

Low Voltage Power Capacitors

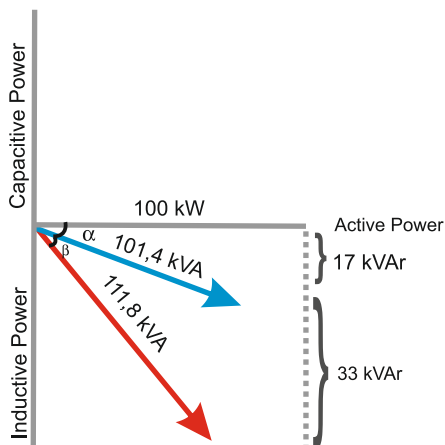
ENT.C Series Capacitors



- Smooth operation under heavy conditions
- Safe operation with over pressure tear-off fuse
- Self-healing ability
- Durable enclosure and compact design
- Operating life of 110.000 hours (130.000 hours in C100 series)



Reactive Power



	Without Capacitor	With Capacitor
Active Power	100 kW	100 kW
Reactive Power	50 kVAr	17 kVAr
Apparent Power	111,8 kVA	101,4 kVA
Power Factor Ratio	0,894	0,986

Power Factor Correction



ENTES ENT.C series power capacitors are designed for heavy and poor conditions that shorten operating life during operation. The over pressure tear-off fuse prevents capacitors from exploding when their operational life ends or extreme electrical thermal strains occur.

ENT.C series capacitors are produced using metalized polypropylene film with self-healing ability.

ENT.C.100 series capacitors have superior durability with their ability to operate under heavy duty conditions and of 130.000 hours.

Deforming effects occur during the switching of capacitors. The inrush current of the capacitor reduces the operating life of both the switching capacitor and the other capacitors already connected. In order to avoid these negative effects capacitors should be used with capacitor duty contactors.

Low Voltage Power Capacitors

ENT.CF / CM Series (Single Phase)

Models	ENT.CF	ENT.CM	ENT.C10	ENT.CXD	ENT.C100 (cylindrical profile)	ENT.C100 (triangle profile 50kVAr)
Operating Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
Capacitance Tolerance	-5%+10%	-5%+10%	-5%+10%	-5%+10%	±5%	±5%
Dielectric Loss	≤0,3 W/kVAr	≤0,2 W/kVAr	≤0,3 W/kVAr	≤0,2 W/kVAr	≤0,4 W/kVAr	≤0,4 W/kVAr
Altitude	≤2000 m	≤2000 m	≤2000 m	≤2000 m	≤2000 m	≤2000 m
Test Voltage (Terminal-Terminal)	2,15 x Un, AC 2 s	2,15 x Un, AC 2 s	2,15 x Un, AC 2 s	2,15 x Un, AC 2 s	2,15 x Un, AC 2 s	2,15 x Un, AC 2 sn.
Test Voltage (Terminal-Case)	3 kV, AC 10 s	3 kV, AC 10 s	3 kV, AC 10 s	3 kV, AC 10 s	4,6 kV, AC 2 s	6 kV, AC 2 sn.
Operating Temperature	-25+55°C	-25+55°C	-25+55°C	-25+55°C	-25+55°C	-25+55°C
Max. Overvoltage	1,1xUn	1,1xUn	1,1xUn	1,1xUn	1,1xUn	1,1xUn
Max. Overload In	2 x In	4 x In	2 x In	4 x In	1,5 x In	1,5 x In
Max. Inrush Current	100 In	200 In	100 In	200 In	300 In	300 In
Protection Class	IP00	IP00	IP30	IP20	Figure 1-2: IP00 Figure 3-4: IP20	IP00
Discharge Resistance	External	External	Internal, 75V after 3min.		External	External, 50V after 60sec
Applied Standards	IEC 60831-1/2	IEC 60831-1/2	IEC 60831-1/2	IEC 60831-1/2	IEC 60831-1/2	IEC 60831-1/2

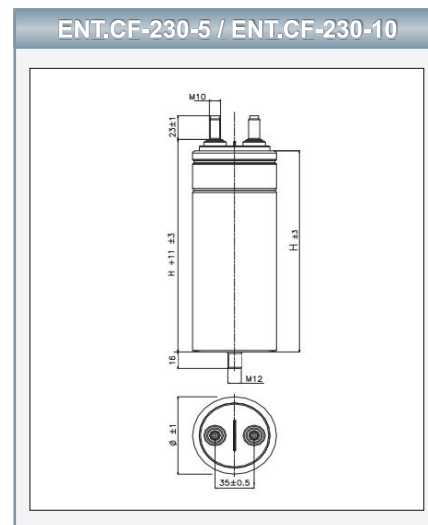
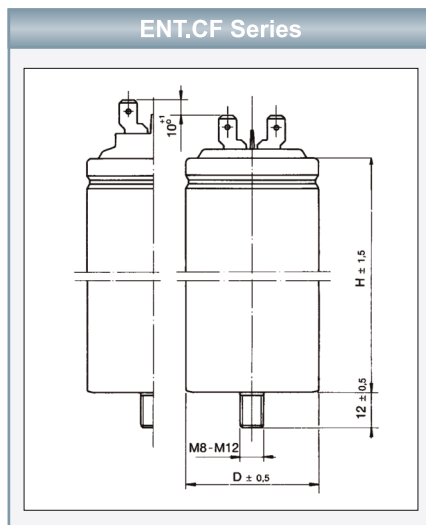
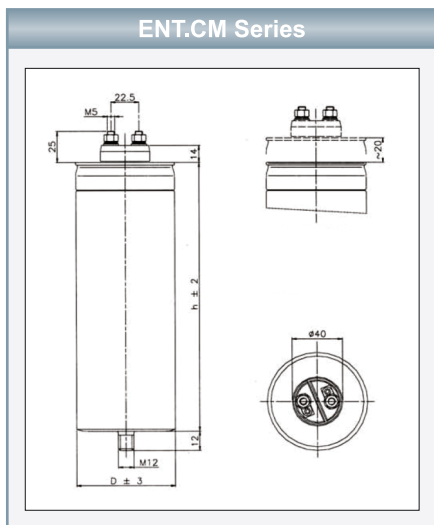
CM - CF Series

Product Code	80.000	110.000	Qn (kVAr) for 230 VAC	Qn (kVAr) for 400 VAC	C (μF)	In (A)	Dimensions DxH (mm.)	Box Dimensions	Operating Temperature	Pcs per Box	Box Weight (kg)
ENT.CF-230-0,26	●		0,26	0,8	15	1,2	40x72	195x390x250	-40 ⁰ +70 ⁰	100	90
ENT.CF-400-1,67	●		0,55	1,67	33,2	4,2	50x122	195x390x200	-25 ⁰ +55 ⁰	25	25
ENT.CF-400-2,5	●		0,83	2,5	50	6,25	55x132	195x390x255	-25 ⁰ +55 ⁰	25	25
ENT.CF-400-4,17	●		1,38	4,17	83	10,4	60x137	195x390x255	-25 ⁰ +55 ⁰	25	25
ENT.CM-400-8,33		●	2,76	2,76	165,8	20,8	65x165	195x390x255	-25 ⁰ +55 ⁰	18	16
ENT.CF-230-5		●	5		300	20,7	75x180	190x285x265	-40 ⁰ +70 ⁰	6	16
ENT.CF-230-10		●	10		600	43	85x280	190x285x375	-40 ⁰ +70 ⁰	6	6

Power Factor Correction



Dimensions



* To enable the over pressure tear-off fuse operate properly, it is necessary to leave a gap of at least 30 mm above the product and to use flexible wires for connection.

Screws and Mounting Studs	Screwing Torque
M 5	3 Nm
M 12	11 Nm

Screws and Mounting Studs	Screwing Torque
M 12	11 Nm

Screws and Mounting Studs	Screwing Torque
M 10	6 Nm
M 12	10 Nm

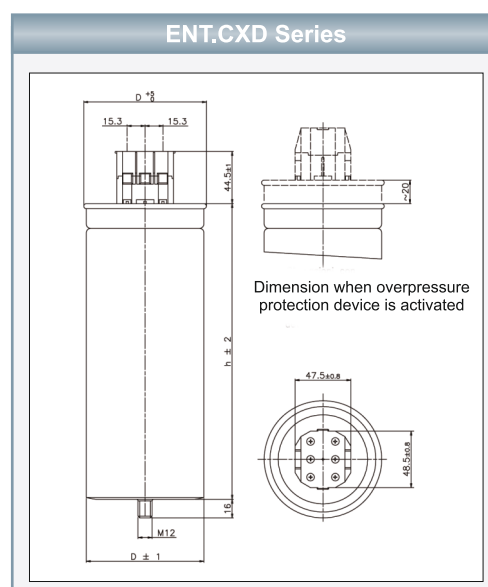
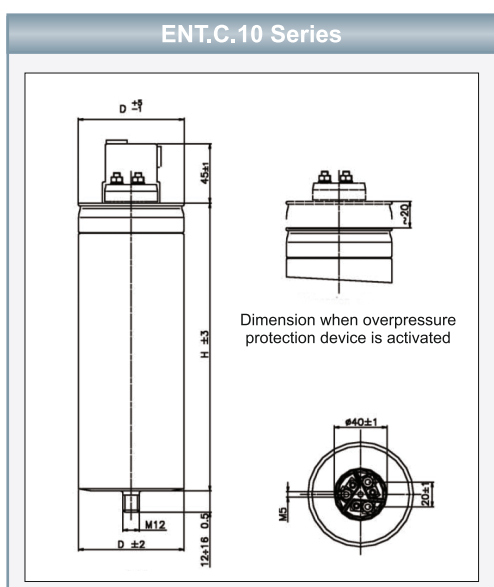
Low Voltage Power Capacitors

ENT.C10 / CXD Series (Three Phase)

Product Code	110.000 Hours	Qn (kVAR) for 400 VAC	Qn (kVAR) for 450 VAC	C (µF)	In (A)	DxH (mm.)	Box Dimensions (mm)	Operating Temperature	Pcs per Box	Box Weight (kg)
ENT.C10-400-1	●	1		3x6,6	1,4	55x165	195x390x255	-25°C+55°C	21	9
ENT.C10-400-1,5	●	1,5		3x9,9	2,2	55x165	195x390x255	-25°C+55°C	21	9
ENT.C10-400-2,5	●	2,5		3x16,6	3,6	55x165	195x390x255	-25°C+55°C	21	9
ENT.C10-450-1	●		1	3x5,2	1,3	55x165	195x390x255	-25°C+55°C	21	9
ENT.C10-450-1,5	●		1,5	3x7,9	1,9	55x165	195x390x255	-25°C+55°C	21	9
ENT.C10-450-2,5	●		2,5	3x13,1	3,2	55x165	195x390x255	-25°C+55°C	21	9

Product Code	110.000 Hours	Qn (kVAR) for 400 VAC	Qn (kVAR) for 450 VAC	Qn (kVAR) for 525 VAC	C (µF)	In (A)	DxH (mm.)	Box Dimensions (mm)	Operating Temperature	Pcs per Box	Box Weight (kg)
ENT.CXD-400-5	●	5			3x33	7,2	75x165	195x390x255	-25°C+55°C	6	5,4
ENT.CXD-400-7,5	●	8			3x49	10,8	75x255	185x290x270	-25°C+55°C	6	7,9
ENT.CXD-400-10	●	10			3x66	14,4	75x255	185x290x270	-25°C+55°C	6	7,9
ENT.CXD-400-12,5	●	13			3x83	18	85x255	185x290x270	-25°C+55°C	6	9,6
ENT.CXD-400-15	●	15			3x100	21,7	90x255	185x290x270	-25°C+55°C	6	10,8
ENT.CXD-400-20	●	20			3x133	28,9	100x255	225x340x225	-25°C+55°C	6	13,2
ENT.CXD-400-25	●	25			3x166	36,1	116x255	330x340x225	-25°C+55°C	4	11,9
ENT.CXD-400-30	●	30			3x199	43,3	116x290	330x340x225	-25°C+55°C	4	13,4
ENT.CXD-450-5	●		5		3x26	6,4	75x165	195x390x255	-25°C+55°C	12	5,4
ENT.CXD-450-7,5	●		7,5		3x39	9,6	75x255	185x290x270	-25°C+55°C	6	7,9
ENT.CXD-450-10	●		10		3x52	12,8	75x255	185x290x270	-25°C+55°C	6	7,9
ENT.CXD-450-12,5	●		12,5		3x66	16	85x255	185x290x270	-25°C+55°C	6	9,6
ENT.CXD-450-15	●		15		3x79	19,2	90x255	185x290x270	-25°C+55°C	6	10,8
ENT.CXD-450-20	●		20		3x104	25,7	100x255	225x340x270	-25°C+55°C	6	13,2
ENT.CXD-450-25	●		25		3x131	32,1	116x255	330x340x225	-25°C+55°C	4	11,9
ENT.CXD-450-30	●		30		3x157	38,5	116x290	330x340x225	-25°C+55°C	4	13,4
ENT.CXD-550-2,5	●			2,3	3x8,5	2,6	65x165	195x390x255	-25°C+55°C	14	5,4
ENT.CXD-550-5	●			4,6	3x17	5,2	75x165	195x390x255	-25°C+55°C	12	5,4
ENT.CXD-550-7,5	●			6,8	3x25	7,9	75x255	185x290x270	-25°C+55°C	6	7,9
ENT.CXD-525-10	●			10	3x38	12,1	85x255	185x290x270	-25°C+55°C	6	7,9
ENT.CXD-525-12,5	●			12,5	3x48	15	85x255	185x290x270	-25°C+55°C	6	9,6
ENT.CXD-525-15	●			15	3x58	18,2	100x255	225x340x270	-25°C+55°C	6	10,8
ENT.CXD-525-20	●			20	3x77	24,2	116x255	330x340x225	-25°C+55°C	6	13,2
ENT.CXD-525-25	●			25	3x96	30,2	116x255	330x340x225	-25°C+55°C	4	11,9
ENT.CXD-525-30	●			30	3x115	36,3	116x290	330x340x225	-25°C+55°C	4	13,4

Power Factor Correction



* In order for the overpressure protection device to operate efficiently, a minimum height of 30 mm must be left above the element and flexible leads must be used for connection.

Screws and Mounting Studs	Screwing Torque
M 5	3 Nm
M 12	11 Nm

Screws and Mounting Studs	Screwing Torque
Screws	1,5 Nm
M 12	11 Nm

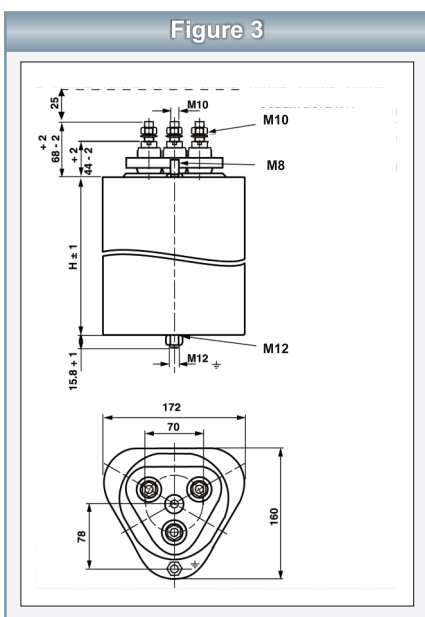
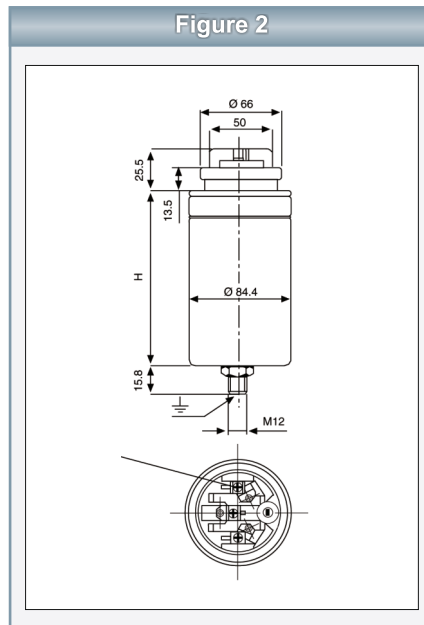
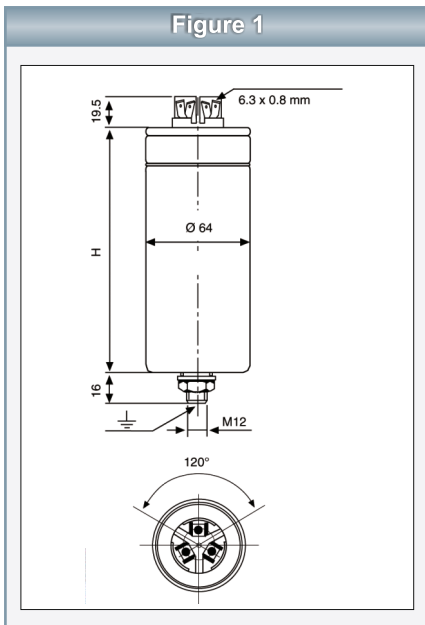
Low Voltage Power Capacitors

ENT.C100 Series (Three Phase)

C100 Series

Product Code	130.000 Hour	Qn (kVar) for 400 VAC	Alternative Operating Voltage	C (µF)	In (A)	DxH (mm.)	Box Dimensions (mm)	Operating Temperature	Pcs per Box	Box Weight (kg)	Figure No
ENT.C100-400-2,5	●	2,5	400-440 VAC	3x16,6	3,6	64x190	195x390x255	-25°C+55°C	9	7,1	1
ENT.C100-400-4	●	4	400-440 VAC	3x25	5,8	64x190	195x390x255	-25°C+55°C	9	7,1	1
ENT.C100-400-5	●	5	400-440 VAC	3x33,2	7,2	64x190	195x390x255	-25°C+55°C	9	7,1	1
ENT.C100-400-7,5	●	7,5	400-440 VAC	3x45	10,8	64x190	195x390x255	-25°C+55°C	9	7,1	1
ENT.C100-400-10	●	10	400-440-525-690 VAC	3x54,8	14,4	64x265	195x390x255	-25°C+55°C	9	9,4	1
ENT.C100-400-12,5	●	12,5	400-415-440 VAC	3x82,9	18	64x265	195x390x255	-25°C+55°C	9	9,4	1
ENT.C100-440-20	●	20	400-440 VAC	3x132,6	28,8	84x265	195x390x255	-25°C+55°C	4	7,6	2
ENT.C100-440-25	●	25	400-415-440-460 VAC	3x165,8	36,1	85x265	195x390x255	-25°C+55°C	4	7	2
ENT.C100-440-30	●	30	400-415-440-460 VAC	3x198,9	43,3	116x190	195x390x255	-25°C+55°C	4	9	2
ENT.C100-440-50	●	50	400-415-440-460 VAC	3x331,6	72,2	172x210	195x390x255	-25°C+55°C	1	5	5

Dimensions



Power Factor Correction