Self - healing low - voltage parallel capacitor
common compensation type

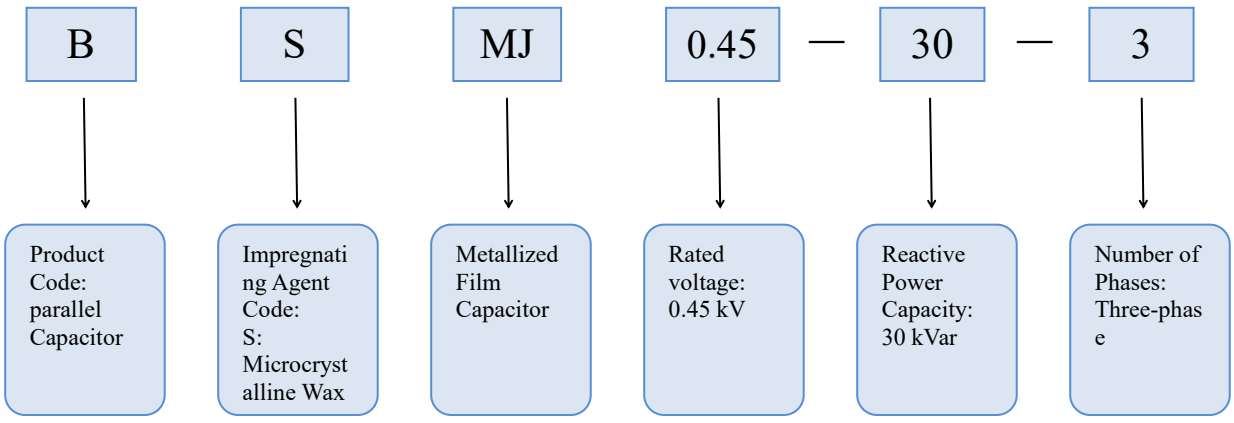
Main features and applications

- This product is made by winding the highest-quality and high-temperature-resistant domestic metallized film. It has good self-healing performance, small capacitance loss and low dielectric loss.
- The inside of the capacitor is connected with red copper foil. Compared with the traditional multi-core flexible cable, the welding is more firm and the line loss is lower. It has stronger heat dissipation and current-carrying capabilities, a longer service life, and can withstand high surge currents ($200I_N$).
- Using new-type can-sealing equipment and high-purity microcrystalline wax, the product has excellent sealing performance, without oil leakage, pollution or corona discharge. The anti-corrosive metal shell does not require painting. It is beautiful, sturdy, and convenient for installation and transportation.
- This product is mainly suitable for being connected in parallel with loads in the AC power system with a rated voltage of 1000V and below and a power frequency of 50Hz. It can improve the power factor of the system, reduce line losses, improve the voltage quality, and give full play to the efficiency of power generation and power supply equipment.

Working conditions and environmental requirement

- After the capacitor is disconnected from the power supply, it must be ensured that the residual voltage of the capacitor drops to 10% of the rated voltage before it is allowed to be re - energized. Usually, this time is about 200 seconds. Therefore, when selecting a controller, pay attention to choosing a controller with the function of re - energization locking time. If a general controller is used, a fast - discharge device needs to be additionally installed.
- The installation and use of the capacitor should be at an altitude not exceeding 2000 meters. The ambient temperature should be within the range of -25°C to +50°C (the average temperature within 24 hours ≤ 40°C, and the average temperature within one year ≤ 40°C). Moreover, the capacitor must operate under well-ventilated conditions, and it is prohibited from being used in a sealed and unventilated environment.

Product Model and Meaning



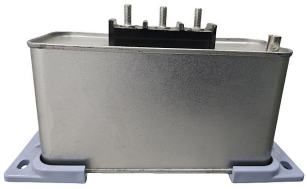
Main Technical Parameters

Rated voltage (U_N)	(450～750) V a.c. (Other voltages can be specially customized)
Capacity range (C_N)	5 kVar to 60 kVar (Other capacities can be specially customized)
Allowable deviation of capacity	-5%～+10%
Rated frequency (f_N)	50Hz/60Hz
Allowable ambient temperature	-25℃～C（C：50℃）

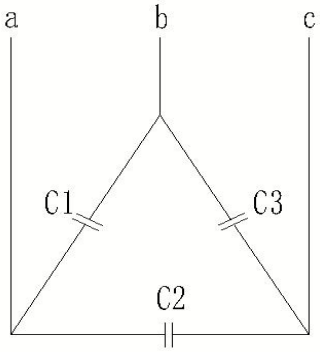
Tangent of loss angle	tanδ ≤0.0015 (20°C）；
inter-electrode testing voltage	2.15U_N (5s, 20°C±5°C)
Test voltage between electrode and shell	3kVa.c. (10s, 50Hz, 20°C±5°C)
Maximum allowable overvoltage	1.1 UN: No more than 8 hours within 24 hours. 1.15 UN: No more than 30 minutes within 24 hours. 1.2 UN: No more than 5 minutes within 2 months. 1.3 UN: No more than 1 minute within 1 month.
Maximum allowable current value	≤1.3IN, excessive overcurrent shall not exceed 1.43IN at most
Self-discharge characteristics	After the capacitor is disconnected from the power supply for 3 minutes, the residual voltage drops below 50V.
Compliance with standards	GB/T12747-2017，IEC60831:2014

Dimensions and electrical schematic diagram

The external dimensions and specification parameters of the BSMJ self-healing low-voltage parallel capacitor are shown in Figure 1, Figure 2 and Table 1.



Appearance



Electrical schematic diagram

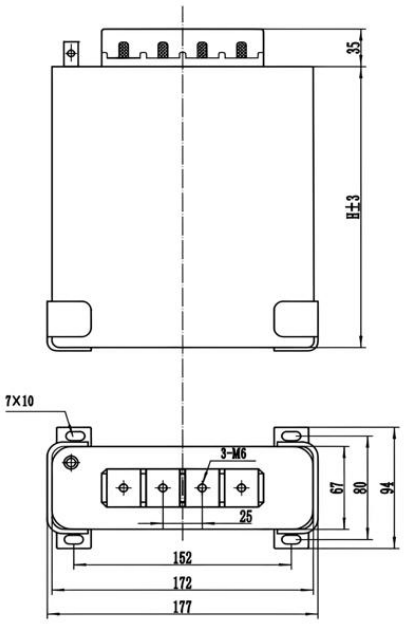


Figure 1

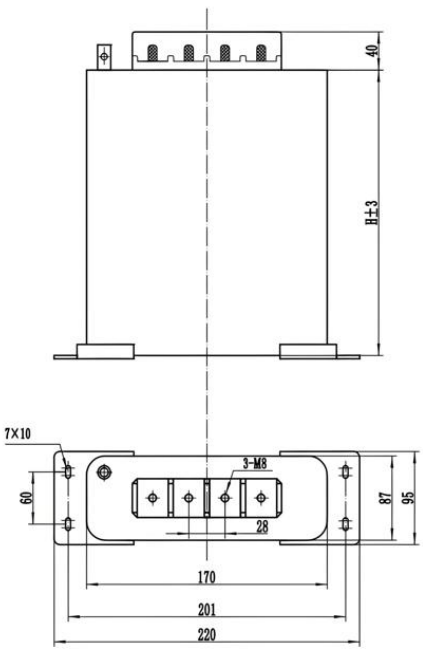


Figure 2

Table 1 Specification parameters of capacitance

Item	Model specifications	Rated voltage V	rated capacity kVar	Rrated capacitanceμF	Rated current A	Shell height (H) mm	Drawing number
0.45kV series				(Other specifications and sizes can be customized.)			
1	BSMJ 0.45-5-3	0.45	5	79	6.4	90	Figure 1
2	BSMJ 0.45-6-3	0.45	6	94	7.7	90	Figure 1
3	BSMJ 0.45-7-3	0.45	7	110	9.0	90	Figure 1
4	BSMJ 0.45-8-3	0.45	8	126	10.3	90	Figure 1
5	BSMJ 0.45-9-3	0.45	9	142	11.6	90	Figure 1
6	BSMJ 0.45-10-3	0.45	10	157	12.8	120	Figure 1
7	BSMJ 0.45-11-3	0.45	11	173	14.1	120	Figure 1
8	BSMJ 0.45-12-3	0.45	12	189	15.4	120	Figure 1
9	BSMJ 0.45-13-3	0.45	13	205	16.7	140	Figure 1
10	BSMJ 0.45-14-3	0.45	14	220	18.0	140	Figure 1
11	BSMJ 0.45-15-3	0.45	15	236	19.2	140	Figure 1
12	BSMJ 0.45-16-3	0.45	16	252	20.5	140	Figure 1
13	BSMJ 0.45-17-3	0.45	17	267	21.8	140	Figure 1
14	BSMJ 0.45-18-3	0.45	18	283	23.1	180	Figure 1
15	BSMJ 0.45-19-3	0.45	19	299	24.4	180	Figure 1
16	BSMJ 0.45-20-3	0.45	20	315	25.7	180	Figure 1
17	BSMJ 0.45-21-3	0.45	21	330	27.0	180	Figure 1
18	BSMJ 0.45-22-3	0.45	22	346	28.2	180	Figure 1
19	BSMJ 0.45-23-3	0.45	23	362	29.5	200	Figure 1
20	BSMJ 0.45-24-3	0.45	24	377	30.8	200	Figure 1
21	BSMJ 0.45-25-3	0.45	25	393	32.1	200	Figure 1
22	BSMJ 0.45-26-3	0.45	26	409	33.4	200	Figure 1
23	BSMJ 0.45-27-3	0.45	27	425	34.7	245	Figure 1
24	BSMJ 0.45-28-3	0.45	28	440	35.9	245	Figure 1
25	BSMJ 0.45-29-3	0.45	29	456	37.2	200	Figure 2
26	BSMJ 0.45-30-3	0.45	30	472	38.5	200	Figure 2
27	BSMJ 0.45-35-3	0.45	35	550	44.9	200	Figure 2
28	BSMJ 0.45-40-3	0.45	40	629	51.3	245	Figure 2
29	BSMJ 0.45-45-3	0.45	45	708	57.7	245	Figure 2
30	BSMJ 0.45-50-3	0.45	50	786	64.2	310	Figure 2
31	BSMJ 0.45-55-3	0.45	55	865	70.6	310	Figure 2
32	BSMJ 0.45-60-3	0.45	60	943	77.0	310	Figure 2
0.48kV series				(Other specifications and sizes can be customized)			
33	BSMJ 0.48-5-3	0.48	5	69	6.0	90	Figure 1
34	BSMJ 0.48-10-3	0.48	10	138	12.0	120	Figure 1
35	BSMJ 0.48-15-3	0.48	15	207	18.0	140	Figure 1

36	BSMJ 0.48-16-3	0.48	16	221	19.2	140	Figure 1
37	BSMJ 0.48-20-3	0.48	20	277	24.1	180	Figure 1
38	BSMJ 0.48-25-3	0.48	25	346	30.1	200	Figure 1
39	BSMJ 0.48-30-3	0.48	30	415	36.1	200	Figure 2
40	BSMJ 0.48-40-3	0.48	40	553	48.1	245	Figure 2
41	BSMJ 0.48-50-3	0.48	50	691	60.1	310	Figure 2
42	BSMJ 0.48-60-3	0.48	60	829	72.2	310	Figure 2
0.525kV series					(Other specifications and sizes can be customized)		
43	BSMJ 0.525-5-3	0.525	5	578	5.5	90	Figure 1
44	BSMJ 0.525-10-3	0.525	10	116	11.0	120	Figure 1
45	BSMJ 0.525-15-3	0.525	15	173	16.5	140	Figure 1
46	BSMJ 0.525-16-3	0.525	16	185	17.6	140	Figure 1
47	BSMJ 0.525-20-3	0.525	20	231	22.0	180	Figure 1
48	BSMJ 0.525-25-3	0.525	25	289	27.5	200	Figure 1
49	BSMJ 0.525-30-3	0.525	30	347	33.0	200	Figure 2
50	BSMJ 0.525-40-3	0.525	40	462	44.0	245	Figure 2
51	BSMJ 0.525-50-3	0.525	50	578	55.0	310	Figure 2
52	BSMJ 0.525-60-3	0.525	60	693	66.0	310	Figure 2
0.69kV series					(Other specifications and sizes can be customized)		
53	BSMJ 0.69-5-3	0.69	5	33	4.2	90	Figure 1
54	BSMJ 0.69-10-3	0.69	10	67	8.4	120	Figure 1
55	BSMJ 0.69-15-3	0.69	15	100	12.6	140	Figure 1
56	BSMJ 0.69-20-3	0.69	20	134	16.7	180	Figure 1
57	BSMJ 0.69-25-3	0.69	25	167	20.9	200	Figure 1
58	BSMJ 0.69-30-3	0.69	30	201	25.1	200	Figure 2
59	BSMJ 0.69-40-3	0.69	40	267	33.5	245	Figure 2
60	BSMJ 0.69-50-3	0.69	50	335	41.8	310	Figure 2
61	BSMJ 0.69-60-3	0.69	60	401	50.2	310	Figure 2
0.75kV series					(Other specifications and sizes can be customized)		
62	BSMJ 0.75-5-3	0.75	5	28	5.5	90	Figure 1
63	BSMJ 0.75-10-3	0.75	10	57	11.0	120	Figure 1
64	BSMJ 0.75-15-3	0.75	15	85	16.5	140	Figure 1
65	BSMJ 0.75-20-3	0.75	20	113	22.0	180	Figure 1
66	BSMJ 0.75-25-3	0.75	25	142	27.5	200	Figure 1
67	BSMJ 0.75-30-3	0.75	30	170	33.0	200	Figure 2
68	BSMJ 0.75-40-3	0.75	40	227	44.0	245	Figure 2
69	BSMJ 0.75-50-3	0.75	50	283	55.0	310	Figure 2
70	BSMJ 0.75-60-3	0.75	60	340	66.0	310	Figure 2

Precautions

Overvoltage and overheating operation of capacitors will shorten their service life. Operation conditions (ambient temperature, voltage, current, etc.) must be strictly controlled. When installing shunt capacitors in the system, the following situations should be fully noted.

- In an environment with serious harmonic content, it is not advisable to install shunt capacitors directly. Please use series anti-harmonic reactors. In an environment with not very serious harmonic content, please increase the voltage level of capacitors. (Common harmonic sources are: frequency converters, DC rectifiers, inverters, electrolytic plating equipment, medium frequency furnaces, electric arc furnaces, etc.).
- When capacitors are fixedly connected in parallel to a motor, it is recommended to select and distribute capacitors according to the condition that the capacitor current is less than 90% of the motor's no-load current.
- When the transformer is no-load, the capacitor should be taken out of operation.

Customer ordering instructions

- When the clients make purchases, they must provide parameters such as the rated voltage, rated capacity, and number of phases of the product.
- Please ask the client to provide some characteristics of the on-site usage environment (for example, temperature and humidity, altitude, air pressure, ventilation and heat dissipation conditions, etc.).
- Special specification compensation capacitors, please consult with our company for ordering.