

Overpressure disconnection system

Three phase capacitors with connector

MA/C/CE TER Series (230-690V, 50Hz)

General

The MA/C/CE/TER are high quality three phase power Capacitors for indoor installations in any kind of network available with rated power from 2,5 to 50 kVAr and rated voltage from 230V to 690V. They are installed in horizontal and vertical positions.

The Power capacitors are specially designed for reactive power factor correction using the highest quality raw materials, the most developed manufacturing process and according the standards EN 60831. 1-2.

Technical data

| | |
|--------------------------------|-------------------------------|
| Standard | EN 60831-1/2 |
| Capacitance tolerance | 0,05 |
| Frequency | 50Hz (60Hz upon request) |
| Temperature range | -25°C + 55°C |
| Dielectric losses | < 0.5 W/KVAr |
| Maximum over voltage | 1,1 x Un ** |
| Maximum over current | 1,5 x In ** |
| Max. THD in voltage | 2% |
| Max. THD in current | 25% |
| Discharge resistance | Incorporated |
| Connection | Delta |
| Casing | Aluminium can |
| Disconnection system | Overpressure |
| Dielectric | Metallized polypropilene film |
| Voltage test between terminals | 4,1 x Un en DC |
| Voltage test terminals to case | 3 KV for 1 minute AC |
| Terminal | Connector |

** Industrial frequency "8 hours every 24 hours" of fluctuation and regulation of voltage, higher values may cause damages in capacitor. EN 60831-1-1996 (20.1)

Dimensions

| Dimensions D x H (mm) | Cable Section mm ² |
|--------------------------|----------------------------------|
| 85 x 215 | 6 |
| 100 x 215 | 10 |
| 100 x 300 | 10 |
| 120 x 300 | 25 |
| 136 x 300 | 50 |

Construction

The Capacitors are manufactured with low loss metallized self healing polypropylene film. The windings are placed in a cylindrical aluminium can and filled with an advanced polyurethane resin of great heat dissipation properties. An overpressure disconnection system is used to disconnect the capacitor in case of inadmissible working conditions caused by extreme electrical or thermal conditions.

Overpressure disconnection system

RTR Energía S.L. Capacitors have been designed to be interrupted by an overpressure disconnection system. When the terminal cover expands, the internal connections are interrupted disconnecting the capacitor.

DRY TYPE (ECOLOGICAL POLYURETHAN RESIN)

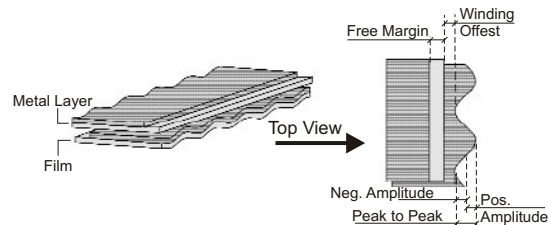
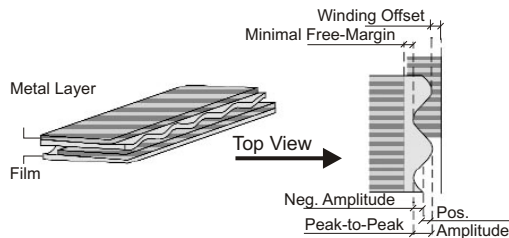
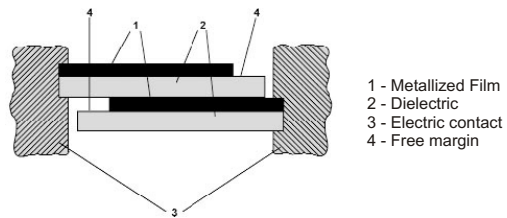
RTR Energía S.L. dry type capacitors are filled with a non toxic and ecological poliutherane resin. RTR Capacitors resin provides an excelent heat dissipation properties, increasing the capacitor excepted life.

Three phase capacitors with connector

MA/C/CE TER Series (230/400/415/440/480/525/690V, 50Hz)

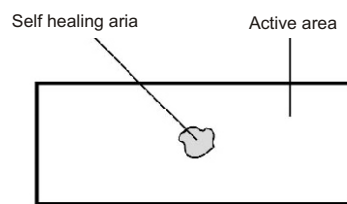
MKP - Metallized Polypropylene Film

RTR Energía S.L. uses the most advanced and developed metallized polypropylene film reverting in a great capacitor performance.



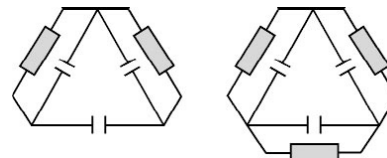
SELF - Healing Film

RTR Capacitors are manufactured with self-healing film. Due to extreme and inadmissible electrical working conditions a perforation breakdown may occur. The metallized area next to the feature is reestablished, insulating the perforated area. After a self-healing the capacitor can still work in normal conditions.



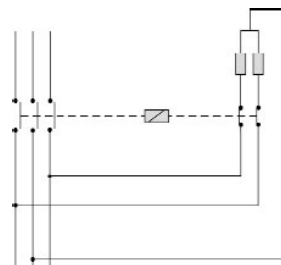
Discharge resistors

RTR Capacitors are delivered with discharge resistors able to discharge the capacitor to less than 75v within three minutes.



Capacitors discharge resistors connexion diagram

RTR Energía S.L. recommends the use of five contacts with quick discharge resistors in capacitor banks to avoid overcharges in the capacitor and to connect the capacitor when it is discharged.



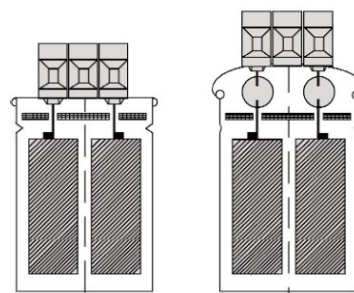
Capacitors discharge resistors connexion diagram

Dry type (ecological polyurethan resin)

RTR Energía S.L. dry type capacitors are filled with a non toxic and ecological poliutherane resin. RTR Capacitors resin provides an excelent heat dissipation properties, increasing the capacitor excepted life.

Overpressure disconnection system (only for ma/c/ce series)

RTR Energía S.L. Capacitors have been designed to be interrupted by an overpressure disconnection system. When the terminalcover expands, the internal connections are interrupted disconnecting the capacitor.



Three phase capacitors with connector

MA/C/CE TER Series (230/400/415/440/480/525/690V, 50Hz)

Technical data MA/C/CE

| Power KVAR | Voltage V.c.a | Dimensions D x H (mm) | Code |
|------------|---------------|-----------------------|----------------|
| 2.5 | 230 V | 70 x 215 | C2300255000000 |
| 5 | 230 V | 85 x 215 | C2300505000000 |
| 7.5 | 230 V | 100 x 215 | C2300755000000 |
| 10 | 230 V | 100 x 300 | C2301005000000 |
| 12.5 | 230 V | 100 x 300 | C2301255000000 |
| 15 | 230 V | 120 x 300 | C2301505000000 |
| 20 | 230 V | 136 x 300 | C2302005000000 |

| Power KVAR | Voltage V.c.a | Dimensions D x H (mm) | Code |
|------------|---------------|-----------------------|----------------|
| 2.5 | 400 V | 70 x 215 | C4000255000000 |
| 5 | 400 V | 70 x 215 | C4000505000000 |
| 7.5 | 400 V | 85 x 215 | C4000755000000 |
| 10 | 400 V | 85 x 215 | C4001005000000 |
| 12.5 | 400 V | 100 x 215 | C4001255000000 |
| 15 | 400 V | 100 x 215 | C4001505000000 |
| 20 | 400 V | 100 x 300 | C4002005000000 |
| 25 | 400 V | 120 x 300 | C4002505000000 |
| 30 | 400 V | 120 x 300 | C4003005000000 |
| 35 | 400 V | 136 x 300 | C4003505000000 |
| 40 | 400 V | 136 x 300 | C4004005000000 |
| 50 | 400 V | 136 x 300 | C4005005000000 |

| Power KVAR | Voltage V.c.a | Dimensions D x H (mm) | Code |
|------------|---------------|-----------------------|----------------|
| 2.5 | 415 V | 70 x 215 | C4150255000000 |
| 5 | 415 V | 70 x 215 | C4150505000000 |
| 7.5 | 415 V | 85 x 215 | C4150755000000 |
| 10 | 415 V | 85 x 215 | C4151005000000 |
| 12.5 | 415 V | 100 x 215 | C4151255000000 |
| 15 | 415 V | 100 x 215 | C4151505000000 |
| 20 | 415 V | 100 x 300 | C4152005000000 |
| 25 | 415 V | 120 x 300 | C4152505000000 |
| 30 | 415 V | 120 x 300 | C4153005000000 |
| 35 | 415 V | 136 x 300 | C4153505000000 |
| 40 | 415 V | 136 x 300 | C4154005000000 |
| 50 | 415 V | 136 x 300 | C4155005000000 |

| Power KVAR | Voltage V.c.a | Dimensions D x H (mm) | Code |
|------------|---------------|-----------------------|----------------|
| 2.5 | 440 V | 70 x 215 | C4400255000000 |
| 5 | 440 V | 70 x 215 | C4400505000000 |
| 7.5 | 440 V | 85 x 215 | C4400755000000 |
| 10 | 440 V | 85 x 215 | C4401005000000 |
| 12.5 | 440 V | 100 x 215 | C4401255000000 |
| 15 | 440 V | 100 x 215 | C4401505000000 |
| 20 | 440 V | 100 x 300 | C4402005000000 |
| 25 | 440 V | 120 x 300 | C4402505000000 |
| 30 | 440 V | 120 x 300 | C4403005000000 |
| 35 | 440 V | 136 x 300 | C4403505000000 |
| 40 | 440 V | 136 x 300 | C4404005000000 |
| 50 | 440 V | 136 x 300 | C4405005000000 |

| Power KVAR | Voltage V.c.a | Dimensions D x H (mm) | Code |
|------------|---------------|-----------------------|-----------------|
| 2.5 | 480 V | 85 x 215 | C4800255TER0000 |
| 5 | 480 V | 85 x 215 | C4800505TER0000 |
| 7.5 | 480 V | 85 x 215 | C4800755TER0000 |
| 10 | 480 V | 85 x 215 | C4801005TER0000 |
| 12.5 | 480 V | 100 x 215 | C4801255TER0000 |
| 15 | 480 V | 100 x 215 | C4801505TER0000 |
| 20 | 480 V | 100 x 300 | C4802005TER0000 |
| 25 | 480 V | 120 x 300 | C4802505TER0000 |
| 30 | 480 V | 120 x 300 | C4803005TER0000 |
| 35 | 480 V | 136 x 300 | C4803505TER0000 |
| 40 | 480 V | 136 x 300 | C4804005TER0000 |
| 50 | 480 V | 136 x 300 | C4805005TER0000 |

| Power KVAR | Voltage V.c.a | Dimensions D x H (mm) | Code |
|------------|---------------|-----------------------|-----------------|
| 2.5 | 525 V | 85 x 215 | C5250255TER0000 |
| 5 | 525 V | 85 x 215 | C5250505TER0000 |
| 7.5 | 525 V | 85 x 215 | C5250755TER0000 |
| 10 | 525 V | 85 x 215 | C5251005TER0000 |
| 12.5 | 525 V | 100 x 215 | C5251255TER0000 |
| 15 | 525 V | 100 x 215 | C5251505TER0000 |
| 20 | 525 V | 100 x 300 | C5252005TER0000 |
| 25 | 525 V | 120 x 300 | C5252505TER0000 |
| 30 | 525 V | 120 x 300 | C5253005TER0000 |
| 35 | 525 V | 136 x 300 | C5253505TER0000 |
| 40 | 525 V | 136 x 300 | C5254005TER0000 |
| 50 | 525 V | 136 x 300 | C5255005TER0000 |

| Power KVAR | Voltage V.c.a | Dimensions D x H (mm) | Code |
|------------|---------------|-----------------------|-----------------|
| 2.5 | 690 V | 85 x 215 | C6900255TER0000 |
| 5 | 690 V | 85 x 215 | C6900505TER0000 |
| 7.5 | 690 V | 85 x 215 | C6900755TER0000 |
| 10 | 690 V | 85 x 215 | C6901005TER0000 |
| 12.5 | 690 V | 100 x 215 | C6901255TER0000 |
| 15 | 690 V | 100 x 215 | C6901505TER0000 |
| 20 | 690 V | 100 x 300 | C6902005TER0000 |
| 25 | 690 V | 120 x 300 | C6902505TER0000 |
| 30 | 690 V | 120 x 300 | C6903005TER0000 |
| 35 | 690 V | 136 x 300 | C6903505TER0000 |
| 40 | 690 V | 136 x 300 | C6904005TER0000 |
| 50 | 690 V | 136 x 300 | C6905005TER0000 |

Other voltages upon request

Three phase capacitors with connector

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