



## MODULO SD

### Three phase capacitors



**MODULO SD** capacitors are used for the fixed and automatic PFC systems in a wide range of standard industrial applications.

The three elements are housed in a plastic container which, together with the impregnating agents, assures dual insulation between the wound cores and metal enclosure.

To guarantee perfect filling during the resin impregnation process, the process itself is carried out prior to the elements being placed in the enclosure; in this way the distribution and uniformity of the impregnation can be subjected to a complete visual and dimensional inspection. The overpressure protection system is specifically dimensioned so as to constantly ensure maximum safety in terms of ground protection and protection against the risk of arcing, even in conditions where there is a high energy density.

#### General Characteristics

<b>Power Range</b>	10 - 50 kVAr
<b>Voltage range</b>	400 ÷ 550 V
<b>Rated frequency</b>	50 Hz/60 Hz
<b>Capacitance tolerance</b>	-5 +10%
<b>Duty</b>	Continuous
<b>Dielectric losses</b>	≤ 0.2 W/kVAr
<b>Life expectancy</b>	≥ 130000h - 40/D
<b>Max dV/dt</b>	100 V / μs
<b>Temperature class</b>	-40/D
<b>Max overload</b>	4 x I <sub>n</sub>
<b>Max inrush current</b>	200 I <sub>n</sub>
<b>Terminals</b>	Screw Clamp
<b>Protection rating</b>	IP 20 (IP54 on request)
<b>Internal construction</b>	Delta
<b>Discharge resistance</b>	External (50V after 60")
<b>Impregnating material</b>	Eco-friendly resin
<b>Altitude</b>	≤ 4000 m s.l.m.
<b>Storage Temperature</b>	-40 +80 °C
<b>Test voltage (AC) between terminals</b>	2.15 U <sub>n</sub> × 2"
<b>Test voltage (AC) between terminals and case</b>	3kV × 10 s (U <sub>n</sub> ≤ 660V)
<b>Standards</b>	IEC 831 - 1/2
<b>Approvals</b>	UL US Excluding Ø 125 mm



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Un (V)	Qn (kVAr)	In (A)	C (μF)	DxH (mm)	Type	Pcs x box	Part n. 416.46	Dim. Box
<b>400</b>	10	14.4	3x66	75x255	A	6	<b>9100</b>	F
	12.5	18.0	3x82	75x255	A	6	<b>9110</b>	F
	15	21.7	3x99	85x255	A	6	<b>9120</b>	F
	20	28.9	3x132	90x255	A	6	<b>9130</b>	F
	25	36.1	3x165	100x255	A	4	<b>9140</b>	H
	30	43.3	3x198	116x255	A	4	<b>9150</b>	H
	40	57.7	3x265	116x290	A	4	<b>9160</b>	H
	50	72.2	3x331	116x370	B	4	<b>9170</b>	I
<b>415</b>	10	13.9	3x61	75x255	A	6	<b>9200</b>	F
	12.5	17.4	3x77	75x255	A	6	<b>9210</b>	F
	15	20.9	3x92	85x255	A	6	<b>9220</b>	F
	20	27.8	3x123	90x255	A	6	<b>9230</b>	F
	25	34.8	3x154	100x255	A	6	<b>9240</b>	G
	30	41.7	3x184	116x255	A	4	<b>9250</b>	H
	40	55.6	3x246	116x290	A	4	<b>9260</b>	H
	50	69.6	3x308	116x370	B	4	<b>9270</b>	I
<b>440</b>	10	13.1	3x54	75x255	A	6	<b>9300</b>	F
	12.5	16.4	3x68	75x255	A	6	<b>9310</b>	F
	15	19.7	3x82	85x255	A	6	<b>9320</b>	F
	20	26.2	3x109	90x255	A	6	<b>9330</b>	F
	25	32.8	3x137	100x255	A	6	<b>9340</b>	G
	30	39.4	3x164	116x255	A	4	<b>9350</b>	H
	40	52.5	3x219	116x290	A	4	<b>9360</b>	H
	50	65.6	3x274	116x370	A	4	<b>9370</b>	I
<b>450</b>	10	12.8	3x52	75x255	A	6	<b>9400</b>	F
	12.5	16.0	3x65	75x255	A	6	<b>9410</b>	F
	15	19.2	3x78	85x255	A	6	<b>9420</b>	F
	20	25.7	3x104	90x255	A	6	<b>9430</b>	F
	25	32.1	3x130	100x255	A	6	<b>9440</b>	G
	30	38.5	3x157	116x255	A	4	<b>9450</b>	H
	40	51.3	3x209	116x290	A	4	<b>9460</b>	H
	50	64.2	3x261	116x370	A	4	<b>9470</b>	I

**Standard box dimensions:** C= 190x285x325 mm G= 225x340x270 mm E= 195x390x255 mm

H= 330x340x225 mm F= 185x290x270 mm I= 270x270x450 mm

**Weight:** 10÷12 kg



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Un (V)	Qn (kVAr)	In (A)	C (µF)	DxH (mm)	Type	Pcs x box	Part n. 416.46	Dim. Box
<b>500</b>	10	11.5	3x42	75x255	A	6	<b>9500</b>	F
	12.5	14.4	3x53	75x255	A	6	<b>9510</b>	F
	15	17.3	3x63	85x255	A	6	<b>9520</b>	F
	20	23.1	3x84	90x255	A	6	<b>9530</b>	F
	25	28.9	3x106	100x255	A	6	<b>9540</b>	G
	30	34.6	3x127	116x255	A	4	<b>9550</b>	H
	40	46.2	3x169	116x290	A	4	<b>9560</b>	H
	50	57.7	3x212	116x370	A	4	<b>9570</b>	I
<b>525</b>	10	11.0	3x38	75x255	A	6	<b>9600</b>	F
	12.5	13.7	3x48	75x255	A	6	<b>9610</b>	F
	15	16.5	3x57	85x255	A	6	<b>9620</b>	F
	20	22.0	3x76	90x255	A	6	<b>9630</b>	F
	25	27.5	3x96	100x255	A	6	<b>9640</b>	G
	30	33.0	3x115	116x255	A	4	<b>9650</b>	H
	40	44.0	3x153	116x290	A	4	<b>9660</b>	H
	50	55.0	3x192	116x370	A	4	<b>9670</b>	I
<b>550</b>	10	10,5	3x35	75x255	A	6	<b>9700</b>	F
	12.5	13.1	3x43	75x255	A	6	<b>9710</b>	F
	15	15.7	3x52	85x255	A	6	<b>9720</b>	F
	20	21.0	3x70	100x255	A	6	<b>9730</b>	G
	25	26,2	3x87	116x255	A	4	<b>9740</b>	H
	30	31.5	3x105	116x255	A	4	<b>9750</b>	H
	40	42.0	3x140	116x290	A	4	<b>9760</b>	H
	50	52.5	3x175	116x370	A	4	<b>9770</b>	I

**Standard box dimensions:** C= 190x285x325 mm G= 225x340x270 mm E= 195x390x255 mm

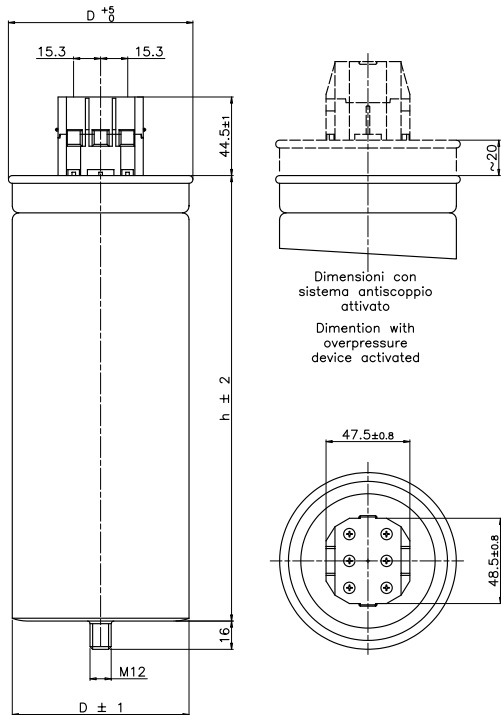
H= 330x340x225 mm F= 185x290x270 mm I= 270x270x450 mm

**Weight:** 10÷12 kg



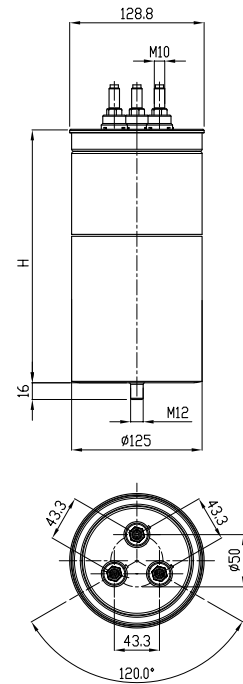
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### TECHNICAL DRAWING TYPE A



Dimensioni con sistema antiscoppio attivato  
Dimension with overpressure device activated

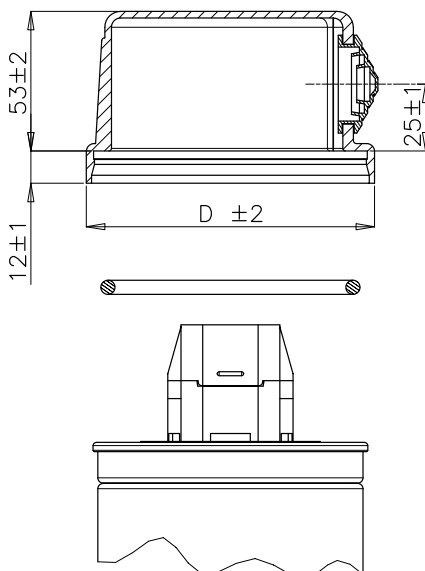
### TECHNICAL DRAWING TYPE B



Terminals and stud	Fixing torque
Screw terminals	1.5 Nm
M10**	6 Nm**
M12	10 Nm

(\*\*) Complete the tightening using two wrenches.

### TERMINAL COVER IP54



Code 316.52	Diam (mm)	Packages n. pcs. per box
.3338	85	30
.3339	90	30
.3340	110	30
.3341	116	20
.3342	125	20

To enable the overpressure protection device to operate efficiently, it is necessary to leave a gap of at least 30 mm. above the element and use flexible leads for the connection.