

PM10 / TR30 Series



AENER's capacitors fitted in our equipments are totally manufactured free of PCB and do not contain toxic substances.

Our capacitors consists of a low-loss dielectric formed by pure polypropylene film. A thin self-healing mixture of zinc and aluminium is metallized directly on one side of the PP-film under vacuum. This technology ensures a long operating life of the capacitor. In some cases additional unmetallized foils are added between the metallized ones. The capacitor elements are dried in a vacuum. After insertion into the capacitor case, a patented viscous polyurethane resin, mainly containing castor oil, or dried insulation gas, is introduced. This protects the winding from environmental influence and provides an extended life expectancy and stable capacitance.

Both dielectric structures described above are "self-healing": In the event of a voltage breakdown the metal layers around the breakdown channel are evaporated by the temperature of the electric arc that forms between the electrodes. They are removed within a few microseconds and pushed apart by the overpressure generated in the centre of the breakdown spot. An insulation area is formed which is reliably resistive and voltage proof for all operating requirements of the capacitor. The capacitor remains fully operational during and after the breakdown.

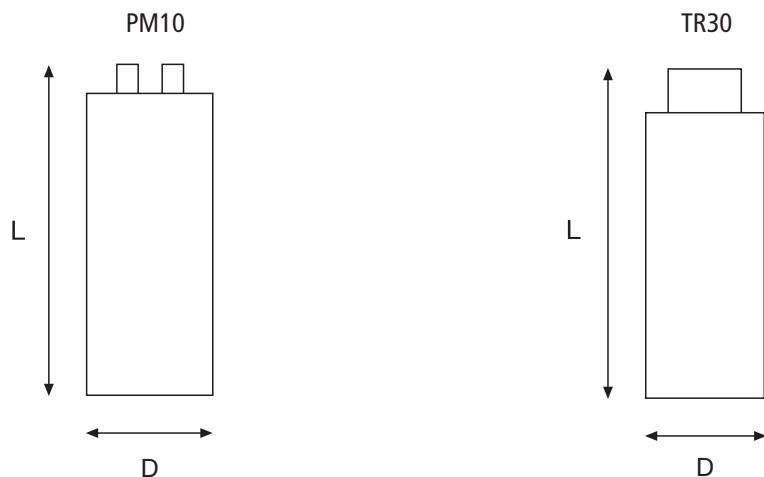
All capacitors are checked by routine test (voltage test between terminations and case) in accordance with CEI 60831-1 y 2.

AENER capacitors are totally protected against over voltage or ageing at the end of the capacitor's useful service life. In the event of over voltage or ageing at the end of the capacitor's useful service life, an increasing number of self-healing breakdowns may cause rising pressure inside the capacitor. To prevent it from bursting, the capacitor is fitted with a mandatory "break action mechanism". This safety mechanism is based on an attenuated spot at one of the connecting wires inside the capacitor. With rising pressure the case begins to expand, mainly by opening the folded crimp and pushing the lid upwards. As a result, the prepared connecting wire is separated at the attenuated spot, and the current path is interrupted irreversibly.

Technical specifications

- Standards: **CEI 60831-1 y 2.**
- Rated voltages:
 - PM10: 240 – 400 – 440V.
 - TR30: 240 – 400 – 440 – 525V.
- Rated frequency: **50Hz.**
- Maximum admissible over-voltage:
 - UN + 10% (during 8 hours per day).
 - UN + 15% (during 30 minutes per day).
 - UN + 20% (during 5 minutes per day).
 - UN + 30% (during 1 minutes per day).
- Maximum permissible current: **1,3 IN.**
- Tolerance of capacitance: **-5 + 10%.**
- Insulation voltage test:
 - Between terminals:
UTT 2,15 * UN AC, 2 s.
 - Between terminals and case:
UTC UN ≤ 660V: 3.000V AC, 10 s.
UN > 660V: 6.000V AC, 10 s.
- Dielectric losses: **0,2 W /Kvar.**
- Life expectancy: **Capacitors > 120.000 h.**
- Temperature range inside the equipment:
 - Maximum Temperature: **50° C.**
 - Max. average over 24 hours: **40° C.**
 - Max. average over 365 days: **30° C.**
 - Minimum Temperature: **-40° C.**
- Maximum relative humidity: **95%.**
- Construction technology: **Self-healing.**
- Protection grade:
 - PM10: **IP00.**
 - TR30: **IP20.**
- Internal connection TR30: **Delta.**
- Discharge resistance: **Built in.**
- Safety devise: **Built in.**
- Case type: **Cylindrical, aluminium.**
- Fixing system: **Bottom Stud M12.**
- Terminations:
 - PM10: **Double Faston 6,3.**
 - TR30: **Terminal block through screws.**

SINGLE-PHASE AND THREE-PHASE POWER CAPACITORS



PM10 Series

Code	Power (Kvar)	Voltage (V)	Frequency (Hz)	Dimensions L x D	Weight (Kg)
PM0160230	1,67	240	50	60 x 148	0,5
PM0330230	3,33	240	50	65 x 148	0,7
PM0160400	1,67	400	50	40 x 143	0,2
PM0330400	3,33	400	50	55 x 148	0,5
PM0417400	4,17	400	50	60 x 148	0,5
PM0330440	3,33	440	50	50 x 148	0,3
PM0417440	4,17	440	50	55 x 148	0,5
PM0500440	5	440	50	60 x 148	0,5

SINGLE-PHASE

TR30 Series

TR050230	5	240	50	85 x 245	1
TR100230	10	240	50	110 x 245	1,5
TR125230	12,5	240	50	110 x 245	2,1
TR025400	2,5	400	50	85 x 175	0,5
TR050400	5	400	50	85 x 175	0,7
TR075400	7,5	400	50	85 x 245	0,9
TR100400	10	400	50	85 x 245	1
TR125400	12,5	400	50	85 x 245	1,3
TR150400	15	400	50	95 x 230	1,5
TR200400	20	400	50	100 x 230	1,7
TR250400	25	400	50	116 x 230	2,1
TR300400	30	400	50	116 x 280	2,6
TR025440	2,5	440	50	85 x 175	0,5
TR050440	5	440	50	85 x 175	0,7
TR100440	10	440	50	85 x 245	1,3
TR125440	12,5	440	50	85 x 245	1,0
TR150440	15	440	50	85 x 230	1,3
TR200440	20	440	50	95 x 230	1,5
TR250440	25	440	50	100 x 230	1,7
TR300440	30	440	50	116 x 230	2,1
TR050525	5	525	50	85 x 175	0,7
TR100525	10	525	50	85 x 245	1
TR150525	15	525	50	110 x 245	1,3
TR200525	20	525	50	110 x 245	1,7
TR250525	25	525	50	116 x 230	2,1

THREE-PHASE

► Other power ratings, voltages or frequencies available upon request.

Dimensions of the capacitors can be modified without previous notice. The capacitors could be manufactured with the CSA C22-2N°. 190-M1985, UL standard N° 810 upon special request. For further information, please refer to the Commercial Department of AENER ENERGIA.



Safety System



Discharge Resistor



Free PCB



Self-Healing Dielectric



Depositing in Recycle Center



Technical Service