - 9.50)	1880 (430 - 2600)	3.62
	35 + 50[1]	2.18 + 3.12	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	2.71 + 4.09	6.80 (2.20 - 9.50)	1880 (430 - 2600)	3.62
	35 + 60[1]	1.95 + 3.35	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	2.59 + 4.21	6.80 (2.20 - 9.50)	1880 (430 - 2600)	3.62
	42 + 42[1]	2.65 + 2.65	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	3.40 + 3.40	6.80 (2.20 - 9.50)	1880 (430 - 2600)	3.62
	42 + 50[1]	2.42 + 2.88	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	3.40 + 3.40	6.80 (2.20 - 9.50)	1880 (430 - 2600)	3.62
	42 + 60[1]	2.18 + 3.12	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	3.27 + 3.53	6.80 (2.20 - 9.50)	1880 (430 - 2600)	3.62
	50 + 50[1]	2.65 + 2.65	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	3.40 + 3.40	6.80 (2.20 - 9.50)	1880 (430 - 2600)	3.62

[1] For each output corresponding to units 42. 50 and 60. a refrigerant adapter to switch from 3/8 to 1/2 is required.
** RAM-53NP3E + RAK-18QXE + RAK-35RPE

Indoor unit combinations

Standard multi-splits

RAM - 33NP2E		COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
1 unit*	15	1.50	1.50 (1.00 - 2.20)	380 (250 - 480)	3.95	2.00	2.00 (1.10 - 3.20)	530 (250 - 970)	3.77
	18	1.80	1.80 (1.00 - 2.50)	455 (250 - 750)	3.96	2.50	2.50 (1.10 - 3.20)	690 (250 - 970)	3.62
	25	2.50	2.50 (1.00 - 3.10)	650 (250 - 880)	3.85	3.50	3.50 (1.10 - 4.40)	990 (250 - 1120)	3.54
	35	3.50	3.50 (1.00 - 3.80)	780 (250 - 1300)	4.49	4.00	4.60 (1.10 - 4.60)	1200 (250 - 1300)	3.33
2 units	15+ 15	1.50+ 1.50	3.00 (1.50 - 2.80)	730 (250 - 780)	4.11	2.00+ 2.00	4.00 (1.50 - 4.60)	890 (250 - 950)	4.49
	15+ 18	1.50+ 1.80	3.30 (1.50 - 3.50)	730 (250 - 1050)	4.52	1.78+ 2.22	4.00 (1.50 - 4.60)	900 (250 - 1020)	4.44
	15+ 25	1.24+ 2.06	3.30 (1.50 - 3.80)	950 (250 - 1050)	3.47	1.45+ 2.55	4.00 (1.50 - 4.60)	1080 (250 - 1500)	3.70
	15+ 35	0.99+ 2.31	3.30 (1.50 - 4.20)	1050 (250 - 1050)	3.14	1.18+ 2.82	4.00 (1.50 - 4.60)	1230 (250 - 1500)	3.25
	18+ 18	1.65+ 1.65	3.30 (1.50 - 3.80)	1050 (250 - 1050)	3.14	2.00+ 2.00	4.00 (1.50 - 4.60)	1250 (250 - 1500)	3.20
	18+ 25	1.38+ 1.92	3.30 (1.50 - 4.20)	1050 (250 - 1050)	3.14	1.67+ 2.33	4.00 (1.50 - 4.60)	1250 (250 - 1500)	3.20
	18+ 35	1.12+ 2.18	3.30 (1.50 - 4.20)	1050 (250 - 1050)	3.14	1.37+ 2.63	4.00 (1.50 - 4.60)	1250 (250 - 1500)	3.20
	25+ 25	1.65+ 1.65	3.30 (1.50 - 4.20)	1050 (250 - 1050)	3.14	2.00+ 2.00	4.00 (1.50 - 4.60)	1250 (250 - 1500)	3.20

* For information: these are performances when a single unit is in operation. However, a minimum of 2 units must be connected to the outdoor unit.

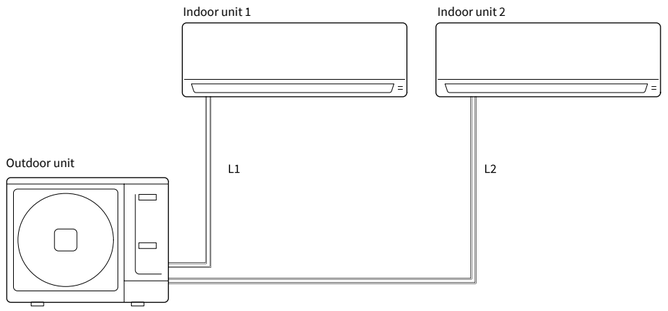
** RAM - 33NP2E + RAK - 15QPE + RAK - 18RPE

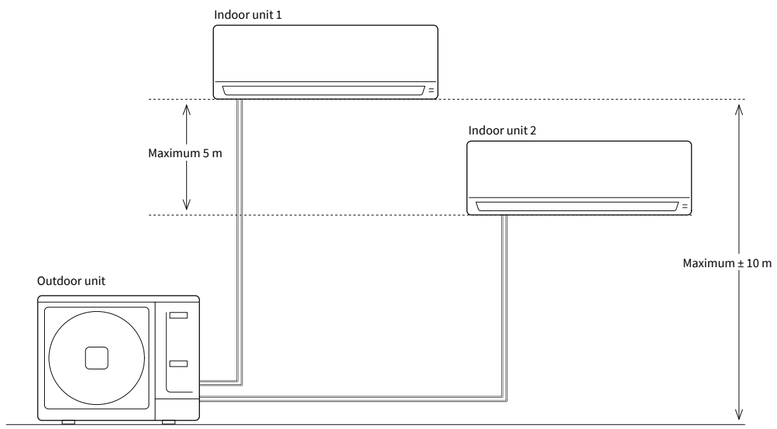
Refrigerant lengths

RAM-33NP2E

L1 + L2 < 20 m
L1 < 15 m ; L2 < 15 m

Always connect the most powerful indoor unit to the lowest connector. No additional charge required.





RAM - 40NP2E		COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
1 unit*	15	1.50	1.50 (1.00 - 2.20)	380 (200 - 480)	3.95	2.00	2.00 (1.10 - 3.20)	530 (250 - 970)	3.77 **A**
	18	1.80	1.80 (1.00 - 2.50)	455 (200 - 750)	3.96	2.50	2.50 (1.10 - 3.20)	690 (250 - 970)	3.62 **A**
	25	2.50	2.50 (1.00 - 3.10)	650 (200 - 880)	3.85	3.50	3.50 (1.10 - 4.40)	990 (250 - 1120)	3.54 **B**
	35	3.50	3.50 (1.00 - 4.00)	780 (200 - 1150)	4.49	4.80	4.80 (1.10 - 5.00)	1200 (250 - 1300)	4.00 **A**
2 units	15+ 15	1.50+ 1.50	3.00 (1.50 - 2.80)	700 (200 - 780)	4.29	2.00+ 2.00	4.00 (1.50 - 4.60)	890 (250 - 950)	4.49 **A**
	15+ 18	1.50+ 1.80	3.30 (1.50 - 3.50)	730 (200 - 930)	4.52	2.00+ 2.50	4.50 (1.50 - 5.00)	940 (250 - 1020)	4.79 **A**
	15+ 25	1.50+ 2.50	4.00 (1.50 - 4.00)	950 (200 - 1150)	4.21	1.89+ 3.31	5.20 (1.50 - 5.50)	1080 (250 - 1500)	4.81 **A**
	15+ 35	1.20+ 2.80	4.00 (1.50 - 4.20)	1100 (200 - 1150)	3.64	1.53+ 3.67	5.20 (1.50 - 5.50)	1230 (250 - 1500)	4.23 **A**
	18+ 18	1.80+ 1.80	3.60 (1.50 - 4.00)	1050 (200 - 1050)	3.43	2.50+ 2.50	5.00 (1.50 - 5.00)	1250 (250 - 1500)	4.00 **A**
	18+ 25	1.67+ 2.33	4.00 (1.50 - 4.20)	1090 (200 - 1150)	3.67	2.17+ 3.03	5.20 (1.50 - 5.50)	1250 (250 - 1500)	4.16 **A**
	18+ 35	1.36+ 2.64	4.00 (1.50 - 4.20)	1130 (200 - 1150)	3.54	1.78+ 3.42	5.20 (1.50 - 5.50)	1250 (250 - 1500)	4.16 **A**
	25+ 25	2.00+ 2.00	4.00 (1.50 - 4.20)	1150 (200 - 1150)	3.48	2.60+ 2.60	5.20 (1.50 - 5.50)	1250 (250 - 1500)	4.16 **A**

* For information: these are performances when a single unit is in operation. However, a minimum of 2 units must be connected to the outdoor unit.

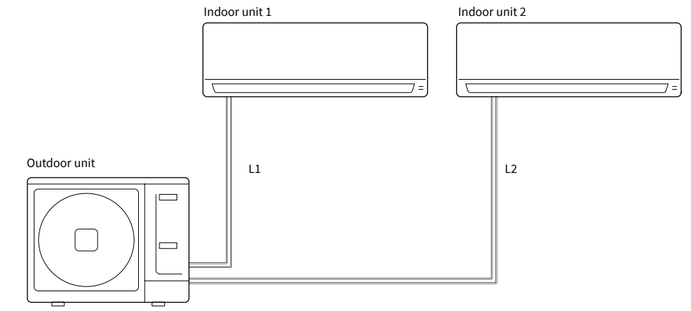
** RAM - 40NP2E + RAK - 18 RPE + RAK - 18RPE

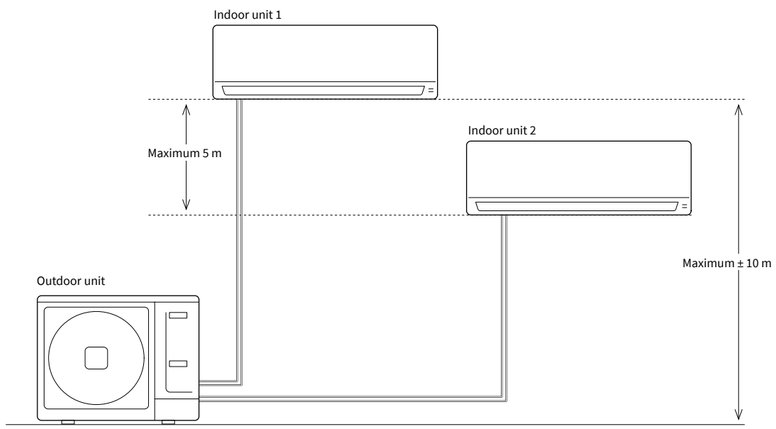
Refrigerant lengths

RAM-40NP2E

L1 + L2 < 35 m
L1 < 25 m ; L2 < 25 m

Always connect the most powerful indoor unit to the lowest connector. No additional charge required.





Indoor unit combinations

Standard multi-splits

	RAM - 53NP2E	COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
1 unit*	15	1.50	1.50 (1.00 - 2.20)	430 (350 - 480)	3.49	2.00	2.00 (1.10 - 2.20)	610 (350 - 650)	3.28
	18	1.80	1.80 (1.00 - 2.00)	495 (350 - 750)	3.64	2.50	2.50 (1.10 - 3.20)	690 (350 - 1050)	3.62
	25	2.50	2.50 (1.00 - 2.80)	700 (350 - 980)	3.57	3.90	3.90 (1.10 - 4.70)	1060 (350 - 1380)	3.68
	35	3.50	3.50 (1.00 - 3.90)	1030 (350 - 1280)	3.40	4.80	4.80 (1.10 - 5.80)	1320 (350 - 1870)	3.64
	42	4.20	4.20 (1.00 - 5.50)	1500 (350 - 1660)	2.80	6.50	6.50 (1.10 - 7.20)	1680 (350 - 2010)	3.87
	50	5.00	5.00 (1.00 - 5.50)	1510 (350 - 1660)	3.31	6.80	6.50 (1.10 - 7.20)	1680 (350 - 2010)	3.87
	60	6.00	5.30 (1.00 - 5.50)	1510 (350 - 1660)	3.51	7.00	6.50 (1.10 - 7.20)	1680 (350 - 2010)	3.87
2 units	15+ 15	1.50+ 1.50	3.00 (1.50 - 3.90)	920 (350 - 1000)	3.26	2.00+ 2.00	4.00 (1.50 - 4.70)	1060 (350 - 1380)	3.77
	15+ 18	1.50+ 1.80	3.30 (1.50 - 3.90)	1020 (350 - 1300)	3.24	2.00+ 2.50	4.50 (1.50 - 5.20)	1250 (350 - 1870)	3.6
	15+ 25	1.50+ 2.50	4.00 (1.50 - 4.50)	1180 (350 - 1250)	3.39	2.00+ 3.90	5.90 (1.50 - 6.50)	1550 (350 - 2010)	3.81
	15+ 35	1.50+ 3.50	5.00 (1.50 - 5.90)	1480 (350 - 1660)	3.38	2.00+ 4.80	6.80 (1.50 - 7.20)	1590 (350 - 2010)	4.28
	15 + 42[1]	1.39+ 3.91	5.30 (1.50 - 5.90)	1550 (350 - 1660)	3.42	1.60+ 5.20	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	15 + 50 [1]	1.22+ 4.08	5.30 (1.50 - 5.90)	1660 (350 - 1660)	3.19	1.60+ 5.20	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	15 + 60 [1]	1.06+ 4.24	5.30 (1.50 - 5.90)	1660 (350 - 1660)	3.19	1.60+ 5.20	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	18+ 18	1.80+ 1.80	3.60 (1.50 - 4.00)	1080 (350 - 1300)	3.33	2.50+ 2.50	5.00 (1.50 - 5.20)	1290 (350 - 1550)	3.88
	18 + 25	1.80+ 2.50	4.30 (1.50 - 4.60)	1220 (350 - 1450)	3.52	2.50 + 3.90	6.40 (1.50 - 6.30)	1530 (350 - 1920)	4.18
	18 + 35	1.80+ 3.50	5.30 (1.50 - 5.60)	1260 (350 - 1660)	4.21	2.31+ 4.49	6.80 (1.50 - 7.20)	1610 (350 - 2010)	4.22
	18 + 42[1]	1.59+ 3.71	5.30 (1.50 - 5.90)	1550 (350 - 1660)	3.42	1.80+ 5.00	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	18 + 50[1]	1.40+ 3.90	5.30 (1.50 - 5.90)	1550 (350 - 1660)	3.42	1.80+ 5.00	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	18 + 60[1]	1.22+ 4.08	5.30 (1.50 - 5.90)	1660 (350 - 1660)	3.19	1.80+ 5.00	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	25 + 25	2.50+ 2.50	5.00 (1.50 - 5.60)	1470 (350 - 1660)	3.40	3.40 + 3.40	6.80 (1.50 - 7.20)	1780 (350 - 2010)	3.82
	25 + 35	2.21+ 3.09	5.30 (1.50 - 5.70)	1550 (350 - 1660)	3.42	2.83 + 3.97	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	25 + 42[1]	1.98 + 3.32	5.30 (1.50 - 5.90)	1550 (350 - 1660)	3.42	2.27+ 4.53	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	25 + 50[1]	1.77+ 3.53	5.30 (1.50 - 5.90)	1660 (350 - 1660)	3.19	2.27+ 4.53	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	25 + 60[1]	1.56 + 3.74	5.30 (1.50 - 5.90)	1660 (350 - 1660)	3.19	2.27 + 4.53	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	35 + 35	2.65+ 2.65	5.30 (1.50 - 5.90)	1660 (350 - 1660)	3.19	3.40 + 3.40	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	35 + 42[1]	2.41+ 2.89	5.30 (1.50 - 6.60)	1660 (350 - 1660)	3.19	2.80 + 4.00	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	35 + 50[1]	2.18+ 3.12	5.30 (1.50 - 6.60)	1660 (350 - 1660)	3.19	2.80 + 4.00	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74
	42 + 42[1]	2.65+ 2.65	5.30 (1.50 - 6.60)	1660 (350 - 1660)	3.19	2.80 + 4.00	6.80 (1.50 - 7.20)	1820 (350 - 2010)	3.74

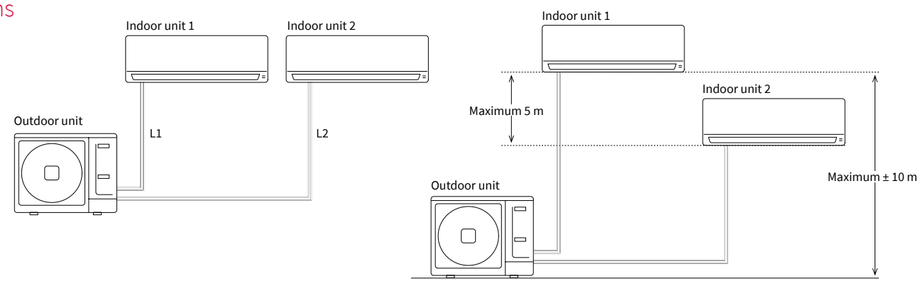
* For information: these are performances when a single unit is in operation. However, a minimum of 2 units must be connected to the outdoor unit.
[1] For each output corresponding to units 42, 50 and 60, a refrigerant adapter to switch from 3/8 to 1/2 is required.
** RAM - 53NP2E + RAK - 18QXE + RAK - 35RXE.

Refrigerant lengths

RAM-53NP2E

L1 + L2 < 35 m
L1 < 25 m ; L2 < 25 m

Always connect the most powerful indoor unit to the lowest connector. No additional charge required.



	RAM - 53NP3E	COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
1 unit*	15	1.50	1.50 (1.00 - 1.60)	430 (200 - 480)	3.49	2.00	2.00 (1.10 - 2.20)	560 (320 - 850)	3.57
	18	1.80	1.80 (1.50 - 2.00)	495 (280 - 500)	3.64	2.50	2.50 (1.80 - 3.50)	720 (320 - 1130)	3.47
	25	2.50	2.50 (1.50 - 2.80)	700 (280 - 720)	3.57	3.40	3.40 (1.80 - 4.70)	980 (320 - 1480)	3.47
	35	3.50	3.50 (1.50 - 3.90)	1030 (280 - 1130)	3.40	4.30	4.30 (1.80 - 5.80)	1150 (320 - 1950)	3.74
	42	4.20	4.20 (1.50 - 5.60)	1450 (280 - 1800)	2.90	6.50	6.50 (1.80 - 7.20)	1800 (320 - 2010)	3.61
	50	5.00	5.00 (1.50 - 5.60)	1480 (280 - 1800)	3.38	6.50	6.50 (1.80 - 7.20)	1880 (320 - 2530)	3.46
	60	6.00	5.30 (1.50 - 6.60)	1481 (280 - 1930)	3.58	7.30	6.80 (1.80 - 7.80)	1880 (320 - 2530)	3.62
2 units	15+ 15	1.50+ 1.50	3.00 (1.50 - 3.50)	870 (380 - 980)	3.45	2.00+ 2.00	4.00 (2.20 - 4.70)	1080 (200 - 1100)	3.70
	15+ 18	1.50+ 1.80	3.30 (1.50 - 3.50)	950 (380 - 1000)	3.47	2.00+ 2.50	4.50 (2.20 - 5.20)	1200 (200 - 1300)	3.75
	15+ 25	1.50+ 2.50	4.00 (1.50 - 4.00)	1300 (380 - 1300)	3.08	2.00+ 3.40	5.40 (2.20 - 6.40)	1450 (200 - 1780)	3.72
	15+ 35	1.50+ 3.50	5.00 (1.50 - 5.20)	1450 (380 - 1450)	3.45	2.00+ 4.30	6.30 (2.20 - 7.20)	1660 (200 - 2010)	3.80
	15 + 42[1]	1.39+ 3.91	5.30 (1.50 - 5.90)	1580 (380 - 2380)	3.35	1.60+ 5.20	6.80 (2.20 - 7.20)	1680 (320 - 2010)	4.05
	15 + 50[1]	1.22+ 4.08	5.30 (1.50 - 6.30)	1700 (380 - 2380)	3.12	1.60+ 5.20	6.80 (2.20 - 7.20)	1770 (320 - 2010)	3.84
	15 + 60[1]	1.06+ 4.24	5.30 (1.50 - 6.30)	1700 (380 - 2380)	3.12	1.51+ 5.29	6.80 (2.20 - 7.20)	1950 (320 - 2010)	3.49
	18+ 18	1.80+ 1.80	3.60 (1.50 - 5.90)	1020 (380 - 1020)	3.53	2.50+ 2.50	5.00 (2.20 - 6.40)	1380 (320 - 2010)	3.62
	18 + 25	1.80 + 2.50	4.30 (1.50 - 5.90)	1200 (380 - 1360)	3.58	2.50 + 3.40	5.90 (2.20 - 7.20)	1580 (320 - 2010)	3.73
	18 + 35	1.80 + 3.50	5.30 (1.50 - 5.90)	1290 (380 - 1950)	4.11	2.50 + 4.30	6.80 (2.20 - 7.20)	1650 (320 - 2010)	4.12
	18 + 42[1]	1.80 + 5.00	5.30 (1.50 - 5.90)	1620 (380 - 2820)	3.27	1.89 + 4.91	6.80 (2.20 - 9.50)	1700 (430 - 2600)	4.00
	18 + 50[1]	1.80 + 5.00	5.30 (1.50 - 5.90)	1800 (380 - 2820)	2.94	1.89 + 4.91	6.80 (2.20 - 9.50)	2100 (430 - 2600)	3.24
	18 + 60[1]	1.80 + 6.00	5.30 (1.50 - 5.90)	1800 (380 - 2820)	2.94	1.79 + 5.01	6.80 (2.20 - 9.50)	2100 (430 - 2600)	3.24
	25 + 25	2.50 + 2.50	5.00 (2.00 - 5.50)	1480 (380 - 1720)	3.38	3.40 + 3.40	6.80 (2.20 - 9.50)	1770 (430 - 2010)	3.84
	25 + 35	2.50 + 3.50	5.30 (2.00 - 6.60)	1640 (380 - 2380)	3.23	3.00 + 3.80	6.80 (2.20 - 9.50)	1880 (430 - 2010)	3.62
	25 + 42[1]	1.98 + 3.32	5.30 (2.00 - 7.20)	1640 (380 - 2820)	3.23	2.34 + 4.46	6.80 (2.20 - 9.50)	2000 (430 - 2600)	3.40
	25 + 50[1]	1.77 + 3.53	5.30 (2.00 - 7.20)	1610 (380 - 2820)	3.29	2.34 + 4.46	6.80 (2.20 - 9.50)	2100 (430 - 2600)	3.24
	25 + 60[1]	1.56 + 3.74	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	2.22 + 4.58	6.80 (2.20 - 9.50)	1880 (430 - 2600)	3.62
	35 + 35	2.65 + 2.65	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	3.40 + 3.40	6.80 (2.20 - 9.50)	1880 (430 - 3120)	3.62
	35 + 42[1]	2.41 + 2.89	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	2.71 + 4.09	6.80 (2.20 - 9.50)	1880 (430 - 2600)	3.62
	35 + 50[1]	2.18 + 3.12	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	2.71 + 4.09	6.80 (2.20 - 9.50)	1880 (430 - 2600)	3.62
	35 + 60[1]	1.95 + 3.35	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	2.59 + 4.21	6.80 (2.20 - 9.50)	1880 (430 - 2600)	3.62
	42 + 42[1]	2.65 + 2.65	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	3.40 + 3.40	6.80 (2.20 - 9.50)	1880 (430 - 2600)	3.62
	42 + 50[1]	2.42 + 2.88	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	3.40 + 3.40	6.80 (2.20 - 9.50)	1880 (430 - 2600)	3.62
	42 + 60[1]	2.18 + 3.12	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	3.27 + 3.53	6.80 (2.20 - 9.50)	1880 (430 - 2600)	3.62
	50 + 50[1]	2.65 + 2.65	5.30 (2.00 - 7.50)	1800 (380 - 2820)	2.94	3.40 + 3.40	6.80 (2.20 - 9.50)	1880 (430 - 2600)	3.62

* For information: these are performances when a single unit is in operation. However, a minimum of 2 units must be connected to the outdoor unit.
[1] For each output corresponding to units 42, 50 and 60, a refrigerant adapter to switch from 3/8 to 1/2 is required.
** RAM - 53NP3E + RAK - 18QXE + RAK - 35RPE

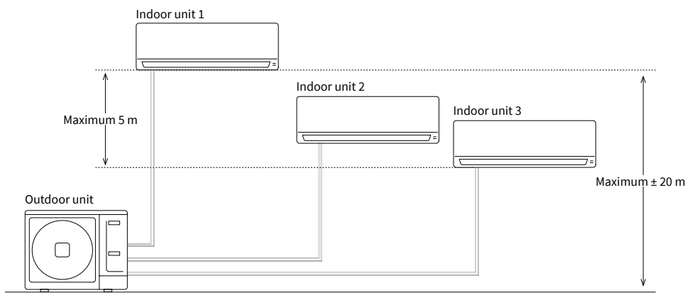
Refrigerant lengths

RAM-53NP3E

L1 + L2 + L3 < 45 m
L1 < 25 m ; L2 < 25 m ; L3 < 25 m

Pre-charged for 35 m.
Additional 20g/m required beyond 35 m.

Always connect the most powerful indoor unit to the lowest connector.



Indoor unit combinations

Standard multi-splits

RAM - 53NP3E		COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
3 units	15 + 15 + 15	1.50 + 1.50 + 1.50	4.50 (2.20 - 5.00)	1400 (420 - 1680)	3.21	2.00 + 2.00 + 2.00	6.00 (2.40 - 6.50)	1650 (430 - 1800)	3.64
	15 + 15 + 18	1.50 + 1.50 + 1.80	4.80 (2.20 - 5.50)	1480 (240 - 1880)	3.24	2.00 + 2.00 + 2.50	6.50 (2.40 - 7.00)	1750 (430 - 2100)	3.71
	15 + 15 + 25	1.45 + 1.45 + 2.41	5.30 (2.20 - 6.00)	1680 (420 - 2280)	3.15	1.84 + 1.84 + 3.12	6.80 (2.20 - 9.30)	1850 (430 - 2200)	3.68
	15 + 15 + 35	1.22 + 1.22 + 2.85	5.30 (2.20 - 7.00)	1800 (420 - 2480)	2.94	1.64 + 1.64 + 3.52	6.80 (2.40 - 9.50)	1850 (430 - 2500)	3.68
	15 + 15 + 42[1]	1.10 + 1.10 + 3.09	5.30 (2.20 - 7.50)	1800 (420 - 2890)	2.94	1.30 + 1.30 + 4.21	6.80 (2.40 - 9.50)	1850 (430 - 2600)	3.68
	15 + 15 + 50[1]	0.99 + 0.99 + 3.31	5.30 (2.20 - 7.50)	1800 (420 - 2890)	2.94	1.30 + 1.30 + 4.21	6.80 (2.40 - 9.50)	2000 (430 - 2600)	3.40
	15 + 15 + 60[1]	0.88 + 0.88 + 3.53	5.30 (2.20 - 7.50)	1800 (420 - 2890)	2.94	1.24 + 1.24 + 4.33	6.80 (2.40 - 9.50)	2100 (430 - 2600)	3.24
	15 + 18 + 18	1.50 + 1.80 + 1.80	5.10 (2.20 - 5.60)	1500 (420 - 2280)	3.40	1.94 + 2.43 + 2.43	6.80 (2.20 - 9.30)	1850 (430 - 2400)	3.68
	15 + 18+ 25	1.37 + 1.64+ 2.28	5.30 (2.20 - 6.30)	1590 (420 - 2480)	3.33	1.72 + 2.15+ 2.93	6.80 (2.40 - 9.50)	1850 (430 - 2600)	3.68
	15 + 18+ 35	1.17 + 1.40+ 2.73	5.30 (2.20 - 7.50)	1680 (420 - 2480)	3.15	1.55 + 1.93+ 3.32	6.80 (2.40 - 9.50)	1850 (430 - 2600)	3.68
	15 + 18 + 42[1]	1.06 + 1.27+ 2.97	5.30 (2.20 - 7.50)	1800 (420 - 2890)	2.94	1.24 + 1.55+ 4.02	6.80 (2.40 - 9.50)	1850 (430 - 2600)	3.68
	15 + 18 + 50[1]	0.96 + 1.15+ 3.19	5.30 (2.20 - 7.50)	1800 (420 - 2890)	2.94	1.24 + 1.55+ 4.02	6.80 (2.40 - 9.50)	2050 (430 - 2600)	3.32
	15 + 25+ 25	1.22 + 2.04+ 2.04	5.30 (1.50 - 7.00)	1710 (420 - 2480)	3.10	1.55 + 2.63+ 2.63	6.80 (2.40 - 9.50)	1850 (430 - 2600)	3.68
	15 + 25+ 35	1.06 + 1.77+ 2.47	5.30 (2.20 - 7.80)	1800 (420 - 2890)	2.94	1.40 + 2.38+ 3.01	6.80 (2.40 - 9.50)	1850 (430 - 2600)	3.68
	15 + 25 + 42[1]	0.97 + 1.62+ 2.71	5.30 (2.20 - 8.00)	1800 (420 - 2890)	2.94	1.14 + 1.94+ 3.71	6.80 (2.40 - 9.50)	1930 (430 - 2600)	3.52
	15 + 25 + 50[1]	0.88 + 1.47+ 2.94	5.30 (2.20 - 8.00)	1800 (420 - 2890)	2.94	1.14 + 1.94+ 3.71	6.80 (2.40 - 9.50)	2100 (430 - 2600)	3.24
	15 + 35+ 35	0.94 + 2.18+ 2.18	5.30 (2.20 - 8.00)	1800 (420 - 2890)	2.94	1.28 + 2.76+ 2.76	6.80 (2.40 - 9.50)	2100 (430 - 2600)	3.24
	15 + 35 + 42[1]	0.86 + 2.02+ 2.42	5.30 (2.20 - 8.00)	1800 (420 - 2890)	2.94	1.06 + 2.28+ 3.45	6.80 (2.40 - 9.50)	2100 (430 - 2600)	3.24
	15 + 35 + 50[1]	0.80 + 1.86+ 2.65	5.30 (2.20 - 8.00)	1800 (420 - 2890)	2.94	1.06 + 2.28+ 3.45	6.80 (2.40 - 9.50)	2100 (430 - 2600)	3.24
	15 + 42 + 42[1]	0.80 + 2.25+ 2.25	5.30 (2.20 - 8.00)	1800 (420 - 2890)	2.94	0.83 + 2.99+ 2.99	6.80 (2.40 - 9.50)	2100 (430 - 2600)	3.24
	15 + 42 + 50[1]	0.74 + 2.08+ 2.48	5.30 (2.20 - 8.00)	1800 (420 - 2890)	2.94	0.83 + 2.99+ 2.99	6.80 (2.40 - 9.50)	2100 (430 - 2600)	3.24
	18 + 18+ 18	1.77 + 1.77+ 1.77	5.30 (2.20 - 5.90)	1500 (420 - 2190)	3.53	2.27 + 2.27+ 2.27	6.80 (2.40 - 9.50)	1860 (430 - 2600)	3.66
	18 + 18+ 25	1.56 + 1.56+ 2.17	5.30 (2.20 - 6.70)	1610 (420 - 2480)	3.29	2.02 + 2.02+ 2.75	6.80 (2.40 - 9.50)	1740 (430 - 2600)	3.91
	18 + 18+ 35	1.34 + 1.34+ 2.61	5.30 (2.20 - 7.80)	1800 (420 - 2890)	2.94	1.83 + 1.83+ 3.14	6.80 (2.40 - 9.50)	1820 (430 - 2600)	3.74
	18 + 18 + 42[1]	1.22 + 1.22+ 2.85	5.30 (2.20 - 8.00)	1800 (420 - 2890)	2.94	1.48 + 1.48+ 3.84	6.80 (2.40 - 9.50)	1950 (430 - 2600)	3.49
	18 + 18 + 50[1]	1.11 + 1.11+ 3.08	5.30 (2.20 - 8.00)	1800 (420 - 2890)	2.94	1.48 + 1.48+ 3.84	6.80 (2.40 - 9.50)	2100 (430 - 2600)	3.24
	18 + 25+ 25	1.40 + 1.95+ 1.95	5.30 (2.20 - 7.50)	1730 (420 - 2780)	3.06	1.83 + 2.49+ 2.49	6.80 (2.40 - 9.50)	1760 (430 - 2600)	3.86
	18 + 25+ 35	1.22 + 1.70+ 2.38	5.30 (2.20 - 8.00)	1800 (420 - 2890)	2.94	1.67 + 2.27+ 2.87	6.80 (2.40 - 9.50)	1820 (430 - 2600)	3.74
	18 + 25 + 42[1]	1.12 + 1.56+ 2.62	5.30 (2.20 - 8.00)	1800 (420 - 2890)	2.94	1.37 + 1.86+ 3.56	6.80 (2.40 - 9.50)	1970 (430 - 2600)	3.45
	18 + 25 + 50[1]	1.03 + 1.42+ 2.85	5.30 (2.20 - 8.00)	1800 (420 - 2890)	2.94	1.37 + 1.86+ 3.56	6.80 (2.40 - 9.50)	2100 (430 - 2600)	3.24
	18 + 35+ 35	1.08 + 2.11+ 2.11	5.30 (2.20 - 8.00)	1800 (420 - 2890)	2.94	1.53 + 2.63+ 2.63	6.80 (2.40 - 9.50)	2100 (430 - 2600)	3.24
	18 + 35 + 42[1]	1.00 + 1.95+ 2.34	5.30 (2.20 - 8.00)	1800 (420 - 2890)	2.94	1.28 + 2.20+ 3.32	6.80 (2.40 - 9.50)	2100 (430 - 2600)	3.24
	18 + 35 + 50[1]	0.93 + 1.80+ 2.57	5.30 (2.20 - 8.00)	1800 (420 - 2890)	2.94	1.28 + 2.20+ 3.32	6.80 (2.40 - 9.50)	2100 (430 - 2600)	3.24
	25 + 25+ 25	1.77 + 1.77+ 1.77	5.30 (2.20 - 7.80)	1800 (420 - 2890)	2.94	2.27 + 2.27+ 2.27	6.80 (2.40 - 9.50)	1870 (430 - 2600)	3.64
	25 + 25+ 35	1.56 + 1.56+ 2.18	5.30 (2.20 - 8.00)	1800 (420 - 2960)	2.94	2.08 + 2.08+ 2.63	6.80 (2.40 - 9.50)	1930 (430 - 2600)	3.52
	25 + 25 + 42[1]	1.44 + 1.44+ 2.42	5.30 (2.20 - 8.00)	1800 (420 - 2890)	2.94	1.74 + 1.74+ 3.32	6.80 (2.40 - 9.50)	2100 (430 - 2600)	3.24
	25 + 25 + 50[1]	1.33 + 1.33+ 2.65	5.30 (2.20 - 8.00)	1800 (420 - 2890)	2.94	1.74 + 1.74+ 3.32	6.80 (2.40 - 9.50)	2100 (430 - 2600)	3.24
	25 + 35+ 35	1.39 + 1.95+ 1.95	5.30 (2.20 - 8.00)	1800 (420 - 2890)	2.94	1.93 + 2.44+ 2.44	6.80 (2.40 - 9.50)	2100 (430 - 2600)	3.24
	25 + 35 + 42[1]	1.30 + 1.82+ 2.18	5.30 (2.20 - 8.00)	1800 (420 - 2890)	2.94	1.63 + 2.06+ 3.11	6.80 (2.40 - 9.50)	2100 (430 - 2600)	3.24
	25 + 35 + 50[1]	1.20 + 1.69+ 2.41	5.30 (2.20 - 8.00)	1800 (420 - 2890)	2.94	1.63 + 2.06+ 3.11	6.80 (2.40 - 9.50)	2100 (430 - 2600)	3.24
	25 + 42 + 42[1]	1.22 + 2.04+ 2.04	5.30 (2.20 - 8.00)	1800 (420 - 2890)	2.94	1.63 + 2.06+ 3.11	6.80 (2.40 - 9.50)	2100 (430 - 2600)	3.24
	35 + 35+ 35	1.77 + 1.77+ 1.77	5.30 (2.20 - 8.00)	1800 (420 - 2890)	2.94	2.27 + 2.27+ 2.27	6.80 (2.40 - 9.50)	2100 (430 - 2600)	3.24

[1] For each output corresponding to units 42, 50 and 60, an adapter to switch from 3/8 to 1/2 is required.
** RAM - 53NP3E + RAK - 18QXE + RAK - 35RPE

RAM - 68NP3E		COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
1 unit*	15	1.50	1.50 (1.00 - 1.60)	430 (200 - 480)	3.49	2.00	2.00 (1.10 - 2.20)	560 (320 - 850)	3.57
	18	1.80	1.80 (1.50 - 2.00)	495 (280 - 500)	3.64	2.50	2.50 (1.80 - 3.50)	720 (320 - 1130)	3.47
	25	2.50	2.50 (1.50 - 2.80)	700 (280 - 720)	3.57	3.40	3.40 (1.80 - 4.70)	980 (320 - 1480)	3.47
	35	3.50	3.50 (1.50 - 3.90)	1030 (280 - 1130)	3.40	4.30	4.30 (1.80 - 5.80)	1150 (320 - 1950)	3.74
	42	4.20	4.20 (1.50 - 5.60)	1450 (280 - 1800)	2.90	6.50	6.50 (1.80 - 7.20)	2030 (320 - 2530)	3,20
	50	5.00	5.00 (1.50 - 5.60)	1480 (280 - 1800)	3.38	6.50	6.50 (1.80 - 7.20)	2030 (320 - 2530)	3.20
	60	6.00	6.00 (1.50 - 6.60)	1480 (280 - 2290)	4.05	7.30	7.30 (1.80 - 8.50)	2590 (320 - 2860)	2.82
2 units	15+ 15	1.50+ 1.50	3.00 (1.50 - 2.80)	870 (380 - 980)	3.45	2.00+ 2.00	4.00 (2.20 - 4.70)	1080 (200 - 1100)	3.70
	15+ 18	1.50+ 1.80	3.30 (1.50 - 3.50)	950 (380 - 1000)	3.47	2.00+ 2.50	4.50 (2.20 - 5.20)	1200 (200 - 1300)	3.75
	15+ 25	1.50+ 2.50	4.00 (1.50 - 4.00)	1300 (380 - 1300)	3.08	2.00+ 3.40	5.40 (2.20 - 6.40)	1450 (200 - 1780)	3.72
	15+ 35	1.50+ 3.50	5.00 (1.50 - 5.20)	1450 (380 - 1450)	3.45	2.00+ 4.30	6.30 (2.20 - 7.20)	1660 (200 - 2010)	3.80
	15 + 42 [1]	1.50+ 4.20	5.70 (1.50 - 5.90)	1700 (380 - 2380)	3.35	2.00+ 6.50	8.50 (2.20 - 7.20)	2200 (390 - 3120)	3.86
	15 + 50 [1]	1.50+ 5.00	6.50 (1.50 - 5.90)	1830 (380 - 2380)	3.55	2.00+ 6.50	8.50 (2.20 - 7.20)	2200 (390 - 3120)	3.86
	15 + 60 [1]	1.36+ 5.44	6.80 (1.50 - 6.50)	2120 (380 - 2580)	3.58	1.83+ 6.67	8.50 (2.20 - 8.60)	2200 (390 - 3120)	3.86
	18+ 18	1.80+ 1.80	3.60 (2.00 - 4.00)	1020 (380 - 1020)	3.53	2.50+ 2.50	5.00 (2.20 - 6.40)	1380 (390 - 2750)	3.62
	18 + 25	1.80 + 2.50	4.30 (2.00 - 4.70)	1380 (380 - 1360)	3.12	2.50 + 3.40	5.90 (2.20 - 7.20)	1580 (390 - 3000)	3.73
	18 + 35	1.80 + 3.50	5.30 (2.00 - 5.80)	1750 (380 - 1950)	3.03	2.50 + 4.30	6.80 (2.20 - 7.20)	1610 (390 - 3120)	4.22
	18 + 42[1]	1.80 + 5.00	6.00 (2.00 - 7.10)	1830 (380 - 2820)	3.28	2.36 + 6.14	8.50 (2.20 - 9.50)	2120 (390 - 3120)	4.01
	18 + 50[1]	1.80 + 5.00	6.80 (2.00 - 7.10)	1830 (380 - 2820)	3.72	2.36 + 6.14	8.50 (2.20 - 9.50)	2120 (390 - 3120)	4.01
	18 + 60[1]	1.70 + 5.40	6.80 (2.00 - 7.50)	1900 (380 - 2980)	3.58	2.17 + 6.33	8.50 (2.20 - 9.50)	2200 (390 - 3120)	3.86
	25 + 25	2.50 + 2.50	5.00 (2.00 - 5.50)	1480 (380 - 1720)	3.38	3.40 + 3.40	6.80 (2.20 - 9.50)	2000 (390 - 3120)	3.40
	25 + 35	2.50 + 3.50	6.00 (2.00 - 6.60)	1850 (380 - 2380)	3.24	3.40 + 4.30	7.70 (2.20 - 9.50)	2120 (390 - 3120)	3.63
	25 + 42[1]	2.50 + 4.20	6.70 (2.00 - 7.50)	2060 (380 - 2980)	3.25	2.92 + 5.58	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	25 + 50[1]	2.27 + 4.53	6.80 (2.00 - 7.50)	2060 (380 - 2980)	3.30	2.92 + 5.58	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	25 + 60[1]	2.10 + 5.00	6.80 (2.00 - 7.50)	2060 (380 - 2980)	3.30	2.70 + 5.80	8.50 (2.20 - 9.50)	2450 (390 - 3120)	3.47
	35 + 35	3.40 + 3.40	6.80 (2.00 - 7.40)	2060 (380 - 2940)	3.30	4.25 + 4.25	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	35 + 42[1]	3.09 + 3.71	6.80 (2.00 - 7.50)	2060 (380 - 2890)	3.30	3.38 + 5.12	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	35 + 50[1]	2.80 + 4.00	6.80 (2.00 - 7.50)	2060 (380 - 2890)	3.30	3.38 + 5.12	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	35 + 60[1]	2.60 + 4.50	6.80 (2.00 - 7.80)	2060 (380 - 3100)	2.78	3.15 + 5.35	8.50 (2.20 - 9.50)	2450 (390 - 3120)	3.47
	42 + 42[1]	3.40 + 3.40	6.80 (2.00 - 8.00)	2060 (380 - 3170)	3.30	4.25 + 4.25	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	42 + 50[1]	3.10 + 3.70	6.80 (2.00 - 8.00)	2060 (380 - 3170)	3.30	4.25 + 4.25	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	42 + 60[1]	2.80 + 4.00	6.80 (2.00 - 8.00)	2060 (380 - 3170)	3.30	4.25 + 4.25	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	50 + 50[1]	3.40 + 3.40	6.80 (2.00 - 8.00)	2060 (380 - 3170)	3.30	4.25 + 4.25	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	50 + 60[1]	3.20 + 3.90	6.80 (2.00 - 8.00)	2360 (380 - 3170)	2.88	4.00 + 4.50	8.50 (2.20 - 9.50)	2450 (390 - 3120)	3.47

* For information: these are performances when a single unit is in operation. However, a minimum of 2 units must be connected to the outdoor unit.
[1] For each output corresponding to units 42, 50 and 60, a refrigerant adapter to switch from 3/8 to 1/2 is required.
** RAM - 68NP3E + RAK - 18RPE + RAK - 25RPE + RAK - 25RPE.

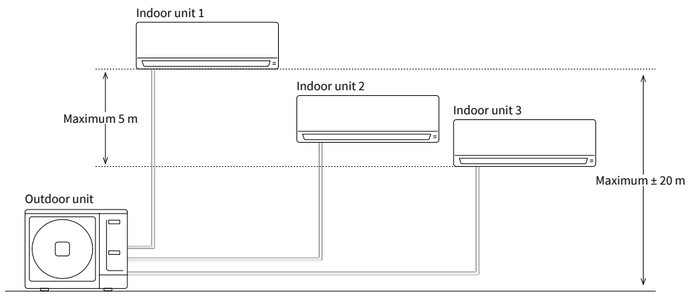
Refrigerant lengths

RAM-68NP3E

L1 + L2 + L3 < 60 m
L1 < 25 m ; L2 < 25 m ; L3 < 25 m

Pre-charged for 30 m.
Additional 20g/m required beyond 35 m.

Always connect the most powerful indoor unit to the lowest connector.



Indoor unit combinations

Standard multi-splits

	RAM - 68NP3E	COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
3 units	15 + 15 + 15	1.50 + 1.50 + 1.50	4.50 (2.20 - 5.00)	1400 (420 - 1680)	3.21	2.00 + 2.00 + 2.00	6.00 (2.40 - 6.50)	1650 (430 - 1800)	3.64
	15 + 15 + 18	1.50 + 1.50 + 1.80	4.80 (2.20 - 5.50)	1480 (240 - 1880)	3.24	2.00 + 2.00 + 2.50	6.50 (2.40 - 7.00)	1750 (430 - 2100)	3.71
	15 + 15 + 25	1.50 + 1.50 + 2.50	5.50 (2.20 - 6.00)	1680 (420 - 2280)	3.27	2.00 + 2.00 + 3.40	7.40 (2.20 - 9.30)	2010 (430 - 2200)	3.68
	15 + 15 + 35	1.50 + 1.50 + 3.50	6.50 (2.20 - 7.00)	2010 (420 - 2480)	3.23	2.00 + 2.00 + 4.30	8.30 (2.40 - 9.50)	2260 (430 - 2500)	3.67
	15 + 15 + 42[1]	1.42 + 1.42+ 3.97	6.80 (2.20 - 7.50)	2100(420 - 2890)	3.24	1.62 + 1.62+ 5.26	8.50 (2.40 - 9.50)	2300 (430 - 2600)	3.7
	15 + 15 + 50[1]	1.28 + 1.28+ 4.25	6.80 (2.20 - 7.50)	2100(420 - 2890)	3.24	1.62 + 1.62+ 5.26	8.50 (2.40 - 9.50)	2300 (430 - 2600)	3.7
	15 + 15 + 60[1]	1.13 + 1.13+ 4.53	6.80 (2.20 - 8.00)	2180(420 - 2960)	3.12	1.53 + 1.38+ 5.59	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	15 + 18 + 18	1.50 + 1.80 + 1.80	5.10 (2.20 - 5.60)	1550(420 - 2280)	3.29	2.00 + 2.50 + 2.50	7.00 (2.20 - 9.30)	1900 (430 - 2400)	3.68
	15 + 18 + 25	1.50 + 1.80 + 2.50	5.80 (2.20 - 6.30)	1800(420 - 2480)	3.22	2.00 + 2.50 + 3.40	7.90 (2.40 - 9.50)	2150 (430 - 2600)	3.67
	15 + 18 + 35	1.50 + 1.80 + 3.50	6.80 (2.20 - 7.50)	2100(420 - 2480)	3.24	1.93 + 2.41 + 4.15	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	15 + 18 + 42[1]	1.36 + 1.63 + 3.81	6.80 (2.20 - 7.50)	2100(420 - 2890)	3.24	1.55 + 1.93 + 5.02	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	15 + 18 + 50[1]	1.23 + 1.47 + 4.10	6.80 (2.20 - 7.50)	2100(420 - 2890)	3.24	1.55 + 1.93 + 5.02	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	15 + 18 + 60[1]	1.10 + 1.32 + 4.39	6.80 (2.20 - 8.00)	2180(420 - 2960)	3.12	1.44 + 1.80 + 5.26	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	15 + 25 + 25	1.50 + 2.50 + 2.50	6.50 (1.50 - 7.00)	2020(420 - 2480)	3.22	1.93 + 3.28 + 3.28	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	15 + 25 + 35	1.36 + 2.27 + 3.17	6.80 (2.20 - 7.80)	2100(420 - 2890)	3.24	1.75 + 2.98 + 3.77	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	15 + 25 + 42[1]	1.24 + 2.07 + 3.48	6.80 (2.20 - 8.00)	2100(420 - 2960)	3.24	1.43 + 2.43 + 4.64	8.50 (2.40 - 9.50)	2310 (430 - 2600)	3.68
	15 + 25 + 50[1]	1.13 + 1.89 + 3.78	6.80 (2.20 - 8.00)	2100(420 - 2960)	3.24	1.43 + 2.43 +4.64	8.50 (2.40 - 9.50)	2310 (430 - 2600)	3.68
	15 + 25 + 60[1]	1.02 + 1.70 + 4.08	6.80 (2.20 - 8.00)	2180(420 - 2960)	3.12	1.34 + 2.28 + 4.89	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	15 + 35 + 35	1.20 + 2.80 + 2.80	6.80 (2.20 - 8.00)	2100(420 - 2890)	3.24	1.60 + 3.45 + 3.45	8.50 (2.40 - 9.50)	2310 (430 - 2600)	3.68
	15 + 35 + 42[1]	1.11 + 2.59 + 3.10	6.80 (2.20 - 8.00)	2100(420 - 2960)	3.24	1.33 + 2.86 + 4.32	8.50 (2.40 - 9.50)	2310 (430 - 2600)	3.68
	15 + 35 + 50[1]	1.02 + 2.38 + 3.40	6.80 (2.20 - 8.00)	2100(420 - 2960)	3.24	1.33 + 2.86 + 4.32	8.50 (2.40 - 9.50)	2310 (430 - 2600)	3.68
	15 + 35 + 60[1]	0.93 + 2.16 + 3.71	6.80 (2.20 - 8.00)	2180(420 - 2960)	3.12	1.14 + 2.73 + 4.63	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	15 + 42 + 42[1]	1.03 + 2.88 + 2.88	6.80 (2.20 - 8.00)	2180(420 - 2960)	3.12	1.03 + 3.73 + 3.73	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	15 + 42 + 50[1]	0.95 + 2.67 + 3.18	6.80 (2.20 - 8.00)	2180(420 - 2960)	3.12	1.03 + 3.73 + 3.73	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	18 + 18 + 18	1.80 + 1.80 + 1.80	5.40 (2.20 - 5.90)	1450(420 - 2190)	3.72	2.50 + 2.50 + 2.50	7.50 (2.40 - 9.50)	2050 (430 - 2600)	3.66
	18 + 18 + 25	1.80 + 1.80 + 2.50	6.10 (2.20 - 6.70)	1720(420 - 2480)	3.55	2.50 + 2.50 + 3.40	8.40 (2.40 - 9.50)	2150 (430 - 2600)	3.91
	18 + 18 + 35	1.72 + 1.72 + 3.35	6.80 (2.20 - 7.80)	2080(420 - 2890)	3.27	2.28 + 2.28 + 3.93	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	18 + 18 + 42[1]	1.57 + 1.57 + 3.66	6.80 (2.20 - 8.00)	2080(420 - 2960)	3.27	1.85 + 1.85 + 4.80	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	18 + 18 + 50[1]	1.42 + 1.42 + 3.95	6.80 (2.20 - 8.00)	2080(420 - 2960)	3.27	1.85 + 1.85 + 4.80	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	18 + 18 + 60[1]	1.28 + 1.28 + 4.25	6.80 (2.20 - 8.00)	2160(420 - 2960)	3.15	1.73 + 1.73 + 5.04	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	18 + 25 + 25	1.80 + 2.50 + 2.50	6.80 (2.20 - 7.50)	2080(420 - 2780)	3.27	2.28 + 3.11 + 3.11	8.50 (2.40 - 9.50)	2200 (430 - 2600)	3.86
	18 + 25 + 35	1.57 + 2.18 + 3.05	6.80 (2.20 - 8.00)	2080(420 - 2960)	3.27	2.08 + 2.83 + 3.58	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	18 + 25 + 42[1]	1.44 + 2.00 + 3.36	6.80 (2.20 - 8.00)	2080(440 - 2770)	3.27	1.71 + 2.33 + 4.46	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	18 + 25 + 50[1]	1.32 + 1.83 + 3.66	6.80 (2.20 - 8.00)	2080(440 - 2770)	3.27	1.71 + 2.33 +4.46	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	18 + 25 + 60[1]	1.19 + 1.65 + 3.96	6.80 (2.20 - 8.00)	2160(420 - 2960)	3.15	1.61 + 2.19 + 4.70	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	18 + 35 + 35	1.39 + 2.70 + 2.70	6.80 (2.20 - 8.00)	2080(420 - 2960)	3.27	1.91 + 3.29 + 3.29	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	18 + 35 + 42[1]	1.29 + 2.51 + 3.01	6.80 (2.20 - 8.00)	2080(420 - 2960)	3.27	1.60 + 2.75 + 4.15	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	18 + 35 + 50[1]	1.19 + 2.31 + 3.30	6.80 (2.20 - 8.00)	2080(420 - 2960)	3.27	1.60 + 2.75 + 4.15	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	25 + 25 + 25	2.27 + 2.27 + 2.27	6.80 (2.20 - 7.80)	2080(420 - 2890)	3.27	2.83 + 2.83 + 2.83	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	25 + 25 + 35	2.00 + 2.00 + 2.80	6.80 (2.20 - 8.00)	2080(420 - 2960)	3.27	2.60 + 2.60 + 3.29	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	25 + 25 + 42[1]	1.85 + 1.85 + 3.10	6.80 (2.20 - 8.00)	2080(420 - 2960)	3.27	2.17 + 2.17 + 4.15	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	25 + 25 + 50[1]	1.70 + 1.70 + 3.40	6.80 (2.20 - 8.00)	2080(420 - 2960)	3.27	2.17 + 2.17 + 4.15	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	25 + 25 + 60[1]	1.55 + 1.55 + 3.71	6.80 (2.20 - 8.00)	2160(420 - 2960)	3.15	2.05 + 2.05 + 4.40	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	25 + 35 + 35	1.79 + 2.51 + 2.51	6.80 (2.20 - 8.00)	2080(420 - 2960)	3.27	2.41 + 3.05 + 3.05	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	25 + 35 + 42[1]	1.67 + 2.33 + 2.80	6.80 (2.20 - 8.00)	2080(420 - 2960)	3.27	2.04 + 2.57 + 3.89	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	25 + 35 + 50[1]	1.55 + 2.16 + 3.09	6.80 (2.20 - 8.00)	2080(420 - 2960)	3.27	2.04 + 2.57 + 3.89	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	25 + 42 + 42[1]	1.56 + 2.62 + 2.62	6.80 (2.20 - 8.00)	2080(420 - 2960)	3.27	2.04 + 2.57 + 3.89	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	35 + 35 + 35	2.27 + 2.27 + 2.27	6.80 (2.20 - 8.00)	2080(420 - 2960)	3.27	2.83 + 2.83 + 2.83	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73

[1] For each output corresponding to units 42, 50 and 60, a refrigerant adapter to switch from 3/8 to 1/2 is required.
** RAM - 68NP3E + RAK - 18RPE + RAK - 25RPE + RAK - 25RPE.

	RAM - 70NP4E	COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP Class
1 unit*	15	1.50	1.50 (1.00 - 1.60)	400 (200 - 480)	3.75	2.00	2.00 (1.10 - 2.20)	560 (320 - 850)	3.57
	18	1.80	1.80 (1.50 - 2.00)	450 (280 - 500)	4.00	2.50	2.50 (1.80 - 3.50)	720 (320 - 1130)	3.47
	25	2.50	2.50 (1.50 - 2.80)	650 (280 - 720)	3.85	3.40	3.40 (1.80 - 4.70)	980 (320 - 1480)	3.47
	35	3.50	3.50 (1.50 - 3.90)	1030 (280 - 1130)	3.40	4.30	4.30 (1.80 - 5.80)	1150 (320 - 1950)	3.74
	42	4.20	4.20 (1.50 - 5.60)	1450 (280 - 1800)	2.90	6.50	6.50 (1.80 - 7.20)	2030 (320 - 2530)	3.20
	50	5.00	5.00 (1.50 - 5.60)	1450 (280 - 1800)	3.45	6.50	6.50 (1.80 - 7.20)	2030 (320 - 2530)	3.20
	60	6.00	6.00 (1.50 - 6.60)	1450 (280 - 2290)	4.14	7.30	7.30 (1.80 - 8.50)	2100 (320 - 2860)	3.48
2 units	15+ 15	1.50+ 1.50	3.00 (1.50 - 2.80)	870 (380 - 980)	3.45	2.00+ 2.00	4.00 (2.20 - 4.70)	1080 (200 - 1100)	3.70
	15+ 18	1.50+ 1.80	3.30 (1.50 - 3.50)	950 (380 - 1000)	3.47	2.00+ 2.50	4.50 (2.20 - 5.20)	1200 (200 - 1300)	3.75
	15+ 25	1.50+ 2.50	4.00 (1.50 - 4.00)	1150 (380 - 1300)	3.48	2.00+ 3.40	5.40 (2.20 - 6.40)	1450 (200 - 1780)	3.72
	15+ 35	1.50+ 3.50	5.00 (1.50 - 5.20)	1450 (380 - 1450)	3.45	2.00+ 4.30	6.30 (2.20 - 7.20)	1660 (200 - 2010)	3.80
	15+ 42	1.50+ 4.20	5.70 (1.50 - 5.90)	1950 (380 - 2380)	2.92	2.00+ 6.50	8.50 (2.20 - 7.20)	2200 (390 - 3120)	3.86
	15+ 50	1.50+ 5.00	6.50 (1.50 - 5.90)	2000 (380 - 2380)	3.25	2.00+ 6.50	8.50 (2.20 - 7.20)	2200 (390 - 3120)	3.86
	15+ 60	1.40+ 5.60	7.00 (1.50 - 6.50)	2000 (380 - 2580)	3.50	1.83+ 6.67	8.50 (2.20 - 8.60)	2200 (390 - 3120)	3.86
	18+ 18	1.80+ 1.80	3.60 (2.00 - 4.00)	1020 (380 - 1020)	3.53	2.50+ 2.50	5.00 (2.20 - 6.40)	1380 (390 - 2750)	3.62
	18 + 25	1.80 + 2.50	4.30 (2.00 - 4.70)	1120 (380 - 1360)	3.84	2.50 + 3.40	5.90 (2.20 - 7.20)	1610 (390 - 3000)	3.66
	18 + 35	1.80 + 3.50	5.30 (2.00 - 5.80)	1600 (380 - 1950)	3.31	2.50 + 4.30	6.80 (2.20 - 7.20)	1850 (390 - 3120)	3.68
	18 + 42	1.80 + 4.20	6.00 (2.00 - 7.10)	1800 (380 - 2820)	3.33	2.36 + 6.14	8.50 (2.20 - 9.50)	2110 (390 - 3120)	4.03
	18 + 50	1.80 + 5.00	6.80 (2.00 - 7.10)	1830 (380 - 2820)	3.72	2.36 + 6.14	8.50 (2.20 - 9.50)	2120 (390 - 3120)	4.01
	18 + 60	1.70 + 5.40	7.00 (2.00 - 7.50)	2100 (380 - 2980)	3.33	2.17 + 6.33	8.50 (2.20 - 9.50)	2150 (390 - 3120)	3.95
	25 + 25	2.50 + 2.50	5.00 (2.00 - 5.50)	1410 (380 - 1720)	3.55	3.40 + 3.40	6.80 (2.20 - 9.50)	1850 (390 - 3120)	3.68
	25 + 35	2.50 + 3.50	6.00 (2.00 - 6.60)	1850 (380 - 2380)	3.24	3.60 + 4.30	7.70 (2.20 - 9.50)	2120 (390 - 3120)	3.63
	25 + 42	2.50 + 4.20	6.70 (2.00 - 7.50)	2100 (380 - 2980)	3.19	2.92 + 5.58	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	25 + 50	2.33 + 4.67	7.00 (2.00 - 7.50)	2100 (380 - 2980)	3.33	2.92 + 5.58	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	25 + 60	2.06 + 4.94	7.00 (2.00 - 7.50)	2100 (380 - 2980)	3.33	2.70 + 5.80	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	35 + 35	3.50 + 3.50	7.00 (2.00 - 7.40)	1890 (380 - 2940)	3.70	4.25 + 4.25	8.50 (2.20 - 9.50)	2020 (390 - 3120)	4.21
	35 + 42	3.18 + 3.82	7.00 (2.00 - 7.50)	2100 (380 - 2890)	3.33	3.38 + 5.12	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	35 + 50	2.88 + 4.12	7.00 (2.00 - 7.50)	2100 (380 - 2890)	3.33	3.38 + 5.12	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	35 + 60	2.58 + 4.42	7.00 (2.00 - 7.80)	2100 (380 - 3100)	3.33	3.15 + 5.35	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	42 + 42	3.50 + 3.50	7.00 (2.00 - 8.00)	2100 (380 - 3170)	3.33	4.25 + 4.25	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	42 + 50	3.20 + 3.80	7.00 (2.00 - 8.00)	2100 (380 - 3170)	3.33	4.25 + 4.25	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	42 + 60	2.88 + 4.12	7.00 (2.00 - 8.00)	2100 (380 - 3170)	3.33	4.25 + 4.25	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	50 + 50	3.50 + 3.50	7.00 (2.00 - 8.00)	2100 (380 - 3170)	3.33	4.25 + 4.25	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62
	50 + 60	3.18 + 3.82	7.00 (2.00 - 8.00)	2100 (380 - 3170)	3.33	4.00 + 4.50	8.50 (2.20 - 9.50)	2350 (390 - 3120)	3.62

* For information: these are performances when a single unit is in operation. However, a minimum of 2 units must be connected to the outdoor unit.
** RAM - 70NP4E + RAK - 35RPE + RAK - 35RPE.

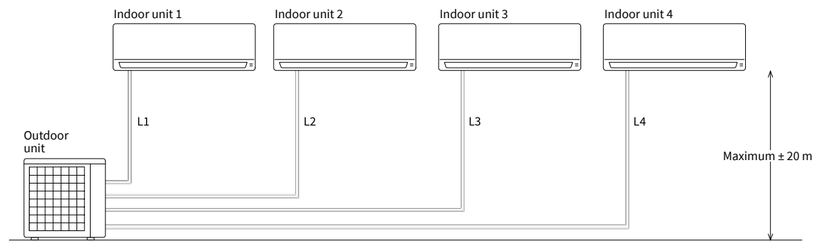
Refrigerant lengths

RAM-70NP4E

L1 + L2 + L3 + L4 < 60 m
L1 ; L2 ; L3 ; L4 < 25 m

Pre-charged for 30 m.
Additional 20 g/m required beyond 30 m. Maximum height between the highest indoor unit and the lowest indoor unit: 5 m.

Always connect the most powerful indoor unit to the lowest connector.



Indoor unit combinations

Standard multi-splits

RAM - 70NP4E		COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
3 units	15 + 15 + 15	1.50 + 1.50 + 1.50	4.50 (2.20 - 5.00)	1400 (420 - 1680)	3.21	2.00 + 2.00 + 2.00	6.00 (2.40 - 6.50)	1650 (430 - 1800)	3.64
	15 + 15 + 18	1.50 + 1.50 + 1.80	4.80 (2.20 - 5.50)	1480 (240 - 1880)	3.24	2.00 + 2.00 + 2.50	6.50 (2.40 - 7.00)	1750 (430 - 2100)	3.71
	15 + 15 + 25	1.50 + 1.50 + 2.50	5.50 (2.20 - 6.00)	1680 (420 - 2280)	3.27	2.00 + 2.00 + 3.40	7.40 (2.20 - 9.30)	2010 (430 - 2200)	3.68
	15 + 15 + 35	1.50 + 1.50 + 3.50	6.50 (2.20 - 7.00)	2010 (420 - 2480)	3.23	2.00 + 2.00 + 4.30	8.30 (2.40 - 9.50)	2260 (430 - 2500)	3.67
	15 + 15+ 42	1.46 + 1.46+ 4.08	7.00 (2.20 - 7.50)	2100 (420 - 2890)	3.33	1.62 + 1.62+ 5.26	8.50 (2.40 - 9.50)	2300 (430 - 2600)	3.70
	15 + 15+ 50	1.31 + 1.31+ 4.38	7.00 (2.20 - 7.50)	2100 (420 - 2890)	3.33	1.62 + 1.62+ 5.26	8.50 (2.40 - 9.50)	2300 (430 - 2600)	3.70
	15 + 15+ 60	1.17 + 1.17+ 4.67	7.00 (2.20 - 8.00)	2100 (420 - 2960)	3.33	1.53 + 1.38+ 5.59	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	15 + 18 + 18	1.50 + 1.80 + 1.80	5.10 (2.20 - 5.60)	1550 (420 - 2280)	3.29	2.00 + 2.50 + 2.50	7.00 (2.20 - 9.30)	1900 (430 - 2400)	3.68
	15 + 18 + 25	1.50 + 1.80 + 2.50	5.80 (2.20 - 6.30)	1800 (420 - 2480)	3.22	2.00 + 2.50 + 3.40	7.90 (2.40 - 9.50)	2150 (430 - 2600)	3.67
	15 + 18 + 35	1.50 + 1.80 + 3.50	6.80 (2.20 - 7.50)	2100 (420 - 2480)	3.24	1.93 + 2.41 + 4.15	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	15 + 18 + 42	1.40 + 1.68 + 3.92	7.00 (2.20 - 7.50)	2100 (420 - 2890)	3.33	1.55 + 1.93 + 5.02	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	15 + 18 + 50	1.27 + 1.52 + 4.22	7.00 (2.20 - 7.50)	2100 (420 - 2890)	3.33	1.55 + 1.93 + 5.02	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	15 + 18 + 60	1.13 + 1.35 + 4.52	7.00 (2.20 - 8.00)	2100 (420 - 2960)	3.33	1.44 + 1.80 + 5.26	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	15 + 25 + 25	1.50 + 2.50 + 2.50	6.50 (2.20 - 7.00)	2020 (420 - 2480)	3.22	1.93 + 3.28 + 3.28	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	15 + 25 + 35	1.40 + 2.33 + 3.27	7.00 (2.20 - 7.80)	2100 (420 - 2890)	3.33	1.75 + 2.98 + 3.77	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	15 + 25 + 42	1.28 + 2.13 + 3.59	7.00 (2.20 - 8.00)	2100 (420 - 2960)	3.33	1.43 + 2.43 + 4.64	8.50 (2.40 - 9.50)	2310 (430 - 2600)	3.68
	15 + 25 + 50	1.17 + 1.94 + 3.89	7.00 (2.20 - 8.00)	2100 (420 - 2960)	3.33	1.43 + 2.43 + 4.64	8.50 (2.40 - 9.50)	2310 (430 - 2600)	3.68
	15 + 25 + 60	1.05 + 1.75 + 4.20	7.00 (2.20 - 8.00)	2100 (420 - 2960)	3.33	1.34 + 2.28 + 4.89	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	15 + 35 + 35	1.24 + 2.88 + 2.88	7.00 (2.20 - 8.00)	2100 (420 - 2890)	3.33	1.60 + 3.45 + 3.45	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	15 + 35 + 42	1.14 + 2.66 + 3.20	7.00 (2.20 - 8.00)	2100 (420 - 2960)	3.33	1.33 + 2.86 + 4.32	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	15 + 35 + 50	1.05 + 2.45 + 3.50	7.00 (2.20 - 8.00)	2100 (420 - 2960)	3.33	1.33 + 2.86 + 4.32	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	15 + 35 + 60	0.95 + 2.23 + 3.82	7.00 (2.20 - 8.00)	2100 (420 - 2960)	3.33	1.25 + 2.69 + 4.56	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	15 + 42 + 42	1.06 + 2.97 + 2.97	7.00 (2.20 - 8.00)	2100 (420 - 2960)	3.33	1.13 + 3.68 + 3.68	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	15 + 42 + 50	0.98 + 2.75 + 3.27	7.00 (2.20 - 8.00)	2100 (420 - 2960)	3.33	1.13 + 3.68 + 3.68	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	15 + 50 + 50	0.91 + 3.04 + 3.04	7.00 (2.20 - 8.00)	2100 (420 - 2960)	3.33	1.13 + 3.68 + 3.68	8.50 (2.40 - 9.50)	2260 (430 - 2600)	3.76
	18 + 18 + 18	1.80 + 1.80 + 1.80	5.40 (2.20 - 5.90)	1450 (420 - 2190)	3.72	2.50 + 2.50 + 2.50	7.50 (2.40 - 9.50)	2050 (430 - 2600)	3.66
	18 + 18 + 25	1.80 + 1.80 + 2.50	6.10 (2.20 - 6.70)	1720 (420 - 2480)	3.55	2.50 + 2.50 + 3.40	8.40 (2.40 - 9.50)	2290 (430 - 2600)	3.67
	18 + 18 + 35	1.77 + 1.77 + 3.45	7.00 (2.20 - 7.80)	2080 (420 - 2890)	3.37	2.28 + 2.28 + 3.93	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	18 + 18 + 42	1.62 + 1.62 + 3.77	7.00 (2.20 - 8.00)	2080 (420 - 2890)	3.37	1.85 + 1.85 + 4.80	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	18 + 18 + 50	1.47 + 1.47 + 4.07	7.00 (2.20 - 8.00)	2080 (420 - 2890)	3.37	1.85 + 1.85 + 4.80	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	18 + 18 + 60	1.35 + 1.35 + 4.40	7.00 (2.20 - 8.00)	2100 (420 - 2960)	3.33	1.73 + 1.73 + 5.04	8.50 (2.40 - 9.50)	2320 (430 - 2600)	3.66
	18 + 25 + 25	1.80 + 2.50 + 2.50	6.8 (2.20 - 7.50)	2080 (420 - 2780)	3.27	2.28 + 3.11 + 3.11	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	18 + 25 + 35	1.62 + 2.24 + 3.14	7.00 (2.20 - 8.00)	2080 (420 - 2890)	3.37	2.08 + 2.83 + 3.58	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	18 + 25 + 42	1.48 + 2.06 + 3.46	7.00 (2.20 - 8.00)	2080 (420 - 2770)	3.37	1.71 + 2.33 + 4.46	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	18 + 25 + 50	1.35 + 1.88 + 3.76	7.00 (2.20 - 8.00)	2080 (420 - 2770)	3.37	1.71 + 2.33 + 4.46	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	18 + 25 + 60	1.25 + 1.70 + 4.15	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	1.61 + 2.19 + 4.70	8.50 (2.40 - 9.50)	2320 (430 - 2600)	3.66
	18 + 35 + 35	1.43 + 2.78 + 2.78	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	1.91 + 3.29 + 3.29	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	18 + 35 + 42	1.33 + 2.58 + 3.09	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	1.60 + 2.75 + 4.15	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	18 + 35 + 50	1.22 + 2.38 + 3.40	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	1.60 + 2.75 + 4.15	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	18 + 42 + 42	1.24 + 2.88 + 2.88	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	1.60 + 2.75 + 4.15	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	18 + 42 + 50	1.15 + 2.67 + 3.18	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	1.60 + 2.75 + 4.15	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	25 + 25 + 25	2.33 + 2.33 + 2.33	7.00 (2.20 - 7.80)	2080 (420 - 2890)	3.37	2.83 + 2.83 + 2.83	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	25 + 25 + 35	2.06 + 2.06 + 2.88	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	2.60 + 2.60 + 3.29	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	25 + 25 + 42	1.90 + 1.90 + 3.20	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	2.17 + 2.17 + 4.15	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	25 + 25 + 50	1.75 + 1.75 + 3.50	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	2.17 + 2.17 + 4.15	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	25 + 25 + 60	1.60 + 1.60 + 3.90	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	2.05 + 2.05 + 4.40	8.50 (2.40 - 9.50)	2320 (430 - 2600)	3.66
	25 + 35 + 35	1.84 + 2.58 + 2.58	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	2.41 + 3.05 + 3.05	8.50 (2.40 - 9.50)	2290 (430 - 2600)	3.71
	25 + 35 + 42	1.72 + 2.40 + 2.88	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	2.04 + 2.57 + 3.89	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	25 + 35 + 50	1.59 + 2.23 + 3.18	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	2.04 + 2.57 + 3.89	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73
	35 + 35 + 35	2.33 + 2.33 + 2.33	7.00 (2.20 - 8.00)	2080 (420 - 2960)	3.37	2.83 + 2.83 + 2.83	8.50 (2.40 - 9.50)	2280 (430 - 2600)	3.73

** RAM - 70NP4E + RAK - 35RPE + RAK - 35RPE.

RAM - 70NP4E		COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
4 units	15 + 15 + 15 + 15	1.50 + 1.50 + 1.50 + 1.50	6.00 (2.20 - 6.50)	1600 (200 - 1660)	3.75	2.00 + 2.00 + 2.00 + 2.00	8.00 (2.60 - 9.00)	2150 (460 - 2420)	3.72
	15 + 15 + 15 + 18	1.50 + 1.50 + 1.50 + 1.80	6.30 (2.20 - 6.70)	1650 (420 - 2010)	3.82	2.00 + 2.00 + 2.00 + 2.50	8.50 (2.60 - 9.50)	2180 (460 - 2520)	3.90
	15 + 15 + 15 + 25	1.50 + 1.50 + 1.50 + 2.50	7.00 (2.20 - 7.50)	1890 (420 - 2010)	3.70	1.81 + 1.81 + 1.81 + 3.07	8.50 (2.60 - 9.50)	2200 (480 - 2580)	3.86
	15 + 15 + 15 + 35	1.31 + 1.31 + 1.31 + 3.06	7.00 (2.40 - 7.90)	2100 (450 - 2650)	3.33	1.65 + 1.65 + 1.65 + 3.55	8.50 (2.60 - 9.50)	2200 (480 - 2580)	3.86
	15 + 15 + 15 + 42	1.21 + 1.21 + 1.21 + 3.38	7.00 (2.40 - 8.50)	2100 (450 - 2650)	3.33	1.36 + 1.36 + 1.36 + 4.42	8.50 (2.60 - 9.50)	2200 (480 - 2580)	3.86
	15 + 15 + 15 + 50	1.11 + 1.11 + 1.11 + 3.68	7.00 (2.40 - 8.50)	2100 (450 - 2650)	3.33	1.36 + 1.36 + 1.36 + 4.42	8.50 (2.60 - 9.50)	2200 (480 - 2580)	3.86
	15 + 15 + 15 + 60	1.00 + 1.00 + 1.00 + 4.00	7.00 (2.40 - 8.50)	2100 (450 - 2650)	3.33	1.28 + 1.28 + 1.28 + 4.67	8.50 (2.60 - 9.50)	2200 (480 - 2580)	3.86
	15 + 15 + 18 + 18	1.50 + 1.50 + 1.80 + 1.80	6.60 (2.20 - 7.00)	1850 (420 - 2010)	3.57	1.89 + 1.89 + 2.36 + 2.36	8.50 (2.60 - 9.50)	2200 (480 - 2580)	3.86
	15 + 15 + 18 + 25	1.44 + 1.44 + 1.73 + 2.40	7.00 (2.40 - 7.50)	2010 (420 - 2310)	3.48	1.72 + 1.72 + 2.15 + 2.92	8.50 (2.60 - 9.50)	2200 (480 - 2580)	3.86
	15 + 1 5 + 1 8 + 35	1.27 + 1.27 + 1.52 + 2.95	7.00 (2.40 - 7.70)	2100 (450 - 2650)	3.33	1.57 + 1.57 + 1.97 + 3.38	8.50 (2.60 - 9.50)	2200 (480 - 2580)	3.86
	15 + 15 + 18 + 42	1.17 + 1.17 + 1.40 + 3.27	7.00 (2.40 - 7.70)	2100 (450 - 2650)	3.33	1.31 + 1.31 + 1.63 + 4.25	8.50 (2.60 - 9.50)	2200 (480 - 2580)	3.86
	15 + 15 + 18 + 50	1.07 + 1.07 + 1.29 + 3.57	7.00 (2.40 - 7.70)	2100 (450 - 2650)	3.33	1.31 + 1.31 + 1.63 + 4.25	8.50 (2.60 - 9.50)	2200 (480 - 2580)	3.86
	15 + 15 + 18 + 60	0.97 + 0.97 + 1.17 + 3.89	7.00 (2.40 - 7.70)	2100 (450 - 3020)	3.33	1.23 + 1.23 + 1.54 + 4.50	8.50 (2.60 - 9.50)	2180 (460 - 2520)	3.90
	15 + 15 + 25 + 25	1.31 + 1.31 + 2.19 + 2.19	7.00 (2.40 - 7.90)	2100 (450 - 2650)	3.33	1.57 + 1.57 + 2.68 + 2.68	8.50 (2.60 - 9.50)	2200 (480 - 2580)	3.86
	15 + 15 + 25 + 35	1.17 + 1.17 + 1.94 + 2.72	7.00 (2.40 - 7.90)	2100 (450 - 2650)	3.33	1.45 + 1.45 + 2.47 + 3.12	8.50 (2.60 - 9.50)	2200 (480 - 2580)	3.86
	15 + 15 + 25 + 42	1.08 + 1.08 + 1.80 + 3.03	7.00 (2.40 - 8.50)	2100 (450 - 2650)	3.33	1.22 + 1.22 + 2.08 + 3.97	8.50 (2.60 - 9.50)	2180 (460 - 2520)	3.90
	15 + 15 + 25 + 50	1.00 + 1.00 + 1.67 + 3.33	7.00 (2.40 - 8.50)	2100 (450 - 2650)	3.33	1.22 + 1.22 + 2.08 + 3.97	8.50 (2.60 - 9.50)	2180 (460 - 2520)	3.90
	15 + 15 + 25 + 60	0.91 + 0.91 + 1.52 + 3.65	7.00 (2.40 - 8.80)	2100 (450 - 3020)	3.33	1.16 + 1.16 + 1.97 + 4.22	8.50 (2.60 - 9.50)	2180 (460 - 2520)	3.90
	15 + 15 + 35 + 35	1.05 + 1.05 + 2.45 + 2.45	7.00 (2.40 - 8.50)	2100 (450 - 2650)	3.33	1.35 + 1.35 + 2.90 + 2.90	8.50 (2.60 - 9.50)	2200 (480 - 2580)	3.86
	15 + 15 + 35 + 42	0.98 + 0.98 + 2.29 + 2.75	7.00 (2.40 - 8.80)	2100 (450 - 3020)	3.33	1.15 + 1.15 + 2.47 + 3.73	8.50 (2.60 - 9.50)	2180 (460 - 2520)	3.90
	15 + 15 + 35 + 50	0.91 + 0.91 + 2.13 + 3.04	7.00 (2.40 - 8.80)	2100 (450 - 3020)	3.33	1.15 + 1.15 + 2.47 + 3.73	8.50 (2.60 - 9.50)	2180 (460 - 2520)	3.90
	15 + 18 + 18 + 18	1.50 + 1.80 + 1.80 + 1.80	6.90 (2.40 - 7.50)	2010 (420 - 2310)	3.43	1.79 + 2.24 + 2.24 + 2.24	8.50 (2.60 - 9.50)	2200 (480 - 2580)	3.86
	15 + 18 + 18 + 25	1.38 + 1.66 + 1.66 + 2.30	7.00 (2.40 - 7.90)	2100 (450 - 2650)	3.33	1.63 + 2.04 + 2.04 + 2.78	8.50 (2.60 - 9.50)	2200 (480 - 2580)	3.86
	15 + 18 + 18 + 35	1.22 + 1.47 + 1.47 + 2.85	7.00 (2.40 - 7.90)	2100 (450 - 2650)	3.33	1.50 + 1.88 + 1.88 + 3.23	8.50 (2.60 - 9.50)	2200 (480 - 2580)	3.86
	15 + 18 + 18 + 42	1.13 + 1.35 + 1.35 + 3.16	7.00 (2.40 - 8.80)	2100 (450 - 2650)	3.33	1.26 + 1.57 + 1.57 + 4.09	8.50 (2.60 - 9.50)	2180 (460 - 2520)	3.90
	15 + 18 + 18 + 50	1.04 + 1.25 + 1.25 + 3.47	7.00 (2.40 - 8.80)	2100 (450 - 2650)	3.33	1.26 + 1.57 + 1.57 + 4.09	8.50 (2.60 - 9.50)	2180 (460 - 2520)	3.90
	15 + 18 + 18 + 60	0.95 + 1.14 + 1.14 + 3.78	7.00 (2.40 - 8.80)	2110 (450 - 3020)	3.32	1.19 + 1.49 + 1.49 + 4.34	8.50 (2.60 - 9.50)	2180 (460 - 2520)	3.90
	15 + 18 + 25 + 25	1.27 + 1.52 + 2.11 + 2.11	7.00 (2.40 - 7.90)	2110 (450 - 2650)	3.32	1.50 + 1.88 + 2.56 + 2.56	8.50 (2.60 - 9.50)	2200 (480 - 2580)	3.86
	15 + 18 + 25 + 35	1.13 + 1.35 + 1.88 + 2.63	7.00 (2.40 - 7.90)	2110 (450 - 2650)	3.32	1.39 + 1.74 + 2.37 + 3.00	8.50 (2.60 - 9.50)	2200 (480 - 2580)	3.86
	15 + 18 + 25 + 42	1.05 + 1.26 + 1.75 + 2.94	7.00 (2.40 - 8.80)	2110 (450 - 3020)	3.32	1.18 + 1.48 + 2.01 + 3.84	8.50 (2.60 - 9.50)	2180 (460 - 2520)	3.90
	15 + 18 + 25 + 50	0.97 + 1.17 + 1.62 + 3.24	7.00 (2.40 - 8.80)	2110 (450 - 3020)	3.32	1.18 + 1.48 + 2.01 + 3.84	8.50 (2.60 - 9.50)	2180 (460 - 2520)	3.90
	15 + 18 + 35 + 35	1.02 + 1.22 + 2.38 + 2.38	7.00 (2.40 - 7.90)	2110 (450 - 3020)	3.32	1.30 + 1.62 + 2.79 + 2.79	8.50 (2.60 - 9.50)	2200 (480 - 2580)	3.86
	15 + 25 + 25 + 25	1.17 + 1.94 + 1.94 + 1.94	7.00 (2.40 - 7.90)	2110 (450 - 2650)	3.32	1.39 + 2.37 + 2.37 + 2.37	8.50 (2.60 - 9.50)	2200 (480 - 2580)	3.86
	15 + 25 + 25 + 35	1.05 + 1.75 + 1.75 + 2.45	7.00 (2.40 - 8.80)	2110 (450 - 2650)	3.32	1.30 + 2.21 + 2.21 + 2.79	8.50 (2.60 - 9.50)	2200 (480 - 2580)	3.86
	15 + 25 + 35 + 35	0.95 + 1.59 + 2.23 + 2.23	7.00 (2.40 - 8.80)	2110 (450 - 3020)	3.32	1.21 + 2.06 + 2.61 + 2.61	8.50 (2.60 - 9.50)	2180 (460 - 2520)	3.90
	18 + 18 + 18 + 18	1.75 + 1.75 + 1.75 + 1.75	7.00 (2.40 - 7.90)	2110 (450 - 2870)	3.32	2.13 + 2.13 + 2.13 + 2.13	8.50 (2.60 - 9.50)	2120 (480 - 2580)	4.01
	18 + 18 + 18 + 25	1.59 + 1.59 + 1.59 + 2.22	7.00 (2.40 - 7.90)	2110 (450 - 3020)	3.32	1.95 + 1.95 + 1.95 + 2.65	8.50 (2.60 - 9.50)	2120 (480 - 2580)	4.01
	18 + 18 + 18 + 35	1.42 + 1.42 + 1.42 + 2.75	7.00 (2.40 - 8.50)	2110 (450 - 3090)	3.32	1.80 + 1.80 + 1.80 + 3.10	8.50 (2.60 - 9.50)	2120 (460 - 2520)	4.01
	18 + 18 + 18 + 42	1.31 + 1.31 + 1.31 + 3.06	7.00 (2.40 - 8.80)	2110 (450 - 3200)	3.32	1.52 + 1.52 + 1.52 + 3.95	8.50 (2.60 - 9.50)	2110 (460 - 2520)	4.03
	18 + 18 + 18 + 50	1.21 + 1.21 + 1.21 + 3.37	7.00 (2.40 - 8.80)	2110 (450 - 3200)	3.32	1.52 + 1.52 + 1.52 + 3.95	8.50 (2.60 - 9.50)	2110 (460 - 2520)	4.03
	18 + 18 + 25 + 25	1.47 + 1.47 + 2.03 + 2.03	7.00 (2.40 - 8.50)	2110 (450 - 3090)	3.32	1.80 + 1.80 + 2.45 + 2.45	8.50 (2.60 - 9.50)	2120 (460 - 2520)	4.01
	18 + 18 + 25 + 35	1.31 + 1.31 + 1.82 + 2.55	7.00 (2.40 - 8.50)	2100 (450 - 3090)	3.33	1.67 + 1.67 + 2.28 + 2.88	8.50 (2.60 - 9.50)	2120 (460 - 2520)	4.01
	18 + 18 + 35 + 35	1.19 + 1.19 + 2.31 + 2.31	7.00 (2.40 - 8.80)	2100 (450 - 3200)	3.33	1.56 + 1.56 + 2.69 + 2.69	8.50 (2.60 - 9.50)	2110 (460 - 2520)	4.03
	18 + 25 + 25 + 25	1.35 + 1.88 + 1.88 + 1.88	7.00 (2.40 - 8.50)	2100 (450 - 3090)	3.33	1.67 + 2.28 + 2.28 + 2.28	8.50 (2.60 - 9.50)	2120 (460 - 2520)	4.01
	18 + 25 + 25 + 35	1.22 + 1.70 + 1.70 + 2.38	7.00 (2.40 - 8.80)	2100 (450 - 3200)	3.33	1.56 + 2.13 + 2.13 + 2.69	8.50 (2.60 - 9.50)	2110 (460 - 2520)	4.03
	18 + 25 + 25 + 42	1.15 + 1.59 + 1.59 + 2.67	7.00 (2.40 - 8.80)	2100 (450 - 3200)	3.33	1.56 + 2.13 + 2.13 + 2.69	8.50 (2.60 - 9.50)	2110 (460 - 2520)	4.03
	25 + 25 + 25 + 25	1.75 + 1.75 + 1.75 + 1.75	7.00 (2.40 - 8.80)	2100 (450 - 3200)	3.33	2.13 + 2.13 + 2.13 + 2.13	8.50 (2.60 - 9.50)	2110 (460 - 2520)	4.03
	25 + 25 + 25 + 35	1.59 + 1.59 + 1.59 + 2.23	7.00 (2.40 - 8.80)	2100 (450 - 3200)	3.33	1.99 + 1.99 + 1.99 + 2.52	8.50 (2.60 - 9.50)	2110 (460 - 2520)	4.03

** RAM - 70NP4E + RAK - 35RPE + RAK - 35RPE.

Indoor unit combinations

Standard multi-splits

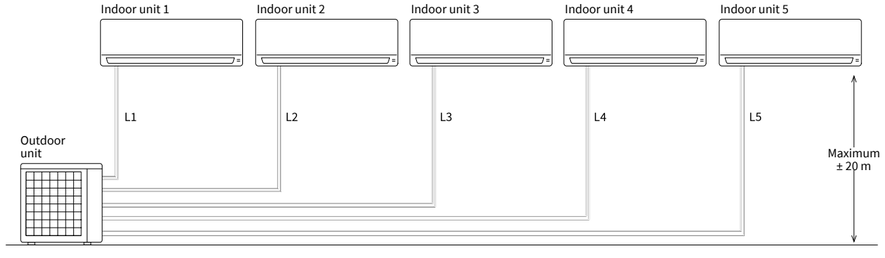
	RAM - 90NP5E	COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
1 unit*	15	1.50	1.50 (1.00 - 1.60)	420 (320 - 480)	3.59	2.00	2.00 (1.50 - 2.20)	620 (360 - 850)	3.23
	18	2.00	1.80 (1.70 - 2.00)	500 (320 - 610)	3.60	2.50	2.50 (2.00 - 3.00)	780 (360 - 920)	3.21
	25	2.50	2.50 (1.70 - 2.80)	700 (320 - 860)	3.57	3.40	3.40 (2.00 - 4.00)	1140 (360 - 1340)	2.98
	35	3.50	3.50 (1.70 - 3.90)	1040 (320 - 1270)	3.37	4.30	4.30 (2.00 - 5.20)	1420 (360 - 1720)	3.03
	42	4.20	4.20 (1.70 - 4.20)	1250 (320 - 1270)	3.36	5.20	4.30 (2.00 - 6.50)	1420 (360 - 1720)	3.03
	50	5.00	5.00 (1.70 - 5.50)	1540 (320 - 1860)	3.25	6.50	6.50 (2.00 - 7.30)	2300 (360 - 2580)	2.83
	60	6.00	6.00 (1.70 - 6.60)	1630 (320 - 1860)	3.68	7.50	6.50 (2.00 - 8.20)	2300 (360 - 2950)	2.83
2 units	15+ 15	1.50+ 1.50	3.00 (2.40 - 3.50)	850 (500 - 1020)	3.53	2.00+ 2.00	4.00 (2.70 - 4.50)	950 (500 - 1140)	4.21
	15+ 18	1.50+ 1.80	3.30 (2.40 - 3.80)	950 (500 - 1140)	3.47	2.00+ 2.50	4.50 (2.70 - 5.00)	1180 (500 - 1416)	3.81
	15+ 25	1.50+ 2.50	4.00 (2.40 - 4.50)	1250 (500 - 1500)	3.20	2.00+ 3.40	5.40 (2.70 - 5.90)	1320 (500 - 1584)	4.09
	15+ 35	1.50+ 3.50	5.00 (2.40 - 5.50)	1550 (500 - 1860)	3.23	2.00+ 4.30	6.30 (2.70 - 6.80)	1550 (500 - 1860)	4.06
	15+ 42	1.50+ 4.20	5.70 (2.40 - 7.00)	1600 (500 - 1860)	3.56	2.00+ 5.20	7.20 (2.70 - 8.00)	1850 (500 - 2560)	3.89
	15+ 50	1.50+ 5.00	6.50 (2.40 - 7.00)	2100 (500 - 2520)	3.10	2.00+ 6.50	8.50 (2.70 - 9.00)	2300 (500 - 2760)	3.70
	15+ 60	1.50+ 6.00	7.50 (2.40 - 7.00)	2100 (500 - 2520)	3.57	2.00+ 7.50	9.50 (2.70 - 10.0)	2300 (500 - 2760)	4.13
	18+ 18	1.80+ 1.80	3.60 (2.40 - 4.00)	820 (500 - 860)	4.39	2.50+ 2.50	5.00 (2.70 - 6.90)	1240 (500 - 1710)	4.03
	18 + 25	1.80 + 2.50	4.30 (2.40 - 4.70)	1000 (500 - 1190)	4.30	2.50 + 3.40	5.90 (2.70 - 7.70)	1530 (500 - 1990)	3.86
	18 + 35	1.80 + 3.50	5.30 (2.40 - 5.80)	1590 (500 - 1900)	3.33	2.50 + 4.30	6.80 (2.70 - 8.50)	1870 (500 - 2320)	3.64
	18 + 42	1.59 + 3.71	5.30 (2.40 - 5.80)	1590 (500 - 1900)	3.33	2.50 + 5.20	7.70 (2.70 - 10.00)	2200 (500 - 2880)	3.50
	18 + 50	1.80 + 5.00	6.80 (2.40 - 7.50)	2370 (450 - 2970)	2.87	2.50 + 6.50	9.00 (2.70 - 10.00)	2470 (500 - 2880)	3.64
	18 + 60	1.57 + 5.23	6.80 (2.40 - 8.50)	2370 (450 - 3120)	2.87	2.50 + 7.50	10.00 (2.70 - 10.00)	2470 (500 - 2880)	4.05
	25 + 25	2.50 + 2.50	5.00 (2.40 - 5.50)	1370 (500 - 1640)	3.65	3.40 + 3.40	6.80 (2.70 - 8.50)	1920 (500 - 2250)	3.54
	25 + 35	2.50 + 3.50	6.00 (2.40 - 6.60)	2000 (500 - 2400)	3.00	3.40 + 4.30	7.70 (2.70 - 9.20)	2280 (500 - 2590)	3.38
	25 + 42	2.24 + 3.76	6.00 (2.40 - 6.60)	2000 (500 - 3470)	3.00	3.40 + 5.20	8.60 (2.70 - 9.20)	2400 (500 - 3110)	3.58
	25 + 50	2.50 + 5.00	7.50 (2.40 - 7.00)	2580 (500 - 3470)	2.91	3.40 + 6.50	9.90 (2.70 - 10.50)	2720 (500 - 3110)	3.64
	25 + 60	2.21 + 5.29	8.50 (2.40 - 8.80)	2580 (500 - 3470)	2.91	3.12 + 6.88	10.00 (2.70 - 11.00)	2720 (500 - 3110)	3.68
	35 + 35	3.50 + 3.50	7.00 (2.40 - 7.70)	2490 (450 - 2990)	2.81	4.30 + 4.30	8.60 (2.70 - 10.00)	2460 (500 - 2860)	3.50
	35 + 42	3.18 + 3.82	7.00 (2.40 - 7.70)	2490 (500 - 2990)	2.81	4.30 + 5.20	9.50 (2.70 - 11.00)	2680 (500 - 3320)	3.54
	35 + 50	3.50 + 5.00	8.50 (2.40 - 8.80)	2500 (500 - 3270)	3.40	3.98 + 6.02	10.00 (2.70 - 11.00)	2560 (500 - 3320)	3.90
	35 + 60	3.13 + 5.37	8.50 (2.40 - 9.10)	2700 (500 - 3270)	3.14	3.64 + 6.36	10.00 (2.70 - 11.40)	2790 (500 - 3320)	3.58
	42 + 42	3.50 + 3.50	7.00 (2.40 - 8.80)	2490 (450 - 3270)	2.81	4.30 + 4.30	8.60 (2.70 - 11.00)	2460 (500 - 3200)	3.50
	42 + 50	3.88 + 4.62	8.50 (2.40 - 8.80)	2900 (450 - 3270)	2.93	4.30 + 5.20	9.50 (2.70 - 11.00)	2940 (500 - 3200)	3.23
	42 + 60	3.50 + 5.00	8.50 (2.40 - 9.10)	2900 (450 - 3420)	2.93	3.98 + 6.02	10.00 (2.70 - 11.40)	2940 (500 - 3200)	3.40
	50 + 50	4.25 + 4.25	8.5 (2.40 - 9.20)	2900 (450 - 3460)	2.93	5.00 + 5.00	10.00 (2.70 - 11.40)	2940 (500 - 3200)	3.40
	50 + 60	3.86 + 4.64	8.5 (2.40 - 9.60)	2900 (450 - 3570)	2.93	4.44 + 5.56	10.00 (2.70 - 11.60)	2940 (500 - 3200)	3.40
	60 + 60	4.25 + 4.25	8.50 (2.40 - 9.90)	2900 (450 - 3870)	2.93	5.00 + 5.00	10.00 (2.70 - 12.10)	2940 (500 - 3200)	3.40

* For information: these are performances when a single unit is in operation. However, a minimum of 2 units must be connected to the outdoor unit.
** RAM - 90NP5E + RAK - 25RPE + RAK - 25RPE + RAK - 35RPE.

Refrigerant lengths

RAM-90NP5E

L1 + L2 + L3 + L4 + L5 = Maximum 75 m ; L1 < 25 m ; L2 < 25 m ; L3 < 25 m ; L4 < 25 m ; L5 < 25 m
Maximum height between the highest indoor unit and the lowest indoor unit: 5 m. Pre-charged for 30 m.
Additional 15 g/m required beyond 30 m. Always connect the most powerful indoor unit to the lowest connector
Connector 3 is designed for indoor units 18, 25 or 35. Otherwise, a 3/8 to 1/2 adapter is required.



	RAM - 90NP5E	COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
3 units	15 + 15 + 15	1.50 + 1.50 + 1.50	4.50 (2.70 - 5.00)	1250 (510 - 1500)	3.60	2.00 + 2.00 + 2.00	6.00 (2.90 - 6.50)	1540 (520 - 1848)	3.90
	15 + 15 + 18	1.50 + 1.50 + 1.80	4.80 (2.70 - 5.30)	1350 (510 - 1620)	3.56	2.00 + 2.00 + 2.50	6.50 (2.90 - 7.00)	1800 (520 - 2160)	3.61
	15 + 15 + 25	1.50 + 1.50 + 2.50	5.50 (2.70 - 6.00)	1490 (510 - 1788)	3.69	2.00 + 2.00 + 3.40	7.40 (2.90 - 7.90)	2010 (520 - 2412)	3.68
	15 + 15 + 35	1.50 + 1.50 + 3.50	6.50 (2.70 - 7.00)	2100 (510 - 2678)	3.10	2.00 + 2.00 + 4.30	8.30 (2.90 - 8.80)	2420 (520 - 2904)	3.43
	15 + 15 + 42	1.50 + 1.50 + 4.20	7.20 (2.70 - 8.50)	2150 (510 - 2676)	3.35	2.00 + 2.00 + 5.20	9.20 (2.90 - 11.00)	2180 (520 - 1848)	4.22
	15 + 15 + 50	1.50 + 1.50 + 5.00	8.00 (2.70 - 8.50)	2230 (510 - 2676)	3.59	1.90 + 1.90 + 6.19	10.00 (2.90 - 11.00)	2730 (520 - 1848)	3.66
	15 + 15 + 60	1.50 + 1.50 + 6.00	9.00 (2.70 - 8.50)	2230 (510 - 2676)	4.04	1.74 + 1.74 + 6.52	10.00 (2.90 - 11.50)	2730 (520 - 1848)	3.66
	15 + 18 + 18	1.50 + 1.80 + 1.80	5.10 (2.70 - 5.60)	1350 (510 - 1620)	3.78	2.00 + 2.50 + 2.50	7.00 (2.90 - 7.50)	1880 (520 - 2280)	3.72
	15 + 18+ 25	1.50 + 1.80+ 2.50	5.80 (2.70 - 6.30)	1350 (510 - 1620)	4.30	2.00 + 2.50+ 3.40	7.90 (2.90 - 8.40)	2130 (520 - 2616)	3.71
	15 + 18+ 35	1.50 + 1.80+ 3.50	6.80 (2.70 - 7.30)	1850 (510 - 2844)	3.68	2.00 + 2.50+ 4.30	8.80 (2.90 - 9.30)	2350 (520 - 1848)	3.74
	15 + 18+ 42	1.50 + 1.80+ 4.20	7.50 (2.40 - 7.00)	1950 (510 - 2844)	3.85	2.00 + 2.50+ 5.20	9.70 (2.90 - 11.00)	2350 (520 - 3360)	4.13
	15 + 18+ 50	1.50 + 1.80+ 5.00	8.30 (2.70 - 8.80)	2230 (510 - 2844)	3.72	1.82 + 2.27+ 5.91	10.00 (2.90 - 11.50)	2850 (520 - 3360)	3.51
	15 + 18+ 60	1.50 + 1.80+ 6.00	9.30 (2.70 - 8.80)	2230 (510 - 2844)	4.17	1.67 + 2.08+ 6.25	10.00 (2.90 - 11.50)	2850 (520 - 3360)	3.51
	15 + 25+ 25	1.50 + 2.50+ 2.50	6.50 (2.70 - 7.00)	1800 (510 - 2520)	3.61	2.00 + 3.40+ 3.40	8.80 (2.90 - 9.30)	2350 (520 - 1848)	3.74
	15 + 25 + 35	1.50 + 2.50 + 3.50	7.50 (2.40 - 7.00)	2100 (510 - 3096)	3.57	2.00 + 3.40 + 4.30	9.70 (2.90 - 10.20)	2620 (520 - 1848)	3.70
	15 + 25 + 42	1.50 + 2.50 + 4.20	8.20 (2.70 - 9.50)	2200 (510 - 3360)	3.73	1.89 + 3.21 + 4.91	10.00 (2.70 - 11.00)	2620 (520 - 1848)	3.82
	15 + 25 + 50	1.50 + 2.50 + 5.00	9.00 (2.70 - 9.50)	2680 (510 - 3360)	3.36	1.68 + 2.86 + 5.46	10.00 (2.70 - 11.50)	2890 (520 - 3360)	3.46
	15 + 25 + 60	1.50 + 2.50 + 6.00	10.00 (2.70 - 9.50)	2680 (510 - 3360)	3.73	1.55 + 2.64 + 5.81	10.00 (2.70 - 11.50)	2890 (520 - 3360)	3.46
	15 + 35 + 35	1.50 + 3.50 + 3.50	8.50 (2.70 - 9.00)	2560 (510 - 3360)	3.32	1.89 + 4.06 + 4.06	10.00 (2.90 - 11.10)	2990 (520 - 3360)	3.34
	15 + 35 + 42	1.47 + 3.42 + 4.11	9.00 (2.70 - 9.50)	2560 (510 - 3216)	3.52	1.74 + 3.74 + 4.52	10.00 (2.90 - 11.10)	2990 (520 - 3360)	3.34
	15 + 35 + 50	1.35 + 3.15 + 4.50	9.00 (2.70 - 9.50)	2740 (510 - 3216)	3.28	1.56 + 3.36 + 5.08	10.00 (2.90 - 11.50)	2890 (520 - 3360)	3.46
	15 + 35 + 60	1.23 + 2.86 + 4.91	9.00 (2.70 - 9.50)	2740 (510 - 3216)	3.28	1.45 + 3.12 + 5.43	10.00 (2.90 - 11.50)	2890 (520 - 3360)	3.46
	15 + 42 + 42	1.36 + 3.82 + 3.82	9.00 (2.70 - 9.50)	2560 (510 - 3216)	3.52	1.61 + 4.19 + 4.19	10.00 (2.90 - 11.10)	2990 (520 - 3360)	3.34
	15 + 42 + 50	1.26 + 3.53 + 4.21	9.00 (2.70 - 9.50)	2740 (510 - 3216)	3.28	1.46 + 3.80 + 4.74	10.00 (2.90 - 11.50)	2890 (520 - 3360)	3.46
	15 + 42 + 60	1.15 + 3.23 + 4.62	9.00 (2.70 - 9.50)	2740 (510 - 3216)	3.28	1.36 + 3.54 + 5.10	10.00 (2.90 - 11.50)	2890 (520 - 3360)	3.46
	15 + 50 + 50	1.17 + 3.91 + 3.91	9.00 (2.70 - 9.50)	2740 (510 - 3216)	3.28	1.33 + 4.33 + 4.33	10.00 (2.90 - 11.50)	2890 (520 - 3360)	3.46
	15 + 50 + 60	1.08 + 3.60 + 4.32	9.00 (2.70 - 9.50)	2740 (510 - 3216)	3.28	1.25 + 4.06 + 4.69	10.00 (2.90 - 11.50)	2890 (520 - 3360)	3.46
	15 + 60 + 60	1.00 + 4.00 + 4.00	9.00 (2.70 - 9.50)	2740 (510 - 3288)	3.28	1.18 + 4.41 + 4.41	10.00 (2.90 - 11.50)	2890 (520 - 3360)	3.46
	18 + 18 + 18	1.80 + 1.80 + 1.80	5.40 (2.70 - 5.90)	1480 (510 - 1780)	3.65	2.50 + 2.50 + 2.50	7.50 (2.90 - 9.10)	2020 (520 - 2440)	3.71
	18 + 18 + 25	1.80 + 1.80 + 2.50	6.10 (2.70 - 6.70)	1780 (510 - 2150)	3.43	2.50 + 2.50 + 3.40	8.40 (2.90 - 9.50)	2210 (520 - 2620)	3.80
	18 + 18+ 35	1.80 + 1.80+ 3.50	7.10 (2.70 - 7.80)	1910 (510 - 2310)	3.72	2.50 + 2.50+ 4.29	10.00 (2.90 - 10.20)	2370 (520 - 2740)	3.92
	18 + 18+ 42	1.80 + 1.80+ 4.20	7.80 (2.70 - 7.80)	1910 (510 - 3260)	4.08	2.45 + 2.45+ 5.09	10.00 (2.90 - 10.20)	2370 (520 - 3060)	4.22
	18 + 18+ 50	1.78 + 1.78+ 4.94	8.50 (2.70 - 9.50)	2650 (510 - 3260)	3.21	2.17 + 2.17+ 5.64	10.00 (2.90 - 11.30)	2730 (520 - 3060)	3.66
	18 + 18+ 60	1.59 + 1.59+ 5.31	8.50 (2.70 - 9.90)	2650 (510 - 3270)	3.21	2.00 + 2.00+ 5.99	10.00 (2.90 - 11.60)	2730 (520 - 3060)	3.66
	18 + 25+ 25	1.80 + 2.50+ 2.50	6.80 (2.70 - 7.50)	1860 (510 - 2260)	3.66	2.49 + 3.41+ 3.41	9.30 (2.90 - 10.00)	2370 (520 - 2760)	3.92
	18 + 25+ 35	1.80 + 2.50+ 3.50	7.80 (2.70 - 8.60)	2190 (510 - 2660)	3.56	2.45 + 3.33+ 4.22	10.00 (2.90 - 10.70)	2530 (520 - 2880)	3.95
	18 + 25+ 42	1.80 + 2.50+ 4.20	8.50 (2.70 - 8.60)	2190 (510 - 3270)	3.88	2.25 + 3.06+ 4.68	10.00 (2.90 - 11.00)	2530 (520 - 3220)	3.95
	18 + 25+ 50	1.66 + 2.26+ 4.58	8.50 (2.70 - 9.90)	2550 (510 - 3270)	3.33	2.02 + 2.74+ 5.24	10.00 (2.90 - 11.60)	2890 (520 - 3220)	3.46
	18 + 25+ 60	1.50 + 2.04+ 4.96	8.50 (2.70 - 9.90)	2550 (510 - 3320)	3.33	1.87 + 2.54+ 5.60	10.00 (2.90 - 11.60)	2890 (520 - 3220)	3.46
	18 + 35+ 35	1.74 + 3.38+ 3.38	8.50 (2.70 - 9.70)	2600 (510 - 3260)	3.27	2.25 + 3.87+ 3.87	10.00 (2.90 - 11.60)	2750 (520 - 3060)	3.64
	18 + 35+ 42	1.61 + 3.13+ 3.76	8.50 (2.70 - 9.70)	2600 (510 - 3320)	3.27	2.08 + 3.58+ 4.33	10.00 (2.90 - 11.60)	2750 (520 - 3330)	3.64
	18 + 35+ 50	1.47 + 2.88+ 4.16	8.50 (2.70 - 9.90)	2590 (510 - 3320)	3.28	1.88 + 3.23+ 4.90	10.00 (2.90 - 11.60)	2990 (520 - 3330)	3.34
	18 + 35+ 60	1.33 + 2.62+ 4.54	8.50 (2.70 - 9.90)	2590 (510 - 3320)	3.28	1.75 + 3.01+ 5.25	10.00 (2.90 - 11.60)	2990 (520 - 3330)	3.34
	18 + 42+ 42	1.50 + 3.50+ 3.50	8.50 (2.70 - 9.90)	2600 (510 - 3320)	3.27	2.25 + 3.87+ 3.87	10.00 (2.90 - 11.60)	2750 (520 - 3330)	3.64
	18 + 42+ 50	1.37 + 3.24+ 3.89	8.50 (2.70 - 9.90)	2590 (510 - 3320)	3.28	2.08 + 3.58+ 4.34	10.00 (2.90 - 11.60)	2990 (520 - 3330)	3.34
	18 + 42+ 60	1.26 + 2.97+ 4.28	8.50 (2.70 - 9.90)	2590 (510 - 3320)	3.28	1.88 + 3.23+ 4.9	10.00 (2.90 - 11.60)	2990 (520 - 3330)	3.34
	18 + 50+ 50	1.31 + 3.60+ 3.60	8.50 (2.70 - 9.90)	2590 (510 - 3320)	3.28	1.52 + 3.94+ 4.55	10.00 (2.90 - 11.60)	2990 (520 - 3330)	3.34
	18 + 50+ 60	1.21 + 3.32+ 3.98	8.50 (2.70 - 9.90)	2590 (510 - 3280)	3.28	1.94 + 4.03+ 4.03	10.00 (2.90 - 11.70)	2990 (520 - 3330)	3.34
	18 + 60+ 60	1.12 + 3.70+ 3.70	8.50 (2.70 - 9.90)	2590 (510 - 3320)	3.28	1.76 + 3.66+ 4.58	10.00 (2.90 - 12.10)	2990 (520 - 3330)	3.34
	25 + 25+ 25	2.50 + 2.50+ 2.50	7.50 (2.40 - 7.00)	2120 (510 - 2580)	3.54	3.33 + 3.33+ 3.33	10.00 (2.90 - 10.40)	2540 (520 - 2920)	3.94
	25 + 25+ 35	2.50 + 2.50+ 3.50	8.50 (2.70 - 9.40)	2560 (510 - 3110)	3.32	3.06 + 3.06+ 3.87	10.00 (2.90 - 11.20)	2730 (520 - 3070)	3.66
	25 + 25+ 42	2.31 + 2.31+ 3.88	8.50 (2.70 - 9.40)	2560 (510 - 3360)	3.32	2.83 + 2.83+ 4.33	10.00 (2.90 - 11.60)	2730 (520 - 3330)	3.66
	25 + 25+ 50	2.13 + 2.13+ 4.25	8.50 (2.70 - 9.90)	2620 (510 - 3360)	3.24	2.56 + 2.56+ 4.89	10.00 (2.90 - 11.60)	2990 (520 - 3330)	3.34
	25 + 25+ 60	1.93 + 1.93+ 4.64	8.50 (2.70 - 9.90)	2620 (510 - 3360)	3.24	2.38 + 2.38+ 5.24	10.00 (2.90 - 11.60)	2990 (520 - 3330)	3.34
	25 + 35+ 35	2.23 + 3.13+ 3.13	8.50 (2.70 - 9.90)	2600 (510 - 3330)	3.27	2.83 + 3.58+ 3.58	10.00 (2.90 - 11.60)	2890 (520 - 3220)	3.46
	25 + 35+ 42	2.07 + 2.92+ 3.50	8.50 (2.70 - 9.90)	2600 (510 - 3350)	3.27	2.64 + 3.33+ 4.03	10.00 (2.90 - 11.60)	2890 (520 - 3330)	3.46
	25 + 35+ 50	1.93 + 2.69+ 3.87	8.50 (2.70 - 9.90)	2620 (510 - 3350)	3.24	2.39 + 3.02+ 4.59	10.00 (2.90 - 11.60)	2990 (520 - 3330)	3.34
	25 + 35+ 60	1.77 + 2.47+ 4.26	8.50 (2.70 - 9.90)	2620 (510 - 3350)	3.24	2.24 + 2.82+ 4.94	10.00 (2.90 - 11.70)	2990 (520 - 3330)	3.34
	25 + 42+ 42	1.94 + 3.28+ 3.28	8.50 (2.70 - 9.90)	2600 (510 - 3360)	3.27	2.83 + 3.58+ 3.58	10.00 (2.90 - 11.70)	2890 (520 - 3330)	3.46
	25 + 42+ 50	1.82 + 3.04+ 3.64	8.50 (2.70 - 9.90)	2620 (510 - 3360)	3.24	2.64 + 3.32+ 4.04	10.00 (2.90 - 11.60)	2990 (520 - 3330)	3.34
	25 + 42 + 60	1.67 + 2.80 + 4.03	8.50 (2.70 - 9.90)	2620 (510 - 3360)	3.24	2.39 + 3.02 + 4.59	10.00 (2.90 - 11.70)	2990 (520 - 3330)	3.34
	25 + 50 + 50	1.70 + 3.40 + 3.40	8.50 (2.70 - 9.90)	2620 (510 - 3360)	3.24	1.95 + 3.74 + 4.31	10.00 (2.90 - 11.70)	2990 (520 - 3330)	3.34
	25 + 50 + 60	1.57 + 3.15 + 3.78	8.50 (2.70 - 9.90)	2620 (510 - 3360)	3.24	2.46 + 3.77 + 3.77	10.00 (2.90 - 11.70)	2990 (520 - 3330)	3.34
	25 + 60 + 60	1.47 + 3.52 + 3.52	8.50 (2.70 - 9.90)	2620 (510 - 3350)	3.24	2.25 + 3.44 + 4.3	10.00 (2.90 - 12.10)	2990 (520 - 3330)	3.34
	35 + 35 + 35	2.83 + 2.83 + 2.83	8.50 (2.70 - 9.90)	2600 (510 - 3320)	3.27	3.33 + 3.33 + 3.33	10.00 (2.90 - 11.60)	2990 (520 - 3330)	3.34
	35 + 35 + 42	2.66 + 2.66 + 3.19	8.50 (2.70 - 9.90)	2600 (510 - 3360)	3.27	3.12 + 3.12 + 3.77	10.00 (2.90 - 11.70)	2990 (520 - 3330)	3.34
	35 + 35 + 50	2.50 + 2.50 + 3.49	8.50 (2.70 - 9.90)	2620 (510 - 3360)	3.24	2.85 + 2.87 + 4.25	10.00 (2.90 - 11.70)	2990 (520 - 3330)	3.34
	35 + 35 + 60	2.31 + 2.31 + 3.87	8.50 (2.70 - 9.90)	2620 (510 - 3360)	3.24	2.67 + 2.69 + 4.61	10.00 (2.90 - 11.70)	2990 (520 - 3330)	3.34
	35 + 42 + 42	2.50 + 3.00 + 3.00	8.50 (2.70 - 9.90)	2600 (510 - 3360)	3.27	2.93 + 3.54 + 3.54	10.00 (2.90 - 11.70)	2990 (520 - 3330)	3.34
	35 + 42 + 50	2.36 + 2.83 + 3.30	8.50 (2.70 - 9.90)	2620 (510 - 3360)	3.24	2.69 + 3.27 + 4.01	10.00 (2.90 - 11.70)	2990 (520 - 3330)	3.34
	35 + 42 + 60	2.19 + 2.63 + 3.67	8.50 (2.70 - 9.90)	2620 (510 - 3360)	3.24	2.53 + 3.08 + 4.36	10.00 (2.90 - 11.70)	2990 (520 - 3330)	3.34
	35 + 50 + 50	2.17 + 3.17 + 3.17	8.50 (2.70 - 9.90)	2620 (510 - 3360)	3.24	2.49 + 3.78 + 3.78	10.00 (2.90 - 12.10)	2990 (520 - 3330)	3.34
	35 + 50 + 60	2.02 + 2.95 + 3.54	8.50 (2.70 - 9.90)	2620 (510 - 3450)	3.24	2.35 + 3.57 + 4.12	10.00 (2.90 - 12.10)	2990 (520 - 3330)	3.34
	35 + 60 + 60	1.89 + 3.31 + 3.31	8.50 (2.70 - 9.90)	2620 (510 - 3450)	3.24	2.23 + 3.91 + 3.91	10.00 (2.90 - 12.10)	2990 (520 - 3330)	3.34
	42 + 42+ 42	2.80 + 2.85+ 2.85	8.50 (2.70 - 9.90)	2620 (510 - 3450)	3.24	3.33 + 3.35+ 3.35	10.00 (2.90 - 12.10)	2990 (520 - 3180)	3.34
	42 + 42+ 50	2.63 + 2.68+ 3.19	8.50 (2.70 - 9.90)	2620 (510 - 3450)	3.24	3.08 + 3.10+ 3.87	10.00 (2.90 - 12.10)	2990 (520 - 3180)	3.34
	42 + 42+ 60	2.45 + 2.50+ 3.56	8.50 (2.70 - 9.90)	2620 (510 - 3450)	3.24	2.91 + 2.93+ 4.21	10.00 (2.90 - 12.10)	2990 (520 - 3180)	3.34
	50 + 50+ 50	2.83 + 2.83+ 2.83	8.50 (2.70 - 9.90)	2690 (510 - 3450)	3.16	3.33 + 3.33+ 3.33	10.00 (2.90 - 12.10)	2890 (520 - 3180)	3.46

** RAM - 90NP5E+ RAK - 25RPE + RAK - 25RPE + RAK - 35RPE.

Indoor unit combinations

Standard multi-splits

RAM - 90NP5E		COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
4 units	15 + 15 + 15 + 15	1.50 + 1.50 + 1.50 + 1.50	6.00 (2.90 - 6.50)	1580 (550 - 1620)	3.80	2.00 + 2.00 + 2.00 + 2.00	8.00 (3.00 - 8.50)	2000 (540 - 2652)	4.00
	15 + 15 + 15 + 18	1.50 + 1.50 + 1.50 + 1.80	6.30 (2.90 - 6.50)	1630 (550 - 1776)	3.87	2.00 + 2.00 + 2.00 + 2.50	8.50 (3.00 - 9.00)	2200 (540 - 2760)	3.86
	15 + 15 + 15 + 25	1.50 + 1.50 + 1.50 + 2.50	7.00 (2.90 - 7.50)	1780 (550 - 2136)	3.93	2.00 + 2.00 + 2.00 + 3.40	9.40 (3.00 - 9.90)	2390 (540 - 3036)	3.93
	15 + 15 + 15 + 35	1.50 + 1.50 + 1.50 + 3.50	8.00 (2.90 - 8.50)	2500 (550 - 3180)	3.20	1.94 + 1.94 + 1.94 + 4.17	10.00 (3.00 - 10.8)	2550 (540 - 3468)	3.92
	15 + 15 + 15 + 42	1.47 + 1.47 + 1.47 + 4.10	8.50 (2.90 - 8.50)	2600 (550 - 3180)	3.27	1.79 + 1.79 + 1.79 + 4.64	10.00 (3.00 - 11.50)	2550 (540 - 3360)	3.92
	15 + 15 + 15 + 50	1.34 + 1.34 + 1.34 + 4.47	8.50 (2.90 - 8.50)	2650 (550 - 3180)	3.21	1.60 + 1.60 + 1.60 + 5.20	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 15 + 15 + 60	1.21 + 1.21 + 1.21 + 4.86	8.50 (2.90 - 8.50)	2650 (550 - 3180)	3.21	1.48 + 1.48 + 1.48 + 5.56	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 15 + 18 + 18	1.50 + 1.50 + 1.80 + 1.80	6.60 (2.90 - 7.10)	1750 (550 - 2100)	3.77	2.00 + 2.00 + 2.50 + 2.50	9.00 (3.00 - 9.50)	2380 (540 - 3048)	3.78
	15 + 15 + 18 + 25	1.50 + 1.50 + 1.80 + 2.50	7.30 (2.90 - 7.80)	1850 (550 - 2220	3.95	2.00 + 2.00 + 2.50 + 3.40	9.90 (3.00 - 10.40)	2530 (540 - 3144)	3.91
	15 + 15 + 18 + 35	1.50 + 1.50 + 1.80 + 3.50	8.30 (2.90 - 8.80)	2180 (550 - 2616)	3.81	1.85 + 1.85 + 2.31 + 3.98	10.00 (3.00 - 11.30)	2480 (540 - 3468)	4.03
	15 + 15 + 18 + 42	1.42 + 1.42 + 1.70 + 3.97	8.50 (2.90 - 8.50)	2350 (550 - 3120)	3.62	1.71 + 1.71 + 2.14 + 4.44	10.00 (3.00 - 11.30)	2480 (540 - 3360)	4.03
	15 + 15 + 18 + 50	1.30 + 1.30 + 1.56 + 4.34	8.50 (2.90 - 8.50)	2600 (550 - 3120)	3.27	1.54 + 1.54 + 1.92 + 5.00	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 15 + 18 + 60	1.18 + 1.18 + 1.42 + 4.72	8.50 (2.90 - 8.50)	2600 (550 - 3120)	3.27	1.43 + 1.43 + 1.79 + 5.36	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 15 + 25 + 25	1.50 + 1.50 + 2.50 + 2.50	8.00 (2.90 - 8.50)	2150 (550 - 2580)	3.72	1.85 + 1.85 + 3.15 + 3.15	10.00 (3.00 - 11.30)	2480 (540 - 3420)	4.03
	15 + 15 + 25 + 35	1.42 + 1.42 + 2.36 + 3.31	8.50 (2.90 - 8.50)	2600 (550 - 3120)	3.27	1.71 + 1.71 + 2.91 + 3.68	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 15 + 25 + 42	1.31 + 1.31 + 2.19 + 3.68	8.50 (2.90 - 8.50)	2600 (550 - 3120)	3.27	1.59 + 1.59 + 2.70 + 4.13	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 15 + 25 + 50	1.21 + 1.21 + 2.02 + 4.05	8.50 (2.90 - 8.50)	2600 (550 - 3120)	3.27	1.44 + 1.44 + 2.45 + 4.68	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 15 + 25 + 60	1.11 + 1.11 + 1.85 + 4.43	8.50 (2.90 - 8.50)	2600 (550 - 3120)	3.27	1.34 + 1.34 + 2.28 + 5.03	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 15 + 35 + 35	1.28 + 1.28 + 2.98 + 2.98	8.50 (2.90 - 8.50)	2600 (550 - 3120)	3.27	1.59 + 1.59 + 3.41 + 3.41	10.00 (3.00 - 11.30)	2890 (540 - 3480)	3.46
	15 + 15 + 35 + 42	1.19 + 1.19 + 2.78 + 3.34	8.50 (2.90 - 8.50)	2600 (550 - 3210)	3.27	1.48 + 1.48 + 3.19 + 3.85	10.00 (3.00 - 11.30)	2890 (540 - 3360)	3.46
	15 + 15 + 35 + 50	1.11 + 1.11 + 2.59 + 3.70	8.50 (2.90 - 8.50)	2600 (550 - 3210)	3.27	1.35 + 1.35 + 2.91 + 4.39	10.00 (3.00 - 11.30)	2890 (540 - 3360)	3.46
	15 + 15 + 35 + 60	1.02 + 1.02 + 2.38 + 4.08	8.50 (2.90 - 8.50)	2600 (550 - 3210)	3.27	1.27 + 1.27 + 2.72 + 4.75	10.00 (3.00 - 11.30)	2890 (540 - 3360)	3.46
	15 + 15 + 42 + 42	1.12 + 1.12 + 3.13 + 3.13	8.50 (2.90 - 8.50)	2600 (550 - 3120)	3.27	1.59 + 1.59 + 3.41 + 3.41	10.00 (3.00 - 11.30)	2890 (540 - 3360)	3.46
	15 + 15 + 42 + 50	1.05 + 1.05 + 2.93 + 3.48	8.50 (2.90 - 8.50)	2600 (550 - 3210)	3.27	1.48 + 1.48 + 3.19 + 3.85	10.00 (3.00 - 11.30)	2890 (540 - 3360)	3.46
	15 + 15 + 42 + 60	0.97 + 0.97 + 2.70 + 3.86	8.50 (2.90 - 8.50)	2600 (550 - 3210)	3.27	1.35 + 1.35 + 2.91 + 4.39	10.00 (3.00 - 11.30)	2890 (540 - 3360)	3.46
	15 + 15 + 50 + 50	0.98 + 0.98 + 3.27 + 3.27	8.50 (2.50 - 8.50)	2600 (550 - 3210)	3.27	1.39 + 1.39 + 3.61 + 3.61	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 15 + 50 + 60	0.91 + 0.91 + 3.04 + 3.64	8.50 (2.50 - 8.50)	2600 (550 - 3210)	3.27	1.27 + 1.27 + 3.31 + 4.14	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 18 + 18 + 18	1.50 + 1.80 + 1.80 + 1.80	6.90 (2.50 - 7.40)	2140 (550 - 2244)	3.22	2.00 + 2.50 + 2.50 + 2.50	9.50 (3.00 - 10.00)	2750 (540 - 3144)	3.45
	15 + 18 + 18 + 25	1.50 + 1.80 + 2.50 + 2.50	7.60 (2.50 - 8.10)	2140 (550 - 2568)	3.55	1.92 + 2.40 + 2.40 + 3.27	10.00 (3.00 - 10.90)	2750 (540 - 3468)	3.64
	15 + 18 + 18 + 35	1.48 + 1.78 + 1.78 + 3.46	8.50 (2.50 - 8.50)	2140 (550 - 3060)	3.97	1.77 + 2.21 + 2.21 + 3.81	10.00 (3.00 - 11.50)	2750 (540 - 3360)	3.64
	15 + 18 + 18 + 42	1,37 + 1,65 + 1,65 + 3,84	8.50 (2.50 - 8.50)	2550 (550 - 3120)	3.33	1,64 + 2,05 + 2,05 + 4,26	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 18 + 18 + 50	1.26 + 1.51 + 1.51 + 4.21	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.48 + 1.85 + 1.85 + 4.81	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 18 + 18 + 60	1.15 + 1.38 + 1.38 + 4.59	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.38 + 1.72 + 1.72 + 5.17	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 18 + 25 + 25	1.50 + 1.80 + 2.50 + 2.50	8.30 (2.50 - 8.30)	2740 (550 - 3288)	3.03	1.77 + 2.21 + 3.01 + 3.01	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 18 + 25 + 35	1.37 + 1.65 + 2.28 + 3.20	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.64 + 2.05 + 2.79 + 3.52	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 18 + 25 + 42	1.28 + 1.53 + 2.13 + 3.57	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.53 + 1.91 + 2.60 + 3.97	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 18 + 25 + 50	1.18 + 1.42 + 1.97 + 3.94	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.39 + 1.74 + 2.36 + 4.51	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 18 + 25 + 60	1.08 + 1.30 + 1.80 + 4.32	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.30 + 1.62 + 2.21 + 4.87	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 18 + 35 + 35	1.24 + 1.49 + 2.89 + 2.89	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.53 + 1.91 + 3.28 + 3.28	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 18 + 35 + 42	1.16 + 1.39 + 2.70 + 3.25	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.43 + 1.79 + 3.07 + 3.71	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 18 + 35 + 50	1.08 + 1.30 + 2.52 + 3.60	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.31 + 1.63 + 2.81 + 4.25	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 18 + 35 + 60	1.00 + 1.20 + 2.32 + 3.98	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.23 + 1.53 + 2.64 + 4.60	10.00 (3.00 - 11.30)	2890 (540 - 3360)	3.46
	15 + 18 + 42 + 42	1.09 + 1.31 + 3.05 + 3.05	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.53 + 1.91 + 3.28 + 3.28	10.00 (3.00 - 10.50)	2800 (540 - 3360)	3.57
	15 + 18 + 42 + 50	1.02 + 1.22 + 2.86 + 3.40	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.43 + 1.79 + 3.07 + 3.71	10.00 (3.00 - 10.50)	2800 (540 - 3360)	3.57
	15 + 18 + 42 + 60	0.94 + 1.13 + 2.64 + 3.78	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.31 + 1.63 + 2.81 + 4.25	10.00 (3.00 - 10.50)	2800 (540 - 3360)	3.57
	15 + 18 + 50 + 50	0.96 + 1.15 + 3.20 + 3.20	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.34 + 1.68 + 3.49 + 3.49	10.00 (3.00 - 10.50)	2800 (540 - 3360)	3.57
	15 + 18 + 50 + 60	0.89 + 1.07 + 2.97 + 3.57	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.23 + 1.54 + 3.21 + 4.01	10.00 (3.00 - 10.50)	2800 (540 - 3360)	3.57
	15 + 18 + 60 + 60	0.83 + 1.00 + 3.33 + 3.33	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.14 + 1.43 + 3.71 + 3.71	10.00 (3.00 - 10.50)	2800 (540 - 3360)	3.57
	15 + 25 + 25 + 25	1.42 + 2.36 + 2.36 + 2.36	8.50 (2.50 - 8.50)	2600 (550 - 3132)	3.27	1.64 + 2.79 + 2.79 + 2.79	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 25 + 35	1.28 + 2.13 + 2.13 + 2.98	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.53 + 2.60 + 2.60 + 3.28	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 25 + 42	1.19 + 1.99 + 1.99 + 3.34	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.43 + 2.43 + 2.43 + 3.71	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 25 + 50	1.11 + 1.85 + 1.85 + 3.70	8.50[(2)]	2600 (550 - 3120)	3.27	1.31 + 2.22 + 2.22 + 4.25	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 25 + 60	1.02 + 1.70 + 1.70 + 4.08	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.23 + 2.09 + 2.09 + 4.60	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 35 + 35	1.16 + 1.93 + 2.70 + 2.70	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.43 + 2.43 + 3.07 + 3.07	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 35 + 42	1.09 + 1.82 + 2.54 + 3.05	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.34 + 2.28 + 2.89 + 3.49	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 35 + 50	1.02 + 1.70 + 2.38 + 3.40	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.23 + 2.10 + 2.65 + 4.01	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 35 + 60	0.94 + 1.57 + 2.20 + 3.78	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.16 + 1.98 + 2.50 + 4.36	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 42 + 42	1.03 + 1.71 + 2.88 + 2.88	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.27 + 2.15 + 3.29 + 3.29	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 42 + 50	0.97 + 1.61 + 2.70 + 3.22	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.17 + 1.99 + 3.04 + 3.80	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 42 + 60	0.90 + 1.50 + 2.51 + 3.59	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.10 + 1.88 + 2.87 + 4.14	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 50 + 50	0.91 + 1.52 + 3.04 + 3.04	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.09 + 1.85 + 3.53 + 3.53	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 25 + 50 + 60	0.85 + 1.42 + 2.83 + 3.40	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.03 + 1.75 + 3.35 + 3.87	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 35 + 35 + 35	1.06 + 2.48 + 2.48 + 2.48	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.34 + 2.89 + 2.89 + 2.89	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 35 + 35 + 42	1.00 + 2.34 + 2.34 + 2.81	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.27 + 2.72 + 2.72 + 3.29	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 35 + 35 + 50	0.94 + 2.20 + 2.20 + 3.15	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.17 + 2.51 + 2.51 + 3.80	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 35 + 35 + 60	0.88 + 2.05 + 2.05 + 3.52	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.10 + 2.38 + 2.38 + 4.14	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 35 + 42 + 42	0.95 + 2.22 + 2.66 + 2.66	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.20 + 2.57 + 3.11 + 3.11	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 35 + 42 + 50	0.90 + 2.10 + 2.51 + 2.99	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.11 + 2.39 + 2.89 + 3.61	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 35 + 42 + 60	0.84 + 1.96 + 2.35 + 3.36	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.05 + 2.26 + 2.74 + 3.95	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46

[(2)] Données à venir
** RAM - 90NP5E+ RAK - 25RPE + RAK - 25RPE + RAK - 35RPE.

RAM - 90NP5E		COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
4 units	15 + 35 + 50 + 50	0.85 + 1.98 + 2.83 + 2.83	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.04 + 2.23 + 3.37 + 3.37	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 42 + 42 + 42	0.90 + 2.53 + 2.53 + 2.53	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.14 + 2.95 + 2.95 + 2.95	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	15 + 42 + 42 + 50	0.86 + 2.40 + 2.40 + 2.85	8.50 (2.50 - 8.50)	2600 (550 - 3120)	3.27	1.06 + 2.75 + 2.75 + 3.44	10.00 (3.00 - 11.50)	2890 (540 - 3360)	3.46
	18 + 18 + 18 + 18	1.80 + 1.80 + 1.80 + 1.80	7.20 (2.90 - 7.90)	2330 (550 - 2292)	3.09	2.50 + 2.50 + 2.50 + 2.50	10.00 (3.00 - 10.90)	2400 (540 - 2720)	4.17
	18 + 18 + 18 + 25	1.80 + 1.80 + 1.80 + 2.50	7.90 (2.90 - 8.70)	2380 (550 - 3120)	3.32	2.29 + 2.29 + 2.29 + 3.12	10.00 (3.00 - 11.10)	2700 (540 - 3050)	3.70
	18 + 18 + 18 + 35	1.72 + 1.72 + 1.72 + 3.34	8.50 (2.90 - 9.80)	2630 (550 - 3120)	3.23	2.12 + 2.12 + 2.12 + 3.64	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 18 + 18 + 42	1.59 + 1.59 + 1.59 + 3.72	8.50 (2.90 - 9.80)	2640 (550 - 3260)	3.22	1.97 + 1.97 + 1.97 + 4.09	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 18 + 18 + 50	1.46 + 1.46 + 1.46 + 4.11	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.79 + 1.78 + 1.78 + 4.66	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 18 + 18 + 60	1.33 + 1.33 + 1.33 + 4.49	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.67 + 1.66 + 1.66 + 5.02	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 18 + 25 + 25	1.78 + 1.78 + 2.47 + 2.47	8.50 (2.90 - 9.50)	2690 (550 - 3040)	3.16	2.12 + 2.12 + 2.88 + 2.88	10.00 (3.00 - 11.20)	2700 (540 - 3020)	3.70
	18 + 18 + 25 + 35	1.59 + 1.59 + 2.21 + 3.10	8.50 (2.90 - 9.9)	2390 (550 - 3260)	3.56	1.97 + 1.97 + 2.68 + 3.39	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 18 + 25 + 42	1.49 + 1.49 + 2.06 + 3.47	8.50 (2.90 - 9.9)	2390 (550 - 3260)	3.56	1.84 + 1.84 + 2.50 + 3.82	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 18 + 25 + 50	1.37 + 1.37 + 1.90 + 3.88	8.50 (2.90 - 9.9)	2390 (550 - 3260)	3.56	1.68 + 1.67 + 2.27 + 4.41	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 18 + 25 + 60	1.25 + 1.25 + 1.75 + 4.26	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.57 + 1.56 + 2.13 + 4.77	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 18 + 35 + 35	1.44 + 1.44 + 2.81 + 2.81	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.84 + 1.84 + 3.16 + 3.16	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 18 + 35 + 42	1.35 + 1.35 + 2.63 + 3.16	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.72 + 1.72 + 2.97 + 3.59	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 18 + 35 + 50	1.27 + 1.27 + 2.46 + 3.49	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.58 + 1.59 + 2.72 + 4.09	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 18 + 35 + 60	1.18 + 1.18 + 2.27 + 3.87	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.49 + 1.50 + 2.56 + 4.44	10.00 (3.00 - 11.60)	2700 (540 - 3020)	3.70
	18 + 18 + 42 + 42	1.28 + 1.28 + 2.98 + 2.98	8.50 (2.90 - 9.90)	2390 (550 - 3230)	3.56	1.62 + 1.62 + 3.38 + 3.38	10.00 (3.00 - 11.60)	2700 (540 - 3020)	3.70
	18 + 18 + 42 + 50	1.21 + 1.21 + 2.79 + 3.30	8.50 (2.90 - 9.90)	2390 (550 - 3230)	3.56	1.50 + 1.51 + 3.11 + 3.87	10.00 (3.00 - 11.60)	2700 (540 - 3020)	3.70
	18 + 18 + 42 + 60	1.12 + 1.12 + 2.59 + 3.68	8.50 (2.90 - 9.90)	2390 (550 - 3230)	3.56	1.41 + 1.42 + 2.94 + 4.22	10.00 (3.00 - 11.60)	2700 (540 - 3020)	3.70
	18 + 18 + 50 + 50	1.14 + 1.14 + 3.12 + 3.12	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.39 + 1.40 + 3.60 + 3.60	10.00 (3.00 - 11.60)	2700 (540 - 3020)	3.70
	18 + 18 + 50 + 60	1.06 + 1.06 + 2.90 + 3.48	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.32 + 1.33 + 3.41 + 3.94	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 25 + 25 + 25	1.68 + 2.28 + 2.28 + 2.28	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.97 + 2.70 + 2.70 + 2.62	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 25 + 25 + 35	1.52 + 2.08 + 2.08 + 2.83	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.84 + 2.52 + 2.52 + 3.10	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 25 + 25 + 42	1.42 + 1.92 + 1.92 + 3.24	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.72 + 2.33 + 2.33 + 3.58	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 25 + 25 + 50	1.33 + 1.79 + 1.79 + 3.59	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.58 + 2.14 + 2.14 + 4.10	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 25 + 25 + 60	1.23 + 1.65 + 1.65 + 3.97	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.49 + 2.01 + 2.01 + 4.45	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 25 + 35 + 35	1.32 + 1.89 + 2.64 + 2.64	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.72 + 2.35 + 2.98 + 2.98	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 25 + 35 + 42	1.25 + 1.78 + 2.49 + 2.99	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.62 + 2.22 + 2.80 + 3.39	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 25 + 35 + 50	1.23 + 1.65 + 2.31 + 3.30	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.50 + 2.03 + 2.56 + 3.87	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 25 + 35 + 60	1.14 + 1.53 + 2.15 + 3.68	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.41 + 1.91 + 2.42 + 4.22	10.00 (3.00 - 11.40)	2700 (540 - 3020)	3.70
	18 + 25 + 42 + 42	1.22 + 1.65 + 2.81 + 2.81	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.53 + 2.07 + 3.19 + 3.19	10.00 (3.00 - 11.40)	2630 (540 - 2890)	3.80
	18 + 25 + 42 + 50	1.15 + 1.55 + 2.64 + 3.15	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.42 + 1.91 + 2.95 + 3.69	10.00 (3.00 - 12.10)	2630 (540 - 2890)	3.80
	18 + 25 + 42 + 60	1.08 + 1.45 + 2.46 + 3.52	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.34 + 1.81 + 2.80 + 4.03	10.00 (3.00 - 12.10)	2630 (540 - 2890)	3.80
	18 + 25 + 50 + 50	1.09 + 1.47 + 2.97 + 2.97	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.32 + 1.78 + 3.44 + 3.44	10.00 (3.00 - 12.10)	2630 (540 - 2890)	3.80
	18 + 25 + 50 + 60	1.02 + 1.37 + 2.78 + 3.33	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.26 + 1.69 + 3.27 + 3.77	10.00 (3.00 - 12.10)	2630 (540 - 2890)	3.80
	18 + 35 + 35 + 35	1.21 + 2.43 + 2.43 + 2.43	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.62 + 2.80 + 2.80 + 2.80	10.00 (3.00 - 12.10)	2700 (540 - 3020)	3.70
	18 + 35 + 35 + 42	1.15 + 2.30 + 2.30 + 2.76	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.53 + 2.65 + 2.65 + 3.20	10.00 (3.00 - 12.10)	2700 (540 - 3080)	3.70
	18 + 35 + 35 + 50	1.14 + 2.15 + 2.15 + 3.06	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.42 + 2.43 + 2.43 + 3.67	10.00 (3.00 - 12.10)	2700 (540 - 3080)	3.70
	18 + 35 + 35 + 60	1.06 + 2.00 + 2.00 + 3.43	8.50 (2.90 - 9.90)	2390 (550 - 3260)	3.56	1.34 + 2.30 + 2.30 + 4.01	10.00 (3.00 - 12.10)	2700 (540 - 3080)	3.70
	18 + 35 + 42 + 42	1.14 + 2.15 + 2.61 + 2.61	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.45 + 2.48 + 3.02 + 3.02	10.00 (3.00 - 12.10)	2630 (540 - 2890)	3.80
	18 + 35 + 42 + 50	1.08 + 2.03 + 2.46 + 2.93	8.50 (2.90 - 9.90)	2370 (550 - 3230)	3.59	1.35 + 2.30 + 2.81 + 3.51	10.00 (3.00

Indoor unit combinations

Standard multi-splits

	RAM - 90NP5E	COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
5 units	15 + 15 + 15 + 15 + 15	1.50 + 1.50 + 1.50 + 1.50 + 1.50	7.50 (2.40 - 7.00)	2200 (550 - 2800)	3.41	2.00 + 2.00 + 2.00 + 2.00 + 2.00	10.00 (3.40 - 10.50)	2350 (610 - 2820)	4.26
	15 + 15 + 15 + 15 + 18	1.50 + 1.50 + 1.50 + 1.50 + 1.80	7.80 (2.70 - 8.60)	2280 (550 - 2800)	3.42	1.90 + 1.90 + 1.90 + 1.90 + 2.38	10.00 (3.40 - 11.00)	2360 (610 - 2832)	4.24
	15 + 15 + 15 + 15 + 25	1.50 + 1.50 + 1.50 + 1.50 + 2.50	8.50 (2.90 - 9.90)	2330 (550 - 2800)	3.65	1.75 + 1.75 + 1.75 + 1.75 + 2.98	10.00 (3.40 - 11.50)	2400 (610 - 2880)	4.17
	15 + 15 + 15 + 15 + 35	1.34 + 1.34 + 1.34 + 1.34 + 3.13	8.50 (2.90 - 9.90)	2590 (550 - 3260)	3.28	1.63 + 1.63 + 1.63 + 1.63 + 3.50	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 15 + 15 + 42	1.25 + 1.25 + 1.25 + 1.25 + 3.50	8.50 (2.90 - 9.90)	2590 (550 - 3260)	3.28	1.52 + 1.52 + 1.52 + 1.52 + 3.94	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 15 + 15 + 50	1.16 + 1.16 + 1.16 + 1.16 + 3.86	8.50 (2.90 - 9.90)	2590 (550 - 3260)	3.28	1.38 + 1.38 + 1.38 + 1.38 + 4.48	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 15 + 15 + 60	1.06 + 1.06 + 1.06 + 1.06 + 4.25	8.50 (2.90 - 9.90)	2590 (550 - 3260)	3.28	1.29 + 1.29 + 1.29 + 1.29 + 4.84	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 15 + 18 + 18	1.50 + 1.50 + 1.50 + 1.80 + 1.80	8.10[2]	2150 (550 - 2292)	3.77	1.82 + 1.82 + 1.82 + 2.27 + 2.27	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 15 + 18 + 25	1.45 + 1.45 + 1.45 + 1.74 + 2.41	8.50 (2.90 - 9.90)	2200 (550 - 2292)	3.86	1.68 + 1.68 + 1.68 + 2.10 + 2.86	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 15 + 18 + 35	1.30 + 1.30 + 1.30 + 1.56 + 3.04	8.50 (2.90 - 9.90)	2620 (550 - 3260)	3.24	1.56 + 1.56 + 1.56 + 1.95 + 3.36	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 15 + 18 + 42	1.21 + 1.21 + 1.21 + 1.46 + 3.40	8.50 (2.90 - 9.90)	2620 (550 - 3260)	3.24	1.46 + 1.46 + 1.46 + 1.82 + 3.80	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 15 + 18 + 50	1.13 + 1.13 + 1.13 + 1.35 + 3.76	8.50 (2.90 - 9.90)	2620 (550 - 3260)	3.24	1.33 + 1.33 + 1.33 + 1.67 + 4.33	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 15 + 18 + 60	1.04 + 1.04 + 1.04 + 1.24 + 4.15	8.50 (2.90 - 9.90)	2680 (550 - 3260)	3.17	1.25 + 1.25 + 1.25 + 1.56 + 4.69	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 15 + 25 + 25	1.34 + 1.34 + 1.34 + 2.24 + 2.24	8.50 (2.90 - 9.90)	2480 (550 - 3260)	3.43	1.56 + 1.56 + 1.56 + 2.66 + 2.66	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 15 + 25 + 35	1.21 + 1.21 + 1.21 + 2.02 + 2.83	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.46 + 1.46 + 1.46 + 2.48 + 3.14	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 15 + 25 + 42	1.14 + 1.14 + 1.14 + 1.90 + 3.19	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.37 + 1.37 + 1.37 + 2.33 + 3.56	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 15 + 25 + 50	1.06 + 1.06 + 1.06 + 1.77 + 3.54	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.26 + 1.26 + 1.26 + 2.14 + 4.09	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 15 + 25 + 60	0.98 + 0.98 + 0.98 + 1.63 + 3.92	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.18 + 1.18 + 1.18 + 2.01 + 4.44	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 15 + 35 + 35	1.11 + 1.11 + 1.11 + 2.59 + 2.59	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.37 + 1.37 + 1.37 + 2.95 + 2.95	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 15 + 35 + 42	1.05 + 1.05 + 1.05 + 2.44 + 2.93	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.29 + 1.29 + 1.29 + 2.77 + 3.35	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 15 + 35 + 50	0.98 + 0.98 + 0.98 + 2.29 + 3.27	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.19 + 1.19 + 1.19 + 2.56 + 3.87	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 15 + 35 + 60	0.91 + 0.91 + 0.91 + 2.13 + 3.64	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.12 + 1.12 + 1.12 + 2.42 + 4.21	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 15 + 42 + 42	0.99 + 0.99 + 0.99 + 2.77 + 2.77	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.22 + 1.22 + 1.22 + 3.17 + 3.17	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 15 + 42 + 50	0.93 + 0.93 + 0.93 + 2.61 + 3.10	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.13 + 1.13 + 1.13 + 2.94 + 3.67	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 15 + 42 + 60	0.87 + 0.87 + 0.87 + 2.43 + 3.47	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.07 + 1.07 + 1.07 + 2.78 + 4.01	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 15 + 50 + 50	0.88 + 0.88 + 0.88 + 2.93 + 2.93	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.05 + 1.05 + 1.05 + 3.42 + 3.42	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 15 + 50 + 60	0.82 + 0.82 + 0.82 + 2.74 + 3.29	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.00 + 1.00 + 1.00 + 3.25 + 3.75	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 18 + 18 + 18	1.50 + 1.50 + 1.80 + 1.80 + 1.80	8.40 (2.90 - 9.90)	2180 (550 - 2292)	3.85	1.74 + 1.74 + 2.17 + 2.17 + 2.17	10.00 (3.40 - 11.50)	2460[2]	4.07
	15 + 15 + 18 + 18 + 25	1.40 + 1.40 + 1.68 + 1.68 + 2.34	8.50 (2.90 - 9.90)	2490 (550 - 3260)	3.41	1.61 + 1.61 + 2.02 + 2.02 + 2.74	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 18 + 18 + 35	1.26 + 1.26 + 1.51 + 1.51 + 2.95	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.50 + 1.50 + 1.88 + 1.88 + 3.23	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 18 + 18 + 42	1.18 + 1.18 + 1.42 + 1.42 + 3.31	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.41 + 1.41 + 1.76 + 1.76 + 3.66	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 18 + 18 + 50	1.10 + 1.10 + 1.32 + 1.32 + 3.66	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.29 + 1.29 + 1.61 + 1.61 + 4.19	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 18 + 18 + 60	1.01 + 1.01 + 1.21 + 1.21 + 4.05	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.21 + 1.21 + 1.52 + 1.52 + 4.55	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 18 + 25 + 25	1.30 + 1.30 + 1.56 + 2.17 + 2.17	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.50 + 1.50 + 1.88 + 2.56 + 2.56	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 18 + 25 + 35	1.18 + 1.18 + 1.42 + 1.97 + 2.75	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.41 + 1.41 + 1.76 + 2.39 + 3.03	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 18 + 25 + 42	1.11 + 1.11 + 1.33 + 1.85 + 3.10	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.32 + 1.32 + 1.66 + 2.25 + 3.44	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 18 + 25 + 50	1.04 + 1.04 + 1.24 + 1.73 + 3.46	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.22 + 1.22 + 1.52 + 2.07 + 3.96	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 18 + 25 + 60	0.96 + 0.96 + 1.15 + 1.60 + 3.83	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.15 + 1.15 + 1.44 + 1.95 + 4.31	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 18 + 35 + 35	1.08 + 1.08 + 1.30 + 2.52 + 2.52	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.32 + 1.32 + 1.66 + 2.85 + 2.85	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 18 + 35 + 42	1.02 + 1.02 + 1.22 + 2.38 + 2.86	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.25 + 1.25 + 1.56 + 2.69 + 3.25	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 18 + 35 + 50	0.96 + 0.96 + 1.15 + 2.24 + 3.20	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.16 + 1.16 + 1.45 + 2.49 + 3.76	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 18 + 35 + 60	0.89 + 0.89 + 1.07 + 2.08 + 3.57	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.09 + 1.09 + 1.37 + 2.35 + 4.10	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 18 + 42 + 42	0.97 + 0.97 + 1.16 + 2.70 + 2.70	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.18 + 1.18 + 1.48 + 3.08 + 3.08	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 18 + 42 + 50	0.91 + 0.91 + 1.09 + 2.55 + 3.04	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.10 + 1.10 + 1.37 + 2.86 + 3.57	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 18 + 42 + 60	0.85 + 0.85 + 1.02 + 2.38 + 3.40	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.04 + 1.04 + 1.30 + 2.71 + 3.91	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 18 + 50 + 50	0.86 + 0.86 + 1.03 + 2.87 + 2.87	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.03 + 1.03 + 1.28 + 3.33 + 3.33	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 25 + 25 + 25	1.21 + 1.21 + 2.02 + 2.02 + 2.02	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.41 + 1.41 + 2.39 + 2.39 + 2.39	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 25 + 25 + 35	1.11 + 1.11 + 1.85 + 1.85 + 2.59	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.32 + 1.32 + 2.25 + 2.25 + 2.85	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 25 + 25 + 42	1.05 + 1.05 + 1.74 + 1.74 + 2.93	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.25 + 1.25 + 2.13 + 2.13 + 3.25	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 25 + 25 + 50	0.98 + 0.98 + 1.63 + 1.63 + 3.27	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.16 + 1.16 + 1.97 + 1.97 + 3.76	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 25 + 25 + 60	0.91 + 0.91 + 1.52 + 1.52 + 3.64	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.09 + 1.09 + 1.86 + 1.86 + 4.10	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 25 + 35 + 35	1.02 + 1.02 + 1.70 + 2.38 + 2.38	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.25 + 1.25 + 2.13 + 2.69 + 2.69	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 25 + 35 + 42	0.97 + 0.97 + 1.61 + 2.25 + 2.70	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.18 + 1.18 + 2.01 + 2.54 + 3.08	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 25 + 35 + 50	0.91 + 0.91 + 1.52 + 2.13 + 3.04	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.10 + 1.10 + 1.87 + 2.36 + 3.57	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 25 + 35 + 60	0.85 + 0.85 + 1.42 + 1.98 + 3.40	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.04 + 1.04 + 1.77 + 2.24 + 3.91	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 25 + 42 + 42	0.92 + 0.92 + 1.53 + 2.57 + 2.57	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.12 + 1.12 + 1.91 + 2.92 + 2.92	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 25 + 42 + 50	0.87 + 0.87 + 1.45 + 2.43 + 2.89	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.05 + 1.05 + 1.78 + 2.72 + 3.40	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 25 + 50 + 50	0.82 + 0.82 + 1.37 + 2.74 + 2.74	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	0.98 + 0.98 + 1.67 + 3.19 + 3.19	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 35 + 35 + 35	0.94 + 0.94 + 2.20 + 2.20 + 2.20	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.18 + 1.18 + 2.54 + 2.54 + 2.54	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 35 + 35 + 42	0.90 + 0.90 + 2.10 + 2.10 + 2.51	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.12 + 1.12 + 2.42 + 2.42 + 2.92	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 15 + 35 + 35 + 50	0.85 + 0.85 + 1.98 + 1.98 + 2.83	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.05 + 1.05 + 2.25 + 2.25 + 3.40	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 18 + 18 + 18	1.47 + 1.76 + 1.76 + 1.76 + 1.76	8.50 (2.90 - 9.90)	2530 (550 - 3260)	3.36	1.67 + 2.08 + 2.08 + 2.08 + 2.08	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 18 + 18 + 25	1.36 + 1.63 + 1.63 + 1.63 + 2.26	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.55 + 1.94 + 1.94 + 1.94 + 2.64	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 18 + 18 + 35	1.23 + 1.47 + 1.47 + 1.47 + 2.86	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.45 + 1.81 + 1.81 + 1.81 + 3.12	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 18 + 18 + 42	1.15 + 1.38 + 1.38 + 1.38 + 3.22	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.36 + 1.70 + 1.70 + 1.70 + 3.54	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 18 + 18 + 50	1.07 + 1.29 + 1.29 + 1.29 + 3.57	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.25 + 1.56 + 1.56 + 1.56 + 4.06	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 18 + 18 + 60	0.99 + 1.19 + 1.19 + 1.19 + 3.95	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.18 + 1.47 + 1.47 + 1.47 + 4.41	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 18 + 25 + 25	1.26 + 1.51 + 1.51 + 2.10 + 2.10	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.45 + 1.81 + 1.81 + 2.46 + 2.46	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 18 + 25 + 35	1.15 + 1.38 + 1.38 + 1.91 + 2.68	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.36 + 1.70 + 1.70 + 2.31 + 2.93	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 18 + 25 + 42	1.08 + 1.30 + 1.30 + 1.80 + 3.03	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.28 + 1.60 + 1.60 + 2.18 + 3.33	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 18 + 25 + 50	1.01 + 1.21 + 1.21 + 1.69 + 3.37	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.18 + 1.48 + 1.48 + 2.01 + 3.85	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 18 + 25 + 60	0.94 + 1.13 + 1.13 + 1.56 + 3.75	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.12 + 1.40 + 1.40 + 1.90 + 4.19	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 18 + 35 + 35	1.05 + 1.26 + 1.26 + 2.46 + 2.46	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.28 + 1.60 + 1.60 + 2.76 + 2.76	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 18 + 35 + 42	1.00 + 1.20 + 1.20 + 2.32 + 2.79	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.21 + 1.52 + 1.52 + 2.61 + 3.15	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 18 + 35 + 50	0.94 + 1.13 + 1.13 + 2.19 + 3.13	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.12 + 1.40 + 1.40 + 2.42 + 3.65	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
5 units	15 + 18 + 18 + 35 + 60	0.87 + 1.05 + 1.05 + 2.04 + 3.49	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.06 + 1.33 + 1.33 + 2.29 + 3.99	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 18 + 42 + 42	0.94 + 1.13 + 1.13 + 2.64 + 2.64	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.15 + 1.44 + 1.44 + 2.99 + 2.99	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 18 + 42 + 50	0.89 + 1.07 + 1.07 + 2.50 + 2.97	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.07 + 1.34 + 1.34 + 2.78 + 3.48	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 18 + 42 + 60	0.83 + 1.00 + 1.00 + 2.33 + 3.33	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.02 + 1.27 + 1.27 + 2.64 + 3.81	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 18 + 50 + 50	0.84 + 1.01 + 1.01 + 2.81 + 2.81	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.00 + 1.25 + 1.25 + 3.25 + 3.25	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 25 + 25 + 25	1.18 + 1.42 + 1.97 + 1.97 + 1.97	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.36 + 1.70 + 2.31 + 2.31 + 2.31	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 25 + 25 + 35	1.08 + 1.30 + 1.80 + 1.80 + 2.52	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.28 + 1.60 + 2.18 + 2.18 + 2.76	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 25 + 25 + 42	1.02 + 1.22 + 1.70 + 1.70 + 2.86	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.21 + 1.52 + 2.06 + 2.06 + 3.15	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 25 + 25 + 50	0.96 + 1.15 + 1.60 + 1.60 + 3.20	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.12 + 1.40 + 1.91 + 1.91 + 3.65	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 25 + 25 + 60	0.89 + 1.07 + 1.49 + 1.49 + 3.57	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.06 + 1.33 + 1.81 + 1.81 + 3.99	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 25 + 35 + 35	1.00 + 1.20 + 1.66 + 2.32 + 2.32	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.21 + 1.52 + 2.06 + 2.61 + 2.61	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 25 + 35 + 42	0.94 + 1.13 + 1.57 + 2.20 + 2.64	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.15 + 1.44 + 1.95 + 2.47 + 2.99	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 25 + 35 + 50	0.89 + 1.07 + 1.49 + 2.08 + 2.97	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.07 + 1.34 + 1.82 + 2.30 + 3.48	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 25 + 35 + 60	0.83 + 1.00 + 1.39 + 1.94 + 3.33	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.02 + 1.27 + 1.73 + 2.18 + 3.81	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 25 + 42 + 42	0.90 + 1.08 + 1.50 + 2.51 + 2.51	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.09 + 1.37 + 1.86 + 2.84 + 2.84	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 25 + 42 + 50	0.85 + 1.02 + 1.42 + 2.38 + 2.83	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.02 + 1.28 + 1.73 + 2.65 + 3.32	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 35 + 35 + 35	0.92 + 1.11 + 2.16 + 2.16 + 2.16	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.15 + 1.44 + 2.47 + 2.47 + 2.47	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 35 + 35 + 42	0.88 + 1.06 + 2.05 + 2.05 + 2.46	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.09 + 1.37 + 2.35 + 2.35 + 2.84	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 18 + 35 + 35 + 50	0.83 + 1.00 + 1.94 + 1.94 + 2.78	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.02 + 1.28 + 2.19 + 2.19 + 3.32	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 25 + 25 + 25 + 25	1.11 + 1.85 + 1.85 + 1.85 + 1.85	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.28 + 2.18 + 2.18 + 2.18 + 2.18	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 25 + 25 + 25 + 35	1.02 + 1.70 + 1.70 + 1.70 + 2.38	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.21 + 2.06 + 2.06 + 2.06 + 2.61	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 25 + 25 + 25 + 42	0.97 + 1.61 + 1.61 + 1.61 + 2.70	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.15 + 1.95 + 1.95 + 1.95 + 2.99	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 25 + 25 + 25 + 50	0.91 + 1.52 + 1.52 + 1.52 + 3.04	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.07 + 1.82 + 1.82 + 1.82 + 3.48	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 25 + 25 + 25 + 60	0.85 + 1.42 + 1.42 + 1.42 + 3.40	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.02 + 1.73 + 1.73 + 1.73 + 3.81	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 25 + 25 + 35 + 35	0.94 + 1.57 + 1.57 + 2.20 + 2.20	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.15 + 1.95 + 1.95 + 2.47 + 2.47	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 25 + 25 + 35 + 42	0.90 + 1.50 + 1.50 + 2.10 + 2.51	8.50 (2.90 - 9.90)	2690 (550 - 3260)	3.16	1.09 + 1.86 + 1.86 + 2.35 + 2.84	10.00 (3.40 - 11.50)	2460 (610 - 2952)	4.07
	15 + 25 + 25 + 35 + 50	0.85 + 1.42 + 1.42 + 1.98 + 2.83	8.50 (2.90 - 9.90)	2690 (550 - 3260)

Indoor unit combinations

Standard multi-splits

	RAM-110NP5E	COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
1 unit	15	1.50	1.50 (1.00 - 1.60)	420 (320 - 480)	3.57	2.00	2.00 (1.50 - 2.20)	620 (360 - 850)	3.23
	18	1.80	1.80 (1.70 - 2.00)	500 (320 - 610)	3.60	2.50	2.50 (2.00 - 3.00)	780 (360 - 920)	3.21
	25	2.50	2.50 (1.70 - 2.80)	700 (320 - 860)	3.57	3.40	3.40 (2.00 - 4.00)	1140 (360 - 1340)	2.98
	35	3.50	3.50 (1.70 - 3.90)	1040 (320 - 1270)	3.37	4.30	4.30 (2.00 - 5.20)	1420 (360 - 1720)	3.03
	42	4.20	4.20 (1.70 - 4.20)	1250 (320 - 1270)	3.36	5.20	4.30 (2.00 - 6.50)	1420 (360 - 1720)	3.03
	50	5.00	5.00 (1.70 - 5.50)	1540 (320 - 1860)	3.25	6.50	6.50 (2.00 - 7.30)	2300 (360 - 2580)	2.83
	60	6.00	6.00 (1.70 - 6.60)	1630 (320 - 1860)	3.68	7.50	7.50 (2.00 - 8.20)	2300 (360 - 2950)	3.26
2 units	15+ 15	1,50 + 1,50	3.00 (2.40 - 3.50)	850 (500 - 1020)	3.53	2.00+ 2.00	4.00 (2.70 - 4.70)	950 (500 - 1140)	4.21
	15+ 18	1.50+ 1.80	3.30 (2.40 - 3.80)	950 (500 - 1140)	3.47	2.00+ 2.50	4.50 (2.70 - 5.20)	1180 (500 - 1416)	3.81
	15+ 25	1.50+ 2.50	4.00 (2.40 - 4.50)	1150 (500 - 1500)	3.48	2.00+ 3.40	5.40 (2.70 - 6.10)	1320 (500 - 1584)	4.09
	15+ 35	1.50+ 3.50	5.00 (2.40 - 5.50)	1550 (500 - 1860)	3.23	2.00+ 4.30	6.30 (2.70 - 7.00)	1550 (500 - 1860)	4.06
	15+ 42	1.50+ 4.20	5.70 (2.40 - 6.20)	1700 (500 - 1860)	3.35	2.00+ 5.20	7.20 (2.70 - 7.90)	1850 (500 - 2560)	3.89
	15+ 50	1.50+ 5.00	6.50 (2.40 - 7.00)	2100 (500 - 2520)	3.10	2.00+ 6.50	8.50 (2.70 - 9.20)	2800 (500 - 3000)	3.04
	15+ 60	1.50+ 6.00	7.50 (2.40 - 8.00)	2100 (500 - 2520)	3.57	2.00+ 7.50	9.50 (2.70 - 10.20)	2800 (500 - 3000)	3.39
	18+ 18	1.80+ 1.80	3.60 (2.40 - 4.00)	1000 (500 - 1160)	3.60	2.50+ 2.50	5.00 (2.70 - 5.70)	1240 (500 - 1710)	4.03
	18+ 25	1.80+ 2.50	4.30 (2.40 - 4.70)	1200 (500 - 1590)	3.58	2.50+ 3.40	5.90 (2.70 - 6.60)	1530 (500 - 1990)	3.86
	18+ 35	1.80+ 3.50	5.30 (2.40 - 5.80)	1590 (500 - 1900)	3.33	2.50+ 4.30	6.80 (2.70 - 7.50)	1870 (500 - 2320)	3.64
	18+ 42	1.59+ 3.71	6.00 (2.40 - 5.80)	1760 (500 - 1900)	3.41	2.50+ 5.20	7.70 (2.70 - 8.40)	2200 (500 - 2880)	3.50
	18+ 50	1.80+ 5.00	6.80 (2.40 - 7.50)	2370 (500 - 2970)	2.87	2.50+ 6.50	9.00 (2.70 - 9.70)	2970 (500 - 3400)	3.03
	18+ 60	1.80+ 6.00	7.80 (2.40 - 8.20)	2370 (500 - 3120)	3.29	2.50+ 7.50	10.00 (2.70 - 10.70)	2970 (500 - 3400)	3.37
	25+ 25	2.50+ 2.50	5.00 (2.40 - 5.50)	1370 (500 - 1640)	3.65	3.40+ 3.40	6.80 (2.70 - 7.50)	1920 (500 - 2250)	3.54
	25+ 35	2.50+ 3.50	6.00 (2.40 - 6.60)	2000 (500 - 2400)	3.00	3.40+ 4.30	7.70 (2.70 - 8.40)	2280 (500 - 2590)	3.38
	25+ 42	2.50+ 4.20	6.70 (2.40 - 7.00)	2000 (500 - 2400)	3.35	3.40+ 5.20	8.60 (2.70 - 9.30)	2400 (500 - 3110)	3.58
	25+ 50	2.50+ 5.00	7.50 (2.40 - 8.00)	2580 (500 - 3270)	2.91	3.40+ 6.50	9.90 (2.70 - 10.60)	3220 (500 - 3400)	3.07
	25+ 60	2.50+ 6.00	8.50 (2.40 - 9.00)	2580 (500 - 3270)	3.29	3.40+ 7.50	10.90 (2.70 - 11.60)	3220 (500 - 3400)	3.39
	35+ 35	3.50+ 3.50	7.00 (2.40 - 7.80)	2490 (450 - 2990)	2.81	4.30+ 4.30	8.60 (2.70 - 9.30)	2460 (500 - 2860)	3.50
	35+ 42	3.50+ 4.20	7.70 (2.40 - 8.10)	2490 (500 - 2990)	3.09	4.30+ 5.20	9.50 (2.70 - 10.20)	2680 (500 - 3320)	3.54
	35+ 50	3.50+ 5.00	8.50 (2.40 - 8.80)	2700 (500 - 3270)	3.15	4.30+ 6.50	10.80 (2.70 - 11.50)	3290 (500 - 3600)	3.28
	35+ 60	3.50+ 6.00	9.50 (2.40 - 10.10)	2700 (500 - 3270)	3.52	4.30+ 7.50	11.80 (2.70 - 12.50)	3290 (500 - 3600)	3.59
	42+ 42	4.20+ 4.20	8.40 (2.40 - 8.80)	2700 (500 - 3270)	3.11	5.20+ 5.20	10.40 (2.70 - 11.10)	2460 (500 - 2860)	4.23
	42+ 50	4.20+ 5.00	9.20 (2.40 - 9.70)	2900 (500 - 3470)	3.17	5.20+ 6.50	11.70 (2.70 - 12.40)	3440 (500 - 3800)	3.40
	42+ 60	3.99+ 5.70	10.00 (2.40 - 10.59)	2900 (500 - 3470)	3.45	4.91+ 7.09	12.00 (2.70 - 12.70)	3440 (500 - 3800)	3.49
	50+ 50	5.00+ 5.00	10.00 (2.40 - 11.00)	3100 (500 - 3670)	3.23	6.00+ 6.00	12.00 (2.70 - 12.70)	3440 (500 - 3800)	3.49
	50+ 60	4.55+ 5.45	10.00 (2.40 - 11.00)	3200 (500 - 3780)	3.13	5.57+ 6.43	12.00 (2.70 - 12.70)	3440 (500 - 3800)	3.49
	60+ 60	5.00+ 5.00	10.00 (2.40 - 11.00)	3300 (500 - 3870)	3.03	6.00+ 6.00	12.00 (2.70 - 12.70)	3440 (500 - 3800)	3.49
3 units	15 + 15 + 15	1.50 + 1.50 + 1.50	4.50 (2.70 - 5.00)	1250 (510 - 1500)	3.60	2.00 + 2.00 + 2.00	6.00 (2.90 - 6.70)	1540 (520 - 1848)	3.90
	15 + 15 + 18	1.50 + 1.50 + 1.80	4.80 (2.70 - 5.30)	1350 (510 - 1620)	3.56	2.00 + 2.00 + 2.50	6.50 (2.90 - 7.20)	1800 (520 - 2160)	3.61
	15 + 15 + 25	1.50 + 1.50 + 2.50	5.50 (2.70 - 6.00)	1550 (510 - 1988)	3.55	2.00 + 2.00 + 3.40	7.40 (2.90 - 8.10)	2010 (520 - 2412)	3.68
	15 + 15 + 35	1.50 + 1.50 + 3.50	6.50 (2.70 - 7.00)	2100 (510 - 2676)	3.10	2.00 + 2.00 + 4.30	8.30 (2.90 - 9.00)	2420 (520 - 2904)	3.43
	15 + 15 + 42	1.50 + 1.50 + 4.20	7.20 (2.70 - 7.80)	2150 (510 - 2676)	3.35	2.00 + 2.00 + 5.20	9.20 (2.90 - 9.90)	2580 (520 - 2904)	3.57
	15 + 15 + 50	1.50 + 1.50 + 5.00	8.00 (2.70 - 8.50)	2400 (510 - 2876)	3.33	2.00 + 2.00 + 6.50	10.50 (2.90 - 11.20)	3030 (520 - 3448)	3.47
	15 + 15 + 60	1.50 + 1.50 + 6.00	9.00 (2.70 - 9.50)	2470 (510 - 2876)	3.64	2.00 + 2.00 + 7.50	11.50 (2.90 - 12.20)	3030 (520 - 3448)	3.80
	15 + 18 + 18	1.50 + 1.80 + 1.80	5.10 (2.70 - 5.60)	1450 (510 - 1620)	3.52	2.00 + 2.50 + 2.50	7.00 (2.90 - 7.70)	1880 (520 - 2280)	3.72
	15 + 18 + 25	1.50 + 1.80 + 2.50	5.80 (2.70 - 6.30)	1650 (510 - 1820)	3.52	2.00 + 2.50 + 3.40	7.90 (2.90 - 8.60)	2130 (520 - 2616)	3.71
	15 + 18 + 35	1.50 + 1.80 + 3.50	6.80 (2.70 - 7.30)	1850 (510 - 2844)	3.68	2.00 + 2.50 + 4.30	8.80 (2.90 - 9.50)	2580 (520 - 3030)	3.41
	15 + 18 + 42	1.50 + 1.80 + 4.20	7.50 (2.70 - 8.00)	2200 (510 - 2844)	3.41	2.00 + 2.50 + 5.20	9.70 (2.90 - 10.40)	2630 (520 - 3030)	3.69
	15 + 18 + 50	1.50 + 1.80 + 5.00	8.30 (2.70 - 9.10)	2400 (510 - 2844)	3.46	2.00 + 2.50 + 6.50	11.00 (2.90 - 11.70)	3150 (520 - 3690)	3.49
	15 + 18 + 60	1.50 + 1.80 + 6.00	9.30 (2.70 - 10.20)	2550 (510 - 2844)	3.65	2.00 + 2.50 + 7.50	12.00 (2.90 - 12.70)	3150 (520 - 3690)	3.81
	15 + 25 + 25	1.50 + 2.50 + 2.50	6.50 (2.70 - 7.00)	1800 (510 - 2520)	3.61	2.00 + 3.40 + 3.40	8.80 (2.90 - 9.50)	2350 (520 - 3030)	3.74
	15 + 25 + 35	1.50 + 2.50 + 3.50	7.50 (2.70 - 8.30)	2100 (510 - 3096)	3.57	2.00 + 3.40 + 4.30	9.70 (2.90 - 10.40)	2620 (520 - 3030)	3.70
	15 + 25 + 42	1.50 + 2.50 + 4.20	8.20 (2.70 - 8.70)	2200 (510 - 3360)	3.73	2.00 + 3.40 + 5.20	10.60 (2.90 - 11.30)	2750 (520 - 3030)	3.85
	15 + 25 + 50	1.50 + 2.50 + 5.00	9.00 (2.70 - 9.90)	2680 (510 - 3360)	3.36	2.00 + 3.40 + 6.50	11.90 (2.90 - 12.60)	3290 (520 - 3690)	3.62
	15 + 25 + 60	1.50 + 2.50 + 6.00	10.00 (2.70 - 10.60)	2780 (510 - 3360)	3.60	1.86 + 3.16 + 6.98	12.00 (2.90 - 12.70)	3290 (520 - 3690)	3.65
	15 + 35 + 35	1.50 + 3.50 + 3.50	8.50 (2.70 - 9.40)	2560 (510 - 3360)	3.32	2.00 + 4.30 + 4.30	10.60 (2.90 - 11.30)	2990 (520 - 3360)	3.55
	15 + 35 + 42	1.50 + 3.50 + 4.20	9.20 (2.70 - 9.70)	2700 (510 - 3460)	3.41	2.00 + 4.30 + 5.20	11.50 (2.90 - 12.20)	2990 (520 - 3360)	3.85
	15 + 35 + 50	1.50 + 3.50 + 5.00	10.00 (2.70 - 10.70)	3000 (510 - 3460)	3.33	1.88 + 4.03 + 6.09	12.00 (2.90 - 12.70)	3290 (520 - 3690)	3.65
	15 + 35 + 60	1.36 + 3.18 + 5.46	10.00 (2.70 - 11.00)	3100 (510 - 3460)	3.23	1.74 + 3.74 + 6.52	12.00 (2.90 - 12.70)	3290 (520 - 3690)	3.65
	15 + 42 + 42	1.50 + 4.20 + 4.20	9.90 (2.70 - 10.50)	3000 (510 - 3460)	3.30	1.94 + 5.03 + 5.03	12.00 (2.90 - 12.70)	3290 (520 - 3690)	3.65
	15 + 42 + 50	1.40 + 3.93 + 4.67	10.00 (2.70 - 10.56)	3210 (510 - 3460)	3.12	1.75 + 4.55 + 5.69	12.00 (2.90 - 12.70)	3390 (520 - 3690)	3.54
	15 + 42 + 60	1.28 + 3.59 + 5.13	10.00 (2.70 - 10.60)	3300 (510 - 3800)	3.03	1.63 + 4.24 + 6.12	12.00 (2.90 - 12.70)	3390 (520 - 3690)	3.54
	15 + 50 + 50	1.30 + 4.35 + 4.35	10.00 (2.70 - 10.70)	3500 (510 - 3800)	2.86	1.60 + 5.20 + 5.20	12.00 (2.90 - 12.70)	3490 (520 - 3890)	3.44
	15 + 50 + 60	1.20 + 4.00 + 4.80	10.00 (2.70 - 10.80)	3600 (510 - 3800)	2.78	1.50 + 4.88 + 5.63	12.00 (2.90 - 12.70)	3490 (520 - 3890)	3.44
	15 + 60 + 60	1.11 + 4.44 + 4.44	10.00 (2.70 - 10.96)	3680 (510 - 3800)	2.72	1.41 + 5.29 + 5.29	12.00 (2.90 - 12.70)	3490 (520 - 3890)	3.44
	18 + 18 + 18	1.80 + 1.80 + 1.80	5.40 (2.70 - 6.00)	1480 (510 - 1780)	3.65	2.50 + 2.50 + 2.50	7.50 (2.90 - 8.20)	2420 (520 - 2860)	3.10
	18 + 18 + 25	1.80 + 1.80 + 2.50	6.10 (2.70 - 6.80)	1780 (510 - 2150)	3.43	2.50 + 2.50 + 3.40	8.40 (2.90 - 9.10)	2420 (520 - 3060)	3.47
	18 + 18 + 35	1.80 + 1.80 + 3.50	7.10 (2.70 - 7.90)	2050 (510 - 2310)	3.46	2.50 + 2.50 + 4.30	9.30 (2.90 - 10.00)	2630 (520 - 3060)	3.54
	18 + 18 + 42	1.80 + 1.80 + 4.20	7.80 (2.70 - 8.20)	2250 (510 - 3460)	3.47	2.50 + 2.50 + 5.20	10.20 (2.90 - 10.90)	2670 (520 - 3060)	3.82
	18 + 18 + 50	1.80 + 1.80 + 5.00	8.60 (2.70 - 9.50)	2650 (510 - 3460)	3.25	2.50 + 2.50 + 6.50	11.50 (2.90 - 12.20)	3230 (520 - 3690)	3.56
	18 + 18 + 60	1.80 + 1.80 + 6.00	9.60 (2.70 - 10.60)	2650 (510 - 3460)	3.62	2.40 + 2.40 + 7.20	12.00 (2.90 - 12.70)	3230 (520 - 3690)	3.72
	18 + 25 + 25	1.80 + 2.50 + 2.50	6.80 (2.70 - 7.60)	1860 (510 - 2260)	3.66	2.50 + 3.40 + 3.40	9.30 (2.90 - 10.00)	2450 (520 - 2760)	3.80
	18 + 25 + 35	1.80 + 2.50 + 3.50	7.80 (2.70 - 8.70)	2250 (510 - 3270)	3.47	2.50 + 3.40 + 4.30	10.20 (2.90 - 10.90)	2530 (520 - 2880)	4.03
	18 + 25 + 42	1.80 + 2.50 + 4.20	8.50 (2.70 - 9.00)	2450 (510 - 3270)	3.47	2.50 + 3.40 + 5.20	11.10 (2.90 - 11.80)	2830 (520 - 3220)	3.92
	18 + 25 + 50	1.80 + 2.50 + 5.00	9.30 (2.70 - 10.30)	2750 (510 - 3270)	3.38	2.42 + 3.29 + 6.29	12.00 (2.90 - 12.70)	3290 (520 - 3690)	3.65

	RAM-110NP5E	COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
3 units	18 + 25 + 60	1.75 + 2.43 + 5.83	10.00 (2.70 - 10.80)	2850 (510 - 3320)	3.51	2.24 + 3.04 + 6.72	12.00 (2.90 - 12.70)	3290 (520 - 3690)	3.65
	18 + 35 + 35	1.80 + 3.50 + 3.50	8.80 (2.70 - 9.80)	2600 (510 - 3460)	3.38	2.50 + 4.30 + 4.30	11.10 (2.90 - 11.80)	3050 (520 - 3330)	3.64
	18 + 35 + 42	1.80 + 3.50 + 4.20	9.50 (2.70 - 10.10)	2800 (510 - 3460)	3.39	2.50 + 4.30 + 5.20	12.00 (2.90 - 12.70)	3050 (520 - 3330)	3.93
	18 + 35 + 50	1.75 + 3.40 + 4.85	10.00 (2.70 - 10.80)	3080 (510 - 3580)	3.25	2.26 + 3.88 + 5.86	12.00 (2.90 - 12.70)	3290 (520 - 3690)	3.65
	18 + 35 + 60	1.59 + 3.10 + 5.31	10.00 (2.70 - 10.50)	4000 (510 - 3580)	2.50	2.10 + 3.61 + 6.29	12.00 (2.90 - 12.70)	3290 (520 - 3690)	3.65
	18 + 42 + 42	1.76 + 4.12 + 4.12	10.00 (2.70 - 10.50)	3000 (510 - 3580)	3.33	2.33 + 4.84 + 4.84	12.00 (2.90 - 12.70)	3290 (520 - 3690)	3.65
	18 + 42 + 50	1.64 + 3.82 + 4.55	10.00 (2.70 - 10.64)	3290 (510 - 3580)	3.04	2.11 + 4.39 + 5.49	12.00 (2.90 - 12.70)	3290 (520 - 3690)	3.65
	18 + 42 + 60	1.50 + 3.50 + 5.00	10.00 (2.70 - 11.00)	3400 (510 - 4000)	2.94	1.97 + 4.11 + 5.92	12.00 (2.90 - 12.70)	3290 (520 - 3690)	3.65
	18 + 50 + 50	1.53 + 4.24 + 4.24	10.00 (2.70 - 10.80)	3580 (510 - 4000)	2.79	1.94 + 5.03 + 5.03	12.00 (2.90 - 12.70)	3490 (520 - 3890)	3.44
	18 + 50 + 60	1.41 + 3.91 + 4.69	10.00 (2.70 - 12.00)	3680 (510 - 4000)	2.72	1.82 + 4.73 + 5.45	12.00 (2.90 - 12.70)	3490 (520 - 3890)	3.44
	18 + 60 + 60	1.30 + 4.35 + 4.35	10.00 (2.70 - 12.50)	3780 (510 - 4000)	2.65	1.71 + 5.14 + 5.14	12.00 (2.90 - 12.70)	3490 (520 - 3890)	3.44
	25 + 25 + 25	2.50 + 2.50 + 2.50	7.50 (2.70 - 8.40)	2120 (510 - 2580)	3.54	3.40 + 3.40 + 3.40	10.20 (2.90 - 10.90)	2540 (520 - 2920)	4.02
	25 + 25 + 35	2.50 + 2.50 + 3.50	8.50 (2.70 - 9.50)	2560 (510 - 3110)	3.32	3.40 + 3.40 + 4.30	11.10 (2.90 - 11.80)	2730 (520 - 3070)	4.07
	25 + 25 + 42	2.50 + 2.50 + 4.20	9.20 (2.70 - 9.80)	2650 (510 - 3360)	3.47	3.40 + 3.40 + 5.20	12.00 (2.90 - 12.70)	2930 (520 - 3330)	4.10
	25 + 25 + 50	2.50 + 2.50 + 5.00	10.00 (2.70 - 11.10)	3000 (510 - 3360)	3.33	3.07 + 3.07 + 5.86	12.00 (2.90 - 12.70)	3190 (520 - 3560)	3.76
	25 + 25 + 60	2.27 + 2.27 + 5.45	10.00 (2.70 - 11.09)	3000 (510 - 3360)	3.33	2.85 + 2.85 + 6.29	12.00 (2.90 - 12.70)	3190 (520 - 3560)	3.76
	25 + 35 + 35	2.50 + 3.50 + 3.50	9.50 (2.70 - 10.60)	2800 (510 - 3330)	3.39	3.40 + 4.30 + 4.30	12.00 (2.90 - 12.70)	2890 (520 - 3220)	4.15
	25 + 35 + 42	2.45 + 3.43 + 4.12	10.00 (2.70 - 10.69)	3000 (510 - 3660)	3.33	3.16 + 4.00 + 4.84	12.00 (2.90 - 12.70)	2990 (520 - 3330)	4.01
	25 + 35 + 50	2.27 + 3.18 + 4.55	10.00 (2.70 - 11.09)	3280 (510 - 3660)	3.05	2.87 + 3.63 + 5.49	12.00 (2.90 - 12.70)	3190 (520 - 3690)	3.76
	25 + 35 + 60	2.08 + 2.92 + 5.00	10.00 (2.70 - 11.50)	3380 (510 - 3660)	2.96	2.68 + 3.39 + 5.92	12.00 (2.90 - 12.70)	3190 (520 - 3690)	3.76
	25 + 42 + 42	2.29 + 3.85 + 3.85	10.00 (2.70 - 10.28)	3200 (510 - 3660)	3.13	2.96 + 4.52 + 4.52	12.00 (2.90 - 12.70)	3290 (520 - 3690)	3.65
	25 + 42 + 50	2.14 + 3.59 + 4.27	10.00 (2.70 - 10.68)	3500 (510 - 4000)	2.86	2.70 + 4.13 + 5.17	12.00 (2.90 - 12.70)	3290 (520 - 3690)	3.65
	25 + 42 + 60	1.97 + 3.31 + 4.72	10.00 (2.70 - 12.00)	3500 (510 - 4000)	2.86	2.53 + 3.88 + 5.59	12.00 (2.90 - 12.70)	3490 (520 - 3890)	3.44
	25 + 50 + 50	2.00 + 4.00 + 4.00	10.00 (2.70 - 11.6)	3500 (510 - 4000)	2.86	2.49 + 4.76 + 4.76	12.00 (2.90 - 12.70)	3490 (520 - 3890)	3.44
	25 + 50 + 60	1.85 + 3.70 + 4.44	10.00 (2.70 - 12.5)	3500 (510 - 4000)	2.86	2.34 + 4.48 + 5.17	12.00 (2.90 - 12.70)	3490 (520 - 3890)	3.44
	25 + 60 + 60	1.72 + 4.14 + 4.14	10.00 (2.70 - 12.50)	3500 (510 - 4000)	2.86	2.22 + 4.89 + 4.89	12.00 (2.90 - 12.70)	3490 (520 - 3890)	3.44
	35 + 35 + 35	3.33 + 3.33 + 3.33	10.00 (2.70 - 11.14)	3100 (510 - 4000)	3.23	4.00 + 4.00 + 4.00	12.00 (2.90 - 12.70)	3290 (520 - 3690)	3.65
	35 + 35 + 42	3.13 + 3.13 + 3.75	10.00 (2.70 - 10.71)	3300 (510 - 4000)	3.03	3.74 + 3.74 + 4.52	12.00 (2.90 - 12.70)	3290 (520 - 3690)	3.65
	35 + 35 + 50	2.92 + 2.92 + 4.17	10.00 (2.70 - 12.00)	3600 (510 - 4200)	2.78	3.42 + 3.42 + 5.17	12.00 (2.90 - 12.70)	3290 (520 - 3690)	3.65
	35 + 35 + 60	2.69 + 2.69 + 4.62	10.00 (2.70 - 12.50)	3700 (510 - 4200)	2.70	3.20 + 3.20 + 5.59	12.00 (2.90 - 12.70)	3290 (520 - 3690)	3.65
	35 + 42 + 42	2.94 + 3.53 + 3.53	10.00 (2.70 - 10.34)	3550 (510 - 4200)	2.82	3.51 + 4.24 + 4.24	12.00 (2.90 - 12.70)	3290 (520 - 3690)	3.65
	35 + 42 + 50	2.76 + 3.31 + 3.94	10.00 (2.70 - 12.50)	3800 (510 - 4200)	2.63	3.23 + 3.90 + 4.88	12.00 (2.90 - 12.70)	3490 (520 - 3890)	3.44
	35 + 42 + 60	2.55 + 3.07 + 4.38	10.00 (2.70 - 12.50)	3900 (510 - 4200)	2.56	3.04 + 3.67 + 5.29	12.00 (2.90 - 12.70)	3490 (520 - 3890)	3.44
	35 + 50 + 50	2.59 + 3.70 + 3.70	10.00 (2.70 - 12.50)	4100 (510 - 4500)	2.44	2.98 + 4.51 + 4.51	12.00 (2.90 - 12.70)	3490 (520 - 3890)	3.44
	35 + 50 + 60	2.41 + 3.45 + 4.14	10.00 (2.70 - 12.50)	4100 (510 - 4500)	2.44	2.82 + 4.26 + 4.92	12.00 (2.90 - 12.70)	3690 (520 - 4000)	3.25
	35 + 60 + 60	2.26 + 3.87 + 3.87	10.00 (2.70 - 12.50)	4100 (510 - 4500)	2.44	2.67 + 4.66 + 4.66	12.00 (2.90 - 12.70)	3690 (520 - 4000)	3.25
	42 + 42 + 42	3.33 + 3.33 + 3.33	10.00 (2.70 - 11.00)	3750 (510 - 4500)	2.67	4.00 + 4.00 + 4.00	12.00 (2.90 - 12.70)	3690 (520 - 4000)	3.25
	42 + 42 + 50	3.13 + 3.13 + 3.73	10.00 (2.70 - 12.50)	4000 (510 - 4500)	2.50	3.69 + 3.69 + 4.62	12.00 (2.90 - 12.70)	3890 (520 - 4200)	3.08
	42 + 42 + 60	2.92 + 2.92 + 4.17	10.00 (2.70 - 12.50)	4100 (510 - 4500)	2.44	3.49 + 3.49 + 5.03	12.00 (2.90 - 12.70)	3890 (520 - 4200)	3.08
	42 + 50 + 50	2.96 + 3.52 + 3.52	10.00 (2.70 - 12.50)	4100 (510 - 4500)	2.44	3.43 + 4.29 + 4.29	12.00 (2.90 - 12.70)	3890 (520 - 4200)	3.08
	42 + 50 + 60	2.76 + 3.29 + 3.95	10.00 (2.70 - 12.50)	4100 (510 - 4500)	2.44	3.25 + 4.06 + 4.69	12.00 (2.90 - 12.70)	4190 (520 - 4500)	2.86
	50 + 50 + 50	3.33 + 3.33 + 3.33	10.00 (2.70 - 12.50)	4100 (510 - 4500)	2.44	4.00 + 4.00 + 4.00	12.00 (2.90 - 12.70)	4190 (520 - 4500)	2.86
	50 + 50 + 60	3.13 + 3.13 + 3.75	10.00 (2.70 - 12.50)	4100 (510 - 4500)	2.44	3.80 + 3.80 + 4.39	12.00 (2.90 - 12.70)	4190 (520 - 4500)	2.86
4 units	15 + 15 + 15 + 15	1.50 + 1.50 + 1.50 + 1.50	6.00 (2.900 - 6.40)	1680 (550 - 1620)	3.57	2.00 + 2.00 + 2.00 + 2.00	8.00 (3.00 - 8.70)	2000 (540 - 2652)	4.00
	15 + 15 + 15 + 18	1.50 + 1.50 + 1.50 + 1.80	6.30 (2.900 - 6.80)	1780 (550 - 1776)	3.54	2.00 + 2.00 + 2.00 + 2.50	8.50 (3.00 - 9.20)	2200 (540 - 2760)	3.86
	15 + 15 + 15 + 25	1.50 + 1.50 + 1.50 + 2.50	7.00 (2.90 - 7.60)	1780 (550 - 2136)	3.93	2.00 + 2.00 + 2.00 + 3.40	9.40 (3.00 - 10.10)	2390 (540 - 3036)	3.93
	15 + 15 + 15 + 35	1.50 + 1.50 + 1.50 + 3.50	8.00 (2.90 - 8.70)	2500 (550 - 4000)	3.20	2.00 + 2.00 + 2.00 + 4.30	10.30 (3.00 - 11.00)	2750 (540 - 3468)	3.75
	15 + 15 + 15 + 42	1.50 + 1.50 + 1.50 + 4.20	8.70 (2.90 - 9.00)	2600 (550 - 4000)	3.35	2.00 + 2.00 + 2.00 + 5.20	11.20 (3.00 - 11.90)	2850 (540 - 3360)	3.93
	15 + 15 + 15 + 50	1.50 + 1.50 + 1.50 + 5.00	9.50 (2.90 - 10.30)	2650 (550 - 4000)	3.58	1.92 + 1.92 + 1.92 + 6.24	12.00 (3.00 - 12.70)	3190 (540 - 4000)	3.76
	15 + 15 + 15 + 60	1.43 + 1.43 + 1.43 + 5.71	10.00 (2.90 - 10.86)	2650 (550 - 4000)	3.77	1.78 + 1.78 + 1.78 + 6.67	12.00 (3.00 - 12.70)	3190 (540 - 4000)	3.76
	15 + 15 + 18 + 18	1.50 + 1.50 + 1.80 + 1.80	6.60 (2.90 - 7.20)	1850 (550 - 2100)	3.57	2.00 + 2.00 + 2.50 + 2.50	9.00 (3.00 - 9.70)	2380 (540 - 4000)	3.78
	15 + 15 + 18 + 25	1.50 + 1.50 + 1.80 + 2.50	7.30 (2.90 - 8.00)	2050 (550 - 2220	3.56	2.00 + 2.00 + 2.50 + 3.40	9.90 (3.00 - 10.60)	2530 (540 - 4000)	3.91
	15 + 15 + 18 + 35	1.50 + 1.50 + 1.80 + 3.50	8.30 (2.90 - 9.10)	2350 (550 - 3120)	3.53	2.00 + 2.00 + 2.50 + 4.30	10.80 (3.00 - 11.50)	2680 (540 - 4000)	4.03
	15 + 15 + 18 + 42	1.50 + 1.50 + 1.80 + 4.20	9.00 (2.90 - 9.40)	2350 (550 - 3120)	3.83	2.00 + 2.00 + 2.50 + 5.20	11.70 (3.00 - 12.40)	2780 (540 - 4000)	4.21
	15 + 15 + 18 + 50	1.50 + 1.50 + 1.80 + 5.00	9.80 (2.90 - 10.70)	2800 (550 - 3510)	3.50	1.85 + 1.85 + 2.31 + 6.00	12.00 (3.00 - 12.70)	3290 (540 - 4000)	3.65
	15 + 15 + 18 + 60	1.39 + 1.39 + 1.67 + 5.56	10.00 (2.90 - 10.93)	2800 (550 - 3510)	3.57	1.71 + 1.71 + 2.14 + 6.43	12.00 (3.00 - 12.70)	3290 (540 - 4000)	3.65
	15 + 15 + 25 + 25	1.50 + 1.50 + 2.50 + 2.50	8.00 (2.90 - 8.80)	2150 (550 - 2580)	3.72	2.00 + 2.00 + 3.40 + 3.40	10.80 (3.00 - 11.50)	2480 (540 - 4000)	4.35
	15 + 15 + 25 + 35	1.50 + 1.50 + 2.50 + 3.50	9.00 (2

Indoor unit combinations

Standard multi-splits

RAM-110NP5E		COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
4 units	15 + 18 + 25 + 35	1.50 + 1.80 + 2.50 + 3.50	9.30 (2.90 - 10.30)	2550 (550 - 3120)	3.65	1.97 + 2.46 + 3.34 + 4.23	12.00 (3.00 - 12.70)	2990 (540 - 4000)	4.01
	15 + 18 + 25 + 42	1.50 + 1.80 + 2.50 + 4.20	10.00 (2.90 - 10.60)	2800 (550 - 3120)	3.57	1.83 + 2.29 + 3.11 + 4.76	12.00 (3.00 - 12.70)	3190 (540 - 4000)	3.76
	15 + 18 + 25 + 50	1.39 + 1.67 + 2.31 + 4.63	10.00 (2.90 - 10.56)	2800 (550 - 3120)	3.57	1.67 + 2.08 + 2.83 + 5.42	12.00 (3.00 - 12.70)	3490 (540 - 4000)	3.44
	15 + 18 + 25 + 60	1.27 + 1.53 + 2.12 + 5.08	10.00 (2.90 - 10.80)	3150 (550 - 3700)	3.17	1.56 + 1.95 + 2.65 + 5.84	12.00 (3.00 - 12.70)	3490 (540 - 4500)	3.44
	15 + 18 + 35 + 35	1.46 + 1.75 + 3.40 + 3.40	10.00 (2.90 - 10.60)	3150 (550 - 3700)	3.17	1.83 + 2.29 + 3.94 + 3.94	12.00 (3.00 - 12.70)	3190 (540 - 4000)	3.76
	15 + 18 + 35 + 42	1.36 + 1.64 + 3.18 + 3.82	10.00 (2.90 - 10.64)	3150 (550 - 3700)	3.17	1.71 + 2.14 + 3.69 + 4.46	12.00 (3.00 - 12.70)	3290 (540 - 4000)	3.65
	15 + 18 + 35 + 50	1.27 + 1.53 + 2.97 + 4.24	10.00 (2.90 - 10.90)	3400 (550 - 4000)	2.94	1.57 + 1.96 + 3.37 + 5.10	12.00 (3.00 - 12.70)	3560 (540 - 4500)	3.37
	15 + 18 + 35 + 60	1.17 + 1.41 + 2.73 + 4.69	10.00 (2.90 - 11.00)	3400 (550 - 4000)	2.94	1.47 + 1.84 + 3.17 + 5.52	12.00 (3.00 - 12.70)	3560 (540 - 4500)	3.37
	15 + 18 + 42 + 42	1.28 + 1.54 + 3.59 + 3.59	10.00 (2.90 - 10.90)	3400 (550 - 4000)	2.94	1.61 + 2.01 + 4.19 + 4.19	12.00 (3.00 - 12.70)	3490 (540 - 4500)	3.44
	15 + 18 + 42 + 50	1.20 + 1.44 + 3.36 + 4.00	10.00 (2.90 - 11.30)	3500 (550 - 4000)	2.86	1.48 + 1.85 + 3.85 + 4.81	12.00 (3.00 - 12.70)	3590 (540 - 4500)	3.34
	15 + 18 + 42 + 60	1.11 + 1.33 + 3.11 + 4.44	10.00 (2.90 - 11.50)	3500 (550 - 4000)	2.86	1.40 + 1.74 + 3.63 + 5.23	12.00 (3.00 - 12.70)	3590 (540 - 4500)	3.34
	15 + 18 + 50 + 50	1.13 + 1.35 + 3.76 + 3.76	10.00 (2.90 - 11.30)	3650 (550 - 4000)	2.74	1.37 + 1.71 + 4.46 + 4.46	12.00 (3.00 - 12.70)	3590 (540 - 4500)	3.34
	15 + 18 + 50 + 60	1.05 + 1.26 + 3.50 + 4.20	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.30 + 1.62 + 4.22 + 4.86	12.00 (3.00 - 12.70)	3590 (540 - 4500)	3.34
	15 + 18 + 60 + 60	0.98 + 1.18 + 3.92 + 3.92	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.23 + 1.54 + 4.62 + 4.62	12.00 (3.00 - 12.70)	3590 (540 - 4500)	3.34
	15 + 25 + 25 + 25	1.50 + 2.50 + 2.50 + 2.50	9.00 (2.90 - 10.00)	2600 (550 - 3132)	3.46	1.97 + 3.34 + 3.34 + 3.34	12.00 (3.00 - 12.70)	2990 (540 - 4000)	4.01
	15 + 25 + 25 + 35	1.50 + 2.50 + 2.50 + 3.50	10.00 (2.90 - 11.10)	2800 (550 - 3500)	3.57	1.83 + 3.11 + 3.11 + 3.94	12.00 (3.00 - 12.70)	3190 (540 - 4000)	3.76
	15 + 25 + 25 + 42	1.40 + 2.34 + 2.34 + 3.93	10.00 (2.90 - 10.65)	3000 (550 - 3500)	3.33	1.71 + 2.91 + 2.91 + 4.46	12.00 (3.00 - 12.70)	3390 (540 - 4500)	3.54
	15 + 25 + 25 + 50	1.30 + 2.17 + 2.17 + 4.35	10.00 (2.90 - 10.80)	3160 (550 - 3500)	3.16	1.57 + 2.67 + 2.67 + 5.10	12.00 (3.00 - 12.70)	3590 (540 - 4500)	3.34
	15 + 25 + 25 + 60	1.20 + 2.00 + 2.00 + 4.8	10.00 (2.90 - 10.90)	3160 (550 - 3500)	3.16	1.47 + 2.50 + 2.50 + 5.52	12.00 (3.00 - 12.70)	3590 (540 - 4500)	3.34
	15 + 25 + 35 + 35	1.36 + 2.27 + 3.18 + 3.18	10.00 (2.90 - 10.50)	3000 (550 - 3500)	3.33	1.71 + 2.91 + 3.69 + 3.69	12.00 (3.00 - 12.70)	3090 (540 - 4000)	3.88
	15 + 25 + 35 + 42	1.28 + 2.14 + 2.99 + 3.59	10.00 (2.90 - 10.68)	3210 (550 - 3700)	3.12	1.61 + 2.74 + 3.46 + 4.19	12.00 (3.00 - 12.70)	3190 (540 - 4000)	3.76
	15 + 25 + 35 + 50	1.20 + 2.00 + 2.80 + 4.00	10.00 (2.90 - 10.80)	3400 (550 - 3700)	2.94	1.48 + 2.52 + 3.19 + 4.81	12.00 (3.00 - 12.70)	3650 (540 - 4500)	3.29
	15 + 25 + 35 + 60	1.11 + 1.85 + 2.59 + 4.44	10.00 (2.90 - 10.90)	3400 (550 - 3700)	2.94	1.40 + 2.37 + 3.00 + 5.23	12.00 (3.00 - 12.70)	3650 (540 - 4500)	3.29
	15 + 25 + 42 + 42	1.21 + 2.02 + 3.39 + 3.39	10.00 (2.90 - 10.63)	3200 (550 - 3700)	3.13	1.52 + 2.58 + 3.95 + 3.95	12.00 (3.00 - 12.70)	3590 (540 - 4500)	3.34
	15 + 25 + 42 + 50	1.14 + 1.89 + 3.18 + 3.79	10.00 (2.90 - 10.90)	3610 (550 - 4500)	2.77	1.40 + 2.39 + 3.65 + 4.56	12.00 (3.00 - 12.70)	3650 (540 - 4500)	3.29
	15 + 25 + 42 + 60	1.06 + 1.76 + 2.96 + 4.23	10.00 (2.90 - 11.20)	3720 (550 - 4500)	2.69	1.33 + 2.25 + 3.45 + 4.97	12.00 (3.00 - 12.70)	3650 (540 - 4500)	3.29
	15 + 25 + 50 + 50	1.07 + 1.79 + 3.57 + 3.57	10.00 (2.90 - 11.50)	3800 (550 - 4500)	2.63	1.30 + 2.22 + 4.24 + 4.24	12.00 (3.00 - 12.70)	3650 (540 - 4500)	3.29
	15 + 25 + 50 + 60	1.00 + 1.67 + 3.33 + 4.00	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.24 + 2.10 + 4.02 + 4.64	12.00 (3.00 - 12.70)	3650 (540 - 4500)	3.29
	15 + 35 + 35 + 35	1.25 + 2.92 + 2.92 + 2.92	10.00 (2.90 - 12.50)	3350 (550 - 3700)	2.99	1.61 + 3.46 + 3.46 + 3.46	12.00 (3.00 - 12.70)	3190 (540 - 4000)	3.76
	15 + 35 + 35 + 42	1.18 + 2.76 + 2.76 + 3.31	10.00 (2.90 - 12.50)	3350 (550 - 3700)	2.99	1.52 + 3.27 + 3.27 + 3.95	12.00 (3.00 - 12.70)	3290 (540 - 4000)	3.65
	15 + 35 + 35 + 50	1.11 + 2.59 + 2.59 + 3.70	10.00 (2.90 - 12.50)	3800 (550 - 4500)	2.63	1.40 + 3.02 + 3.02 + 4.56	12.00 (3.00 - 12.70)	3690 (540 - 4500)	3.25
	15 + 35 + 35 + 60	1.03 + 2.41 + 2.41 + 4.14	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.33 + 2.85 + 2.85 + 4.97	12.00 (3.00 - 12.70)	3690 (540 - 4500)	3.25
	15 + 35 + 42 + 42	1.12 + 2.61 + 3.13 + 3.13	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.44 + 3.09 + 3.74 + 3.74	12.00 (3.00 - 12.70)	3490 (540 - 4500)	3.44
	15 + 35 + 42 + 50	1.06 + 2.46 + 2.96 + 3.52	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.33 + 2.87 + 3.47 + 4.33	12.00 (3.00 - 12.70)	3790 (540 - 4500)	3.17
	15 + 35 + 42 + 60	0.99 + 2.3 + 2.76 + 3.95	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.26 + 2.72 + 3.28 + 4.74	12.00 (3.00 - 12.70)	3790 (540 - 4500)	3.17
	15 + 35 + 50 + 50	1.00 + 2.33 + 3.33 + 3.33	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.24 + 2.67 + 4.04 + 4.04	12.00 (3.00 - 12.70)	3890 (540 - 4500)	3.08
	15 + 35 + 50 + 60	0.94 + 2.19 + 3.13 + 3.75	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.18 + 2.54 + 3.84 + 4.43	12.00 (3.00 - 12.70)	3890 (540 - 4500)	3.08
	15 + 42 + 42 + 42	1.06 + 2.98 + 2.98 + 2.98	10.00 (2.90 - 12.50)	3800 (550 - 4500)	2.63	1.36 + 3.55 + 3.55 + 3.55	12.00 (3.00 - 12.70)	3690 (540 - 4500)	3.25
	15 + 42 + 42 + 50	1.01 + 2.82 + 2.82 + 3.36	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.27 + 3.30 + 3.30 + 4.13	12.00 (3.00 - 12.70)	3890 (540 - 4500)	3.08
	15 + 42 + 42 + 60	0.94 + 2.64 + 2.64 + 3.77	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.21 + 3.14 + 3.14 + 4.52	12.00 (3.00 - 12.70)	3890 (540 - 4500)	3.08
	15 + 42 + 50 + 50	0.96 + 2.68 + 3.18 + 3.18	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.19 + 3.09 + 3.86 + 3.86	12.00 (3.00 - 12.70)	3990 (540 - 4000)	3.01
	18 + 18 + 18 + 18	1.80 + 1.80 + 1.80 + 1.80	7.20 (2.90 - 8.00)	2330 (550 - 3120)	3.09	2.50 + 2.50 + 2.50 + 2.50	10.00 (3.00 - 10.70)	2850 (540 - 4000)	3.51
	18 + 18 + 18 + 25	1.80 + 1.80 + 1.80 + 2.50	7.90 (2.90 - 8.80)	2380 (550 - 3120)	3.32	2.50 + 2.50 + 2.50 + 3.40	10.90 (3.00 - 11.60)	2950 (540 - 4000)	3.69
	18 + 18 + 18 + 35	1.80 + 1.80 + 1.80 + 3.50	8.90 (2.90 - 9.90)	2630 (550 - 3120)	3.38	2.50 + 2.50 + 2.50 + 4.30	11.80 (3.00 - 12.50)	2950 (540 - 4000)	4.00
	18 + 18 + 18 + 42	1.80 + 1.80 + 1.80 + 4.20	9.60 (2.90 - 10.20)	2640 (550 - 3460)	3.64	2.36 + 2.36 + 2.36 + 4.91	12.00 (3.00 - 12.70)	3050 (540 - 4000)	3.93
	18 + 18 + 18 + 50	1.73 + 1.73 + 1.73 + 4.81	10.00 (2.90 - 11.06)	2900 (550 - 3460)	3.45	2.14 + 2.14 + 2.14 + 5.57	12.00 (3.00 - 12.70)	3430 (540 - 4000)	3.50
	18 + 18 + 18 + 60	1.58 + 1.58 + 1.58 + 5.26	10.00 (2.90 - 12.50)	3000 (550 - 3460)	3.33	2.00 + 2.00 + 2.00 + 6.00	12.00 (3.00 - 12.70)	3430 (540 - 4000)	3.50
	18 + 18 + 25 + 25	1.80 + 1.80 + 2.50 + 2.50	8.60 (2.90 - 9.60)	2690 (550 - 3040)	3.20	2.50 + 2.50 + 3.40 + 3.40	12.00 (3.00 - 12.70)	2950 (540 - 4000)	4.00
	18 + 18 + 25 + 35	1.80 + 1.80 + 2.50 + 3.50	9.60 (2.90 - 10.10)	2690 (550 - 3460)	3.57	2.36 + 2.36 + 3.21 + 4.06	12.00 (3.00 - 12.70)	3050 (540 - 4000)	3.93
	18 + 18 + 25 + 42	1.75 + 1.75 + 2.43 + 4.08	10.00 (2.90 - 10.68)	2850 (550 - 3460)	3.51	2.21 + 2.21 + 3.00 + 4.59	12.00 (3.00 - 12.70)	3150 (540 - 4000)	3.81
	18 + 18 + 25 + 50	1.62 + 1.62 + 2.25 + 4.5	10.00 (2.90 - 11.15)	3000 (550 - 3460)	3.33	2.01 + 2.01 + 2.74 + 5.23	12.00 (3.00 - 12.70)	3490 (540 - 4000)	3.44
	18 + 18 + 25 + 60	1.49 + 1.49 + 2.07 + 4.96	10.00 (2.90 - 11.60)	3000 (550 - 3460)	3.33	1.89 + 1.89 + 2.57 + 5.66	12.00 (3.00 - 12.70)	3490 (540 - 4000)	3.44
	18 + 18 + 35 + 35	1.70 + 1.70 + 3.30 + 3.30	10.00 (2.90 - 10.60)	2900 (550 - 3460)	3.45	2.21 + 2.21 + 3.79 + 3.79	12.00 (3.00 - 12.70)	3130 (540 - 4000)	3.83
	18 + 18 + 35 + 42	1.59 + 1.59 + 3.10 + 3.72	10.00 (2.90 - 10.99)	3000 (550 - 3460)	3.33	2.07 + 2.07 + 3.56 + 4.30	12.00 (3.00 - 12.70)	3180 (540 - 4000)	3.77
	18 + 18 + 35 + 50	1.49 + 1.49 + 2.89 + 4.13	10.00 (2.90 - 11.50)	3200 (550 - 3700)	3.13	1.90 + 1.90 + 3.27 + 4.94	12.00 (3.00 - 12.70)	3690 (540 - 4500)	3.25
	18 + 18 + 35 + 60	1.37 + 1.37 + 2.67 + 4.58	10.00 (2.90 - 12.00)	3200 (550 - 3700)	3.13	1.79 + 1.79 + 3.07 + 5.36	12.00 (3.00 - 12.70)	3690 (540 - 4500)	3.25
	18 + 18 + 42 + 42	1.50 + 1.50 + 3.50 + 3.50	10.00 (2.90 - 10.33)	3200 (550 - 3700)	3.13	1.95 + 1.95 + 4.05 + 4.05	12.00 (3.00 - 12.70)	3690 (540 - 4500)	3.25
	18 + 18 + 42 + 50	1.41 + 1.41 + 3.28 + 3.91	10.00 (2.90 - 10.80)	3500 (550 - 4000)	2.86	1.80 + 1.80 + 3.74 + 4.67	12.00 (3.00 - 12.70)	3690 (540 - 4500)	3.25
	18 + 18 + 42 + 60	1.30 + 1.30 + 3.04 + 4.35	10.00 (2.90 - 11.30)	3500 (550 - 4000)	2.86	1.69 + 1.69 + 3.53 + 5.08	12.00 (3.00 - 12.70)	3690 (540 - 4500)	3.25
	18 + 18 + 50 + 50	1.32 + 1.32 + 3.68 + 3.68	10.00 (2.90 - 11.20)	3680 (550 - 4000)	2.72	1.67 + 1.67 + 4.33 + 4.33	12.00 (3.00 - 12.70)	3790 (540 - 4500)	3.17
	18 + 18 + 50 + 60	1.23 + 1.23 + 3.42 + 4.11	10.00 (2.90 - 11.60)	3680 (550 - 4000)	2.72	1.58 + 1.58 + 4.11 + 4.74	12.00 (3.00 - 12.70)	3790 (540 - 4500)	3.17
	18 + 18 + 60 + 60	1.23 + 1.23 + 4.11 + 4.11	10.00 (2.90 - 12.00)	3780 (550 - 4000)	2.65	1.50 + 1.50 + 4.50 + 4.50	12.00 (3.00 - 12.70)	3790 (540 - 4500)	3.17
	18 + 25 + 25 + 25	1.80 + 2.50 + 2.50 + 2.50	9.30 (2.90 - 10.40)	2600 (550 - 3460)	3.58	2.36 + 3.21 + 3.21 + 3.21	12.00 (3.00 - 12.70)	3050 (540 - 4000)	3.93
	18 + 25 + 25 + 35	1.75 + 2.43 + 2.43 + 3.40	10.00 (2.90 - 10.99)	2740 (550 - 3460)	3.65	2.21 + 3.00 + 3.00 + 3.79	12.00 (3.00 - 12.70)	3150 (540 - 4000)	3.81
	18 + 25 + 25 + 42	1.64 + 2.27 + 2.27 + 3.82	10.00 (2.90 - 11.30)	2900 (550 - 3460)	3.45	2.07 + 2.81 + 2.81 + 4.30	12.00 (3.00 - 12.70)	3290 (540 - 4000)	3.65
	18 + 25 + 25 + 50	1.53 + 2.12 + 2.12 + 4.24	10.00 (2.90 - 11.80)	3000 (550 - 3460)	3.33	1.90 + 2.58 + 2.58 + 4.94	12.00 (3.00 - 12.70)	3530 (540 - 4000)	3.40
	18 + 25 + 25 + 60	1.41 + 1.95 + 1.95 + 4.69	10.00 (2.90 - 12.30)	3100 (550 - 3460)	3.23	1.79 + 2.43 + 2.43 + 5.36	12.00 (3.00 - 12.70)	3530 (540 - 4000)	3.40
	18 + 25 + 35 + 35	1.59 + 2.21 + 3.10 + 3.10	10.00 (2.90 - 10.99)	3000 (550 - 3460)	3.33	2.07 + 2.81 + 3.56 + 3.56	12.00 (3.00 - 12.70)	3180 (540 - 4000)	3.77
	18 + 25 + 35 + 42	1.50 + 2.08 + 2.92 + 3.50	10.00 (2.90 - 11.30)	3100 (550 - 3460)	3.23	1.95 + 2.65 + 3.35 + 4.05	12.00 (3.00 - 12.70)	3280 (540 - 4000)	3.66
	18 + 25 + 35 + 50	1.41 + 1.95 + 2.73 + 3.91	10.00 (2.90 - 11.80)	3380 (550 - 4000)	2.96	1.80 + 2.44 + 3.09 + 4.67	12.00 (3.00 - 12.70)	3790 (540 - 4500)	3.17
	18 + 25 + 35 + 60	1.30 + 1.81 + 2.54 + 4.35	10.00 (2.90 - 12.30)	3550 (550 - 4000)	2.82	1.69 + 2.31 + 2.92 + 5.08	12.00 (3.00 - 12.70)	3790 (540 - 4500)	3.17
	18 + 25 + 42 + 42	1.42 + 1.97 + 3.31 + 3.31	10.00 (2.90 - 11.30)	3200 (550 - 3860)	3.13	1.84 + 2.50 + 3.83 + 3.83	12.00 (3.00 - 12.70)	3750 (540 - 4500)	3.20
	18 + 25 + 42 + 50	1.33 + 1.85 + 3.11 + 3.70	10.00 (2.90 - 11.80)	3690 (550 - 4000)	2.71	1.70 + 2.32 + 3.55 + 4.43	12.00 (3.00 - 12.70)	3750 (540 - 4500)	3.20
	18 + 25 + 42 + 60	1.24 + 1.72 + 2.90 + 4.14	10.00 (2.90 - 12.30)	3800 (550 - 4500)	2.63	1.61 + 2.19 + 3.35 + 4.84	12.00 (3.00 - 12.70)	3680 (540 - 4500)	3.26
	18 + 25 + 50 + 50	1.26 + 1.75 + 3.50 + 3.50	10.00 (2.90 - 12.00)	3980 (550 - 4500)	2.51	1.59 + 2.16 + 4.13 + 4.13	12.00 (3.00 - 12.70)	3680 (540 - 4500)	3.26

RAM-110NP5E		COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
4 units	18 + 25 + 50 + 60	1.18 + 1.63 + 3.27 + 3.92	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.51 + 2.05 + 3.92 + 4.52	12.00 (3.00 - 12.70)	3890 (540 - 4500)	3.08
	18 + 25 + 60 + 60	1.10 + 1.53 + 3.68 + 3.68	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.44 + 1.95 + 4.31 + 4.31	12.00 (3.00 - 12.70)	3890 (540 - 4500)	3.08
	18 + 35 + 35 + 35	1.46 + 2.85 + 2.85 + 2.85	10.00 (2.90 - 10.90)	3500 (550 - 4000)	2.86	1.95 + 3.35 + 3.35 + 3.35	12.00 (3.00 - 12.70)	3280 (540 - 4000)	3.66
	18 + 35 + 35 + 42	1.38 + 2.69 + 2.69 + 3.23	10.00 (2.90 - 11.20)	3620 (550 - 4500)	2.76	1.84 + 3.17 + 3.17 + 3.83	12.00 (3.00 - 12.70)	3350 (540 - 4000)	3.58
	18 + 35 + 35 + 50	1.30 + 2.54 + 2.54 + 3.62	10.00 (2.90 - 11.70)	3800 (550 - 4500)	2.63	1.70 + 2.93 + 2.93 + 4.43	12.00 (3.00 - 12.70)	3850 (540 - 4000)	3.12
	18 + 35 + 35 + 60	1.22 + 2.36 + 2.36 + 4.05	10.00 (2.90 - 12.30)	3800 (550 - 4500)	2.63	1.61 + 2.77 + 2.77 + 4.84	12.00 (3.00 - 12.70)	3850 (540 - 4000)	3.12
	18 + 35 + 42 + 42	1.31 + 2.55 + 3.07 + 3.07	10.00 (2.90 - 11.50)	3600 (550 - 4500)	2.78	1.74 + 3.00 + 3.63 + 3.63	12.00 (3.00 - 12.70)	2630 (540 - 4000)	4.56
	18 + 35 + 42 + 50	1.24 + 2.41 + 2.90 + 3.45	10.00 (2.90 - 12.00)	3900 (550 - 4500)	2.56	1.62 + 2.79 + 3.37 + 4.22	12.00 (3.00 - 12.70)	3850 (540 - 5000)	3.12
	18 + 35 + 42 + 60	1.16 + 2.26 + 2.71 + 3.87	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.54 + 2.65 + 3.20 + 4.62	12.00 (3.00 - 12.70)	3850 (540 - 5000)	3.12
	18 + 35 + 50 + 50	1.18 + 2.29 + 3.27 + 3.27	10.00 (2.90 - 12.30)	4000 (550 - 4500)	2.50	1.52 + 2.61 + 3.94 + 3.94	12.00 (3.00 - 12.70)	4000 (540 - 5000)	3.00
	18 + 35 + 50 + 60	1.10 + 2.15 + 3.07 + 3.68	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.44 + 2.48 + 3.75 + 4.33	12.00 (3.00 - 12.70)	4000 (540 - 5000)	3.00
	18 + 42 + 42 + 42	1.25 + 2.92 + 2.92 + 2.92	10.00 (2.90 - 12.00)	3850 (550 - 4500)	2.60	1.66 + 3.45 + 3.45 + 3.45	12.00 (3.00 - 12.70)	4000 (540 - 5000)	3.00
	18 + 42 + 42 + 50	1.18 + 2.76 + 2.76 + 3.29	10.00 (2.90 - 12.30)	4000 (550 - 4500)	2.50	1.55 + 3.22 + 3.22 + 4.02	12.00 (3.00 - 12.70)	4100 (540 - 5000)	2.93
	18 + 42 + 42 + 60	1.11 + 2.59 + 2.59 + 3.70	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.47 + 3.06 + 3.06 + 4.41	12.00 (3.00 - 12.70)	4100 (540 - 5000)	2.93
	18 + 42 + 50 + 50	1.11 + 2.59 + 3.09 + 3.09	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.45 + 3.01 + 3.77 + 3.77	12.00 (3.00 - 12.70)	4200 (540 - 5000)	2.86
	25 + 25 + 25 + 25	2.50 + 2.50 + 2.50 + 2.50	10.00 (2.90 - 11.00)	2800 (550 - 3460)	3.57	3.00 + 3.00 + 3.00 + 3.00	12.00 (3.00 - 12.70)	3150 (540 - 4000)	3.81
	25 + 25 + 25 + 35	2.27 + 2.27 + 2.27 + 3.18	10.00 (2.90 - 11.50)	3000 (550 - 3700)	3.33	2.81 + 2.81 + 2.81 + 3.56	12.00 (3.00 - 12.70)	3290 (540 - 4000)	3.65
	25 + 25 + 25 + 42	2.14 + 2.14 + 2.14 + 3.59	10.00 (2.90 - 11.80)	3150 (550 - 3700)	3.17	2.65 + 2.65 + 2.65 + 4.05	12.00 (3.00 - 12.70)	3690 (540 - 5000)	3.25
	25 + 25 + 25 + 50	2.00 + 2.00 + 2.00 + 4.00	10.00 (2.90 - 12.30)	3450 (550 - 4000)	2.90	2.44 + 2.44 + 2.44 + 4.67	12.00 (3.00 - 12.70)	3790 (540 - 5000)	3.17
	25 + 25 + 25 + 60	1.85 + 1.85 + 1.85 + 4.44	10.00 (2.90 - 12.50)	3500 (550 - 4000)	2.86	2.31 + 2.31 + 2.31 + 5.08	12.00 (3.00 - 12.70)	3790 (540 - 5000)	3.17
	25 + 25 + 35 + 35	2.08 + 2.08 + 2.92 + 2.92	10.00 (2.90 - 11.90)	3200 (550 - 3700)	3.13	2.65 + 2.65 + 3.35 + 3.35	12.00 (3.00 - 12.70)	3490 (540 - 5000)	3.44
	25 + 25 + 35 + 42	1.97 + 1.97 + 2.76 + 3.31	10.00 (2.90 - 12.20)	3400 (550 - 4000)	2.94	2.50 + 2.50 + 3.17 + 3.83	12.00 (3.00 - 12.70)	3790 (540 - 5000)	3.17
	25 + 25 + 35 + 50	1.85 + 1.85 + 2.59 + 3.70	10.00 (2.90 - 12.60)	3600 (550 - 4500)	2.78	2.32 + 2.32 + 2.93 + 4.43	12.00 (3.00 - 12.70)	4000 (540 - 5000)	3.00
	25 + 25 + 35 + 60	1.72 + 1.72 + 2.41 + 4.14	10.00 (2.90 - 12.50)	3800 (550 - 4500)	2.63	2.19 + 2.19 + 2.77 + 4.84	12.00 (3.00 - 12.70)	4000 (540 - 5000)	3.00
	25 + 25 + 42 + 42	1.87 + 1.87 + 3.13 + 3.13	10.00 (2.90 - 12.50)	3600 (550 - 4500)	2.78	2.37 + 2.37 + 3.63 + 3.63	12.00 (3.00 - 12.70)	4000 (540 - 5000)	3.00
	25 + 25 + 42 + 50	1.76 + 1.76 + 2.96 + 3.52	10.00 (2.90 - 12.50)	3700 (550 - 4500)	2.70	2.21 + 2.21 + 3.37 + 4.22	12.00 (3.00 - 12.70)	4200 (540 - 5000)	2.86
	25 + 25 + 42 + 60	1.64 + 1.64 + 2.76 + 3.95	10.00 (2.90 - 12.50)	3980 (550 - 4500)	2.51	2.09 + 2.09 + 3.20 + 4.62	12.00 (3.00 - 12.70)	4200 (540 - 5000)	2.86
	25 + 25 + 50 + 50	1.67 + 1.67 + 3.33 + 3.33	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	2.06 + 2.06 + 3.94 + 3.94	12.00 (3.00 - 12.70)	4200 (540 - 5000)	2.86
	25 + 25 + 50 + 60	1.56 + 1.56 + 3.13 + 3.75	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.96 + 1.96 + 3.75 + 4.33	12.00 (3.00 - 12.70)	4200 (540 - 5000)	2.86
	25 + 35 + 35 + 35	1.92 + 2.69 + 2.69 + 2.69	10.00 (2.90 - 12.23)	3520 (550 - 4500)	2.84	2.50 + 3.17 + 3.17 + 3.17	12.00 (3.00 - 12.70)	3890 (540 - 5000)	3.08
	25 + 35 + 35 + 42	1.82 + 2.55 + 2.55 + 3.07	10.00 (2.90 - 12.50)	3630 (550 - 4500)	2.75	2.37 + 3.00 + 3.00 + 3.63	12.00 (3.00 - 12.70)	4000 (540 - 5000)	3.00
	25 + 35 + 35 + 50	1.72 + 2.41 + 2.41 + 3.45	10.00 (2.90 - 12.50)	3920 (550 - 4500)	2.55	2.21 + 2.79 + 2.79 + 4.22	12.00 (3.00 - 12.70)	4200 (540 - 5000)	2.86
	25 + 35 + 35 + 60	1.61 + 2.26 + 2.26 + 3.87	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	2.09 + 2.65 + 2.65 + 4.62	12.00 (3.00 - 12.70)	4200 (540 - 5000)	2.86
	25 + 35 + 42 + 42	1.74 + 2.43 + 2.92 + 2.92	10.00 (2.90 - 12.50)	3820 (550 - 4500)	2.62	2.25 + 2.85 + 3.45 + 3.45	12.00 (3.00 - 12.70)	4100 (540 - 5000)	2.93
	25 + 35 + 42 + 50	1.64 + 2.30 + 2.76 + 3.29	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	2.10 + 2.66 + 3.22 + 4.02	12.00 (3.00 - 12.70)	4200 (540 - 5000)	2.86
	25 + 35 + 42 + 60	1.54 + 2.16 + 2.59 + 3.70	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	2.00 + 2.53 + 3.06 + 4.41	12.00 (3.00 - 12.70)	4200 (540 - 5000)	2.86
	25 + 35 + 50 + 50	1.56 + 2.19 + 3.13 + 3.13	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.97 + 2.49 + 3.77 + 3.77	12.00 (3.00 - 12.70)	4200 (540 - 5000)	2.86
	35 + 35 + 35 + 35	2.50

Indoor unit combinations

Standard multi-splits

	RAM-110NP5E	COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
	15 + 15 + 18 + 25 + 35	1.39 + 1.39 + 1.67 + 2.31 + 3.24	10.00 (2.90 - 10.80)	2690 (550 - 3460)	3.72	1.69 + 1.69 + 2.11 + 2.87 + 3.63	12.00 (3.40 - 12.70)	3030 (610 - 4000)	3.96
	15 + 15 + 18 + 25 + 42	1.30 + 1.30 + 1.57 + 2.17 + 3.65	10.00 (2.90 - 11.10)	3000 (550 - 3660)	3.33	1.59 + 1.59 + 1.99 + 2.70 + 4.13	12.00 (3.40 - 12.70)	3030 (610 - 4000)	3.96
	15 + 15 + 18 + 25 + 50	1.22 + 1.22 + 1.46 + 2.03 + 4.07	10.00 (2.90 - 11.60)	3380 (550 - 4000)	2.96	1.46 + 1.46 + 1.83 + 2.49 + 4.76	12.00 (3.40 - 12.70)	3650 (610 - 4000)	3.29
	15 + 15 + 18 + 25 + 60	1.13 + 1.13 + 1.35 + 1.88 + 4.51	10.00 (2.90 - 12.10)	3380 (550 - 4000)	2.96	1.38 + 1.38 + 1.72 + 2.34 + 5.17	12.00 (3.40 - 12.70)	3650 (610 - 4000)	3.29
	15 + 15 + 18 + 35 + 35	1.27 + 1.27 + 1.53 + 2.97 + 2.97	10.00 (2.90 - 12.50)	3380 (550 - 4000)	2.96	1.59 + 1.59 + 1.99 + 3.42 + 3.42	12.00 (3.40 - 12.70)	3190 (610 - 4000)	3.76
	15 + 15 + 18 + 35 + 42	1.20 + 1.20 + 1.44 + 2.80 + 3.36	10.00 (2.90 - 12.50)	3380 (550 - 4000)	2.96	1.50 + 1.50 + 1.88 + 3.23 + 3.90	12.00 (3.40 - 12.70)	3290 (610 - 4000)	3.65
	15 + 15 + 18 + 35 + 50	1.13 + 1.13 + 1.35 + 2.63 + 3.76	10.00 (2.90 - 12.50)	3820 (550 - 4500)	2.62	1.39 + 1.39 + 1.73 + 2.98 + 4.51	12.00 (3.40 - 12.70)	3780 (610 - 4500)	3.17
	15 + 15 + 18 + 35 + 60	1.05 + 1.05 + 1.26 + 2.45 + 4.20	10.00 (2.90 - 12.50)	3820 (550 - 4500)	2.62	1.31 + 1.31 + 1.64 + 2.82 + 4.92	12.00 (3.40 - 12.70)	3780 (610 - 4500)	3.17
	15 + 15 + 18 + 42 + 42	1.14 + 1.14 + 1.36 + 3.18 + 3.18	10.00 (2.90 - 11.60)	3820 (550 - 4500)	2.62	1.42 + 1.42 + 1.78 + 3.69 + 3.69	12.00 (3.40 - 12.70)	3780 (610 - 4500)	3.17
	15 + 15 + 18 + 42 + 50	1.07 + 1.07 + 1.29 + 3.00 + 3.57	10.00 (2.90 - 12.10)	4000 (550 - 4500)	2.50	1.32 + 1.32 + 1.65 + 3.43 + 4.29	12.00 (3.40 - 12.70)	3780 (610 - 4500)	3.17
	15 + 15 + 18 + 42 + 60	1.00 + 1.00 + 1.20 + 2.80 + 4.00	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.25 + 1.25 + 1.56 + 3.25 + 4.69	12.00 (3.40 - 12.70)	3780 (610 - 4500)	3.17
	15 + 15 + 18 + 50 + 50	1.01 + 1.01 + 1.22 + 3.38 + 3.38	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.23 + 1.23 + 1.54 + 4.00 + 4.00	12.00 (3.40 - 12.70)	3890 (610 - 4500)	3.08
	15 + 15 + 18 + 50 + 60	0.95 + 0.95 + 1.14 + 3.16 + 3.80	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.17 + 1.17 + 1.46 + 3.80 + 4.39	12.00 (3.40 - 12.70)	3890 (610 - 4500)	3.08
	15 + 15 + 25 + 25 + 25	1.43 + 1.43 + 2.38 + 2.38 + 2.38	10.00 (2.90 - 11.05)	2690 (550 - 3460)	3.72	1.69 + 1.69 + 2.87 + 2.87 + 2.87	12.00 (3.40 - 12.70)	2890 (610 - 4000)	4.15
	15 + 15 + 25 + 25 + 35	1.30 + 1.30 + 2.17 + 2.17 + 3.04	10.00 (2.90 - 11.50)	3000 (550 - 3460)	3.33	1.59 + 1.59 + 2.70 + 2.70 + 3.42	12.00 (3.40 - 12.70)	3130 (610 - 4000)	3.83
	15 + 15 + 25 + 25 + 42	1.23 + 1.23 + 2.05 + 2.05 + 3.44	10.00 (2.90 - 11.80)	3280 (550 - 3800)	3.05	1.50 + 1.50 + 2.55 + 2.55 + 3.90	12.00 (3.40 - 12.70)	3130 (610 - 4000)	3.83
	15 + 15 + 25 + 25 + 50	1.15 + 1.15 + 1.92 + 1.92 + 3.85	10.00 (2.90 - 12.10)	3480 (550 - 4000)	2.87	1.39 + 1.39 + 2.36 + 2.36 + 4.51	12.00 (3.40 - 12.70)	3780 (610 - 4000)	3.17
	15 + 15 + 25 + 25 + 60	1.07 + 1.07 + 1.79 + 1.79 + 4.29	10.00 (2.90 - 12.50)	3480 (550 - 4000)	2.87	1.31 + 1.31 + 2.23 + 2.23 + 4.92	12.00 (3.40 - 12.70)	3780 (610 - 4000)	3.17
	15 + 15 + 25 + 35 + 35	1.20 + 1.20 + 2.00 + 2.80 + 2.80	10.00 (2.90 - 12.00)	3280 (550 - 3800)	3.05	1.50 + 1.50 + 2.55 + 3.23 + 3.23	12.00 (3.40 - 12.70)	3250 (610 - 4000)	3.69
	15 + 15 + 25 + 35 + 42	1.14 + 1.14 + 1.89 + 2.65 + 3.18	10.00 (2.90 - 12.50)	3480 (550 - 4000)	2.87	1.42 + 1.42 + 2.41 + 3.05 + 3.69	12.00 (3.40 - 12.70)	3350 (610 - 4000)	3.58
	15 + 15 + 25 + 35 + 50	1.07 + 1.07 + 1.79 + 2.50 + 3.57	10.00 (2.90 - 12.50)	3620 (550 - 4000)	2.76	1.32 + 1.32 + 2.24 + 2.84 + 4.29	12.00 (3.40 - 12.70)	3890 (610 - 5000)	3.08
	15 + 15 + 25 + 35 + 60	1.00 + 1.00 + 1.67 + 2.33 + 4.00	10.00 (2.90 - 12.50)	3620 (550 - 4000)	2.76	1.25 + 1.25 + 2.13 + 2.69 + 4.69	12.00 (3.40 - 12.70)	3890 (610 - 5000)	3.08
	15 + 15 + 25 + 42 + 42	1.08 + 1.08 + 1.80 + 3.02 + 3.02	10.00 (2.90 - 12.50)	3620 (550 - 4000)	2.76	1.35 + 1.35 + 2.29 + 3.51 + 3.51	12.00 (3.40 - 12.70)	3890 (610 - 5000)	3.08
	15 + 15 + 25 + 42 + 50	1.02 + 1.02 + 1.70 + 2.86 + 3.40	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.26 + 1.26 + 2.14 + 3.27 + 4.08	12.00 (3.40 - 12.70)	3890 (610 - 5000)	3.08
	15 + 15 + 25 + 50 + 50	0.97 + 0.97 + 1.61 + 3.23 + 3.23	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.18 + 1.18 + 2.00 + 3.82 + 3.82	12.00 (3.40 - 12.70)	4000 (610 - 5000)	3.00
	15 + 15 + 25 + 50 + 60	0.91 + 0.91 + 1.52 + 3.03 + 3.64	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.12 + 1.12 + 1.91 + 3.64 + 4.21	12.00 (3.40 - 12.70)	4000 (610 - 5000)	3.00
	15 + 15 + 35 + 35 + 35	1.11 + 1.11 + 2.59 + 2.59 + 2.59	10.00 (2.90 - 12.50)	3620 (550 - 4000)	2.76	1.42 + 1.42 + 3.05 + 3.05 + 3.05	12.00 (3.40 - 12.70)	3360 (610 - 4000)	3.57
	15 + 15 + 35 + 35 + 42	1.06 + 1.06 + 2.46 + 2.46 + 2.96	10.00 (2.90 - 12.50)	3620 (550 - 4000)	2.76	1.35 + 1.35 + 2.90 + 2.90 + 3.51	12.00 (3.40 - 12.70)	3360 (610 - 4000)	3.57
	15 + 15 + 35 + 35 + 50	1.00 + 1.00 + 2.33 + 2.33 + 3.33	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.26 + 1.26 + 2.70 + 2.70 + 4.08	12.00 (3.40 - 12.70)	3890 (610 - 5000)	3.08
	15 + 15 + 35 + 35 + 60	0.94 + 0.94 + 2.19 + 2.19 + 3.75	10.00 (2.90 - 12.50)	4000 (550 - 3460)	2.50	1.19 + 1.19 + 2.57 + 2.57 + 4.48	12.00 (3.40 - 12.70)	3890 (610 - 5000)	3.08
	15 + 18 + 18 + 18 + 18	1.50 + 1.80 + 1.80 + 1.80 + 1.80	8.70 (2.90 - 9.60)	2530 (550 - 3460)	3.44	2,00 + 2,50 + 2,50 + 2,50 + 2,50	12.00 (3.40 - 12.70)	2630 (610 - 4000)	4.56
	15 + 18 + 18 + 18 + 25	1.50 + 1.80 + 1.80 + 1.80 + 2.50	9.40 (2.90 - 10.10)	2690 (550 - 3460)	3.49	1.86 + 2.33 + 2.33 + 2.33 + 3.16	12.00 (3.40 - 12.70)	2730 (610 - 4000)	4.40
	15 + 18 + 18 + 18 + 35	1.44 + 1.73 + 1.73 + 1.73 + 3.37	10.00 (2.90 - 10.60)	2690 (550 - 3460)	3.72	1.74 + 2.17 + 2.17 + 2.17 + 3.74	12.00 (3.40 - 12.70)	2830 (610 - 4000)	4.24
	15 + 18 + 18 + 18 + 42	1.35 + 1.62 + 1.62 + 1.62 + 3.78	10.00 (2.90 - 10.90)	3000 (550 - 3460)	3.33	1.63 + 2.04 + 2.04 + 2.04 + 4.24	12.00 (3.40 - 12.70)	3030 (610 - 4000)	3.96
	15 + 18 + 18 + 18 + 50	1.26 + 1.51 + 1.51 + 1.51 + 4.20	10.00 (2.90 - 11.40)	3260 (550 - 3460)	3.07	1.50 + 1.88 + 1.88 + 1.88 + 4.88	12.00 (3.40 - 12.70)	3690 (610 - 4000)	3.25
5 units	15 + 18 + 18 + 18 + 60	1.16 + 1.40 + 1.40 + 1.40 + 4.65	10.00 (2.90 - 12.00)	3260 (550 - 3460)	3.07	1.41 + 1.76 + 1.76 + 1.76 + 5.29	12.00 (3.40 - 12.70)	3690 (610 - 4000)	3.25
	15 + 18 + 18 + 25 + 25	1.49 + 1.78 + 1.78 + 2.48 + 2.48	10.00 (2.90 - 10.60)	2690 (550 - 3460)	3.72	1.74 + 2.17 + 2.17 + 2.96 + 2.96	12.00 (3.40 - 12.70)	2890 (610 - 4000)	4.15
	15 + 18 + 18 + 25 + 35	1.35 + 1.62 + 1.62 + 2.25 + 3.15	10.00 (2.90 - 11.08)	2690 (550 - 3460)	3.72	1.63 + 2.04 + 2.04 + 2.78 + 3.51	12.00 (3.40 - 12.70)	2980 (610 - 4000)	4.03
	15 + 18 + 18 + 25 + 42	1.27 + 1.53 + 1.53 + 2.12 + 3.56	10.00 (2.90 - 11.40)	3260 (550 - 3800)	3.07	1.54 + 1.92 + 1.92 + 2.62 + 4.00	12.00 (3.40 - 12.70)	3130 (610 - 4000)	3.83
	15 + 18 + 18 + 25 + 50	1.19 + 1.43 + 1.43 + 1.98 + 3.97	10.00 (2.90 - 11.70)	3260 (550 - 3800)	3.07	1.42 + 1.78 + 1.78 + 2.41 + 4.62	12.00 (3.40 - 12.70)	3790 (610 - 4500)	3.17
	15 + 18 + 18 + 25 + 60	1.10 + 1.32 + 1.32 + 1.84 + 4.41	10.00 (2.90 - 12.20)	3550 (550 - 4000)	2.82	1.34 + 1.68 + 1.68 + 2.28 + 5.03	12.00 (3.40 - 12.70)	3790 (610 - 4500)	3.17
	15 + 18 + 18 + 35 + 35	1.24 + 1.49 + 1.49 + 2.89 + 2.89	10.00 (2.90 - 12.50)	3260 (550 - 4000)	3.07	1.54 + 1.92 + 1.92 + 3.31 + 3.31	12.00 (3.40 - 12.70)	3030 (610 - 4000)	3.96
	15 + 18 + 18 + 35 + 42	1.17 + 1.41 + 1.41 + 2.73 + 3.28	10.00 (2.90 - 12.50)	3550 (550 - 4000)	2.82	1.45 + 1.82 + 1.82 + 3.13 + 3.78	12.00 (3.40 - 12.70)	3250 (610 - 4000)	3.69
	15 + 18 + 18 + 35 + 50	1.10 + 1.32 + 1.32 + 2.57 + 3.68	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.35 + 1.69 + 1.69 + 2.9 + 4.38	12.00 (3.40 - 12.70)	3890 (610 - 5000)	3.08
	15 + 18 + 18 + 35 + 60	1.03 + 1.23 + 1.23 + 2.40 + 4.11	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.28 + 1.60 + 1.60 + 2.74 + 4.79	12.00 (3.40 - 12.70)	3890 (610 - 5000)	3.08
	15 + 18 + 18 + 42 + 42	1.11 + 1.33 + 1.33 + 3.11 + 3.11	10.00 (2.90 - 12.50)	3680 (550 - 4500)	2.72	1.38 + 1.72 + 1.72 + 3.59 + 3.59	12.00 (3.40 - 12.70)	3890 (610 - 5000)	3.08
	15 + 18 + 18 + 42 + 50	1.05 + 1.26 + 1.26 + 2.94 + 3.50	10.00 (2.90 - 12.50)	3680 (550 - 4500)	2.72	1.28 + 1.60 + 1.60 + 3.34 + 4.17	12.00 (3.40 - 12.70)	3890 (610 - 5000)	3.08
	15 + 18 + 18 + 42 + 60	0.98 + 1.18 + 1.18 + 2.75 + 3.92	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.22 + 1.52 + 1.52 + 3.17 + 4.57	12.00 (3.40 - 12.70)	3890 (610 - 5000)	3.08
	15 + 18 + 18 + 50 + 50	0.99 + 1.19 + 1.19 + 3.31 + 3.31	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.20 + 1.50 + 1.50 + 3.90 + 3.90	12.00 (3.40 - 12.70)	4000 (610 - 5000)	3.00
	15 + 18 + 18 + 50 + 60	0.93 + 1.12 + 1.12 + 3.11 + 3.73	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.14 + 1.43 + 1.43 + 3.71 + 4.29	12.00 (3.40 - 12.70)	4000 (610 - 5000)	3.00
	15 + 18 + 25 + 25 + 25	1.39 + 1.67 + 2.31 + 2.31 + 2.31	10.00 (2.90 - 11.11)	3000 (550 - 3460)	3.33	1.63 + 2.04 + 2.78 + 2.78 + 2.78	12.00 (3.40 - 12.70)	2980 (610 - 4000)	4.03
	15 + 18 + 25 + 25 + 35	1.27 + 1.53 + 2.12 + 2.12 + 2.97	10.00 (2.90 - 12.50)	3000 (550 - 3460)	3.33	1.54 + 1.92 + 2.62 + 2.62 + 3.31	12.00 (3.40 - 12.70)	3030 (610 - 4000)	3.96
	15 + 18 + 25 + 25 + 42	1.20 + 1.44 + 2.00 + 2.00 + 3.36	10.00 (2.90 - 12.50)	3260 (550 - 3800)	3.07	1.45 + 1.82 + 2.47 + 2.47 + 3.78	12.00 (3.40 - 12.70)	3250 (610 - 4000)	3.69
	15 + 18 + 25 + 25 + 50	1.13 + 1.35 + 1.88 + 1.88 + 3.76	10.00 (2.90 - 12.50)	3680 (550 - 4000)	2.72	1.35 + 1.69 + 2.29 + 2.29 + 4.38	12.00 (3.40 - 12.70)	3890 (610 - 5000)	3.08
	15 + 18 + 25 + 25 + 60	1.05 + 1.26 + 1.75 + 1.75 + 4.20	10.00 (2.90 - 12.50)	3680 (550 - 4000)	2.72	1.28 + 1.60 + 2.17 + 2.17 + 4.79	12.00 (3.40 - 12.70)	3890 (610 - 5000)	3.08
	15 + 18 + 25 + 35 + 35	1.17 + 1.41 + 1.95 + 2.73 + 2.73	10.00 (2.90 - 12.50)	3680 (550 - 4000)	2.72	1.45 + 1.82 + 2.47 + 3.13 + 3.13	12.00 (3.40 - 12.70)	3130 (610 - 4000)	3.83
	15 + 18 + 25 + 35 + 42	1.11 + 1.33 + 1.85 + 2.59 + 3.11	10.00 (2.90 - 12.50)	3680 (550 - 4000)	2.72	1.38 + 1.72 + 2.34 + 2.97 + 3.59	12.00 (3.40 - 12.70)	3290 (610 - 4000)	3.65
	15 + 18 + 25 + 35 + 50	1.05 + 1.26 + 1.75 + 2.45 + 3.50	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.28 + 1.60 + 2.18 + 2.76 + 4.17	12.00 (3.40 - 12.70)	4000 (610 - 5000)	3.00
	15 + 18 + 25 + 35 + 60	0.98 + 1.18 + 1.63 + 2.29 + 3.92	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.22 + 1.52 + 2.07 + 2.62 + 4.57	12.00 (3.40 - 12.70)	4000 (610 - 5000)	3.00
	15 + 18 + 25 + 42 + 42	1.06 + 1.27 + 1.76 + 2.96 + 2.96	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.31 + 1.64 + 2.23 + 3.41 + 3.41	12.00 (3.40 - 12.70)	4000 (610 - 5000)	3.00
	15 + 18 + 25 + 42 + 50	1.00 + 1.20 + 1.67 + 2.80 + 3.33	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.22 + 1.53 + 2.08 + 3.18 + 3.98	12.00 (3.40 - 12.70)	4200 (610 - 5000)	2.86
	15 + 18 + 25 + 42 + 60	0.94 + 1.13 + 1.56 + 2.63 + 3.75	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.17 + 1.46 + 1.98 + 3.03 + 4.37	12.00 (3.40 - 12.70)	4200 (610 - 5000)	2.86
	15 + 18 + 35 + 35 + 35	1.09 + 1.30 + 2.54 + 2.54 + 2.54	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.38 + 1.72 + 2.97 + 2.97 + 2.97	12.00 (3.40 - 12.70)	3280 (610 - 4000)	3.66
	15 + 18 + 35 + 35 + 42	1.03 + 1.24 + 2.41 + 2.41 + 2.90	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.31 + 1.64 + 2.82 + 2.82 + 3.41	12.00 (3.40 - 12.70)	3390 (610 - 4000)	3.54
	15 + 18 + 35 + 35 + 50	0.98 + 1.18 + 2.29 + 2.29 + 3.27	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.22 + 1.53 + 2.63 + 2.63 + 3.98	12.00 (3.40 - 12.70)	4000 (610 - 5000)	3.00
	15 + 25 + 25 + 25 + 25	1.30 + 2.17 + 2.17 + 2.17 + 2.17	10.00 (2.90 - 12.50)	3000 (550 - 3460)	3.33	1.54 + 2.62 + 2.62 + 2.62 + 2.62	12.00 (3.40 - 12.70)	3090 (610 - 4000)	3.88
	15 + 25 + 25 + 25 + 35	1.20 + 2.00 + 2.00 + 2.00 + 2.80	10.00 (2.90 - 12.50)	3000 (550 - 3460)	3.33	1.45 + 2.47 + 2.47 + 2.47 + 3.13	12.00 (3.40 - 12.70)	3190 (610 - 4000)	3.76
	15 + 25 + 25 + 25 + 42	1.14 + 1.89 + 1.89 + 1.89 + 3.18	10.00 (2.90 - 12.50)	3260 (550 - 3800)	3.07	1.38 + 2.34 + 2.34 + 2.34 + 3.59	12.00 (3.40 - 12.70)	3290 (610 - 4000)	3.65
	15 + 25 + 25 + 25 + 50	1.07 + 1.79 + 1.79 + 1.79 + 3.57	10.00 (2.90 - 12.50)	3680 (550 - 4000)	2.72	1.28 + 2.18 + 2.18 + 2.18 + 4.17	12.00 (3.40 - 12.70)	4000 (610 - 4000)	3.00
	15 + 25 + 25 + 25 + 60	1.00 + 1.67 + 1.67 + 1.67 + 4.00	10.00 (2.90 - 12.50)	3680 (550 - 4000)	2.72	1.22 + 2.07 + 2.07 + 2.07 + 4.57	12.00 (3.40 - 12.70)	4000 (610 - 4000)	3.00
	15 + 25 + 25 + 35 + 35	1.11 + 1.85 + 1.85 + 2.59 + 2.59	10.00 (2.90 - 12.50)	3680 (550 - 4000)	2.72	1.38 + 2.34 + 2.34 + 2.97 + 2.97	12.00 (3.40 - 12.70)	3290 (610 - 4000)	3.65

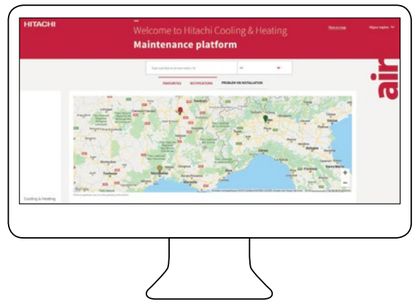
	RAM-110NP5E	COOLING MODE				HEATING MODE			
		Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	EER	Unit capacity (kW)	Total capacity (kW)	Total abs. capacity (W)	COP
	15 + 25 + 25 + 35 + 42	1.06 + 1.76 + 1.76 + 2.46 + 2.96	10.00 (2.90 - 12.50)	3680 (550 - 4000)	2.72	1.31 + 2.23 + 2.23 + 2.82 + 3.41	12.00 (3.40 - 12.70)	3390 (610 - 4000)	3.54
	15 + 25 + 25 + 35 + 50	1.00 + 1.67 + 1.67 + 2.33 + 3.33	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.22 + 2.08 + 2.08 + 2.63 + 3.98	12.00 (3.40 - 12.70)	4100 (610 - 4000)	2.93
	15 + 25 + 25 + 35 + 60	0.94 + 1.56 + 1.56 + 2.19 + 3.75	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.17 + 1.98 + 1.98 + 2.50 + 4.37	12.00 (3.40 - 12.70)	4100 (610 - 4000)	2.93
	15 + 25 + 25 + 42 + 42	1.01 + 1.68 + 1.68 + 2.82 + 2.82	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.25 + 2.13 + 2.13 + 3.25 + 3.25	12.00 (3.40 - 12.70)	4000 (610 - 4000)	3.00
	15 + 25 + 25 + 42 + 50	0.96 + 1.59 + 1.59 + 2.68 + 3.18	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.17 + 1.99 + 1.99 + 3.04 + 3.80	12.00 (3.40 - 12.70)	4200 (610 - 4000)	2.86
	15 + 25 + 25 + 50 + 50	0.91 + 1.52 + 1.52 + 3.03 + 3.03	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.10 + 1.87 + 1.87 + 3.58 + 3.58	12.00 (3.40 - 12.70)	4200 (610 - 4000)	2.86
	15 + 25 + 35 + 35 + 35	1.03 + 1.72 + 2.41 + 2.41 + 2.41	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.31 + 2.23 + 2.82 + 2.82 + 2.82	12.00 (3.40 - 12.70)	3390 (610 - 4000)	3.54
	15 + 25 + 35 + 35 + 42	0.99 + 1.64 + 2.30 + 2.30 + 2.76	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.25 + 2.13 + 2.69 + 2.69 + 3.25	12.00 (3.40 - 12.70)	3490 (610 - 4000)	3.44
	15 + 25 + 35 + 35 + 50	0.94 + 1.56 + 2.19 + 2.19 + 3.13	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.17 + 1.99 + 2.52 + 2.52 + 3.80	12.00 (3.40 - 12.70)	4200 (610 - 4000)	2.86
	15 + 25 + 35 + 42 + 42	0.94 + 1.57 + 2.20 + 2.64 + 2.64	10.00 (2.90 - 12.50)	4000 (550 - 4500)	2.50	1.19 + 2.03 + 2.57 + 3.10 + 3.10	12.00 (3.40 - 12.70)	4200 (610 - 4000)	2.86
	18 + 18 + 18 + 18 + 18	1.80 + 1.80 + 1.80 + 1.80 + 1.80	9.00 (2.90 - 10.00)	2530 (600 - 3040)	3.56	2.40 + 2.40 + 2.40 + 2.40 + 2.40	12.00 (3.40 - 12.70)	2780 (610 - 4000)	4.32
	18 + 18 + 18 + 18 + 25	1.80 + 1.80 + 1.80 + 1.80 + 2.50	9.70 (2.90 - 10.80)	2690 (600 - 3040)	3.61	2.24 + 2.24 + 2.24 + 2.24 + 3.04	12.00 (3.40 - 12.70)	2890 (610 - 4000)	4.15
	18 + 18 + 18 + 18 + 35	1.68 + 1.68 + 1.68 + 1.68 + 3.27	10.00 (2.90 - 11.12)	2690 (600 - 3040)	3.72	2.10 + 2.10 + 2.10 + 2.10 + 3.61	12.00 (3.40 - 12.70)	2980 (610 - 4000)	4.03
	18 + 18 + 18 + 18 + 42	1.58 + 1.58 + 1.58 + 1.58 + 3.68	10.00 (2.90 - 11.50)	3000 (600 - 3600)	3.33	1.97 + 1.97 + 1.97 + 1.97 + 4.11	12.00 (3.40 - 12.70)	3230 (610 - 4000)	3.72
	18 + 18 + 18 + 18 + 50	1.48 + 1.48 + 1.48 + 1.48 + 4.10	10.00 (2.90 - 11.90)	3260 (600 - 3600)	3.07	1.82 + 1.82 + 1.82 + 1.82 + 4.73	12.00 (3.40 - 12.70)	3890 (610 - 5000)	3.08
	18 + 18 + 18 + 18 + 60	1.36 + 1.36 + 1.36 + 1.36 + 4.55	10.00 (2.90 - 12.40)	3260 (600 - 3600)	3.07	1.71 + 1.71 + 1.71 + 1.71 + 5.14	12.00 (3.40 - 12.70)	3890 (610 - 5000)	3.08
	18 + 18 + 18 + 25 + 25	1.73 + 1.73 + 1.73 + 2.40 + 2.40	10.00 (2.90 - 11.15)	2690 (600 - 3040)	3.72	2.10 + 2.10 + 2.10 + 2.85 + 2.85	12.00 (3.40 - 12.70)	2890 (610 - 4000)	4.15
	18 + 18 + 18 + 25 + 35	1.58 + 1.58 + 1.58 + 2.19 + 3.07	10.00 (2.90 - 11.60)	3000 (600 - 3600)	3.33	1.97 + 1.97 + 1.97 + 2.68 + 3.39	12.00 (3.40 - 12.70)	2980 (610 - 4000)	4.03
	18 + 18 + 18 + 25 + 42	1.49 + 1.49 + 1.49 + 2.07 + 3.47	10.00 (2.90 - 11.90)	3260 (600 - 3600)	3.07	1.86 + 1.86 + 1.86 + 2.53 + 3.88	12.00 (3.40 - 12.70)	3360 (610 - 4000)	3.57
	18 + 18 + 18 + 25 + 50	1.40 + 1.40 + 1.40 + 1.94 + 3.88	10.00 (2.90 - 12.30)	3260 (600 - 3600)	3.07	1.72 + 1.72 + 1.72 + 2.34 + 4.48	12.00 (3.40 - 12.70)	4000 (610 - 5000)	3.00
	18 + 18 + 18 + 25 + 60	1.29 + 1.29 + 1.29 + 1.80 + 4.32	10.00 (2.90 - 12.50)	3680 (600 - 3600)	2.72	1.63 + 1.63 + 1.63 + 2.22 + 4.89	12.00 (3.40 - 12.70)	4000 (610 - 5000)	3.00
	18 + 18 + 18 + 35 + 35	1.45 + 1.45 + 1.45 + 2.82 + 2.82	10.00 (2.90 - 12.50)	3260 (600 - 3600)	3.07	1.86 + 1.86 + 1.86 + 3.20 + 3.20	12.00 (3.40 - 12.70)	2980 (610 - 4000)	4.03
	18 + 18 + 18 + 35 + 42	1.37 + 1.37 + 1.37 + 2.67 + 3.21	10.00 (2.90 - 12.50)	3680 (600 - 4000)	2.72	1.76 + 1.76 + 1.76 + 3.04 + 3.67	12.00 (3.40 - 12.70)	3480 (610 - 4000)	3.45
	18 + 18 + 18 + 35 + 50	1.29 + 1.29 + 1.29 + 2.52 + 3.60	10.00 (2.90 - 12.50)	4000 (600 - 4500)	2.50	1.64 + 1.64 + 1.64 + 2.82 + 4.26	12.00 (3.40 - 12.70)	4200 (610 - 5000)	2.86
	18 + 18 + 18 + 35 + 60	1.21 + 1.21 + 1.21 + 2.35 + 4.03	10.00 (2.90 - 12.50)	4000 (600 - 4500)	2.50	1.55 + 1.55 + 1.55 + 2.67 + 4.66	12.00 (3.40 - 12.70)	4200 (610 - 5000)	2.86
	18 + 18 + 18 + 42 + 42	1.30 + 1.30 + 1.30 + 3.04 + 3.04	10.00 (2.90 - 12.50)	3680 (600 - 4000)	2.72	1.68 + 1.68 + 1.68 + 3.49 + 3.49	12.00 (3.40 - 12.70)	3680 (610 - 5000)	3.26
	18 + 18 + 18 + 42 + 50	1.23 + 1.23 + 1.23 + 2.88 + 3.42	10.00 (2.90 - 12.50)	4000 (600 - 4500)	2.50	1.56 + 1.56 + 1.56 + 3.25 + 4.06	12.00 (3.40 - 12.70)	4300 (610 - 5000)	2.79
	18 + 18 + 18 + 42 + 60	1.15 + 1.15 + 1.15 + 2.69 + 3.85	10.00 (2.90 - 12.50)	4000 (600 - 4500)	2.50	1.49 + 1.49 + 1.49 + 3.09 + 4.46	12.00 (3.40 - 12.70)	4300 (610 - 5000)	2.79
	18 + 18 + 18 + 50 + 50	1.17 + 1.17 + 1.17 + 3.25 + 3.25	10.00 (2.90 - 12.50)	4000 (600 - 4500)	2.50	1.46 + 1.46 + 1.46 + 3.80 + 3.80	12.00 (3.40 - 12.70)	4400 (610 - 5000)	2.73
	18 + 18 + 18 + 50 + 60	1.10 + 1.10 + 1.10 + 3.05 + 3.66	10.00 (2.90 - 12.50)	4000 (600 - 4500)	2.50	1.40 +

Hitachi heating and air-conditioning systems feature a range of control solutions adapted to all applications.
Many options are available in both residential and small commercial: wired or wireless controllers, control from a smartphone, remote maintenance, fault report kits and dry contacts.



Air to Air Heat Pumps : Controls and Accesories







* JOHNSON CONTROLS - HITACHI AIR CONDITIONING EUROPE SAS participate in the Eurovent Certification Program for the AC/VRF/LCP-HP categories. Information on certified models can be found in the Eurovent Directory (www.eurovent-certification.com).

Air to Air control range

Wired controllers optional

Weekly wired controller

The wired controller with weekly programming was designed to offer the maximum number of functions while ensuring ease of use.
- Clear display of all settings in different languages (5 including French).
- Simplified navigation via menus and navigation button.
- Alarm code: Alarm on the indoor unit or outdoor unit. Type of alarm
- Alarm history.
- Controller blocking option.
- Option for limiting the setpoint ranges and blocking the mode.
- Weekly programming: 5 ranges per day with different set points. Simple programming copying option.
- Away from home function: Up to 99 days of absence. Set point can be adjusted from 10 to 16 °C.
- Consumption indication.

References	SPX –WKT3
Compatibility	All Air to Air R32 and Triple-C ranges
Price	

Simplified wired controller

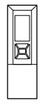
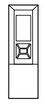
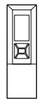
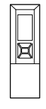
The simplified wired controller was developed for hotel, retirement home, office applications etc. where the user needs simple and restricted access to the main functions.
- On/Off.
- Mode changing (summer/winter/auto/ventilation/dehumidification).
- Setpoint modification.
- Changing ventilation speeds.
- 12 hour timer or sleep function.
- Centralized control option (see SPX-DST1).

References	SPX-RCDA	SPX-RCDB
Compatibility	All Ducted R32 and Triple-C ranges	All Air to Air R32 and Triple-C ranges except Ducted
Price		

Wired controller extensions

References	SPX-WKT5M	SPX-WDST8M
Max length authorized	15m	
Additional cable	5m	8m
Pre-tax price		

Controllers delivered as standard

Wireless controllers (Monosplit)	Wall				Console
	Lorai Air Pur	Takai	Mokai	Dodai 2	Shirokuma
	RAK-25~50PSE(S/W)	RAK-18QXE RAK-25~50RXE	RAK-15QPE RAK-18~50RPE	RAK-18~50REF	RAF-25~50RXE
Weekly programming	x	x	x	-	x
ECO (without motion sensor)	x	x	x	x	x
LEAVE HOME, Absence (number of days)	x (1-99)	x (1-99) *	x (1-99) *	x	x (1-99)
POWERFUL, Capacity	x	x	x	x	x
INFO, Fault codes	x	x	x	-	x
INFO, Energy consumption	x	x	x	-	x
INFO, Ambient temperature	x	x	x	-	x
SILENT, Silence	x	x	x	-	x
CLEAN, Automatic cleaning	x	x	x	-	x
FrostWash**	x	x	x	x	-
Controller reference	RAR-6NE1 	RAR-6NE1 	RAR-6NE1 	RAR-7PE1 	RAR-6NE4 

Wireless weekly controller option

- Weekly programming
- Consumption readings, fault code readings, ambient temperature readings.
- Multi-function: ECO, Absense, Capacity, Silence, Automatic cleaning…
- Supplied with wireless receiver.

Reference	SPX-RCKA1	SPX-RCKA2	SPX-RCKA3
Compatibility	RAD-18QPE RAD 25~60RPE RAD-70PPD	RAK-50RPE1 RAK-60RPE RAK-70PPD	RAI-RPE
Price			

* Temperature setting adjustment option (10 - 16 °C).

Probes and contacts

DRY contact kit only
For remote on/off function.

Reference	SPX-WDC2	SPX-WDC3
Compatibility	RAI-RPE RAD-QPE/RPE RAD-PPD	RAK-QPE/ RAK-RPE/RAK-RXE RAF-RXE/RAK-PSE(W/S) RAK-QXE/RAK-REF
Price (all models)		

Fault report kit only
This accessory can send a 5 V signal in the event of a fault on the indoor unit. This kit includes a cable (SPX-WDC7) and box (HA-S100TSA to connect).

Reference	SPX-WDC7 + HA-S100TSA	
Compatibility	RAK-QXE/RAK-RXE/RAK-QPE/RAK-RPE RAF-RXE/RAK-REF/RAI-RPE/RAD-RPE	
Price	SPX-WDC7:	HA-S100TSA:

Fault report kit + dry contact
This accessory can send a 5 V signal in the event of a fault on the indoor unit and offers a remote on/off function. This kit includes a cable (SPX-WDC5 or SPX-WDC6) and box (HA-S100TSA to connect).

Reference	SPX-WDC5 + HA-S100TSA	SPX-WDC6 + HA-S100TSA
Compatibility	RAK-PSE/RAK-QXE/RAK-RXE RAK-QPE/RAK-RPE RAF-RXE/RAK-REF	RAI-QPE/RAD-QPE
Price (all models)	SPX-WDC5 or SPX-WDC6:	
	HA-S100TSA:	

Fault report kit + operating information
This accessory features 2 outputs. The 1st can send a 220V signal in the event of a fault on the indoor unit. The 2nd can send a 220V signal when the indoor unit is operating.

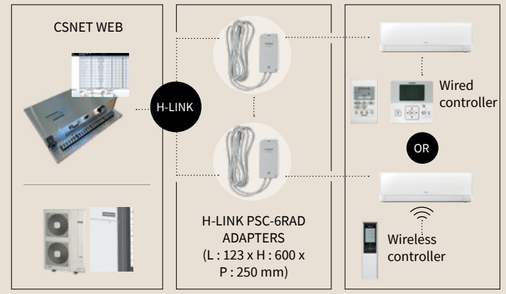
Reference	SPX-WDC8
Compatibility	RAK-RXE/RAK-RPE/RAI-RPE/RAD-RPE/RAK-QXE RAK-QPE/RAK-REF/RAK-PPD/RAD-PPD
Price	

Remote sensor for ducted multi-splits
Featuring a remote sensor, the indoor unit is controlled based on ambient temperature.

Reference	SPX-RTH1
Compatibility	RAD-RPE
Price	

GTC control

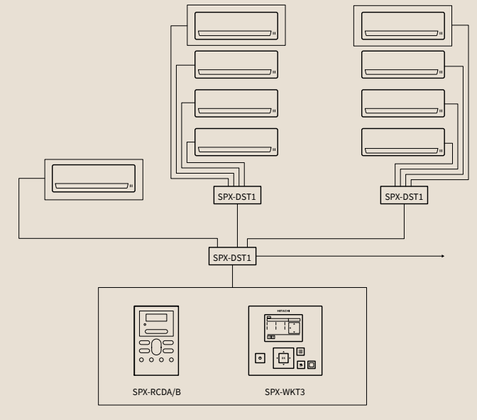
H-LINK box
For connecting indoor units on the Lorai Air Pur, Takai, Mokai, Dodai 2 ranges to a H-Link network.



Reference	PSC-6RAD
Compatibility	RAK-PSE/RAK-RXE/RAK-RPE/RAK-QXE/RAK-PPD RAK-QPE/RAF-RXE/RAD-QPE/RAI-RPE
Price (all models)	

Centralized control

Multi-indoor unit box
- Combined with a weekly wired controller (SPX-WKT3) or simplified wired controller (SPX-RCDA/B), it can control up to 4 indoor units.
- These indoor units all operate in the same mode and with the same setpoint.
- Up to 4 SPX-DST1 can be connected to control up to 13 indoor units.
- To connect the SPX-DST1 box to the indoor unit, the following cable needs to be ordered: SPX-WDST8M (length: 8 m - 1 cable per indoor unit).



Reference	SPX-DST1 + SPX-WDST8M
Compatibility	RAK-RXE/RAK-PPD/RAF-RXE/RAF-RXE/RAK -RPE/RAK-RXE RAK-PSE(W/S)/RAI-RPE/RAD-RPE/RAD-QPE/RAI-QPE
Price (all models)	**SPX-DST1:** **SPX-WDST8M:**

* Only a HA-S100TSA box required for these references. The SPX-WDC7 is not required.

Hi Kumo PRO

The remote maintenance solution for the entire residential and small commercial range.

Why choose Hi Kumo PRO?

Based on the Hi Kumo solution, Hi Kumo PRO goes even further. It enables your installation engineer or maintenance company to offer your client a service with high added value: remote maintenance. Access to operating data is just a few clicks away on an online platform in the event of a breakdown or malfunction. No more lost time and repeated call outs. The problem can be sorted out remotely, very quickly and perhaps even before your client is affected.
This means productivity gains for you and satisfied customers!

Functions

Quick troubleshooting to optimize interventions thanks to an easy user-friendly interface.



Real-time access to machine operating data*
- Operating status/mode
- Current temperature setting
- Gas/backflow/evaporation temperatures
- Compressor current/frequency
- Water flow and temperatures
- Pump speed
- V3V position



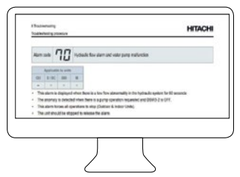
Access a 3 month history, simultaneous display of 6 settings from a selection of over 80 including:
- Operating statuses
- Alarms
- Compressor frequency
- Flows/Temperatures…



Gateway status, restart and update.



Access to the entire installation fleet:
- Card or listing display
- Favorite installations option



Alarm information and troubleshooting assistance:
- Automatic email notification
- Online access to its description and troubleshooting assistance
- Download the troubleshooting guide and send it live to the technician on site



Remote control:
- Access the same control functions as the Hi Kumo solution except weekly programming.

https://hi-kumopro.com/#/login

* For the Air - Air products, access to indoor unit data only

How do I benefit from the Hi Kumo PRO service?

1. **The installation and maintenance engineer** or the maintenance company purchases its annual license and requests Hi Kumo PRO registration with its Hitachi dealer. The dealer provides the documents required for Hitachi to create the PRO account.
2. **The end client** purchases the Hi Kumo solution and associated gateways. No license is required for the end user.
3. **The installation and maintenance engineer** or the maintenance company sends an access request to its end client via their PRO* account (*Access may be restricted if the annual license is not renewed).
4. **The end client** accepts the access request and the data processing policy.
5. **That's it!** **The installation and maintenance engineer** or the maintenance company has access to all operating data for a unique service.

AIR - AIR Heat pump communication gateways

SPX-WFG01 *Wifi direct gateway** or SPX-TAG01 + AHP-SMB-01 *Wireless gateway + Hi-Box** + *Annual license (for the maintenance company). Ask their Hitachi dealer*

*10 max/account and 20 wireless gateways/Hi-Box

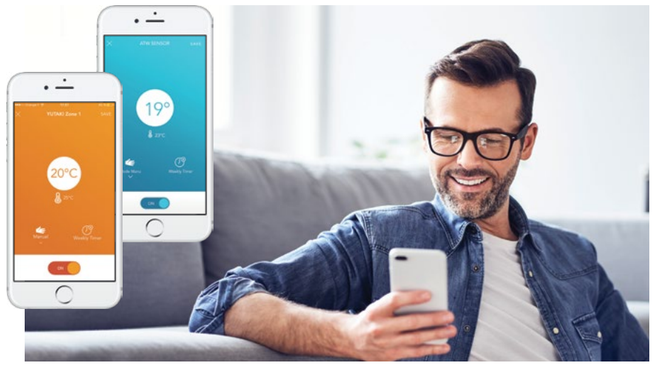


Hi Kumo

IOS and Android application

Even more services for the end client with

Control all your new Hitachi residential equipment remotely with a single application.



Functions
AIR to AIR Heat pump



- On/Off
- Temperature management
- Ventilation speed
- Swing direction selection
- Weekly programming
- Fault code display...

The Hi Kumo allows you to control the entire Hitachi heat pump range remotely, including Air - Air or Air - Water or Thermodynamic Tank. It provides the end user with genuine comfort through a simple and user-friendly application. Do you think you might have forgotten to switch off the air-conditioning before going out? Do you want to cool down or warm up the place before coming home? It couldn't be easier with the Hi Kumo application!

Tahoma® by Somfy

The entire Hitachi residential range is now compatible with Tahoma® by Somfy.



Somfy® home automation box

1811527
Pre-tax price:



Communication interface for AIR to AIR heat pump
Monosplits and Multi-splits

SPX-TAG-01
Pre-tax price:

List of accessories

Residential and small commercial air-conditioning

	Description	RAK-PSEW/PSES	RAK-QXE	RAK-RXE	RAK-QPE	RAK-RPE	RAK-50RPE1	RAK-60RPE	RAK-70PPD	RAK-REF	RAD-QPE	RAD-RPE	RAD-70PPD	RAF-RXE	RAI-RPE	RAM-NPE	RAM-NEF	Price
SPX-CFH25	Active carbon filter									•	•	•						
SPX-SPF8	Stainless steel prefilter					•												
SPX-SPF9	Stainless steel prefilter	•																
SPX-WDC2	Dry contact kit										•	•	•		•			
SPX-WDC3	Dry contact kit	•	•	•	•	•	•	•	•	•				•				
SPX-WDC5 + HA-S100TSA	Fault report kit + dry contact	•	•	•	•	•				•				•				
SPX-WDC6	Fault report kit cable										•	•			•			
SPX-WDC7 + HA-S100TSA	Fault report kit only	•	•	•	•	•				•								
SPX-WDC8	Fault report kit and operating information			•	•	•	•	•	•	•	•	•	•		•			
SPX-RCDA	Ducted wired controller										•	•	•					
SPX-RCDB	Non-ducted wired controller	•	•	•	•	•	•	•	•	•				•	•			
SPX-RCKA1	Weekly wireless controller										•	•	•					

	Description	RAK-PSEW/PSES	RAK-QXE	RAK-RXE	RAK-QPE	RAK-RPE	RAK-50RPE1	RAK-60RPE	RAK-70PPD	RAK-REF	RAD-QPE	RAD-RPE	RAD-70PPD	RAF-RXE	RAI-RPE	RAM-NPE	RAM-NEF	Price
SPX-RCKA2	Wireless weekly controller						•	•	•									
SPX-RCKA3	Wireless weekly controller														•			
SPX-WKT3	Weekly wired controller	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
SPX-WKT5M	Additional cable 5m		•	•	•	•								•	•			
SPX-DST1	Distribution box	•	•	•	•	•								•	•			
SPX-WDST8M	Additional cable 8m	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
SPX-RTH1	Remote sensor Ducted RAD-RPE												•					
SPX-RAMHLK	Multi OU adapter															•		
PSC-6RAD	H-Link box	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
SPX-WFG01	Gateway-Hi-Kumo-HP-A/A	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
SPX-TAG01	Gateway Somfy/ Hi-Kumo HP-A/A	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
AHP-SMB-01	Hi-Kumo box	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
SPX-RAFGLS	Leak detector													•				

When you're thinking of the ideal solution for a commercial business of any size, right up to major infrastructure for offices or hotels, Hitachi's VRF systems are the idea solution.
They allow you to connect up to 64 indoor units with independent control and they can operate also when the heating or cooling demand arrives from a single indoor unit or from a single office space.



VRF Systems



Quick selection table

VRF Systems

The table is designed to assist you in selecting the many possibilities for installation of the Hitachi VRF range, by means of 4 quick steps.

VRF Systems

1 CHOOSE OUTDOOR UNITS

2 SELECT POWER

Nominal cooling power

3 CHECK YOUR NEEDS

4 SELECTION OF INDOOR UNITS

Outdoor unit	Nominal cooling power (kW)	Maximum number of connectable indoor units	Maximum refrigerant pipe length (effective)	Maximum refrigerant pipe length (equivalent)	Fan type	Static pressure	Independent control of indoor units	Centralised control	Energy efficiency
	5 5.6 7.1 10 11.2 12.1 12.5 14 15.5 16 20 22.4 24 25 28 30 33.5 40 45 50 56 61.5 67 >100								
IVX Standard	• • • • • • • • • • •	Up to 4	Up to 100 m	Up to 125 m	Horizontal discharge	No	Yes	Yes, H-Link bus	+++
IVX XH	• • • • • • • •	Up to 1	Up to 100 m	Up to 125 m	Horizontal discharge	No	No	Yes, H-Link bus	
IVX Centrifugal	• • • • • • • •	Up to 6	Up to 100 m	Up to 125 m	Centrifugal	from 90 Pa to 120 Pa	Yes	Yes, H-Link bus	+++
Set Free Mini S & L (NEW)	• • • • • • • •	Up to 39	Up to 500 m	n.a.	Horizontal discharge	Up to 30 Pa	Yes	Yes, H-Link bus	++++
Set Free Sigma Premium	• • • • • • • • • • • • • • • •	Up to 64	Up to 165 m	Up to 190 m	Vertical dis-charge	Up to 80 Pa	Yes	Yes, H-Link bus	+++++
Set Free Sigma Standard	• • • • • • • • • • • • • • • •	Up to 64	Up to 165 m	Up to 190 m	Vertical dis-charge	Up to 80 Pa	Yes	Yes, H-Link bus	+++++

Flexibility and different types

- From 1.1 to 56 kW
- Wall-mounted
- Floor
- Duct
- Cassette
- +100 models
- Ceiling

CONTROLS

Local

- PC-ARFP1E (NEW)
- PC-AWR
- PC-ARH1E (NEW)

Central stations

- PSC-A16RS
- PSC-A64S
- PSC-A1T
- CSNET Manager 2 T10/15 (NEW)
- PSC-A32MN
- PSC-A64GT

COMMUNICATION PROTOCOL

- HC-A8/16/64MB
- HI-AC-BAC-16/64
- HI-AC-KNX16/64
- HARC-BX E(A)/(B)

Outdoor units with VRF technology

IVX Standard



- The competitive alternative for small commercial applications.
- Manages up to 4 indoor units of any type with individual control.
- Ideal for medium-small commercial premises and offices.

IVX XH



- VRF outdoor unit dedicated to connection with DX KIT to connect to expansion type air curtains or Air Handling Units produced by third-party manufacturers
- Hot Gas Bypass technology has been adopted across the entire range of outdoor units making it possible to guarantee high performance in heating mode
- DC Inverter Scroll Compressor
- Performance control can be set up according to air inlet temperature or air outlet temperature

IVX Centrifugal



- The solution for any building for installation in false ceilings or in a plant room.
- Manages up to 6 indoor units of any type with individual control.
- Ideal for restaurants, commercial businesses, showrooms, banks, public offices in which the architectural appearance of the facade must be preserved.

Set Free Mini S & L



- 2-pipe applications for 4 to 6 HP (12.1 - 16 kW) Set Free mini
- 2 and 3-pipe applications for 4 to 6 HP (22.4 - 33.5 kW) Set Free mini with connection to low and high temperature Hydro Free indoor units
- Available static pressure up to 30 Pa
- Manages up to 39 indoor units (depending on the model) with individual control.
- Ideal for medium-large residential complexes, commercial businesses and hotels.

Set Free Sigma Premium/ Standard



- Available also in the Premium version: the most flexible 2 and 3-pipe VRF system on the market.
- Extreme modularity with capacity up to 268 kW (96HP) and major benefits in terms of space and cost, ideal when the installation spaces are limited.
- Operation with temperatures up to 48 °C and 52 °C for the high efficiency version.
- Ideal for hotels, restaurants, offices, large buildings.

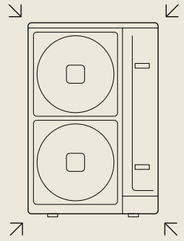
IVX Standard with VRF technology: a brilliant solution also for medium-small applications

1 The smallest VRF unit on the market with the widest range in its category



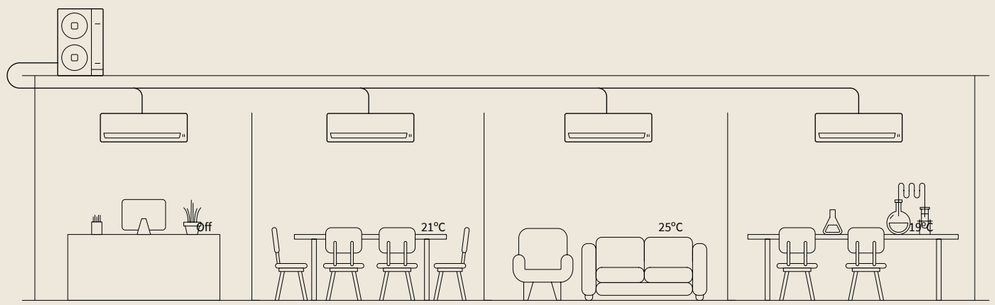
Applications for small commercial premises may present the same requirements of flexibility and comfort as those of large properties. The IVX series starts from 5 kW cooling capacity. Japanese technology, serving the most demanding customers.

2 Compact systems to adapt to small spaces



The IVX Standard series comprises compact units starting from cooling capacity of 5 kW (2HP), thanks to the use of a DC Inverter scroll compressor.

3 Independent temperature in each zone



Customers' climate control requirements vary widely in accordance with the intended use of the individual zones and also based on the preferences of the people who occupy them for many hours each day.

Requirements are also influenced by building construction features: windows, lighting, etc. In this context, Hitachi IVX systems guarantee customised control of each of the 8 connectable indoor units.

4 Reduction in refrigerant piping, easier installation and lower cost

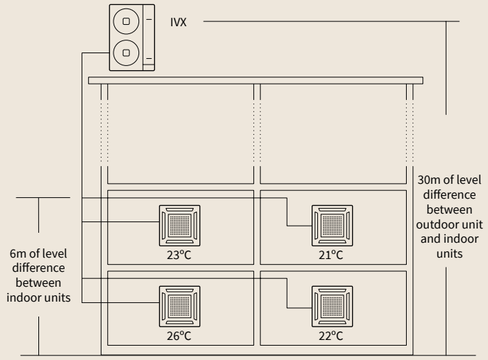
Installation of IVX units offers many benefits compared to a multi-split solution.
Starting from the refrigerant pipes, which can follow a more rational and less invasive path since they allow very long connection distances.

5 Choose the ideal indoor unit in relation to your requirements in terms of aesthetics and comfort



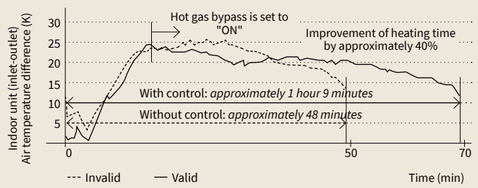
The same installation site may be associated with different aesthetic and functional requirements.
In a clothing store, for example, you need the ideal temperature not simply in the display area, but also in the fitting rooms, in the tills area, and so forth.
Thanks to the choice of indoor units, with the IVX range you can select the most suitable unit and control it independently for tailored comfort.

6 Flexibility for rooftop installations



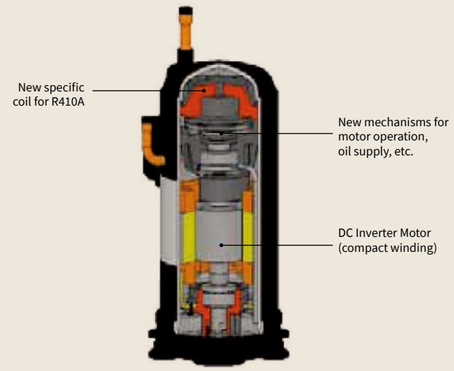
Standard IVX systems allow refrigerant pipes of up to 100m in length with level differences of up to 30 m. This allows easy positioning of the outdoor unit on the roof without requiring use of ground level spaces. With our technology, with a single outdoor unit you can install indoor units on a 4-storey building.

7 Continuous comfort during the heating season



The IVX series features two important functions that limit the defrost cycles and increase efficiency of the system, even with very low outside temperatures.
The system performs a "smart" defrost cycle, adapting the defrost period in accordance with historic data and thereby extending the heating time to guarantee continuous comfort in the heated premises.
In addition to this function, injection of hot gas on the outdoor heat exchanger limits the formation of ice, thus further reducing the required defrost time.

8 DC Inverter Scroll Compressor



The characteristics of the DC Inverter Scroll compressor of the latest generation make it possible to achieve excellent seasonal performance combined with quiet operation and low running costs. The DC Inverter Scroll compressor manufactured by Hitachi can operate at very low revs (20 Hz) while guaranteeing correct lubrication of its parts.
The flexibility introduced by this characteristic makes it possible to control performance also of just one indoor unit, preventing the system from wasting energy.

IVX Standard

VRF technology within reach of all
for small commercial applications



Independent control of indoor units

Independent operation of up to 4 indoor units. Each indoor unit, of any type, has its own control that can be set up with independent functions and temperature. (Fig. 1)

Long extension of refrigerant pipes

The presence of an expansion valve in each indoor unit ensures efficient operation even with level differences of up to 30m between outdoor unit and indoor units. (Fig. 2)

High Efficiency

Operation at extreme temperatures. Excellent efficiency from outside temperatures of -20 °C in winter up to 46 °C in summer

Building automation integration at low cost

Multiple functions of use for integration with elementary type external building automation systems by means of the 7-segment display on the outdoor unit circuit board.
Up to 3 input ports and 2 output ports can be programmed from the 7-segment display, with up to 21 functions.

Flexibility

Compatible with all the indoor units of the System Free series and connectable via the H-Link protocol to all individual and centralised control systems.

Easy installation

Installation is simplified by a single main refrigerant pipe with connections for the 4 indoor units.

Compact system

Up to 14 kW (6HP) with a single front Wdischarge fan.

Fig. 1

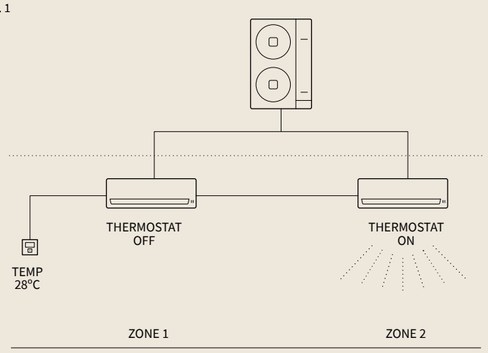
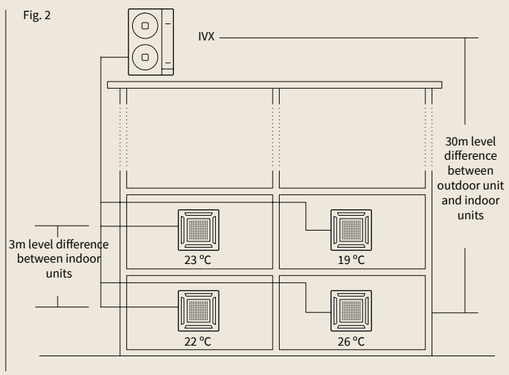
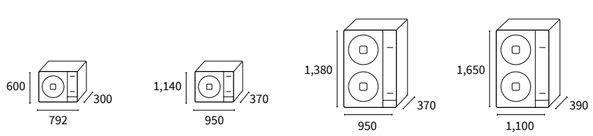


Fig. 2



Outdoor units



RAS-2HVNP1
RAS-2.5HVNP1
RAS-3HVNC1

RAS-4H(V)NC1E
RAS-5H(V)NC1E
RAS-6H(V)NC1E

RAS-8HNCE
RAS-10HNCE

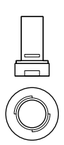
RAS-12HNC

IVX Standard

Outdoor unit			RAS-2HVNP1	RAS-2.5HVNP1	RAS-3HVNC1	RAS-4H(V)NC1E	RAS-5H(V)NC1E	RAS-6H(V)NC1E	RAS-8HNCE	RAS-10HNCE	RAS-12HNC
Maximum number of connectable indoor units			2	2	2	4	4	4	4	4	4
Capacity ratio *		%	90-110	90-110	90-110	90-115	90-115	90-115	90-115	90-115	90-115
Capacity	Cooling (min-nom-max)	kW	2.20-5.00-5.60	2.20-5.60-6.30	3.20-7.10-8	4.50-10.00-11.2	5.70-12.50-14	6.00-14.00-16	8.00-20.00-22.4	10.00-25.00-28	11.20-30.00-33.5
	Heating (min-nom-max)	kW	2.20-5.60-7.1	2.20-6.30-8.00	3.50-8.00-10.6	5.00-11.20-14	5.00-14.00-18	5.00-16.00-20	6.30-22.40-28	8.00-28.00-35	9.00-33.50-37.5
Consumption	Cooling (nom)	kW	1.24	1.34	2.26	2.7	3.71	4.29	5.95	8.28	11.67
	Heating (nom)	kW	1.2	1.28	2	2.45	3.6	4.49	5.88	7.71	13.04
EER			4.03	4.18	3.14	3.7	3.37	3.26	3.36	3.02	2.57
COP			4.68	4.92	4.00	4.57	3.89	3.56	3.81	3.63	3.54
SEER	Single-phase		6.49	6.05	6.00	6.57	6.1	5.88	-	-	-
	Three-phase		-	-	-	6.41	6.06	5.85	6.79	6.61	5.3
SCOP	Single-phase		4.67	4.77	4.21	4.47	4	4.05	-	-	-
	Three-phase		-	-	-	4.47	4	4.05	4.19	3.79	3.66
Energy class (medium climate)	Cooling/ Heating		A++/A++	A+/A++	A+/A+	A++/A+	-	-	-	-	-
Electrical power	Single-phase		1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	-	-	-
	Three-phase		-	-	-	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
Maximum consumption	Single-phase	A	13.8	15.8	17.8	28.5	28.5	28.5	-	-	-
	Three-phase	A	-	-	-	15.5	15.5	15.5	24	24	24.3
Shielded bus cable section		mm^2	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75
Working range	Cooling (DB)	°C	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46
	Heating (WB)	°C	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15
Air flow rate		m^3/h	2,436	2,436	2,682	3,720	4,080	4,800	7,620	8,040	9,780
Sound pressure	Cooling	dB(A)	44	45	48	52	52	55	57	58	59
	Heating	dB(A)	46	47	50	54	54	57	59	60	61
Sound power		dB(A)	62	63	66	68	69	71	76	76	77
No. of fans			1	1	1	1	1	1	2	2	2
Refrigerant piping diameter (external Φ)	Liquid-gas	inches	1/4-1/2	1/4-1/2	3/8-5/8	3/8-5/8	3/8-5/8	3/8-5/8	3/8-1	1/2-1	1/2-1
Minimum piping length		m	5	5	5	5	5	5	5	5	5
Maximum piping length		m	50	50	50	70	75	75	100	100	100
Maximum level difference (highest OU/lowest OU)		m	30/20	30/20	30/20	30/20	30/20	30/20	30/20	30/20	30/20
Compressor			DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Refrigerant			R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Initial refrigerant charge (length without additional charge)		kg (m)	1.6 (30)	1.6 (30)	1.9 (20)	3.2 (30)	3.2 (30)	3.2 (30)	5.7 (30)	6.2 (30)	6.7 (30)
Additional refrigerant charge		g/m	30	30	40	40	60	60	to be calculated	to be calculated	to be calculated
Dimensions (H x W x D)		mm	600x792x300	600x792x300	600x792x300	1.140x950x370	1.140x950x370	1.140x950x370	1.380x950x370	1.380x950x370	1.650x1.100x390
Weight		kg	43	43	44	79	89	89	136	138	168
Bonus	Ecobonus		✓	✓	-	✓	✓	✓	✓	-	-
	Thermal Balance		✓	✓	✓	✓	✓	✓	✓	-	-

*Consult restrictions affecting compatibility of certain outdoor units.
Parameters EER and COP are defined in mono combination with indoor unit of identical capacity series RCI FSN4.

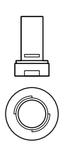
Compatible controls and accessories:



Drain pipe connection

DBS-12L

Compatible with
RAS-2/2.5HVNP1
RAS-3HVNC1



Drain pipe connection

DBS-26

Compatible with
RAS-4-12H(V)NC(1)(E)



Optional discharge grille

AG-264

Compatible with
RAS-3HVNC1



Optional discharge grille

AG-335A

Compatible with
RAS-4-12H(V)NC(1)(E)

Combinations table

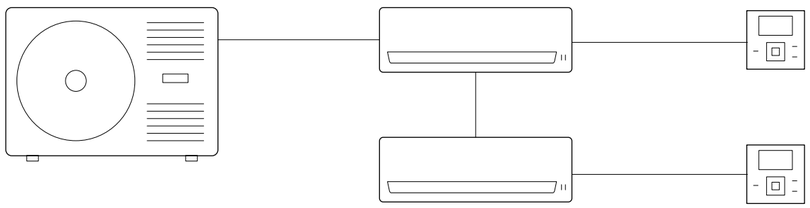
Outdoor unit	RAS-2HVNP1 [1]	RAS-2.5HVNP1 [2]
Maximum number of connectable indoor units	2	2
Percent capacity ratio (number of connectable indoor units)	90-100 % (1 unit)	90-100 % (1 unit)
	90-100 % (2 units)	90-100 % (2 units)
Capacity of the smallest connectable indoor unit (HP)	0.8	0.8

(1) Only the mono combination is allowed with the RCI-FSN4 indoor units.
(2) If multiple indoor units are installed or in the presence of an RCI-FSN4 unit, the minimum permissible capacity is 1.5 HP.
- Mono combinations can be created with units RPI-8.0FSN3E and RPI-10.0FSN3E only

— In systems in which all indoor units are type RCI-FSN4, the maximum permissible percentage ratio is 100% and the maximum number of connectable indoor units is as follows: 2 and 2.5 HP: 1 unit. 3 HP: 2 units. 4, 5, 6, 8. 10 and 12 HP: 4 units.

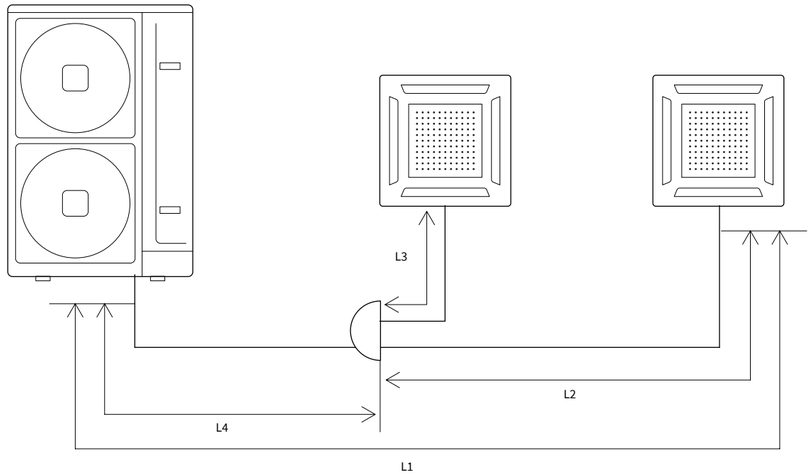
Capacity ratio

RAS-2-2.5HVNP1 *90-100 %



* For more information concerning compatibility, consult the technical catalogue.

Maximum linear length of refrigerant piping



			2 HP	2.5 HP
Maximum piping length from outdoor unit to the furthest indoor unit	Effective length (L1)	m	50	50
	Equivalent length	m	70	70
Maximum pipe length from first multi-kit to each indoor unit (L2)		m	10	10
Maximum pipe length from multi-kit to indoor unit (L3)		m	10	10
Maximum total length L4 + (L2 + L3)		m	50	60
Maximum height difference, outdoor/indoor unit (H) (outdoor unit is higher/lower)		m	30/20	30/20
Maximum indoor unit/indoor unit height difference		m	3	3
Maximum multi-kit/indoor unit height difference		m	3	3
Maximum height difference between multi-kits		m	3	3

Refrigerant pipe and multi-kit dimensions

Main pipe diameters

Outdoor unit	Liquid	Gas
RAS-2HVNP1	1/4"	1/2"
RAS-2.5HVNP1	1/4"	1/2"

*If the piping length is more than 60m, use 1/2" diameter pipe for the liquid line

Diameters between multi-kit and indoor unit

	Piping diameters	
Indoor unit	Liquid	Gas
≤ 1.50 HP	1/4"	1/2"
1.80 - 2.00 HP	1/4"	5/8"
≥ 2.30 HP	3/8"	5/8"

Multi-kits

Outdoor unit	Multi-kits
RAS-2HVNP1	E-102SN4
RAS-2.5HVNP1	E-102SN4

Multi-kits: splitters
E-102SN4
E-162SN4

Combinations table

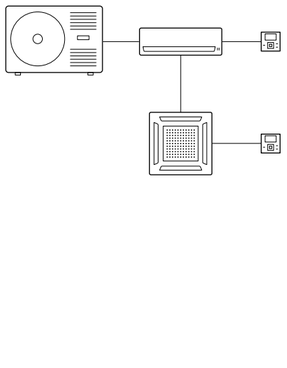
Outdoor unit	3 HP	4 HP	5 HP	6 HP	8 HP	10 HP	12 HP
Maximum number of connectable indoor units	2	4	4	4	4	4	4
Capacity percentage index (number of connectable indoor units)	90-100 % (1 unit)	90-115 % (≤ 2 units)	90-115 % (≤ 2 units)	90-115 % (≤ 2 units)	90-115 %	90-115 %	90-115 %
	90-100 % (2 units)	90-100 % (3 or 4 units)	90-100 % (3 or 4 units)	90-100 % (3 or 4 units)			
Capacity of the smallest connectable indoor unit (HP)	0.80	0.80	0.80	0.80	1.80	1.80	1.80

– Units RPI-8.0 and RPI-10.0FSN3E can be installed exclusively in a 1:1 combination. Contact Hitachi for different combinations

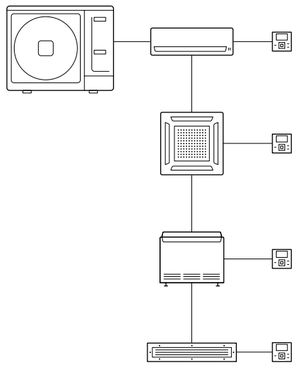
– In systems using RCI-FSN4 indoor units, the maximum permissible load is 100% of capacity and the maximum number of connectable units is 1 for the 3 HP outdoor unit, 2 for 4, 5, and 6 HP units and 4 for 8, 10, and 12 HP units

Capacity ratio

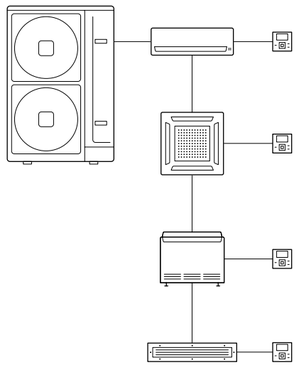
RAS-3HVNC1 *90-100%



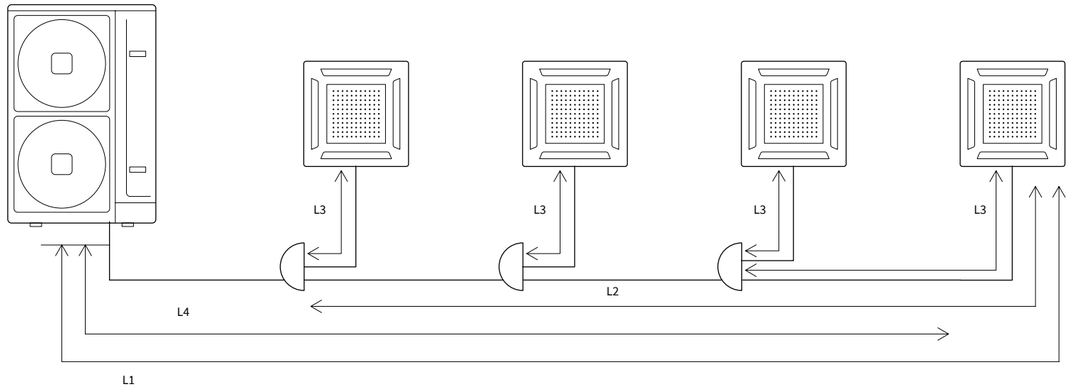
RAS-4~6H(V)NC1E *90-115%



RAS-8~12HNC(E) *90-115%



Maximum linear length of refrigerant piping



Outdoor unit			3 HP	4 HP	5 HP	6 HP	8 HP	10 HP	12 HP
Maximum piping length from outdoor unit to the furthest indoor unit	Effective length (L1)	m	50	70	75	75	100	100	100
	Equivalent length	m	70	90	95	95	125	125	125
Maximum pipe length from first multi-kit to each indoor unit (L2)		m	10	20	20	20	25	25	25
Maximum pipe length from multi-kit to indoor unit (L3)		m	10	10	10	10	15	15	15
Maximum overall length L4 + ($L3_1$ + $L3_2$ + $L3_3$…)		m	60	70	75	75	100	145	145
Maximum height difference, outdoor/indoor unit (H) (outdoor unit is higher/lower)		m	30/20	30/20	30/20	30/20	30/20	30/20	30/20
Maximum indoor unit/indoor unit height difference		m	3	3	3	3	3	3	3
Maximum multi-kit/indoor unit height difference		m	3	3	3	3	3	3	3
Maximum height difference between multi-kits		m	3	3	3	3	3	3	3

Refrigerant pipes size

Main pipe diameters

Outdoor unit	Liquid	Gas
RAS-3HVNC1	3/8"	5/8"
RAS-4 H(V)NC1E	3/8"	5/8"
RAS-5H(V)NC1E	3/8"	5/8"
RAS-6 H(V)NC1E	3/8"	5/8"
RAS-8HNCE	3/8"	1"
RAS-10HNCE	1/2"	1"
RAS-12HNCE	1/2"	1"

Diameters between multi-kit and indoor unit

	Diameter	
Indoor unit	Liquid	Gas
≤ 1.50 HP	1/4"	1/2"
1.80 - 2.00 HP	1/4"	5/8"
≥ 2.30 HP	3/8"	5/8"

Multi-kits

Outdoor unit	Multi-kit
RAS-3HVNC1	E-102SN4
RAS-4 H(V)NC1E	E-102SN4
RAS-5H(V)NC1E	E-102SN4
RAS-6 H(V)NC1E	E-102SN4
RAS-8HNCE	E-162SN4
RAS-10HNCE	E-162SN4
RAS-12HNC	E-162SN4

Multi-kit
E-102SN4
E-162SN4

IVX Standard with wall-mounted unit

A flexible VRF system for all commercial applications



High efficiency with extreme temperatures

The system can operate at outside air temperatures of up to -20 °C in heating mode and 46 °C in cooling mode.

Expansion valve built into the indoor unit

The expansion valve incorporated in the indoor unit assures greater efficiency, elimination of pressure drops and more accurate temperature control.

Intelligent programming of defrost cycles

The system retains a record of previous defrost cycles to minimise the number of cycles while guaranteeing absolute comfort of indoor temperature conditions. The hot gas bypass on the outdoor unit heat exchanger further reduces the need for defrost cycles. (Fig. 1)

Compact system

A single fan up to the 6HP size (14 kW): 0.35 m² footprint.

Exceptional installation flexibility

The 3 and 4 HP systems allow refrigerant pipes of up to 70 equivalent linear metres and level differences of up to 30 m. (Fig. 2)

Installation of up to 4 indoor units

Up to 4 indoor units can be connected to provide climate control in 4 different zones with independent temperature control.

Fig. 1

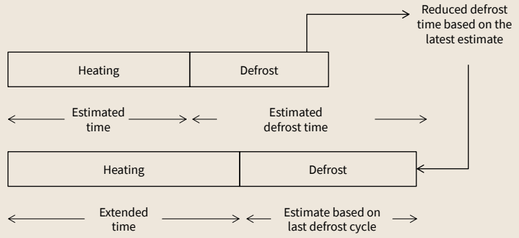
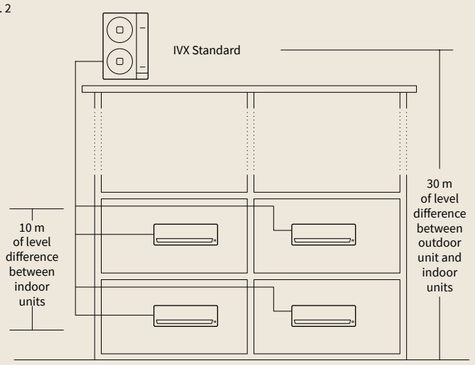
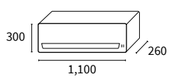


Fig. 2

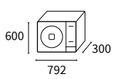


Indoor units

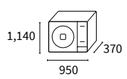


RPK-2.0FSN4M
RPK-2.5FSN4M
RPK-3.0FSN4M
RPK-4.0FSN4M

Outdoor units



RAS-2HVNP1
RAS-2.5HVNP1
RAS-3HVNC1



RAS-4H(V)NC1E

IVX Standard with wall-mounted unit

System			2HP	2.5HP	3HP	4HP
Capacity	Cooling (min-nom-max)	kW	2.20-5.00-5.60	2.20-5.60-6.30	3.20-7.10-8.00	4.50-10.00-11.20
	Heating (min-nom-max)	kW	2.20-5.60-7.10	2.20-6.30-8.00	3.50-8.00-10.60	5.00-11.20-14.00
Consumption	Cooling (nom)	kW	1.55	1.69	2.64	4.65
	Heating (nom)	kW	1.51	1.68	2.73	3.56
Electrical power	Single-phase		1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz
	Three-phase		-	-	-	3N~400V 50Hz
Shielded bus cable section		mm²	2 x 0.75	2 x 0.75	2 x 0.75	2 x 0.75
EER			3.23	3.31	2.69	2.15
COP			3.7	3.75	2.93	3.15
SEER	Single-phase		5.47	5.24	5.35	5.56
	Three-phase		-	-	-	5.45
SCOP	Single-phase		4.01	4.14	3.8	3.83
	Three-phase		-	-	-	3.83
Energy class (medium climate)	Cooling/Heating		A/A+	A/A+	A/A	A/A
Working range	Cooling (DB)	°C	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46
	Heating (WB)	°C	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15
Refrigerant piping diameter	Liquid-gas	inches	1/4-1/2	1/4-1/2	3/8-5/8	3/8-5/8
Indoor unit			**RPK-2.0FSN4M**	**RPK-2.5FSN4M**	**RPK-3.0FSN4M**	**RPK-4.0FSN4M**
Air flow rate (low-medium-high-extra high)		m³/h	570-660-780-870	720-840-990-1,110	750-930-1,050-1,200	870-1,050-1,200-1,380
Sound pressure (low-medium-high-extra high)		dB(A)	31-34-37-40	35-38-42-45	35-40-44-47	39-44-48-51
Sound power (low-medium-high-extra high)		dB(A)	47-50-53-55	51-54-58-60	51-56-60-63	54-60-64-65
Dimensions (H x W x D)		mm	300x1.100x260	300x1.100x260	300x1.100x260	300x1.100x260
Weight		kg	14.5	15	15	15
Condensate drain connection (external Φ)		mm	20	20	20	20
Outdoor unit			**RAS-2HVNP1**	**RAS-2,5HVNP1**	**RAS-3HVNC1**	**RAS-4H(V)NC1E**
Air flow rate		m³/h	2,436	2,436	2,682	3,720
Sound pressure	Cooling	dB(A)	44	45	48	52
	Heating	dB(A)	46	47	50	54
Sound power		dB(A)	62	63	66	68
No. of fans			1	1	1	1
Maximum consumption	Single-phase	A	13.8	15.8	17.8	28.5
	Three-phase	A	-	-	-	15.1
Minimum piping length		m	5	5	5	5
Maximum piping length		m	50	50	50	70
Maximum level difference (highest OU/lowest OU)		m	30/20	30/20	30/20	30/20
Compressor			DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Refrigerant			R-410A	R-410A	R-410A	R-410A
Initial refrigerant charge (length without additional charge)		kg (m)	1.6 (30)	1.6 (30)	1.9 (20)	3.2 (30)
Additional refrigerant charge		g/m	30	30	40	40
Dimensions (H x W x D)		mm	600x792x300	600x792x300	600x792x300	1.140x950x370
Weight		kg	43	43	44	79
Bonus	Ecobonus		✓	✓	-	-
	Thermal Balance		✓	✓	-	-

Compatible controls and accessories:

Wired control
PC-ARFP1E

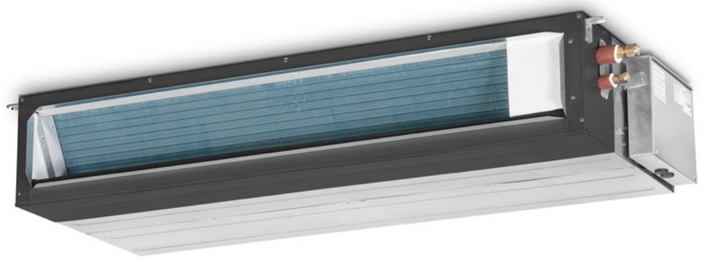
Remote control
PC-AWR

Compact wired control
PC-ARH1E

Accessories:
– PCC-1A
connector for input/output ports (5 pcs.)

IVX Standard with duct units

A flexible VRF system for all commercial applications



Built-in condensate pump

The condensate collected in the internal drain pan is automatically expelled by the pump built into in the unit.

Compact system

A single fan up to the 6HP size (14kW).
0.35 m² footprint

Expansion valve built into the indoor unit

The expansion valve built into the indoor unit assures greater efficiency, elimination of pressure drops and more accurate temperature control.

Intelligent programming of defrost cycles

The system retains a record of previous defrost cycles to minimise the number of cycles while guaranteeing absolute comfort of indoor temperature conditions. The hot gas bypass on the outdoor unit heat exchanger further reduces the need for defrost cycles. (Fig. 1)

Exceptional installation flexibility

The 3 and 4 HP systems allow refrigerant pipes of up to 70 equivalent linear metres and level differences of up to 30 m. (Fig. 2)

Installation of up to 4 indoor units

Up to 4 indoor units can be connected to provide climate control in 4 different zones with independent temperature control.

Fig. 1

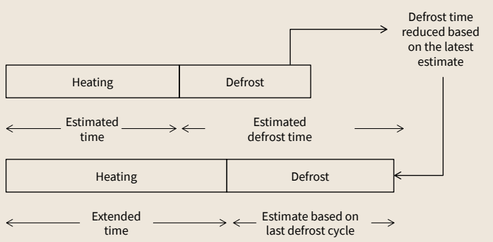
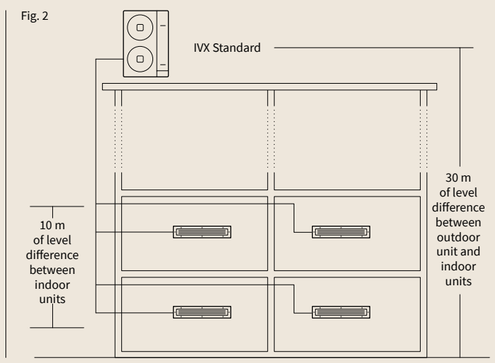
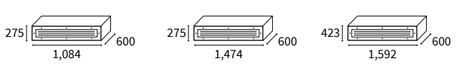


Fig. 2



Indoor units

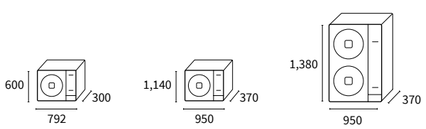


RPI-2.0FSN5E
RPI-2.5FSN5E
RPI-3.0FSN5E

RPI-4.0FSN5E
RPI-5.0FSN5E
RPI-6.0FSN5E

RPI-8.0FSN3E
RPI-10.0FSN3E

Outdoor units



RAS-2HVNP1
RAS-2.5HVNP1
RAS-3HVNC1

RAS-4H(V)NC1E
RAS-5H(V)NC1E
RAS-6H(V)NC1E

RAS-8HNCE
RAS-10HNCE

IVX Standard with duct units

System			2HP	2.5HP	3HP	4HP	5HP	6HP	8HP	10HP
Capacity	Cooling (min-nom-max)	kW	2.20-5.00-5.60	2.20-5.60-6.30	3.20-7.10-8.00	4.50-10.00-11.20	5.70-12.50-14.00	6.00-14.00-16.00	8.00-20.00-22.40	10.00-25.00-28.00
	Heating (min-nom-max)	kW	2.20-5.60-7.10	2.20-6.30-8.00	3.50-8.00-10.60	5.00-11.20-14.00	5.00-14.00-18.00	5.00-16.00-20.00	6.30-22.40-28.00	8.00-28.00-35.00
Consumption	Cooling (nom)	kW	1.41	1.6	2.53	3.1	3.93	4.55	5.95	8.28
	Heating (nom)	kW	1.5	1.65	2.26	2.78	3.95	4.4	5.88	7.71
Electrical power	Single-phase		1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	-	-
	Three-phase		-	-	-	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
Shielded bus cable section		mm^2	2 x 0.75	2 x 0.75	2 x 0.75	2 x 0.75	2 x 0.75	2 x 0.75	2 x 0.75	2 x 0.75
EER			3.54	3.49	2.81	3.23	3.18	3.08	3.36	3.02
COP			3.73	3.81	3.54	4.03	3.54	3.64	3.81	3.63
SEER	Single-phase		5.6	5.51	4.97	5.38	5.88	5.67	-	-
	Three-phase		-	-	-	5.27	5.84	5.64	6.79	6.61
SCOP	Single-phase		4.01	4.33	3.8	4.01	3.91	3.96	-	-
	Three-phase		-	-	-	4.01	3.9	3.96	4.19	3.79
Energy class (medium climate)	Cooling/ Heating		A+/A+	A/A+	B/A	A/A+	-	-	-	-
Working range	Cooling (DB)	°C	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46
	Heating (WB)	°C	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15
Refrigerant piping diameter	Liquid-gas	inches	1/4-1/2	1/4-1/2	3/8-5/8	3/8-5/8	3/8-5/8	3/8-5/8	3/8-1	1/2-1
Indoor unit			**RPI-2.0FSN5E**	**RPI-2.5FSN5E**	**RPI-3.0FSN5E**	**RPI-4.0FSN5E**	**RPI-5.0FSN5E**	**RPI-6.0FSN5E**	**RPI-8.0FSN3E**	**RPI-10.0FSN3E**
Air flow rate (low - medium - high)		m^3/h	600-750-960	780-960-1,140	960-1,140-1,320	1,500-1,680-1,800	1,740-1,920-2,100	1,800-1,980-2,160	3,570-3,960-3,960	4,056-4,500-4,500
Static pressure (range)		Pa	30 (0-120)	30 (0-125)	30 (0-125)	45 (0-120)	50 (0-140)	50 (0-140)	180 (140-220)	180 (140-220)
Sound pressure (low-medium-high)		dB(A)	27-29-29	28-30-30	29-31-31	32-35-37	33-35-38	33-36-39	51-54-54	52-55-55
Sound power (high)		dB(A)	55	56	57	62	65	66	77	78
Dimensions (H x W x D)		mm	275x1.084x600	275x1.084x600	275x1.084x600	275x1.474x600	275x1.474x600	275x1.474x600	423x1.592x600	423x1.592x600
Weight		kg	35	36	36	48	48	48	85	87
Condensate drain connection (external Φ)		mm	32	32	32	32	32	32	25	25
Condensate pump			Included	Included	Included	Included	Included	Included	Included	Included
Max head		mm	850	850	850	850	850	850	-	-
Outdoor unit			**RAS-2HVNP1**	**RAS-2,5HVNP1**	**RAS-3HVNC1**	**RAS-4H(V)NC1E**	**RAS-5H(V)NC1E**	**RAS-6H(V)NC1E**	**RAS-8HNCE**	**RAS-10HNCE**
Air flow rate		m^3/h	2,436	2,436	2,682	3,720	4,080	4,800	7,620	8,040
Sound pressure	Cooling	dB(A)	44	45	48	52	52	55	57	58
	Heating	dB(A)	46	47	50	54	54	57	59	60
Sound power		dB(A)	62	63	66	68	69	71	76	76
No. of fans			1	1	1	1	1	1	2	2
Maximum consumption	Single-phase	A	13.8	15.8	17.8	28.5	28.5	28.5	-	-
	Three-phase	A	-	-	-	15.5	15	15.5	24	24
Minimum piping length		m	5	5	5	5	5	5	5	5
Maximum piping length		m	50	50	50	70	75	75	100	100
Maximum level difference (highest OU/lowest OU)		m	30/20	30/20	30/20	30/20	30/20	30/20	30/20	30/20
Compressor			Scroll DC Inverter	Scroll DC Inverter	Scroll DC Inverter	Scroll DC Inverter	Scroll DC Inverter	Scroll DC Inverter	Scroll DC Inverter	Scroll DC Inverter
Refrigerant			R-410A	R-410A	R410A	R410A	R410A	R410A	R410A	R410A
Initial refrigerant charge (length without additional charge)		kg (m)	1.6 (30)	1.6 (30)	1.9 (20)	3.2 (30)	3.2 (30)	3.2 (30)	5.7 (30)	6.2 (30)
Additional refrigerant charge		g/m	30	30	40	40	60	60	to be calculated	to be calculated
Dimensions (H x W x D)		mm	600x792x300	600x792x300	600x792x300	1.140x950x370	1.140x950x370	1.140x950x370	1.380x950x370	1.380x950x370
Weight		kg	43	43	44	79	89	89	136	138
Bonus	Ecobonus		✓	✓	-	✓	-	-	✓	-
	Thermal Balance		✓	✓	-	✓	-	-	✓	-

Compatible controls and accessories:

Wired control
PC-ARFP1E

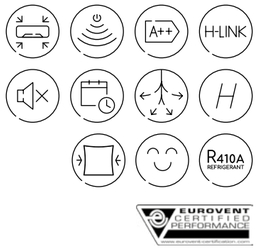
Remote control
PC-AWR

Compact wired control
PC-ARH1E

Accessories:

- Presence sensor SOR-MSK. Compatible with RPI-(0.4-3.0)FSN5E
- Connector for input/output ports (5 pcs.) PCC- 1A

IVX Standard with 4-way mini cassette unit





Smart control of defrost cycles

The system saves previous defrost cycles to minimise the need to for defrosting thus guaranteeing a comfortable indoor temperature. The hot gas bypass on the outdoor unit heat exchanger further reduces the need for defrost cycles. (Fig. 1)

Optional presence sensor

The sensor is designed to identify the presence of human occupants and adapt performance accordingly.

The most compact VRF technology system

The perfect option for climate control of medium-small spaces, including stores, showrooms and offices.

Extended refrigerant pipes

Up to 50m in length and with 3m level difference between indoor units. (Fig. 2)

New design of louvers

The newly designed independently controlled air diffusion louvers promote the Coanda effect for optimal air distribution.

Individual control and simultaneous control

Simultaneous control of the 2 indoor units can be achieved by connecting the wired control only to one indoor unit, thus avoiding electrical wiring costs.

Fig. 1

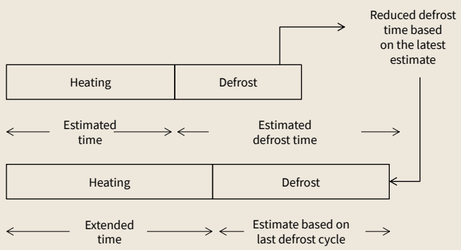
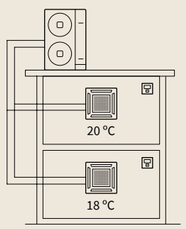
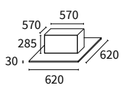


Fig. 2

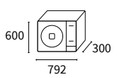


Indoor units



RCIM 2.0FSN4E
RCIM 2.5FSN4E

Outdoor units



RAS-2HVNP1
RAS-2,5HVNP1

IVX Standard with mini cassette 4-way unit

System			2 HP	2.5 HP
Capacity	Cooling (min-nom-max)	kW	2.20-5.00-5.60	2.20-5.60-6.30
	Heating (min-nom-max)	kW	2.20-5.60-7.10	2.20-6.30-8.00
Consumption	Cooling (nom)	kW	1.45	1.72
	Heating (nom)	kW	1.47	1.57
Electrical power			1~230V 50Hz	1~230V 50Hz
Internal / external connection cross section (shielded)		mm^2	2 x 0.75	2 x 0.75
EER			3.45	3.25
COP			3.80	4.02
SEER	Single-phase		5.67	5.61
	Three-phase		-	-
SCOP	Single-phase		4.00	4.41
	Three-phase		-	-
Energy class (medium climate)	Cooling/Heating		A+/A+	A+/A+
Working range (Outdoor air temperature)	Cooling	°C	-5 ÷ 46	-5 ÷ 46
	Heating	°C	-20 ÷ 15	-20 ÷ 15
Refrigerant piping diameter	Liquid-gas	inches	1/4-1/2	3/8-5/8
Indoor unit			**RCIM-2.0FSN4E**	**RCIM-2.5FSN4E**
Air flow rate (low-medium-high-extra high)		m^3/h	480-600-720-900	600-720-840-960
Sound pressure (low-medium-high-extra high)		dB(A)	31-35-39-45	35-39-43-47
Sound power		dB(A)	56	60
Dimensions (H x W x D)		mm	285-570-570	285-570-570
Weight		kg	17.0	17.0
Panel dimensions (H x W x D)		mm	30x620x620	30x620x620
Panel weight		kg	2.5	2.5
Condensate drain connection (external Φ)		mm	32	32
Condensate pump			Included	Included
Max head		mm	850	850
Outdoor unit			**RAS-2HVNP1**	**RAS-2,5HVNP1**
Air flow rate		m^3/h	2,436	2,436
Sound pressure	Cooling	dB(A)	44	45
	Heating	dB(A)	46	47
Sound power		dB(A)	62	63
No. of fans			1	1
Maximum consumption	Single-phase	A	13.8	15.8
	Three-phase	A	-	-
Minimum piping length		m	5	5
Maximum piping length		m	50	50
Maximum level difference (highest OU/lowest OU)		m	30/20	30/20
Compressor			DC Inverter Scroll	DC Inverter Scroll
Refrigerant			R-410A	R-410A
Initial refrigerant charge (length without additional charge)		kg (m)	1.6 (30)	1.6 (30)
Additional refrigerant charge		g/m	30	30
Dimensions (H x W x D)		mm	600x792x300	600x792x300
Weight		kg	43.0	43.0
Bonus	Ecobonus		✓	✓
	Thermal Balance		✓	✓

Compatible controls and accessories:



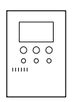
Wired control with display

PC-ARFP1E



Remote control

PC-AWR



Compact wired control

PC-ARH1E

Accessories:

– SOR-NEC presence sensor. Compatible with RCIM-FSN4E

IVX Standard with 4-way cassette unit

A flexible VRF system for all commercial applications



Built-in condensate pump

The condensate collected in the internal drain pan is automatically expelled by the pump built into in the unit.

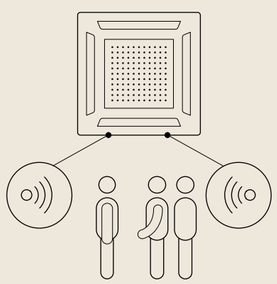
Presence sensor

Allows a presence sensor to be mounted in the panel to optimise energy consumption. (Fig. 1)

Expansion valve built into the indoor unit

The expansion valve incorporated in the indoor unit assures greater efficiency, elimination of pressure drops and more accurate temperature control.

Fig. 1



Intelligent programming of defrost cycles

The system retains a record of previous defrost cycles to minimise the number of cycles while guaranteeing absolute comfort of indoor temperature conditions. The hot gas bypass on the outdoor unit heat exchanger further reduces the need for defrost cycles. (Fig. 1)

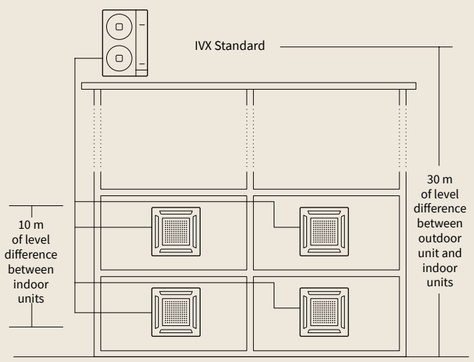
Exceptional installation flexibility

The 3 and 4 HP systems allow refrigerant pipes of up to 70 equivalent linear metres and level differences of up to 30 m. (Fig. 2)

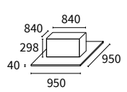
Installation of up to 4 indoor units

Up to 4 indoor units can be connected to provide climate control in 4 different zones with independent temperature control.

Fig. 2

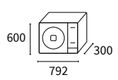


Indoor units

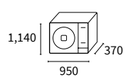


RCI-2.0FSN4
RCI-2.5FSN4
RCI-3.0FSN4
RCI-4.0FSN4
RCI-5.0FSN4
RCI-6.0FSN4

Outdoor units



RAS-2HVNP1
RAS-2.5HVNP1
RAS-3HVNC1



RAS-4H(V)NC1E
RAS-5H(V)NC1E
RAS-6H(V)NC1E

Standard IVX with 4-way cassette type unit

System			2HP	2.5HP	3HP	4HP	5HP	6HP
Capacity	Cooling (min-nom-max)	kW	2.20-5.00-5.60	2.20-5.60-6.30	3.20-7.10-8.00	4.50-10.00-11.20	5.70-12.50-14.00	6.00-14.00-16.00
	Heating (min-nom-max)	kW	2.20-5.60-7.10	2.20-6.30-8.00	3.50-8.00-10.60	5.00-11.20-14.00	5.00-14.00-18.00	5.00-16.00-20.00
Consumption	Cooling (nom)	kW	1.24	1.34	2.26	2.7	3.71	4.29
	Heating (nom)	kW	1.2	1.28	2	2.45	3.6	4.49
Electrical power	Single-phase		1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz
	Three-phase		-	-	-	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
Shielded bus cable section		mm^2	2 x 0.75	2 x 0.75	2 x 0.75	2 x 0.75	2 x 0.75	2 x 0.75
EER			4.03	4.18	3.14	3.7	3.37	3.26
COP			4.68	4.92	4	4.57	3.89	3.56
SEER	Single-phase		6.49	6.05	6	6.57	6.1	5.88
	Three-phase		-	-	-	6.41	6.06	5.85
SCOP	Single-phase		4.67	4.77	4.21	4.47	4	4.05
	Three-phase		-	-	-	4.47	4	4.05
Energy class (medium climate)	Cooling/Heating		A++/A++	A+/A++	A+/A+	A++/A+	-	-
Working range	Cooling (DB)	°C	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46
	Heating (WB)	°C	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15
Refrigerant piping diameter	Liquid-gas	inches	1/4-1/2	3/8-5/8	3/8-5/8	3/8-5/8	3/8-5/8	3/8-5/8
Indoor unit			**RCI-2.0FSN4**	**RCI-2.5FSN4**	**RCI-3.0FSN4**	**RCI-4.0FSN4**	**RCI-5.0FSN4**	**RCI-6.0FSN4**
Air flow rate (low-medium-high-extra high)		m^3/h	660-840-1,020-1,320	840-1,080-1,380-1,620	840-1,080-1,380-1,620	1,200-1,440-1,860-2,220	1,260-1,560-1,980-2,220	1,320-1,680-2,100-2,220
Sound pressure (low-medium-high-extra high)		dB(A)	27-30-32-37	28-32-36-42	28-32-36-42	33-39-43-48	35-40-45-48	37-41-46-48
Sound power (low-medium-high-extra high)		dB(A)	55	56	57	64	64	65
Dimensions (H x W x D)		mm	248x840x840	248x840x840	298x840x840	298x840x840	298x840x840	298x840x840
Weight		kg	21	22	26	26	26	26
Panel dimensions (H x W x D)		mm	40x950x950	40x950x950	40x950x950	40x950x950	40x950x950	40x950x950
Panel weight		kg	6.5	6.5	6.5	6.5	6.5	6.5
Condensate pipe diameter (external)		mm	32	32	32	32	32	32
Condensate pump			Included	Included	Included	Included	Included	Included
Max head		mm	850	850	850	850	850	850

Outdoor unit			RAS-2HVNP1	RAS-2,5HVNP1	RAS-3HVNC1	RAS-4H(V)NC1E	RAS-5H(V)NC1E	RAS-6H(V)NC1E
Air flow rate		m^3/h	2,436	2,436	2,682	3,720	4,080	4,800
Sound pressure	Cooling	dB(A)	44	45	48	52	52	55
	Heating	dB(A)	46	47	50	54	54	57
Sound power		dB(A)	62	63	66	68	69	71
No. of fans			1	1	1	1	1	1
Maximum consumption	Single-phase	A	13.8	15.8	17.8	28.5	28.5	28.5
	Three-phase	A	-	-	-	15.5	15.5	15.5
Minimum piping length		m	5	5	5	5	5	5
Maximum piping length		m	50	50	50	70	75	75
Maximum level difference (highest OU/lowest OU)		m	30/20	30/20	30/20	30/20	30/20	30/20
Compressor			DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Refrigerant			R-410A	R-410A	R-410A	R-410A	R-410A	R-410A
Initial refrigerant charge (length without additional charge)		kg (m)	1.6 (30)	1.6 (30)	1.9 (30)	3.2 (30)	3.2 (30)	3.2 (30)
Additional refrigerant charge		g/m	30	30	40	40	60	60
Dimensions (H x W x D)		mm	600x792x300	600x792x300	600x792x300	1.140x950x370	1.140x950x370	1.140x950x370
Weight		kg	43	43	44	79	89	89
Bonus	Ecobonus		✓	✓	-	✓	✓	✓
	Thermal Balance		✓	✓	✓	✓	✓	✓

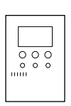
Compatible controls and accessories:



Wired control
PC-ARFP1E



Remote control
PC-AWR



Compact wired control
PC-ARH1E

Accessories:

- Presence sensor PS-MSK2. Compatible with RCI-FSN4
- Connector for input/output ports (5 pcs.) PCC- 1A

IVX Standard with ceiling unit

A flexible VRF system for all commercial applications



High efficiency with extreme temperatures

The system operates at outside air temperatures of up to -20 °C in heating mode and 46 °C in cooling mode.

Comfortable temperature

The new design of the automatic louvre prevents the creation of cold draughts and aids correct air distribution.

Suitable for rooms with very high ceilings

A very high fan speed can be selected on the system to guarantee optimal air distribution.

Presence sensor

The system can be equipped with a presence sensor to optimise energy consumption. (Fig. 1)

Exceptional installation flexibility

Installation of the 3 and 4 HP models offers the facility to install units with refrigerant pipes of up to 70 m in length and with a level difference of 30 m. (Fig. 2)

Installation of up to 4 indoor units

Up to 4 indoor units can be connected to provide climate control in 4 different zones with independent temperature control.

Fig. 1

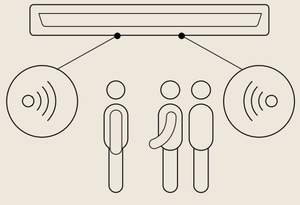
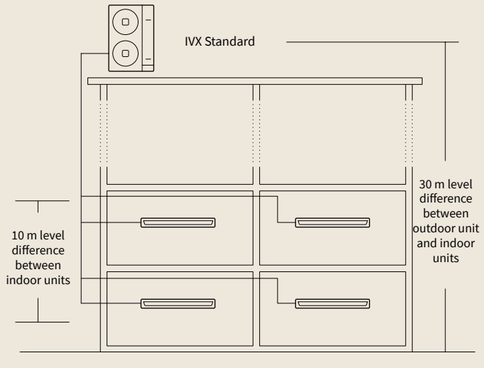
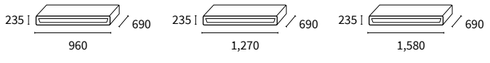


Fig. 2



Indoor units

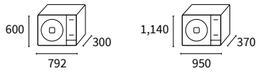


RPC-2.0FSN3
RPC-2.5FSN3

RPC-3.0FSN3

RPC-4.0FSN3
RPC-5.0FSN3
RPC-6.0FSN3

Outdoor units



RAS-2HVNP1
RAS-2.5HVNP1
RAS-3HVNC1

RAS-4H(V)NC1E
RAS-5H(V)NC1E
RAS-6H(V)NC1E

Standard IVX with ceiling unit

System			2 HP	2.5 HP	3HP	4HP	5HP	6HP
Capacity	Cooling (min-nom-max)	kW	2.20-5.00-5.60	2.20-5.60-6.30	3.20-7.10-8.00	4.50-10.00-11.20	5.70-12.50-14.00	6.00-14.00-16.00
	Heating (min-nom-max)	kW	2.20-5.60-7.10	2.20-6.30-8.00	3.50-8.00-10.60	5.00-11.20-14.00	5.00-14.00-18.00	5.00-16.00-20.00
Consumption	Cooling (nom)	kW	1.34	1.4	2.29	3.25	4.6	5.49
	Heating (nom)	kW	1.38	1.53	2.33	2.91	3.94	4.4
Electrical power	Single-phase		1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz
	Three-phase		-	-	-	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
Shielded bus cable section		mm^2	2 x 0.75	2 x 0.75	2 x 0.75	2 x 0.75	2 x 0.75	2 x 0.75
EER			3.72	4.00	3.1	3.08	2.72	2.55
COP			4.06	4.12	3.43	3.85	3.55	3.64
SEER	Single-phase		5.63	5.49	5.29	5.02	5.74	5.56
	Three-phase		-	-	-	4.93	5.71	5.53
SCOP	Single-phase		4.44	4.49	4.13	3.9	4	4.04
	Three-phase		-	-	-	3.9	4	4.04
Energy class (medium climate)	Cooling/Heating		A+/A+	A/A+	A/A+	B/A	-	-
Working range	Cooling (DB)	°C	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46
	Heating (WB)	°C	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15
Refrigerant piping diameter	Liquid-gas	inches	1/4-1/2	3/8 - 5/8	3/8-5/8	3/8-5/8	3/8-5/8	3/8-5/8
Indoor unit			**RPC-2.0FSN3**	**RPC-2.5FSN3**	**RPC-3.0FSN3**	**RPC-4.0FSN3**	**RPC-5.0FSN3**	**RPC-6.0FSN3**
Air flow rate (low-medium-high-extra high)		m^3/h	540-660-780-900	690-840-990-1,140	750-930-1,110-1,260	1,020-1,320-1,590-1,800	1,200-1,530-1,860-2,100	1,260-1,620-1,950-2,220
Sound pressure (low-medium-high-extra high)		dB(A)	28-31-35-38	28-31-35-38	29-33-37-40	32-37-42-44	35-41-45-48	36-42-47-49
Sound power (low-medium-high-extra high)		dB(A)	43/46/50/54	44/47/50/54	44/48/52/56	47/52/57/60	50/56/60/64	51/57/62/65
Dimensions (H x W x D)		mm	235x960x690	235x1.270x690	235x1.270x690	235x1.580x690	235x1.580x690	235x1.580x690
Weight		kg	27	35	35	41	41	41
Condensate drain connection (external Φ)		mm	25	25	25	25	25	25
Outdoor unit			**RAS-2HVNP1**	**RAS-2.5HVNP1**	**RAS-3HVNC1**	**RAS-4H(V)NC1E**	**RAS-5H(V)NC1E**	**RAS-6H(V)NC1E**
Air flow rate		m^3/h	2,436	2,436	2,682	3,720	4,080	4,800
Sound pressure	Cooling	dB(A)	44	45	48	52	52	55
	Heating	dB(A)	46	47	50	54	54	57
Sound power		dB(A)	62	63	66	68	69	71
No. of fans			1	1	1	1	1	1
Maximum consumption	Single-phase	A	13.8	15.8	17.8	28.5	28.5	28.5
	Three-phase	A	-	-	-	15.5	15.5	15.5
Minimum piping length		m	5	5	5	5	5	5
Maximum piping length		m	50	50	50	70	75	75
Maximum level difference (highest OU/lowest OU)		m	30/20	30/20	30/20	30/20	30/20	30/20
Compressor			DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Refrigerant			R-410A	R-410A	R-410A	R-410A	R-410A	R-410A
Initial refrigerant charge (length without additional charge)		kg (m)	1.6 (30)	1.6 (30)	1.9 (20)	3.2 (30)	3.2 (30)	3.2 (30)
Additional refrigerant charge		g/m	30	30	40	40	60	60
Dimensions (H x W x D)		mm	600x792x300	600x792x300	600x792x300	1.140x950x370	1.140x950x370	1.140x950x370
Weight		kg	43	43	44	79	89	89
Bonus	Ecobonus		✓	✓	-	-	-	-
	Thermal Balance		✓	✓	-	✓	-	-

Compatible controls and accessories:

Wired control
PC-ARFP1E

Remote control
PC-AWR

Compact wired control
PC-ARH1E

Accessories:

- Connector for input/output ports (5 pcs.) PCC- 1A
- Condensate pump:
  DUPC-63K1 compatible with RPC-1.5FSN3.
  DUPC-71K1 compatible with RPC-2.0FSN3.
  DUPC-160K1 compatible with RPC-2.5-6FSN3

IVX XH

Outdoor units optimised for operation with Air Handling Units



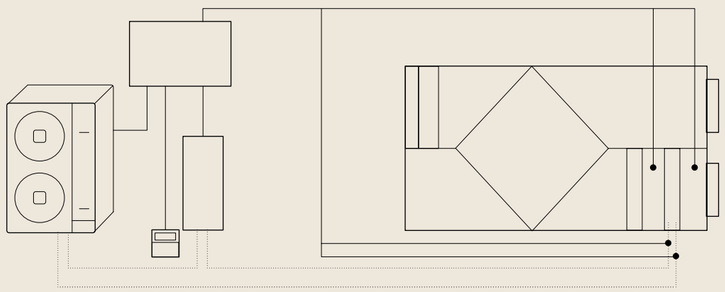
A system dedicated to fresh air

Heat pump type outdoor units in the XH range are specifically designed to manage the performance of a direct heat exchanger forming part of an air handling unit.

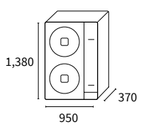
In case of operation in heating mode, when the outside air temperature is too low to be supplied directly to the indoor space, the incorporation of a heat exchanger to assist the heat recovery exchanger makes it possible to provide an efficient response to the need for an adequate level of comfort for occupants.

Conversely, during cooling mode operation the heat exchanger makes it possible to reduce ambient temperature using the recovery function. (Fig. 1)

Fig. 1



Outdoor units



RAS-4XH(V)NP1E
RAS-5XH(V)NP1E
RAS-6XH(V)NP1E
RAS-8XHNPE
RAS-10XHNPE

Hot Gas Bypass function throughout the entire range

The IVX series features two important functions that limit the defrost cycles and increase efficiency of the system, even with very low outside temperatures. The system performs "smart" defrosting, adapting the defrost period in accordance with historic data and thereby extending the heating period and guaranteeing continuity of comfort inside the building.
In addition to this function, hot gas injection on the outdoor heat exchanger limits ice formation and thus further reduces defrost time. (Fig. 2)

Connective architecture for all applications

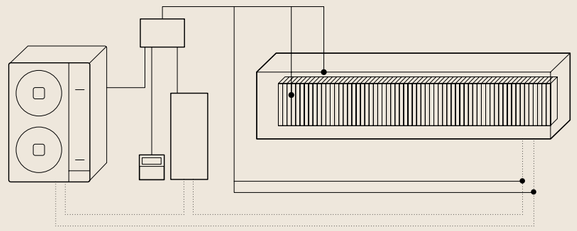
Following the conventional positioning of thermistors, 2 sensors are fitted on the refrigerant circuit (one between the electronic expansion valve and the heat exchanger and the other at the exchanger outlet) and 2 sensors on the air side to measure air outlet and inlet temperature.
System performance is manged by the PC-ARFP1E wired control unit via two different methods:
- Control based on the inlet temperature
- Control based on the outlet temperature.

Up to 5 DX KIT devices can be installed, each connected to its own XH series IVX outdoor unit, which operate with the same Air Handling Unit. This particular configuration of mono systems of equal power rating, makes it possible to meet power requirements up to 50 HP. Check compatibility and operating logic with reference to the dedicated technical catalogue. (Fig. 3)

Increase of temperature range selectable from the local control

In the case of application of an Air Handling Unit in combination with XH series outdoor units, a wider than normal temperature range can be selected by means of the PC-ARFP1E wired control. (Fig. 4)

Fig. 2



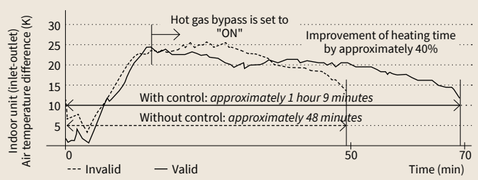


Fig. 3

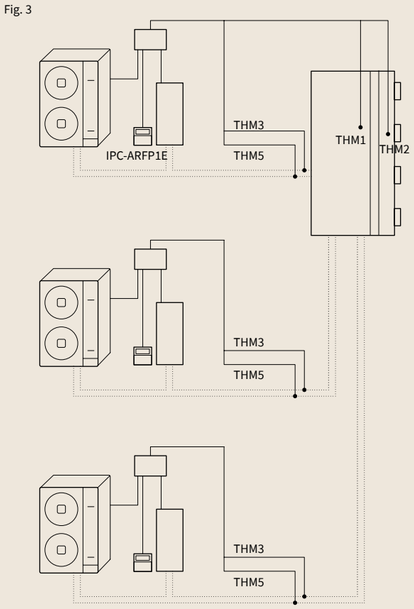


Fig. 4

	Inlet temperature control	Outlet temperature control
Cooling [°C]	19 ÷ 30	14 ÷ 27
Heating [°C]	17 ÷ 30	19 ÷ 40

IVX XH

Controls with external inputs

Introducing external controllers capably of supplying voltage or current signals that are constant but variable within the range shown below, makes it possible to implement logic that allows precise control of compressor performance and consequently of the associated refrigerant circuit.
The controller outputs must be within one of the two ranges indicated (Fig. 5):
0 - 10 V
4 - 20 mA

Setting of ON/OFF thermostat hysteresis in cooling mode on 2 temperature levels

ON/OFF thermostat hysteresis in cooling mode can be set to 2 different temperature levels by means of the PC-ARFPE wired remote control.

Off thermostat shift = set T + 2 °C

Off thermostat shift = set T + 4 °C

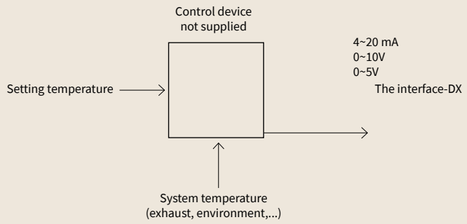
ON/OFF thermostat programmable from external control

The on/off thermostat can be set up by means of an external control on connector PCC-1A, which is to be connected to the series 2 DX KIT circuit board.

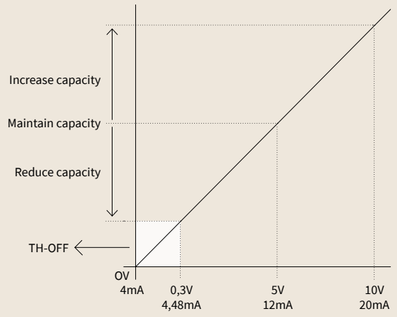
Options for measuring ambient air temperature

- Ambient air intake sensor (heat exchanger inlet). Standard setting.
- Temperature sensor on board wired control unit/remote sensor
- Average value between sensor on board machine and wired remote control/remote sensor

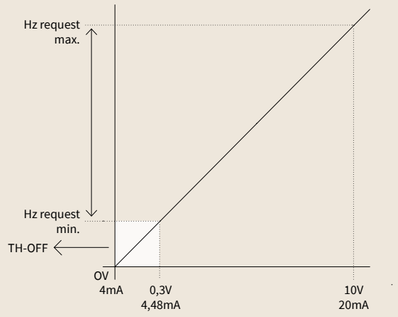
Fig. 5



Duty control with incremental type reference



Duty control with absolute type reference



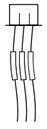
IVX series XH

Indoor unit			RAS-4XH(V)NP1E	RAS-5XH(V)NP1E	RAS-6XH(V)NP1E	RAS-8XHNPE	RAS-10XHNPE
Capacity	Cooling (min-nom-max)	kW	4,50-10,00-11,20	5,70-12,50-14,00	6,00-14,00-16,00	8,00-20,00-22,40	10,00-25,00-28,00
	Heating (min-nom-max)	kW	5,00-11,20-14,00	5,00-14,00-18,00	5,00-16,00-20,00	6,30-22,40-28,00	8,00-28,00-35,00
Consumption	Cooling (nom)	kW	1,99	3,11	3,94	5,36	7,88
	Heating (nom)	kW	2,02	2,91	3,61	5,06	7,03
Outside operating temperatures	Cooling	°C	15 ÷ 46	15 ÷ 46	15 ÷ 46	15 ÷ 46	15 ÷ 46
	Heating	°C	-20 ÷ 15	-20 ÷15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15
Electrical power	Single-phase		1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	-	-
	Three-phase		3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
Air flow		m^3/h	4.800	5.400	6.000	7.620	8.040
Sound pressure level (night mode)		dB(A)	47 (43)	48 (44)	48 (45)	57 (55)	58 (56)
Refrigerant pipe diameter	Liquid-gas	inches	3/8-5/8	3/8-5/8	3/8-5/8	3/8/01	1/2/01
Maximum pipe length		m	75	75	75	100	100
Maximum height difference (highest OU/lowest OU)		m	30/20	30/20	30/20	30/20	30/20
Compressor			Scroll DC Inverter	Scroll DC Inverter	Scroll DC Inverter	Scroll DC Inverter	Scroll DC Inverter
Refrigerant			R410A	R410A	R410A	R410A	R410A
Refrigerant charge (length without additional charge)		kg (m)	4,1 (30)	4,2 (30)	4,2 (30)	5,7 (30)	6,2 (30)
Additional refrigerant charge		g/m	n.d.	n.d.	n.d.	n.d.	n.d.
Dimensions (H x W x D)		mm	1.380x950x370	1.380x950x370	1.380x950x370	1.380x950x370	1.380x950x370
Weight		kg	103	103	103	136	138

Compatible controls and accessories:



Wired control
PC-ARFP1E



Connector for input/output ports (5 pcs.)
PCC- 1A

IVX Centrifugal

The concealed climate control system that respects architectural constraints



An exclusive project for concealed installation

The IVX Centrifugal system is the ideal solution in all situations in which legislation, local regulations or property management company rules prevent the installation of an outdoor unit.

Flexibility and energy saving

Controls temperature in up to 6 independent zones with customised comfort and minimal energy consumption thanks to the individual control feature. (Fig. 1)

High adaptability in relation to different installation criteria

The air discharge and intake configuration is adaptable to meet the needs of all types of premises.
IVX units can be installed in different configurations, simply by switching the air inlet and air outlet panels. (Fig. 2)

Flexibility of combinations

This system has a simultaneous operation range from 75% to 120%, meaning indoor units can be connected within this range of capacities of the outdoor unit.
All with Eurovent certified efficiency.

Cost savings and low noise

The system employs Hitachi inverter scroll compressors with smart defrost control and a centrifugal fan with inverter drive to reduce energy consumption and increase the product's life expectancy since it can operate for long periods at reduces speed, thus assuring very quiet operation for a system of such high power. (Fig. 3)

Compatibility with all control systems

Compatible with all Hitachi control and regulating systems, BMS systems, Modbus and KNX interfaces.

Fig. 2

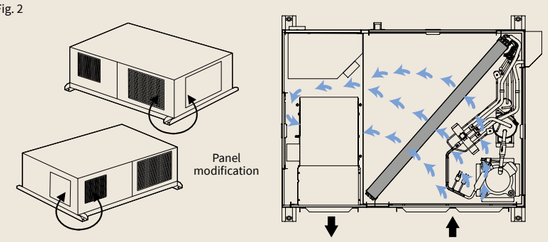


Fig. 3

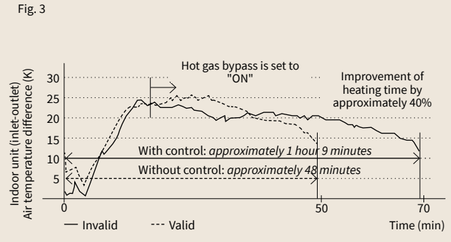
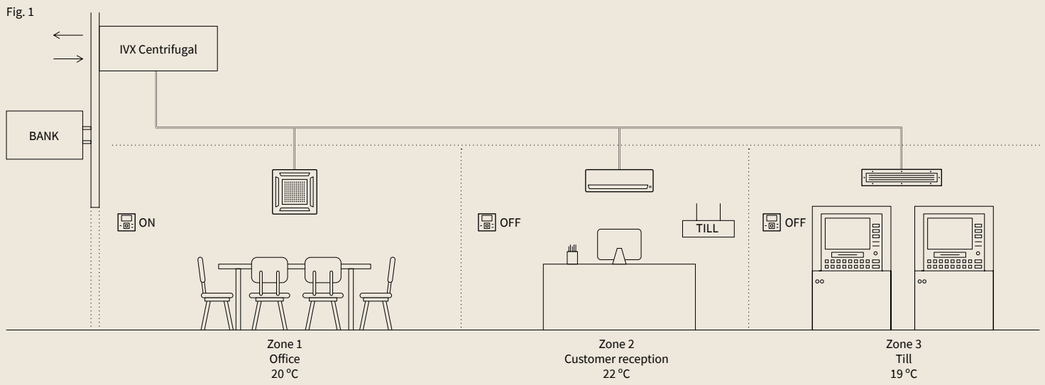


Fig. 1



Outdoor units



RASC-4HNPE
RASC-5HNPE
RASC-6HNPE

RASC-8HNPE
RASC-10HNPE

IVX Centrifugal

Outdoor unit			RASC-4HNPE	RASC-5HNPE	RASC-6HNPE	RASC-8HNPE	RASC-10HNPE
Maximum number of connectable indoor units			5	5	5	6	6
Capacity ratio *		%	75-120	75-120	75-120	75-120	75-120
Capacity	Cooling (nom - max**)	kW	**10.00.**-11.20	**12.50.**-14.00	**14.00.**-16.00	**20.00.**-22.40	**24.00.**-26.00
	Heating (nom-max**)	kW	**11.20.**-13.60	**14.00.**-14.90	**15.50.**-16.80	**22.40.**-25.30	**26.00.**-27.40
Consumption	Cooling (nom)	kW	2.99	3.98	5.09	7.41	9.02
	Heating (nom)	kW	2.95	4.12	5.74	7.00	8.52
EER			3.35	3.14	2.75	2.70	2.66
COP			3.80	3.40	2.70	3.20	3.05
SEER			5.60	5.43	5.22	5.39	5.48
SCOP			3.98	3.74	3.66	3.51	3.71
Working range	Cooling (DB)	°C	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46	-5 ÷ 46
	Heating (WB)	°C	-15 ÷ 15.5	-15 ÷ 15.5	-15 ÷ 15.5	-15 ÷ 15.5	-15 ÷ 15.5
Electrical power			3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
Maximum consumption		A	14.1	14.1	16	24.7	24.7
Shielded bus cable section		mm²	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75
Air flow rate		m³/h	3,300	3,600	3,600	6,900	6,900
Sound pressure	Cooling	dB(A)	52(48)	52(48)	53(49)	55(51)	56(52)
	Heating	dB(A)	53	53	54	56	57
Sound power		dB(A)	70	71	72	74	75
Available static pressure (nom-max)		Pa	56/90	72/100	100/100	84/120	102/120
Refrigerant piping diameter (external Φ)	Liquid-gas	inches	3/8-5/8	3/8-5/8	3/8-5/8	3/8-1	1/2-1
Minimum piping length		m	5	5	5	5	5
Maximum piping length		m	75	75	75	100	100
Maximum level difference (highest OU/lowest OU)		m	30/20	30/20	30/20	30/20	30/20
Compressor			DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Refrigerant			R410A	R410A	R410A	R410A	R410A
Initial refrigerant charge (length without additional charge)		kg (m)	4.1 (30)	4.2 (30)	4.2 (30)	5.7 (30)	6.2 (30)
Additional refrigerant charge		g/m	60	60	60	to be calculated	to be calculated
Dimensions (H x W x D)		mm	555x1.415x1.015	555x1.415x1.015	555x1.415x1.015	620x1.850x1.360	620x1.850x1.360
Weight		kg	192.0	192.0	192.0	300.0	303.0
Bonus	Ecobonus		✓	-	-	-	-
	Thermal balance		✓	-	-	-	-

* Check technical catalogues for compatibility.
** Capacity at maximum compressor frequency.

Compatible controls and accessories:



Accessories for installation of air discharge duct model FD-RASC46

Compatible with
RASC-4-6HNPE



Accessories for installation of air discharge duct model FD-RASC810

RASC-8-10HNPE

Combinations table

Outdoor unit	RASC-4HNPE	RASC-5HNPE	RASC-6HNPE	RASC-8HNPE	RASC-10HNPE
Maximum number of connectable indoor units	5	5	5	6	6
Percentage value of the connectable capacity of indoor units	75-120 % (≤ 4 units)	75-120 % (≤ 4 units)	75-120 % (≤ 4 units)	75-120 % (≤ 4 units)	75-120 % (≤ 4 units)
	75-100 % (5 units)	75-100 % (5 units)	75-100 % (5 units)	75-100 % (5 or 6 units)	75-100 % (5 or 6 units)
Minimum capacity of indoor units (HP)	0.8 (≤ 4 units without restrictions)	0.8 (≤ 4 units without restrictions)	0.8 (≤ 4 units without restrictions)	0.8 (≤ 4 units without restrictions)	0.8 (≤ 4 units without restrictions)
	0.8 (> 4 units with restrictions*)	0.8 (> 4 units with restrictions*)	0.8 (> 4 units with restrictions*)	0.8 (> 4 units with restrictions*)	0.8 (> 4 units with restrictions*)

– In systems using RCI-FSN4 indoor units, the maximum permissible load is 100% of capacity and the maximum number of connectable units is 4.

*With more than 4 indoor units connected, make sure the positioning of the indoor units is balanced. Contact your Hitachi agency.

– Units RPI-8. 0FSN3E and RPI-10.0FSN3E can be installed exclusively in 1:1 combination. However, there are certain specific permitted combinations. Consult the following table.

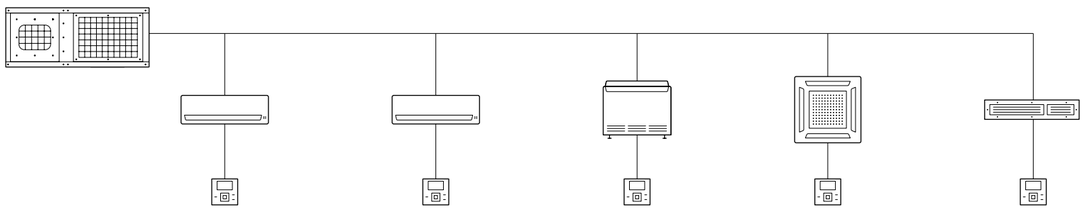
permitted special combinations

The RASC-10HNPE outdoor unit permits the following combinations with indoor units RPi-8.0FSN3E and RPI-10.0FSN3E:

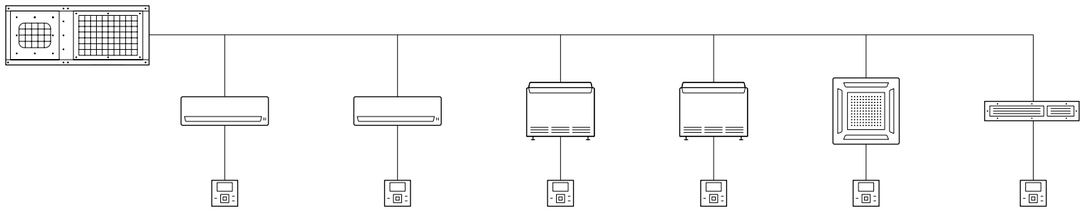
With two indoor units	With three indoor units
8.0 + 3.0	8.0 + 2.0 + 2.0
8.0 + 2.0	8.0 + 1.5 + 1.5
10.0 + 3.0	8.0 + 1.0 + 1.0
10.0 + 2.0	10.0 + 1.5 +1.5
	10.0 + 1.0 +1.0

Capacity ratios

RASC-4~6HNPE — 75-120 %

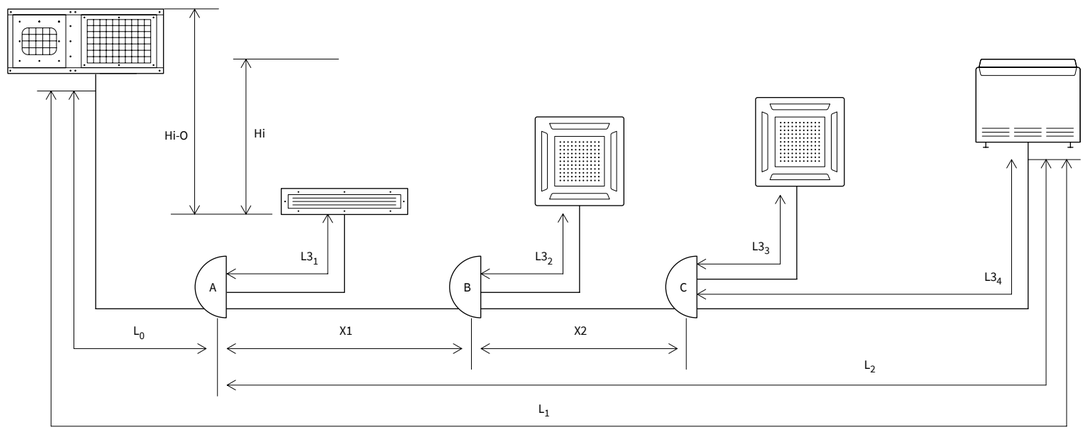


RASC-8~10HNPE — 75-120 %



Maximum linear length of refrigerant piping

RASC-4-10HNPE



			4 HP	5 HP	6 HP	8 HP	10 HP
Maximum piping length between the outdoor unit and the furthest indoor unit (L1)	Effective length	m	75	75	75	100	100
	Equivalent length	m	95	95	95	125	125
Maximum pipe length from the first multi-kit to the furthest indoor unit (L2)			30	30	30	40	40
Maximum pipe length between multi-kit and indoor unit (L3)			10	10	10	15	15
Maximum outdoor unit/indoor unit height difference (Hi)	Highest outdoor unit	m	30	30	30	30	30
	Lowest outdoor unit	m	20	20	20	20	20
Maximum indoor unit/indoor unit height difference (Hi)			10	10	10	10	10
Maximum total length (L1+ L3$_1$ + L3$_2$ + L3$_3$)			95	95	95	100	145

– For other distribution types that do not require headers, contact the engineering department

Refrigerant pipe and multi-kit dimensions

Main pipe diameters

Outdoor unit	Liquid	Gas
RASC-4HNPE	3/8"	5/8"
RASC-5HNPE	3/8"	5/8"
RASC-6HNPE	3/8"	5/8"
RASC-8HNPE	3/8"*	1"
RASC-10HNPE	1/2"	1"

* If the pipe length between unit RASC and the furthest indoor unit is greater than 70m, use a 1/2" liquid line.

Diameters between multi-kit and indoor unit

	Piping diameters	
Indoor unit	Liquid	Gas
0.8 - 1.5 HP	1/4"	1/2"
1.8 - 2.0 HP	1/4"	5/8"
2.3 - 6.0 HP	3/8"	5/8"
8 HP	3/8"	3/4"
10 HP	3/8"	7/8"

Multi-kits

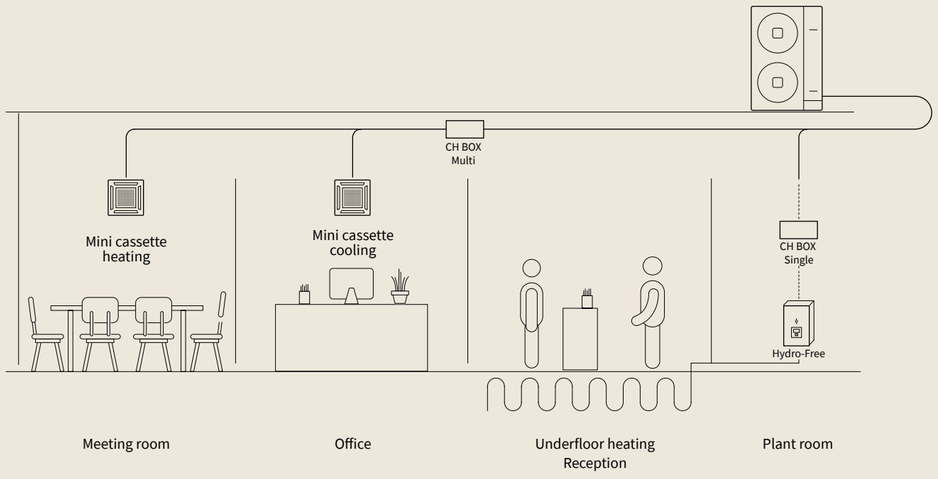
Outdoor unit	Multi-kits
RASC-4HNPE	E-102SN4
RASC-5HNPE	E-102SN4
RASC-6HNPE	E-102SN4
RASC-8HNPE	E-162SN4
RASC-10HNPE	E-162SN4

Multi-kits: splitters
E-102SN4
E-162SN4

Benefits of the Set Free Mini S & L range

NEW

1 Create the perfect environment



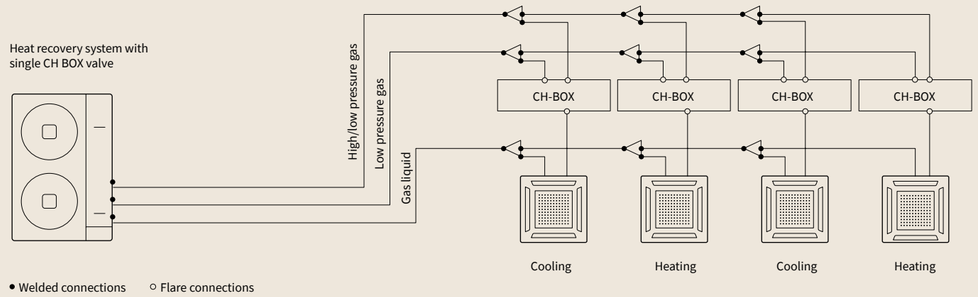
When used in heat recovery systems, the Set Free Mini S & L units make it possible to achieve more efficient operation, guaranteeing heat transfer from one room to another, thus generating significant reductions in energy consumption.

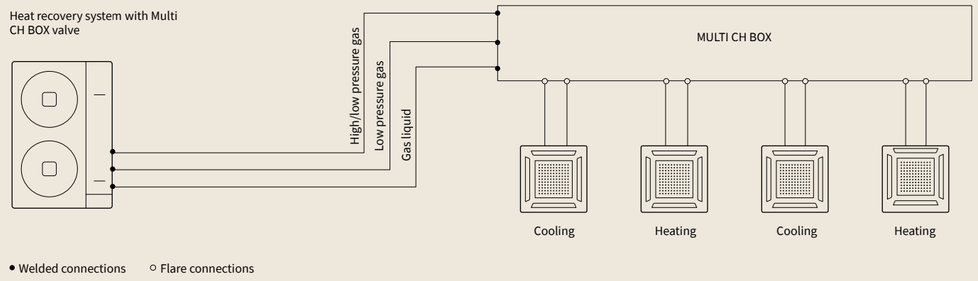
2 Up to 39 indoor units connectable

Outdoor units capacity (HP)	4	5	6	8	10	12
Maximum number of connectable indoor units	13	16	18	26	32	39

Buildings often contain a large number of small rooms that result in the need to control minimal thermal loads. Our Set Free Mini S & L outdoor units can meet any requirement thanks to the possibility to connect up to 39 0.4 HP (1.1 kW) indoor units.

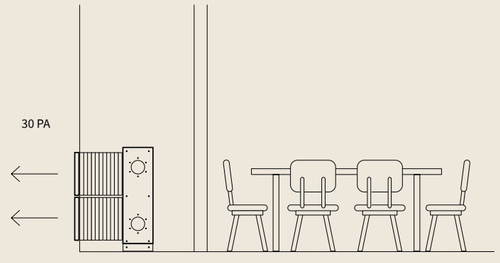
3 New solutions for front discharge systems





Thanks to the vertical layout of the heat exchanger, Hitachi's new Set Free Mini S & L systems can be installed in confined spaces. The first heat recovery solution for simultaneous heating and cooling of interior spaces with power from 8HP to 12HP.

4 Power in the air



The new Set Free Mini S & L outdoor units are designed for installation also in indoor spaces; in fact, the two 30 Pa DC Inverter fans with which they are equipped are designed to provide adequate air discharge. Correct ventilation must be guaranteed by equipping the plant room with suitably sized air inlet and air outlet grilles.

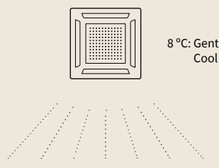
Benefits of the Set Free Mini S & L range

NEW

5 GENTLECOOL: an exclusive HITACHI function

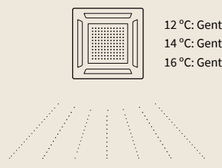
ORIGINAL

Activation of the function from programmer-controller PC-ARFP1E



8 °C: GentleCool - Off
Cool air

Possible discomfort



12 °C: GentleCool - Low
14 °C: GentleCool - Med
16 °C: GentleCool - High

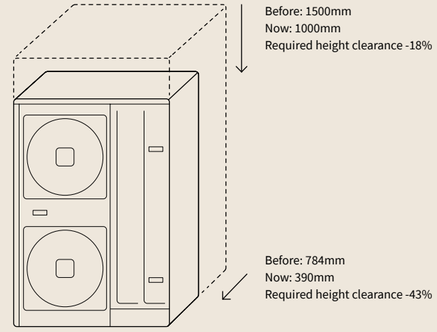
Comfortable temperature

Select the most comfortable ambient temperature for your preference, also preventing the creation of excessively cool temperatures. It may occur that in order to cool rooms rapidly, the temperature of air supplied by the indoor unit falls below comfortable levels. Today, thanks to the new PC-ARFP1E wired control, you can select the most appropriate comfort level for your needs.

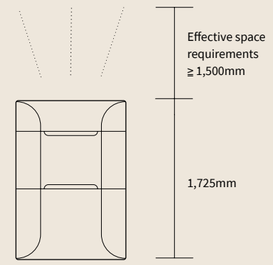
6 Compact

Comparison with 12 HP (33.5 kW) unit

Footprint - 43%

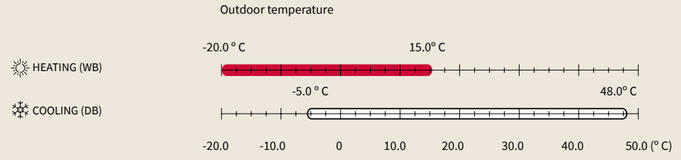


Clearance above the unit - 18%



Thanks to the ultra-compact dimensions, all the outdoor units can be installed in confined areas lacking sufficient space for conventional tower type units.

7 Operation in any condition



We live in a world in which climatic conditions can change abruptly, but
Set Free Mini outdoor units are designed to guarantee high comfort levels in all types of climate, from low to high temperatures.

Set Free Mini S & L

Compact temperature control for all types of installation



Air expulsion and maximum low noise

The fan design with 3-blade propeller assures exceptionally low noise operation. Sideflow technology makes it possible to optimise air distribution with significant energy savings.

Continuous comfort during the heating season

The IVX series incorporates two important functions that limit defrost cycles and increase efficiency of the system, also in extreme ambient temperature conditions. The system performs "smart" defrosting, adapting the defrost period in accordance with historic data and thereby extending the heating period and guaranteeing continuity of comfort inside the building. In addition to this function, hot gas injection on the outdoor heat exchanger limits the formation of ice, further reducing the defrost time. (Fig. 1)

High efficiency Scroll Compressor

Hitachi designed the DC Inverter Scroll compressor to increase efficiency and reliability while reducing energy consumption and achieving higher efficiency at partial loads and at low speed. This low weight and compact system provides the maximum savings in intermediate seasons

Simplified installation

The multiple installation possibilities, with multi-kits and headers, make it possible to meet all requirements and to construct complex distribution systems.

Easily transportable

The new unit, 30% more compact, can be lifted using a standard hoist, with the low weight and reduced dimensions allowing simplified handling with additional savings in terms of time and personnel.

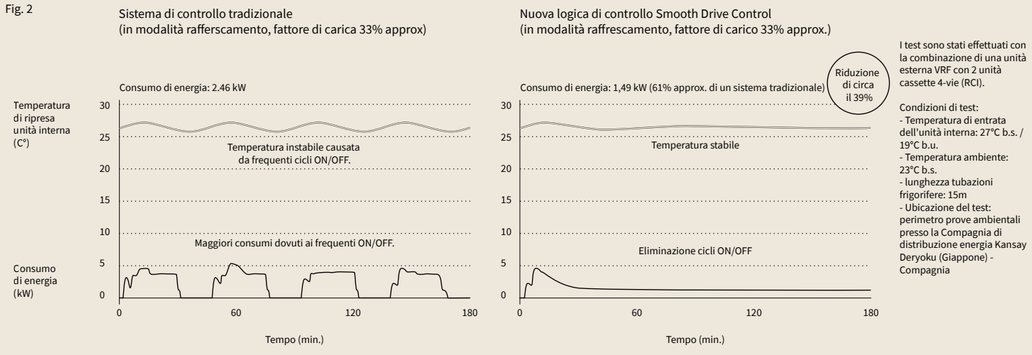
Smooth Drive Control

VRF technology is characterised by the sophisticated cooling capacity control through operation of an Inverter driven compressor that assures optimal comfort and efficiency. This performance is achieved thanks to the capacity control in 0.1Hz steps, resulting in significant energy savings, especially at partial loads. Tests have shown that savings can be as much as 39%. (Fig. 2)

Fig. 1



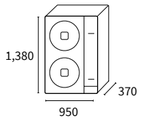
Fig. 2



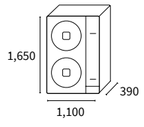
I test sono stati effettuati con la combinazione di una unità esterna VRF con 2 unità cassette 4-vie (RCI).

Condizioni di test:
- Temperatura di entrata dell'unità interna: 27°C b.s. / 19°C b.u.
- Temperatura ambiente: 23°C b.s.
- lunghezza tubazioni frigorifere: 15m
- Ubicazione del test: perimetro prove ambientali presso la Compagnia di distribuzione energia Kansay Deryoku (Giappone) - Compagnia

Outdoor units



RAS-4FS(V)NME
RAS-5FS(V)NME
RAS-6FS(V)NME

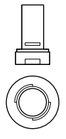


RAS-8FSXNME
RAS-10FSXNME
RAS-12FSXNME

Set Free Mini S & L

Outdoor unit			RAS-4FS(V)NME	RAS-5FS(V)NME	RAS-6FS(V)NME	RAS-8FSXNME	RAS-10FSXNME	RAS-12FSXNME
Maximum number of connectable indoor units			13	16	18	26	32	39
Capacity ratio *		%	50-130	50-130	50-130	50-130	50-130	50-130
Capacity	Cooling	kW	12.1	14.00	16.00	22.4	28	33.5
	Heating	kW	12.5	16.00	18.00	25	31.5	37.5
Consumption	Cooling (nom) Single/Three-phase	kW	2.97/2.97	3.26/3.26	4.35/4.35	-/5.68	-/7.27	-/9.36
	Heating (nom) Single/Three-phase	kW	2.89/2.89	3.57/3.57	4.30/4.30	-/5.26	-/6.89	-/9.15
EER	Single-phase		4.07	4.29	3.68	-	-	-
	Three-phase		4.07	4.29	3.68	3.60	3.85	3.58
COP	Single-phase		4.33	4.48	4.19	-	-	-
	Three-phase		4.33	4.48	4.19	4.70	4.57	4.10
SEER	Single-phase		6.67	6.64	6.40	-	-	-
	Three-phase		6.61	6.61	6.37	7.59	8.31	8.26
SCOP	Single-phase		4.15	4.40	4.25	-	-	-
	Three-phase		4.15	4.40	4.25	5.62	4.72	4.66
Electrical power	Single-phase		1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	-	-	-
	Three-phase		3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
Maximum consumption	Single-phase	A	28.5	28.5	28.5	-	-	-
	Three-phase	A	16	16	16	18	19	23
Shielded bus cable section		mm²	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75
Working range	Cooling (DB)	°C	-5 ÷ 48	-5 ÷ 48	-5 ÷ 48	-5 ÷ 48	-5 ÷ 48	-5 ÷ 48
	Heating (WB)	°C	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15
Air flow rate	Cooling	m³/h	8,700	8,700	8,700	9,900	11,100	11,100
	Heating	m³/h	8,700	8,700	8,700	9,900	11,100	11,100
Sound pressure	Cooling	dB(A)	52	52	53	55	59	60
Sound power		dB(A)	69	69	70	76	77	77
No. of fans			2	2	2	2	2	2
Refrigerant piping diameter (external Φ)	Liquid-gas	inches	3/8-5/8	3/8-5/8	3/8-5/8	3/8-3/4-5/8	3/8-7/8-3/4	1/2-1-7/8
Maximum piping length		m	180	180	180	500	500	500
Maximum level difference (highest OU/lowest OU)		m	30/30	30/30	30/30	50/40	50/40	50/40
Compressor			DC Inverter Rotary	DC Inverter Rotary	DC Inverter Rotary	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Refrigerant			R410A	R410A	R410A	R410A	R410A	R410A
Initial refrigerant charge		kg (m)	3.7	3.7	3.7	4.2	6	6
Dimensions (H x W x D)		mm	1.380x950x370	1.380x950x370	1.380x950x370	1.650x1.100x390	1.650x1.100x390	1.650x1.100x390
Weight	Single-phase	kg	114	114	118	-	-	-
	Three-phase	kg	115	115	119	188	194	196
Bonus	Single-phase	Ecobonus	✓	✓	✓	-	-	-
		Thermal Balance	✓	✓	✓	-	-	-
	Three-phase	Ecobonus	✓	✓	✓	✓	✓	✓
		Thermal Balance	✓	✓	✓	✓	✓	✓

Compatible controls and accessories:



Drain pipe connection

DBS-26



Optional discharge grille

AG-335A

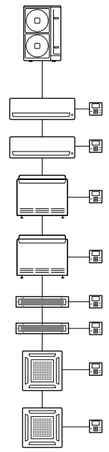
Combinations table

	RAS-4FS(V)NME	RAS-5FS(V)NME	RAS-6FS(V)NME	RAS-FSXNME	RAS-FSXNME	RAS-FSXNME
Maximum number of connectable indoor units	13 * (6)	16 * (7)	18 * (7)	26 (8)	32 (10)	39 (10)
Capacity ratio *	50-130	50-130	50-130	50-130	50-130	50-130
Size of the smallest connectable indoor unit	0.4	0.4	0.4	0.4	0.4	0.4

* Maximum number of connectable units when the indoor units are models RPK-FN3M and RPK-FSNH3M with the EXV EV-1.5N1 valve kit

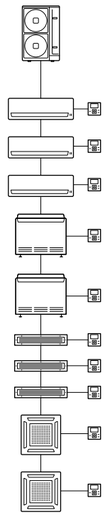
RAS-FS(V)NME; RAS-8-FSXNME — 50-130%

RAS-FS(V)NME



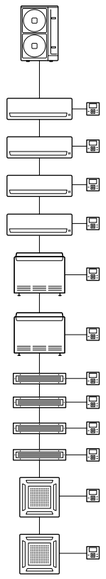
Up to 13 units

RAS-FS(V)NME



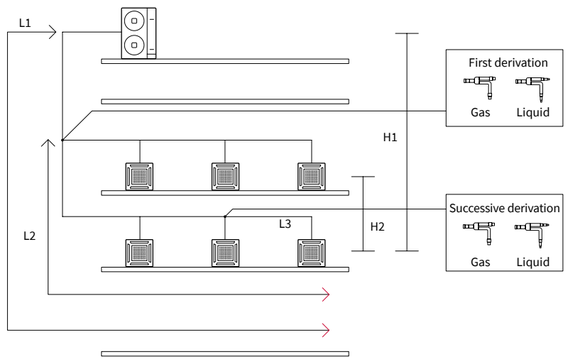
Up to 16 units

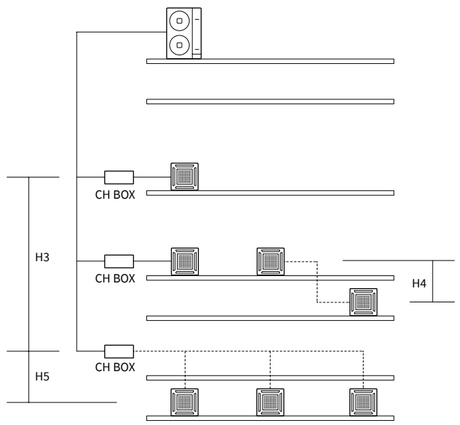
RAS-FS(V)NME



Up to 18 units

Maximum refrigerant pipes length RAS-4/6FS(V)NME - RAS 8/12FSXNME





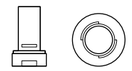
Maximum refrigerant pipes length

			RAS-4÷6FS(V)NME	RAS-8÷12FSXNME (Heat pump)	RAS-8÷12FSXNME (Heat recovery)
Maximum total length			180	180	500
Maximum pipe length between the outdoor unit and the furthest indoor unit		L1	85	125	125
Maximum pipe length between first multi-kit and each indoor unit		L2	40	90	90
Maximum pipe length between multi-kit and indoor unit		L3	15	40	40
Maximum length between CH BOX and indoor unit			-	-	40
Maximum outdoor unit/indoor unit height difference	Highest outdoor unit	H1	30	50	50
	Lowest outdoor unit		30	40	40
Maximum indoor unit/indoor unit height difference		H2	15	15	15
CH BOX maximum height difference		H3	-	-	15
Maximum height difference of indoor units connected to the same CH BOX		H4	-	-	4
Maximum indoor unit/CH BOX height difference		H5	-	-	15

Accessories for outdoor units
Condensate drain

SET FREE Mini S & L

Code	HP	Quantity
DBS-26	4 ÷ 6	1
	8 ÷ 12	2



2-pipe multi-kits

Code
E-102SN4
E-162SN4
E-242SN3
E-302SN3
MW-NP2682A3

2-pipe header

Code
MH-84AN1
MH-108AN

3-pipe multi-kits

Code
E-102SN4
E-162SN4
E-242SN3
E-302SN3
MW-NP2682A3

3-pipe header

Code
MH-108XN

CH-BOX

Type	Individual CH BOX		Multiple CH BOX			
Model	CH-AP160SSX	CH-AP280SSX	CH-AP04MSSX	CH-AP08MSSX	CH-AP12MSSX	CH-AP16MSSX
Total capacity (kW)	16	28	44.8	85	85	85
Number of independent outputs	1	1	4	8	12	16
Maximum capacity per independent output (kW)			16	16	16	16
Maximum number of connectable units per output	7	8	6	6	6	6
Dimensions (H x W x D) (mm)	191 x 301 x 214	191 x 301 x 214	260 x 303 x 352	260 x 543 x 352	260 x 783 x 352	260 x 1,023 x 352
Weight (kg)	6.0	6.0	14.0	25.0	36.0	47.0

Multiple CH-Box



CH-AP04MSSX



CH-AP08MSSX



CH-AP12MSSX



CH-AP16MSSX

Individual CH-Box

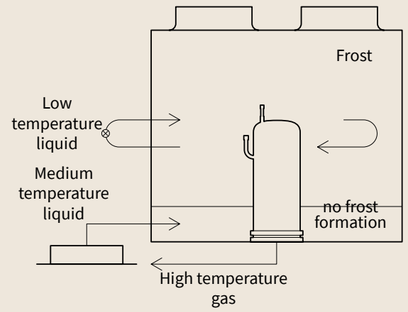


CH-AP160SSX
CH-AP280SSX

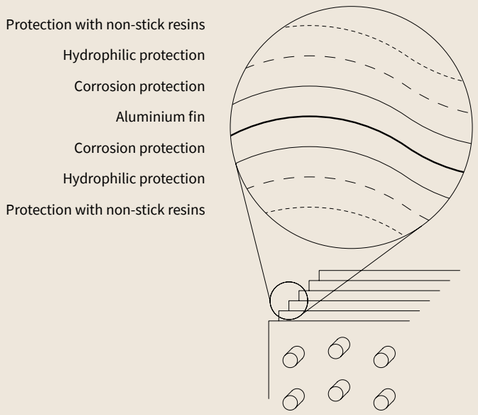
Characteristics
Set Free Sigma

1 Comfort in heating mode guaranteed also during defrost cycles

Thanks to the new technology developed for Set Free Sigma systems, room temperature can drop by no more than 0.1 °C during defrost cycles, hence below the level of perception of occupants. This result is obtained through management of the electronics that control cooling operation, thanks to the heat exchanger that is partially subjected to the hot gas flow thus avoiding the formation of ice on the exchanger surface, automated management of defrost cycles, alternated across several models, and stopping of indoor unit fans during defrosting.
This ensures optimal comfort levels at all times.

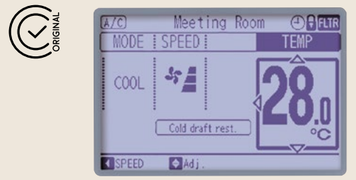


2 Protection against weathering

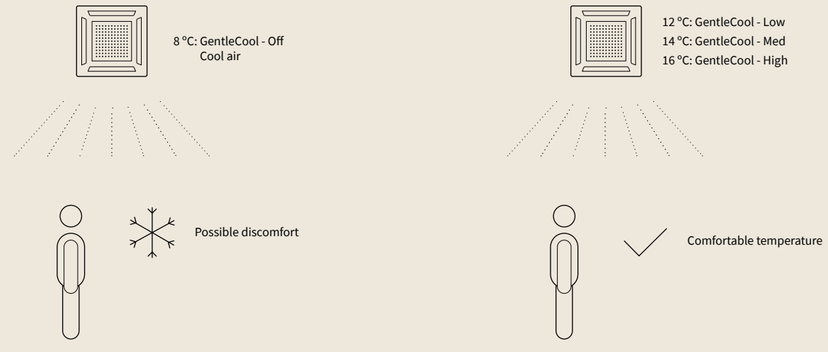


If the place of installation is near the sea or industrial sites with high levels of air pollution, the 3-coat protection of the heat exchanger provides the system with an extended working life.
The protection is particularly efficient in the presence of corrosive atmospheres typically associated with salt spray and industrial areas.

3 GENTLECOOL: an exclusive HITACHI function



Activation of the function from programmer-controller PC-ARFP1E

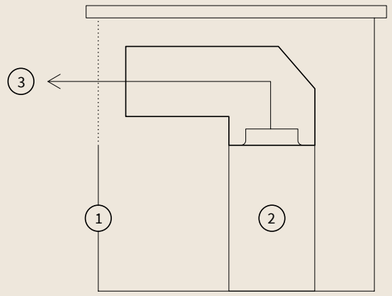


Select the most comfortable ambient temperature for your preference, also preventing the creation of excessively cool temperatures. It may occur that in order to cool rooms rapidly, the temperature of air supplied by the indoor unit falls below comfortable levels. Today, thanks to the new PC-ARFP1E wired control, you can select the most appropriate comfort level for your needs.

Characteristics
Set Free Sigma

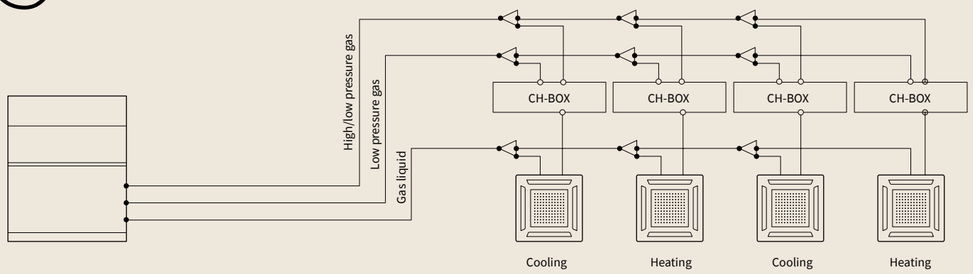
4 Installation flexibility

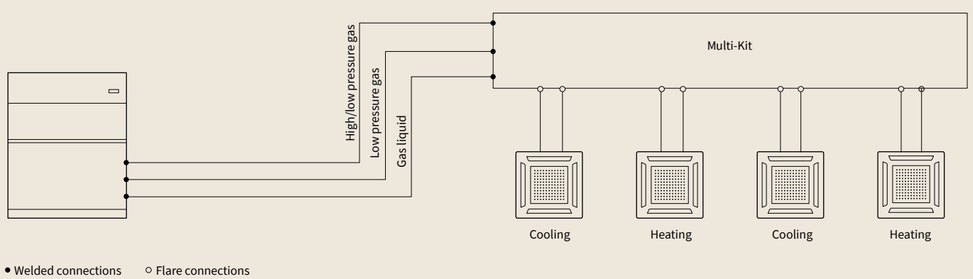
1. Wall-mounted
2. Outdoor unit
3. Duct



The systems can now be installed indoors, maintaining correct ventilation and air recirculation.
Static pressure is adaptable to 0, 30, 60 or 80 Pa.

5 Can be adapted to match any design requirement

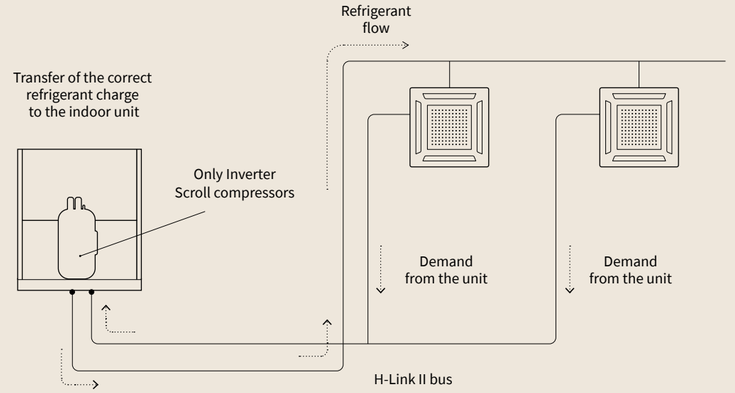




Wide range of changeover boxes, from single modules to multi-kits with the facility to connect up to 16 independent indoor units. The most compact and lightweight range on the market.

Installation operations are easy and fast:
- Simplified refrigerant connections with fewer welded fittings.
- Simplified condensate drain when using 4-way cassettes and duct systems.
- Reduced installation times and costs.

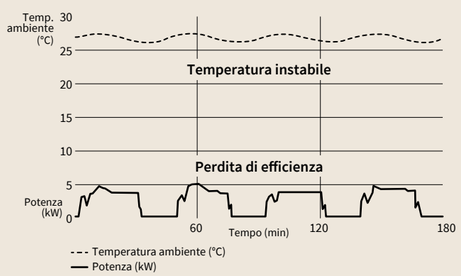
6 Function Smooth Drive Control



Correct refrigerant charge calculation

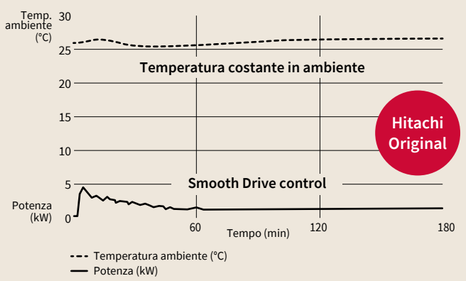
Comparison of consumption and ambient temperature

Operation at low load with repeated on/off cycles



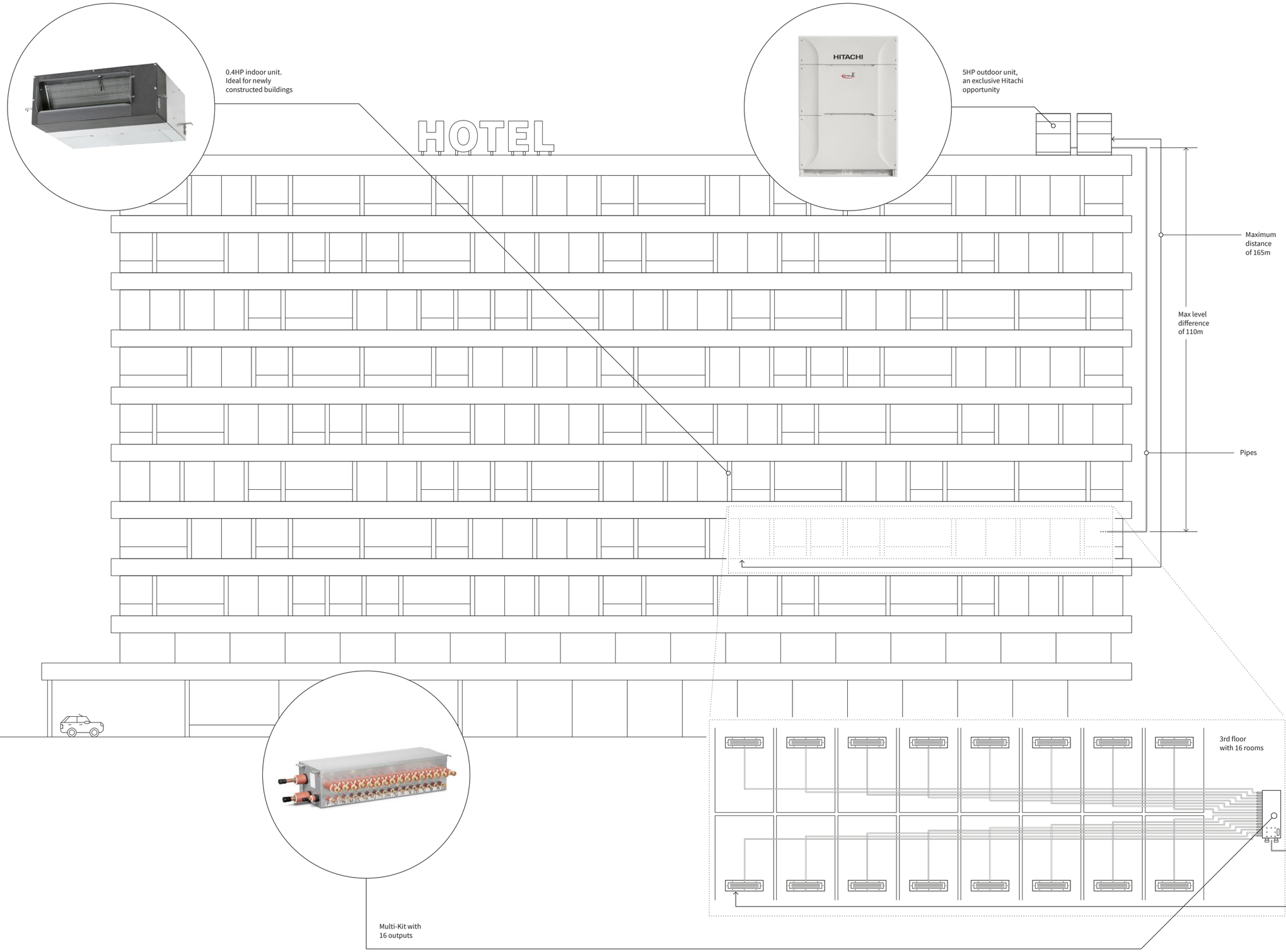
Previous range

-40% electrical power consumption



New SIGMA

The outdoor unit calculates the quantity of refrigerant needed to meet the demand of each indoor unit and sends the precise quantity to the individual unit; it also adapts the compressor speed in relation to changed operating conditions every 30 seconds. Each indoor unit receives precisely the quantity of refrigerant required, thus ensuring smooth and continuous operation to achieve constant levels of room comfort.
Capable of modulating its output at very low speeds, the compressor will no longer be subject to repeated on/off cycles.


0.4HP indoor unit.
Ideal for newly
constructed buildings
HOTEL
HITACHI
5HP outdoor unit,
an exclusive Hitachi
opportunity
Maximum
distance
of 165m
Max level
difference
of 110m
Pipes
3rd floor
with 16 rooms
Pipes
Multi-Kit with
16 outputs

Set Free Sigma Premium

The solution for the highest prestige applications with the utmost efficiency



The VRF for tall buildings

This model allows level differences of up to 110m between outdoor unit and indoor units.

Wide range of 2 and 3 pipe systems

Hitachi is the only company on the market to offer 5HP and 6 HP (14 kW and 16kW) power outputs in a high efficiency format.

No operating limits

The high efficiency series provides cooling with outdoor temperatures of up to 52 °C.

Top of class energy efficiency

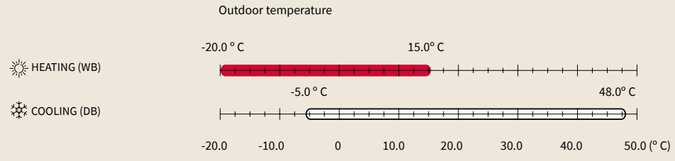
Together with the new compressor, designed with careful attention paid to partial loads, the unit guarantees very high energy efficiency. SEER up to 8.33 - SCOP up to 5.06

The widest range on the market

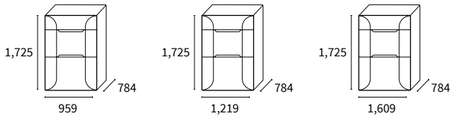
- From the smallest individual module on the market, with power of just 5HP, up to the most powerful combination with an output of 72HP.

- The systems maintain the exclusive Hitachi concept that envisages the same models for heat pump or heat recovery applications.

Fig. 1



Outdoor units (single modules)



RAS - 5FSXNPE
RAS - 6FSXNPE

RAS - 8FSXNPE
RAS - 10FSXNPE
RAS - 12FSXNPE
RAS - 14FSXNPE

RAS - 16FSXNPE
RAS - 18FSXNPE

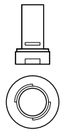
Set Free Sigma Premium

Outdoor unit			RAS - 5FSXNPE	RAS - 6FSXNPE	RAS - 8FSXNPE	RAS - 10FSXNPE	RAS - 12FSXNPE	RAS - 14FSXNPE	RAS - 16FSXNPE	RAS - 18FSXNPE
Basic modules combination										
Maximum number of connectable indoor units			16	19	26	32	39	45	52	58
Capacity ratio *		%	50-150	50-150	50-150	50-150	50-150	50-150	50-150	50-150
Capacity	Cooling (nom)	kW	14.00	16.00	22.40	28.00	33.50	40.00	45.00	50.00
	Heating (nom)	kW	16.00	18.00	25.00	31.50	37.50	45.00	50.00	56.00
Consumption	Cooling (nom)	kW	2.90	3.37	5.05	6.18	8.44	11.53	11.51	12.79
	Heating (nom)	kW	2.80	3.52	5.08	6.65	8.01	10.84	12.92	14.97
Shielded bus cable section		mm²	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75
Electrical power			3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
EER			4.82	4.75	4.44	4.53	3.97	3.47	3.91	3.91
COP			5.72	5.12	4.92	4.74	4.68	4.15	3.87	3.74
SEER			8.33	8.00	7.97	8.06	7.91	7.69	7.76	7.60
SCOP			5.06	4.58	4.55	4.73	4.81	4.63	4.84	4.81
Maximum consumption		A	11.5	12.0	15.0	19.0	23.0	28.0	33.0	34.5
Working range	Cooling (DB)	°C	-10 ÷ 52	-10 ÷ 52	-10 ÷ 52	-10 ÷ 52	-10 ÷ 52	-10 ÷ 52	-10 ÷ 52	-10 ÷ 52
	Heating (WB)	°C	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15
Air flow rate		m³/h	9,000	10,200	11,100	13,140	13,140	14,580	19,560	21,720
Available static pressure		Pa	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80
No. of fans			1	1	2	2	2	2	2	2
Sound pressure		dB(A)	54	56	55	59	60	62	65	65
Sound power		dB(A)	75	78	77	82	83	85	85	86
Refrigerant piping diameter (external Φ)	Liquid - low gas - high gas	inches	3/8-5/8-1/2	3/8-3/4-5/8	3/8-3/4-5/8	3/8-7/8-3/4	1/2-1-7/8	1/2-1-7/8	1/2-7/8-7/8	5/8-7/8-7/8
Compressor type and number			1 Inverter Scroll	1 Inverter Scroll	1 Inverter Scroll	1 Inverter Scroll	1 Inverter Scroll	1 Inverter Scroll	2 Inverter Scroll	2 Inverter Scroll
Refrigerant			R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Initial refrigerant charge		kg (m)	4.70	5.00	8.50	8.50	9.30	9.30	10.00	10.60
Dimensions (H x W x D)		mm	1.725x959x784	1.725x959x784	1.725x1.219x784	1.725x1.219x784	1.725x1.219x784	1.725x1.219x784	1,725x1,609×784	1,725x1,609×784
Weight		kg	210.0	210.0	274.0	278.0	282.0	297.0	369.0	384.0
Bonus	Ecobonus		✓	✓	✓	✓	✓	✓	✓	✓
	Thermal Balance		✓	✓	✓	✓	✓	✓	✓	✓

Outdoor unit			RAS-20FSXNPE	RAS-22FSXNPE	RAS-24FSXNPE	RAS-26FSXNPE	RAS-28FSXNPE	RAS-30FSXNPE	RAS-32FSXNPE	RAS-34FSXNPE
Basic modules combination			RAS-10FSXNPE RAS-10FSXNPE	RAS-10FSXNPE RAS-12FSXNPE	RAS-12FSXNPE RAS-12FSXNPE	RAS-10FSXNPE RAS-16FSXNPE	RAS-12FSXNPE RAS-16FSXNPE	RAS-12FSXNPE RAS-18FSXNPE	RAS-14FSXNPE RAS-18FSXNPE	RAS-16FSXNPE RAS-18FSXNPE
Maximum number of connectable indoor units			64	64	64	64	64	64	64	64
Capacity ratio *		%	50-150	50-150	50-150	50-150	50-150	50-150	50-150	50-150
Capacity	Cooling (nom)	kW	56.00	61.50	67.00	73.00	77.50	85.00	90.00	95.00
	Heating (nom)	kW	63.00	69.00	77.50	82.50	90.00	95.00	100.00	106.00
Consumption	Cooling (nom)	kW	12.36	14.62	16.88	17.69	19.69	21.61	24.32	24.30
	Heating (nom)	kW	13.29	14.66	16.56	19.81	21.53	23.35	25.56	27.89
Shielded bus cable section		mm²	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75
Electrical power			3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
EER			4.53	4.21	3.97	4.13	3.94	3.93	3.70	3.91
COP			4.74	4.71	4.68	4.17	4.18	4.07	3.91	3.80
SEER			8.06	7.97	7.91	7.92	7.71	7.43	7.62	7.83
SCOP			4.76	4.76	4.81	4.78	4.82	4.71	4.63	4.72
Maximum consumption		A	38.0	42.0	46.0	51.5	55.5	57.0	62.0	67.0
Working range	Cooling (DB)	°C	-10 ÷ 52	-10 ÷ 52	-10 ÷ 52	-10 ÷ 52	-10 ÷ 52	-10 ÷ 52	-10 ÷ 52	-10 ÷ 52
	Heating (WB)	°C	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15
Air flow rate		m³/h	26,280	26,280	26,280	32,700	32,700	34,860	36,300	41,280
Available static pressure		Pa	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80
No. of fans			4	4	4	4	4	4	4	4
Sound pressure		dB(A)	62	62.5	63	66	66	66	67	68
Sound power		dB(A)	85	86	86	87	87	88	89	89
Refrigerant piping diameter (external Φ)	Liquid - low gas - high gas	inches	5/8-7/8-7/8	5/8-7/8-1	5/8-7/8-1	3/4-1 1/4-1	3/4-1 1/4-1 1/8	3/4-1 1/4-1 1/8	3/4-1 1/4-1 1/8	3/4-1 1/4-1 1/8
Compressor type and number			2 Inverter Scroll	2 Inverter Scroll	2 Inverter Scroll	3 Inverter Scroll	3 Inverter Scroll	3 Inverter Scroll	3 Inverter Scroll	4 Inverter Scroll
Refrigerant			R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Initial refrigerant charge		kg (m)	17.00	17.80	18.60	18.50	19.30	19.90	19.90	20.60
Dimensions (H x W x D)		mm	1,725x2,458×784	1,725x2,458×784	1,725x2,458×784	1,725x2,848×784	1,725x2,848×784	1,725x2,848×784	1,725x2,848×784	1,725x3,238×784
Weight		kg	556.0	560.0	564.0	647.0	651.0	666.0	681.0	753.0
Bonus	Ecobonus		✓	✓	✓	✓	✓	✓	✓	✓
	Thermal Balance		✓	✓	✓	✓	✓	✓	✓	✓

* Use the technical catalogues and the selection software to check the capacity ratio in accordance with the specific combination

Compatible controls and accessories:



FSXNPE drain pipe connection

DBS-TP10A

Outdoor unit			RAS-36FSXNPE	RAS-38FSXNPE	RAS-40FSXNPE	RAS-42FSXNPE	RAS-44FSXNPE	RAS-46FSXNPE	RAS-48FSXNPE	RAS-50FSXNPE
Basic modules combination			RAS-18FSXNPE RAS-18FSXNPE	RAS-12FSXNPE RAS-12FSXNPE RAS-14FSXNPE	RAS-12FSXNPE RAS-14FSXNPE RAS-14FSXNPE	RAS-14FSXNPE RAS-14FSXNPE RAS-14FSXNPE	RAS-12FSXNPE RAS-14FSXNPE RAS-18FSXNPE	RAS-14FSXNPE RAS-14FSXNPE RAS-18FSXNPE	RAS-12FSXNPE RAS-18FSXNPE RAS-18FSXNPE	RAS-14FSXNPE RAS-18FSXNPE RAS-18FSXNPE
Maximum number of connectable indoor units			64	64	64	64	64	64	64	64
Capacity ratio *		%	50-150	50-150	50-150	50-150	50-150	50-150	50-150	50-150
Capacity	Cooling (nom)	kW	100.00	106.00	112.00	118.00	122.00	128.00	136.00	140.00
	Heating (nom)	kW	112.00	118.00	125.00	132.00	140.00	145.00	150.00	155.00
Consumption	Cooling (nom)	kW	25.58	28.14	31.08	34.01	32.36	35.29	34.65	37.10
	Heating (nom)	kW	29.95	26.42	29.12	31.81	34.20	36.41	38.09	40.27
Shielded bus cable section		mm²	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75
Electrical power			3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
EER			3.91	3.77	3.60	3.47	3.77	3.63	3.92	3.77
COP			3.74	4.47	4.29	4.15	4.09	3.98	3.94	3.85
SEER			7.60	7.67	7.67	7.67	7.64	7.64	7.61	7.61
SCOP			4.64	4.74	4.68	4.63	4.68	4.63	4.68	4.64
Maximum consumption		A	68.5	73.5	78.5	83.0	85.0	89.5	91.0	96.0
Working range	Cooling (DB)	°C	-10 ÷ 52	-10 ÷ 52	-10 ÷ 52	-10 ÷ 52	-10 ÷ 52	-10 ÷ 52	-10 ÷ 52	-10 ÷ 52
	Heating (WB)	°C	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15
Air flow rate		m³/h	43,440	40,860	42,300	43,740	49,440	50,880	56,580	58,020
Available static pressure		Pa	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80
No. of fans			4	6	6	6	6	6	6	6
Sound pressure		dB(A)	68	65.5	66	67	67.5	68	68.5	69
Sound power		dB(A)	89	89	89	90	90	90	90	90
Refrigerant piping diameter (external Φ)	Liquid - low gas - high gas	inches	3/4-1 1/2-1 1/8	3/4-1 1/2-1 1/4	3/4-1 1/2-1 1/4	3/4-1 1/2-1 1/4	3/4-1 1/2-1 1/4	3/4-1 1/2-1 1/4	3/4-1 1/2-1 1/4	3/4-1 1/2-1 1/4
Compressor type and number			4 Inverter Scroll	3 Inverter Scroll	3 Inverter Scroll	3 Inverter Scroll	4 Inverter Scroll	4 Inverter Scroll	5 Inverter Scroll	5 Inverter Scroll
Refrigerant			R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Initial refrigerant charge		kg (m)	21.20	27.90	27.90	27.90	29.20	29.20	30.50	30.50
Dimensions (H x W x D)		mm	1,725x3,238×784	1.725x3.697x784	1.725x3.697x784	1.725x3.697x784	1.725x4.087x784	1.725x4.087x784	1.725x4.477x784	1.725x4.477x784
Weight		kg	768.0	861.0	876.0	891.0	863.0	978.0	1,050.0	1,065.0
Bonus	Ecobonus		✓	✓	✓	✓	✓	✓	✓	✓
	Thermal Balance		✓	✓	✓	✓	✓	✓	✓	✓

Outdoor unit			RAS-52FSXNPE	RAS-54FSXNPE	RAS-56FSXNPE	RAS-58FSXNPE	RAS-60FSXNPE	RAS-62FSXNPE	RAS-64FSXNPE	RAS-66FSXNPE
Basic modules combination			RAS-16FSXNPE RAS-18FSXNPE RAS-18FSXNPE	RAS-18FSXNPE RAS-18FSXNPE RAS-18FSXNPE	RAS-12FSXNPE RAS-12FSXNPE RAS-14FSXNPE	RAS-12FSXNPE RAS-14FSXNPE RAS-14FSXNPE	RAS-14FSXNPE RAS-14FSXNPE RAS-16FSXNPE	RAS-14FSXNPE RAS-16FSXNPE RAS-16FSXNPE	RAS-16FSXNPE RAS-16FSXNPE RAS-16FSXNPE	RAS-16FSXNPE RAS-16FSXNPE RAS-16FSXNPE
Maximum number of connectable indoor units			64	64	64	64	64	64	64	64
Capacity ratio *		%	50-150	50-150	50-130	50-130	50-130	50-130	50-130	50-130
Capacity	Cooling (nom)	kW	145.00	150.00	157.00	162.00	167.00	174.00	179.00	184.00
	Heating (nom)	kW	160.00	165.00	176.00	181.00	188.00	196.00	202.00	207.00
Consumption	Cooling (nom)	kW	37.08	38.36	41.19	43.87	45.26	45.79	45.78	47.06
	Heating (nom)	kW	42.34	44.12	41.84	44.06	47.03	49.86	52.20	53.99
Shielded bus cable section		mm²	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75
Electrical power			3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
EER			3.91	3.91	3.81	3.69	3.69	3.80	3.91	3.91
COP			3.78	3.74	4.21	4.11	4.00	3.93	3.87	3.83
SEER			7.75	7.60	7.65	7.64	7.91	8.03	8.15	7.98
SCOP			4.70	4.64	4.70	4.67	4.73	4.78	4.83	4.77
Maximum consumption		A	101.0	103.0	109.0	114.0	122.0	127.0	132.0	134.0
Working range	Cooling (DB)	°C	-10 ÷ 52	-10 ÷ 52	-10 ÷ 52	-10 ÷ 52	-10 ÷ 52	-10 ÷ 52	-10 ÷ 52	-10 ÷ 52
	Heating (WB)	°C	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15
Air flow rate		m³/h	63,000	65,160	62,580	64,020	68,280	73,260	78,240	80,400
Available static pressure		Pa	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80
No. of fans			6	6	8	8	8	8	8	8
Sound pressure		dB(A)	70	70	68.5	68.5	70	70.5	71	71
Sound power		dB(A)	90	91	90	91	91	91	91	91
Refrigerant piping diameter (external Φ)	Liquid - low gas - high gas	inches	3/4-1 1/2-1 1/4	3/4-1 1/2-1 1/4	3/4-1 3/4	3/4-1 3/4	3/4-1 3/4	3/4-1 3/4	3/4-1 3/4	3/4-1 3/4
Compressor type and number			6 Inverter Scroll	6 Inverter Scroll	5 Inverter Scroll	5 Inverter Scroll	6 Inverter Scroll	7 Inverter Scroll	8 Inverter Scroll	8 Inverter Scroll
Refrigerant			R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Initial refrigerant charge		kg (m)	31.20	31.80	38.50	38.50	38.60	39.30	40.00	40.60
Dimensions (H x W x D)		mm	1,725x4,867×784	1,725x4,867×784	1.725x5.326x784	1.725x5.326x784	1.725x5.716x784	1,725x6,106×784	1,725x6,496×784	1,725x6,496×784
Weight		kg	1,137.0	1,152.0	1,245.0	1,260.0	1,332.0	1,404.0	1,476.0	1,491.0
Bonus	Ecobonus		✓	✓	✓	✓	✓	✓	✓	✓
	Thermal Balance		✓	✓	✓	✓	✓	✓	✓	✓

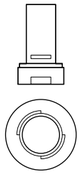
* Use the technical catalogues and the selection software to check the capacity ratio in accordance with the specific combination

Outdoor unit			RAS-68FSXNPE	RAS-70FSXNPE	RAS-72FSXNPE
Basic modules combination			RAS-16FSXNPE RAS-16FSXNPE RAS-18FSXNPE RAS-18FSXNPE	RAS-16FSXNPE RAS-18FSXNPE RAS-18FSXNPE RAS-18FSXNPE	RAS-18FSXNPE RAS-18FSXNPE RAS-18FSXNPE RAS-18FSXNPE
Maximum number of connectable indoor units			64	64	64
Capacity ratio *		%	50-130	50-130	50-130
Capacity	Cooling (nom)	kW	190.00	196.00	201.00
	Heating (nom)	kW	213.00	220.00	225.00
Consumption	Cooling (nom)	kW	48.59	50.13	51.41
	Heating (nom)	kW	56.05	58.37	60.16
Shielded bus cable section		mm²	2x0.75	2x0.75	2x0.75
Electrical power			3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
EER			3.91	3.91	3.91
COP			3.80	3.77	3.74
SEER			7.83	7.71	7.60
SCOP			4.72	4.68	4.64
Maximum consumption		A	135.0	137.0	138.0
Working range	Cooling (DB)	°C	-10 ÷ 52	-10 ÷ 52	-10 ÷ 52
	Heating (WB)	°C	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15
Air flow rate		m³/h	82,560	84,720	86,880
Available static pressure		Pa	30-60-80	30-60-80	30-60-80
No. of fans			8	8	8
Sound pressure		dB(A)	71	71	71
Sound power		dB(A)	92	91	92
Refrigerant piping diameter (external Φ)	Liquid-gas low-gas high	inches	7/8-1 3/4	7/8-1 3/4	7/8-1 3/4
Compressor type and number			8 Inverter Scroll	8 Inverter Scroll	8 Inverter Scroll
Refrigerant			R410A	R410A	R410A
Initial refrigerant charge		kg (m)	41.20	41.80	42.40
Dimensions (H x W x D)		mm	1,725x6,496×784	1,725x6,496×784	1,725x6,496×784
Weight		kg	1,506.0	1,521.0	1,536.0
Bonus	Ecobonus		✓	✓	✓
	Thermal Balance		✓	✓	✓

* Use the technical catalogues and the selection software to check the capacity ratio in accordance with the specific combination

SET FREE SIGMA PREMIUM FSXNPE

Code	HP	Quantity
DBS-TP10A	5 ÷ 14	1
	16 ÷ 24	2
	26 ÷ 32	3
	34 ÷ 36	4
	38 ÷ 42	3
	44 ÷ 46	4
	48 ÷ 50	5
	52 ÷ 54	6
	56 ÷ 58	5
	60	6
	62	7
	64 ÷ 72	8



Modules and multi-kits combination table

Outdoor unit		Combinations	Multi-kit system Heat pump	Multi-kit system Heat recovery
VRF Set Free SIGMA series FSXNPE Heat pump / Heat recovery	**RAS-5FSXNPE**	Basic module	—	—
	RAS-6FSXNPE	Basic module	—	—
	RAS-8FSXNPE	Basic module	—	—
	RAS-10FSXNPE	Basic module	—	—
	RAS-12FSXNPE	Basic module	—	—
	RAS-14FSXNPE	Basic module	—	—
	RAS-16FSXNPE	Basic module	—	—
	RAS-18FSXNPE	Basic module	—	—
	RAS-20FSXNPE	**RAS-10FSXNPE - RAS-10FSXNPE**	MC-20AN1	MC-20XN1
	RAS-22FSXNPE	**RAS-10FSXNPE - RAS-12FSXNPE**	MC-20AN1	MC-20XN1
	RAS-24FSXNPE	**RAS-12FSXNPE - RAS-12FSXNPE**	MC-20AN1	MC-20XN1
	RAS-26FSXNPE	**RAS-10FSXNPE - RAS-16FSXNPE**	MC-21AN1	MC-21XN1
	RAS-28FSXNPE	**RAS-12FSXNPE - RAS-16FSXNPE**	MC-21AN1	MC-21XN1
	RAS-30FSXNPE	**RAS-12FSXNPE - RAS-18FSXNPE**	MC-21AN1	MC-21XN1
	RAS-32FSXNPE	**RAS-14FSXNPE - RAS-18FSXNPE**	MC-21AN1	MC-21XN1
	RAS-34FSXNPE	**RAS-16FSXNPE - RAS-18FSXNPE**	MC-21AN1	MC-21XN1
	RAS-36FSXNPE	**RAS-18FSXNPE - RAS-18FSXNPE**	MC-21AN1	MC-21XN1
	RAS-38FSXNPE	**RAS-12FSXNPE - RAS-12FSXNPE - RAS-14FSXNPE**	MC-30AN1	MC-30XN1
	RAS-40FSXNPE	**RAS-12FSXNPE - RAS-14FSXNPE - RAS-14FSXNPE**	MC-30AN1	MC-30XN1
	RAS-42FSXNPE	**RAS-14FSXNPE - RAS-14FSXNPE - RAS-14FSXNPE**	MC-30AN1	MC-30XN1
	RAS-44FSXNPE	**RAS-12FSXNPE - RAS-14FSXNPE - RAS-18FSXNPE**	MC-30AN1	MC-30XN1
	RAS-46FSXNPE	**RAS-14FSXNPE - RAS-14FSXNPE - RAS-18FSXNPE**	MC-30AN1	MC-30XN1
	RAS-48FSXNPE	**RAS-12FSXNPE - RAS-18FSXNPE - RAS-18FSXNPE**	MC-30AN1	MC-30XN1
	RAS-50FSXNPE	**RAS-14FSXNPE - RAS-18FSXNPE - RAS-18FSXNPE**	MC-30AN1	MC-30XN1
	RAS-52FSXNPE	**RAS-16FSXNPE - RAS-18FSXNPE - RAS-18FSXNPE**	MC-30AN1	MC-30XN1
	RAS-54FSXNPE	**RAS-18FSXNPE - RAS-18FSXNPE -RAS-18FSXNPE**	MC-30AN1	MC-30XN1
VRF Set Free SIGMA series FSXNPE Heat pump	**RAS-56FSXNPE**	**RAS-12FSXNPE - RAS-12FSXNPE - RAS-14FSXNPE - RAS-18FSXNPE**	MC-NP40SA	—
	RAS-58FSXNPE	**RAS-12FSXNPE - RAS-14FSXNPE - RAS-14FSXNPE - RAS-18FSXNPE**	MC-NP40SA	—
	RAS-60FSXNPE	**RAS-14FSXNPE - RAS-14FSXNPE - RAS-16FSXNPE - RAS-16FSXNPE**	MC-NP40SA	—
	RAS-62FSXNPE	**RAS-14FSXNPE - RAS-16FSXNPE - RAS-16FSXNPE -RAS-16FSXNPE**	MC-NP40SA	—
	RAS-64FSXNPE	**RAS-16FSXNPE - RAS-16FSXNPE - RAS-16FSXNPE - RAS-16FSXNPE**	MC-NP40SA	—
	RAS-66FSXNPE	**RAS-16FSXNPE - RAS-16FSXNPE - RAS-16FSXNPE -RAS-18FSXNPE**	MC-NP40SA	—
	RAS-68FSXNPE	**RAS-16FSXNPE - RAS-16FSXNPE - RAS-18FSXNPE - RAS-18FSXNPE**	MC-NP40SA	—
	RAS-70FSXNPE	**RAS-16FSXNPE - RAS-18FSXNPE - RAS-18FSXNPE - RAS-18FSXNPE**	MC-NP40SA	—
	RAS-72FSXNPE	**RAS-18FSXNPE - RAS-18FSXNPE - RAS-18FSXNPE - RAS-18FSXNPE**	MC-NP40SA	—

2-pipe multi-kits

Code
E-102SN4
E-162SN4
E-242SN3
E-302SN3
MW-NP2682A3

2-pipe header

Code
MH-84AN1
MH-108AN

3-pipe multi-kits

Code
E-52XN3
E-102XN3
E-162XN3
E-202XN3
E-242XN3
E-322XN3

3-pipe header

Code
MH-108XN

CH-BOX

Type	Individual CH BOX		Multiple CH BOX			
Model	CH-AP160SSX	CH-AP280SSX	CH-AP04MSSX	CH-AP08MSSX	CH-AP12MSSX	CH-AP16MSSX
Total capacity (kW)	16	28	44.8	85	85	85
Number of independent outputs	1	1	4	8	12	16
Maximum capacity per independent output (kW)			16	16	16	16
Maximum number of connectable units per output	7	8	6	6	6	6
Dimensions (H x W x D) (mm)	191 x 301 x 214	191 x 301 x 214	260 x 303 x 352	260 x 543 x 352	260 x 783 x 352	260 x 1,023 x 352
Weight (kg)	6.0	6.0	14.0	25.0	36.0	47.0

Multiple CH-Box



CH-AP04MSSX



CH-AP08MSSX



CH-AP12MSSX



CH-AP16MSSX

Individual CH-Box



CH-AP160SSX
CH-AP280SSX

Set Free Sigma Standard

The VRF unit designed for comfort



The most flexible heat recovery range

The widest range connection kits for the three pipes, from single boxes to the multi-kit box with up to 16 outputs, with the most compact and lightweight outdoor unit on the market. Installation is simpler, faster and more economical.
Using single-output boxes results in the creation of a smaller number of combinations thanks to the pass-through liquid line.
The system does not require connection to the condensate drain because the box is insulated.

Thermal efficiency

Extended heat exchange surface area thanks to the exclusive Sigma design of the heat exchanger. Together with the new compressor, designed with careful attention paid to partial loads, guarantees efficiency of the utmost prestige.
SEER up to 7.50 - SCOP up to 4.48

Maximum comfort

Maintains a comfortable temperature while moderating energy consumption, thanks to indoor units with the provision to incorporate a presence sensor.

Wide range of capacities with 2 and 3 pipes

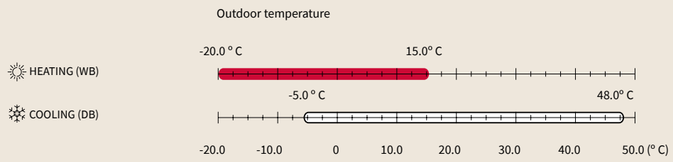
Up to 96HP (268 kW)

Single modules up to 24HP (67kW) allowing savings in installation costs in applications with space limitations.

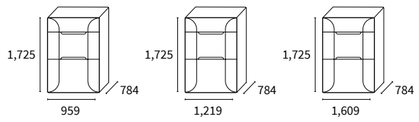
Wide working range

Cooling operation from -10 °C in winter to 48 °C in summer. (Fig. 1)

Fig. 1



Outdoor units (single modules)



RAS-8FSXNSE
RAS-10FSXNSE
RAS-12FSXNSE

RAS-14FSXNSE
RAS-16FSXNSE
RAS-18FSXNSE

RAS-20FSXNSE
RAS-22FSXNSE
RAS-24FSXNSE

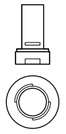
Set Free Sigma Standard

Outdoor unit			RAS-8FSXNSE	RAS-10FSXNSE	RAS-12FSXNSE	RAS-14FSXNSE	RAS-16FSXNSE	RAS-18FSXNSE	RAS-20FSXNSE	RAS-22FSXNSE
Basic modules combination										
Maximum number of connectable indoor units			26	32	39	45	52	58	64	64
Capacity ratio *		%	50-130	50-130	50-130	50-130	50-130	50-130	50-130	50-130
Capacity	Cooling (nom)	kW	22.40	28.00	33.50	40.00	45.00	50.00	56.00	61.50
	Heating (nom)	kW	25.00	31.50	37.50	45.00	50.00	56.00	63.00	69.00
Consumption	Cooling (nom)	kW	5.40	7.27	8.89	12.12	13.85	14.93	18.60	20.43
	Heating (nom)	kW	5.26	6.89	9.15	12.03	14.84	17.02	18.81	21.63
Electrical power			3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
Maximum consumption		A	15.5	21.5	24.0	29.5	33.0	37.5	44.5	45.0
Shielded bus cable section		mm²	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75
EER			4.15	3.85	3.77	3.30	3.25	3.35	3.01	3.01
COP			4.75	4.57	4.10	3.74	3.37	3.29	3.35	3.19
SEER			7.50	7.17	6.97	7.47	7.30	6.96	6.29	6.76
SCOP			4.17	4.11	4.29	4.48	4.42	4.18	4.14	4.43
Working range	Cooling (DB)	°C	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48
	Heating (WB)	°C	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15
Air flow rate		m³/h	9,900	10,200	11,400	14,340	15,360	15,360	19,740	19,740
Available static pressure		Pa	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80
No. of fans			1	1	1	2	2	2	2	2
Sound pressure		dB(A)	58	60	59	63	63	65	65	64
Sound power		dB(A)	80	82	82	85	85	86	86	84
Refrigerant piping diameter (external Φ)	Liquid - low gas - high gas	inches	3/8-3/4-5/8	3/8-7/8-3/4	1/2-1-7/8	1/2-1-7/8	1/2-1 1/8-7/8	5/8-1 1/8-7/8	5/8-1 1/8-7/8	5/8-1 1/8-1
Compressor type and number			1 Inverter Scroll	1 Inverter Scroll	1 Inverter Scroll	1 Inverter Scroll	2 Inverter Scroll	2 Inverter Scroll	2 Inverter Scroll	2 Inverter Scroll
Refrigerant			R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Initial refrigerant charge		kg (m)	5.0	5.0	7.2	8.9	9.9	10.7	11.3	11.3
Dimensions (H x W x D)		mm	1.725x959x784	1,725x 959x784	1,725x 959x784	1.725x1.219x784	1.725x1.219x784	1.725x1.219x784	1.725x1.609x784	1.725x1.609x784
Weight		kg	210.0	210.0	233.0	287.0	329.0	330.0	382.0	398.0
Bonus	Ecobonus		✓	✓	✓	✓	-	-	-	-
	Thermal Balance		✓	✓	✓	✓	-	-	-	-

Outdoor unit			RAS-24FSXNSE	RAS-26FSXNSE	RAS-28FSXNSE	RAS-30FSXNSE	RAS-32FSXNSE	RAS-34FSXNSE	RAS-36FSXNSE	RAS-38FSXNSE
Basic modules combination				RAS-12FSXNSE RAS-14FSXNSE	RAS-12FSXNSE RAS-16FSXNSE	RAS-12FSXNSE RAS-18FSXNSE	RAS-14FSXNSE RAS-18FSXNSE	RAS-16FSXNSE RAS-18FSXNSE	RAS-18FSXNSE RAS-18FSXNSE	RAS-14FSXNSE RAS-24FSXNSE
Maximum number of connectable indoor units			64	64	64	64	64	64	64	64
Capacity ratio *		%	50-130	50-130	50-130	50-130	50-130	50-130	50-130	50-130
Capacity	Cooling (nom)	kW	67.00	73.00	77.50	85.00	90.00	95.00	100.00	106.00
	Heating (nom)	kW	77.50	82.50	90.00	95.00	100.00	106.00	112.00	118.00
Consumption	Cooling (nom)	kW	22.41	23.38	22.44	24.24	29.58	28.77	29.85	36.71
	Heating (nom)	kW	22.79	21.18	24.67	26.59	28.77	31.86	34.04	33.55
Electrical power			3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
Maximum consumption		A	53.0	53.0	56.5	61.0	66.5	70.5	75.0	82.5
Shielded bus cable section		mm²	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75
EER			2.99	3.12	3.45	3.51	3.04	3.30	3.35	2.89
COP			3.40	3.90	3.65	3.57	3.48	3.33	3.29	3.52
SEER			6.20	7.30	7.10	7.11	7.36	7.18	7.20	6.63
SCOP			4.43	4.39	4.35	4.22	4.30	4.28	4.18	4.45
Working range	Cooling (DB)	°C	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48
	Heating (WB)	°C	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15
Air flow rate		m³/h	20,880	25,740	26,760	26,760	29,700	30,720	30,720	35,220
Available static pressure		Pa	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80
No. of fans			2	3	3	3	4	4	4	4
Sound pressure		dB(A)	66	64.5	64.5	66	67	67	68	68
Sound power		dB(A)	86	87	87	87	89	89	89	89
Refrigerant piping diameter (external Φ)	Liquid - low gas - high gas	inches	5/8-1 1/8-1	3/4-1 1/4-1	3/4-1 1/4-1 1/8	3/4-1 1/4-1 1/8	3/4-1 1/4-1 1/8	3/4-1 1/4-1 1/8	3/4-1 1/2-1 1/8	3/4-1 1/2-1 1/4
Compressor type and number			2 Inverter Scroll	2 Inverter Scroll	3 Inverter Scroll	3 Inverter Scroll	3 Inverter Scroll	4 Inverter Scroll	4 Inverter Scroll	3 Inverter Scroll
Refrigerant			R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Initial refrigerant charge		kg (m)	11.6	16.1	17.1	17.9	19.6	20.6	21.4	20.5
Dimensions (H x W x D)		mm	1.725x1.609x784	1.725x2.198x784	1.725x2.198x784	1.725x2.198x784	1.725x2.458x784	1.725x2.458x784	1.725x2.458x784	1.725x2.848x784
Weight		kg	399.0	520.0	562.0	563.0	617.0	659.0	660.0	686.0
Bonus	Ecobonus		-	-	-	-	-	-	-	-
	Thermal Balance		-	✓	-	-	-	-	-	-

* Check the capacity in accordance with the specific combination in the technical catalogues and with the selection software.

Compatible controls and accessories:



FSXNSE drain pipe connection

DBS-TP10A

Outdoor unit			RAS-40FSXNSE	RAS-42FSXNSE	RAS-44FSXNSE	RAS-46FSXNSE	RAS-48FSXNSE	RAS-50FSXNSE	RAS-52FSXNSE	RAS-54FSXNSE
Basic modules combination			RAS-18FSXNSE RAS-22FSXNSE	RAS-18FSXNSE RAS-24FSXNSE	RAS-22FSXNSE RAS-22FSXNSE	RAS-22FSXNSE RAS-24FSXNSE	RAS-24FSXNSE RAS-24FSXNSE	RAS-14FSXNSE RAS-18FSXNSE RAS-18FSXNSE	RAS-16FSXNSE RAS-18FSXNSE RAS-18FSXNSE	RAS-18FSXNSE RAS-18FSXNSE RAS-18FSXNSE
Maximum number of connectable indoor units			64	64	64	64	64	64	64	64
Capacity ratio *		%	50-130	50-130	50-130	50-130	50-130	50-130	50-130	50-130
Capacity	Cooling (nom)	kW	112.00	118.00	122.00	128.00	136.00	140.00	145.00	150.00
	Heating (nom)	kW	125.00	132.00	140.00	145.00	150.00	155.00	160.00	165.00
Consumption	Cooling (nom)	kW	35.52	37.65	40.53	42.67	45.48	44.50	43.70	44.78
	Heating (nom)	kW	38.65	39.37	43.89	43.97	44.12	45.49	48.28	50.15
Electrical power			3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
Maximum consumption		A	82.0	90.5	89.5	98.0	106.0	104.0	108.0	112.0
Shielded bus cable section		mm²	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75
EER			3.15	3.13	3.01	3.00	2.99	3.15	3.32	3.35
COP			3.23	3.35	3.19	3.30	3.40	3.41	3.31	3.29
SEER			6.93	6.57	6.75	6.45	6.19	7.30	7.18	7.20
SCOP			4.30	4.31	4.43	4.43	4.43	4.26	4.25	4.18
Working range	Cooling (DB)	°C	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48
	Heating (WB)	°C	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15
Air flow rate		m³/h	35,100	36,240	39,480	40,620	41,760	45,060	46,080	46,080
Available static pressure		Pa	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80
No. of fans			4	4	4	4	4	6	6	6
Sound pressure		dB(A)	67.5	68.5	67	68	69	69	69	70
Sound power		dB(A)	88	89	87	88	89	90	90	91
Refrigerant piping diameter (external Φ)	Liquid - low gas - high gas	inches	3/4-1 1/2-1 1/4	3/4-1 1/2-1 1/4	3/4-1 1/2-1 1/4	3/4-1 1/2-1 1/4	3/4-1 1/2-1 1/4	3/4-1 1/2-1 1/4	3/4-1 1/2-1 1/4	3/4-1 1/2-1 1/4
Compressor type and number			4 Inverter Scroll	4 Inverter Scroll	4 Inverter Scroll	4 Inverter Scroll	4 Inverter Scroll	5 Inverter Scroll	6 Inverter Scroll	6 Inverter Scroll
Refrigerant			R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Initial refrigerant charge		kg (m)	22.0	22.3	22.6	22.9	23.2	30.3	31.3	32.1
Dimensions (H x W x D)		mm	1.725x2.848x784	1.725x2.848x784	1.725x3.238x784	1.725x3.238x784	1.725x3.238x784	1.725x3.697x784	1.725x3.697x784	1.725x3.697x784
Weight		kg	728.0	729.0	796.0	797.0	798.0	947.0	989.0	999.0
Bonus	Ecobonus		-	-	-	-	-	-	-	-
	Thermal Balance		-	-	-	-	-	-	-	-

Outdoor unit			RAS-56FSXNSE	RAS-58FSXNSE	RAS-60FSXNSE	RAS-62FSXNSE	RAS-64FSXNSE	RAS-66FSXNSE	RAS-68FSXNSE	RAS-70FSXNSE
Basic modules combination			RAS-14FSXNSE RAS-18FSXNSE RAS-24FSXNSE	RAS-18FSXNSE RAS-18FSXNSE RAS-22FSXNSE	RAS-18FSXNSE RAS-18FSXNSE RAS-24FSXNSE	RAS-14FSXNSE RAS-24FSXNSE RAS-24FSXNSE	RAS-18FSXNSE RAS-22FSXNSE RAS-24FSXNSE	RAS-18FSXNSE RAS-24FSXNSE RAS-24FSXNSE	RAS-22FSXNSE RAS-22FSXNSE RAS-24FSXNSE	RAS-22FSXNSE RAS-24FSXNSE RAS-24FSXNSE
Maximum number of connectable indoor units			64	64	64	64	64	64	64	64
Capacity ratio *		%	50-130	50-130	50-130	50-130	50-130	50-130	50-130	50-130
Capacity	Cooling (nom)	kW	157.00	162.00	167.00	174.00	179.00	184.00	190.00	196.00
	Heating (nom)	kW	176.00	181.00	188.00	196.00	202.00	207.00	213.00	220.00
Consumption	Cooling (nom)	kW	51.99	50.44	52.26	59.47	57.93	59.74	63.27	65.41
	Heating (nom)	kW	51.12	55.67	56.39	56.47	61.29	61.42	65.29	66.02
Electrical power			3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
Maximum consumption		A	120.0	120.0	128.0	136.0	136.0	144.0	143.0	151.0
Shielded bus cable section		mm²	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75
EER			3.02	3.21	3.20	2.93	3.09	3.08	3.00	3.00
COP			3.44	3.25	3.33	3.47	3.30	3.37	3.26	3.33
SEER			6.79	7.01	6.75	6.45	6.63	6.43	6.54	6.36
SCOP			4.35	4.26	4.27	4.44	4.35	4.35	4.43	4.43
Working range	Cooling (DB)	°C	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48
	Heating (WB)	°C	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15
Air flow rate		m³/h	50,580	50,460	51,600	56,100	55,980	57,120	60,360	61,500
Available static pressure		Pa	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80
No. of fans			6	6	6	6	6	6	6	6
Sound pressure		dB(A)	69.5	69.5	70	70	70	70.5	70	70
Sound power		dB(A)	90	90	91	90	90	91	90	90
Refrigerant piping diameter (external Φ)	Liquid - low gas - high gas	inches	3/4-1 3/4	3/4-1 3/4	3/4-1 3/4	3/4-1 3/4	3/4-1 3/4	3/4-1 3/4	3/4-1 3/4	3/4-1 3/4
Compressor type and number			5 Inverter Scroll	6 Inverter Scroll	6 Inverter Scroll	5 Inverter Scroll	6 Inverter Scroll	6 Inverter Scroll	6 Inverter Scroll	6 Inverter Scroll
Refrigerant			R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Initial refrigerant charge		kg (m)	31.2	32.7	33.0	32.1	33.6	33.9	34.2	34.5
Dimensions (H x W x D)		mm	1.725x4.087x784	1.725x4.087x784	1.725x4.087x784	1.725x4.477x784	1.725x4.477x784	1.725x4.477x784	1.725x4.867x784	1.725x4.867x784
Weight		kg	1,016.0	1,058.0	1,059.0	1,085.0	1,127.0	1,128.0	1,195.0	1,196.0
Bonus	Ecobonus		-	-	-	-	-	-	-	-
	Thermal Balance		-	-	-	-	-	-	-	-

* Use the technical catalogues and the selection software to check the capacity ratio in accordance with the specific combination

Outdoor unit			RAS-72FSXNSE	RAS-74FSXNSE	RAS-76FSXNSE	RAS-78FSXNSE	RAS-80FSXNSE	RAS-82FSXNSE	RAS-84FSXNSE	RAS-86FSXNSE
Basic modules combination			RAS-24FSXNSE RAS-24FSXNSE RAS-24FSXNSE	RAS-14FSXNSE RAS-18FSXNSE RAS-18FSXNSE RAS-24FSXNSE	RAS-18FSXNSE RAS-18FSXNSE RAS-18FSXNSE RAS-22FSXNSE	RAS-18FSXNSE RAS-18FSXNSE RAS-18FSXNSE RAS-24FSXNSE	RAS-14FSXNSE RAS-18FSXNSE RAS-24FSXNSE RAS-24FSXNSE	RAS-16FSXNSE RAS-18FSXNSE RAS-24FSXNSE RAS-24FSXNSE	RAS-18FSXNSE RAS-18FSXNSE RAS-24FSXNSE RAS-24FSXNSE	RAS-14FSXNSE RAS-24FSXNSE RAS-24FSXNSE RAS-24FSXNSE
Maximum number of connectable indoor units			64	64	64	64	64	64	64	64
Capacity ratio *		%	50-130	50-130	50-130	50-130	50-130	50-130	50-130	50-130
Capacity	Cooling (nom)	kW	201.00	207.00	212.00	217.00	224.00	230.00	234.00	241.00
	Heating (nom)	kW	225.00	232.00	237.00	244.00	254.00	261.00	267.00	275.00
Consumption	Cooling (nom)	kW	67.22	66.91	65.36	67.18	74.39	73.91	74.67	81.88
	Heating (nom)	kW	66.18	68.13	72.69	73.41	74.06	77.45	79.63	79.69
Electrical power			3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
Maximum consumption		A	159.0	158.0	158.0	166.0	173.0	177.0	181.0	189.0
Shielded bus cable section		mm²	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75
EER			2.99	3.09	3.24	3.23	3.01	3.11	3.13	2.94
COP			3.40	3.41	3.26	3.32	3.43	3.37	3.35	3.45
SEER			6.19	6.89	7.05	6.85	6.60	6.57	6.58	6.38
SCOP			4.43	4.31	4.24	4.24	4.37	4.35	4.31	4.44
Working range	Cooling (DB)	°C	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48
	Heating (WB)	°C	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15
Air flow rate		m³/h	62,640	65,940	65,820	66,960	71,460	72,480	72,480	76,980
Available static pressure		Pa	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80
No. of fans			6	8	8	8	8	8	8	8
Sound pressure		dB(A)	71	71	71	71.5	71	71	71.5	71.5
Sound power		dB(A)	91	92	92	92	92	92	92	92
Refrigerant piping diameter (external Φ)	Liquid - low gas - high gas	inches	3/4-1 3/4	3/4-2	3/4-2	3/4-2	3/4-2	3/4-2	3/4-2	3/4-2
Compressor type and number			6 Inverter Scroll	7 Inverter Scroll	8 Inverter Scroll	8 Inverter Scroll	7 Inverter Scroll	8 Inverter Scroll	8 Inverter Scroll	7 Inverter Scroll
Refrigerant			R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Initial refrigerant charge		kg (m)	34.8	41.9	43.4	43.7	42.8	43.8	44.6	43.7
Dimensions (H x W x D)		mm	1.725x4.867x784	1.725x5.326x784	1.725x5.326x784	1.725x5.326x784	1.725x5.716x784	1.725x5.716x784	1.725x5.716x784	1.725x6.106x784
Weight		kg	1,195.0	1,346.0	1,388.0	1,389.0	1,415.0	1,457.0	1,458.0	1,484.0
Bonus	Ecobonus		-	-	-	-	-	-	-	-
	Thermal Balance		-	-	-	-	-	-	-	-

Outdoor unit			RAS-88FSXNSE	RAS-90FSXNSE	RAS-92FSXNSE	RAS-94FSXNSE	RAS-96FSXNSE
Basic modules combination			RAS-16FSXNSE RAS-24FSXNSE RAS-24FSXNSE RAS-24FSXNSE	RAS-18FSXNSE RAS-24FSXNSE RAS-24FSXNSE RAS-24FSXNSE	RAS-22FSXNSE RAS-22FSXNSE RAS-24FSXNSE RAS-24FSXNSE	RAS-22FSXNSE RAS-24FSXNSE RAS-24FSXNSE RAS-24FSXNSE	RAS-24FSXNSE RAS-24FSXNSE RAS-24FSXNSE RAS-24FSXNSE
Maximum number of connectable indoor units			64	64	64	64	64
Capacity ratio *		%	50-130	50-130	50-130	50-130	50-130
Capacity	Cooling (nom)	kW	246.00	251.00	258.00	263.00	268.00
	Heating (nom)	kW	282.00	287.00	293.00	299.00	305.00
Consumption	Cooling (nom)	kW	81.07	82.15	86.01	87.82	89.63
	Heating (nom)	kW	83.07	84.96	88.85	89.27	89.71
Electrical power			3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
Maximum consumption		A	192.0	197.0	196.0	204.0	212.0
Shielded bus cable section		mm²	2x0.75	2x0.75	2x0.75	2x0.75	2x0.75
EER			3.03	3.06	3.00	2.99	2.99
COP			3.39	3.38	3.30	3.35	3.40
SEER			6.36	6.37	6.45	6.32	6.20
SCOP			4.41	4.37	4.43	4.43	4.43
Working range	Cooling (DB)	°C	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48	-10 ÷ 48
	Heating (WB)	°C	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15
Air flow rate		m³/h	78,000	78,000	81,240	82,380	83,520
Available static pressure		Pa	30-60-80	30-60-80	30-60-80	30-60-80	30-60-80
No. of fans			8	8	8	8	8
Sound pressure		dB(A)	71.5	72	72	71.5	72
Sound power		dB(A)	92	92	92	92	92
Refrigerant piping diameter (external Φ)	Liquid - low gas - high gas	inches	3/4-2	1-2	1-2	1-2	1-2
Compressor type and number			8 Inverter Scroll	8 Inverter Scroll	8 Inverter Scroll	8 Inverter Scroll	8 Inverter Scroll
Refrigerant			R410A	R410A	R410A	R410A	R410A
Initial refrigerant charge		kg (m)	44.7	45.5	45.8	46.1	46.4
Dimensions (H x W x D)		mm	1.725x6.106x784	1.725x6.106x784	1.725x6.496x784	1.725x6.496x784	1.725x6.496x784
Weight		kg	1,523.0	1,527.0	1,594.0	1,595.0	1,596.0
Bonus	Ecobonus		-	-	-	-	-
	Thermal Balance		-	-	-	-	-

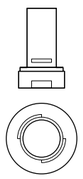
* Use the technical catalogues and the selection software to check the capacity ratio in accordance with the specific combination

Modules and multi-kits combination table

Outdoor unit		Combinations	Multi-kit system Heat pump	Multi-kit system Heat recovery
VRF Set Free SIGMA series FSXNSE Heat pump / Heat recovery	**RAS-8FSXNSE**	Basic module	—	—
	RAS-10FSXNSE	Basic module	—	—
	RAS-12FSXNSE	Basic module	—	—
	RAS-14FSXNSE	Basic module	—	—
	RAS-16FSXNSE	Basic module	—	—
	RAS-18FSXNSE	Basic module	—	—
	RAS-20FSXNSE	Basic module	—	—
	RAS-22FSXNSE	Basic module	—	—
	RAS-24FSXNSE	Basic module	—	—
	RAS-26FSXNSE	**RAS-12FSXNSE - RAS-14FSXNSE**	MC-21AN1	MC-21XN1
	RAS-28FSXNSE	**RAS-12FSXNSE - RAS-16FSXNSE**	MC-21AN1	MC-21XN1
	RAS-30FSXNSE	**RAS-12FSXNSE - RAS-18FSXNSE**	MC-21AN1	MC-21XN1
	RAS-32FSXNSE	**RAS-14FSXNSE - RAS-18FSXNSE**	MC-21AN1	MC-21XN1
	RAS-34FSXNSE	**RAS-16FSXNSE - RAS-18FSXNSE**	MC-21AN1	MC-21XN1
	RAS-36FSXNSE	**RAS-18FSXNSE - RAS-18FSXNSE**	MC-21AN1	MC-21XN1
	RAS-38FSXNSE	**RAS-14FSXNSE - RAS-24FSXNSE**	MC-21AN1	MC-21XN1
	RAS-40FSXNSE	**RAS-18FSXNSE - RAS-22FSXNSE**	MC-21AN1	MC-21XN1
	RAS-42FSXNSE	**RAS-18FSXNSE - RAS-24FSXNSE**	MC-21AN1	MC-21XN1
	RAS-44FSXNSE	**RAS-22FSXNSE - RAS-22FSXNSE**	MC-21AN1	MC-21XN1
	RAS-46FSXNSE	**RAS-22FSXNSE - RAS-24FSXNSE**	MC-21AN1	MC-21XN1
	RAS-48FSXNSE	**RAS-24FSXNSE - RAS-24FSXNSE**	MC-21AN1	MC-21XN1
	RAS-50FSXNSE	**RAS-14FSXNSE - RAS-18FSXNSE - RAS-18FSXNSE**	MC-30AN1	MC-30XN1
	RAS-52FSXNSE	**RAS-16FSXNSE - RAS-18FSXNSE - RAS-18FSXNSE**	MC-30AN1	MC-30XN1
	RAS-54FSXNSE	**RAS-18FSXNSE - RAS-18FSXNSE - RAS-18FSXNSE**	MC-30AN1	MC-30XN1
VRF Set Free SIGMA series FSXNSE Heat pump	**RAS-56FSXNSE**	**RAS-14FSNSE - RAS-18FSNSE - RAS-24FSNSE**	MC-NP31SA	—
	RAS-58FSXNSE	**RAS-18FSNSE - RAS-18FSNSE - RAS-22FSNSE**	MC-NP31SA	—
	RAS-60FSXNSE	**RAS-18FSNSE - RAS-18FSNSE - RAS-24FSNSE**	MC-NP31SA	—
	RAS-62FSXNSE	**RAS-14FSNSE - RAS-24FSNSE - RAS-24FSNSE**	MC-NP31SA	—
	RAS-64FSXNSE	**RAS-18FSNSE - RAS-22FSNSE - RAS-24FSNSE**	MC-NP31SA	—
	RAS-66FSXNSE	**RAS-18FSNSE - RAS-24FSNSE - RAS-24FSNSE**	MC-NP31SA	—
	RAS-68FSXNSE	**RAS-22FSNSE - RAS-22FSNSE - RAS-24FSNSE**	MC-NP31SA	—
	RAS-70FSXNSE	**RAS-22FSNSE - RAS-24FSNSE -RAS-24FSNSE**	MC-NP31SA	—
	RAS-72FSXNSE	**RAS-24FSNSE - RAS-24FSNSE - RAS-24FSNSE**	MC-NP31SA	—
	RAS-74FSXNSE	**RAS-14FSNSE - RAS-18FSNSE - RAS-18FSNSE - RAS-24FSNSE**	MC-NP40SA	—
	RAS-76FSXNSE	**RAS-18FSNSE - RAS-18FSNSE - RAS-18FSNSE - RAS-22FSNSE**	MC-NP40SA	—
	RAS-78FSXNSE	**RAS-18FSNSE - RAS-18FSNSE - RAS-18FSNSE - RAS-24FSNSE**	MC-NP40SA	—
	RAS-80FSXNSE	**RAS-14FSNSE - RAS-18FSNSE - RAS-24FSNSE - RAS-24FSNSE**	MC-NP40SA	—
	RAS-82FSXNSE	**RAS-16FSNSE - RAS-18FSNSE - RAS-24FSNSE - RAS-24FSNSE**	MC-NP40SA	—
	RAS-84FSXNSE	**RAS-18FSNSE - RAS-18FSNSE - RAS-24FSNSE - RAS-24FSNSE**	MC-NP40SA	—
	RAS-86FSXNSE	**RAS-14FSNSE - RAS-24FSNSE - RAS-24FSNSE - RAS-24FSNSE**	MC-NP40SA	—
	RAS-88FSXNSE	**RAS-16FSNSE - RAS-24FSNSE - RAS-24FSNSE - RAS-24FSNSE**	MC-NP40SA	—
	RAS-90FSXNSE	**RAS-18FSNSE - RAS-24FSNSE - RAS-24FSNSE - RAS-24FSNSE**	MC-NP40SA	—
	RAS-92FSXNSE	**RAS-22FSNSE - RAS-22FSNSE - RAS-24FSNSE - RAS-24FSNSE**	MC-NP40SA	—
	RAS-94FSXNSE	**RAS-22FSNSE - RAS-24FSNSE - RAS-24FSNSE - RAS-24FSNSE**	MC-NP40SA	—
	RAS-96FSXNSE	**RAS-24FSNSE - RAS-24FSNSE - RAS-24FSNSE - RAS-24FSNSE**	MC-NP40SA	—

SET FREE SIGMA STANDARD FSXNSE

Code	HP	Quantity
DBS-TP10A	8 ÷ 18	1
	20 ÷ 36	2
	38 ÷ 40	3
	42 ÷ 48	4
	50 ÷ 54	3
	56 ÷ 60	4
	62 ÷ 66	5
	68 ÷ 72	6
	74 ÷ 78	5
	80 ÷ 84	6
	86 ÷ 90	7
	92 ÷ 96	8



2-pipe multi-kits

Code
E-102SN4
E-162SN4
E-242SN3
E-302SN3
MW-NP2682A3

2-pipe header

Code
MH-84AN1
MH-108AN

3-pipe multi-kits

Code
E-52XN3
E-102XN3
E-162XN3
E-202XN3
E-242XN3
E-322XN3

3-pipe header

Code
MH-108XN

CH-BOX

Type	Individual CH BOX		Multiple CH BOX			
Model	CH-AP160SSX	CH-AP280SSX	CH-AP04MSSX	CH-AP08MSSX	CH-AP12MSSX	CH-AP16MSSX
Total capacity (kW)	16	28	44.8	85	85	85
Number of independent outputs	1	1	4	8	12	16
Maximum capacity per independent output (kW)			16	16	16	16
Maximum number of connectable units per output	7	8	6	6	6	6
Dimensions (H x W x D) (mm)	191 x 301 x 214	191 x 301 x 214	260 x 303 x 352	260 x 543 x 352	260 x 783 x 352	260 x 1,023 x 352
Weight (kg)	6.0	6.0	14.0	25.0	36.0	47.0

Multiple CH-Box



CH-AP04MSSX



CH-AP08MSSX



CH-AP12MSSX



CH-AP16MSSX

Individual CH-Box



CH-AP160SSX
CH-AP280SSX

VRF indoor units

Wall-mounted

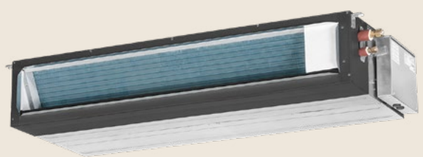


- Coordinated styling across the entire capacity range.
- Suitable for small spaces with reduced thermal demand.
- Built-in infra-red receiver.
- Up to 4 fan speeds available.
- Possibility of fitting remote expansion valves for installations in particularly critical environments (optional).
- Programmable INPUT/OUTPUT ports as standard.

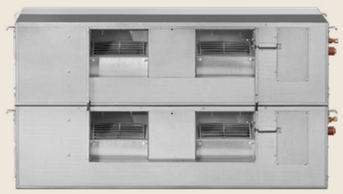
Duct











- Easy integration in false ceilings thanks to height of just 197 mm.
- Suitable for small spaces such as hotel rooms with reduced energy demands.
- Condensate pump: can be installed up to 850 mm above the unit.
- Possibility to change the position of the intake air filter.
- Adjustable static pressure.
- Programmable INPUT/OUTPUT ports as standard.

Cassette



- Uniform style of cover panels for all unit types
- Suitable for small size spaces with reduced energy demands
- Compact dimensions of mini unit with 620x620 mm panel.
- Energy saving with motion sensor to install on the panel.
- Greater comfort thanks to independent control of the louvers.
- Fresh air input by means of dedicated accessories.
- Built-in condensate pump with DC motor, allowing installation at up to 850 mm above the unit.
- Programmable INPUT/OUTPUT ports as standard.

Ceiling



- Compact dimensions.
- High energy efficiency.
- Facility to increase fan pressure by means of the optional functions on the wired control.
- Infra-red receiver to install on the indoor unit.
- Optional motion sensor to install on board the unit.
- Up to 4 fan speeds available.
- Refrigerant connection can be made in 3 different directions.
- Optional condensate pump to install on board the unit.
- Programmable INPUT/OUTPUT ports as standard.

Floor



- Compact design, with depth of just 220 mm.
- Unit with provision for fitting the wired control under the closing panel.
- Adjustable air discharge without requiring optional accessories (recessed version).
- Programmable INPUT/OUTPUT ports as standard.

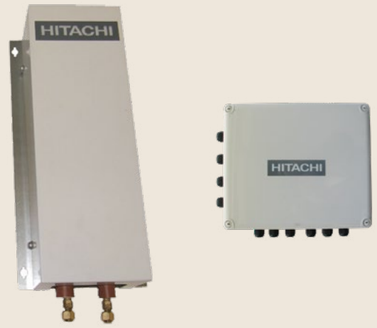
VRF indoor units

Hydro Free



- Ideal for premises that need to produce hot and/or cold water at high temperature (RWHT) or at low temperature (RWLT).
- Possible connection to heat pump and heat recovery systems.
- Plug & play technology for simplified installation and maintenance.
- Standard integration of the main hydraulic components.

DX-Kit



- The kit is composed of an electrical control box and an expansion valve.
- Allow the installation of heat exchangers manufactured by other companies to be connected to IVX Set Free series outdoor units or XH type dedicated outdoor units.
- Allows operation in heating and cooling mode.
- Connectible to air curtains and air handling units.
- Integrated terminal board for control of a fan, a condensate pump, ON/OFF and performance control with voltage or current input.
- Programmable INPUT/OUTPUT ports as standard.

Direct expansion air curtains



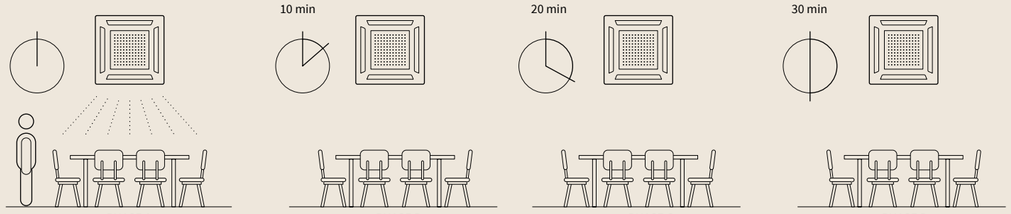
- Compatible also with SetFree, IVX Centrifugal and IVX VRF systems
- Operation in Heating and Cooling mode
- Rapid return on investment
- Low CO_2 emissions
- Available in 2 versions:
  - Wall-mounted unit
  - Recessed unit
- Built-in condensate drain pan and pump
- Programmable INPUT/OUTPUT ports as standard

NOTE: Air curtains compatible with SetFree systems are manufactured and marketed by FRICO - Systemair



Characteristics
VRF indoor units

1 Energy saving with presence sensor



PHASE A
Presence of persons

The indoor unit operates at the required speed and to meet the setpoint temperature.

PHASE B
10 minutes with no human movement

- Temperature control by +/- 1 ° C based on the operating mode.
- Reduction of fan speed by one step.

PHASE C
20 minutes with no human movement

- Temperature control of +/- 2°C depending on the operating mode.
- Reduction of fan speed by two streps.

PHASE D
30 minutes with no human movement
3 OPTIONS selectable from the wired control:

1. ON mode: the unit continues to operate as in the previous phase (PHASE C)
- 2. STAND BY mode: the unit enters thermo-OFF phase and restarts when human presence is detected
- 3. OFF mode: the unit is switched off and can be restarted manually

The presence sensor makes it possible to control operation based on the persons present in the climate controlled space.
If the VRF unit is installed in a room in which the presence of persons is not constant, the sensor makes it possible to automatically control operation in such a way as to reduce consumption and achieve energy savings.

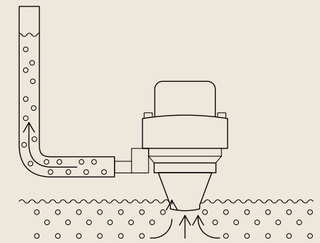
2 Compact units designed to comply with architectural requirements



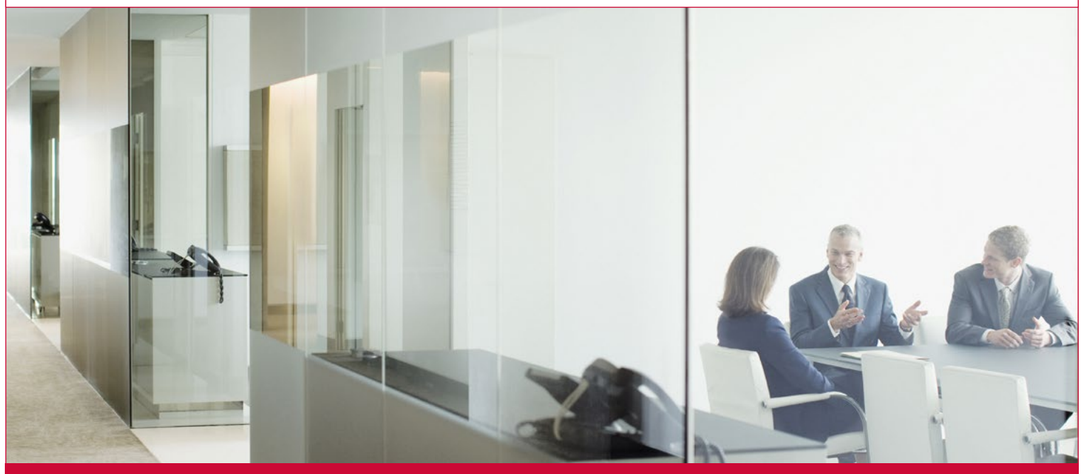
The mini 4-way cassette (RCIM-FSN4E) is perfectly adaptable to 600x600 mm module false ceilings, and thanks to the independent control of the louvers and the facility to receive fresh air supplied by a heat recovery exchanger (using the dedicated PD-75C accessory), is especially recommended for installation in offices and commercial premises.

3 Condensate pump

In cassette and duct indoor units the condensate pump can be installed at up to 850 mm above the false ceiling level. The pump starts automatically during operation, once cooling mode has been selected.
A version without the built-in pump is available in the mini duct unit.

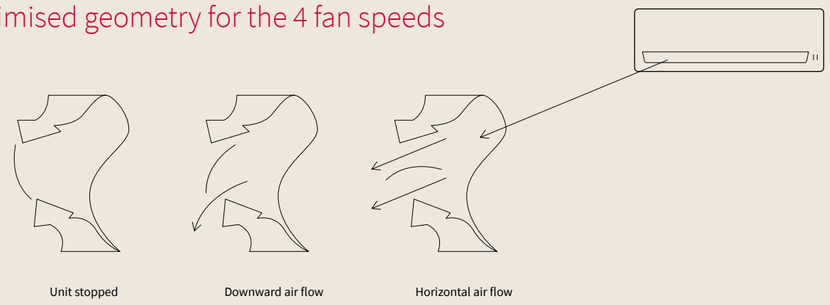


4 Low noise level with external expansion valve



In the case of wall-mounted indoor units, the version with a remote expansion valve can be employed, this being especially suitable in the case of particularly critical applications such as residential buildings and hotels.

5 Maximum comfort thanks to louvers with optimised geometry for the 4 fan speeds



Unit stopped

Downward air flow

Horizontal air flow

The wall-mounted indoor unit features a special louvre capable of managing optimal air distribution to ensure the maximum comfort. In this manner, the air flow will be uniform both for the people closest to the unit and for those furthest away. In addition, in the case of installation in rooms with particularly high ceilings it is also possible to select "super high" speed for optimal comfort.

Wall-mounted

Capacity control
-0.2 HP
for units from 0.8 HP to 2.5 HP



Centralised control

The indoor units can be connected to centralised systems without having to be connected to a wired control.

4 air flow rates

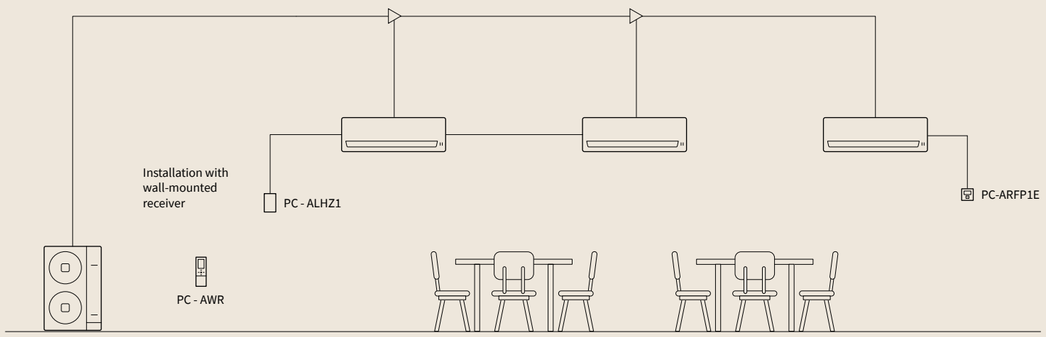
Also in the case of installation in very high rooms, a new fan control option (speed H) can be selected in addition to the existing “HIGH”, “MEDIUM” and “LOW”.

Uniform aesthetics

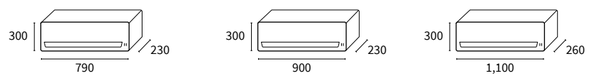
The infra-red receiver is built into the chassis of all indoor units, which today feature the same styling.

Quieter indoor units

The expansion valves can be installed in a remote position, e.g. outside the room in which the indoor unit is installed, to avoid the transmission of noise through the copper pipes.



Indoor units



RPK- 0.4 FSN4M
RPK- 0.6 FSN4M
RPK- 0.8 FSN4M
RPK- 1.0 FSN4M
RPK- 0.4FSNH4M
RPK- 0.6FSNH4M
RPK- 0.8FSNH4M
RPK- 1.0FSNH4M
RPK- 1.5 FSN4M
RPK- 1.5FSNH4M
RPK-2.0 FSN4M
RPK-2.5 FSN4M
RPK-3.0 FSN4M
RPK-4.0 FSN4M

Wall-mounted unit with integrated expansion valve

Indoor unit			RPK-0.4 FSN4M	RPK-0.6 FSN4M	RPK-0.8 FSN4M	RPK-1.0 FSN4M	RPK-1.5 FSN4M	RPK-2.0 FSN4M	RPK-2.5 FSN4M	RPK-3.0 FSN4M	RPK-4.0 FSN4M
Adjustable capacity			-	-	0.60-0.80	-	1.30-1.50	1.80-2.00	2.30-2.50	-	-
Nominal capacity (VRF SET FREE)	Cooling	kW	1.10	1.70	2.20	2.80	4.00	5.60	7.10	8.00	11.20
	Heating	kW	1.30	1.90	2.50	3.20	4.80	6.30	8.50	9.00	12.50
Nominal capacity (VRF IVX)	Cooling	kW	-	-	2.00	2.50	3.60	5.00	5.60	7.10	10.00
	Heating	kW	-	-	2.20	2.80	4.00	5.60	6.30	8.00	11.20
Air flow rate (low-medium-high-extra high)		m^3/h	360-402-438-450	360-420-450-480	390-420-480-600	390-420-480-600	450-540-660-840	570-660-780-870	720-840-990-1,110	750-930-1,050-1,200	870-1,050-1,200-1,380
Sound pressure (low-medium-high-extra high)		dB(A)	29-30-31-32	29-31-32-35	30-32-35-39	30-32-35-39	33-36-40-46	31-34-37-40	35-38-42-45	35-40-44-47	39-44-48-51
Sound power (high)		dB(A)	49	49	53	53	58	53	58	60	64
Refrigerant piping diameter (external Φ)	Liquid-gas	inches	1/4-1/2	1/4-1/2	1/4-1/2	1/4-1/2	1/4-1/2	1/4-1/2	3/8-5/8	3/8-5/8	3/8-5/8
Condensate pipe diameter (external)		mm	20	20	20	20	20	20	20	20	20
Dimensions	Height	mm	300	300	300	300	300	300	300	300	300
	Width	mm	790	790	790	790	900	1,100	1,100	1,100	1,100
	Depth	mm	230	230	230	230	230	260	260	260	260
Weight		kg	10.0	10.0	10.0	10.0	11.0	14.5	15.0	15.0	15.0
Electrical power			1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz

Wall-mounted unit with remote expansion valve

Indoor unit			RPK-0.4FSNH4M	RPK-0.6FSNH4M	RPK-0.8FSNH4M	RPK-1.0FSNH4M	RPK-1.5FSNH4M
Adjustable capacity			-	-	0.60-0.80	-	1.30-1.50
Nominal capacity (VRF SET FREE)	Cooling	kW	1.10	1.70	2.20	2.80	4.00
	Heating	kW	1.30	1.90	2.50	3.20	4.80
Nominal capacity (VRF IVX)	Cooling	kW	-	-	2.00	2.50	3.60
	Heating	kW	-	-	2.20	2.80	4.00
Air flow rate (low-medium-high-extra high)		m^3/h	360-402-438-450	360-420-450-480	390-420-480-600	390-420-480-600	450-540-660-840
Sound pressure (low-medium-high-extra high)		dB(A)	29-30-31-32	29-31-32-35	30-32-35-39	30-32-35-39	33-36-40-46
Sound power (high)		dB(A)	49	49	53	53	58
Refrigerant piping diameter (external Φ)	Liquid-gas	inches	1/4-1/2	1/4-1/2	1/4-1/2	1/4-1/2	1/4-1/2
Condensate pipe diameter (external)		mm	20	20	20	20	20
Dimensions	Height	mm	300	300	300	300	300
	Width	mm	790	790	790	790	900
	Depth	mm	230	230	230	230	230
Weight		kg	10.0	10.0	10.0	10.0	11.0
Electrical power			1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz

Compatible controls and accessories:

Wired control with display

PC-ARFP1E

Remote control

PC-AWR

Requires receiver.

(Consult Controls & Accessories section)

Compact wired control

PC-ARH1E

Accessories

- Connector for input/output ports (5 pcs.) PCC- 1A
- Receiver kit for PC- AWR (PC-ALHZ1). Compatible with RPK-FSN(H)4M

Duct mini

Capacity control

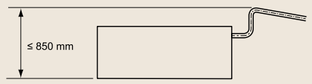
-0.2 HP

for units from 1.0 HP to 1.5 HP



Built-in condensate pump

Model RPIM-FSN4E-DU is equipped with a built-in condensate pump that can be installed at up to 850 mm above the lowermost point of the unit.



DC inverter fan

The min RPIM indoor duct unit is equipped with a inverter controlled DC motor that allows a reduction of electricity consumption of up to 70%, while guaranteeing the correct delivery of air to the room with exceptionally quiet operation.
Thanks to the inverter drive, speed is more precisely controlled, exploiting the fan curve with low external static pressure.

Reduced dimensions and ease of installation

RPIM mini indoor duct units are designed to fit in confined spaces, thanks to careful positioning of the piping and electrical section.
Access is provided via the air inlet zone to allow easy maintenance.
Consequently, the reduced maintenance times, very compact dimensions and exceptionally low noise levels make mini indoor duct units ideal for installation in hotel rooms.

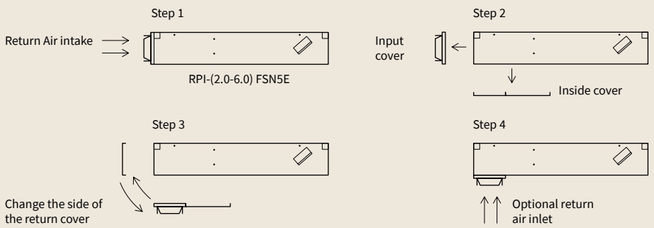
Installation flexibility

The flexibility of mini duct units has been increased thanks to the possibility of positioning the intake air filter by moving it from the rear of the unit to the bottom, without the use of any optional accessories. (Fig. 1)

Air inlet filter maintenance

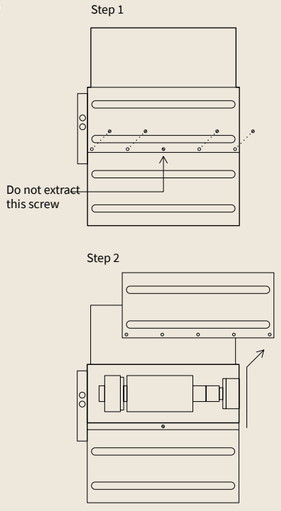
The filter already installed on the unit air inlet can be removed and easily relocated to facilitate maintenance procedures. (Fig. 2)

Fig. 1

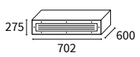


In the RPI- (2.0-6.0) FSN5E units the return can be modified by changing the position of the inner cover as shown in the image. In the RPI- (0.4-1.5) FSN5E units, the return can be modified by adding an optional accessory specially designed for this purpose.

Fig. 2



Indoor units



RPIM-0.6FSN4E-DU	**RPIM-0.6FSN4E**
RPIM-0.8FSN4E-DU	**RPIM-0.8FSN4E**
RPIM-1.0FSN4E-DU	**RPIM-1.0FSN4E**
RPIM-1.5FSN4E-DU	**RPIM-1.5FSN4E**

Duct mini

Indoor unit			RPIM-0.6FSN4E-(DU)	RPIM-0.8FSN4E(-DU)	RPIM-1.0FSN4E(-DU)	RPIM-1.5FSN4E(-DU)
Adjustable capacity			-	0.60-0.80	-	1.30-1.50
Nominal capacity (VRF SET FREE)	Cooling	kW	1.7	2.2	2.8	4
	Heating	kW	1.9	2.5	3.2	4.8
Nominal capacity (VRF IVX)	Cooling	kW	-	2	2.5	3.6
	Heating	kW	-	2.2	2.8	4
Nominal static pressure (min/max)		Pa	20 (0-35)	32 (0-50)	32 (0-50)	27 (0-58)
Air flow rate (low-medium-high)		m^3/h	330-372-420	330-408-480	330-408-480	480-540-600
Sound pressure (low-medium-high)		dB(A)	25-28-28	27-29-29	27-29-29	28-30-30
Sound power (high)		dB(A)	49	50	50	51
Refrigerant piping diameter (external Φ)	Liquid-gas	inches	1/4-1/2	1/4-1/2	1/4-1/2	1/4-1/2
		mm	6.35-12.70	6.35-12.70	6.35-12.70	6.35-12.70
Condensate pipe diameter (external)		mm	25	25	25	25
Dimensions	Height	mm	275	275	275	275
	Width	mm	702	702	702	702
	Depth	mm	600	600	600	600
Weight		kg	26	26	26	26
Condensate pump			Optional (-DU)	Optional (-DU)	Optional (-DU)	Optional (-DU)
Max head		mm	850	850	850	850
Electrical power			1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz

Compatible controls and accessories:

Wired control with display
PC-ARFP1E

Remote control
PC-AWR
Requires receiver.
(Consult Controls & Accessories section)

Compact wired control
PC-ARH1E

Accessories:
– Connector for input/output ports (5 pcs.)
PCC- 1A

Low pressure duct

Capacity control
-0.2 HP
for units from 0.8 HP to 1.5 HP



Efficient and quiet

The design has made it possible to build more efficient, compact and quieter indoor units; the use of inverter driven fans allows better use of the fan curve in applications with short ducts, more precise speed control and a reduction of the average sound power of 2dB(A). The 1.1 kW (0.4HP) cooling capacity indoor unit is specifically designed for hotel applications in which low noise and compact dimensions are key requirements. Very low power consumption, high performance and exceptional comfort for the end user are among the distinguishing features of the units.

Presence sensor

The SOR-MSK sensor can be fitted to the indoor units for more rational energy usage, helping to increase comfort levels and reduce power consumption.

Compatible with Airzone

The indoor units can be connected to motorised plenums that allow air distribution to up to 6 zones max.
The application also allows the use of Airzone local controls

Built-in condensate pump

Model RPI-FSN5E is equipped with a built-in condensate pump that can be installed at a height of up to 850 mm above the lowermost point of the unit. (Fig. 2)

Easy installation and simplified maintenance

The duct units feature simple and rapid accessibility to all internal components:
- easily accessible circuit board.
- access to the filter without requiring supplementary access hatches. (Fig. 1)
- the refrigerant and condensate pump connections are made to the side of the unit.

Fig. 1

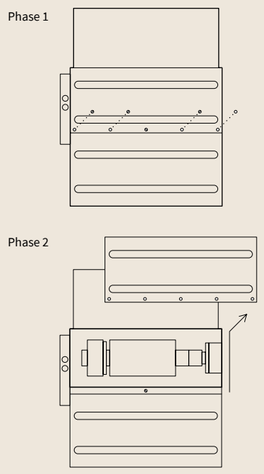
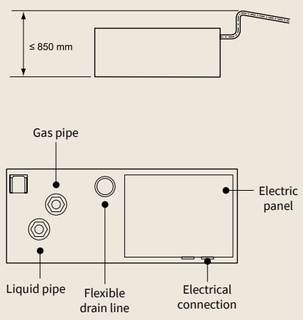
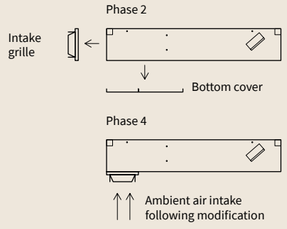


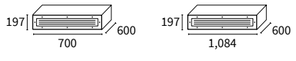
Fig. 2





The air inlet direction can be changed using dedicated accessories series D-ICA04 (for RPI-0.4FSN5E indoor units) and series D-ICA15 (for RPI-0.6- 1.5FSN5E indoor units)

Indoor units



RPI-0.4FSN5E

RPI-0.6FSN5E
RPI-0.8FSN5E
RPI-1.0FSN5E
RPI-1.5FSN5E

Low pressure duct

Indoor unit			RPI-0.4FSN5E	RPI-0.6FSN5E	RPI-0.8FSN5E	RPI-1.0FSN5E	RPI-1.5FSN5E
Adjustable capacity			-	-	0.60-0.80	-	1.30-1.50
Nominal capacity (VRF SET FREE)	Cooling	kW	1.10	1.70	2.20	2.80	4.00
	Heating	kW	1.30	1.90	2.50	3.20	4.80
Nominal capacity (VRF IVX)	Cooling	kW	-	-	2.00	2.50	3.60
	Heating	kW	-	-	2.20	2.80	4.00
Nominal static pressure (min/max)		Pa	25 (0-30)	20 (0-30)	32 (0-50)	32 (0-50)	27 (0-50)
Air flow rate (low-medium-high)		m^3/h	336-354-384	330-372-420	378-432-480	378-432-480	480-540-600
Sound pressure (low-medium-high)		dB(A)	-	27-30-32	29-31-33	29-31-33	29-31-34
Sound power (high)		dB(A)	-	50	52	52	53
Refrigerant piping diameter (external Φ)	Liquid-gas	inches	1/4-1/2	1/4-1/2	1/4-1/2	1/4-1/2	1/4-1/2
Condensate pipe diameter (external)		mm	32	32	32	32	32
Dimensions	Height	mm	197	197	197	197	197
	Width	mm	700	1,084	1,084	1,084	1,084
	Depth	mm	600	600	600	600	600
Weight		kg	18.0	29.0	29.0	29.0	30.0
Condensate pump			Included	Included	Included	Included	Included
Max head		mm	850	850	850	850	850
Electrical power			1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz

Compatible controls and accessories:

Wired control with display

PC-ARFP1E

Remote control

PC-AWR

Requires receiver.

(Consult Controls & Accessories section)

Compact wired control

PC-ARH1E

Accessories:

– Presence sensor SOR-MSK. Compatible with RPI-(0.4-3.0)FSN5E

– Connector for input/output ports (5 pcs.) PCC- 1A

– Bottom air inlet accessory D-ICA04. Compatible with RPI-0.4FSN5E

– Bottom air inlet accessory D-ICA15. Compatible with RPI-(0.6-1.5)FSN5E

Medium pressure ducts

H-LINK

AIRZONE COMPATIBLE

Capacity control
-0.2 HP
for units from 2.0 HP to 2.5 HP



Presence sensor

The motion sensor, now applicable as an accessory to units between 2.0 and 3.0HP (SOR-MSK), makes it possible to achieve "rational" operation that helps to increase user comfort while reducing electricity consumption.

Compatibility with Econofresh

Duct units in the 4.0 to 5.0 HP sizes are compatible with the free cooling function, which is available after connecting to device EF-456N1E.

Built-in condensate pump

Model RPI-FSN5E is equipped with a built-in condensate pump that can be installed at a height of up to 850 mm above the lowermost point of the unit. (Fig. 2)

Easy installation and facilitated maintenance

Duct units feature simple and rapid accessibility to all internal components:
- circuit board
- access to the filter without requiring supplementary access spaces (Fig. 1)
- the refrigerant and condensate pump connections are made at the side of the unit.

Fig. 1

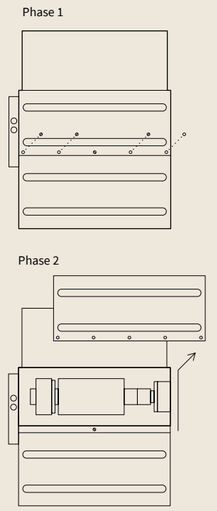
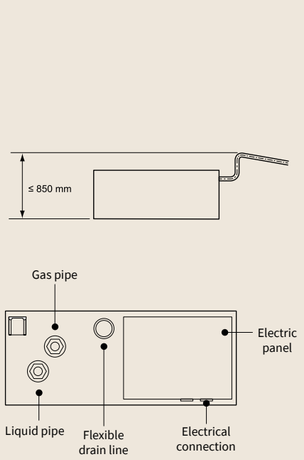
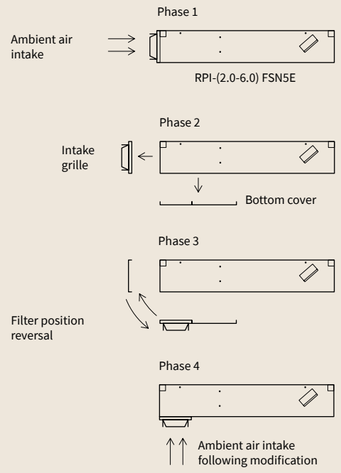


Fig. 2





The intake air filter position can be changed by inverting the position of the filter and the rear cover.

Indoor units



RPI-2.0FSN5E
RPI-2.5FSN5E
RPI-3.0FSN5E

RPI-4.0FSN5E
RPI-5.0FSN5E
RPI-6.0FSN5E

Medium pressure duct units

Indoor unit			RPI-2.0FSN5E	RPI-2.5FSN5E	RPI-3.0FSN5E	RPI-4.0FSN5E	RPI-5.0FSN5E	RPI-6.0FSN5E
Adjustable capacity			1.80-2.00	2.30-2.50	-	-	-	-
Nominal capacity (VRF SET FREE)	Cooling	kW	5.60	7.10	8.00	11.20	14.00	16.00
	Heating	kW	6.30	8.50	9.00	12.50	16.00	18.00
Nominal capacity (VRF IVX)	Cooling	kW	5.00	5.60	7.10	10.00	12.50	14.00
	Heating	kW	5.60	6.30	8.00	11.20	14.00	16.00
Nominal static pressure (min/max)		Pa	30 (0-120)	30 (0-125)	30 (0-125)	45 (0-120)	50 (0-140)	50 (0-140)
Air flow rate (low-medium-high)		m^3/h	600-750-960	780-960-1,140	960-1,140-1,320	1,500-1,680-1,800	1,740-1,920-2,100	1,800-1,980-2,160
Sound pressure (low-medium-high)		dB(A)	27-29-29	28-30-30	29-31-31	32-35-37	33-35-38	33-36-39
Sound power (high)		dB(A)	55	56	57	62	65	66
Refrigerant piping diameter (external Φ)	Liquid-gas	inches	1/4-5/8	3/8-5/8	3/8-5/8	3/8-5/8	3/8-5/8	3/8-5/8
Condensate pipe diameter (external)		mm	32	32	32	32	32	32
Dimensions	Height	mm	275	275	275	275	275	275
	Width	mm	1,084	1,084	1,084	1,474	1,474	1,474
	Depth	mm	600	600	600	600	600	600
Weight		kg	35.0	36.0	36.0	48.0	48.0	48.0
Condensate pump			Included	Included	Included	Included	Included	Included
Max head		mm	850	850	850	850	850	850
Electrical power			1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz

Compatible controls and accessories:



Wired control with display

PC-ARFP1E

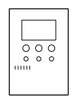


Remote control

PC-AWR

Requires receiver.

(Consult Controls & Accessories section)



Compact wired control

PC-ARH1E

Additional accessories:

– Presence sensor SOR-MSK. Compatible with RPI-(0.4-3.0)FSN5E

– Connector for input/output ports (5 pcs.) PCC- 1A

– Air inlet change accessory D-ICA04. Compatible with RPI-0.4FSN5E

– Air inlet change accessory D-ICA15. Compatible with RPI-(0.6-1.5)FSN5E

High pressure ducts





High available static pressure

RPI units are equipped with a two-level static pressure adjustment system that can be modified in accordance with the installation requirements: Low Static Pressure (factory setting) and High Static Pressure are selectable directly and easily on the electric panel on board the unit. (Fig. 1)

RPI 16-20FSN3PE

The unit is composed of a circuit to be connected by means of an external multi-kit for connection to series FSXNSE and FSXNPE outdoor units.
Accessing the right side of the unit allows maintenance of the two motors, while the opposite side provides access to the refrigerant connection and for maintenance of the condensate drain pan.
Maintenance of the inlet filters is facilitated thanks to the fact that each filter can be folded into 3 parts. (Fig. 2)

Fig. 1

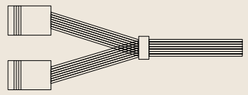
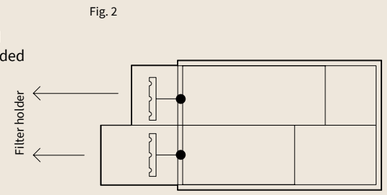
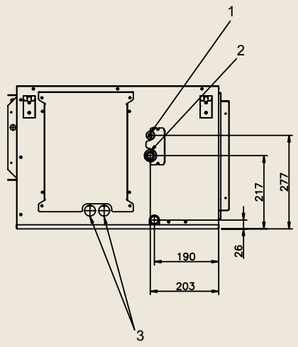
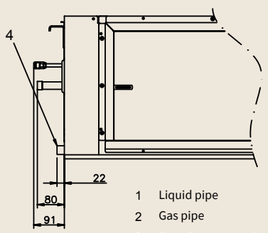


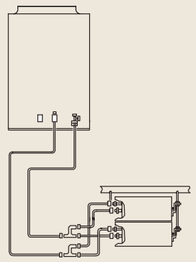
Fig. 2







1 Liquid pipe
2 Gas pipe
3 Electrical connection
4 Flexible drain line



(figure for illustrative purposes only)

Indoor unit	Reference multi-kit
RPI-16.0FSN3PE	E162SN3
RPI-20.0FSN3PE	E242SN3

Indoor units



RPI-8.0FSN3
RPI-10.0FSN3

RPI-16.0FSN3PE
RPI-20.0FSN3PE

High pressure ducts

Indoor unit			RPI-8.0FSN3	RPI-10.0FSN3E	RPI-16.0FSN3PE	RPI-20.0FSN3PE
Adjustable capacity			-	-	-	-
Nominal capacity (VRF SET FREE)	Cooling	kW	22.40	28.00	45.00	56.00
	Heating	kW	25.00	31.00	50.00	63.00
Nominal capacity (VRF IVX)	Cooling	kW	20.00	25.00	-	-
	Heating	kW	22.40	28.00	-	-
Nominal static pressure (min/max)		Pa	180 (140-220)	180 (140-220)	180 (140-220)	180 (140-220)
Air flow rate (low-medium-high)		m^3/h	3,570-3,960-3,960	4,056-4,500-4,500	7,140-7,920-7,920	8,100-9,000-9,000
Sound pressure (low-medium-high)		dB(A)	51-54-54	52-55-55	53-56	54-57
Sound power (high)		dB(A)	77	78	79	80
Refrigerant piping diameter (external Φ)	Liquid-gas	inches	3/8-3/4	3/8-7/8	3/8-3/4	3/8-7/8
Condensate pipe diameter (external)		mm	25	25	2 x25	2 x25
Dimensions	Height	mm	423	423	846	846
	Width	mm	1,592	1,592	1,592	1,592
	Depth	mm	600	600	600	600
Weight		kg	85.0	87.0	171.0	175.0
Condensate pump			Not included	Not included	Not included	Not included
Electrical power			1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz

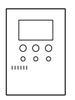
Compatible controls and accessories:



Wired control with display
PC-ARFP1E



Remote control
PC-AWR
Requires receiver.
(Consult Controls & Accessories section)



Compact wired control
PC-ARH1E

4-way mini cassette

Capacity control
-0.2 HP
for units from 0.8 HP to 2.5 HP



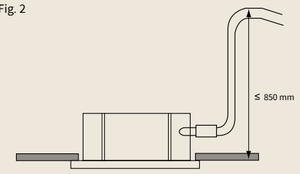
The lowest cooling capacity on the market

It's the indoor unit with the smallest cooling capacity on the market, with its 1.1 kW nominal power. This aspect is particularly important today in modern buildings with their features of low
energy consumption and low thermal losses.

Designed for comfort

Constructed with the aim of boosting energy efficiency, the unit uses a DC fan motor and a condensate pump with DC motor that can be installed up to 850 mm above the unit. (Fig. 2)

Fig. 2



Simplified installation in standard 600x600 mm false ceiling modules

The cassette dimensions are ideal for installation in false ceilings with reduced recess depths: just 285 mm in height and 570 mm in width. The panel dimensions are just 620x620mm, thus avoiding interference with
adjacent panels and facilitating maintenance operations.

New air speed regulation

The wired control allows the fan pressure to be increased so the unit can be installed also in buildings with high ceilings (up to 3.5 m for the 2.5 HP unit).

Speed	Installation height	
Standard	0.6 ÷ 1.5 HP Less than 2.5 m	2.0 HP Less than 2.7 m
Speed (1)	2.5 ÷ 2.9 m	2.7 ÷ 3.1 m
Speed (2)	2.8 ÷ 3.2 m	3.1 ÷ 3.5 m

Enhanced comfort thanks to the independent control of the louvers

The indoor unit louvers are designed to prevent the creation of disturbing cold draughts while also reducing pressure drops.
The louvre design, shaped to exploit the COANDA effect, avoids direct incidence of the cold air flow and improves comfort. (Fig. 1)

Energy saving of up to 14% with the presence sensor

The presence sensor makes it possible to reduce power consumption when the room is not occupied, maintaining a comfortable environment and generating significant energy savings. (Fig. 3)

Suitable for high ceiling installations

Thanks to the facility to increase speed of the fan motors, the units can be installed also in rooms with particularly high ceilings (3.5m).

Fig. 1

Independent control of louvers

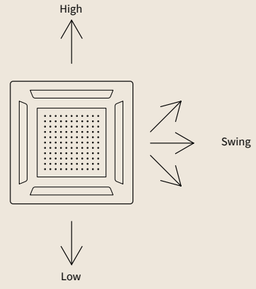
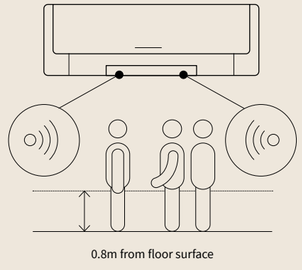
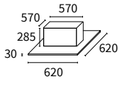


Fig. 3

Presence sensor for RCD



Indoor units



RCIM-0.4FSN4E
RCIM-0.6FSN4E
RCIM-0.8FSN4E
RCIM-1.0FSN4E
RCIM-1.5FSN4E
RCIM-2.0FSN4E
RCIM-2.5FSN4E

4-way mini cassette

Indoor unit			RCIM-0.4FSN4E	RCIM-0.6FSN4E	RCIM-0.8FSN4E	RCIM-1.0FSN4E	RCIM-1.5FSN4E	RCIM-2.0FSN4E	RCIM-2.5FSN4E
Adjustable capacity			-	-	0.60-0.80	-	1.30-1.50	1.80-2.00	2.30-2.50
Nominal capacity (VRF SET FREE)	Cooling	kW	1.10	1.70	2.20	2.80	4.00	5.60	7.10
	Heating	kW	1.30	1.90	2.50	3.20	4.80	6.30	8.50
Nominal capacity (VRF IVX)	Cooling	kW	-	-	2.00	2.50	3.60	5.00	5.60
	Heating	kW	-	-	2.20	2.80	4.00	5.60	6.30
Air flow rate (low-medium-high-extra high)		m^3/h	360-414-468-510	360-450-510-600	360-480-570-660	360-510-600-720	420-570-660-780	480-600-720-900	600-720-840-960
Sound pressure (low-medium-high-extra high)		dB(A)	19-20-23-26	24.5-28-30-34	24.5-29-33-36	24.5-30-34-38	27.5-33-37-41	31-35-39-45	35-39-43-47
Sound power (high)		dB(A)	43	47	50	51	54	56	60
Refrigerant piping diameter (external Φ)	Liquid-gas	inches	1/4-1/2	1/4-1/2	1/4-1/2	1/4-1/2	1/4-1/2	1/4-1/2	3/8-5/8
Condensate pipe diameter (external)		mm	32	32	32	32	32	32	32
Dimensions	Height	mm	285	285	285	285	285	285	285
	Width	mm	570	570	570	570	570	570	570
	Depth	mm	570	570	570	570	570	570	570
Weight		kg	16.0	16.0	16.0	16.0	16.0	17.0	17.0
Panel dimensions	Height	mm	30	30	30	30	30	30	30
	Width	mm	620	620	620	620	620	620	620
	Depth	mm	620	620	620	620	620	620	620
Panel weight		kg	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Condensate pump			Included	Included	Included	Included	Included	Included	Included
Max head		mm	850	850	850	850	850	850	850
Electrical power			1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz
Air Panel			P-AP56NAM	P-AP56NAM	P-AP56NAM	P-AP56NAM	P-AP56NAM	P-AP56NAM	P-AP56NAM

Compatible controls and accessories:

Wired control with display
PC-ARFP1E

Remote control
PC-AWR
Requires receiver.
(Consult Controls & Accessories section)

Compact wired control
PC-ARH1E

Accessories
– Presence sensor SOR-NEC

4-way cassette units



Capacity control

-0.2 HP

for units from 1.5 HP to 2.5 HP

Very high energy efficiency

Thanks to the heat exchanger, made with 5 mm diameter piping, the turbo fan with three-dimensional curved blades, and the condensate pump with DC motor, the energy efficiency of 4-way cassette indoor units is among the highest on the market.

Designed for comfort

Constructed with the aim of boosting energy efficiency, the unit uses a DC fan motor and a condensate pump with DC motor that can be installed up to 850 mm above the unit.
The condensate drain pan contains silver ion antibacterial agents capable of preventing the growth of mould and bacteria and offering protection up to 10,000 hours of operation. (Fig. 2)

Ideal comfort

The special shape of the louvers makes it possible to avoid the disturbances caused by suboptimal air distribution and prevents the creation of cold draughts. Thanks also to the individual control of the 4 louvers and the facility to increase the speed of the fan motors, the unit is more flexible and can be installed in premises with particularly high ceilings such as stores and shopping malls.

New air speed regulation

The wired control allows the fan pressure to be increased so the unit can be installed also in buildings with high ceilings (up to 4.2 m for the 5.0 HP unit).

Speed Setting	Room Height	
Standard	(1.0-3.0) HP	(4.0-6.0) HP
Speed (1)	2.7	3.2
Speed (2)	3.5 m	4.2

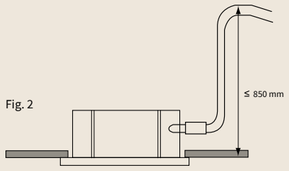
More comfort thanks to independent control of the louvers

The indoor unit louvers are designed to prevent the creation of disturbing cold draughts while also reducing pressure drops.
The louvre design, shaped to exploit the COANDA effect, avoids direct incidence of the cold air flow and improves comfort. (Fig. 1)

Energy saving of up to 14% with the presence sensor

The presence sensor allows a reduction in consumption when the room is unoccupied, maintaining a comfortable environment and generating significant energy savings. (Fig. 3)

Fig. 2



Suitable for high ceiling installations

Thanks to the facility to increase speed of the fan motors, the units can be installed also in rooms with particularly high ceilings (4.2m).

Fig. 1

Independent control of louvers

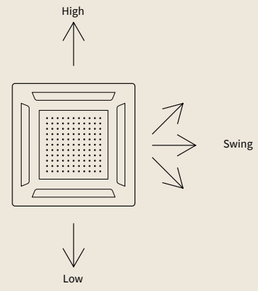
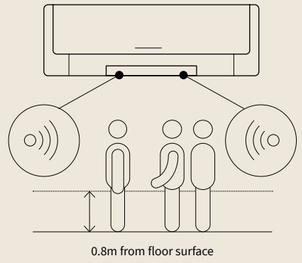
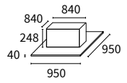


Fig. 3

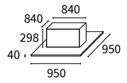
Presence sensor for RCD



Indoor units



RCI-1.0FSN4
RCI-1.5FSN4
RCI-2.0FSN4
RCI-2.5FSN4



RCI-3.0FSN4
RCI-4.0FSN4
RCI-5.0FSN4
RCI-6.0FSN4

4-way cassette units

Indoor unit			RCI-1.0FSN4	RCI-1.5FSN4	RCI-2.0FSN4	RCI-2.5FSN4	RCI-3.0FSN4	RCI-4.0FSN4	RCI-5.0FSN4	RCI-6.0FSN4
Adjustable capacity			-	1.30-1.50	1.80-2.00	2.30-2.50	-	-	-	-
Nominal capacity (VRF SET FREE)	Cooling	kW	2.80	4.00	5.60	7.10	8.00	11.20	14.00	16.00
	Heating	kW	3.20	4.80	6.30	8.50	9.00	12.50	16.00	18.00
Nominal capacity (VRF IVX)	Cooling	kW	2.50	3.60	5.00	5.60	7.10	10.00	12.50	14.00
	Heating	kW	2.80	4.00	5.60	6.30	8.00	11.20	14.00	16.00
Air flow rate (low-medium-high-extra high)		m^3/h	540-660-780-900	660-840-1,020-1,260	660-840-1,020-1,320	840-1,080-1,380-1,620	840-1,080-1,380-1,620	1,200-1,440-1,860-2,220	1,260-1,560-1,980-2,220	1,320-1,680-2,100-2,220
Sound pressure (low-medium-high-extra high)		dB(A)	27-28-30-33	27-30-31-35	27-30-32-37	28-32-36-42	28-32-36-42	33-39-43-48	35-40-45-48	37-41-46-48
Sound power (high)		dB(A)	52	53	55	56	57	64	64	65
Refrigerant piping diameter (external Φ)	Liquid-gas	inches	1/4-1/2	1/4-1/2	1/4-1/2	3/8-5/8	3/8-5/8	3/8-5/8	3/8-5/8	3/8-5/8
Condensate pipe diameter (external)		mm	32	32	32	32	32	32	32	32
Dimensions	Height	mm	248	248	248	248	298	298	298	298
	Width	mm	840	840	840	840	840	840	840	840
	Depth	mm	840	840	840	840	840	840	840	840
Weight		kg	20.0	21.0	21.0	22.0	26.0	26.0	26.0	26.0
Panel dimensions	Height	mm	40	40	40	40	40	40	40	40
	Width	mm	950	950	950	950	950	950	950	950
	Depth	mm	950	950	950	950	950	950	950	950
Panel weight		kg	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5
Condensate pump			Included	Included	Included	Included	Included	Included	Included	Included
Max head		mm	850	850	850	850	850	850	850	850
Electrical power			1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz
Air Panel			P-N23NA2	P-N23NA2	P-N23NA2	P-N23NA2	P-N23NA2	P-N23NA2	P-N23NA2	P-N23NA2

Compatible controls and accessories:



Wired control with display

PC-ARFP1E



Remote control

PC-AWR

Requires receiver.

(Consult Controls & Accessories section)



Compact wired control

PC-ARH1E

Accessories

– Presence sensor PS-MSK2

2-way cassette units



Capacity control
-0.2 HP
for units from 1.5 HP to 2.5 HP



Unique characteristics

The styling of the 2-way cassette is coordinated with the line of 4-way cassettes of the compact 600x600 and standard 840x840 ranges. Equipped with
natural white panel, makes it possible to meet the requirement for a broad power range, from 2.2 kW up to 7.1 kW.

Designed for comfort

Built with the aim of increasing energy efficiency, the unit employs a DC fan motor and a condensate pump with a DC motor allowing installation at up to 850 mm above the unit.
The condensate drain pan contains silver ion antibacterial agents capable of preventing the propagation of mould and bacteria and offering protection up to 10,000 duty hours. (Fig. 1)

Energy saving of up to 14% with the presence sensor

The presence sensor makes it possible to reduce power consumption during periods in which the room is unoccupied, maintaining a comfortable environment and generating significant energy savings. (Fig. 3)

High technology and efficiency

The evaporator heat exchanger is designed to offer reduced resistance to the passage of air and prevent heat transfer between the tube rows. The electronic control is programmed for independent management of the +1 °C / +2 °C temperature differential with respect to the set temperature, guaranteeing a substantial reduction of energy consumption.

Fresh air

Optional intake of outdoor air via a circular knockout and facility to transfer air to small volume adjoining spaces. (Fig. 2)

Fig. 3

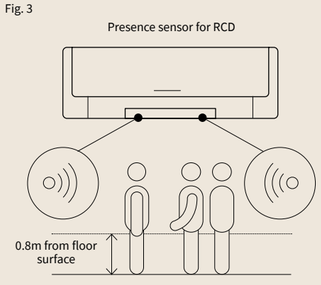


Fig. 1

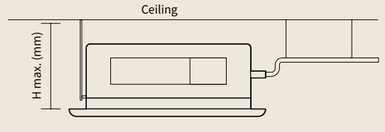
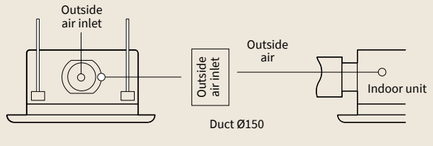
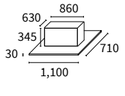


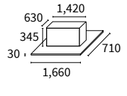
Fig. 2



Indoor units



RCD-0.8FSN3
RCD-1.0FSN3
RCD-1.5FSN3
RCD-2.0FSN3
RCD-2.5FSN3
RCD-3.0FSN3



RCD-4.0FSN3
RCD-5.0FSN3
RCD-6.0FSN3

2-way cassette units

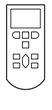
Indoor unit			RCD-0.8FSN3	RCD-1.0FSN3	RCD-1.5FSN3	RCD-2.0FSN3	RCD-2.5FSN3	RCD-3.0FSN3	RCD-4.0FSN3	RCD-5.0FSN3	RCD-6.0FSN3
Adjustable capacity			-	-	1.30-1.50	1.80-2.00	2.30-2.50	-	-	-	-
Nominal capacity (VRF SET FREE)	Cooling	kW	2.20	2.80	4.00	5.60	7.10	8.00	11.20	14.00	16.00
	Heating	kW	2.50	3.20	4.80	6.30	8.50	9.00	12.50	16.00	18.00
Nominal capacity (VRF IVX)	Cooling	kW	2.00	2.50	3.60	5.00	5.60	7.10	10.00	12.50	14.00
	Heating	kW	2.20	2.80	4.00	5.60	6.30	8.00	11.20	14.00	16.00
Air flow rate (low-medium-high-extra high)		m^3/h	390-450-540-600	420-510-570-660	600-690-780-900	630-750-870-990	750-870-990-1,110	750-960-1,110-1,260	1,200-1,380-1,590-1,800	1,260-1,620-1,860-2,100	1,440-1,710-1,950-2,220
Sound pressure (low-medium-high-extra high)		dB(A)	27-28-29-30	27-28-29-31	30-31-34-37	30-33-36-39	33-36-39-42	33-38-42-45	34-37-40-43	35-41-44-47	39-42-45-48
Sound power (high)		dB(A)	44	46	49	51	52	55	55	55	59
Refrigerant piping diameter (external Φ)	Liquid-gas	inches	1/4-1/2	1/4-1/2	1/4-1/2	1/4-1/2	3/8-5/8	3/8-5/8	3/8-5/8	3/8-5/8	3/8-5/8
Condensate pipe diameter (external)		mm	32	32	32	32	32	32	32	32	32
Dimensions	Height	mm	345	345	345	345	345	345	345	345	345
	Width	mm	860	860	860	860	860	860	1,420	1,420	1,420
	Depth	mm	630	630	630	630	630	630	630	630	630
Weight		kg	23.0	23.0	25.0	25.0	25.0	25.0	39.0	39.0	39.0
Panel dimensions	Height	mm	30	30	30	30	30	30	30	30	30
	Width	mm	1,100	1,100	1,100	1,100	1,100	1,100	1,660	1,660	1,660
	Depth	mm	710	710	710	710	710	710	710	710	710
Panel weight		kg	7.5	7.5	7.5	7.5	7.5	7.5	10.5	10.5	10.5
Condensate pump			Included	Included	Included	Included	Included	Included	Included	Included	Included
Max head		mm	850	850	850	850	850	850	850	850	850
Electrical power			1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz
Air Panel P-AP90DNA (FROM 0.8 TO 3.0), P-AP160DNA (FROM 4.0 TO 6.0)			P-AP90DNA	P-AP90DNA	P-AP90DNA	P-AP90DNA	P-AP90DNA	P-AP90DNA	AP160DNA	AP160DNA	AP160DNA

Compatible controls and accessories:



Wired control with display

PC-ARFP1E

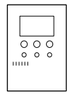


Remote control

PC-AWR

Requires receiver.

(Consult Controls & Accessories section)



Compact wired control

PC-ARH1E

Accessories

–SOR-NED presence sensor

Ceiling

Capacity control
-0.2 HP
for units from 1.5 HP to 2.5 HP



Comfort

The provision to fit the condensate pump (optional) inside the unit, and the useful pump head of 600 mm, makes it possible to meet the needs of many complex installations. (Fig. 1)

Energy saving

The use of the presence sensor, which can be installed on board the indoor unit, makes it possible to achieve energy savings estimated at approximately 14%. The motion sensor adapts performance of the system in accordance with occupancy of the room. (Fig. 2)

Versatile installation

The refrigerant piping can be connected in three different directions to provide a more flexible response to installation requirements.

New air speed regulation

The wired control allows the DC fan pressure to be increased so the unit can be installed also in applications with high ceilings of up to 4.3 m for units with power outputs above 4.0 HP.

Fig. 1

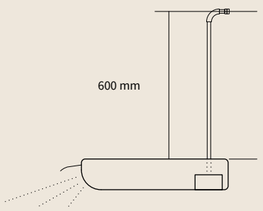
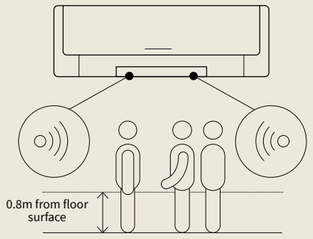
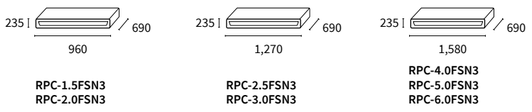


Fig. 2

Presence sensor for RCD



Indoor units



RPC-1.5FSN3
RPC-2.0FSN3

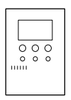
RPC-2.5FSN3
RPC-3.0FSN3

RPC-4.0FSN3
RPC-5.0FSN3
RPC-6.0FSN3

Ceiling

Indoor unit			RPC-1.5FSN3	RPC-2.0FSN3	RPC-2.5FSN3	RPC-3.0FSN3	RPC-4.0FSN3	RPC-5.0FSN3	RPC-6.0FSN3
Adjustable capacity			1.30-1.50	1.80-2.00	2.30-2.50	-	-	-	-
Nominal capacity (VRF SET FREE)	Cooling	kW	4.00	5.60	7.10	8.00	11.20	14.00	16.00
	Heating	kW	4.80	6.30	8.50	9.00	12.50	16.00	18.00
Nominal capacity (VRF IVX)	Cooling	kW	3.60	5.00	5.60	7.10	10.00	12.50	14.00
	Heating	kW	4.00	5.60	6.30	8.00	11.20	14.00	16.00
Air flow rate (low-medium-high-extra high)		m^3/h	540-660-780-900	540-660-780-900	690-840-990-1,140	750-930-1,110-1,260	1,020-1,320-1,590 -1,800	1,200-1,530-1,860-2,100	1,260-1,620-1,950-2,220
Sound pressure (low-medium-high-extra high)		dB(A)	28-31-35-37	28-31-35-38	28-31-35-38	29-33-37-40	32-37-42-44	35-41-45-48	36-42-47-49
Sound power (high)		dB(A)	53	54	54	56	60	64	65
Refrigerant piping diameter (external Φ)	Liquid-gas	inches	1/4-1/2	1/4-5/8	3/8-5/8	3/8-5/8	3/8-5/8	3/8-5/8	3/8-5/8
Condensate pipe diameter (external)		mm	25	25	25	25	25	25	25
Dimensions	Height	mm	235	235	235	235	235	235	235
	Width	mm	960	960	1,270	1,270	1,580	1,580	1,580
	Depth	mm	690	690	690	690	690	690	690
Weight		kg	26.0	27.0	35.0	35.0	41.0	41.0	41.0
Electrical power			1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz

Compatible controls and accessories:



Compact wired control

PC-ARH1E



Wired control with display

PC-ARFP1E

Accessories

- SOR-NEP presence sensor. Compatible with RPC-FSN3
- Connector for input/ output ports (5 pcs.) PCC- 1A
- Receiver kit for PC- AWR (PC-ALHZ1). Compatible with RPC-FSN3
- Receiver kit for PC- AWR (PC-ALHP1). Compatible with RPC-FSN3

Floor-standing unit

Capacity control
-0.2 HP
for units from 1.5 HP to 2.5 HP



Slim and compact design

The slim and compact line of these units, with their depth of just 220 mm, allows installation without detracting from the aesthetic appearance of the premises.

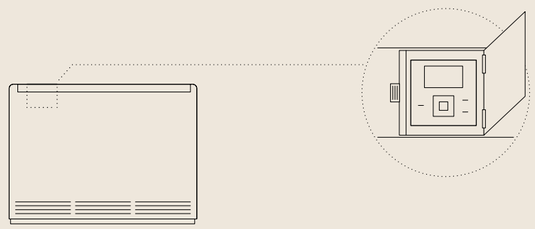
Wired control

The wired control can be concealed inside the unit in a location under the panel. (Fig. 1)

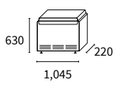
Compact dimensions

Installation under windows is never a problem thanks to the height of just 630 mm.

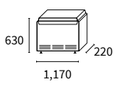
Fig. 1



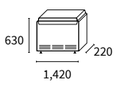
Indoor units



RPF-1.0FSN2E



RPF-1.5FSN2E



RPF-2.0FSN2E
RPF-2.5FSN2E

Floor-standing unit

Indoor unit			RPF-1.0FSN2E	RPF-1.5FSN2E	RPF-2.0FSN2E	RPF-2.5FSN2E
Adjustable capacity			-	1.30-1.50	1.80-2.00	2.30-2.50
Nominal capacity (VRF SET FREE)	Cooling	kW	2.80	4.00	5.60	7.10
	Heating	kW	3.20	4.80	6.30	8.50
Nominal capacity (VRF IVX)	Cooling	kW	2.50	3.60	5.00	5.60
	Heating	kW	2.80	4.00	5.60	6.30
Air flow rate (low-medium-high)		m^3/h	360-420-510	540-600-720	660-840-960	660-840-960
Sound pressure (low-medium-high)		dB(A)	29-32-35	31-35-38	32-36-39	34-38-42
Sound power (high)		dB(A)	57	60	60	60
Refrigerant piping diameter (external Φ)	Liquid-gas	inches	1/4-1/2	1/4-1/2	1/4-5/8	3/8-5/8
Condensate pipe diameter (external)		mm	18.5	18.5	18.5	18.5
Dimensions	Height	mm	630	630	630	630
	Width	mm	1,045	1,170	1,420	1,420
	Depth	mm	220	220	220	220
Weight		kg	25	28	33	34
Electrical power			1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz

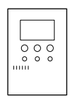
Compatible controls and accessories:



Wired control with display
PC-ARFP1E



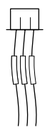
Remote control
PC-AWR
Requires receiver.
(Consult Controls & Accessories section)



Compact wired control
PC-ARH1E



Receiver kit for PC- AWR
PC-ALHZ1
Compatible with RPF(I)-FSN2E



Connector for input/output ports (5 pcs.)
PCC- 1A

Recessed floor unit

Capacity control

-0.2 HP

for units from 1.5 HP to 2.5 HP



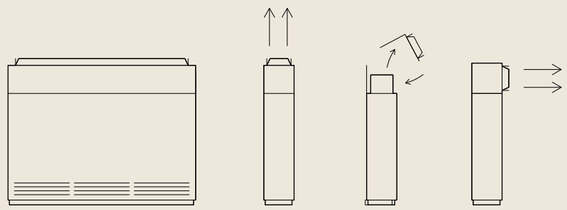
Compact design

RPFI units are just 220 mm deep, with height of just 620 mm they can be easily installed on a wall while occupying a minimum amount of floor space.

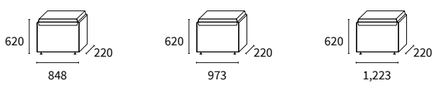
Adjustable air discharge

In RPFI units the air discharge direction can be adjusted to match the installation requirements. (Fig. 1)

Fig. 1



Indoor units



RPFI-1.0FSN2E | **RPFI-1.5FSN2E** | **RPFI-2.0FSN2E** **RPFI-2.5FSN2E**

Recessed floor unit

Indoor unit			RPFI-1.0FSN2E	RPFI-1.5FSN2E	RPFI-2.0FSN2E	RPFI-2.5FSN2E
Adjustable capacity			-	1.30-1.50	1.80-2.00	2.30-2.50
Nominal capacity (VRF SET FREE)	Cooling	kW	2.80	4.00	5.60	7.10
	Heating	kW	3.20	4.80	6.30	8.50
Nominal capacity (VRF IVX)	Cooling	kW	2.50	3.60	5.00	5.60
	Heating	kW	2.80	4.00	5.60	6.30
Air flow rate (low-medium-high)		m^3/h	360-420-510	540-600-720	660-840-960	660-840-960
Sound pressure (low-medium-high)		dB(A)	29-32-35	31-35-38	32-36-39	34-38-42
Sound power (high)		dB(A)	57	60	60	60
Refrigerant piping diameter (external Φ)	Liquid-gas	inches	1/4-1/2	1/4-1/2	1/4-5/8	3/8-5/8
Condensate pipe diameter (external)		mm	18.5	18.5	18.5	18.5
Dimensions	Height	mm	620	620	620	620
	Width	mm	848	973	1,223	1,223
	Depth	mm	220	220	220	220
Weight		kg	19.0	23.0	27.0	28.0
Electrical power			1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz

Compatible controls and accessories:



Wired control with display

PC-ARFP1E

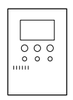


Remote control

PC-AWR

Requires receiver.

(Consult Controls & Accessories section)



Compact wired control

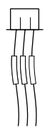
PC-ARH1E



Receiver kit for PC- AWR

PC-ALHZ1

Compatible with RPF(I)-FSN2E



Connector for input/output ports (5 pcs.)

PCC- 1A

Hydro Free low temperature

All the applications in a single system:
water heating (up to +45 °C) in combination with Sigma and SetFree mini series SetFree systems (8-12 HP).



Built-in components

The hydraulic module in the low temperature version allows the transfer of energy from the outdoor unit's refrigerant circuit to the heating/ system hydraulic circuit and to produce domestic hot water.
Maximum hot water outlet temperature: + 45 °C.

Flexible installation

The low temperature version has the following features:
- Ultra-compact design for wall-mounting
- Inverter driven water pump and expansion vessel
installed in the appliance chassis
- All internal components are easily accessible to facilitate maintenance operations
- Access to the hydraulic and refrigerant connections
from the bottom of the machine for safe and rapid installation.

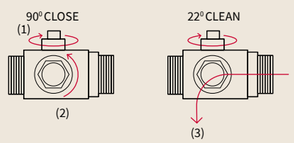
High flexibility

The low temperature module can be connected to SetFree Sigma and SetFree mini (8-12 HP) outdoor units in heat pump and heat recovery applications.

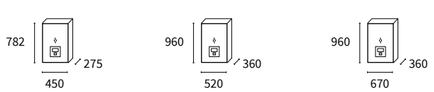
Hydraulic circuit strainer

Hydro Free units incorporate a ball valve containing an interchangeable cylindrical strainer that's easy to inspect and remove for maintenance
and cleaning purposes. With very low pressure drops, the valve provides a perfect seal and high filtration efficiency, thereby protecting all internal components. (Fig. 1)

Fig. 1



Hydro Free low temperature



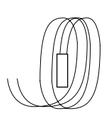
RWLT-3.0VN1E **RWLT-5.0VN1E** **RWLT-10.0VN1E**

Hydro Free low temperature

Indoor unit			RWLT-3.0VN1E	RWLT-5.0VN1E	RWLT-10.0VN1E
Capacity	Heating (nominal)	kW	9.00	16.00	31.00
Working range	Heating	°C	-20 ÷ 23	-20 ÷ 23	-20 ÷ 23
	DHW	°C	-20 ÷ 52*	-20 ÷ 52*	-20 ÷ 52*
Water outlet temperature	Heating	°C	20 ÷ 45	20 ÷ 45	20 ÷ 45
	DHW	°C	30 ÷ 40	30 ÷ 40	30 ÷ 40
Nominal water flow (30°C/35°C)		m^3/h	1.5	2.7	4.7
Sound power		dB(A)	37	39	47
Refrigerant piping diameter (external Φ)	Liquid-gas	inches	3/8"-5/8"	3/8"-5/8"	3/8"-7/8"
Hydraulic pipe diameter - inlet		inches	G 1	G 1 -1/4"	G 1 -1/4"
Hydraulic pipe diameter - outlet		inches	G 1	G 1 -1/4"	G 1 -1/4"
Internal expansion vessel volume		l	6	6	10
Minimum water volume of the installation		l	100	150	180
Dimensions (H [with connections] x W x D)		mm	712(782)x450x275	890(690)x520x360	890(960)x670x360
Weight		kg	35.0	50.0	62.0
Electrical power			1~230V 50Hz	1~230V 50Hz	1~230V 50Hz

*48°C with RAS-FSXNSE and SetFree mini, 52°C with RAS-FSXNPE

Compatible controls and accessories:



Universal water temperature sensor

ATW-WTS-02Y

Hydro Free high temperature

All the applications in a single system: heating and production of domestic hot water up to 80 °C in combination with the Set Free Sigma and Set Free Mini systems (8-12 HP)



Built-in components

All the hydraulic components are built-in (pump, expansion vessel, air purge valve, safety valve, filter, pressure gauge). The Y strainer protecting the hydraulic circuit allows easy cleaning of the circuit without having to drain the water from the installation.

Smart cascade cycle

With the high temperature Hydro Free module heat can be transferred to the hot water circuit to reach the maximum temperature of 80°C without the use of an electric heating element, thanks to support of the second compression cycle of the compressor in R134 a. The cascade cycle is smart because the second compressor steps in only if necessary and with a temperature demand in excess of 45 °C. (Fig. 3)

The SMART GRID function can be selected, the compressor response to R134a can be adapted, and other optional functions are available to bring system performance into line with the requirements of the specific installation. (Fig. 1)

High flexibility

The high temperature module can be connected to outdoor units from the SetFree Sigma and SetFree mini range (8-12 HP) in heat pump and heat recovery applications.

Energy saving

In heat recovery applications such as hotels, restaurants or offices, the use of the Hydro Free module makes it possible to comply with statutory energy saving regulations, which require domestic hot water production from renewable sources.

Hydraulic circuit strainer

Hydro Free units incorporate a ball valve containing an interchangeable cylindrical strainer that's easy to inspect and remove for maintenance and cleaning purposes. With very low pressure drops, the valve provides a perfect seal and high filtration efficiency, thereby protecting all internal components. (Fig. 2)

Fig. 2

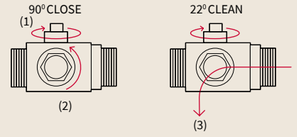


Fig. 1

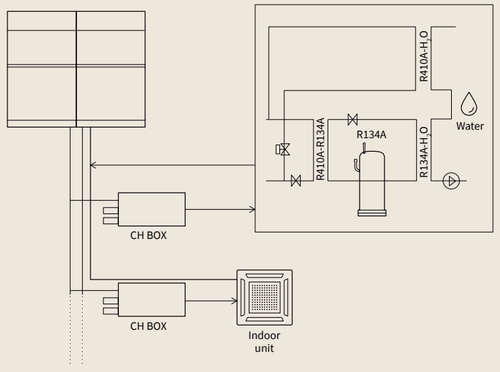
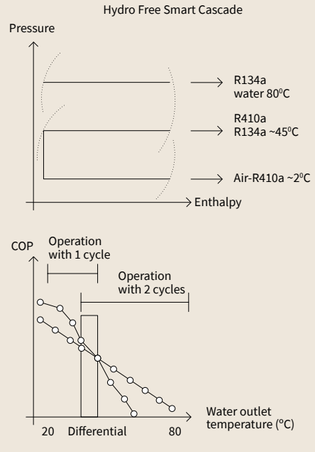
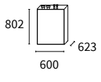


Fig. 3



High temperature Hydro Free



RWHT-5.0VNF1E

Hydro Free high temperature

Indoor unit			RWHT-5.0VNF1E
Capacity	Heating (nominal)	kW	16.00
Working range	Heating	°C	-20 ÷ 23
	DHW	°C	-20 ÷ 52*
Water outlet temperature	Heating	°C	20 ÷ 80
	DHW	°C	30 ÷ 75
Nominal water flow rate		m^3/h	2.8
Sound power		dB(A)	57
Refrigerant piping diameter (external Φ)	Liquid-gas	inches	3/8" - 5/8"
Hydraulic pipe diameter - inlet		inches	G1 - 1/4"
Hydraulic pipe diameter - outlet		inches	G1 - 1/4"
Internal expansion vessel volume		l	12
Minimum water volume of the installation		l	80
Compressor			DC Inverter Scroll
Refrigerant			R410A / R134A
Refrigerant charge		kg	1.9
Dimensions (H [with connections] x W x D)		mm	751(802)x600x623
Weight		kg	129.0
Electrical power			1~230V 50Hz

*48°C with RAS-FSXNSE and SetFree mini, 52°C with RAS-FSXNPE

Compatible controls and accessories:

Wired control for Hydro Free
PC-ARFWE

Universal water temperature sensor
ATW-WTS-02Y

DX-Kit





Compatibility

The DX-KIT interface is the device that makes it possible
to connect direct heat exchangers,
such as Air Handling Units, and air curtains, to HITACHI outdoor units. Heating and cooling operations are guaranteed with different priorities based on the type of outdoor unit installed.

Regulation

Connecting the DX KIT to a dedicated XH series outdoor unit allows the system to control heating and cooling performance in compliance with the heat exchanger input and/or output temperature, or by means of an external signal (voltage or current). (Fig. 1)

Total integration

The DX KIT is fully compatible with the heat exchangers installed in air curtain units manufactured by third parties, such as those made by FRICO - Systemair, capable of operating in both heating and cooling mode.

Temperature precision

Combination of the DX-KIT with XH series outdoor units is a guarantee of the highest levels of precision in maintaining the target temperature.

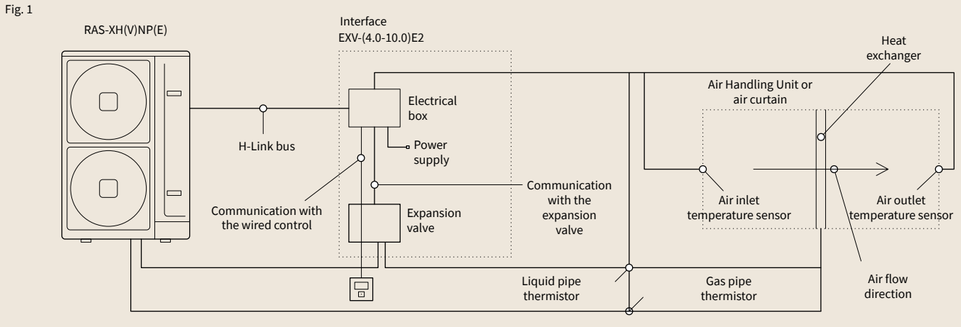
All elements are integrated

The kit includes the main devices requested on the market:

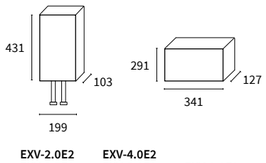
- expansion valve
- 4 sensors for measuring air temperature and refrigerant circuit temperature
- terminal board to control two EC fan motors
- terminal board for variable voltage and current inputs
- connection to air quality sensor (optional)
- condensate pump management

All functions of the characteristic INPUT and OUTPUT ports of VRF Set Free indoor units.

Fig. 1

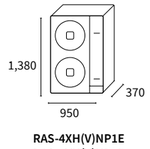


Expansion valve and electric box



EXV-2.0E2
EXV-2.5E2
EXV-3.0E2
EXV-4.0E2
EXV-5.0E2
EXV-6.0E2
EXV-8.0E2
EXV-10.0E2

XH series outdoor unit



RAS-4XH(V)NP1E
RAS-5XH(V)NP1E
RAS-6XH(V)NP1E
RAS-8XHNP1E
RAS-10XHNP1E

Dx-Kit - Expansion valve and electric box

Indoor unit			EXV-2.0E2	EXV-2.5E2	EXV-3.0E2	EXV-4.0E2	EXV-5.0E2	EXV-6.0E2	EXV-8.0E2	EXV-10.0E2
Capacity	Cooling (min/nom/max)	kW	4.00-**5.00**-5.60	4.80-**6.00**-6.30	5.70-**7.10**-8.00	8.00-**10.00**-11.20	10.00-**12.50**-14.00	11.20-**14.00**-16.00	16.00-**20.00**-22.40	20.00-**25.00**-28.00
	Heating (min/nom/max)	kW	4.50-**5.60**-7.10	5.60-**7.00**-7.10	6.40-**8.00**-9.00	9.00-**11.20**-12.50	11.20-**14.00**-16.00	12.80-**16.00**-18.00	17.90-**22.40**-25.00	22.40-**28.00**-31.50
Heat exchanger internal volume *	Minimum	l	0.57	0.89	1.03	1.51	1.92	1.92	2.92	3.89
	Maximum	l	1.64	1.83	2.89	4.56	4.56	5.11	6.93	10.73
Recommended air volume to heat exchanger	Minimum	m^3/h	480	690	750	1,200	1,380	1,500	3,540	4,080
	Maximum	m^3/h	1,260	1,560	1,800	2,160	2,490	2,550	4,680	5,340
Expansion valve dimensions	Height	mm	431	431	431	431	431	431	431	431
	Width	mm	199	199	199	199	199	199	199	199
	Depth	mm	103	103	103	103	103	103	103	103
Expansion valve weight		kg	2.0	2.7	2.7	2.7	2.7	2.7	4.5	4.5
Junction box dimensions	Height	mm	291	291	291	291	291	291	291	291
	Width	mm	341	341	341	341	341	341	341	341
	Depth	mm	127	127	127	127	127	127	127	127
Electric box weight		kg	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Electrical power supply (electric box)			1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	230V 50Hz	230V 50Hz

*Check the technical catalogue in case of combination with outdoor units other than XH series IVX

XH series outdoor unit

Outdoor unit			RAS-4XH(V)NP1E	RAS-5XH(V)NP1E	RAS-6XH(V)NP1E	RAS-8XHNPE	RAS-10XHNPE
Capacity	Cooling (min/nom/max)	kW	4.50-10.00-11.20	5.70-12.50-14.00	6.00-14.00-16.00	8.00-20.00-22.40	10.00-25.00-28.00
	Heating (min/nom/max)	kW	5.00-11.20-14.00	5.00-14.00-18.00	5.00-16.00-20.00	6.30-22.40-28.00	8.00-28.00-35.00
Consumption	Cooling (nom)	kW	1.99	3.11	3.94	5.36	7.88
	Heating (nom)	kW	2.02	2.91	3.61	5.06	7.03
Working range	Cooling	°C	15 ÷ 46	15 ÷ 46	15 ÷ 46	15 ÷ 46	15 ÷ 46
	Heating	°C	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15	-20 ÷ 15
Electrical power	Single-phase		1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	-	-
	Three-phase		3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
Air flow rate		m^3/h	4,800	5,400	6,000	7,620	8,040
Sound pressure (night mode)		dB(A)	47 (43)	48 (44)	48 (45)	57 (55)	58 (56)
Refrigerant piping diameter (external Φ)	Liquid-gas	inches	3/8-5/8	3/8-5/8	3/8-5/8	8/3/2001	2/1/2001
Maximum piping length		m	75	75	75	100	100
Maximum level difference (highest OU/lowest OU)		m	30/20	30/20	30/20	30/20	30/20
Compressor			DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll	DC Inverter Scroll
Refrigerant			R410A	R410A	R410A	R410A	R410A
Initial refrigerant charge (length without additional charge)		kg (m)	4.1 (30)	4.2 (30)	4.2 (30)	5.7 (30)	6.2 (30)
Additional refrigerant charge		g/m	n.a.	n.a.	n.a.	n.a.	n.a.
Dimensions (H x W x D)		mm	1.380x950x370	1.380x950x370	1.380x950x370	1.380x950x370	1.380x950x370
Weight		kg	103	103	103	136	138

Combinations and application type

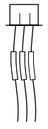
			VRF IVX	VRF IVX XH	VRF Set Free
Application Type	Air curtain	Compatibility	mono	—	Multi
		Controlled variable	Outlet air temperature control	—	Inlet temperature control
		Capacity	2 - 10 HP	—	2 - 10 HP
	Duct	Compatibility	mono	Modular	Multi
		Controlled variable	Inlet temperature control	Inlet temperature control	Inlet temperature control
		Capacity	2 - 10 HP	15 - 50 HP	2 - 10 HP
	Air Handling Unit	Compatibility	—	mono or modular	—
		Controlled variable	—	Control of outlet air temperature or via external signal	—
		Capacity	—	4 - 50 HP	—

Compatible controls and accessories:



Wired control with display

PC-ARFP1E



Connector for input/output ports (5 pcs.)

PCC- 1A

Air renewal is the key point to obtain a controlled environment, both in terms of air quality and in terms of personal comfort. The air renewal range offered by Hitachi guarantees high air quality, energy savings and efficiency.



Air renewal



Air renewal

Quick selection table

		Air flow rate (m³/h)						Heat exchanger
		250	500	800	1000	1500	2000	
Heat recovery exchanger	KPI-252-2002(E)4E	•	•	•	•	•	•	
	KPI-502-1002X4E		•	•	•			•

		Compatibility		
		RPI-4FSN5E	RPI-5FSN5E	RPI-6FSN5E
Econofresh (free cooling)	EF-456N1E	•	•	•



Heat recovery exchanger

High efficiency enthalpy recovery exchanger



High efficiency enthalpy recovery exchanger

Operation at low outside air temperatures could result in discomfort in the indoor environment. It is therefore possible to use the option of coordinating an external electric heater that can cut in when the outside air inlet temperature falls below -5 ° C.
This type of coordination is recommended to avoid possible lowering of the air outlet temperature in installations characterised by particularly high thermal loads.

Sound level reduction

The noise attenuator, which is available as an accessory, allows noise reduction by up to -5 dB(A) and is recommended in the case of particularly critical installations (see accessories).

Automatic bypass

The heat recovery exchangers are equipped with a by-pass mechanism that is enabled automatically and prevents excessive heating of rooms when outdoor temperature conditions are unfavourable.

Versatile systems

To guarantee the maximum comfort level, the user can choose from among 3 different operating modes: forced energy recovery, ventilation, and
automatic ventilation (default setting).

G3 and F7 filters for efficient air quality control

All the heat recovery exchangers use two G3 type air filters, one in the air inlet zone and the other in the air outlet zone. The degree of filtration can be increased by fitting filter type F7 (classification in compliance with EN779), designed to mitigate the effects of external contamination.

Static pressure regulation

The static fan pressure can be regulated quickly and easily by means of the optional functions on the wired control to adapt the value to match the effective needs of the specific installation.
Moreover, in the case of installations with particularly long ducts, an "extra-high" speed can be selected.

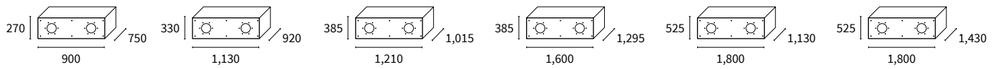
Complies with European Standards

The products comply with the statutory ErP ECO-Design Directives batch 6 concerning fan units.

Optional CO_2 sensor for automatic ventilation

There are two functional options available:
- Automatic speed mode with proportional output CO_2 sensor.
  The fan speed is controlled automatically further to reading of the sensor that guarantees constant air quality without requiring user intervention.
- High CO_2 concentration.
  The unit maintains the ventilation fan speed constant at the value set via the wired control; when the threshold value is exceeded the speed is automatically set to the maximum value in order to reduce the concentration until it reaches the configured value.

High efficiency enthalpy recovery exchanger



KPI-252E4E **KPI-502E4E** **KPI-802E4E** **KPI-1002E4E** **KPI-1502E4E** **KPI-2002E4E**

Heat recovery exchanger

		KPI-252E4E	KPI-502E4E	KPI-802E4E	KPI-1002E4E	KPI-1502E4E	KPI-2002E4E
Air flow rate (low-medium-high)	m^3/h	180-208-250	360-411-500	540-650-800	620-800-1,000	735-945-1,150	975-1,200-1,650
Static pressure (low-medium-high)	Pa	30-35-55	42-55-80	40-60-90	40-65-95	90-155-228	95-145-282
Maximum static pressure at nominal flow rate	Pa	240	210	120	190	530	458
Working range	°C	-20 ÷ 46 *	-20 ÷ 46 *	-20 ÷ 46 *	-20 ÷ 46 *	-20 ÷ 46 *	-20 ÷ 46 *
Heat exchanger type		Air to Air cross flow	Air to Air cross flow	Air to Air cross flow	Air to Air cross flow	Air to Air cross flow	Air to Air cross flow
Heat exchange efficiency (low-medium-high)	%	74-77-79	73-75-77	76-78-79	76-78-81	73-76-80	76-78-80
Enthalpy exchange efficiency in heating mode (high)	%	66.0	65.0	65.0	68.0	68.0	66.5
Enthalpy exchange efficiency in cooling mode (high)	%	60.0	61.0	62.0	62.0	62.5	61.5
Sound pressure (low-medium-high)	dB(A)	25-27-28	30-31-33	33-34-35	32-34-37	35-37-39	36-39-40
Sound power	dB(A)	43	51	54	55	56	57
Dimensions (H x W x D)	mm	270x900x750	330x1.130x920	385x1.210x1.015	385x1.600x1.295	525x1.800x1.130	525x1.800x1.430
Connecting duct diameter	mm	Ø 160	Ø 200	Ø 250	Ø 300	Ø 355	Ø 355
Weight	kg	34.0	46.0	51.0	79.0	97.0	106.0
Type of filter included		G3	G3	G3	G3	G3	G3
Electrical power		1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz	1~230V 50Hz

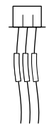
* With outdoor air temperatures below -5 °C DB an electric heater must be installed to coordinate with a supplementary temperature sensor.

Compatible controls and accessories:



Wired control with display

PC-ARFP1E



Connector for input/output ports (5 pcs.)

PCC- 1A



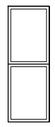
Noise attenuator

SLT-30-200-L600
Compatible with KPI-502E4E

SLT-30-250-L600
Compatible with KPI-802E4E

SLT-30-300-L600
Compatible with KPI-1002E4E

SLT-30-355-L600
Compatible with KPI-1502-2002E4E



High efficiency filter

HEF-252
Compatible with KPI-252E4E

HEF-502
Compatible with KPI-502E4E

HEF-802
Compatible with KPI-802E4E

HEF-1002
Compatible with KPI-1002E4E

HEF-1502
Compatible with KPI-1502E4E

HEF-2002
Compatible with KPI-2002E4E

Heat recovery exchanger

High efficiency enthalpy recovery exchanger with heat exchanger



Series X4E KPI Active

Equipped with a direct heat exchanger, allows integration with the recovery section in cooling and heating modes.

Complies with European Standards

The products comply with the statutory ErP ECO-Design Directives batch 6 concerning fan units.

G3 and F7 filters for efficient air quality control

All the heat recovery exchangers use two G3 type air filters, one in the air inlet zone and the other in the air outlet zone. The degree of filtration can be increased by fitting filter type F7 (classification in compliance with EN779), designed to mitigate the effects of external contamination.

Versatile systems

To guarantee the maximum comfort level, the user can choose from among three different operating modes: forced energy recovery, ventilation, and
automatic ventilation (default setting).

Static pressure regulation

The static ventilation pressure can be regulated quickly and easily by means of the optional functions on the wired control to adapt the value to match the effective needs of the specific installation.
Moreover, in the case of installations with particularly long ducts, an "extra-high" speed can be selected to meet distribution requirements.

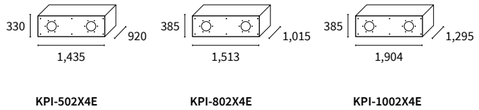
Flexibility

The active recovery unit is compatible with:
- 2.0 and 2.5 HP VRF IVX Premium
- VRF Mini SetFree and SIGMA

Automatic bypass

The heat recovery exchangers are equipped with a by-pass mechanism that is activated automatically and prevents excessive heating of rooms when outdoor temperature conditions are unfavourable.

High efficiency enthalpy recovery exchanger with heat exchanger



KPI-502X4E **KPI-802X4E** **KPI-1002X4E**

Heat recovery exchanger

			KPI-502X4E	KPI-802X4E	KPI-1002X4E
Nominal capacity	Cooling	kW	5.32 (1.81)	7.96 (2.94)	10.83 (3.73)
	Heating	kW	6.92 (2.12)	9.79 (3.49)	12.93 (4.43)
Air flow rate (low-medium-high)		m^3/h	400-450-500	590-700-800	740-820-1,000
Static pressure (low-medium-high)		Pa	58-72-90	57-80-110	80-105-170
Maximum static pressure at nominal flow rate		Pa	218	110	170
Working range		°C	-20 ÷ 40	-20 ÷ 40	-20 ÷ 40
Heat exchanger type			Air to air cross flow	Air to air cross flow	Air to air cross flow
Heat exchange efficiency (low-medium-high)		%	73-75-76	76-78-79	76-78-79
Enthalpy exchange efficiency in heating mode (high)		%	65	65	68
Enthalpy exchanger efficiency in cooling mode (high)		%	61	62	62
Sound pressure (low-medium-high)		dB(A)	29-30-32	32-33-34	31-33-36
Sound power		dB(A)	50	53	54
Refrigerant piping diameter (external Φ)		inches	1/4-1/2	1/4-5/8	3/8-5/8
Refrigerant piping diameter (external Φ)		mm	32	32	32
Dimensions (H x W x D)		mm	330x1.435x920	385x1.513x1.015	385x1.904x1.295
Connecting duct diameter		mm	Ø 200	Ø 250	Ø 300
Weight		kg	62.0	69.0	100.0
Type of filter included			G3	G3	G3
Electrical power			1~230V 50Hz	1~230V 50Hz	1~230V 50Hz

Compatibility

KPI Active units are compatible with the VRF IVX and VRF Set Free systems

	Capacity (kW)		Equivalent capacity (HP)	Compatibility	
	Cooling	Heating		VRF IVX	VRF Set Free
KPI-502X4E	5.3 (1.8)	6.9 (2.1)	1.5	–	Yes
KPI-802X4E	8.0 (2.9)	9.8 (3.5)	2.0	2	Yes
KPI-1002X4E	10.8 (3.7)	12.9 (4.4)	2.5	2.5	Yes

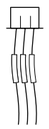
	Capacity (kW)	
	Cooling	Heating
KPI-802X4E	7.4 (2.9)	9.1 (3.5)
KPI-1002X4E	9.7 (3.7)	11.4 (4.4)

Compatible controls and accessories:



Wired control with display

PC-ARFP1E



Connector for input/output ports (5 pcs.)

PCC- 1A

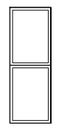


Noise attenuator

SLT-30-200-L600
Compatible with KPI-502X4E

SLT-30-250-L600
Compatible with KPI-802X4E

SLT-30-300-L600
Compatible with KPI-1002X4E



High efficiency filter

HEF-502
Compatible with KPI-502X4E

HEF-802
Compatible with KPI-802X4E

HEF-1002
Compatible with KPI-1002X4E

Econofresh

Free cooling for duct units



Free cooling

Energy savings are achieved by means of capacity control of the outdoor unit compressor and regulation of air flows during summer operating mode.

Compatible with duct units

The econofresh kit can be connected to the 4, 5 and 6 HP duct units of the 5 range.

Operation via enthalpy control

To optimise free cooling regulation and control, the system can be fitted with an enthalpy sensor. The amount of fresh and recirculated air can thus be managed both in relation to the air enthalpy reading and to the temperature reading to assure far more accurate control and guarantee the comfort of building occupants.

Operation via CO_2 sensor

To guarantee enhanced air quality, operation of the Econofresh system can be coordinated by installing an optional $C0_2$ sensor.

Versatile performance

Two different operating modes can be selected:
- Standard mode: ideal operation for mild temperatures
- All Fresh mode: ideal for spaces characterised by a high internal thermal load throughout the year

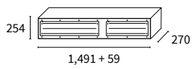
Adjustable minimum ventilation

Input can be adapted to guarantee the minimum quantity of fresh air required during operation and in any operating mode.

Energy saving

Thanks to the experience gained on installations and supported by simulation studies conducted with the use of specific software applications, a saving of 40% can be estimated with respect to the installation of conventional systems.

Econofresh



EF-456N1E

Econofresh

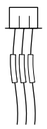
Free cooling unit		**EF-456N1E**
Compatible unit models		RPI-(4.0/5.0/6.0)FSN5E
Dimensions (H x W x D)	mm	254x1,491+59x270
Weight	kg	13.7
Number of motors		1
Ambient air temperature sensor		Outside ambient air temperature sensor

Compatible controls and accessories:



Wired control with display

PC-ARFP1E



Connector for input/output ports (5 pcs.)

PCC- 1A

VRF system controls and accessories



Infra-red receiver for ceiling unit RPC-FSN3

PC-ALHP1

- Infra-red receiver
- Installation on board unit



Infra-red receiver for wall mounting

PC-ALHZ1

- Infra-red receiver
- Wall mounting
- Dimensions (h x w x d): 120 x 90 x 30



Infra-red receiver for cassette type unit RCI-FSN4

PC-ALH3

- Infra-red receiver
- Installation on board panel



Infra-red receiver for cassette unit RCIM-FSN4E

PC-ALHC1

- Infra-red receiver
- Installation on board panel



Infra-red receiver for cassette unit

PC-ALHD1

- Installation on board panel

Compatibility with:
- RCD-FSN3 remote control
- RCI-FSN4 indoor units



Infra-red remote control

PC-AWR

Control of 1 to 16 indoor units by means of a single device in the case of use of a single received for all indoor units. Wall mounting is possible following connection of the plastic support to the unit, which is equipped with an LCD display, keypad and ON/OFF switch, designed to perform the following functions:
- ON/OFF of the indoor unit
- Ambient temperature setting
- Fan speed setting
- Operating mode setting
- Louvre slats position setting
- Daily timer function setting
- Compact dimensions (h x w x d): 140 x 55 x 16.8



Compact wired control

NEW

PC-ARH1E

Simultaneous control of up to 16 indoor units
- Simplified functions: ON / OFF, operating mode, temperature selection with 0.5 °C interval, fan speed, louvre position
- Built-in temperature sensor
- Setback function enabled by means of an external signal with setting of the temperatures in the two modes
- 80 optional functions, including: automatic mode with dual set point setting, temperature sensor selection, temperature limitation in the two modes, selective locking of control functions, Autorestart
- Access to SERVICE functions to select the INPUT/OUTPUT ports
- Compact dimensions (h x w x d): 120 x 70 x 15



Wired control for Hydro Free

PC-ARFWE

- Multi-function control unit with optimised software for configuration of the Hydro Free module
- LCD screen
- ECO function
- Temperature curve selection: Points, gradient or fixed OTC
- Min/MAX temperature limits in heating/cooling
- DHW configuration
- DHW boost
- SMART GRID function
- Optional electric heater management
- Water pump control
- Dimensions (h x w x d): 120 x 120 x 20

Compatibility:
- optional for RWLT-3.0VN1E, RWLT-5.0VN1E, RWLT-10.0VN1E,
- required for RWHT-5.0VNF1E.

VRF system controls and accessories

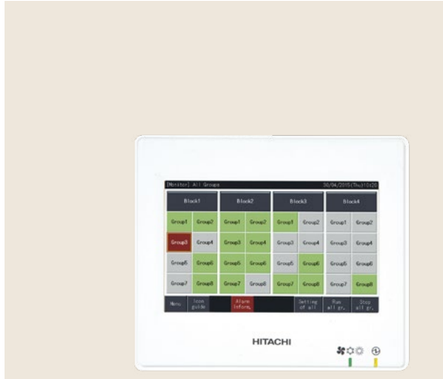


Wired control with display

NEW

PC-ARFP1E

- Simultaneous control of up to 16 indoor units
- Initialisation and identification of indoor units
- Weekly programming
- Functions: programming of ON/OFF, operating mode, temperature selection with 0.5 °C interval, ventilation fan speed, louvre position, ECO button to select Power Saving, selection of Comfort setting functions, management of noise emissions of the outdoor unit, capacity control, display of system power consumption estimate
- Built-in temperature sensor
- Setback function selectable in accordance with 4 priority models
- 88 optional functions, including: ambient temperature display, automatic mode with dual set point setting, temperature sensor selection, temperature limitation, selective locking of control functions, Autorestart
- Access to SERVICE functions to select INPUT/OUTPUT ports
- Dimensions (h x w x d): 120 x 120 x 20 mm

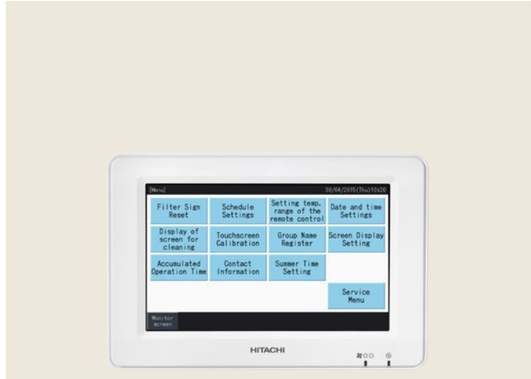


Touchscreen Centralised Control

PSC-A32MN

- 5" backlit colour touchscreen
- Management and control of up to 32 groups and up to 16 indoor units per group
- Up to 8 PSC-A32MN devices connected to an H-Link.
- Main functions: ON/OFF, mode, temperature, ventilation fan speed, louvre control, selecting locking of local control functions, up to 5 separate timer periods for each day of the week, holiday setting, log of the latest 100 alarm events
- Optional functions: temperature interval limitation, Display of operating hours in graphic form, timer control of outdoor unit capacity in the range 100% – 40%
- Access to INPUT/OUTPUT port selection functions via PCC 1 A for: ON/OFF of all systems, emergency stop, capacity control
- Built-in power supply
- Dimensions (h x w x d): 140 x 120 x 22 (+53) mm

Compatibility: VRF indoor units



Touchscreen Centralised Control

PSC-A64GT

- 8.5" backlit colour touchscreen
- Management and control of up to 64 groups and up to 16 indoor units per group
- Up to 8 PSC-A64GT devices connected to an H-Link.
- Main functions: ON/OFF, mode, temperature, ventilation fan speed, louvre control, selecting locking of local control functions, up to 5 separate timer periods for each day of the week, holiday setting, log of the latest 100 alarm events
- Optional functions: temperature interval limitation, display of operating hours in graphic form
- Access to INPUT/OUTPUT port selection functions via PCC 1 A for: ON/OFF of all systems, emergency stop, capacity control
- Built-in power supply
- Dimensions (h x w x d): 250 x 170 x 25 (+55) mm

Compatibility: VRF indoor units

VRF system controls and accessories



Presence sensor

- SOR-MSK:
  RPI- 0.4-3.0 FSN5E compatibility
- PS-MSK2:
  RCI-FSN4 compatibility
- SOR-NEP:
  RPC- FSN3 compatibility
- SOR-NEC:
  RCIM- FSN4E compatibility
- SOR-NED:
  RCD-FSN3 compatibility
- SOR_RCIM_s:
  RCIM- FSN3E_s) compatibility



Centralised control

PSC-A64S

- Supervision and control of up to 4 groups and up to 16 indoor units per group
- Up to 8 PSC-A64S devices connected to an H-Link.
- Main functions: ON/OFF, mode, temperature, fan speed, louvre control, local command functions lock, facility to connect to timer PSC-A1T or to a commercial timer, holiday setting
- Access to INPUT/OUTPUT port selection functions via PCC 1 A for: ON/OFF of all systems, emergency stop, capacity control
- Built-in power supply
- Dimensions (h x w x d):
  250 x 170 x 20 (+53) mm



Weekly timer

PSC-A1T

- Programmable weekly timer suitable for connection to PSC-A64S / PSC-A16RS / PC-ARH
- Possibility of discriminating the group of units that follow/do not follow the timer (selection A/B)
- Facility to control up to 3 daily timer cycles
- 230 V power supply via dedicated terminal board
- Dimensions (h x w x d):
  120 x 120 x 17 mm

Compatibility:
PSC-A64S / PSC-A16RS / PC-ARH



Centralised ON/OFF control

PSC-A16RS

- Controller to manage the ON/OFF status of 16 groups of indoor units
- ON/OFF buttons for individual or simultaneous start-up
- Up to 8 controllers can be connected to the same H-Link.
- Access to INPUT/OUTPUT port selection functions via PCC 1 A for: ON/OFF of all systems, emergency stop
- 230V power supply with dedicated terminal board
- Dimensions (h x w x d):
  120 x 120 x 17 (+53) mm

VRF system controls and accessories

VRF Systems



Remote temperature sensor

THM-R2AE

- Optional ambient temperature measurement sensor
- Dimensions (h x w x d): 50 x 50 x 15
- Sensor cable length 8m



Drain pipe connection kit

DBS 26

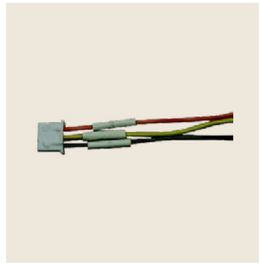
- 32mm diameter drain
- Order one kit for each module



Drain pipe connection kit

DBS 12L

- 15mm diameter drain
- Order one kit for each module



Connector for input/ output ports (5 pcs.)

PCC-1A

- Pack containing 5 connectors. The connectors make it possible to use the input and output ports available on the indoor and outdoor units, e.g. ON/OFF signal, forced stopping, conditional starting, operating mode selection.



Drain pipe connection kit

DBS-TP10A

Communication accessories and interfaces for VRF systems

Accessories for indoor units

Code	Description	RPIM	RPI 0.4÷1.5 FSN5E	RPI 2.0÷6.0 FSN5E	RPI FSN3(P)E	RCIM	RCI	RCD	RPK	RPF	RPFI	RPC	RWLT	RWHT	DX KIT series 2	KPI series X	KPI
PC-ARFP1E	Wired control with blue LCD display	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓
PC-ARH1E	Compact wired control	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	-	-	-	-	-	-
PC-AWR	Remote control	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
PC-ARFWE	Control panel for RWHT (Required)	-	-	-	-	-	-	-	-	-	-	-	-	✓	-	-	-
PC-ALHZ1	Infra-red receiver for wall mounting	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	-	-	-	-	-
PC-ALHC1	Infra-red receiver for mounting on panel	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-
PC-ALH3	Infra-red receiver for mounting on panel	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-
PC-ALHD	Infra-red receiver for mounting on panel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PC-ALHD1	Infra-red receiver for mounting on FSN3 series panel	-	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-
PC-ALHP1	Infra-red receiver for installation on board the indoor unit	-	-	-	-	-	-	-	-	-	-	✓	-	-	-	-	-
THM-R2AE	Remote temperature sensor	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓
PCC-1A	Connector for Input/Outlet ports pack of 5 pcs.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	✓	✓	✓
PD-75A	Fresh air input accessory	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-
PD-75C	Fresh air input accessory	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-
SOR-MSK	Motion sensor for wall-mounting	-	✓	✓	-	-	-	-	-	-	-	-	-	-	-	-	-
PS-MSK2	Motion sensor kit for RCI series FSN4	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-
SOR-NEC	Motion sensor for panel-mounting	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-	-
SOR-NED	Motion sensor for panel-mounting series FSN3	-	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-
SOR-NEP	Motion sensor to install on board the unit	-	-	-	-	-	-	-	-	-	-	✓	-	-	-	-	-
D-ICA04	Accessory for bottom air inlet for unit RPI-0.4FSN5E	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-
D-ICA15	Accessory for bottom air inlet for unit RPI-(0.6 - 1.5) FSN5E	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EF-456N1E	Econofresh Kit (only compatible with 4.0 ÷ 6.0 HP power outputs)	-	-	✓	-	-	-	-	-	-	-	-	-	-	-	-	-
OACI-160K2	Fresh air input plenum (2 inputs)	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-
TKCI-160K	Fresh air duct connection Tee	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-
PD-150D	Duct adapter	-	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-
F-160L-K	Antibacterial filter	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-
F-71L-D1	Anti-odor filter for RCI (1.0÷2.5 FSN4)	-	-	-	-	-	✓	-	-	-	-	-	-	-	-	-	-
DUPC-63K1	Condensate pump (1.5 FSN3)	-	-	-	-	-	-	-	-	-	-	✓	-	-	-	-	-
DUPC-71K1	Condensate pump (2.0 FSN3)	-	-	-	-	-	-	-	-	-	-	✓	-	-	-	-	-
DUPC-160K1	Condensate pump (2.5÷ 6.0 FSN3)	-	-	-	-	-	-	-	-	-	-	✓	-	-	-	-	-
DU-M1E	Condensate pump (for DU unit only)	✓	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SLT-30-200-L600	Noise attenuator [-5dB(A)] for KPI 502	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	✓
SLT-30-250-L600	Noise attenuator [-5dB(A)] for KPI 802	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	✓
SLT-30-300-L600	Noise attenuator [-5dB(A)] for KPI 1002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	✓
SLT-30-355-L600	Noise attenuator [-5dB(A)] for KPI 1502-2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	-
SLT-30-450-L600	Noise attenuator [-5dB(A)] for KPI 3002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	-
HEF-252	F7 filter compatible with EN779 for KPI 252	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	-
HEF-502	F7 filter compatible with EN779 for KPI 502	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	✓
HEF-802	F7 filter compatible with EN779 for KPI 802	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	✓
HEF-1002	F7 filter compatible with EN779 for KPI 1002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	✓
HEF-1502	F7 filter compatible with EN779 for KPI 1502	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	-
HEF-2002	F7 filter compatible with EN779 for KPI 2002	-	-	-	-	-	-	-	-	-	-	-	-	-	-	✓	-
PC-AMTB	Multi-tenant connection plate	✓	✓	✓	-	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
HF-CKLT-01	Cooling kit for RWLT-3.0VN1E	-	-	-	-	-	-	-	-	-	-	-	✓	-	-	-	-
HF-CKLT-02	Cooling kit for RWLT-5.0VN1E	-	-	-	-	-	-	-	-	-	-	-	✓	-	-	-	-
HF-CKLT-03	Cooling kit for RWLT-10.0VN1E	-	-	-	-	-	-	-	-	-	-	-	✓	-	-	-	-
ATW-2OS-02	Additional sensor for outdoor air temperature	-	-	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-
ATW-ITS-01	Wired wall-mounted sensor for indoor ambient temperature	-	-	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-
ATW-WTS-02Y	Universal water temperature sensor	-	-	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-

Outdoor unit accessories

Code	Description	2 ÷ 2.5 HVNP1	3 HVNC1	4 ÷ 6 H(V)NC1E	8 HNCE	10 ÷ 12 HNC(E)	IVX Centrifugal 4 ÷ 6 HNPE	IVX Centrifugal 8 ÷ 10HNPE	SET FREE mini RAS 4 ÷ 6 FS(V)NME	SET FREE mini RAS 8 ÷ 12 FSXNME	SET FREE SIGMA HIGH EFFICIENCY FSXNPE	SET FREE SIGMA STANDARD FSXNSE
TRF-NP36S	Replacement kit (R22 or R 407 C) for installation external to the unit	✓	-	-	-	-	-	-	-	-	-	-
TRF-NP160S	Replacement kit (R22 or R 407 C) for installation external to the unit	-	✓	✓	-	-	-	-	-	-	-	-
TRF-NP280U	Replacement kit (R22 or R 407 C) for installation external to the unit	-	-	-	✓	-	-	-	-	-	-	-
TRF-NP335U1	Replacement kit for (R22 or R 407 C) for installation internal to the unit	-	-	-	-	✓	-	-	-	-	-	-
FD-RASC46	Accessory for installation on discharge duct	-	-	-	-	-	✓	-	-	-	-	-
FD-RASC810	Accessory for installation on discharge duct [8 ÷ 10HP]	-	-	-	-	-	-	✓	-	-	-	-
PCC-1A	Connector for Input/Outlet ports pack of 5 pcs.	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Outdoor unit condensate drain accessories

IVX

Code	HP	Quantity
DBS-12L	2 ÷ 2.5 HVNP1	1
	3 HVNC1	1
DBS-26	4 ÷ 6 H(V)NC1E	1
	8 ÷ 10 HNCE	1
	12 HNC	1
	4 ÷ 10 XH(V)NP(1)E	1

Set Free Mini FS(V)NME / FSXNME

Code	HP	Quantity
DBS-26	4 ÷ 6	1
	8 ÷ 12	2

Set Free Sigma High Efficiency FSXNPE

Code	HP	Quantity
DBS-26	5 ÷ 14	1
	16 ÷ 24	2
	26 ÷ 32	3
	34 ÷ 36	4
	38 ÷ 42	3
	44 ÷ 46	4
	48 ÷ 50	5
	52 ÷ 54	6
	56 ÷ 58	5
	60	6
	62	7
	64 ÷ 72	8

Set Free Sigma Standard FSXNSE

Code	HP	Quantity
DBS-TP10Aw	8 ÷ 18	1
	20 ÷ 36	2
	38 ÷ 40	3
	42 ÷ 48	4
	50 ÷ 54	3
	56 ÷ 60	4
	62 ÷ 66	5
	68 ÷ 72	6
	74 ÷ 78	5
	80 ÷ 84	6
	86 ÷ 90	7
	92 ÷ 96	8

Communication accessories and interfaces for VRF systems

Communication interfaces

Code	Description
PSC A32MN	5" touch screen centralised controller to manage up to 32 groups of indoor units
PSC A64GT	8.5" touch screen centralised controller to manage up to 64 groups of indoor units
PSC A64S	Standard centralised controller to manage up to 64 groups of indoor units
PSC A16RS	Simplified centralised controller to manage up to 16 groups of indoor units
PSC A1T	Weekly timer for PSC A64S or PSC A16RS control
CSNET Manager 2T 10	10" touch screen centralised controller for interface with LAN/ ModBus networks to manage up to 64 indoor units
CSNET Manager 2T 15	15" touch screen centralised controller for interface with LAN/ ModBus networks to manage up to 64 indoor units
CSNET Manager 2 SL	Screenless interface with web browser access
CSNET Lite	Screenless interface with web browser access to manage up to 64 indoor units
WALL SUPPORT 2	Accessory for wall mounting of the CSNET MANAGER 2 T10/15
STAND MOUNTED SUPPORT	Accessory for table-top installation of CS NET MANAGER 2T 10/15
HC-A64NET	H-Link interface for CSNET Manager 2T 10/15
HC-A8MB	Interface for MODBus systems to manage up to 8 indoor units
HC-A16MB	Interface for MODBus systems to manage up to 16 indoor units
HC-A64MB	Interface for MODBus systems to manage up to 64 indoor units
HC-A16KNX	Interface for Konnex systems to manage up to 16 indoor units
HI-AC-KNX-16	Interface for Konnex systems to manage up to 16 indoor units
HI-AC-KNX-64	Interface for Konnex systems to manage up to 64 indoor units
KNX001	Accessory for interface with CSNET Manager 2T 10/15 / 2SL / CS NET Lite on Konnex network to manage up to 128 indoor units
BAC001	MODBus interface to BacNet. Management of 32 parameters/unit. Max 8 indoor units
BAC002	MODBus interface to BacNet. Management of 32 parameters/unit. Max 64 indoor units
HI-AC-BAC-16	BacNet interface. Management of 32 parameters/unit. Max 16 indoor units
HI-AC-BAC-64	BacNet interface. Management of 32 parameters/unit. Max 64 indoor units
HARC-BX E(A/B)	LONWORKS interface
PC-A1|O	Interface for integration of non-HITACHI indoor units on H-Link network
PSC-5HR	Repeater for H-link installations with approximately 1,000 m.l. of bus layout

VRF system multi-kits and headers

Multi-kits for indoor units

Code	Description
E-102SN4	Pair of 2-pipe multi-kits.
E-162SN4	Pair of 2-pipe multi-kits.
E-242SN3	Pair of 2-pipe multi-kits.
E-302SN3 (MW-NP2682A3)	Pair of 2-pipe multi-kits.
E-52XN3	Three 3-pipe multi-kits.
E-102XN3	Three 3-pipe multi-kits.
E-162XN3	Three 3-pipe multi-kits.
E-202XN3	Three 3-pipe multi-kits.
E-242XN3	Three 3-pipe multi-kits.
E-322XN3	Three 3-pipe multi-kits.
MC-20AN1	Multi-kit for FSXNPE 2-module condensing unit, total capacity from 20 to 24HP
MC-21AN1	Multi-kit for 2 module condensing unit FSXNSE, total capacity from 26 to 48HP
	Multi-kit for 2 module condensing unit FSXNPE, total capacity from 26 to 36HP
MC-30AN1	Multi-kit for 3 module condensing unit FSXNSE, total capacity from 50 to 54HP
	Multi-kit for 3 module condensing unit FSXNPE, total capacity from 38 to 54HP
MC-NP31SA	Multi-kit for 3 module condensing unit FSXNSE, total capacity from 56 to 72HP
MC-NP40SA	Multi-kit for 4 module condensing unit FSXNSE, total capacity from 74 to 96HP
	Multi-kit for 4 module condensing unit FSXNPE, total capacity from 56 to 72HP
MC-20XN1	Multi-kit for 2 module condensing unit FSXNSE in simultaneous hot/cold configuration, total capacity from 26 to 48HP
MC-21XN1	Multi-kit for 2 module condensing unit FSXNSE in simultaneous hot/cold configuration, total capacity from 26 to 48HP
	Multi-kit for 2 module condensing unit FSXNPE in simultaneous hot/cold configuration, total capacity from 26 to 32HP
MC-30XN1	Multi-kit for 3 module condensing unit FSXNSE in simultaneous hot/cold configuration, total capacity from 50 to 54HP
	Multi-kit for 3 module high-efficiency condensing unit FSXNPE in simultaneous hot/cold configuration, total capacity from 38 to 54HP

Headers for indoor units

Code	Description
MH- 84AN1	Pair of 2-pipe headers with 4 outlets.
MH- 108AN	Pair of 2-pipe headers with 8 outlets.
MH- 108XN	Pair of 2-pipe headers with 8 outlets.

Direct expansion air curtains

Dedicated system for maintaining indoor comfort, reducing electricity consumption and ease of use.

Compatibility with Systemair air curtains.





Consumption reduction

The collaboration between Hitachi and Frico - Systemair was developed to allow the required temperature to be maintained in commercial units without being affected by continuous opening of doors and ensuring potential customers are not dissuaded from entering the store. FRICO air curtains in the DXH and AZR DXH series can be coupled to outdoor units of the Standard and Premium IVX series to create thermal separation up to the maximum curtain installation height of 3.5m.

Comfort and energy efficiency

Installation of the air curtain and the related HITACHI expansion type outdoor unit makes it possible to achieve conditions of indoor comfort and allow the customer to eliminate cold air draughts while assuring reduced use of electricity. Opening of the door is counteracted by the effect of the air stream generated by the air curtain, with controlled turbulence to avoid creating a disturbance for persons transiting beneath the unit.

Styling

The styling has been developed to allow easy installation, facilitate maintenance, and reduce the necessary clearances for servicing. The presence of a micro perforated intake grille with a large cross section makes it unnecessary to fit an intake air filter, thus simplifying cleaning operations, which are reduced to a series of simple manual tasks that lead to far lower maintenance costs.

Benefits

- Compatible also with Set Free and IVX Centrifugal VRF systems
- Heating and cooling also in heat recovery system applications
- Rapid return on investment
- High energy efficiency with respect to conventional solutions and reduced operating and maintenance costs
- Low CO_2 emissions
- Available in 2 versions:
  Wall-mounted unit
  Recessed unit
- The Standard versions are heat pump configurations, complete with condensate drain pan and pump.

Wall-mounted unit

M DXH line 3m max door height, 230V~			LINEAM-1000DXH3	LINEAM-1500DXH4	LINEAM-2000DXH6	LINEAM-2500DXH8
Compatible outdoor units in mono versions*	IVX Standard		**RAS-3HVNC1**	**RAS-4H(V)NC1**	**RAS-6H(V)NC1**	**RAS-8HNCE**
Capacity		kW	9	14	18	25
Air flow rate		m^3/h	1,800	2,700	3,600	4,500
Length		mm	1,000	1,500	2,000	2,500
Weight		kg	52	83	113	145

Line M DXH max door height 3.5m, 230V~			LINEAM-1000DXH3	LINEAM-1500DXH4	LINEAM-2000DXH6	LINEAM-2500DXH8
Compatible outdoor units in mono versions*	IVX Standard		**RAS-5HVNC1**	**RAS-4H(V)NC1**	**RAS-6H(V)NC1**	**RAS-8HNCE**
Capacity		kW	15	18	25	31
Air flow rate		m^3/h	2,700	3,600	5,400	6,300
Length		mm	1,000	1,500	2,000	2,500
Weight		kg	55	85	115	147

*Adopt the PC-ARFP1E wired control

Recessed unit

AZR M DXH line 3m max door height, 230V~			AZRM-1000DXH3	AZRM-1500DXH4	AZRM-2000DXH6	AZRM-2500DXH8
Compatible outdoor units in mono versions*	IVX Standard		**RAS-3HVNC1**	**RAS-4H(V)NC1**	**RAS-6H(V)NC1**	**RAS-8HNCE**
Capacity		kW	9	14	18	25
Air flow rate		m^3/h	1,800	2,700	3,600	4,500
Length		mm	1,000	1,500	2,000	2,500
Weight		kg	52	83	113	145

AZR G DXH line, Hitachi compatible, 3.5 m max door height, 230V~			AZRG-1000DXH5	AZRG-1500DXH6	AZRG-2000DXH8	AZRG-2500DXH10
Compatible outdoor units in mono versions*	MICRO DRV Standard		**RAS-5H(V)NC1**	**RAS-6H(V)NC1**	**RAS-8HNCE**	**RAS-10HNCE**
Capacity		kW	15	18	25	31
Air flow rate		m^3/h	2,700	3,600	5,400	6,300
Length		mm	1,000	1,500	2,000	2,500
Weight		kg	55	85	115	147

*Adopt the PC-ARFP1E wired control

Compatible controls and accessories:



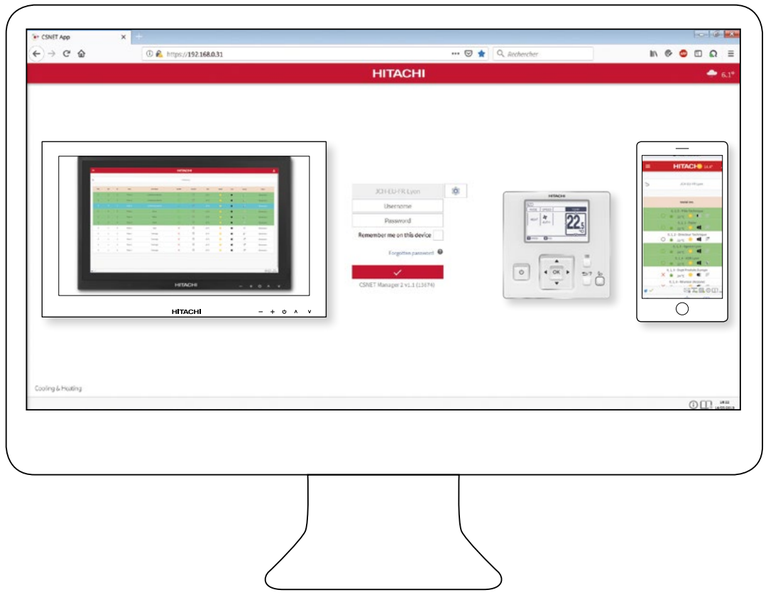
Wired control
with display

PC-ARFP1E

Wide range of devices capable of incorporating Hitachi technology with BMS systems.



BMS



BMS

Normative Framework

The challenge launched to reduce energy consumption must necessarily include a stage of building energy efficiency research.

In fact, residential / commercial sector buildings use almost 45% of available energy and are responsible for a comparable level of CO_2 emissions.

Active energy efficiency systems, such as building automation and control systems, are designed to maximise the energy efficiency of the building's technological plant in relation to outdoor ambient conditions and different use and occupation profiles of the various rooms in the building.

Standard EN 15232, which introduced a classification of the control functions of building technological plant, provides the starting point for their implementation and to estimate the impact on energy performance.

EN 15232 Energy Performance of Buildings. Impact of Building Automation, Controls and Building Management

European standard EN 15232 defines the methods for assessment of energy saving that can be achieved in buildings in that use automatic management and control systems of technological plant and electrical systems.

This standard establishes the impact of Building Automation on the energy efficiency of buildings and is applicable to both existing buildings, new builds and/or renovations.

Fundamental definitions:

- **BACS** "Building Automation and Control Systems" refers to all building automation and control products and software;
- **TBM**: Technical Home and Building Management". TBM systems are more evolved building automation and control systems, including, for example, reporting and **heat metering systems,** etc.

The standard also includes:

- a structured list of building control, automation and technical management functions that contribute to the building's energy performance; the functions have been classified and structured based on Building Automation and Control (BAC) regulations;
- a method of defining the minimum requirements or other specifications concerning building automation, control, and technical management functions, that can be implemented in buildings of different levels of complexity;
- a simplified method of making an initial estimate of the impact of the foregoing functions on buildings and representative utilisation profiles;
- the methods described to evaluate the impact of these functions on a given building.

The standard defines four different "BACS" energy efficiency classes in order to classify automation systems in both residential and non residential settings.

The four classes, from D to A, do not correspond directly to the seven building energy efficiency classes (A B C D E F G), but instead they denote automation systems with incremental efficiency levels:

The functions to be evaluated are as follows:

- Heating
- Domestic hot water
- Cooling
- Ventilation and Air Conditioning
- Lighting
- Solar shading
- TBM systems

The classes defined by normative provisions are:

- Class A "HIGH ENERGY PERFORMANCE"
- Class B "ADVANCED"
- Class C "STANDARD"
- Class D "NON ENERGY EFFICIENT"



Conversely, Italian standard UNI TS 11651/2016, connected to EN 15232, is used for the process of asseveration of building automation and control systems (BACS), which verifies the construction of the BACS system and certification of the A, B, C, D efficiency class, for both residential and non-residential buildings.

This specification also complies with the aims of the Italian decree of 16 February 2016 "THERMAL BALANCE" and with the legislative provisions of the Italian "MINIMUM REQUIREMENTS" decree of 26 June 2015.

Types of protocol: COMMUNICATION STANDARD

A building automation system can be composed of multiple subsystems and various types of equipment and also of multiple manufacturers who are responsible for establishing a method of exchanging information on a more or less regular basis (interoperability).

The benefit of using standard communication protocols lies in the fact

that it makes it possible to reduce the construction times of the control system.
All this results in savings for the end customer.

Generally speaking, in a modern building the main communications infrastructure for Information and Communication Technology (ICT) applications that are not connected to building automation (BACS/TBM), is the Ethernet LAN network.

Also the Field Bus level is represented by a single bus that connects all the sensors and field devices (unless otherwise specified for by standards, such in the case of fire protection systems for example) and all controls / central controls.

For the system integrator, this configuration provides access, on the

communication line, to information concerning the operation, states and alarms making up the system, with the facility to implement all operating logic to comply, for example, with the requirements of EN 15232:2017.

The use of standard communication protocols also guarantees the investment for the end customer, who is no longer tied to a single manufacturer through time, but can use systems made by different companies at any time without having to update the entire installed base.

There are currently several communication protocols on the market, differing in terms of their technical specifications (transmission rate, cable length, supporting transmission media, number of connectable peripheral devices, wired or wireless, etc.).

In the field of BACS/TBM systems the most widely diffused and internationally regulated standard protocols/technologies are:
Lonworks, KNX, BACnet, Modbus, etc.

Communication protocols

Modbus

This is one of the most widely used communication protocols in the automation field whose use is increasing due to the ample market availability of field equipment that employs the standard.

KNX

Technology designed for use in electrical installations, in order to manage various building functions including: lighting, solar shading, heating, ventilation and climate control systems, remote control, accounting, etc., by means of a single system, guaranteeing comfort, safety, energy saving and reduction of wiring.

LonWorks

Technology designed in such a way as to be used in centralised automation of large buildings and in small and decentralised automatic controls.

LonWorks is widely used in Building Automation, especially in Europe. Given its characteristics and the functional profiles thus far standardised by LonMark, its application can be extended also to the Automation level in addition to the Field level.

BACnet

The BACnet standard was initially created by ASHRAE (American Society of Heating, Refrigeration and Air-Conditioning Engineers) for use in Building Automation, known also as ANSI/ASHRAE standard 135/2008 and ISO 16484-5.

BACnet is widely used in Building Automation applications worldwide, especially in North America, where the standard was initially drafted and developed. Given the characteristics and elevated potential of this standard, its field of application is clearly that of Building Automation and it offers its maximum capabilities in medium/large size installations, in multi-site and highly integrated systems.

HITACHI BMS interface systems For elevated comfort levels, efficient management of installations and operation with low energy consumption.

Efficient and functional control and monitoring of a climate control system calls for the installation of controls or centralised supervision systems in order to optimise operating performance and further reduce energy consumption.

In effect, accurate control of the system results in elevated comfort levels, low consumption and optimal energy efficiency.

Each incorrectly controlled degree of temperature can result in an efficiency loss from 2 to 3% for hydraulic installations and up to 5% for VRF systems.

Always in the lead in terms of climate control products, HITACHI offers an extensive range of technologically advanced room controls and centralised controllers.

The benefits of these systems are evident from the outset, starting from their extremely simple and error-proof installation thanks to the single connection between the various devices with a non-polarised two-wire cable for the exchange of information and operating data between all system components, and for the transmission of user commands and settings.

Diagnostics are handled by the software and tools developed by HITACHI.

A building management system (BMS)
can manage the main technological systems of a building, including systems and devices made by different manufacturers.

To allow this kind of performance, the various systems must have suitable interface devices that are compatible with the BMS system.

Adoption of devices of this type makes it possible to achieve the maximum interoperability between the various technological systems installed in the building, including lighting, lifts, security, energy, and - needless to say - climate control. In addition, the unique feature of a system of this type is the possibility of having the systems interact by means of information flows on a communication network that does not call for complex and costly connections and electrical wiring.

Hitachi BMS solutions

All electrical and technological systems, whether newly installed or legacy plants, and heating and cooling systems in particular, must be equipped with suitable control, regulation and automation devices or systems.

Automation systems are designed to maximise the energy efficiency of technological installations in relation to outdoor environmental conditions and the different and variable scenarios of use and occupation of the individual rooms in the building, simultaneously providing the maximum levels of comfort, safety and quality.

The management efficiency of building technological systems translates into energy saving, reduction of CO_2 emissions and eco-sustainability.

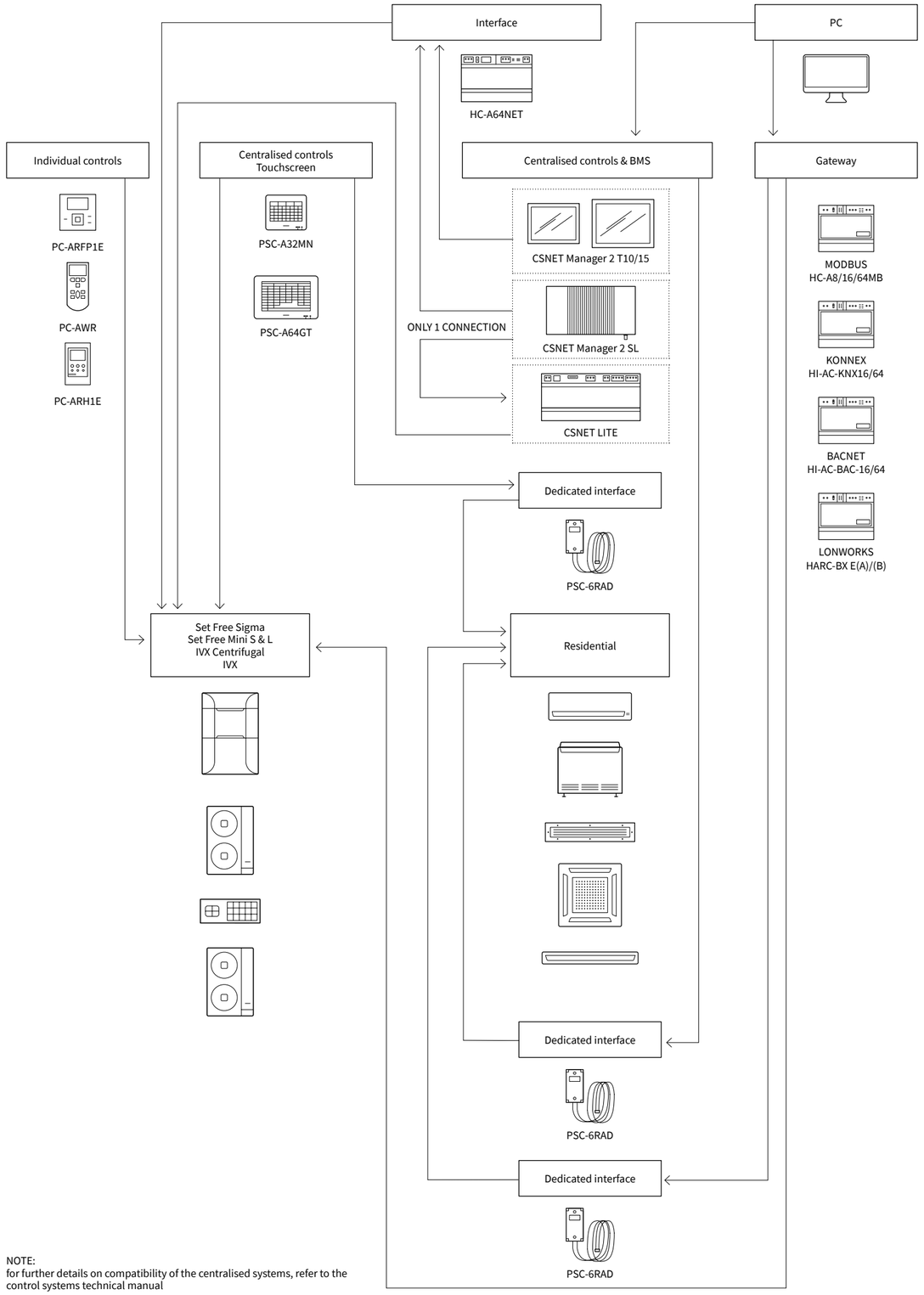
HITACHI offers a range of advanced solutions to meet the energy efficiency requirements of EN 15232/2017.

Depending on requirements, various types of control systems are available that, apart from offering a comprehensive response to users' needs, contribute to reducing consumption in compliance with the European standard:

CLASS	DEFINITION	HITACHI SOLUTION
D	Includes conventional technical systems lacking automation and control and distinguished by their inefficiency in terms of energy usage;	**Remote controls** **PC-ARFP1E** **PC-ARH1E** **PC-ARFH1E** **PC-AWR** **PSC-A16RS**
C	Corresponds to installations equipped with "traditional" building automation and control systems (BACS), potentially equipped with a communication bus although providing minimal performance levels with respect to their real potential.	**Remote controls** **PSC-A32MN** **PSC-A64GT** **PC-ARFP1E** **PC-ARH1E** **PC-ARFH1E**
B	Includes systems equipped with an advanced automation and control system (BACS) and equipped also with various management functions of the specific building technical systems (TBM) for centralised and coordinated management of individual installations. “The room control devices must be capable of communicating with the building automation system”.	**CS Net Manager 2 T10 / T15** **CS Net Manager 2 SL** **CS Net Lite** **BMS and gateway integration**
A	Corresponds to BAC and TBM systems “with high energy performance”, meaning with levels of precision and completeness of the automatic control such as to guarantee elevated energy performance of the installation. “Room control devices shall be capable of managing HVAC systems taking account of multiple factors (such as preset values based on occupancy detection, air quality, etc.) and must include additional integrated functions for multidisciplinary relationships between HVAC and the various building services (e.g. electricity, lighting, solar shading, etc.)”.	**CS Net Manager 2 T10 / T15** **CS Net Manager 2 SL** **CS Net Lite** **BMS and gateway integration**

Control systems architecture

Logical diagram showing the combination of controls with HITACHI climate control systems



NOTE:
for further details on compatibility of the centralised systems, refer to the control systems technical manual

airCloud Pro

NEW

airCloud Pro is a service that allows remote management, control and supervision of SetFree installations and is particularly indicated to:

- Guarantee comfort for people thanks to remote management of the installation
- Control consumption through performance optimisation
- Optimize maintenance programs and reduce service costs
- Continuous control of installations
- Protected and secure connection
- Connectivity without a land line thanks to the 4G module (optional)
- Control of multiple installations in multiple locations from a single platform
- Automatic software updates

The platform can be accessed via an Internet connection; the control menus can be managed via Web or by means of a dedicated app from a PC, tablet or smartphone.



Correct operation of the installation can be monitored via airCloud, controlling useful functions, namely:

Selection	Maximum number of controllable units per single Gateway	64
	Connection type	Non-polarised 2-wire bus
Main features	Multilingual menu	•
	Access levels	•
	ON/OFF	•
	Operating mode setup	•
	Ambient temperature setting	•
	Fan speed setting	•
	Locking of local controls (except for ON/OFF)	•
	Fan speed selection	•
	Louvres position setting	•
	Weekly timer	•
	Timer	•
	Dirty filters indication	•
	ECO function	•
Advanced control functions	Addressing of indoor units	•
	Configuration by zones	•
	Timer functions (up to 16 events per day)	•
	Display of electricity consumption estimate with a breakdown by times and zones	•
	Dual setpoint function	t.b.c.
	Capacity control	t.b.c.
	Energy saving function	t.b.c.
	Predictive maintenance function	t.b.c.
Advanced maintenance functions	Capacity indication	•
	ON/OFF	•
	Thermostat ON	•
	Alarm	•
	Ambient temperature correction	•
	Operating mode	•
	Defrost	•
	Protection code	•
	Display of faults and description	•
	Display of faults list with indication of event type, date and time	•
	Email notification service to a contacts list in case of faults	•

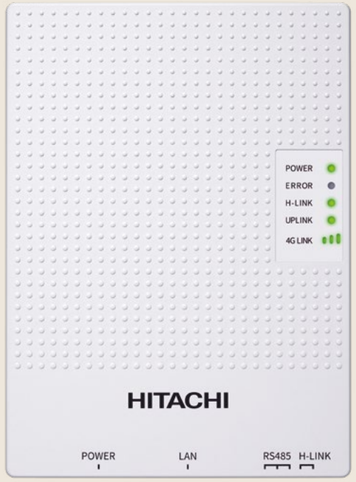
airCloud Pro

Control interface for continuous integration with Set Free systems

Single interface for complete management

The airCloud Pro Gateway device is required in order to connect the installation. An interface based on IoT technology to allow the installation to be connected to airCloud via LAN, Ethernet or 4G*.

The individual device is indicated for management of small-medium installations composed of no more than 64 indoor units connected to a maximum of 16 outdoor units.



*The 4G module expansion includes a SIM card with subscription data plan that functions in any country

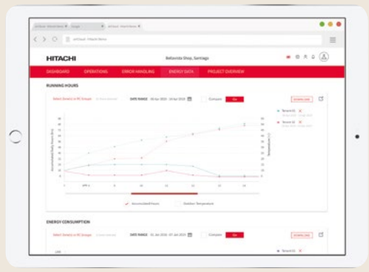
Compatibility and management through all devices

WEB interface and dedicated APP with easy and intuitive graphics to manage the system with the utmost simplicity.



For improved management of the consumption estimate

airCloud Pro makes it possible to analyse electricity consumption and allows remote management of electrical load distribution throughout a twenty-four hour period.



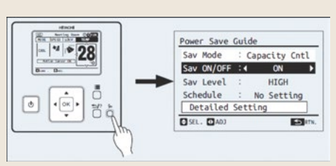


Guide to the selection of individual control devices

		NEW PC-ARFP1E	NEW PC-ARH1E	PC-AWR
Selection	Maximum number of units controllable	16	16	16
	Connection type	Non-polarised two-wire bus	Non-polarised two-wire bus	Non-polarised two-wire bus
Main features	Multilingual menu	•	-	-
	ON/OFF	•	•	•
	Operating mode setup	•	•	•
	Cooling/Heating automatic mode	(for heat recovery applications)	(for heat recovery applications)	(for heat recovery applications)
	Dehumidification mode	•	•	•
	Selectable temperature range	(cooling 19 - 30 °C / heating 17 - 30 °C)	(cooling 19 - 30 °C / heating 17 - 30 °C)	(cooling 19 - 30 °C / heating 17 - 30 °C)
	Set-point adjustment by +/-0.5 °C	•	•	-
	Fan speed setting	(up to 5 speeds if available for the indoor unit)	(up to 5 speeds if available for the indoor unit)	(up to 5 speeds if available for the indoor unit)
	Louvres position control	•	•	•
	Individual control of louvres position	•	-	-
	Weekly timer	(up to 5 daily programs settable)	-	-
	Timer	•	-	(daily)
	Holiday function	-	-	-
	ECO function	•	-	-
	Automatic restart following power loss	•	•	-
	Built-in temperature sensor	•	•	-
Advanced control functions	Operating mode lock	•	•	-
	Management of selectable temperature interval	•	•	-
	Buttons lock (except for ON/OFF)	•	•	-
	Thermo OFF Ventilation stop in heating mode	•	•	-
	Thermo OFF Ventilation stop in cooling mode	•	•	-
	Temperature sensor selection	•	•	-
	Night mode (outdoor unit sound level reduction)	•	-	-
	Setback function (anti-frost)	•	•	-
	Function GENTLECOOL (cooling comfort)	•	-	-
	Auto Boost	•	-	-
	Presence sensor management	•	-	-
	Temperature differential regulation in heating mode	•	•	-
	Ambient temperature display	•	-	-
	Outside air temperature display	•	-	-
	Outdoor unit consumption estimate display	•	-	-
Advanced maintenance functions	Faults log	(up to 30 events displayed)	-	-
	Assistance Service contact details	•	-	-
	Information: defrosting in progress	•	•	-
	Information: dirty filters	•	-	-
	Circuit boards test	•	-	-
	Control mode (reading of operating parameters of the installation)	•	-	-
	Test run mode	•	-	-
	Optional control parameters	•	•	-

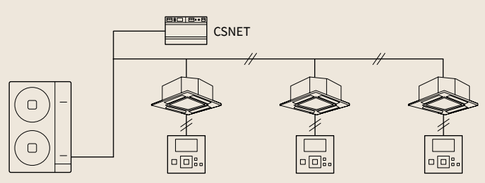
ECO function

Quick selection for 'Energy saving' function.
The following operational selections can be made:
1. Enable/disable function
2. Facility to set three different levels: HIGH - MEDIUM - LOW
3. Linking of reduction with a freely programmable weekly timer

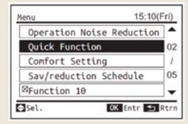


Configure a local command as master to obtain rapid management of seasonal changes.

New function accessible with the PC-ARFP1E wired remote control: operating mode selection from any location when a local wired control has been configured as master.



Easy customisation of comfort levels thanks to the GentleCool and Auto Boost functions



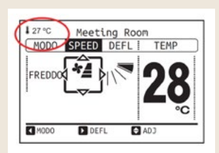
Need quicker heating? Select the "Auto Boost" function.

Need to make sure the air outlet temperature is not too low in cooling mode? Select the "GENTLE COOL" function to customise your comfort level independently for each indoor unit.

Setpoint regulation by +/- 0.5 °C



Outside air temperature display



Control systems selection guide

Individual controls

Wired control with display

NEW

PC-ARFP1E



- Simultaneous control of up to 16 indoor units
- Initialisation and denomination of indoor units
- Weekly programming
- Functions: ON/OFF programming, operating mode, temperature selection with 0.5 °C interval, fan speed, louvre position, ECO button for Power Saving activation, selection of Comfort setting functions, management of acoustic performance of the outdoor unit, capacity control, display of system electrical power consumption estimate
- Built-in temperature sensor
- Setback function selectable in accordance with 4 priority models
- 88 optional functions including: ambient temperature display, automatic mode with dual set point setting, temperature sensor selection, temperature limitation, selective locking of control functions, Autorestart
- Access to SERVICE functions to select INPUT/OUTPUT ports
- Dimensions (h x w x d): 120 x 120 x 20 mm

Compact wired control unit

NEW

PC-ARH1E



- Simultaneous control of up to 16 indoor units
- Simplified functions: ON / OFF, operating mode, temperature selection with 0.5 °C interval, fan speed, louvre position
- New daily timer
- Built-in temperature sensor
- Setback function selectable via external signal with temperature setting in the two modes
- 80 optional functions including: ambient temperature display, automatic mode with dual set point setting, temperature sensor selection, temperature limitation in the two modes. selective locking of control functions, Autorestart
- Access to SERVICE functions to select the INPUT/OUTPUT ports
- Compact dimensions (h x w x d): 120 x 70 x 15

Remote control

PC-AWR



- Control from 1 to 16 indoor units in master and / or slave.
- Simplified access to essential functions.
- Functions with infra-red receiver.

Centralised controls

Touchscreen Centralised Control

PSC-A32MN
PSC-A64GT



Management and control of up to a maximum of 160 indoor units:
- PSC-A32MN> up to 32 groups of 16 indoor units up to 160.
- PSC-A64GT> up to 64 groups of 16 indoor units up to 160.

- Up to 8 controls of devices connected on the same H-LINK bus.
- 5" (PSC-A32MN) and 8.5'' (PSC-A64GT) colour touchscreen.
- Memory capacity of up to 100 alarms.
- Contacts available: ON/OFF, alarm.

- Ideal for supervision of small and medium size installations.

Centralised controls

Centralised control systems with touchscreen

NEW

CSNET Manager 2T10 / 2T15
+ HC-A64NET interface



- Up to 1,024 indoor units connectable on 16 separate H-Link buses by means of HC-A64NET accessories (16 x 64)
- 10" capacitive touchscreen (version 2T 10)
- Improved resolution, compact and low weight of just 1.2 kg (version 2T 10)
- Dimensions (h x w x d): 169.4 x 255.2 x 33.3 (version 2T 10)
- 15" capacitive touchscreen (version 2T 15)
- Improved resolution, compact and low weight of just 2.6 kg (version 2T 15)
- Dimensions (h x w x d): 249 x 391 x 37 (version 2T 15)
- Improved access to graphic selection menus
- Web access available via PC, tablet or smartphone
- Check overall depth in accordance with the selection of mounting accessory

Mounting accessories for the touchscreen:
Wall-mounted support: WALL SUPPORT 2
Table-top support: STAND SUPPORT

Centralised control systems Web version

NEW

CSNET Manager 2 SL
+ HC-A64NET interface



- Up to 1,024 indoor units connectable to 16 separate H-Link buses by means of HC-A64NET accessories (16 x 64)
- Hardware centralised control device, independent and connectable to external display devices
- Graphic features equivalent to CSNET Manager 2 series T 10 and T 15
- Stand-alone operation (without a dedicated computer)
- Flexibility of connection via 2 USB ports, 1 Ethernet port and 1 HDMI socket
- Web access available via PC, tablet or smartphone
- Dimensions (h x w x d): 105.2 x 168.5 x 17.5

Centralised control systems Stand-alone Web version

NEW

CSNET Lite

Accessories
DIN rail



- Up to 64 indoor units connectable on H-Link bus
- Connectible to CSNET Manager version 2 or SL
- Optimised solution for small installations
- Simplified installation on DIN rail
- Stand-alone operation (without a dedicated computer)
- Web access available via PC, tablet or smartphone
- Dimensions (h x w x d): n.d.

Gateway

MODBUS interface

HC-A8MB
HC-A16MB
HC-A64MB

NEW



Allows integration of up to 8/16/64 indoor units.
New functions
- Management of optional functions, reading of outdoor unit parameters.
- Availability of HC-A16MB: pending definition

KNX interface

HI-AC-KNX-16
HI-AC-KNX-64

NEW



Allows integration of up to 16/64 indoor units.
New functions
- Faster integration thanks to KNX certification.
- Easy maintenance:

  USB port available, operating and communication LEDs.

BACNET interface

HI-AC-BAC-16
HI-AC-BAC-64

NEW



Allows integration of up to 16/64 indoor units.
New functions
- faster integration: BACnet certification, direct communication H-LINK - BACnet.
- Easy maintenance: USB port available, operating and communication LED.

LonWorks interface

HARC-BX E(A)
HARC-BX-E(B)



Allows the integration of up to 32 (version E (B)) / 64 (version E (A)) units per single device

Guide to the choice of centralised touchscreen control devices

Touchscreen devices suitable for local supervision and control of medium-small installations; allow simplified commissioning and maintenance.

PSC-A32MN



Touchscreen with TFT technology 5” colour display for wall-mounting, suitable for managing and controlling a maximum of 32 groups of indoor units for a total of 160 units.

PSC-A64GT



Touchscreen with TFT technology 8.5” colour display for wall-mounting, suitable for managing and controlling a maximum of 64 groups of indoor units for a total of 160 units.



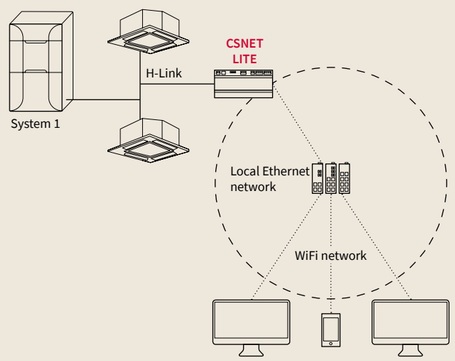
		PSC-A32MN	PSC-A64GT
Selection		Control of a maximum of 32 groups of indoor units for a total of 160 units	Control of a maximum of 64 groups of indoor units for a total of 160 units
		5" colour touchscreen	8.5" colour touchscreen
		Up to 8 devices connected to the same H-Link	Up to 8 devices connected to the same H-Link
Main features	Multilingual menu	•	
	Access levels	2 (user, service)	
	Setting and selection of groups (set of indoor units connected to the same control)	•	
	Setting and selection of blocks (groups of indoor units)	•	
	Operating mode setting	for indoor unit/group or zone	
	Dehumidification mode setting	•	
	Set-point adjustment by +/-0.5 °C	-	
	Fan speed selection	for indoor unit/group or zone	
	Louvres position setting	for indoor unit/group or zone	
	Weekly timer	(up to 10 daily programs)	
	Timer	-	
	Dirty filters indication	for indoor unit	
	ECO function	-	
Advanced control functions	Buttons lock (except for ON/OFF)	for indoor unit/group or zone	
	Limitation and locking of required temperature (in cooling mode / in heating mode)	for indoor unit/group or zone - available for PSC-A32MN	
	Night mode (sound level reduction of outdoor unit)	-	
	Anti-ice function	-	
	Function GENTLECOOL (cooling comfort)	-	
	Temperature differential control in heating mode	-	
	Automatic mode Cooling/Heating	for indoor unit/group or zone	
	Consumption estimate display	-	
	Operating hours display	for indoor unit/group or zone	
	Requested Function	Control of outdoor unit power consumption peaks in accordance with an hourly program or an external signal (free contact on the touchscreen terminal board)	
Advanced maintenance functions	Faults log	display of up to 100 events: display of indoor unit and fault code, date and time	
	Assistance Service contact details	•	
	Clean filter signal reset	for indoor unit/group or zone	
	Setting of optional functions (installation menu)	•	

Guide to the choice of centralised CSNET control devices

The CSNET range is available in 2 versions: one stand-alone type WEB version capable of offering high flexibility, and one touch version that allows both local and remote viewing of the system. This range of controls makes it possible to meet the needs of extremely diversified installations, from small systems to large scale commercial infrastructure. All functions are available in a single software package without having to purchase add-ons. Installation is fast and simple thanks to the guided configuration menu.

Example of control architecture for a system composed of up to 64 indoor units.

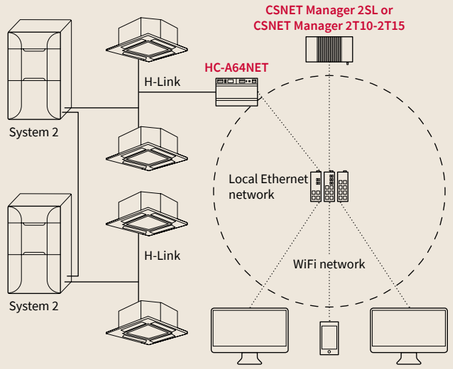
NEW



System 1: the installation is characterised by the absence of a local display device and by a connection to the local Ethernet network. Control can be implemented via access from a PC or smartphone connected to the same LAN or to the Internet.

Example of control architecture for a system composed of a number of indoor units greater than 64.

NEW

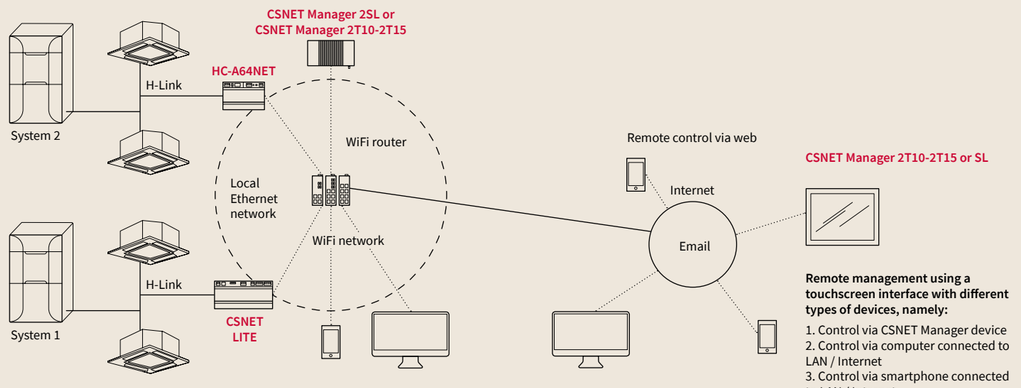


For large size installations up to 16 gateways can be installed on the same H-LINK bus. The single HC-A64NET device will control up to 64 indoor units for a total of 16 x 64 indoor units.

System 2: the installation is characterised by the absence of a local display device and by a connection to the local Ethernet network. Control can be implemented via access from a PC or smartphone connected to the same LAN or to the Internet.

Example of control architecture of 2 SetFree or IVX installations managed centrally by the CSNET Manager device and supervised remotely

NEW



Remote management using a touchscreen interface with different types of devices, namely:

1. Control via CSNET Manager device
2. Control via computer connected to LAN / Internet
3. Control via smartphone connected to LAN / Internet



Control systems of the CSNET range make it possible to control installations of very different sizes.
Thanks to the modularity of the device, systems composed of from 1 to 64 indoor units can be managed to interface and control up to 1024 indoor units, both locally and remotely over the Web.

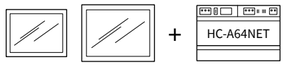
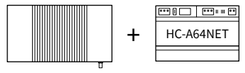
The CSNET Manager 2 series is a management, control and supervision interface for YUTAKI series air/air and air/water systems. Equipped with a new type of touchscreen featuring revised graphics and flexibility in line with the times.

With the CSNET Manager 2 T10 / 2 T15 range the most convenient size of touchscreen can be selected from between the 10'' and the 15'' versions.

Management of the installation envisages the use of two optional H-Link interfaces, HC-A64NET or CSNET Lite, each capable of managing up to 64 indoor units.
Thanks to the modular architecture, with CSNET Manager 2 up to 16 H-Link interfaces can be connected in the same installation.

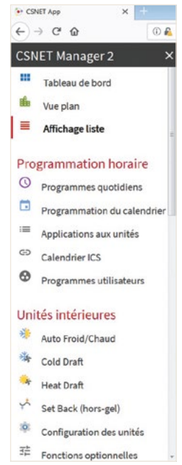
The CSNET Manager 2 is compatible also with the CSNET web application (check for limitations of certain functions).
The storage capacity of 320 GB of data in the internal memory allows maintenance of an almost limitless historic record of the installation's performance.

Guide to selection of centralised CSNET control devices

		CSNET Manager 2T10/ 2T15	CSNET Manager 2 SL	CSNET LITE
				
Selection	Maximum number of indoor units per H-Link gateway	up to 64	up to 64	up to 64
	Maximum number of indoor units	up to 1,024	up to 1,024	up to 64
	Maximum number of outdoor units (OU)	64 OU per gateway	64 OU per gateway	64 OU per gateway
	Touchscreen	2T10(10'') / 2T15 (15'')	-	-
	Web server	•	•	•
	Compatible user interfaces	Smartphone, tablet, PC with web connection	Smartphone, tablet, PC with web connection	Smartphone, tablet, PC with web connection
	Compatibility with BMS networks	MODBUS interface integrated as standard (optional KNX and BACNET)	MODBUS interface integrated as standard (optional KNX and BACNET)	MODBUS interface integrated as standard (optional KNX and BACNET)
Advanced control functions	Number of user access levels	unlimited (standard)	unlimited (standard)	unlimited (standard)
	Creation of supervision zones (e.g. Multiple tenants)	•	•	•
	Energy consumption monitoring	•	•	•
	Energy consumption distribution	•	•	•
	Compatibility with FIDELIO technology	•	•	-
	Unlimited annual program	•	•	•
	Annual clock that can be synchronised with an Outlook calendar	•	•	-
	Setting of indoor unit optional functions	(via CSNET Lite)	(via CSNET Lite)	•
	Master/Slave setting	•	•	•
	MODBUS compatibility included	•	•	•
	Interlock functions	•	•	(limited functions)
	Hotel applications (window contact and reduced setpoint)	•	•	-
Advanced display functions	Integration of building floor plan	(image format)	(image format)	-
	Virtual individual command	(control, ambient temperature display)	(control, ambient temperature display)	(control, ambient temperature display)
Advanced comfort functions	Anti-ice function	•	•	•
	GENTLE COOL function (comfort in cooling mode)	•	•	•
	Heat Draft function (comfort in heating mode)	•	•	•
	Outdoor unit noise level control	•	•	•
Advanced maintenance functions	Error notification by email	•	•	•
	Historic operating data	2Gb	2Gb	256 Mb
	Faults log	6 months (display period)	6 months (display period)	6 months (display period)
	Emergency stop contact	-	-	•
	Fault signal contact	-	-	•
	Control mode (reading of operating parameters of the installation)	•	•	•
	Display of refrigerant circuit showing operating parameters	•	•	•
	Guided configuration	•	•	•

CSNET Manager 2: advanced type control device

New user interface



New menu graphics

Menu

Intuitive dashboard:
3 new view formats



Dashboard view



Icons view



List view

CSNET Manager 2: Advanced control tool

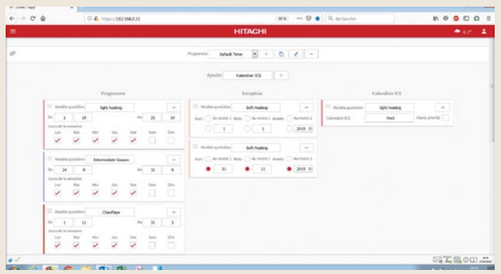
A new customer experience with a single customisable comfort level

GENTLE COOL function

This function makes it possible to achieve the comfort level required by each user
in the case of cooling mode operation, providing the facility to regulate the outlet temperature of each individual indoor unit.



- With CSNET systems, the air outlet temperature can be managed so that it cannot fall below the values defined by the user.
  The GENTLE COOL function can be selected for any individual indoor unit without changing the operation of the remaining indoor units.
- With CSNET systems, you can now coordinate the temperature of a meeting room by synchronising it with an annual calendar or with an Outlook calendar.



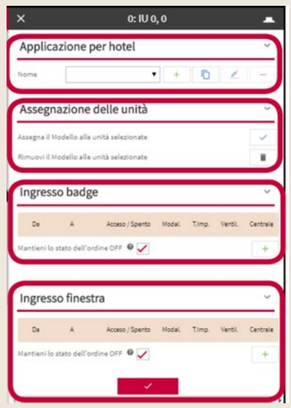
Hotel function

This smart programming function is integrated in the native device of all CSNET Manager 2 interfaces and it makes it possible to customise operation of indoor units in relation to the status, for example, of badge contacts and window contacts in accordance with IF TTT logic.



- This function makes it possible to customise the comfort conditions in the individual room, in both cooling and heating mode.
  When a person enters a room (insertion of the room badge) the consequent system operation can be customised.
- When the window is opened, the indoor unit can be switched off, for example, or the associated setpoint can be adjusted.

Hotel application



- CSNET is compatible with FIDELIO hotel management devices

micros FIDELIO

Comfort solutions

For enhanced management of consumption estimation

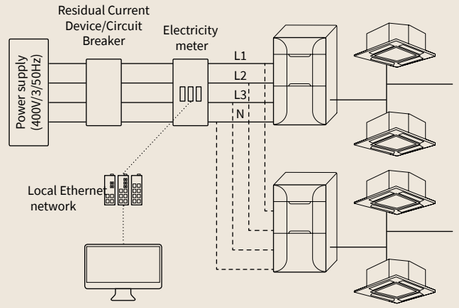
External energy meters can also be incorporated to provide a supplementary energy reference in the case of direct expansion systems thanks to the CSNET system support. The function of energy consumption estimate metering, recording and display is based on the HITACHI calculation method and is available in the native device without requiring hardware or software add-ons.
The estimate can be linked to all the outdoor units or to a partition, displaying consumption in kWh or in currency in accordance with the user's electrical supply contract.

SIEMENS 7KM PAC3200



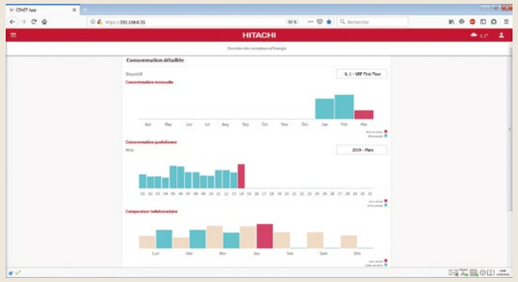
SOCOMEC Countis E27 & E28

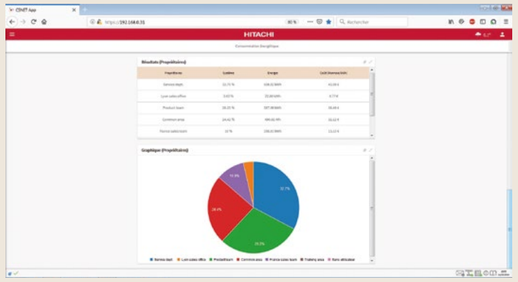




The numerical data presentation menu can be customised in accordance with preset menus to allow analysis on various levels: global information, daily and weekly data analysis.

Also in the case of installation in apartment complexes, the function makes it possible to subdivide the estimate of electricity consumption linking the related data to each user.





Applications offering high safety levels: Interlock function

The interlock function incorporated as standard in all CSNET interfaces, simplifies programming of multiple scenarios while avoiding the complexity of hardware electrical connections.

Application example:
the air conditioner is installed with a backup function.
The specific requirement is that the system must be started automatically in the case of temperature deviation at the following settings:
with ambient temperature > 20 °C the back-up unit must be started with a setpoint of 18 °C.



CSNET Manager 2: Advanced control tool

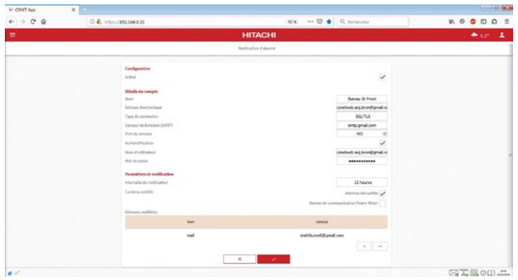
Make the difference with top quality service

Maintenance is essential because it guarantees a high level of reliability for the chosen solution. Preventing faults and reacting rapidly to reduce the times required for maintenance tasks by means of remote analysis tools are key factors for the achievement of customer satisfaction.



An automatic alert tool in the case of faults

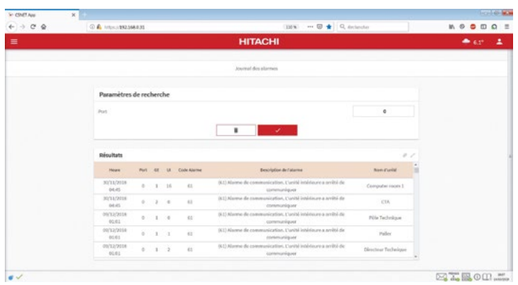
A dedicated menu makes it possible to set up automatic transmission of an alarm mail in the case of a fault on the monitored installation.





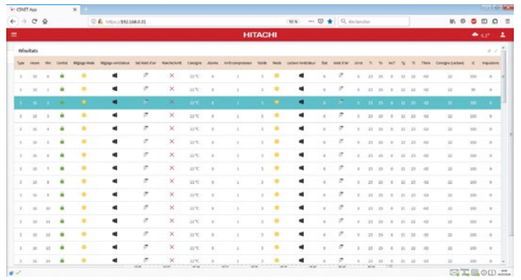


An alarms register is generated automatically by CSNET Manager 2 when the fault occurs.



Analysis tools accessible from remote locations by means of the WEB Server function on PC, tablet or smartphone

Access the performance log of the installation. This flexibility allows the user to generate a graphic representation of the trend of selected parameters, with freely chosen details, and to create a specific service report.





Understand the meaning of a problem communicated by a customer and solve it remotely by changing the system operating parameters makes it possible to maintain the maximum level of customer satisfaction.



Integration with Building Automation

Control, inform, allow remote access. In an ever-more technologically connected world, HITACHI offers a complete range of gateways for communication with the main open protocols on the market. The 2019 versions of these HITACHI interfaces are fully certified and enable the achievement of a fundamental increase in terms of safety and availability.

Protocols

MODBUS® protocol (Modbus® RTU or TCP/IP)

The Modbus® protocol (TM Modicon 1979).
HITACHI interfaces manage up to 8, 16 or 64 indoor units per gateway.
The interfaces can be connected at any point of the H-link bus.
They operate with RTU or IP protocols in automatic detection mode.
The ideal solution for small and medium-sized commercial premises.

KNX protocol

KNX® is a standardised dedicated building bus that is independent from the proprietary communication buses offered by product manufacturers (lighting, heating, security, energy management, metering, etc,).
HITACHI interfaces manage up to 16 or 64 indoor units per gateway.
Based on EIB, EHS and Batibus standard buses, with KNX® Certification Interoperability of products with KNX® logo. ISO standard.
The ideal solution for medium-size and large commercial business buildings.

BACnet®/IP protocol

The BACnet / IP protocol is designed to allow integration with TCP / IP networks.
The new certified interfaces directly manage up to 16 or 64 indoor units per gateway.
The ideal solution for large size commercial buildings.

LONWORKS protocol

Created by the ECHELON CORPORATION, Lonworks is a recognised and accepted standard in Building Management applications (IEA 709.1 / 2/3).
These interfaces manage up to 32 or 64 units per gateway.
Interoperability of devices makes it possible to supply structures with services and maintenance in line with the standards demanded by customers.
The ideal solution for small, medium and tall commercial buildings.

Gateway devices

HC-A8MB (8 indoor units)
HC-A16MB (16 indoor units)
HC-A64MB (64 indoor units)

NEW

HI-AC-KNX-16 (16 indoor units)
HI-AC-KNX-64 (64 indoor units)

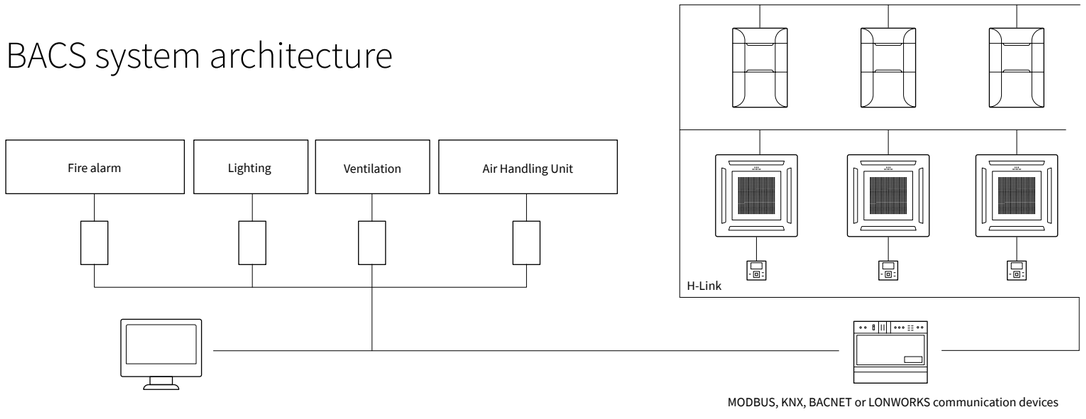
NEW

HI-AC-BAC-16 (16 indoor units)
HI-AC-BAC-64 (64 indoor units)

NEW

HARC-BE(B) (32 indoor units)
HARC-BXE(A) (64 indoor units)

BACS system architecture



Management and Control Accessories

MULTITENANT function - System for operational continuity of SET FEE indoor units

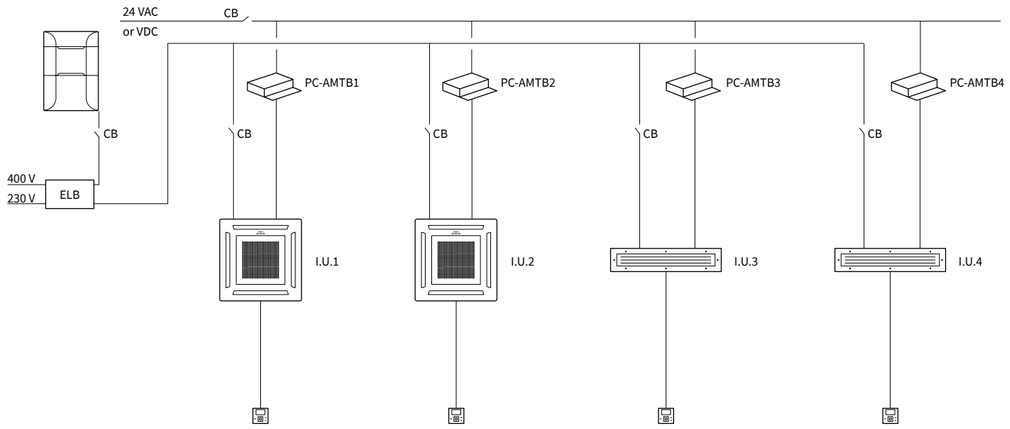
The exclusive MULTITENANT system created by HITACHI guarantees operating continuity also in the presence of a partial power loss or fault of indoor units. Reliability and guaranteed operation are the fundamental characteristics of MULTITENANT technology: continuity of operation of the indoor units is assured thanks to the H-Link data transmission line and separation of the power and control circuits.

Maximum flexibility in the construction of 230 VAC power supply circuits, without constraints of shared backbones and without the assistance of additional devices in compliance with statutory regulations concerning electrical systems is an essential requirement for a climate control system.

In fact, this type of plant configuration is indispensable in all circumstances in which the installation is distributed across multiple properties or multiple tenants, each having the possibility of disconnecting their indoor units from the power supply.

The system also provides the facility for automatic detection of:
- operating faults of the indoor unit
- electrical power loss of the indoor unit.

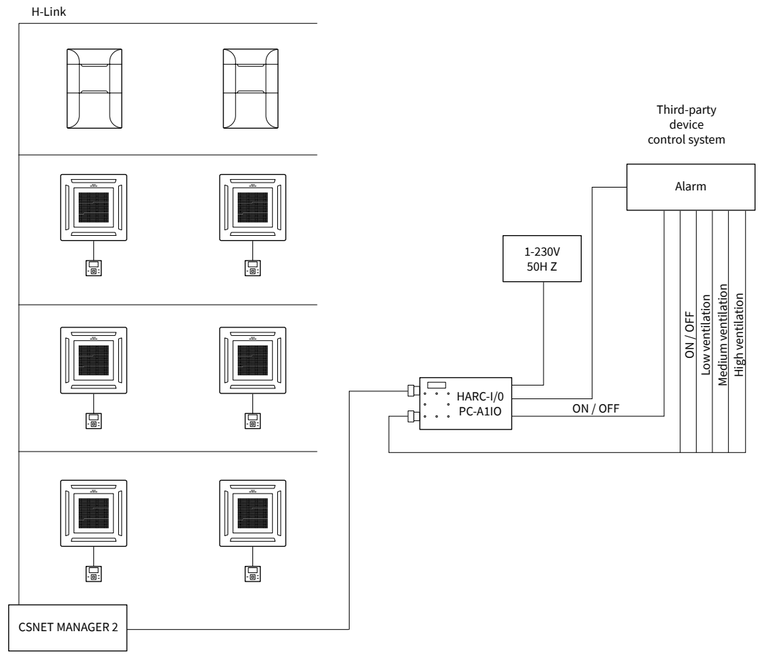
Based on these conditions, the outdoor unit segregates the malfunctioning or unpowered indoor unit, guaranteeing continuity of the system's electrical lines and refrigerant pipes without requiring the intervention of a technician and/or an installation operator.



Communication interface with third party systems

PC-A1IO is an accessory that places HITACHI SET FREE systems in communication with third-party control and management devices.

The interface allows integration of third-party systems such as Air Handling Units, pre- and post-heating heat exchangers or direct cooling heat exchangers in HITACHI centralised management systems.



Controls

R32 REFRIGERANT



Wired control

SPX-RCDA

– Wall mounting
– 12h programming
– Multiple functions: operating mode, temperature, ventilation, night mode

Compatible with duct indoor units:
RAD-(Q/R)PE
RAD- PPD



Wired control

SPX-RCDB

– Wall mounting
– 12h programming
– Multiple functions: operating mode, temperature, ventilation, night mode

Compatible with all Multi Premium Series E indoor units with the exception of duct indoor units



Remote control

SPX-RCKA, SPX-RCKA1, SPX-RCKA2, SPX-RCKA3

– LCD display
– Weekly programming
– "Out of home" mode
– Eco mode
– Sleep function (7h)
– Multifunction: Operating mode, temperature control, ventilation, self-diagnostics, consumption display in kW

SPX-RCKA: for RAD-PPA only
SPX-RCKA1: For RAD-(Q/R)PE only
SPX-RCKA2: For RAK-PPD, RAK-50RPE1, RAK-RPE units only
SPX-RCKA3: For RAI-RPE units only



Wired control

SPX-WKT2, SPX-WKT3

– Wall mounting
– Weekly programming
– "Out of home" mode
– Multiple functions: operating mode, temperature, ventilation, night mode
– Management of up to 13 indoor units
– Temperature sensor location selection

Accessories



Wi-Fi adapter

SPX-WFG01

– Wi-Fi communication adapter for control of the residential indoor unit by means of the HI-Kumo app with a smartphone or tablet



Hi-Box wireless adapter for building automation

SPX-TAG01

– Wireless communication adapter by means of an RF signal between the residential indoor unit and the AHP-SMB01 Hi-Box building automation device (required)
– Hi-Box AHP-SMB-01 home automation device required



Hi-Box

AHP-SMB-01

– Hi-Box building automation device
– Allows control of residential air conditioning units via the Hi-Kumo app
– The use of an SPX-TAG01 wireless adapter is required for each indoor unit
– RF communication between AHP-SMB-01 and SPX-TAG01



H-Link connector

PSC-6RAD

– Makes it possible to connect the indoor units of the residential series to a Hitachi H-Link network.



How to access the Hi-Kumo app

1. Communication interface between indoor unit and Hi-Box AHP-SMB01 device (required) by means of an RF signal. Requires Hi-Box AHP-SMB-01
2. Download the app to your Tablet or Smartphone
3. Configure the app searching for the connected units and establish the link

Compatibility of accessories

Code	Description	"Premium FrostWash RAK-PSEW / PSES"	Akebono FrostWash RAK-RXE	Akebono Multi RAK-QXE/RAK-RXE	Performance FrostWash RAK-RPE	Performance Multi RAK-QPE/RAK-RPE	Performance Multi RAK-50RPE1	Dodai RAK-PED	Light commercial wall-mounted units RAK-PPD	Akebono floor units RAF-RXE	Medium pressure duct units RAD-QPE/RAD-RPE	Light commercial m. p. duct units RAD-PPD	4-way cassette units RAI-RPE	Light commercial 4-way cassette units RAI-PPD	O.U. Multizone Premium series E RAM-NPE
SPX-CFH25	Activated carbon filter	-	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
SPX-NTW3	Activated carbon filter	-	-	-	-	-	-	-	-	-	-	-	✓	-	-
SPX-SPF8	Stainless steel pre-filter	-	-	-	-	✓	-	✓	-	-	-	-	-	-	-
SPX-SPF9	Stainless steel pre-filter	✓	-	-	-	-	-	-	-	-	-	-	-	-	-
SPX-WDC2	Voltage-free contact kit	-	-	-	-	-	-	-	-	-	✓	✓	-	✓	-
SPX-WDC3	Voltage-free contact kit	✓	✓	✓	✓	✓	✓	✓	✓	✓	-	-	-	-	-
SPX-WDC5	Voltage-free contact + alarm kit	✓	✓	✓	✓	✓	-	✓	-	✓	-	-	-	-	-
SPX-WDC6	Voltage-free contact + alarm kit	-	-	-	-	-	-	-	-	-	✓	-	-	-	-
SPX-WDC7	Alarm kit	✓	✓	✓	✓	✓	-	✓	-	✓	-	-	-	-	-
SPX-WDC8	Alarm / Operating status relay kit	-	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	-	✓	-
HA-S100TSA	Alarm circuit board	-	-	-	-	-	-	-	-	-	✓	-	✓	-	-
SPX-RCDA	Wired control for duct unit	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-
SPX-RCDB	Wired control	✓	✓	✓	✓	✓	✓	✓	-	✓	-	-	✓	-	-
SPX-RCKA1	Remote control and receiver (lh 10 °C-16 °C)	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-
SPX-RCKA2	Remote control and receiver (lh 10 °C-16 °C)	-	-	-	-	-	✓	-	-	-	-	-	-	-	-
SPX-RCKA3	Remote control and receiver (lh 10 °C-16 °C)	-	-	-	-	-	-	-	-	-	-	-	✓	-	-
SPX-WKT2	Wired control with weekly timer	✓	✓	✓	✓	✓	-	-	-	✓	-	-	-	-	-
SPX-WKT3	Wired control with weekly timer	✓	✓	✓	✓	✓	✓	✓	-	✓	✓	✓	✓	-	-
SPX-WKT5M	Extension cable (5m)	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-
SPX-DST1	Signal distributor	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-
SPX-WDST8M	Distributor / indoor unit connection cable (8m)	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-
SPX-RTH1	Remote thermistor	-	-	-	-	-	-	-	-	-	✓	✓	-	-	-
SPX-RAMHLK	H-link interface for RAM-NPE series outdoor units	-	-	-	-	-	-	-	-	-	-	-	-	-	✓
PSC-6RAD	H-link interface for indoor units	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-
SPX-WFG01	Wi-Fi interface	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-
SPX-TAG01	Interface for Hitachi Hi-Box or Somfy Tahoma Box building automation systems	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-
AHP-SMB-01	Hitachi Hi-Box building automation system	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	-
SPX-RAFGLS	R32 gas leak detector accessory for RAF RXE units	-	-	-	-	-	-	-	-	✓	-	-	-	-	-

✓= compatibile

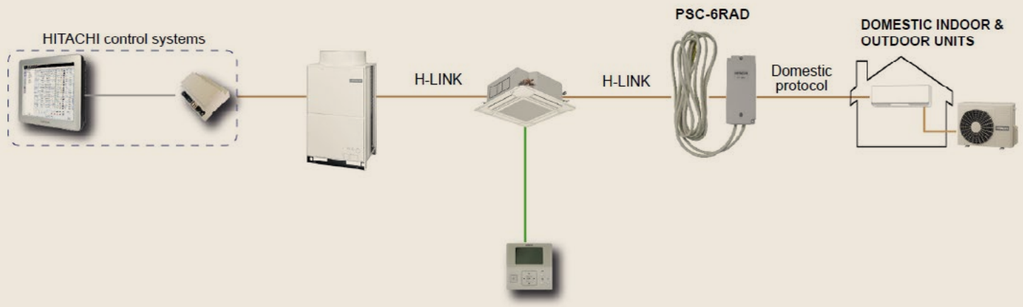
Hi-Kumo app and management of indoor units

PSC-6RAD adapter for centralised management of residential systems on H-LINK network.

The indoor units can be connected by means of the PSC-6RAD adapter in a single bus using a communication protocol developed by HITACHI.
This accessory makes residential units compatible with systems in the commercial, services and industrial range. The functions available with the device are On/Off, operating mode, temperature setting, etc., all programmable by means of the H-Link central station.



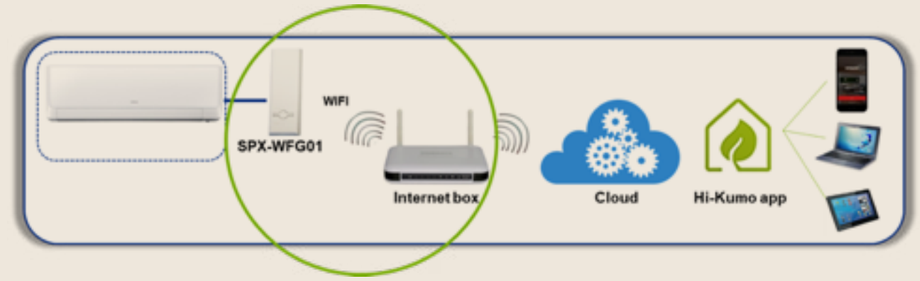
INSTALLATION EXAMPLE



Hi-Kumo app, SPX-WFG01 interface for Wi-Fi management.

The Hi-Kumo interface makes it possible to control Hitachi residential range air conditioners in a simple and intuitive manner via smartphone, tablet or PC.
By means of the application, all the functions normally available with the local control can be set: function mode selection, temperature setting, fan speed, timer function, etc. A weekly timer can be enabled or holiday mode selected remotely. To enable these functions: provide a Wi-Fi RAC interface for each indoor unit, purchase a Wi-Fi modem and download the free app, available for iOS and Android systems.

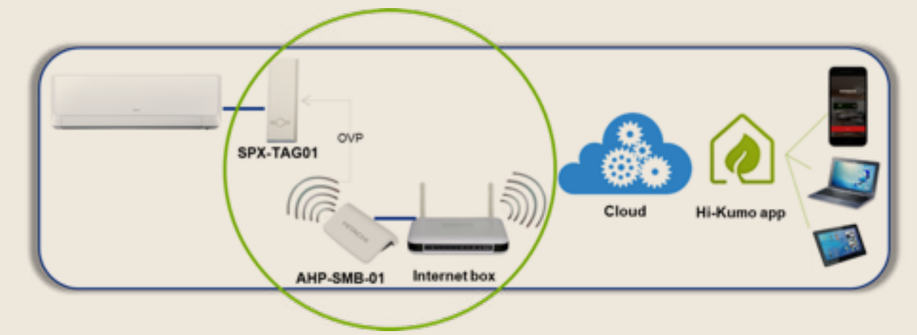
INSTALLATION EXAMPLE



Hi-Kumo app, SPX-TAG01 interface for remote management with OVP protocol and compatible with Somfy TaHoma® applications.

This is a wireless interface to connect to the indoor unit, to allow control of the Hitachi residential air conditioner also within the Somfy TaHoma® building automation system. This architecture makes it possible to manage Hitachi air conditioning systems and air/water heat pumps. By means of a smartphone, tablet and PC, management is possible using a free app and connecting the SPX-TAG01 wireless interface to the TaHomaR Box control system connected to a home modem/router. There are no additional installation costs because communication between the installation/interface and control system is wireless and uses a communication protocol that is optimised for building automation, safe and with long range. In addition, with the same control system TaHoma® Box can manage other electrical devices such as motorised shutters, internal and external blinds, gates, alarm systems, lighting systems, etc.

INSTALLATION EXAMPLE



Building Automation for residential type applications

Compatibility with MODBUS applications

The HC-A64MB and HC-A8MB devices allow integration of HITACHI air/air devices with a BMS supervision and management system by means of MODBUS, technology both on a TCP Ethernet and RTU 485 type network.

Also MONO and MULTI residential systems, with the aid of the PSC-6RAD and MULTI, with the aid of the SPX-RAMHLK interface, can be integrated and controlled by means of MOD BUS building automation devices like HITACHI commercial and SetFree systems.

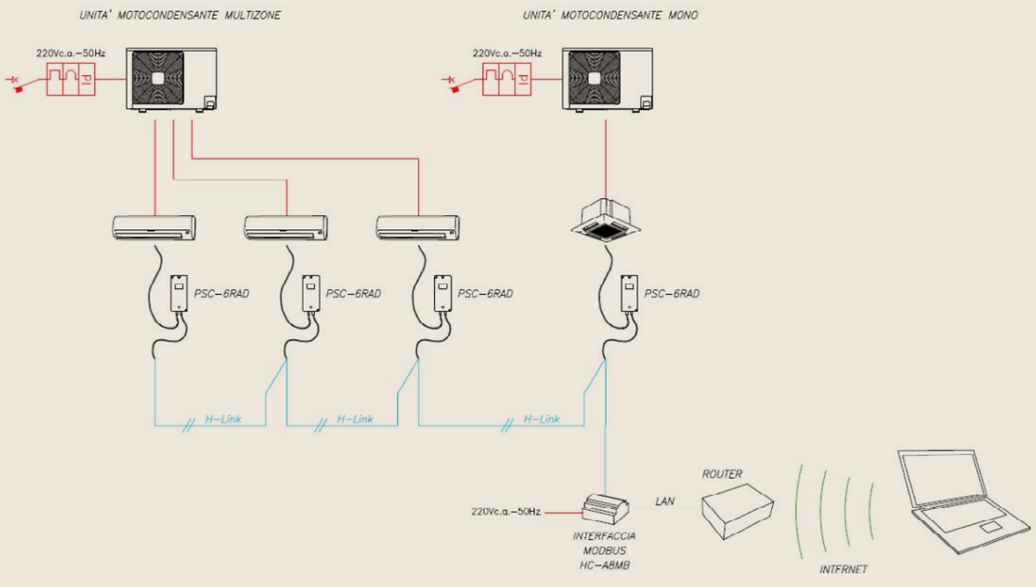
HC-A64MB

- Simultaneous control of up to 64 indoor units
- Transmission: RS485 serial port – TCP Ethernet on RJ45
- Variables for each indoor unit: 24 (reading) – 6 (writing)
- Installation on DIN rail

HC-A8MB

- Simultaneous control of up to 8 indoor units
- Transmission: RS485 serial port – TCP Ethernet on RJ45
- Variables for each indoor unit: 24 (reading) – 6 (writing)
- Installation on DIN rail

INSTALLATION EXAMPLE



Compatibility with KONNEX applications.

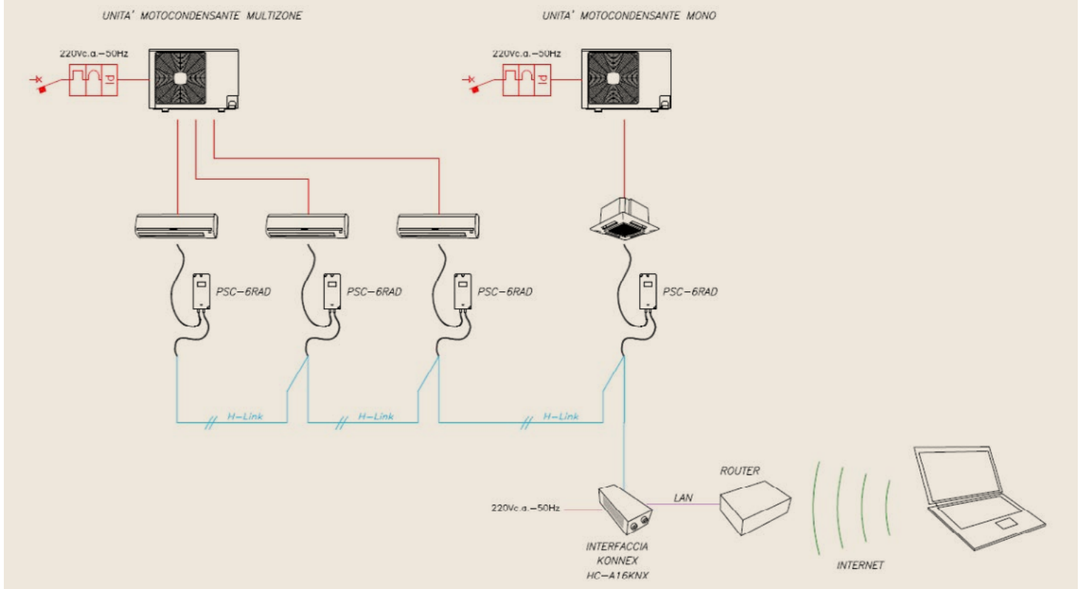
The HC-16KNX and KNX001 devices allow integration of HITACHI air/air devices with a BMS supervision and management system by means of KONNEX technology.

Also MONO and MULTI residential systems, with the aid of the PSC-6RAD interface, and MULTI with the aid of the SPX-RAMHLK interface, can be integrated and controlled by means of KONNEX building automation devices in the same way as HITACHI commercial and SetFree systems.

HC-A16KNX

- Simultaneous control of up to 16 indoor units
- Transmission: dedicated KONNEX port
- Variables for each indoor unit: 15 (reading) – 11 (writing)
- Wall-mounted or table-top installation

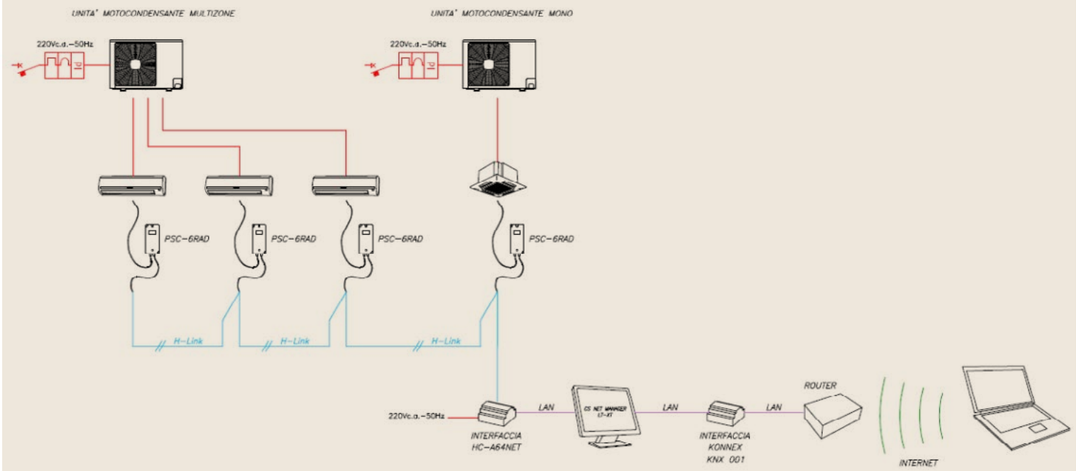
INSTALLATION EXAMPLE



Building Automation for residential type applications

KNX001
- Simultaneous control of up to 128 indoor units
- Transmission: KNX TP-1 port / EIB bus
- Variables for each indoor unit: 18 (reading) – 7 (writing)
- Installation on DIN rail

INSTALLATION EXAMPLE





No two spaces are alike. Every day, your customers set you a different challenge. For this reason we have expanded our range of water-cooled chillers, to fit the needs of all your projects, no matter the size or the demand for performance, reliability or precision.



Samurai Chillers

Down to 5 °C

Up to 52 °C



Down to -8 °C

Up to 55 °C



Down to -10 °C

Up to 55 °C



Down to -15 °C

Up to 60 °C



Caption:

Temperature of chilled-water production for cooling.

Temperature of hot-water production for heating.

* JOHNSON CONTROLS - HITACHI AIR CONDITIONING EUROPE SAS is a member of the Eurovent certification programe for the categories AC / VRF / LCP-HP; all data of the certified units is available on Eurovent website (www.eurovent-certification.com).

Introduction

Samurai chillers and heat pumps

Whatever the size of your building or its needs, HITACHI has the right water-cooled conditioning system for you.

HITACHI systems have proven their value in many different situations, from industrial applications to commercial spaces and from hotels to department stores.

The attention paid at the design stage to the combination of compressor and electronics management, and more than fifty years of experience as a compressor manufacturer, have enabled us to achieve extraordinary results in terms of both efficiency and durability. This combination enables HITACHI to produce various water-cooling solutions, designed specifically to use R-134a and R-410A refrigerants. HITACHI chillers offer maximum flexibility and control, all thanks to the advanced technology that underlies them. They are unique because of their precision, power, quietness, ease of maintenance and low operating costs. HITACHI chillers can create comfortable, climate-controlled spaces or provide precise control without neglecting the efficiency of plants used in processes.

The experience, reliability, and the quality of materials make HITACHI the safest choice for industry professionals who seek durable solutions.

This catalog provides an overview of HITACHI chillers and includes remote condenser systems, air or water cooled systems, as well as heat-pump options.

Each year, the demand for ever more efficient products increases, in line with the requirements of European directives for reducing energy consumption. The European Parliament's Environmental Commission has made a series of useful tools available for green design. Its requirement of energy labeling for products contributes to technological innovation and removes poorer-performing products from the market.

All these actions contribute to the achievement of the energy-efficiency goals established by the EU for 2030.

At the same time, these actions support industrial competitiveness, promoting those products that offer high environmental performance.

HITACHI's policies, which are sensitive to environmental protection and compliance with the regulatory framework, back the European Union's objectives with respect to reducing the required energy consumption, providing the market with increasingly efficient, high-performance systems and solutions.

What is ecodesign?

Commission Regulation (EU) 2016/2281 of November 30, 2016 implementing Directive 2009/125/EC, established a framework for the setting of ecodesign requirements for energy-related products.

Mandatory requirements are implemented through specific product regulations directly applicable in all EU countries.

One of the specific product regulations has an impact on HITACHI's range of reversible heat pumps with a maximum nominal cooling capacity of up to 400 kW.

ERP 2021

Seasonal efficiency

Seasonal efficiency is a method for evaluating actual energy efficiency in heating and air-conditioning systems over the course of one calendar year. This type of evaluation is more realistic for evaluating a system's energy efficiency and environmental impact.

To define a system's seasonal efficiency, two new evaluation indices are used that are common to all manufacturers: one dedicated to heating (SCOP), and one dedicated to cooling (SEER). SCOP: seasonal coefficient of performance in heating. SEER: seasonal energy efficiency ratio in cooling.

Therefore, these indices measure energy consumption and annual efficiency based on (standardized) daily consumption. They also take into account the temperature variations and standby times throughout the year to give an accurate indication of the typical energy efficiency of an entire season of heating or cooling.

Specifically:

ηs, h (eta, h) = seasonal efficiency of primary energy in heating;

ηs, h (eta c) = seasonal efficiency of primary energy in cooling;

Introduction

To enable a comparison with other heating products, the percentage of primary energy is expressed and a different value to the COP and EER is mentioned, because the following factors are taken into account in the calculation:

– Operation at partial and full load, nominal efficiency with different loads and at different temperatures, instead of a single point at full load.

– The additional energy consumption of the auxiliary elements (standby, thermostat off, powered-off mode, etc.)

– Operating time at various temperatures.

For example, SCOP (seasonal coefficient of performance in heating) is a translation of the value ηs,c through the primary energy efficiency index. In Regulation (EU) 2016/2281 of November 30, 2016, the primary energy efficiency index is CC = 2.5. In other words, 2.5 kW of primary energy (fuel, gas, etc.) is needed to produce 1 kW of electricity.
Therefore: SCOP = ηs x 2.5

Minimum efficiency thresholds for heat pumps

Under the ErP Regulation, we determine the efficiency class and the parameter ηs,h expressed as a percentage, or the seasonal heating energy efficiency, calculated considering the type of heat pump and its seasonal coefficient of performance, better known by the acronym SCOP.

From September 2015

Medium temperature, hot water at 47/55°C: ηs,h=100% (or SCOP=2.5)
Medium temperature, hot water at 30/35°C: ηs,h=115% (or SCOP=2.875)

From September 2017

Medium temperature, hot water at 47/55°C: ηs,h=110% (or SCOP=2.750)
Low temperature, hot water at 30/35°C: ηs,h=125% (or SCOP=3.125)

Energy labeling

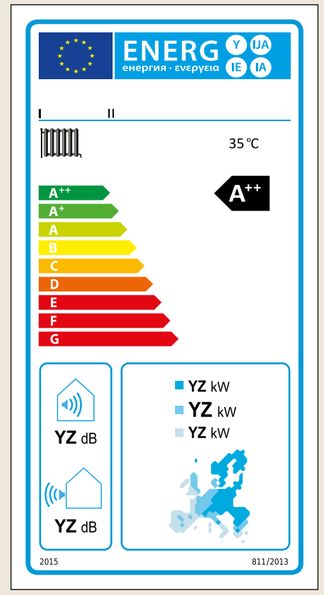
– Required on all products with a nominal heating power below 70 kW

– Gives consumers clear, easy-to-understand information.

– The energy-efficiency classes of products range from G to A

Energy-efficiency class

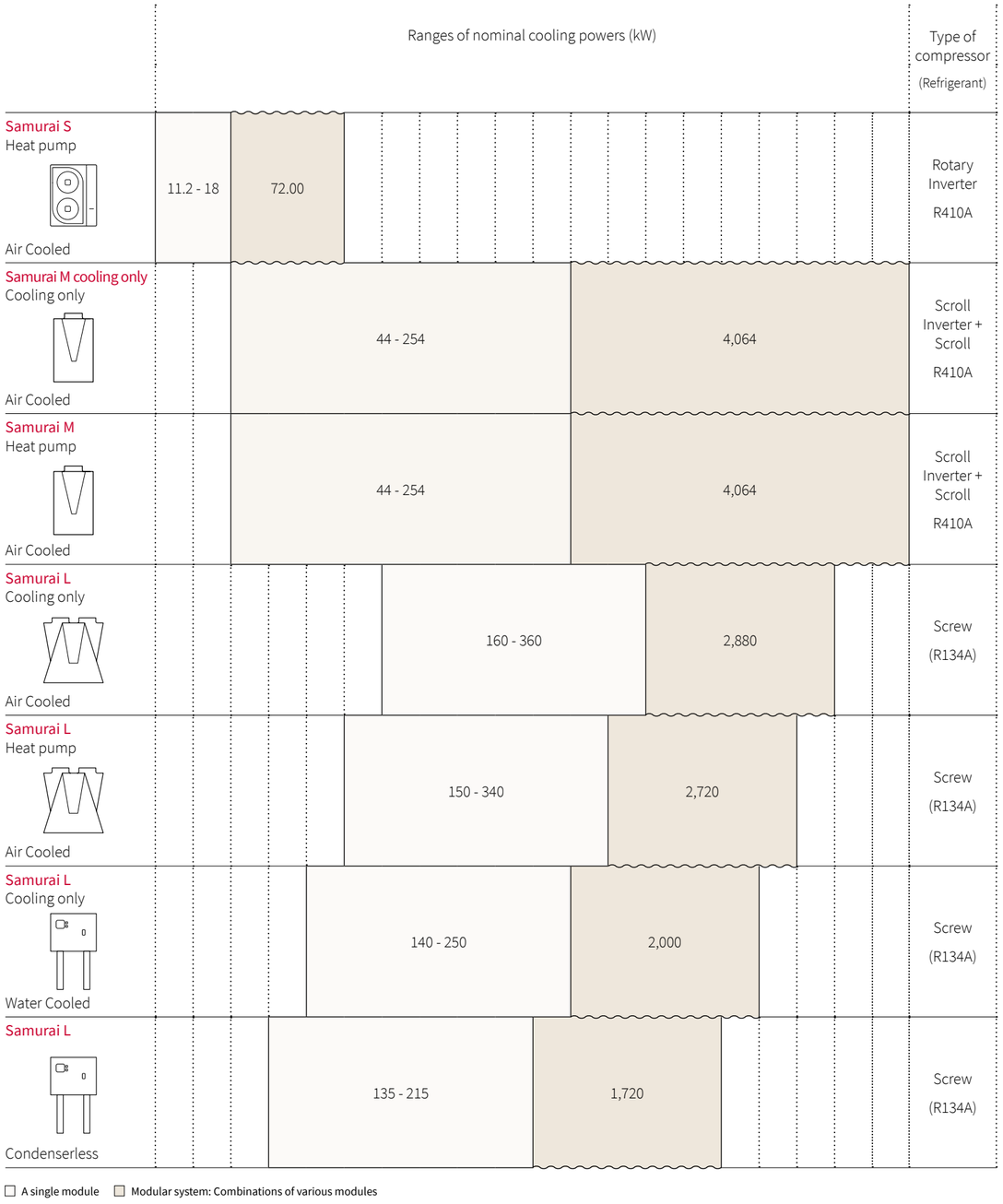
Class	Boilers and heat pumps , medium temperature (operating at 47/55°C)	Heat pump , low temperature (operating at 30/35°C)
A*** (of September 2019)	ηs ≥ 150	ηs ≥ 175
A**	125 ≤ηs< 150	150 ≤ηs< 175
A*	98 ≤ηs< 125	123 ≤ηs< 150
A	90 ≤ηs< 98	115 ≤ηs< 123
B	82 ≤ηs< 90	107 ≤ηs< 115
C	75 ≤ηs< 82	100 ≤ηs< 107
D	36 ≤ηs< 75	61 ≤ηs< 100
E	34 ≤ηs< 36	59 ≤ηs< 61
F	30 ≤ηs< 34	55 ≤ηs< 59
G	ηs< 30	ηs< 55



It is understood that a higher efficiency class means a higher SCOP value and a lower quantity of primary energy that is required by the heat pump to work. For example, ηs,h = 175% means the air-to-water heat pump in low temperature applications where SCOP = 4.45 will result in class A +++.

Quick selection table

Cooling only and heat pump



CONTROLS



Wired remote controller

Compatible with the Samurai S and M range

GATEWAYS



MODBUS BACNET

Compatible with the Samurai L and M range

Characteristics

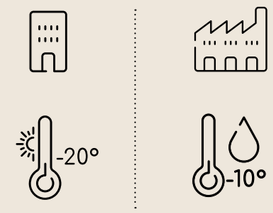
Cooling only and heat pump

1 Modular design adaptable to each space

Modular designs are the ideal solution for quick, compact installations requiring machines that are adaptable to the space. The highly efficient units can be combined to achieve the required power, guaranteeing functionality in the event of a partial failure.



2 Operating ranges suitable for PROCESS and COMFORT systems



The Samurai L, M and S ranges can be adapted perfectly both to processing plants and to air-conditioning systems. As standard, the operating range is able to satisfy multiple design conditions. Additionally, with a glycol option, the Samurai L unit can produce cold water to -10°C with outside temperatures as low as -15°C. The heat-pump versions guarantee hot-water production with exterior temperatures as low as -15°C, and -20°C in the case of the Samurai S range.

3 High efficiency, meeting the requirements of Ecodesign Tier 2

ERP 2021

SEER 4.71

High efficiency levels in both cooling and heating modes. Meets all requirements of Ecodesign Tier 2 for:
Reg. 813/2013 for heat pumps (2017)
Reg. 1095/2015 for chillers for medium-temperature industrial processes (2018)
Reg. 2016/2281 for comfort cooling and for high-temperature industrial processes (2021).

4 Units designed to meet the needs of small, medium and large plants

The Samurai L range, thanks to the Hitachi screw compressor, is particularly suitable for large-scale projects, both tertiary and industrial.
The Samurai M and S ranges, thanks to scroll compressors and inverter rotary compressors, are adaptable to small, medium and large applications. As standard, they come with virtually all the accessories needed for installation, to reduce the risk of error during installation and startup.

Samurai S

Air-to-water heat pump with inverter rotary compressor



Plug and play

The Samurai S range, for small to medium projects, is designed as a complete solution. These units include all the components needed to install and operate them. Standard components include: differential flow switch, circulating pump, water filter, safety valve and automatic fill valve.

Installation flexibility:

Modular approach

Can function with up to 4 units in cascade. (Fig. 1)

Wide operating ranges

(Fig. 2)

Available pressure

Each unit's fan has an available standard pressure of 30 Pa. (Fig. 3)

High energy efficiency

SEER 4.52 SCOP 4.02

High efficiency levels in both cooling and heating modes. In cooling mode it exceeds all Ecodesign Tier 1 requirements, and in heating mode all Tier 2 requirements. Reg 2016 /2281 for cooling, comfort and high-temperature industrial processes (2021).

Fig. 1

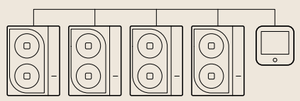


Fig. 2:

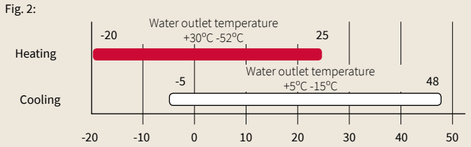
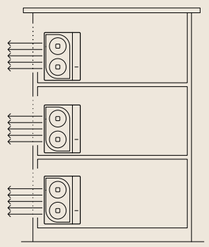
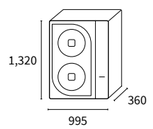


Fig. 3



Heat pump models



RHMA-4AVN
RHMA-5AVN
RHMA-6AVN
RHMA-7AVN

Samurai S - RHMA-AVN - Heat pump

Heat pump models			RHMA-4AVN	RHMA-5AVN	RHMA-6AVN	RHMA-7AVN
Capacity (Net value)	Cooling (nominal)	kW	11.2	14.30	16.00	17.80
	Heating (nominal)	kW				
EER			10.90	13.10	15.40	18.50
COP			2.79	2.70	2.78	2.56
ESEER			4.10	4.10	4.10	4.10
"SEER cooling for comfort (set point variable)"			4.05/159	4.32/170	4.52/178	4.42/174
SCOP			3.47/136	3.55/139	4.02/158	390/153
Sound power (cooling)	Full load	dB(A)	68	70	70	74
	Low noise	dB(A)	64	65	65	69
"No. and type of compressor/ no. of circuits"			1 - Scroll DC Inverter	1 - Scroll DC Inverter	1 - Scroll DC Inverter	1 - Scroll DC Inverter
Refrigerant			R410A	R410A	R410A	R410A
Refrigerant charge		Kg	2.80	3.30	3.90	4.00
Capacity control		%	n.d.	n.d.	n.d.	n.d.
Heat exchanger type			Plate	Plate	Plate	Plate
Nominal flow rate	(Cooling - Heating)	l/s	0.52-0.56	0.66-0.67	0.75-0.79	0.82-1.03
Available static pressure		kPa	150	130	120	110
Water pipe diameter		inches	1	1	1	1
Fan motor			BLDC - Brushless Directive Current			
Number of fans			2	2	2	2
Working range	Cooling	°C	-5 +48	-5 +48	-5 +48	-5 +48
	Heating	°C	-20 +25	-20 +25	-20 +25	-20 +25
Water production temperatures	Cooling	°C	5 + 15	5 + 15	5 + 15	5 + 15
	Heating	°C	30 + 52	30 + 52	30 + 52	30 + 52
Power supply			1N~200V 50Hz	1N~200V 50Hz	1N~200V 50Hz	1N~200V 50Hz
Consumption	Cooling	kW	4.01	5.28	5.74	6.95
	Heating	kW	3.70	4.30	4.70	6.30
Maximum current (230V)		A	17.10	23.90	26.10	30.70
"Dimensions without hydraulic kit (H x W x D)"		mm	1,320x995x360	1,320x995x360	1,320x995x360	1,320x995x360
Operating weight		Kg	126.0	128.0	141.0	141.0

Hydraulic elements as standard



Control included:

Wired remote controller

Included

Samurai M cooling only

Air-water chiller with
Scroll DC Inverter compressor



Discover
Samurai M

Ultra compact

With its small footprint, the Samurai M is an ideal product for the replacement market. Just 2.7 m2 of space for 130 kW of heating.

Very low noise level

The use of Inverter technology (compressor and fans) in the standard version means that it is the quietest range on the market. We also have sevarel low noise options with reduced noise levels up to 8dB(A)

with the low sound level option SEER 4.71

Energy excellence

By using Inverter technology, the minimum 2021 ERP seasonal energy-performance thresholds in cooling mode can be exceeded.

Top features come as standard

The standard version of the Samurai M comes with: electronic expansion valve, condensing pressure control for operation between 17,8°C and 48°C (in cooling only versions), -8°C low-temperature water output kit, dual safety valve, MODBUS gateway, BACNET sateway (optional), differential flow switch; water filter; vitaulic connections, R401a refrigerant charge, built-in touchscreen.

Wide operating ranges

(Fig. 1)

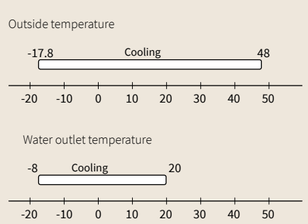
Installation flexibility

Modular approach: allows for operation of up to 16 or 32 units in cascade.

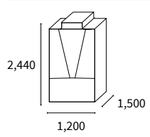
Operating safety

Compressor operating times are balances automatically for longer-lived components
Automatic handling of the balance of the length of time that compressors are working makes for longer-lived components.

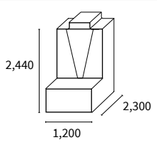
Fig. 1



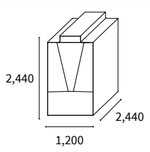
Cooling only models



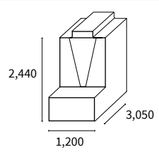
RCMA 18AN
RCMA 24AN
(without pump kit or with integrated fixed pump kit)



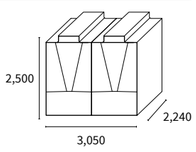
RCMA 18AN
RCMA 24AN
(with external variable-speed pump kit)



RCMA 30AN RCMA 40AN
RCMA 50AN
(without pump kit or with integrated fixed pump kit)



RCMA 30AN RCMA 40AN
RCMA 50AN
(with external variable-speed pump kit)



RCMA 60AN RCMA 75AN
RCMA 90AN RCMA 100AN
(without pump kit or with variable pump kit)

Samurai M RCMA-AN - Cooling only

Cooling only models		RCMA-18AN		RCMA-24AN		RCMA-30AN		RCMA-40AN		RCMA-50AN	
		Standard	Low noise	Standard	Low noise	Standard	Low noise	Standard	Low noise	Standard	Low noise
Capacity	kW	44.0	41.01	60.0	56.0	78.0	75.0	99.0	92.0	122.0	117.0
EER		2.84	2.87	2.79	2.83	3.11	3.07	3.00	3.01	2.95	2.89
ESEER		4.93	5.00	4.70	4.86	4.82	4.91	4.79	4.95	4.66	4.84
SEER cooling for comfort (fixed flow temp.)		4.25	4.27	4.29	4.37	4.40	4.40	4.39	4.30	4.36	4.38
"SEER cooling for comfort (variable flow temp.)		4.38	4.61	4.50	4.71	4.43	4.24	4.24	4.43	4.42	4.37
$SEPR_{MT}$		3.76	3.77	3.77	3.89	3.91	3.83	3.53	3.57	3.58	3.47
$SEPR_{HT}$		5.70	5.96	5.96	6.13	5.58	5.59	5.69	Not available	5.84	5.87
Sound power (cooling)	dB(A)	80	75	82	77	81	77	83	79	84	80
Sound pressure (cooling) at 1 m	dB(A)	66	61	68	63	66	62	68	64	69	65
Sound pressure (cooling) at 10 m	dB(A)	51	46	53	48	52	48	54	50	55	51
No. and type of compressor/ no. of circuits		2 - Scroll/ 1	2 - Scroll/ 1	2 - Scroll/ 1	2 - Scroll/ 1	3 - Scroll/ 2	3 - Scroll/ 2	3 - Scroll/ 2	3 - Scroll/ 2	4 - Scroll/ 2	4 - Scroll/ 2
Refrigerant		R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Refrigerant charge	kg	9.5	9.5	12.3	12.3	8.5+9.1	8.5+9.1	9.5+11	9.5+11	11.4+11.4	11.4+11.4
Capacity control	%	33-100	33-100	25-100	25-100	20-100	20-100	15-100	15-100	12-100	12-100
Heat exchanger type		Plate	Plate	Plate	Plate	Plate	Plate	Plate	Plate	Plate	Plate
Nominal flow rate	l/s	2.1	2.0	2.9	2.7	3.7	3.6	4.7	4.4	5.8	5.6
Total pressure drop	kPa	32	28	25	22	27	25	30	26	36	34
Water pipe diameter	inches	2	2	2	2	2 ½	2 ½	2 ½	2 ½	2 ½	2 ½
Fan motor		EC motor	EC motor	EC motor	EC motor	EC motor	EC motor	EC motor	EC motor	EC motor	EC motor
Number of fans		1	1	1	1	2	2	2	2	2	2
Outside operating temperature	°C	-17.8 to 48	-17.8 to 48	-17.8 to 48	-17.8 to 48	-17.8 to 48	-17.8 to 48	-17.8 to 48	-17.8 to 48	-17.8 to 48	-17.8 to 48
Water production temperatures	°C	-8 to 20	-8 to 20	-8 to 20	-8 to 20	-8 to 20	-8 to 20	-8 to 20	-8 to 20	-8 to 20	-8 to 20
Power supply	V/ph/Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
Consumption	kW	15.49	14.30	21.51	19.80	25.08	24.20	33.00	30.60	41.36	40.50
Maximum current at 400V	A	35.1	35.1	38.3	38.3	60.9	60.9	71.7	71.7	85.2	85,2
Dimensions without hydraulic kit (H x W x D)	mm	2,440x 1.200x 1,500	2,440x 1.200x 1,500	2,440x 1.200x 1,500	2,440x 1.200x 1,500	2,440x 1,200 x 2,240	2,440x 1,200 x 2,240	2,440x 1,200 x 2,240	2,440x 1,200 x 2,240	2,440x 1,200 x 2,240	2,440x 1,200 x 2,240
Operating weight	kg	587.0	587.0	610.0	610.0	893.0	893.0	920.0	920.0	999.0	999.0

Cooling only models		RCMA-60AN		RCMA-75AN		RCMA-90AN		RCMA-100AN	
		Standard	Low noise	Standard	Low noise	Standard	Low noise	Standard	Low noise
Capacity	kW	159.0	157.0	188.0	180.0	222.0	214.0	254.0	245.0
EER		3.12	2.99	3.04	2.91	3.08	2.92	3.06	2.93
ESEER		4.58	4.49	4.76	4.86	4.74	4.82	4.73	4.65
SEER cooling for comfort (fixed flow temp.)		4.36	4.06	4.45	4.39	4.40	4.38	4.24	4.35
SEER cooling for comfort (fixed flow temp.)		4.24	4.06	4.28	4.39	4.17	4.38	4.34	4.68
$SEPR_{MT}$		2.79	2.75	2.70	2.69	3.78	Not available	3.70	3.77
$SEPR_{HT}$		5.97	5.76	5.81	5.75	5.99	5.99	6.02	5.98
Sound power (cooling)	dB(A)	86	82	87	82	88	83	89	84
Sound pressure (cooling) at 1 m	dB(A)	70	66	71	66	72	67	73	68
Sound pressure (cooling) at 10 m	dB(A)	57	52	58	53	59	54	60	55
No. and type of compressor/ no. of circuits		5 - Scroll/ 3	5 - Scroll/ 3	6 - Scroll/ 3	6 - Scroll/ 3	7 - Scroll/ 4	7 - Scroll/ 4	8 - Scroll/ 4	8 - Scroll/ 4
Refrigerant		R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Refrigerant charge	kg	9.5+10+10	9.5+10+10	11+10.5+10.5	11+10.5+10.5	9.5+11+ 11.4+11.4	9.5+11+ 11.4+11.4	11.4+ 11.4+11.4+11.4	11.4+ 11.4+11.4+11.4
Capacity control	%	10-100	10-100	8-100	8-100	7-100	7-100	6-100	6-100
Heat exchanger type		Plate	Plate	Plate	Plate	Plate	Plate	Plate	Plate
Nominal flow rate	l/s	7.6	7.6	9	8.6	10.6	10.3	12.1	11.8
Total pressure drop	kPa	25	24	32	30	41	38	38	36
Water pipe diameter	inches	4	4	4	4	4	4	4	4
Fan motor		EC motor	EC motor	EC motor	EC motor	EC motor	EC motor	EC motor	EC motor
Number of fans		3	3	3	3	4	4	4	4
Outside operating temperature	°C	-17.8 to 48	-17.8 to 48	-17.8 to 48	-17.8 to 48	-17.8 to 48	-17.8 to 48	-17.8 to 48	-17.8 to 48
Water production temperatures	°C	-8 to 20	-8 to 20	-8 to 20	-8 to 20	-8 to 20	-8 to 20	-8 to 20	-8 to 20
Power supply	V/ph/Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
Consumption	kW	50.96	52.5	61.84	61.9	71.75	73.3	83.01	83.6
Maximum current at 400V	A	119.5	119.5	133.1	133.1	166.4	166.4	179.9	179.9
Dimensions without hydraulic kit (H x W x D)	mm	2,500x 3,050x2,240	2,500x 3,050x2,240	2,500x 3,050x2,240	2,500x 3,050x2,240	2,500x 3,050x2,240	2,500x 3,050x2,240	2,500x 3,050x2,240	2,500x 3,050x2,240
Operating weight	kg	1,922.0	1,922.0	2,003.0	2,003.0	2,235.0	2,235.0	2,316.0	2,316.0

Compatible controls and accessories:

- Wired remote controller
- 1" or 2" spring anti-vibration mounts
- Water temperature sensor
- Neoprene anti-vibration mounts
- Condenser-unit protection grilles
- F/S Hydronic kit with fixed-speed pump and expansion vessel
- VSD Hydronic kit with variable-speed pump and expansion vessel

Samurai M heat pump

Air-to-water chiller with Scroll DC Inverter compressor



Discover
Samurai M

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with the low sound level option SEER 4.71

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The standard version of the Samurai M comes with: electronic expansion valve, condensing pressure control for operation between 17,8°C and 48°C (in cooling only versions),-8°C low-temperature water output kit (standard in cooling only versions. Not available in heatpump versions, dual safety valve, MODBUS gateway, BACNET sateway (optional), differential flow switch; water filter; vitaulic connections, R401a refrigerant charge, built-in touchscreen.

Wide operating ranges

(Fig. 1)

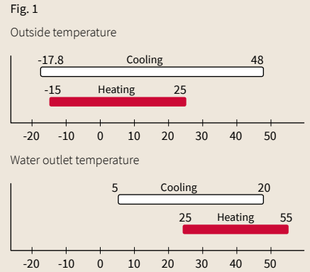
Installation flexibility

Modular approach: allows for operation of up to 16 or 32 units in cascade.

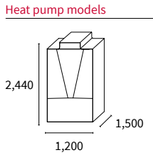
Operating safety

Compressor operating times are balances automatically for longer-lived components
Automatic handling of the balance of the length of time that compressors are working makes for longer-lived components.

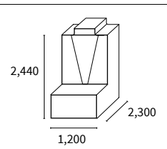
Fig. 1



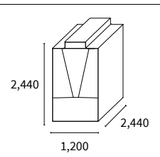
Heat pump models



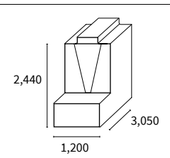
RHMA 18AN
RHMA 24AN
(without pump kit and with integrated fixed pump kit)



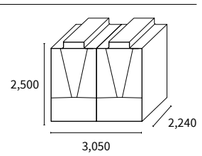
RHMA 18AN
RHMA 24AN
(with external variable -speed pump kit)



RHMA 30AN RHMA 40AN
RHMA 50AN
(without pump kit and with integrated fixed pump kit)



RHMA 30AN RHMA 40AN
RHMA 50AN
(with external variable -speed pump kit)



RHMA 60AN RHMA 75AN
RHMA 90AN RHMA 100AN
(without pump kit and with variable pump kit)

Samurai M - RHMA-AN - Heat pump

Heat pump models			RHMA-18AN		RHMA-24AN		RHMA-30AN		RHMA-40AN		RHMA-50AN	
			Standard	Low noise	Standard	Low noise	Standard	Low noise	Standard	Low noise	Standard	Low noise
Capacity	Cooling (nominal)	kW	44.0	41.0	60.0	56.0	78.0	75.0	99.0	92.0	122.0	117.0
	Heating (nominal)		5.00	46.0	59.74	55.0	87.0	84.0	98.73	91.0	132.0	126.0
EER			2.84	2.87	2.79	2.83	3.11	3.07	3.00	3.01	2.95	2.89
COP			3.05	3.11	3.07	3.11	3.23	3.24	3.12	3.14	2.97	2.98
ESEER			4.93	5.00	4.70	4.86	4.82	4.91	4.79	4.95	4.66	4.84
"SEER cooling for comfort (fixed flow temp.)"			4.25	4.27	4.29	4.37	4.40	4.40	4.39	4.30	4.36	4.38
"SEER cooling for comfort (variable flow temp.)"			4.38	4.61	4.50	4.71	4.43	4.24	4.24	4.43	4.42	4.37
$SEPR_{MT}$			3.76	3.77	3.77	3.89	3.91	3.83	3.53	3.57	3.58	3.47
$SEPR_{MT}$			5.70	5.96	5.96	6.13	5.58	5.59	5.69	Not available	5.84	5.87
SCOP			3.45	3.43	3.44	3.45	3.40	3.40	3.41	3.35	3.54	3.39
Class	Heating		A+	A+	A+	A+	A+	A+	A+	A+	A+	A+
Sound power (cooling)	Cooling	dB(A)	80	75	82	77	81	77	83	79	84	80
	Heating	dB(A)	82	77	84	79	84	80	85	80	89	84
Sound pressure (cooling) at 1 m	Cooling	dB(A)	66	61	68	63	66	62	68	64	69	65
	Heating	dB(A)	68	63	70	65	69	65	70	65	74	68
Sound pressure (cooling) at 10 m	Cooling	dB(A)	51	46	53	48	52	48	54	50	55	51
	Heating	dB(A)	53	48	55	50	55	51	56	51	60	55
No. and type of compressor/ no. of circuits			2 - Scroll/ 1	2 - Scroll/ 1	2 - Scroll/ 1	2 - Scroll/ 1	3 - Scroll/ 2	3 - Scroll/ 2	3 - Scroll/ 2	3 - Scroll/ 2	4 - Scroll/ 2	4 - Scroll/ 2
Refrigerant			R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Refrigerant charge		kg	9.5	9.5	12.3	12.3	8.5+9.1	8.5+9.1	9.5+11	9.5+11	11.4+11.4	11.4+11.4
Capacity control		%	33-100	33-100	25-100	25-100	20-100	20-100	15-100	15-100	12-100	12-100
Heat exchanger type			Plate	Plate	Plate	Plate	Plate	Plate	Plate	Plate	Plate	Plate
Nominal flow rate	Cooling	l/s	2.1	2.0	2.9	2.7	3.7	3.6	4.7	4.4	5.8	5.6
	Heating	l/s	2.4	2.2	2.9	2.7	4.2	4.0	4.8	4.4	6.3	6.0
Total pressure drop	Cooling	kPa	32	28	25	22	27	25	30	26	36	34
	Heating	kPa	33	29	23	20	33	31	29	25	39	36
Water pipe diameter		inches	2	2	2	2	2 ½	2 ½	2 ½	2 ½	2 ½	2 ½
Fan motor			EC motor	EC motor	EC motor	EC motor	EC motor	EC motor	EC motor	EC motor	EC motor	EC motor
Number of fans			1	1	1	1	2	2	2	2	2	2
Outside operating temperature	Cooling	˚C	-17.8 to 48	-17.8 to 48	-17.8 to 48	-17.8 to 48	-17.8 to 48	-17.8 to 48	-17.8 to 48	-17.8 to 48	-17.8 to 48	-17.8 to 48
	Heating	˚C	-15 to 25	-15 to 25	-15 to 25	-15 to 25	-15 to 25	-15 to 25	-15 to 25	-15 to 25	-15 to 25	-15 to 25
Water production temperatures	Cooling	˚C	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
	Heating	˚C	25 to 55	25 to 55	25 to 55	25 to 55	25 to 55	25 to 55	25 to 55	25 to 55	25 to 55	25 to 55
Power supply			3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
Consumption	Cooling		15.15	14.3	21.5	19.8	25.1	24.4	33.0	30.6	41.4	40.5
	Heating	kW	16.4	14.8	19.9	17.7	26.9	25.9	31.7	29.0	44.4	42.3
Maximum current at 400V		A	35.1	35.1	38.3	38.3	60.9	60.9	71.7	71.7	85.2	85.2
Dimensions without hydraulic kit (H x W x D)		mm	2,440x 1,200x1,500	2,440x 1,200x1,500	2,440x 1,200x1,500	2,440x 1,200x1,500	2,440x 1,200x2,240	2,440x 1,200x2,240	2,440x 1,200x2,240	2,440x 1,200x2,240	2,440x 1,200x2,240	2,440x 1,200x2,240
Operating weight		kg	587.0	587.0	610.0	610.0	893.0	893.0	920.0	920.0	999.0	999.0

Compatible controls and accessories:

- Wired remote controller
- Condenser-unit protection grilles
- 1" or 2" spring anti-vibration mounts
- Neoprene anti-vibration mounts
- Water temperature sensor
- F/S Hydronic kit with fixed-speed pump and expansion vessel
- VSD Hydronic kit with variable-speed pump and expansion vessel

Samurai M - RHMA-AN - Heat pump

Heat pump models			RHMA-60AN		RHMA-75AN		RHMA-90AN		RHMA-100AN	
			Standard	Low noise	Standard	Low noise	Standard	Low noise	Standard	Low noise
Capacity	Cooling	kW	159.0	157.0	188.0	180.0	221.0	214.0	254.0	245.0
	Heating		161.0	156.0	191.0	182.0	231.0	214.0	254.0	245.0
EER			3.12	2.99	3.04	2.91	3.08	2.92	3.06	2.93
COP			3.26	3.18	3.22	3.17	3.22	2.92	3.06	2.93
ESEER			4.80	4.49	4.76	4.88	4.74	4.82	4.73	4.65
SEER cooling for comfort (fixed flow temp.)			4.36	4.06	4.45	4.39	4.40	4.38	4.24	4.35
SEER cooling for comfort (variable flow temp.)			4.24	4.06	4.28	4.39	4.17	4.38	4.34	4.68
$SEPR_{MT}$			2.79	2.75	2.70	2.69	3.78	Not available	3.70	3.77
$SEPR_{HT}$			5.97	5.76	5.81	5.75	5.99	5.99	6.02	5.98
SCOP			3.32	3.54	3.36	3.53	3.47	3.40	3.30	3.32
Class	Heating		A+	A+	A+	A+	A+	A+	A+	A+
Sound power (cooling)	Cooling	dB(A)	86	82	87	82	88	83	89	84
	Heating	dB(A)	87	82	88	83	89	84	90	84
Sound pressure (cooling) at 1 m	Cooling	dB(A)	70	66	71	66	72	67	73	68
	Heating	dB(A)	71	66	72	67	73	68	74	68
Sound pressure (cooling) at 10 m	Cooling	dB(A)	57	53	58	53	59	54	60	55
	Heating	dB(A)	58	53	59	54	60	54	61	55
No. and type of compressor/ no. of circuits			5 - Scroll/ 3	5 - Scroll/ 3	6 - Scroll/ 3	6 - Scroll/ 3	7 - Scroll/ 4	7 - Scroll/ 4	8 - Scroll/ 4	8 - Scroll/ 4
Refrigerant			R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Refrigerant charge		kg	9.5+10+10	9.5+10+10	11+10.5+10.5	11+10.5+10.5	9.5+11+ 11.4+11.4	9.5+11+ 11.4+11.4	11.4+11.4+ 11.4+11.4	11.4+11.4+ 11.4+11.4
Capacity control		%	10-100	10-100	8-100	8-100	7-100	7-100	6-100	6-100
Heat exchanger type			Plate	Plate	Plate	Plate	Plate	Plate	Plate	Plate
Nominal flow rate	Cooling	l/s	7.6	7.6	9.0	8.6	10.6	10.3	12.1	11.8
	Heating	l/s	7.8	7.5	9.2	8.7	11.1	10.8	12.3	11.8
Total pressure drop	Cooling	kPa	25	24	32	30	41	38	38	36
	Heating	kPa	24	23	31	28	43	41	36	33
Water pipe diameter		inches	4	4	4	4	4	4	4	4
Fan motor			EC motor	EC motor	EC motor	EC motor	EC motor	EC motor	EC motor	EC motor
Number of fans			3	3	3	3	4	4	4	4
Outside operating temperature	Cooling	˚C	-17.8 to 48	-17.8 to 48	-17.8 to 48	-17.8 to 48	-17.8 to 48	-17.8 to 48	-17.8 to 48	-17.8 to 48
	Heating	˚C	-15 to 25	-15 to 25	-15 to 25	-15 to 25	-15 to 25	-15 to 25	-15 to 25	-15 to 25
Water production temperatures	Cooling	˚C	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20	5 to 20
	Heating	˚C	25 to 55	25 to 55	25 to 55	25 to 55	25 to 55	25 to 55	25 to 55	25 to 55
Power supply		V/ph/Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
Consumption	Cooling		51.0	52.5	61.8	61.9	71.8	73.3	83.0	83.6
	Heating	kW	49.4	49.1	59.3	57.4	71.7	73.3	83.0	83.6
Maximum current at 400V		A	119.5	119.5	133.1	133.1	166.4	166.4	179.9	179.9
Dimensions without hydraulic kit (H x W x D)		mm	2,500x 3,050X2.240	2,500x 3,050x2,240	2,500x 3,050x2,240	2,500x 3,050x2,240	2,500x 3,050x2,240	2,500x 3,050x2,240	2,500x 3,050x2,240	2,500x 3,050x2,240
Operating weight		kg	1,922.0	1,922.0	2,003.0	2,003.0	2,235.0	2,235.0	2,316.0	2,316.0

Compatible controls and accessories:



Wired remote controller



Condenser-unit protection grilles



1" or 2" spring anti-vibration mounts



Neoprene anti-vibration mounts



Water temperature sensor



Hydronic kit with fixed-speed pump and expansion vessel



Hydronic kit with variable-speed pump and expansion vessel



Samurai L cooling only

Air-to-water chiller with screw compressor



New Hitachi twin-screw compressor

The HITACHI Samurai L range is equipped with a new semi-hermetic twin-screw compressor, with continuous capacity control from 25% to 100%, optimized for R134a refrigerant.
Thanks to this feature and the Hitachi electronic control, the energy supplied by the unit corresponds precisely to the hydronic circuit's demand. This standard option in the Samurai L range avoids additional accessories in the system.

- The twin-screw compressor is fitted with an EXCLUSIVE HITACHI cyclonic oil separator, which, in addition to being maintenance free, ensures that the compressor will have no lubrication issues or impurities in the suction circuit.
- Hitachi mechanical efficiency to ensure 40,000 hours of work before mechanical component inspection. (Fig. 1)

Precise temperature control

The combination of continuous adjustment of the compressor capacity and exclusive HITACHI electronic controls means the chiller is able to precisely control the water outlet temperature, independently of the load. This control is an advantage in both comfort applications and industrial process applications (Fig. 2)

Modular design

The possibility of installing up to eight modules in cascade with no additional controls (Master-Slave mod.) offers a wide range of powers and flexibility of installation, as it means the power and the overall size of the chiller unit can be adapted to the design requirements. (Fig. 3 on the next page)

Wide operating range

The Samurai L range can produce cold water with positive values. Optionally, an accessory is available for the production of cold water down to -10°C. (Fig. 4 on the next page)

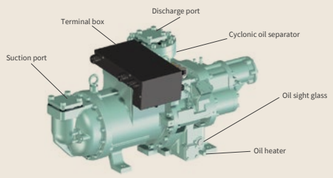
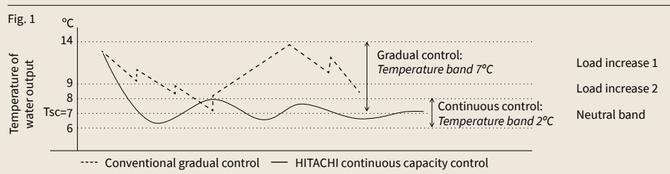


Fig. 1



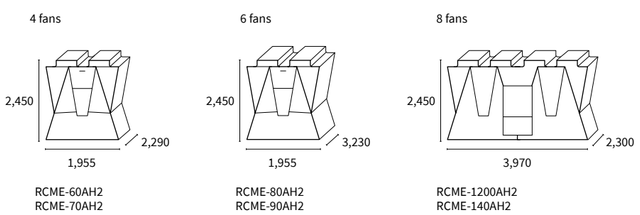
Two operating modes

Two operating modes available as standard, to adapt the functionality in both comfort and process applications:
- Standard mode > Constant water outlet temperature > all compressors work with the same load.
- High-efficiency mode > Intelligent control of compressors' on/off function to optimize the system's energy performance.

Partial heat recovery

Optionally, the Samurai L unit can be fitted with an additional heat exchanger to allow for partial heat recovery from the heat recovery from the refrigeration circuit for the production of domestic hot water, or heating, etc.

Cooling only models



RCME-60AH2
RCME-70AH2

RCME-80AH2
RCME-90AH2

RCME-1200AH2
RCME-140AH2

Samurai L - RCME-AH2 - Cooling only

Cooling only models			RCME-60AH2	RCME-70AH2	RCME-80AH2	RCME-90AH2	RCME-1200AH2	RCME-140AH2
Capacity	Cooling (nominal)	kW	160	180	205	225	320	360
EER			3.14	3.14	3.16	3.20	3.14	3.14
SEER			4.11	4.13	4.12	4.12	4.18	4.19
$SEPR_{MT}$			3.24	3.24	3.26	3.30	3.25	3.25
$SEPR_{HT}$			5.11	5.11	5.15	5.20	5.13	5.13
Sound power (standard mod.*)		dB(A)	96	97	98	99	99	100
Sound pressure at 10 m		dB(A)	83	84	85	86	86	87
IP Rating			IPX4	IPX4	IPX4	IPX4	IPX4	IPX4
No. and type of compressor/ no. of circuits			1 - Semi-hermetic twin-screw/ 1	1 - Semi-hermetic twin-screw/ 1	1 - Semi-hermetic twin-screw/ 1	1 - Semi-hermetic twin-screw/ 1	2 - Semi-hermetic twin-screw/ 2	2 - Semi-hermetic twin-screw/ 2
Refrigerant			R134A	R134A	R134A	R134A	R134A	R134A
Refrigerant charge		kg	29	36	47	47	58	72
Capacity control		%	25-100	25-100	25-100	25-100	25-100	25-100
Water flow	Cooling (Min/Nom/Max)	m^3/h	17.2-27.5-39.3	19.4-31.0-44.2	22.0-35.3-50.4	24.2-38.7-55.3	34.4-55.0-78.6	38.7-61.9-88.5
Water pipe connection	Size and type	inches	2.1/2" Victuaulic					
	Quantity		1 x Inlet, 1 x Outlet				2 x Inlet, 2 x Outlet	
Minimum system water volume		m3	0.77	0.76	0.98	0.95	1.54	1.52
Fan motor			EC motor	EC motor	EC motor	EC motor	EC motor	EC motor
Number of fans			4	4	6	6	8	8
Outside operating temperatures	Cooling	°C	-15 to 46	-15 to 46	-15 to 46	-15 to 46	-15 to 46	-15 to 46
Water production temperatures	Cooling - Standard	°C	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15
	Cooling - Low option	°C	-10 to 5	-10 to 5	-10 to 5	-10 to 5	-10 to 5	-10 to 5
	Cooling - High option	°C	15 to 30	15 to 30	15 to 30	15 to 30	15 to 30	15 to 30
Power supply			3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
Consumption	Cooling (nominal)	kW	51.0	57.3	64.9	70.3	101.9	114.6
Current (maximum-startup)		A	118-240	132-240	140-240	143-240	237-259	264-262
Dimensions (H x W x D)		mm	2,450x1,955x2,290	2,450x1,955x2,290	2,450x1,955x3,230	2,450x1,955x3,230	2,450x3,970x2,300	2,450x3,970x2,300
Weight		kg	1,300.0	1,340.0	1,590.0	1,680.0	2,640.0	2,720.0

*In the Low Noise (LN) option the values are reduced by 3 dB(A)
*In the Super Low Noise (SLN) option, the values are reduced by 5 dB(A)
*In the Extra Super Low Noise (XSLN) option the values are reduced by 8 dB(A)

Modular combinations

Fig. 3

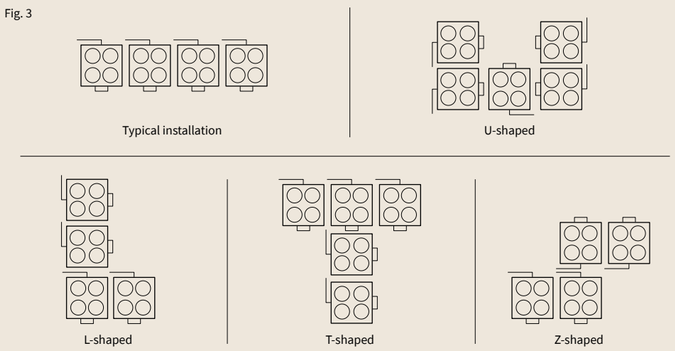
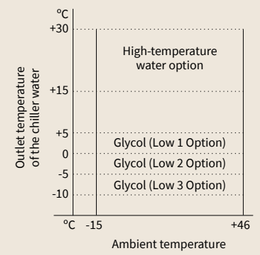


Fig. 4



Options and accessories:

See pages 328-329

Samurai L heat pump

Air-to-water chiller with screw compressor



Precise temperature control

The combination of the Hitachi "continuous capacity control compressor" and Hitachi's exclusive electronic controls allows for very precise control of the water output temperature to +/- 0.5°C, independently of the cooling load, which is especially important in industrial processes. (Fig. 1)

Modular design

The combination of up to eight modules allows very precise adaptation of the production to the requirements of the installation.

Very small footprint

The new 80 and 90 HP modules (with 6 fans) reduce the space needed for the machine's location. (Fig. 2)

Two operating modes

Two operating modes come as standard in the system:
- Standard mode
- High-efficiency mode

Chilled water from -10°C and hot water up to 55°C

The unit can produce cold water from -10°C to 30°C, depending on its operating mode, and hot water from 35 to 55°C. (Fig. 3)

Partial heat recovery

Optionally, the Samurai L unit can be fitted with an additional heat exchanger to allow for partial heat recovery from the heat recovery from the refrigeration circuit for the production of domestic hot water, or heating, etc.

Fig. 1

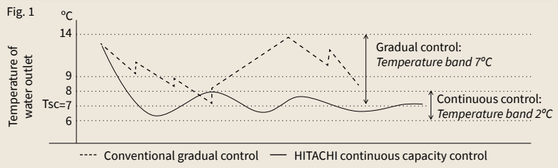
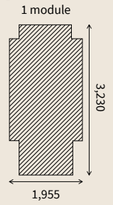


Fig. 2

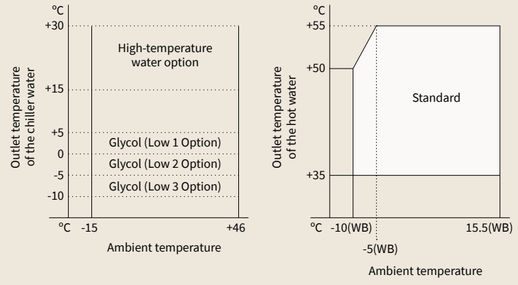


Space: 6.3 m²

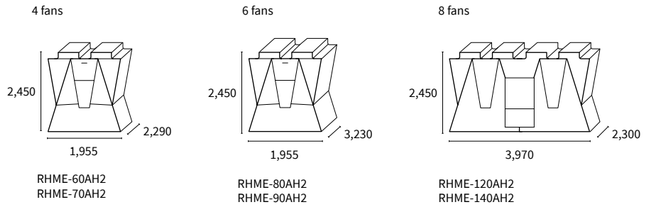
Maintenance space: 8.5 m²

Up to 40.20 kW/ m²

Fig. 3



Cooling only models

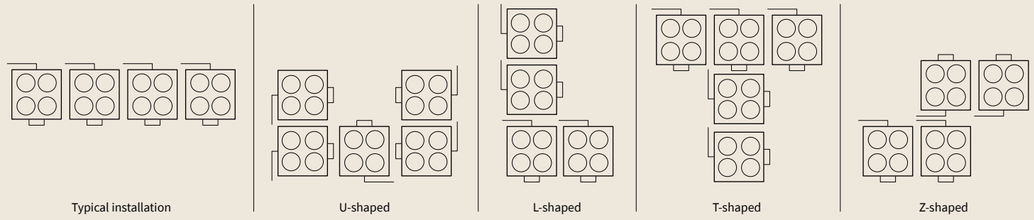


Samurai L - RHME-AH2 - Heat pump

Heat pump models			RHME-60AH2	RHME-70AH2	RHME-80AH2	RHME-90AH2	RHME-120AH2	RHME-140AH2
Capacity	Cooling (nominal)	kW	150	170	195	210	300	340
	Heating (nominal)	kW	145	145	185	185	290	290
EER			2.95	2.95	2.97	3.01	2.95	2.95
COP			2.83	2.83	2.85	2.85	2.83	2.83
SEER			3.88	3.88	3.92	3.96	3.94	3.93
$SEPR_{MT}$			3.24	3.24	3.26	3.30	3.25	3.25
$SEPR_{HT}$			5.11	5.11	5.15	5.20	5.13	5.13
$SCOP_{LT}$			3.22	3.22	3.25	3.25	3.22	3.22
Sound power (standard mod.*)		dB(A)	96	97	98	99	99	100
Sound pressure at 10 m		dB(A)	83	84	85	86	86	87
IP Rating			IPX4	IPX4	IPX4	IPX4	IPX4	IPX4
No. and type of compressor/ no. of circuits			1 - Semi-hermetic twin-screw/ 1	1 - Semi-hermetic twin-screw/ 1	1 - Semi-hermetic twin-screw/ 1	1 - Semi-hermetic twin-screw/ 1	2 - Semi-hermetic twin-screw/ 2	2 - Semi-hermetic twin-screw/ 2
Refrigerant			R134A	R134A	R134A	R134A	R134A	R134A
Refrigerant charge		kg	37	39	49	49	74	78
Capacity control		%	25-100	25-100	25-100	25-100	25-100	25-100
Water flow	Cooling (Min/Nom/Max)	m^3/h	16.1-25.8-36.9	18.3-29.2-41.8	21.0-33.5-47.9	22.6-36.1-51.6	32.3-51.6-73.7	36.6-58.5-83.5
	Heating (nominal)		24.9	24.9	31.8	31.8	49.9	49.9
Water pipe connection	Size and type	inches	2.1/2" Victuaulic					
	Quantity		1 x Inlet, 1 x Outlet				2 x Inlet, 2 x Outlet	
Minimum system water volume		m3	0.72	0.72	0.94	0.89	1.44	1.44
Fan motor			EC motor	EC motor	EC motor	EC motor	EC motor	EC motor
Number of fans			4	4	6	6	8	8
Outside operating temperatures	Cooling (DB)	°C	-15 to 46	-15 to 46	-15 to 46	-15 to 46	-15 to 46	-15 to 46
	Heating (DB)	°C	-9.5 to 21	-9.5 to 21	-9.5 to 21	-9.5 to 21	-9.5 to 21	-9.5 to 21
Water production temperatures	Cooling - Standard	°C	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15	5 to 15
	Cooling - Low option	°C	-10 to 5	-10 to 5	-10 to 5	-10 to 5	-10 to 5	-10 to 5
	Cooling - High option	°C	15 to 30	15 to 30	15 to 30	15 to 30	15 to 30	15 to 30
	Heating	°C	35 to 55	35 to 55	35 to 55	35 to 55	35 to 55	35 to 55
Power supply			3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
Consumption	Cooling (nominal)	kW	50.8	57.6	65.7	69.8	101.7	115.3
	Heating (nominal)	kW	51.2	51.2	64.9	64.9	102.5	102.5
Current (maximum-startup)		A	119-240	133-240	140-240	143-240	238-259	266-262
Dimensions (H x W x D)		mm	2,450x1,955x2,290	2,450x1,955x2,290	2,450x1,955x3,230	2,450x1,955x3,230	2,450x3,970x2,300	2,450x3,970x2,300
Weight		kg	1,400.0	1,420.0	1,680.0	1,760.0	2,820.0	2,880.0

*In the Low Noise (LN) option the values are reduced by 3 dB(A)
*In the Super Low Noise (SLN) option, the values are reduced by 5 dB(A)
*In the Extra Super Low Noise (XSLN) option the values are reduced by 8 dB(A)

Modular combinations



Options and accessories:

See pages 328-329

Samurai L

Water-to-water chiller with screw compressor



More compact

With its small footprint, the Samurai L is an ideal unit for both new buildings and the replacement market. Just 1 m2 of space for the 250-kW unit, the most compact one on the market.

New Hitachi twin-screw compressor

The HITACHI Samurai L range is equipped with a new semi-hermetic twin-screw compressor, with continuous capacity control from 25% to 100%, optimized for R134a refrigerant.
Thanks to this feature and the Hitachi electronic control, the energy supplied by the unit corresponds precisely to the hydronic circuit's demand. This standard option in the Samurai L range avoids additional accessories in the system.

- The twin-screw compressor is fitted with an EXCLUSIVE HITACHI cyclonic oil separator, which, in addition to being maintenance free, ensures that the compressor will have no lubrication issues or impurities in the suction circuit.
- Hitachi mechanical efficiency to ensure 40,000 hours of work before mechanical component inspection. (Fig. 1)

Precise emperature control

The combination of continuous adjustment of the compressor capacity and exclusive HITACHI electronic controls means the chiller is able to precisely control the water outlet temperature, independently of the load. This control is an advantage in both comfort applications and industrial process applications (Fig. 2)

Modular design

The possibility of installing up to eight modules in cascade with no additional controls (Master-Slave mod.) offers a wide range of powers and flexibility of installation, as it means the power and the overall size of the chiller unit can be adapted to the design requirements.

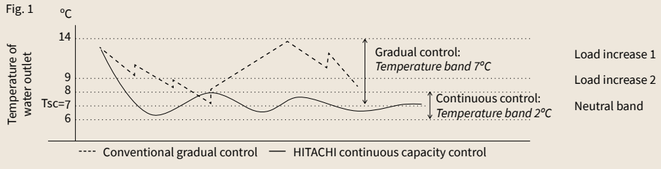
Two operating modes

Two operating modes available as standard, to adapt the functionality in both comfort and process applications:
- Standard mode > Constant water outlet temperature > all compressors work with the same load.
- High-efficiency mode > Intelligent control of compressors' on/off function to optimize the system's energy performance.

Cooling-only unit with heating option

The Samurai L can optionally work as a heat pump. Through an optional accessory the water outlet temperature can be regulated on the condenser side instead of on the evaporator side. (Fig. 3)

Fig. 1



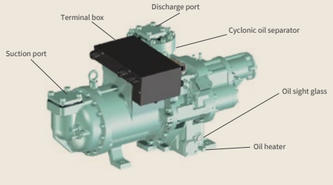
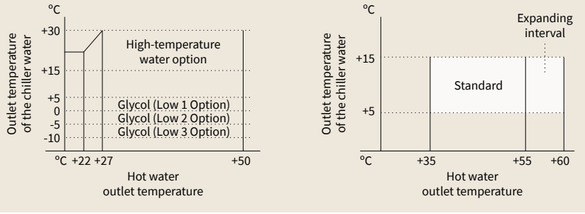
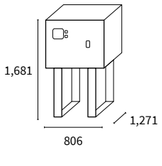


Fig. 3



Cooling only models



RCME-40WH1 RCME-50WH1
RCME-60WH1 RCME-70WH1

Samurai L - RCME-WH1 - Cooling only

			RCME-40WH1	RCME-50WH1	RCME-60WH1	RCME-70WH1
Capacity	Cooling (nominal)	kW	140	180	220	250
	Heating (nominal)	kW	159.9	205.9	252.9	287.1
EER			5.00	4.96	4.85	4.87
COP			4.79	4.76	4.67	4.69
SEER			5.14	5.46	5.51	5.52
$SEPR_{MT}$			4.88	4.85	4.89	4.90
$SEPR_{HT}$			7.58	7.51	7.57	7.59
$SCOP_{LT}$			5.90	5.86	5.75	5.78
$SCOP_{MT}$			4.42	4.39	4.32	4.33
Sound power		dB(A)	88	89	90	91
Sound pressure at 10 m		dB(A)	60	61	62	63
IP Rating			IP2X	IP2X	IP2X	IP2X
No. and type of compressor/ no. of circuits			1 - Semi-hermetic twin-screw/ 1	1 - Semi-hermetic twin-screw/ 1	1 - Semi-hermetic twin-screw/ 1	1 - Semi-hermetic twin-screw/ 1
Refrigerant			R134A	R134A	R134A	R134A
Refrigerant charge		kg	19	20	24	29
Capacity control		%	25-100	25-100	25-100	25-100
Water flow	Cooling (Min/Nom/Max)	m^3/h	15.1-24.1-52.3	19.4-31.0-67.3	23.7-37.8-82.3	26.9-43.0-83.8
Condensation water flow	(nom-max)	m^3/h	28.9-62.8	37.2-80.9	45.6-83.8	51.8-83.8
Water pipe connection	Size and type	inches	2.1/2" Victualic			
	Quantity		1 x Inlet, 1 x Outlet			
Minimum system water volume		m3	0.51	0.65	0.80	0.90
Water temperatures of the condenser	Cooling	°C	22 to 50	22 to 50	22 to 50	22 to 50
	Heating (optional)	°C	35 to 60	35 to 60	35 to 60	35 to 60
Water production temperatures	Cooling - Standard	°C	5 to 15	5 to 15	5 to 15	5 to 15
	Cooling - Low option	°C	-10 to 5	-10 to 5	-10 to 5	-10 to 5
	Cooling - High option	°C	15 to 25	15 to 25	15 to 25	15 to 25
	Heating	°C	35 to 60	35 to 60	35 to 60	35 to 60
Power supply		°C	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
Consumption	Cooling (nominal)	kW	28.0	36.3	45.4	51.3
	Heating (nominal)	kW	33.4	43.3	54.1	61.2
Current (maximum cooling /startup)		A	66.2/ 179	84.6/ 240	105/ 240	118/ 240
Current (optional maximum heating/ startup)		A	76.4/ 179	96.2/ 240	119/ 240	135/ 240
Dimensions (H x W x D)		mm	1,681x806x1,271	1,681x806x1,271	1,681x806x1,271	1,681x806x1,271
Weight		kg	860.0	950.0	1,040.0	1,075.0

Options and accessories:

See pages 328-329

Samurai L remote condenser cooling only

Twin screw compressor, continuous capacity regulation



New compressor

The range incorporates a new twin-screw compressor with the latest advances in Hitachi screw-compressor technology and continuous capacity control from 25% to 100%. This modulation ensures the required charge at all times. (Fig. 1)

Precise temperature control

The combination of the Hitachi "continuous capacity control compressor" and Hitachi's exclusive electronic controls allows precise control of the water outlet temperature, independently of the cooling load, which is especially important in industrial processes. (Fig. 2)

Two operating modes

Two operating modes come as standard in the system:
- Standard mode
- High-efficiency mode

Less maintenance space

The compressor is in a lower position, making it easier to dismantle from the rear of the unit, which reduces the maintenance space needed.

Choose the condenser to fit your needs

The unit is supplied without a condenser, so you can choose one that is best suited to the installation.

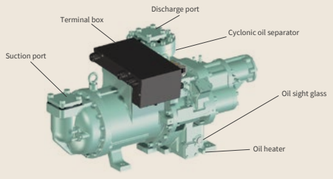
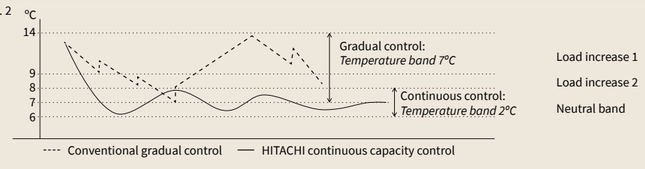
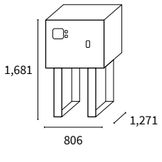


Fig. 2



Cooling only models



RCME-40CLH1
RCME-50CLH1
RCME-60CLH1

Samurai L RCME-CLH1

			RCME-40CLH1	RCME-50CLH1	RCME-60CLH1
Capacity	Cooling (nominal)	kW	135	175	215
EER			4.22	4.19	4.10
Sound power		dB(A)	88	89	90
Sound pressure at 10 m		dB(A)	60	61	62
IP Rating			IP2X	IP2X	IP2X
No. and type of compressor/ no. of circuits			1 - Semi-hermetic twin-screw/ 1	1 - Semi-hermetic twin-screw/ 1	1 - Semi-hermetic twin-screw/ 1
Refrigerant			R134A	R134A	R134A
Refrigerant charge		kg	please check	please check	please check
Refrigerant pipe diameter (outdoor)	Liquid-gas	inches	1 1/8-2 1/8	1 1/8-2 1/8	1 1/8-2 1/8
Capacity control		%	25-100	25-100	25-100
Exchanger type			Plate	Plate	Plate
Water flow	Cooling (Min/Nom/Max)	m^3/h	14.5-23.2-50.5	18.8-30.1-65.4	23.1-37.0-80.4
Water pipe connection	Size and type	inches	2.1/2" Victuaulic		
	Quantity		1 x Inlet, 1 x Outlet		
Minimum system water volume		m3	0.49	0.63	0.78
Condensation temperature		°C	30 to 60	30 to 60	30 to 60
Water production temperatures	Cooling - Standard	°C	5 to 15	5 to 15	5 to 15
	Cooling - Low option	°C	-5 to 5	-5 to 5	-5 to 5
	Cooling - High option	°C	15 to 25	15 to 25	15 to 25
Power supply			3N~400V 50Hz	3N~400V 50Hz	3N~400V 50Hz
Consumption	Cooling (nominal)	kW	32.0	41.8	52.4
Current (maximum-startup)		A	72.7-179	92.7-240	116-240
Dimensions (H x W x D)		mm	1,681x806x1,271	1,681x806x1,271	1,681x806x1,271
Weight		kg	765.0	835.0	900.0

* The acoustic power levels refer to a distance of 10 meters measured in front of the unit.

Options and accessories:

See pages 328-329

Options and accessories

Samurai L options

		RCME-(60-90)AH2	RCME-(120-140)AH2	RHME-(60-90)AH2	RHME-(120-140)AH2	RCME-WH1	RCME-CLH1
Options of the unit	Condensation-unit protection grilles	●	●	●	●		
	Panels on the bottom of the unit	●	●	●	●		
	Low noise version	●	●	●	●	●	●
	Super Low noise version	●	●	●	●	●	●
	Extra super lownoise version	●	●	●	●		
	Corrosion protection on condenser units	●	●	●	●		
	Power Cable Routing (W)	●		●			
	Power Cable Routing (WO)	●		●			
	Power Cable Routing					●	●
	Wooden base	●		●		Standard	Standard
	Wooden box					●	●
	Wooden skid	●		●			
Options of the cooling circuit	Differential pressure flow switch	●	●	●	●	●	●
	Discharge valve	●	●	●	●	●	Standard
	Dual safety valve	●	●	●	●	●	●
	Suction safety valve					●	●
	Suction valve	●	●			●	●
	Partial heat recovery	●	●	●	●	inc for WH1	
Options hydraulic	Functionality with low temperature of water outlet (from 5°C to 0°C)	●	●	●	●	●	●
	Functionality with low temperature of water outlet (from -1°C to -5°C)	●	●	●	●	●	●
	Functionality with low temperature of water outlet (from -6°C to -10°C)	●	●	●	●	●	●
	Common water pipe		●		●		
	Std. pressure single pump kit	●	●	●	●		
	High pressure single pump kit	●	●	●	●		
	Std. pressure twin pump kit	●	●	●	●		
	High pressure twin pump kit	●	●	●	●		
	Stainless-steel water pipes	●	●	●	●	●	●
	Water pressure ports	●	●	●	●	●	●
Options of control	Safety cover on bottom of electrical enclosure	●	●	●	●		
	Heating Option					●	
	Extended working range of the water outlet temperature	●	●	●	●	●	●
	Thermomagnetic circuit breakers	●	●	●	●	●	●
	Energy meter	●	●	●	●	●	●
	Frost protection heater element in evaporator (Cooler heater)	●	●	●	●	●	●
	Language Pack (Alternative EU languages)	●	●	●	●	●	●
	Water PN(16Bar)	●	●	●	●	●	●

Samurai L accessories

Name	Code
Water Strainer 2 1/2", 5", 6"	CHL-WST-01/04/05
Modbus Interface	CHL-MBS-02
BACnet Interface	CHL-BAC-01
Anti-vibration spring system for CLH1 units	CHL-AVS-04
Common water pipe for two WH1 or CLH1 modules	CHL-CWP-05 for WH1: order two sets per module; for CLH1: order one set per module
Common water pipe for three WH1 or CLH1 modules	CHL-CWP-06 for WH1: order two sets per module; for CLH1: order one set per module
Anti-vibration spring system for WH1 units	CHL-AVS-05
Energy meter (200A)	CHL-PMM-04
Energy meter (400A)	CHL-PMM-05
Energy meter (1000A)	CHL-PMM-06
Common water pipe L-R for AH2 units up to 90 HP	CHL-CWP-07
Common water pipe -M- for AH2 units up to 90 HP	CHL-CWP-08
Anti-vibration spring system for 60 and 70 HP AH2 units	CHL-AVS-06
Anti-vibration spring system for 80 and 90 HP AH2 units	CHL-AVS-07
Anti-vibration spring system for 120 and 140 HP AH2 units	CHL-AVS-08
Certificate of origin	CO
Flow Switch	CHL-WFS-01
PN16 Water Flange (2 1/2")	CHL-FLA-01
Anti-vibration rubber mat	CHL-AVR-02



Modbus Interface
CHL-MBS-02



BACnet Interface
CHL-BAC-01



Energy meter
CLH-PMM (04-05-06)

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Additional notes for technical tables

Units of the Yutaki air source heat pump range

The nominal heating and cooling capacities are based on standard EN 14511:

- Cooling: water inlet temperature 12ºC, outlet at 7ºC and outside temperature 35ºC DB.
- Heating: water inlet temperature 30ºC, outlet at 35ºC and outside temperature 7ºC DB, 7ºC WB.
- Pipe length: 7.5 meters; Height of pipes: 0 meters.

The heating capacity and performance match each other with integrated values (with the defrost correction factor included).

The acoustic data are based on the following conditions:

- Outdoor ambient temperature (DB/WB): 7/6ºC.
- Water input/output temperature: 30/35ºC.
- Unit's distance from measuring point: 1 meter from the unit's front surface and 1.5 meters from ground level.

The acoustic pressure level has been measured in an anechoic chamber, so reflected sound must be taken into account when installing the unit.

The acoustic power level has been measured in a reverberant room in accordance with standard EN12102.
The environmental conditions used are those specified in Standard EN14511 for performance tests.

The SCOP seasonal performance values in heating are calculated in accordance with ERP Directive 2009/125/EC, and more specifically with Regulation 813/2013 (LOT 1) according to UNE Standard EN 14825.

The seasonal performance value in domestic hot water production is calculated in accordance with ERP Directive 2009/125/EC, and more specifically with Regulation 814/2013 (LOT 2) according to UNE Standard EN 16147.

You can find all the documentation on energy efficiency and download the energy labels (LOT 1 and LOT 2) at: https://erpactive.chauffage.hitachi.fr/es/

Units of the domestic 1x1 range

(cooling capacity < 12kW)

The nominal heating and cooling capacity is the combined capacity of the HITACHI standard Split system, and is based on Standard ISO 5151:

- Cooling: indoor temperature 27ºC DB, 19ºC WB, outside temperature 35ºC DB.
- Heating: indoor temperature 20ºC DB, outside temperature 7ºC DB, 6ºC WB.
- Pipe length: 5 meters; Height of pipes: 0 meters.

The acoustic pressure level in indoor units is based on the following conditions:

- Wall-mounted units: 0.8 meters below the center height of the indoor unit and 1 meter from the discharge grille.
- Console units: half the height of the unit and 1 meter from the discharge grille.
- Ducts: 0.8 meters below the center height of the indoor unit and 1.5 meters from the discharge grille.
- Cassette: 0.8 meters below the center height of the indoor unit and 1.5 meters from the discharge grille.

The above data have been measured in an anechoic chamber. Take into account the reflected sound of the specific location.
The acoustic pressure level in outdoor units is based on the following conditions:

- 1 meter from the unit's front surface and 1 meter from ground level.

The SEER/SCOP seasonal performance values in cooling and heating are calculated in accordance with ERP Directive 2009/125/EC, and more specifically with Regulation 206/2012 (LOT 10) according to UNE Standard EN 14825.

You can find all the documentation on energy efficiency and download the energy labels (LOT 10) at: https://erpactive.chauffage.hitachi.fr/es/

Units of the commercial 1x1 range and VRF Systems

(cooling capacity > 12kW)

The nominal cooling and heating capacity is the combined capacity of the outdoor unit and the indoor units, and is based on Standard EN14511, under the following operating conditions:

- Cooling: indoor temperature 27ºC DB, 19ºC WB, outside temperature 35ºC DB.
- Heating: indoor temperature 20ºC DB, outside temperature 7ºC DB, 6ºC WB.
- Pipe length: 7.5 meters; Height of pipes: 0 meters.

The acoustic pressure level in indoor units is based on the following conditions:

- Wall-mounted units: 1 m below the unit and 1.5 m from the discharge outlet.
- Console units: 1 m from ground level and 1 m from the front of the unit.
- Ducts: 1.5 m below the unit (with no ceiling below it) with the suction duct 1 m away and the discharge duct 2 m away.
- Cassette: 1.5 m below the unit.
- Ceiling: 1 m below the unit and 1 m from the discharge outlet.

The above data have been measured in an anechoic chamber. Take into account the reflected sound of the specific location.

The acoustic pressure level in outdoor units is based on the following conditions:

- The measurement point is 1.5 meters from the ground and 1 meter from the front surface of the unit.
- Units working at their nominal supply voltage.

The acoustic pressure level has been measured in an anechoic chamber, so reflected sound must be taken into account when installing the unit.

The acoustic power level has been measured in a reverberant room in accordance with standard EN12102. The environmental conditions used are those specified in Standard EN14511 for performance tests.

The SEER/SCOP seasonal performance values in cooling and heating are calculated in accordance with ERP Directive 2009/125/EC, and more specifically with Regulation 2281/2016 (LOT 21) according to UNE Standard EN 14825, and calculated with RCI-FSN4 model cassette units

You can find all the documentation on energy efficiency (LOT 21) at: https://erpactive.chauffage.hitachi.fr/es/
Download the energy label (LOT 10) from the website: https://erpactive.chauffage.hitachi.fr/es/

Indoor units

The nominal cooling and heating capacity is the combined capacity of the outdoor unit and the indoor units, and is based on Standard EN14511, under the following operating conditions:

- Cooling: indoor temperature 27ºC DB, 19ºC WB, outside temperature 35ºC DB.
- Heating: indoor temperature 20ºC DB, outside temperature 7ºC DB, 6ºC WB.
- Pipe length: 7.5 meters; Height of pipes: 0 meters.

The cooling and heating capacity of indoor units is different in the VRF IVX and VRF Set Free systems.
For the VRF IVX system, the nominal capacity shown in the tables below relates to combinations of an indoor unit with an outdoor unit of the VRF IVX Premium series or IVX Comfort series [RAS-(2-6)HVNP1(E), RAS-(4-12)H(V)NP(1)(E), RAS-(3-6)H(V)NC1(E) and RAS-(4-12)H(V)NC(1)(E)], as long as this combination is permitted.
The acoustic pressure level has been measured in an anechoic chamber, under the following conditions:

- RCI (M) and RCD indoor units: 1.5 m below the unit.
- RPI (M) indoor units: 1.5 meters below the unit (with no ceiling below the unit) with the suction duct 1 m away and the discharge duct 2 m away.
- RPC and RPK indoor units: 1 m below the unit, 1 m from the discharge outlet.
- RPF (I) indoor units: 1 m from ground level, 1 m from the front of the unit.

The acoustic power level has been measured in a reverberant room in accordance with standard EN12102. The environmental conditions used are those specified in Standard EN14511 for performance tests.

Dx-Kit

The nominal cooling and heating capacity is the combined capacity of the outdoor unit and the relevant DX interface (EXV-0E2), and is based on Standard EN14511, under the following operating conditions:

- Cooling: indoor temperature 27ºC DB, 19ºC WB, outside temperature 35ºC DB.
- Heating: indoor temperature 20ºC DB, outside temperature 7ºC DB, 6ºC WB.
- Pipe length: 7.5 meters; Height of pipes: 0 meters.

The acoustic pressure level in outdoor units is based on the following conditions:

- The measurement point is 1.5 meters from the ground and 1 meter from the front surface of the unit.
- Units working at their nominal supply voltage.

The acoustic pressure level has been measured in an anechoic chamber, so reflected sound must be taken into account when installing the unit.
The acoustic power level has been measured in a reverberant room in accordance with standard EN12102. The environmental conditions used are those specified in Standard EN14511 for performance tests.
Outdoor units of the "RAS-XH (V)NP(1)E" series have been designed for specific applications requiring the combination of a Series 2 DX Interface and do not have Eurovent certification. They may vary depending on each specific application.

Hydraulic mode

The nominal heating and cooling capacities are based on Standard EN 14511 and the data is represented in integrated values (including the defrost correction factor).

The acoustic data are based on the following conditions:
- Outdoor ambient temperature (DB/WB): 7/6ºC.
- Water input/output temperature: 30/35ºC.
- Unit's distance from the measuring point: 1 meter from the front of the unit and 1.5 meters from ground level.

The measurements have been made in a reverberant room in accordance with Standard EN12102. The environmental conditions used are those specified in Standard EN14511 for performance tests.

Units of the air renewal range – KPI and active KPI

The sound-pressure level has been measured in an anechoic chamber, with the measuring point located 1.5 m below the unit, with no ceiling above it and using a soundproof duct. Suction duct 1 m away and discharge duct 2 m away.

Reflected sound must be considered when installing the unit. The sound-pressure level measured in the installation may be higher than specified.

In the case of KPI-X4E units with a direct expansion unit, the nominal cooling and heating capacity is the combined capacity of the outdoor unit and the indoor units, and is based on Standard EN14511 under the following operating conditions:

- Cooling: indoor temperature 27ºC DB, 19ºC WB, outside temperature 35ºC DB.
- Heating: indoor temperature 20ºC DB, outside temperature 7ºC DB, 6ºC WB.
- Pipe length: 7.5 meters; Height of pipes: 0 meters.
- Active KPI unit operating at its nominal air flow.

Units of the Chiller range

The capacity data are based on European Standard EN14511 in the following conditions:

Operating conditions in cooling mode:

- Cold water inlet/outlet temperature: 12/7ºC.
- Condenser inlet air temperature: 35ºC.

Operating conditions in heating mode:

- Hot water input/output temperature: 40/45ºC.
- Condenser inlet air temperature: 6ºC (WB).

All sound pressure level data are measured at a height of 1.5 m, and at 1 m from the front panel of the unit.
The low-water-temperature option requires Glycol (antifreeze mixture of ethylene glycol or propylene glycol).

Powers and performances are shown with no pump.

Seasonal energy performances (SCOP) are shown in accordance with European Standard EN14825.

For more information, see the technical manuals of each range at https://www.hitachiaircon.es/recursos