ELECTRIFICATION, INDONESIA

LV Capacitor

Cylinder type

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Power Quality product
Safety and Reliability

Power Factor Correction

OT switch disconnector

RVC/RVT regulator

UA contactor

Tmax XT breaker

Detuned reactor

CLMD box capacitor

Active Harmonic Filter

PQactiF active filter

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Power Quality product
Safety and Reliability

CLMD box capacitor

- Heavy duty class
- High harmonic polluted
- High frequency switching
- Industrial & Building application
- Self healing, internal fuse and vermiculite
- Unsurpassed reliability and long lifetime
- Designed for extreme working conditions
- No risk of explosion or fire
- Dry type and environment friendly

QCAP-L cylinder capacitor

- Normal duty class
- Normal harmonic in network
- Low frequency switching
- Building application
- Self healing and Over-pressure disconnector
- Stringent routine test
- Test parameters at or above requirements
- Resin impregnated, extremely good heat dissipation.
- Dry type and environment friendly

ABB with its cutting-edge technologies and extensive experience has developed a wide range of advanced Low Voltage (LV) capacitors

Power Quality product
Safety and Reliability

QCAP-L cylinder capacitor

- Dielectric: polypropylene film
- Non-pcb, soft PU resin
- Extruded cylindrical aluminum can with stud
- Overpressure disconnector
- Elements inside an extruded cylindrical aluminum can, delta connected internally
- Provided with discharge resistor

- Three phase
- Self-healing technology
- Naturally air cooled or forced cooling
- Indoor applications

Power Quality product

Safety and Reliability

QCAP-L cylinder capacitor

• Voltage range	: 415 & 525 VAC
• Frequency	: 50 Hz
• Connection	: 3-phase
• Net output power	: 10, 12.5, 20, 25 kvar
• Tolerance on capacitance	: -0% … +10%
• Typical losses	: < 0.2W/kvar (dielectric only)
	: < 0.5W/kvar (including discharge resistors)
• Discharge resistor	: discharge from Un to 50V in 1 minute
• Execution	: Indoor
• Max permissible current	: 1.3 x In
• IS	: 150 X IR
• Tolerance on voltage	: VR +10% (up to 8h daily).
	: VR +30% (up to 1miny).
• Ref Standards	: IEC 60831 – 1 & 2

Power Quality product
QCAP-L cylinder capacitor

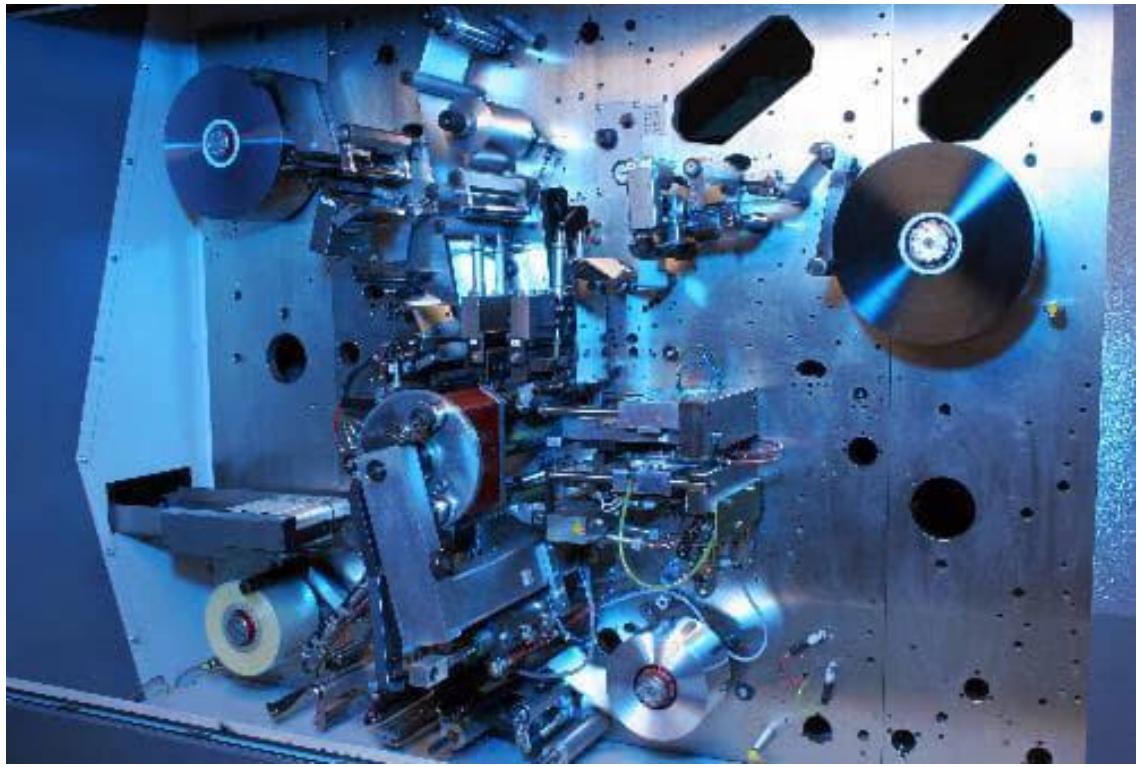
High quality automated winding machines

FEATURES

Automatic control on important winding parameter like:

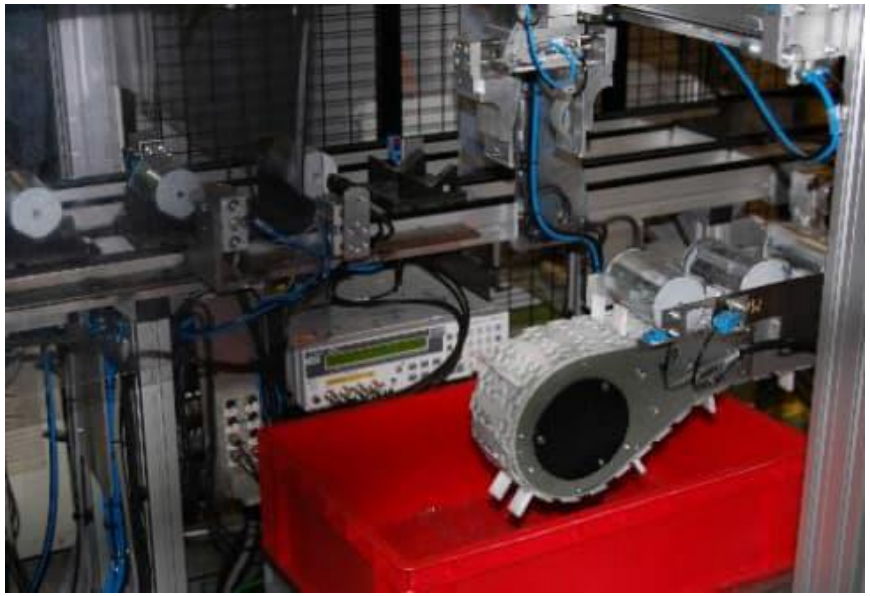
-Offset control
-No of turns to form capacitance value
-Automatic control on the winding tension
-Film de- metallization
-Sealing of coil with correct temperature control heater
-Dust free atmospheres

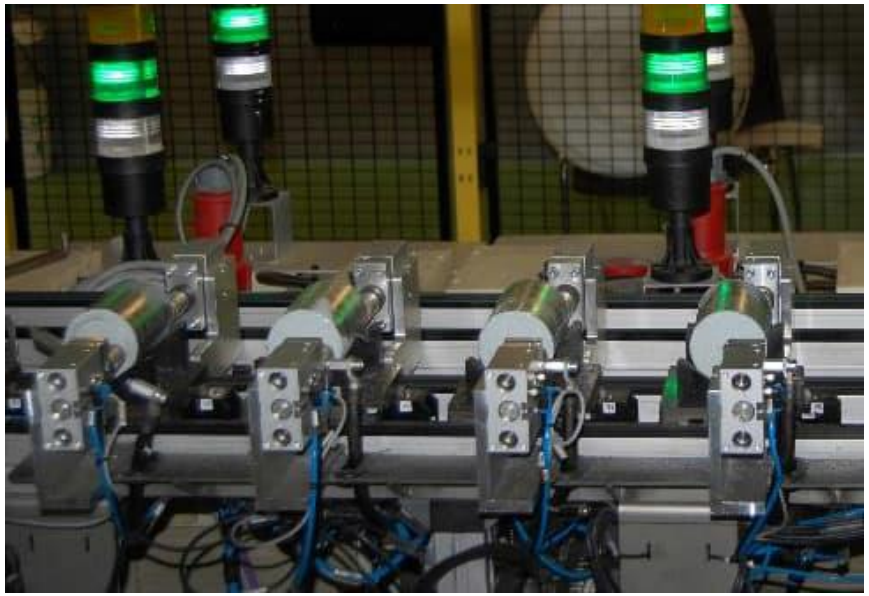
Maintaining right tension decides quality of capacitors and also defines life of capacitor



Power Quality product
QCAP-L cylinder capacitor

Elements Testing

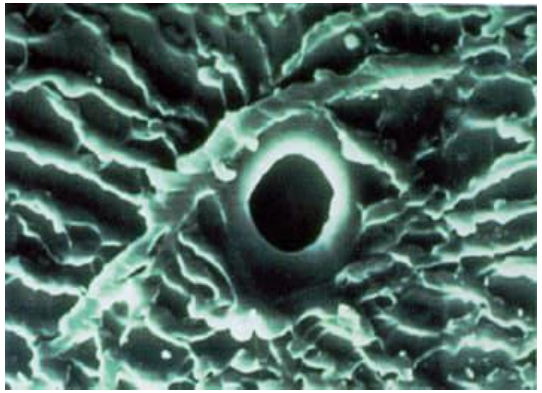




Stringent routine test
Test parameters at or above requirements of applicable international standards

Power Quality product
QCAP-L cylinder capacitor

Self healing



Step 1: Dielectric breakdown takes place
Step 2: Vaporization of the thin electrodes which ends up with breakdown elimination

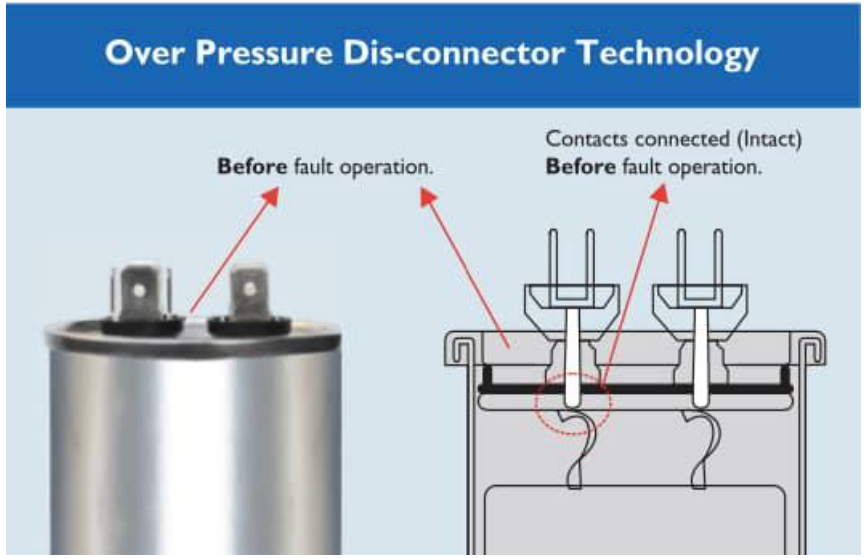
Principle

Diameter of the hole: 1 µm

Capacitance loss: < 1ppm (part per million)

Power Quality product
QCAP-L cylinder capacitor

Over pressure disconnector mechanism



Power Quality product
QCAP-L cylinder capacitor

Resin-definitely a superior technology

- Technologies -Resin impregnated, Oil Impregnated, Gas Impregnated.
- Gas and Oil have inherent problems. Resin is the safest.
- After SF6 is banned, only Nitro cannot support longer life and stringent applications.
- Oil has to be purified. Unpurified oil could transfer humidity and moisture into film windings causing oxidation.
- Resin is combination of Castor oil and Epoxy, which forms a jelly like substance. It helps extremely good heat dissipation.

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