

PFC POWER CAPACITORS

Segmented film



Self-healing



Low loss



Long service life

High tolerance of inrush currents

- Optimised metal spraying process
- Wave-cut film

Long service life

- Highend impregnation technology
- Good thermal dissipation
- High quality base materials

Reliable connection technology

- Connection adapter for reliable long term connections

Fivefold safety

- Self-healing technology
- Dry technology
- Over-pressure disconnecter
- Segmented capacitor film
- Integrated discharge device

Areas of application



- Motor fixed PFC
- Group PFC
- Automatic power factor correction
- Detuned power factor correction systems
- Harmonics filter
- Dynamic power factor correction systems

Main features

Fivefold safety

- Self-healing technology
- Dry technology
- Over-pressure disconnecter
- Segmented capacitor film
- Integrated discharge device

Long service life (up to 170,000 hours) and high operational reliability

- Highend impregnation technology
- Excellent thermal dissipation
- High quality base materials

Reliable connection technology

- Connection adapter for reliable long term connections

High inrush currents withstand capability

- Optimised metal spraying process
- Wave-cut film design

High of overload withstand capability

- Max. over-current: 2.2 I_n
- Max. inrush current: 300 x I_n

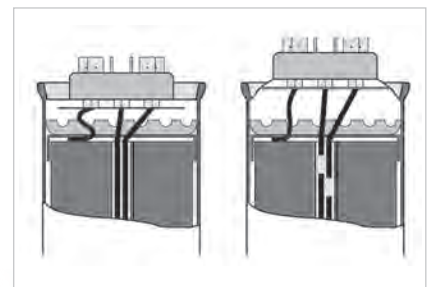


Fig.: Principle of over-pressure disconnecter



Fig.: Self-healing, segmented capacitor film



Fig.: The connection adapter offers a low transfer resistance and a permanent, fixed electrical and mechanical contact

Low loss

- 0.2 Watt/kvar dielectric loss
- 0.5 Watt/kvar total power dissipation

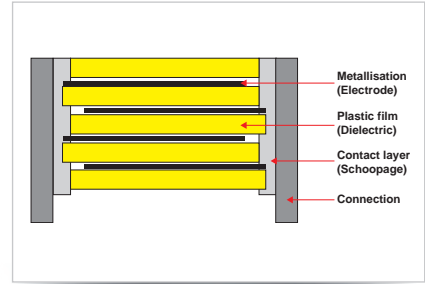


Fig.: Contacting (metal spraying) of the metallised Polypropylene film (Dielectric)



Technical data

Technical data and limit values for power capacitors		
Standards		IEC 60831-1+2, EN 60831-1+2
Output range	QR (kvar)	0.3 – 40
Nominal voltage range	UR (V)	400 V*1
Over-voltage	U_{max}	$U_n + 10\%$ (up to 8 h daily) / $U_n + 15\%$ (up to 30 mins daily) $U_n + 20\%$ (up to 5 mins daily) / $U_n + 30\%$ (up to 1 min daily)
Overcurrent	I_{max}	$2.2 \times I_n$ (at nominal voltage, 50 Hz)
Inrush current withstand capability	IS	Up to $300 \times I_n$
Dielectric losses	Pdiel.	< 0.2 Watt per kvar
Total capacitor losses	Pv	< 0.5 Watt per kvar
Nominal frequency	f	50 / 60 Hz
Capacitor tolerance		-5 ... + 10%
Test voltage (terminal / terminal)	VTT	$2.15 \times U_n$, AC, 2 s / $1.85 \times U_n$, AC, 18 s
Test voltage (terminal / housing)	VTC	3,900 V, 2 s
Service life expectancy	t LD(Co)	Up to 170,000 h
Ambient temperature		Class: -25/D Max. temperature +65 °C Max. 24 h average = +45 °C Max. 1 year average = +35 °C Lowest temperature = -40 °C
Max. housing temperature	Tg	+75 °C
Air humidity	H _{rel}	max. 95%
Operating altitude		max. 4,000 m above sea level
Fastening and grounding		M12 threaded bolts and house base
Safety		Dry technology, over-pressure disconnecter, self-healing, max. permissible fault current 10,000 A per UL-810 standard
Discharging		Discharge resistors
Housing		Aluminium can and sheet steel housing
Protection class		IP20, indoor installation (optionally with IP54 terminal covering)
Dielectric		Polypropylene film
Impregnation		Dry
Number of switching cycles per year		Max. 60,000 switching cycles in accordance with IEC 60831 (with capacitor contactors)

*1 Nominal voltage 400 V illustrated in the catalogue. 230 – 800 V on request.

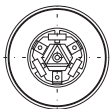
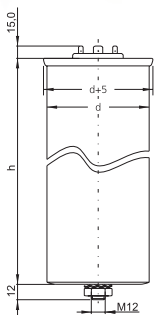
3-phase power capacitors in aluminium cans

Main features

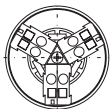
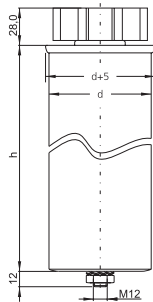
- PFC power capacitors in aluminium cans
- Delta connection
- With discharge resistors
- Long service life, low loss



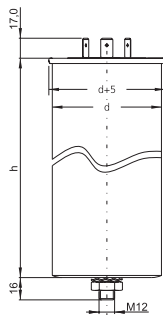
Dimension diagrams



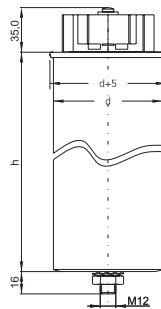
Capacitor with $d = 60 / 70$ mm for connection with flat connector 6.3×0.8 mm



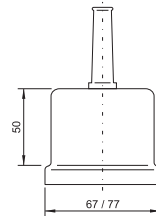
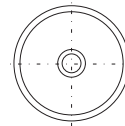
Capacitor with connection adapter ASS 1 $d = 60 / 70$ mm



Capacitor with $d = 85$ mm for connection with flat connector 9.5×1.2 mm



Capacitor with connection adapter ASS 2 $d = 85$ mm



Protective cap SK60 / SK70 for Capacitor with $d = 60 / 70$ mm (not available for capacitors with $d = 85$ mm)



Technical data

Delta connection with discharge resistor - Protection type: IP00 – Frequency: 50 Hz									
Nominal output in kvar at a nominal voltage of:					Type	Capacitance in μF -5 ... + 10%	Dimensions in mm (D x H)	Weight in kg	Item no.
400 V	415 V	440 V	480 V	525 V					
2.4	2.6	2.9	3.5	4.17	JCP525/4.1-D-ASS	3 x 16.0	60 x 225	0.7	19.02.275
2.5	2.7	3.0	3.6	4.3	JCP480/3.6-D-ASS	3 x 16.6	60 x 150	0.5	19.02.205
4.8	5.2	5.8	7	8.33	JCP525/8.3-D-ASS	3 x 32.0	70 x 225	0.9	19.02.249
5	5.4	6	7.2	8.6	JCP480/7.2-D-ASS	3 x 33.2	60 x 225	0.8	19.02.210
5.8	6.3	7	8.33	10	JCS525/10.0-D-ASS	3 x 38.5	70 x 225	0.8	19.02.150
6.25	6.7	7.6	9.0	-	JCP440/7.6-D-ASS	3 x 41.7	60 x 225	0.7	19.02.211
7.2	7.8	8.7	10.5	12.5	JCS525/12.5-D-ASS	3 x 48.1	70 x 225	1.1	19.02.180
8.7	9.4	10.5	12.5	15	JCS525/15.0-D-ASS	3 x 57.7	70 x 265	1.2	19.02.103
7.5	8.1	9.1	10.8	-	JCP440/9.1-D-ASS	3 x 49.9	60 x 225	0.7	19.02.215
10	10.8	12.1	14.4	-	JCP440/12.1-D-ASS	3 x 66.3	70 x 225	1.1	19.02.217
10.8	11.6	13.1	15.5	-	JCS480/15.5-D-ASS	3 x 71.4	70 x 225	1.1	19.02.116
9.3	10	11.2	-	-	JCP400/9.3-D-ASS	3 x 61.4	70 x 225	1.1	19.02.219
10	10.8	12.1	-	-	JCP400/10.0-D-ASS	3 x 66.3	70 x 225	1.1	19.02.220
11.7	12.5	14.1	-	-	JCP400/11.7-D-ASS	3 x 77.3	70 x 225	1.1	19.02.221
12.5	13.4	15.1	-	-	JCS440/15.0-D-ASS	3 x 82.9	70 x 225	1.1	19.02.125
20	-	24.2	-	-	JCP400/20.0-D-ASS	3 x 132.6	85 x 285	2.4	19.02.228
23.3	25.1	28.2	-	-	JCS440/28.2-D-ASS	3 x 154.6	85 x 355	2.5	19.02.126
25	29.9	30.2	-	-	JCS440/30.0-D-ASS	3 x 164.4	85 x 355	2.6	19.02.127