



Film Capacitors – Power Factor Correction

Metallized Polypropylene Film Capacitors

Series/Type : BKMJ-series
Ordering code : BKMJxx-xx-x(eg. BKMJ0.25-15-3)
Date : July, 2020

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Descriptions

- ※ Dielectric: Metallized polypropylene film
- ※ Internally insulated
- ※ Non PCB (NPCB), fine vacuum silicon oil
- ※ Hermetically sealed aluminum can, designed to meet thermal shock, vibration, moisture resistance, high reliability and novel appearance.

Features

- ※ Indoor mounting
- ※ Three-phase, delta connected
- ※ Self-healing properties
- ※ Low dissipation factor
- ※ Overpressure disconnection protective device
- ※ With Internal high insulation discharge resistance
- ※ Save space and light, easy to handle for attachment
- ※ Save energy and saving money

Applications

- ※ Power factor correction
- ※ Harmonic filter

Mounting

- ※ Threaded stud at bottom of can

Terminals

- ※ Excellent power capacitor terminals



Specifications and Technical Data

BKMJ Series	Metallized Polypropylene Film Capacitors
Rated Voltage Range	From 220-690 VAC
Capacitor Connection	3 phase (1 phase on request)
Capacitor Frequency	50Hz/60 Hz
Capacitor Power Range	2.5- 30 KVAR
Dielectric	Metallized polypropylene film with self healing

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BKMJ Series	Metallized Polypropylene Film Capacitors
Discharge Device	Internal discharge device
Discharge Resistors	Capacitors are designed to discharge the residual voltage to 75 volts or less within three(3) minutes after disconnection from the power supply in accordance to IEC60831.
Tolerance	-5%~+5%
Maximum Ambient Temperature	-25 °C~50°C (Other temperature range on request)
	Average temperature within 24 hours below 40°C&average temperature with a year below 30°C
Max. Relative Humidity	≤90%
Max. Altitude	≤2000m (Other altitude on request)
Over Voltage Tolerance	1.1 V _n (up to 8 h daily)
	1.15 V _n (up to 30 min daily)
	1.2 V _n (up to 5 min 200times)
	1.3 V _n (up to 1 min 200times)
Over Current Tolerance	1.3 I _n
Max. Inrush Current	200 I _n
Dielectric Loss	≤0.2 Watt / KVAR
Capacitor Loss	≤1 Watt / KVAR
Voltage Test	Between terminals: 2.15 V _n for 10 seconds.
	Between terminals and case: 3000VAC for 1 minute
Safety System	Internal over pressure protection device with overload and failure protection.
Capacitor Case Material	Aluminum
Execution	Indoor, minimum distance between units : 50mm
Fixing	Threaded bolt M12
Mounting position	Upright
Standard	IEC60831 / GBT12747/ ISO9001:2008

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Specification

Three phase capacitors						
Rated voltage 400V,50Hz						
Type	Rated Voltage	Rated Capacitance	Rated Current	Dimension	QTY	Terminal type
	(V)	(KVAR)	(A)	D*H (mm)		
BKMJ0. 4-5-3	400	5	7.2	Φ 76*260-M12*16	8	A/B
BKMJ0. 4-7.5-3	400	7.5	10.8	Φ 76*260-M12*16	8	A/B
BKMJ0. 4-10-3	400	10	14.4	Φ 76*260-M12*16	8	A/B
BKMJ0. 4-15-3	400	15	21.7	Φ 86*260-M12*16	8	A/B
BKMJ0. 4-20-3	400	20	28.9	Φ 106*260-M12*16	6	A/B
BKMJ0. 4-25-3	400	25	36.0	Φ 116*260-M12*16	6	A/B
BKMJ0. 4-30-3	400	30	43.3	Φ 136*260-M12*16	6	A/B
Rated voltage 415V,50Hz						
BKMJ0. 415-5-3	415	5	6.9	Φ 76*260-M12*16	8	A/B
BKMJ0. 415-10-3	415	10	13.9	Φ 76*260-M12*16	8	A/B
BKMJ0. 415-15-3	415	15	20.9	Φ 86*260-M12*16	8	A/B
BKMJ0. 415-20-3	415	20	27.8	Φ 96*260-M12*16	8	A/B
BKMJ0. 415-25-3	415	25	34.8	Φ 106*260-M12*16	6	A/B
BKMJ0. 415-30-3	415	30	41.7	Φ 116*260-M12*16	6	A/B
Rated voltage 44V,50Hz						
BKMJ0. 44-5-3	440	5	6.5	Φ 76*260-M12*16	8	A/B
BKMJ0. 44-10-3	440	10	13.1	Φ 76*260-M12*16	8	A/B
BKMJ0. 44-15-3	440	15	19.7	Φ 86*260-M12*16	8	A/B
BKMJ0. 44-20-3	440	20	26.2	Φ 96*260-M12*16	8	A/B
BKMJ0. 44-25-3	440	25	32.8	Φ 106*260-M12*16	6	A/B
BKMJ0. 44-30-3	440	30	39.4	Φ 116*260-M12*16	6	A/B
Rated voltage 450V,50Hz						
BKMJ0. 45-5-3	450	5	6.4	Φ 76*260-M12*16	8	A/B
BKMJ0. 45-7.5-3	450	7.5	9.6	Φ 76*260-M12*16	8	A/B
BKMJ0. 45-10-3	450	10	12.8	Φ 76*260-M12*16	8	A/B
BKMJ0. 45-15-3	450	15	19.2	Φ 86*260-M12*16	8	A/B
BKMJ0. 45-20-3	450	20	25.7	Φ 96*260-M12*16	8	A/B
BKMJ0. 45-25-3	450	25	32.0	Φ 106*260-M12*16	6	A/B
BKMJ0. 45-30-3	450	30	38.5	Φ 116*260-M12*16	6	A/B
BKMJ0. 45-35-3	450	35	44.9	Φ 116*260-M12*16	6	A/B

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Three phase capacitors						
Rated voltage 480V,50Hz						
Type	Rated Voltage	Rated Capacitance	Rated Current	Dimension	QTY	Terminal type
	(V)	(KVAR)	(A)	D*H (mm)		
BKMJ0. 48-5-3	480	5	6.0	Φ 76*260-M12*16	8	A/B
BKMJ0. 48-7.5-3	480	7.5	9.0	Φ 76*260-M12*16	8	A/B
BKMJ0. 48-10-3	480	10	12.0	Φ 76*260-M12*16	8	A/B
BKMJ0. 48-15-3	480	15	18.0	Φ 86*260-M12*16	8	A/B
BKMJ0. 48-20-3	480	20	24.0	Φ 96*260-M12*16	6	A/B
BKMJ0. 48-25-3	480	25	30.0	Φ 106*260-M12*16	6	A/B
BKMJ0. 48-30-3	480	30	36.0	Φ 116*260-M12*16	6	A/B
Rated voltage 525V,50Hz						
BKMJ0. 525-5-3	525	5	5.5	Φ 76*260-M12*16	8	A/B
BKMJ0. 525-10-3	525	10	11.0	Φ 76*240-M12*16	8	A/B
BKMJ0. 525-15-3	525	15	16.5	Φ 96*260-M12*16	8	A/B
BKMJ0. 525-20-3	525	20	22.0	Φ 106*260-M12*16	6	A/B
BKMJ0. 525-25-3	525	25	27.5	Φ 116*260-M12*16	6	A/B
BKMJ0. 525-30-3	525	30	33.0	Φ 136*260-M12*16	6	A/B

Single phase capacitors						
Rated voltage 400V,50Hz						
Type	Rated Voltage	Rated Capacitance	Rated Current	Dimension	QTY	Terminal type
	(V)	(KVAR)	(A)	D*H (mm)		
BKMJ0. 4-5-1	400	5	11.1	Φ 76*260-M12*16	8	C
BKMJ0. 4-10-1	400	10	22.2	Φ 76*260-M12*16	8	C
BKMJ0. 4-15-1	400	15	33.3	Φ 86*260-M12*16	8	C
BKMJ0. 4-20-1	400	20	44.4	Φ 106*260-M12*16	8	C
BKMJ0. 4-25-1	400	25	55.6	Φ 116*260-M12*16	6	C
Rated voltage 450V,50Hz						
BKMJ0. 415-5-1	415	5	12.1	Φ 76*260-M12*16	8	C
BKMJ0. 415-10-1	415	10	24.1	Φ 76*260-M12*16	8	C
BKMJ0. 415-15-1	415	15	36.1	Φ 86*260-M12*16	8	C
BKMJ0. 415-20-1	415	20	48.2	Φ 96*260-M12*16	8	C
BKMJ0. 415-25-1	415	25	60.2	Φ 106*260-M12*16	6	C
Rated voltage 450V,50Hz						
BKMJ0. 45-5-1	450	5	11.1	Φ 76*260-M12*16	8	C
BKMJ0. 45-10-1	450	10	22.2	Φ 76*260-M12*16	8	C
BKMJ0. 45-15-1	450	15	33.3	Φ 86*260-M12*16	8	C
BKMJ0. 45-20-1	450	20	44.4	Φ 96*260-M12*16	8	C
BKMJ0. 45-25-1	450	25	55.6	Φ 106*260-M12*16	6	C
BKMJ0. 45-30-1	450	30	66.7	Φ 116*260-M12*16	6	C
Rated voltage 480V,50Hz						
BKMJ0. 48-5-1	480	5	10.4	Φ 76*260-M12*16	8	C
BKMJ0. 48-10-1	480	10	20.8	Φ 76*260-M12*16	8	C
BKMJ0. 48-15-1	480	15	31.3	Φ 86*260-M12*16	8	C
BKMJ0. 48-20-1	480	20	41.7	Φ 96*260-M12*16	6	C
BKMJ0. 48-25-1	480	25	52.1	Φ 106*260-M12*16	6	C
BKMJ0. 48-30-1	480	30	62.5	Φ 116*260-M12*16	6	C
Rated voltage 525V,50Hz						
BKMJ0. 525-5-1	525	5	9.5	Φ 76*260-M12*16	8	C
BKMJ0. 525-10-1	525	10	19.1	Φ 76*260-M12*16	8	C
BKMJ0. 525-15-1	525	15	28.6	Φ 96*260-M12*16	8	C
BKMJ0. 525-20-1	525	20	38.1	Φ 106*260-M12*16	8	C
BKMJ0. 525-25-1	525	25	47.6	Φ 116*260-M12*16	6	C
BKMJ0. 525-30-1	525	30	57.1	Φ 136*260-M12*16	6	C

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Film Capacitors – Power Factor Correction **BKMJ Series**

Metallized Polypropylene Film Capacitors **Cylindrical**

Three phase four wires capacitors

Rated voltage 250V,50Hz

Type	Rated Voltage	Rated Capacitance	Rated Current	Dimension	QTY	Terminal type
	(V)	(KVAR)	(A)	D*H (mm)		
BKMJ0. 25-5-3YN	250	5		Φ 76*260-M12*16	8	D
BKMJ0. 25-10-3YN	250	10		Φ 86*260-M12*16	8	D
BKMJ0. 25-15-3YN	250	15		Φ 96*260-M12*16	8	D
BKMJ0. 25-25-3YN	250	25		Φ 116*260-M12*16	8	D
BKMJ0. 25-30-3YN	250	30		Φ 136*260-M12*16	6	D

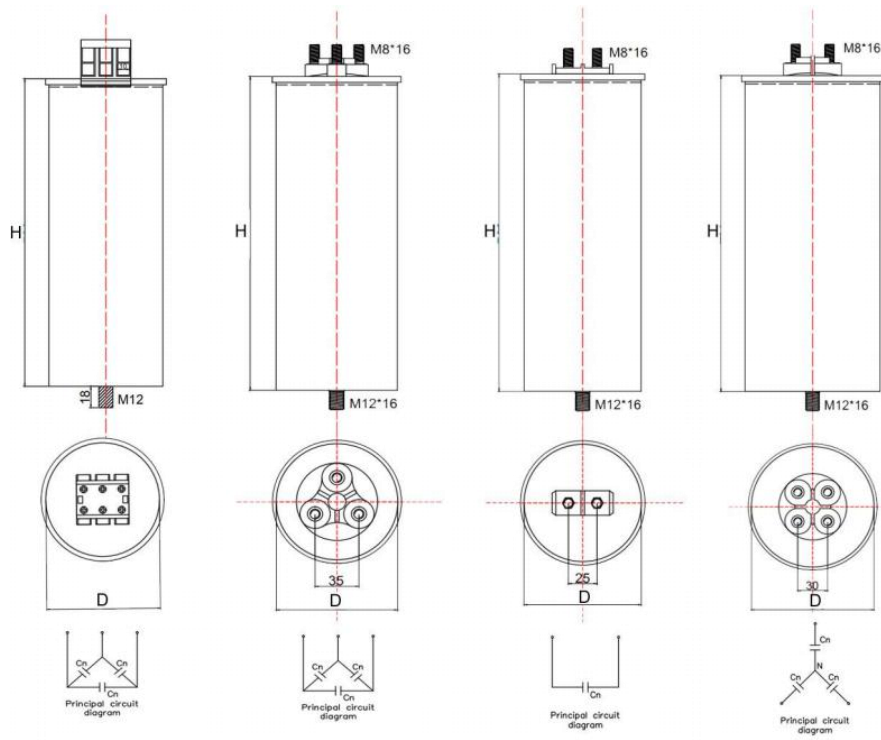
Rated voltage 280V,50Hz

BKMJ0. 28-5-3YN	280	5		Φ 76*260-M12*16	8	D
BKMJ0. 28-10-3YN	280	10		Φ 76*260-M12*16	8	D
BKMJ0. 28-15-3YN	280	15		Φ 96*260-M12*16	8	D
BKMJ0. 28-25-3YN	280	20		Φ 106*260-M12*16	8	D
BKMJ0. 28-30-3YN	280	25		Φ 116*260-M12*16	6	D

Rated voltage 300V,50Hz

BKMJ0. 3-5-3YN	300	5		Φ 86*260-M12*16	8	D
BKMJ0. 3-10-3YN	300	10		Φ 86*260-M12*16	8	D
BKMJ0. 3-20-3YN	300	20		Φ 96*260-M12*16	8	D
BKMJ0. 3-25-3YN	300	25		Φ 106*260-M12*16	6	D
BKMJ0. 3-40-3YN	300	40		Φ 136*260-M12*16	6	D

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Type A
Three phase

Type B
Three phase

Type C
Single phase

Type D
Three phase four wires

Production equipment

- ※ Switzerland and Taiwan winding machine
- ※ Italy Enabling Machine
- ※ Italy sealing machine
- ※ Italy spraying machine



Winding Machine



Sealing Machine



Enabling Machine



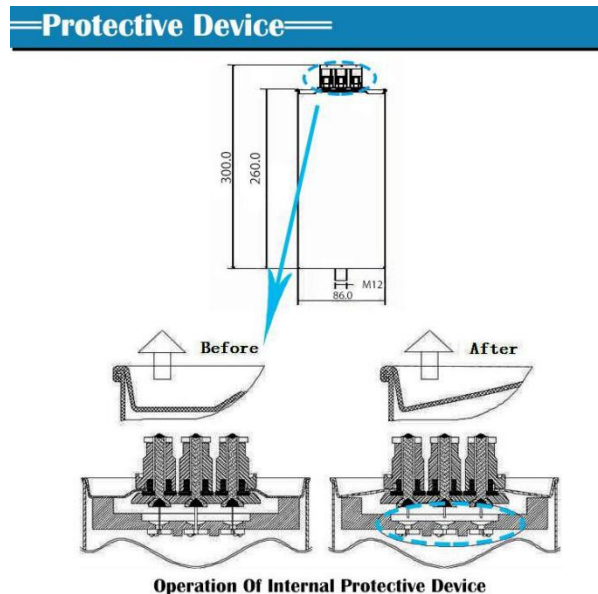
Vacuum filling machine

Each capacitor is equipped in the discharge resistor, when the capacitor disconnect from the power supply within three(3) minutes, the capacitor is discharged below 75V.

Safety

In the event of internal failure of aging at the end of the capacitor's operational life, an increasing number of Self-healing breakdowns may cause rising pressure inside the capacitor element. To prevent it from bursting, Each capacitor element is designed with internal pressure sensitive interrupter (Protective Device). With rising Pressure the cover will bulge to disconnecting copper taps at weak points from the cover, and the current path is interrupted irreversibly to avoid the relative disaster.

Operation of internal protective device



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Type test

- ※ Thermal stability test
- ※ Measurement of the tangent of the loss angle($\tan\delta$) of the capacitor at elevated temperature
- ※ Measurement of the tangent($\tan\delta$) of the loss angle of the capacitor
- ※ Voltage test between terminals
- ※ Voltage test between terminals and container
- ※ Capacitance measurement and capacity calculation
- ※ Test of internal discharge device
- ※ Thermal stability test
- ※ Discharge test
- ※ Self-healing test

Precautions on the installation and operation of the capacitor

- ※ The capacitor shall not be installed at the places exposed to rain, water, conduction dust and corrosive gas.
- ※ When more than two capacitors are installed, the distance between them shall be more than 30-50mm. Notice properly the ambient air temperature, ventilation as well as heat radiation.
- ※ The switch, protective devices and connectors shall be able to withstand continually 1.5 times of the rated current.
- ※ The automatic connecting device on the self healing capacitor shall be connected in cycle to prevent that only 1 or 2 groups of capacitors are connected repeatedly. At the same time, the delayed connection is also necessary. The delayed connection time shall not be less than 30s. It is better to be longer than 60s.
- ※ The automatic connection device shall be provided with the surge cut measures. The common method is to add proper reactor or use special contactor. No matter which method is adopted, it shall be guaranteed that the surge shall be less than 50 In when the capacitor is connected. It is better to be less than 20 In.
- ※ It is better for the automatic connecting device to be provided with over harmonic protection to prevent the harmonic damaging the capacitor. The user shall pay attention to this point.
- ※ For the self healing capacitor with manual connection, the capacitor shall not be connected repeatedly in short time. The interval between two connections shall be longer than 60s (including automatic connecting device). The total times of connection in every year shall not be more than 5000 times.
- ※ When the load is smaller at night, to prevent the capacitor withstand too high voltage from the power supply, some or all capacitors shall be removed from the circuit.
- ※ When the capacitor and the motor are in permanent connection, and the motor is disconnected from the power supply, but rotates still, the motor acts like a generator due to the self-excitation. A voltage much higher than the system voltage is produced. Such phenomenon can be prevented by selecting a capacitor with the rated current less than the no-load current of the motor (recommended in 90%). Or before disconnecting the power switch, cut off the capacitor power firstly.
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applicable before or when you place an order. We also reserve the right to discontinue production and delivery of products. Consequently, we cannot guarantee that all products named in this publication will always be available. The aforementioned does not apply in the case of individual agreements deviating from the foregoing for customer-specific products.

Maintenance

※ Whether the current is normal

Consumers should regularly check the capacitor current of each phase, such as over-current, and check whether the voltage is over-voltage, identify the reason before put capacitors. And can prove whether the power grid have harmonic, if yes, please stop and identify the reason or contact with us.

※ Whether the temperature rise is normal

If you find that the temperature rise of an individual capacitor is too high, it should be replaced or contact with us.

If you find that the temperature rise of all capacitors is too high, you should check whether caused by improper use, and use of the environment should be improved.

※ The container have abnormal

If the container appears to have black smoke or opening, it should be replaced with new capacitors immediately.

※ Screws whether are loose

In the capacitor panel circuit, any bad contact will happen to an arc to cause high frequency oscillation and overheating of the capacitor. So that all contacts on the capacitor should be checked regularly.

※ The container whether have expansion

If you find the container have expansion, the capacitor has failed and should be replaced capacitors.