



BKMJ Dry Type Low-voltage Shunt Capacitor

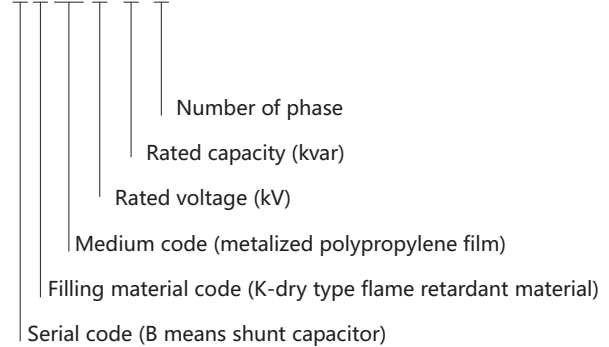
1. Scope of Application

BKMJ dry type low-voltage shunt capacitor is applied in nominal voltage 1000V and below power frequency AC power system for the purpose of raising the power factor, reducing the line loss and improving the voltage quality. Filled with dry type flame retardant material; it is safe and reliable with small product size and convenient installation.

Executed standard: IEC/EN 60831-1:2014 IEC/EN 60831-2:2014.

2. Type designation

B K M J □ - □ - □



Note: The split phase compensation capacitor model is the product with suffix YN. For example, BKMJ 0.4-15-3YN means the line voltage is 400V, three-phase aggregate capacity is 15kvar, and the product inside is of star connection, zero conductor N is led out.

3. Operating conditions

3.1 Ambient air temperature: $-25^{\circ}\text{C} \sim +50^{\circ}\text{C}$ (-25°C), $-40^{\circ}\text{C} \sim +55^{\circ}\text{C}$ customizable;

3.2 Relative humidity: $\leq 50\%$ at 40°C ; $\leq 90\%$ at 20°C ;

3.3 Altitude: $\leq 2000\text{m}$. When it is higher than 2000m, please increase the capacitor's rated voltage for derating use, and increase the mounting spacing and do well ventilation and heat emission;

3.4 Ambient conditions: no harmful gas and steam, no conductive or explosive dust, no violent mechanical vibration.

4. Main Technical Parameters and Technical Performance

4.1 Main technical parameters

Main product models and data sheet

Serial number	Type and Specification	Rated voltage (kV)	Rated capacity (kvar)	Rated frequency (Hz)	Rated capacitor (μF)	Rated current (A)	Enclosure height (mm)	Figure
1	BKMJ 0.4-3-3	0.4	3	50	60	4.3	95	Fig.1
2	BKMJ 0.4-5-3	0.4	5	50	99	7.2	95	Fig.1
3	BKMJ 0.4-7.5-3	0.4	7.5	50	149	10.8	120	Fig.1
4	BKMJ 0.4-10-3	0.4	10	50	199	14.4	140	Fig.1
5	BKMJ 0.4-15-3	0.4	15	50	298	21.7	190	Fig.1
6	BKMJ 0.4-16-3	0.4	16	50	318	23.1	190	Fig.1
7	BKMJ 0.4-20-3	0.4	20	50	398	28.9	220	Fig.1
8	BKMJ 0.4-25-3	0.4	25	50	497	36.1	220	Fig.2
9	BKMJ 0.4-30-3	0.4	30	50	597	43.3	250	Fig.2
10	BKMJ 0.4-40-3	0.4	40	50	796	57.7	250	Fig.3
11	BKMJ 0.4-50-3	0.4	50	50	995	72.7	315	Fig.3
12	BKMJ 0.4-60-3	0.4	60	50	1194	86.6	315	Fig.3
13	BKMJ 0.45-3-3	0.45	3	50	47	3.8	95	Fig.1
14	BKMJ 0.45-5-3	0.45	5	50	79	6.4	95	Fig.1
15	BKMJ 0.45-7.5-3	0.45	7.5	50	118	9.6	120	Fig.1
16	BKMJ 0.45-10-3	0.45	10	50	157	12.8	140	Fig.1
17	BKMJ 0.45-15-3	0.45	15	50	236	19.2	190	Fig.1
18	BKMJ 0.45-16-3	0.45	16	50	252	20.5	190	Fig.1
19	BKMJ 0.45-20-3	0.45	20	50	314	25.7	220	Fig.1
20	BKMJ 0.45-25-3	0.45	25	50	393	32.1	220	Fig.2
21	BKMJ 0.45-30-3	0.45	30	50	472	38.5	250	Fig.2
22	BKMJ 0.45-40-3	0.45	40	50	629	51.3	250	Fig.3
23	BKMJ 0.45-50-3	0.45	50	50	786	64.2	315	Fig.3
24	BKMJ 0.45-60-3	0.45	60	50	943	77.0	315	Fig.3
25	BKMJ 0.525-3-3	0.525	3	50	35	3.3	95	Fig.1
26	BKMJ 0.525-5-3	0.525	5	50	58	5.5	95	Fig.1
27	BKMJ 0.525-7.5-3	0.525	7.5	50	87	8.2	120	Fig.1
28	BKMJ 0.525-10-3	0.525	10	50	115	11.0	140	Fig.1
29	BKMJ 0.525-15-3	0.525	15	50	173	16.5	190	Fig.1
30	BKMJ 0.525-16-3	0.525	16	50	185	17.6	190	Fig.1
31	BKMJ 0.525-20-3	0.525	20	50	231	22.0	220	Fig.1
32	BKMJ 0.525-25-3	0.525	25	50	289	27.5	220	Fig.2
33	BKMJ 0.525-30-3	0.525	30	50	346	33.0	250	Fig.2
34	BKMJ 0.525-40-3	0.525	40	50	462	44.0	250	Fig.3
35	BKMJ 0.525-50-3	0.525	50	50	577	55.0	315	Fig.3
36	BKMJ 0.525-60-3	0.525	60	50	693	66.0	315	Fig.3
37	BKMJ 0.69-5-3	0.69	5	50	33	4.2	95	Fig.1
38	BKMJ 0.69-7.5-3	0.69	7.5	50	50	6.3	120	Fig.1
39	BKMJ 0.69-10-3	0.69	10	50	67	8.4	140	Fig.1
40	BKMJ 0.69-15-3	0.69	15	50	100	12.6	190	Fig.1
41	BKMJ 0.69-20-3	0.69	20	50	134	16.7	220	Fig.1
42	BKMJ 0.69-25-3	0.69	25	50	167	20.9	220	Fig.2
43	BKMJ 0.69-30-3	0.69	30	50	201	25.1	250	Fig.2
44	BKMJ 0.69-40-3	0.69	40	50	267	33.5	250	Fig.3
45	BKMJ 0.69-50-3	0.69	50	50	334	41.8	315	Fig.3
46	BKMJ 0.69-60-3	0.69	60	50	401	50.2	315	Fig.3
47	BKMJ 1.20-10-3	1.20	10	50	22	4.8	190	Fig.1
48	BKMJ 1.20-15-3	1.20	15	50	33	7.2	250	Fig.2
49	BKMJ 1.20-20-3	1.20	20	50	44	9.6	250	Fig.2
50	BKMJ 1.20-30-3	1.20	30	50	66	14.4	315	Fig.3
51	BKMJ 1.20-40-3	1.20	40	50	88	19.2	315	Fig.3
52	BKMJ 0.4-5-3YN	0.4	5	50	99	7.6	140	Fig.2*
53	BKMJ 0.4-7.5-3YN	0.4	7.5	50	149	10.8	195	Fig.2*
54	BKMJ 0.4-10-3YN	0.4	10	50	199	14.4	195	Fig.2*
55	BKMJ 0.4-15-3YN	0.4	15	50	298	21.7	250	Fig.2*
56	BKMJ 0.4-20-3YN	0.4	20	50	398	28.9	295	Fig.2*
57	BKMJ 0.4-25-3YN	0.4	25	50	497	36.1	315	Fig.3*
58	BKMJ 0.4-30-3YN	0.4	30	50	597	43.3	315	Fig.3*
59	BKMJ 0.45-5-3YN	0.45	5	50	99	7.6	140	Fig.2*
60	BKMJ 0.45-7.5-3YN	0.45	7.5	50	118	9.6	195	Fig.2*

Notes: 1. The single-phase product may be custom-made. When rated voltage is lower than 800VAC, the overall dimensions of single-phase product are the same as those of three-phase product with the same specification;
 2. System voltage 127V/220V, grid frequency 60Hz, please select the product of rated voltage 0.23kV or 0.25kV, frequency 60Hz;
 3. The product with "*" is of split-phase compensation capacitor; the product has four connecting terminals of star connection, in which the isolated terminal is connected with the zero conductor N.

5. Main Features and Precautions for Use

5.1 Main features

- 5.1.1 Advanced import production equipment, good metalized polypropylene film, small product size, reliable quality.
- 5.1.2 Use safety: The product is filled with dry type flame retardant material and installed with the over-pressure protection device and self-discharge device, and is characterized by being free of oil, environmental friendly, corrosion proof, explosion proof, good safety and avoiding the product oil leakage and other hazards.
- 5.1.3 Applicable environment: applicable for all industrial users and places with high fire rating.
- 5.1.4 Convenient installation and use: The plastic mounting feet are first inserted from the bottom, and then the product is fixed and installed using screws; it may be installed vertically or horizontally.
- 5.1.5 BKMJ series products have good materials selected with certain design margin and long use life.
- 5.1.6 The external installing dimensions of BKMJ series products are the same as those of our BZMJ series, easy for product maintenance and replacement.

5.2 Precautions for use

5.2.1 Type selection of three-phase capacitor:

Grid system voltage (V)	Capacitor rated voltage (kV)	User grid frequency 60 Hz
127/220	0.23/0.25	0.25kV-50 Hz or 0.23kV-60Hz product may be selected
220/380	0.4/0.45/0.525	0.45kV/0.525kV-50 Hz or 0.4kV-60Hz product may be selected
660	0.69/0.75	0.75kV-50 Hz or 0.69kV-60Hz product may be selected

5.2.2 Over-voltage and overheating will shorten the capacitor life. At the tropical or high-altitude region, please recommend the selection of products with higher rated voltage according to the grid system voltage.

5.2.3 When the system is installed with the shunt capacitor, it should pay attention to:

- a. Harmonic current amplification is the main cause for capacitor damage. Common harmonic sources include: power electronic devices, frequency converters (energy conservation transformation, such as motor speed control, inverter air conditioner), DC rectifier, inverter, electrolytic plating equipment, electric arc furnace, intermediate frequency furnace, etc. Under the harmonic environment, please refer to the following table for the capacitor type selection and harmonic suppression measures:

Product type selection	Harmonic source power/transformer capacity		
	NLL≤10%	NLL≤20%	20%≤NLL≤40%
Harmonic voltage resultant distortion factor	THDu≤3%	3%<THDu≤5%	THDu>5%
Capacitor rated voltage	0.4kV, 0.45kV	0.45kV, 0.48kV	0.525 kV
Harmonic suppression measures	No need	Proposed series reactor 7%	Proposed series reactor 7% or 14%

Note: The harmonic power ratio NLL means the ratio of the sum of load power generating harmonic to the distribution transformer capacity. When the harmonic power ratio NLL is >40%, it must be installed with CKSG series reactor or take the harmonic suppression measures.

b. In the AC 380V grid system, when the capacitor is in front series connection with the reactor, the capacitor's rated voltage is selected as follows:

When the reactance ratio of the reactor is 6% or 7%, the capacitor's rated voltage should have 0.45kV or 0.48kV selected;

When the reactance ratio of the reactor is 12% or 14%, the capacitor's rated voltage should have 0.525kV selected;

Reactor model selection: The reactor's rated capacity is calculated according to the formula $QC \times \text{reactance ratio} (\%)$. For example, the capacitor BKMJ0.48-30-3 is equipped with the reactor with 7% of reactance ratio, the model of series reactor is CKSG-2.1/0.48-7%.

c. When the motor is in permanent connection with the shunt capacitor, the capacitor's running current should be not more than 90% of the motor's no-load current.

d. When the transformer is of no load, it should ensure the capacitor is out of service to prevent overcompensation.

- 5.2.4 To ensure normal use of the capacitor, the capacitor circuit should have short-circuit, over-pressure, over-current protections and surge current stopping device (like series reactor or CJ19 special switch contactor).
- 5.2.5 To disconnect the capacitor power supply, the short-circuit discharge must be done before it can be contacted or tested.
- 5.2.6 The capacitor terminals and conductors should be in good connection. The current-carrying capacity of the connecting conductor should be 1.43times higher than the capacitor' s rated current.

Product' s rated voltage (kV)	Capacity range (kvar)	Conductor section area (mm ²)
0.4, 0.45	≤10	4.0
0.4, 0.45	12~20	6.0
0.4, 0.45	24~32	10.0
0.4, 0.45	35~50	16.0
0.4, 0.45	60	25.0

- 5.2.7 The capacitor' s top should keep more than 20mm of distance from other components; the capacitor' s mounting spacing should not be less than 30mm, when the altitude is higher than 2000mm, the mounting spacing should not be less than 80mm.
- 5.2.8 When the capacitor is in fault or its life expires, the product' s internal over-pressure protective device will burst, playing a role of explosion protection; in such case, the shell side will slightly bulge, and the capacitor manifests failure. The user is requested to regularly test the capacitor' s operating voltage and operating current to fulfill prompt maintenance or replacement.

6. Outline and Installing Dimensions:

Fig.1

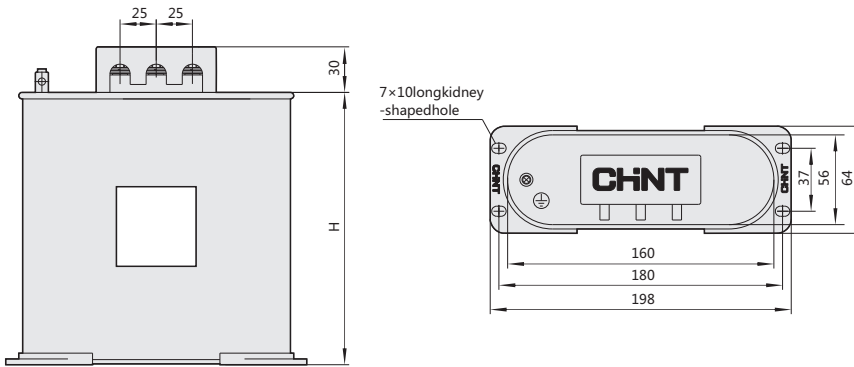


Fig.2

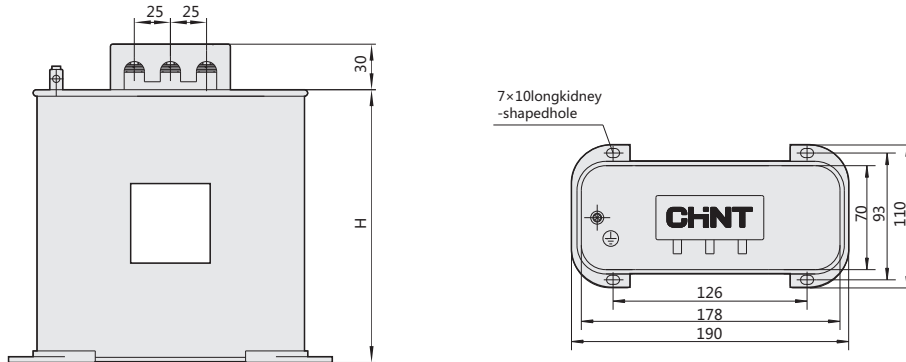
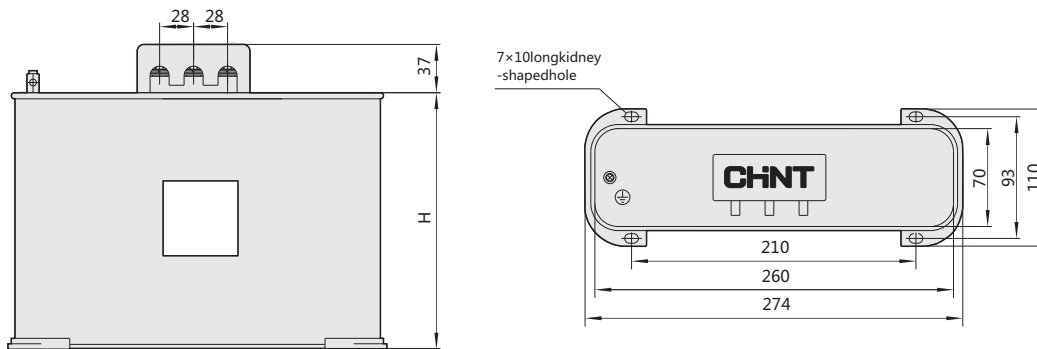


Fig.3



7. Order Instructions

7.1 The user should provide the product' s rated voltage, rated capacity, frequency, number of phases and other parameters.

7.2 The user should provide as much as possible some features of the use place, such as environmental conditions and grid quality.

For example, BKMJ 0.45-30-3 10units

Ordering 10 BKMJ capacitors with rated voltage 450V, rated capacity 30kavr and 3 phases.

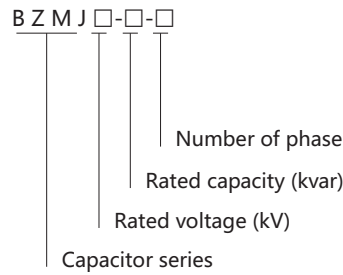


BZMJ Self-healing Shunt Capacitor

1. General

- 1.1 Electric ratings: \leq AC1000V;
- 1.2 Application: For improvement of power factor and power quality;
- 1.3 Standards: IEC/EN 60831-1:2014 IEC/EN 60831-2:2014.

2. Type designation



3. Operating conditions

- 3.1 Ambient temperature: $-25^{\circ}\text{C} \sim +50^{\circ}\text{C}$
- 3.2 Relative humidity: $\leq 50\%$ at 40°C , $\leq 90\%$ at 20°C
- 3.3 Altitude: $\leq 2000\text{m}$
- 3.4 Environmental conditions:
 without dangerous gas & steam, insulated and explosive
 dust and dramatic mechanical vibration.

4. Technical data

- 4.1 Rated voltage: AC(0.23~1.0)kV;
- 4.2 Rated frequency: 50Hz or 60Hz;
- 4.3 Rated capacity: 1~60Kvar;
- 4.4 Capacity error: $-5\% \sim +10\%$;
- 4.5 Dielectric loss tangent value:
 $\leq 30\text{kvar } tgs \leq 0.0012$
 $> 30\text{kvar } tgs \leq 0.0015$
 at rated power frequency voltage;
- 4.6 Max. Allowed over-voltage: $1.1U_n$;
- 4.7 Max. Allowed over-current: $1.3I_n$ (1.6 I_n , 2h/24h; 2.0 I_n , 30min/24h);
- 4.8 Having Self-discharging property: power off,
 voltage reduces from $2 U_n$ to 75V and below within 3min;
- 4.9 Specific data;
- 4.10 Inrush current: $200I_n$;
- 4.11 Withstand voltage: interelectrode, power frequency $2.15U_n$, 10s;
- 4.12 Withstand voltage: pole-to-case, power frequency 3.6kV , 60s;
- 4.13 Losses : $\leq 0.3\text{W/kvar}$.

Main product models and data sheet

Serial number	Type and Specification	Rated voltage (kV)	Rated capacity (kvar)	Rated frequency (Hz)	Rated capacitor (μF)	Rated current (A)	Enclosure height (mm)	Figure
1	BZMJ 0.23-5-3	0.23	5	50	301	12.5	140	Fig.1
2	BZMJ 0.23-6-3	0.23	6	50	361	15.1	190	Fig.1
3	BZMJ 0.23-7.5-3	0.23	7.5	50	451	18.8	190	Fig.1
4	BZMJ 0.23-10-3	0.23	10	50	602	25.1	195	Fig.2
5	BZMJ 0.23-12-3	0.23	12	50	722	30.1	220	Fig.2
6	BZMJ 0.23-15-3	0.23	15	50	903	37.7	250	Fig.2
7	BZMJ 0.23-20-3	0.23	20	50	1203	50.2	295	Fig.2
8	BZMJ 0.23-30-3	0.23	30	50	1805	75.3	315	Fig.3
9	BZMJ 0.4-3-3	0.4	3	50	60	4.3	95	Fig.1
10	BZMJ 0.4-5-3	0.4	5	50	99	7.2	95	Fig.1
11	BZMJ 0.4-6-3	0.4	6	50	119	8.7	120	Fig.1
12	BZMJ 0.4-7.5-3	0.4	7.5	50	149	10.8	120	Fig.1
13	BZMJ 0.4-8-3	0.4	8	50	159	11.5	120	Fig.1
14	BZMJ 0.4-10-3	0.4	10	50	199	14.4	140	Fig.1
15	BZMJ 0.4-12-3	0.4	12	50	239	17.3	190	Fig.1
16	BZMJ 0.4-14-3	0.4	14	50	279	20.2	190	Fig.1
17	BZMJ 0.4-15-3	0.4	15	50	298	21.7	190	Fig.1
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19	BZMJ 0.4-18-3	0.4	18	50	358	26.0	220	Fig.1
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22	BZMJ 0.4-30-3	0.4	30	50	597	43.3	250	Fig.2
23	BZMJ 0.4-40-3	0.4	40	50	796	57.7	250	Fig.3
24	BZMJ 0.4-50-3	0.4	50	50	995	72.2	315	Fig.3
25	BZMJ 0.4-60-3	0.4	60	50	1194	86.6	315	Fig.3
26	BZMJ 0.45-3-3	0.45	3	50	47	3.8	120	Fig.1
27	BZMJ 0.45-5-3	0.45	5	50	79	6.4	120	Fig.1
28	BZMJ 0.45-6-3	0.45	6	50	94	7.7	120	Fig.1
29	BZMJ 0.45-7.5-3	0.45	7.5	50	118	9.6	120	Fig.1
30	BZMJ 0.45-8-3	0.45	8	50	126	10.3	120	Fig.1
31	BZMJ 0.45-10-3	0.45	10	50	157	12.8	140	Fig.1
32	BZMJ 0.45-12-3	0.45	12	50	189	15.4	190	Fig.1
33	BZMJ 0.45-14-3	0.45	14	50	220	18.0	190	Fig.1
34	BZMJ 0.45-15-3	0.45	15	50	236	19.2	190	Fig.1
35	BZMJ 0.45-16-3	0.45	16	50	252	20.5	190	Fig.1
36	BZMJ 0.45-18-3	0.45	18	50	283	23.1	220	Fig.1
37	BZMJ 0.45-20-3	0.45	20	50	314	25.7	220	Fig.1
38	BZMJ 0.45-25-3	0.45	25	50	393	32.1	220	Fig.2
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41	BZMJ 0.45-50-3	0.45	50	50	786	64.2	315	Fig.3
42	BZMJ 0.45-60-3	0.45	60	50	943	77.0	315	Fig.3
43	BZMJ 0.525-5-3	0.525	5	50	58	5.5	120	Fig.1
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49	BZMJ 0.525-40-3	0.525	40	50	462	44.0	250	Fig.3
50	BZMJ 0.525-50-3	0.525	50	50	577	55.0	315	Fig.3
51	BZMJ 0.525-60-3	0.525	60	50	693	66.0	315	Fig.3



Serial number	Type and Specification	Rated voltage (kV)	Rated capacity (kvar)	Rated frequency (Hz)	Rated capacitor (μF)	Rated current (A)	Enclosure height (mm)	Figure
52	BZMJ 0.69-5-3	0.69	5	50	33	4.2	95	Fig.1
53	BZMJ 0.69-10-3	0.69	10	50	67	8.4	140	Fig.1
54	BZMJ 0.69-15-3	0.69	15	50	100	12.6	190	Fig.1
55	BZMJ 0.69-20-3	0.69	20	50	134	16.7	220	Fig.1
56	BZMJ 0.69-25-3	0.69	25	50	167	20.9	220	Fig.2
57	BZMJ 0.69-30-3	0.69	30	50	201	25.1	250	Fig.2
58	BZMJ 0.69-40-3	0.69	40	50	267	33.5	250	Fig.3
59	BZMJ 0.69-50-3	0.69	50	50	334	41.8	315	Fig.3
60	BZMJ 0.69-60-3	0.69	60	50	401	50.2	315	Fig.3
61	BZMJ 1.14-10-3	1.14	10	50	25	5.1	220	Fig.1
62	BZMJ 1.14-15-3	1.14	15	50	37	7.6	250	Fig.2
63	BZMJ 0.4-7.5-3YN	0.4	7.5	50	149	10.8	195	Fig.2*
64	BZMJ 0.4-10-3YN	0.4	10	50	199	14.4	195	Fig.2*
65	BZMJ 0.4-15-3YN	0.4	15	50	298	21.7	250	Fig.2*
66	BZMJ 0.4-20-3YN	0.4	20	50	398	28.9	295	Fig.2*

Note: The specifications marked with " * " are used for compensating the individual phase, the bigger one of the four terminals should be connected to the neutral line.

5. Features

- 5.1 Compact design and reliable quality thanks to advanced technology and excellent imported material;
- 5.2 Available for use in places with higher ambient temperature and voltage variation;
- 5.3 Having good sealing properties; and outgoing terminals for convenient wiring and reliable connection;
- 5.4 Fixed type, convenient for mounting and elegant appearance due to novel mounting pins;
- 5.5 No painting thanks to coated metal Enclosure used.

6. Note

- 6.1 Please guarantee that the capacitors are operated under specified conditions, including the proper temperature, voltage and current, as over-voltage and over-current may shorten the life of the capacitor;
- 6.2 Please pay attention to the points following when the capacitor is shuntly connected in the system
 - a. For the system of current regulating system and the electric equipments system, the capacitor should not be directly connected;
 - b. Operational current of the capacitor should be less than the off-load current of the shuntly connected motor;
 - c. When the transformer is off-load, the capacitor should stop operating.
- 6.3 Specific switches, contactors and over-current relays should be adopted when the capacitor is shuntly connected in the system.

7. Mounting dimensions (mm)

Figure 1

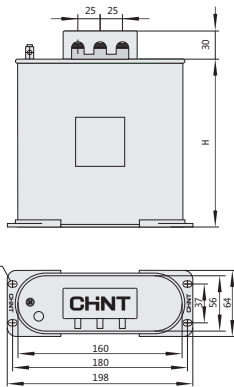


Figure 2

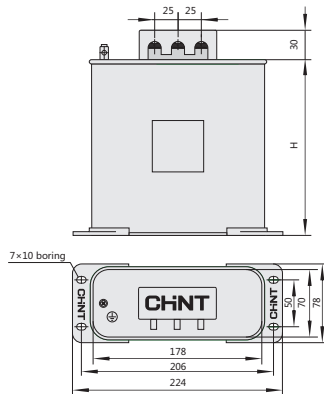
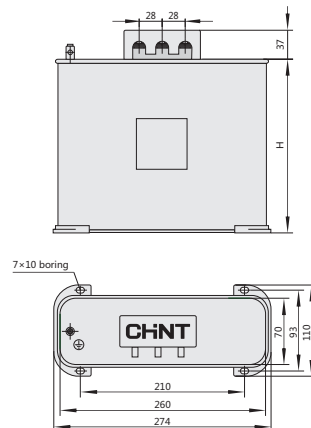


Figure 3



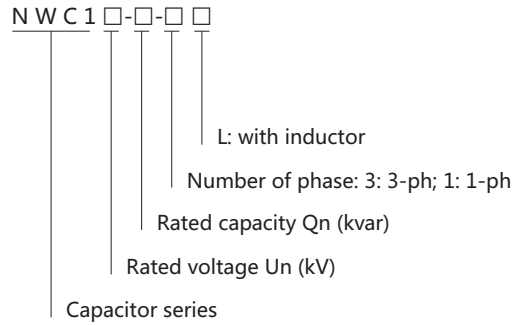


NWC1 Self-healing Shunt Capacitor

1. General

- 1.1 Electric ratings: \leq AC1000V;
- 1.2 Application: For improvement of power factor and power quality;
- 1.3 Standards: IEC/EN 60831-1:2014 IEC/EN 60831-2:2014.

2. Type designation



3. Operating conditions

- 3.1 Ambient temperature: $-25^{\circ}\text{C} \sim +50^{\circ}\text{C}$
- 3.2 Relative humidity: $\leq 50\%$ at 40°C , $\leq 90\%$ at 20°C
- 3.3 Altitude: $\leq 2000\text{m}$
- 3.4 Environmental conditions:
without dangerous gas & steam,
insulated and explosive dust
and dramatic mechanical vibration.

4. Technical data

- 4.1 Rated voltage: 0.4, 0.415, 0.45, 0.525 and 0.69kV
- 4.2 Rated frequency: 50Hz or 60Hz.
- 4.3 Rated capacity: 5~100Kvar
- 4.4 Capacity error: $-5\% \sim +10\%$;
- 4.5 Dielectric loss tangent value:
 $\leq 30\text{kvar}$ tgs ≤ 0.0012
 $> 30\text{kvar}$ tgs ≤ 0.0015
at rated power frequency voltage.
- 4.6 Max. allowed over-voltage: $1.1U_n$, not exceed 8h in 24h;
- 4.7 Max. allowed over-current: $1.3I_n$;
- 4.8 Having Self-discharging property: power off, voltage reduces from $\sqrt{2} U_n$ (DC) to 75V and below within 3min.
- 4.9 Model and Specifications
- 4.10 Inrush current: 200 In;
- 4.11 Withstand voltage: interelectrode, power frequency 2.15UN, 10s;
- 4.12 Withstand voltage: pole-to-case, power frequency 3.6kV, 60s;
- 4.13 Losses : $\leq 0.3\text{W/kvar}$;
- 4.14 Expected life : $\geq 170,000$ h.

Main product models and data sheet

Serial number	Type and Specification	Rated voltage (kV)	Rated capacity (kvar)	Rated frequency (Hz)	Rated capacitor (µF)	Rated current (A)	Enclosure height (mm)	Figure
1	NWC1-0.4-5-3	0.4	5	50	99	7.2	160	Fig.1
2	NWC1-0.4-6-3	0.4	6	50	119	8.7	160	Fig.1
3	NWC1-0.4-7.5-3	0.4	7.5	50	149	10.8	160	Fig.1
4	NWC1-0.4-8-3	0.4	8	50	159	11.5	160	Fig.1
5	NWC1-0.4-10-3	0.4	10	50	199	14.4	160	Fig.1
6	NWC1-0.4-12-3	0.4	12	50	239	17.3	220	Fig.1
7	NWC1-0.4-14-3	0.4	14	50	279	20.2	220	Fig.1
8	NWC1-0.4-15-3	0.4	15	50	298	21.7	220	Fig.1
9	NWC1-0.4-16-3	0.4	16	50	318	23.1	220	Fig.1
10	NWC1-0.4-18-3	0.4	18	50	358	26.0	260	Fig.1
11	NWC1-0.4-20-3	0.4	20	50	398	28.9	260	Fig.1
12	NWC1-0.4-24-3	0.4	24	50	477	34.6	230	Fig.2
13	NWC1-0.4-25-3	0.4	25	50	497	36.1	230	Fig.2
14	NWC1-0.4-30-3	0.4	30	50	597	43.3	230	Fig.2
15	NWC1-0.4-35-3	0.4	35	50	696	50.5	270	Fig.2
16	NWC1-0.4-40-3	0.4	40	50	796	57.7	270	Fig.2
17	NWC1-0.45-5-3	0.45	5	50	79	6.4	160	Fig.1
18	NWC1-0.45-6-3	0.45	6	50	94	7.7	160	Fig.1
19	NWC1-0.45-7.5-3	0.45	7.5	50	118	9.6	160	Fig.1
20	NWC1-0.45-8-3	0.45	8	50	126	10.3	160	Fig.1
21	NWC1-0.45-10-3	0.45	10	50	157	12.8	160	Fig.1
22	NWC1-0.45-12-3	0.45	12	50	189	15.4	220	Fig.1
23	NWC1-0.45-14-3	0.45	14	50	220	18.0	220	Fig.1
24	NWC1-0.45-15-3	0.45	15	50	236	19.2	220	Fig.1
25	NWC1-0.45-16-3	0.45	16	50	252	20.5	220	Fig.1
26	NWC1-0.45-18-3	0.45	18	50	283	23.1	260	Fig.1
27	NWC1-0.45-20-3	0.45	20	50	314	25.7	260	Fig.1
28	NWC1-0.45-24-3	0.45	24	50	377	30.8	230	Fig.2
29	NWC1-0.45-25-3	0.45	25	50	393	32.1	230	Fig.2
30	NWC1-0.45-30-3	0.45	30	50	472	38.5	230	Fig.2
31	NWC1-0.45-35-3	0.45	35	50	550	44.9	270	Fig.2
32	NWC1-0.45-40-3	0.45	40	50	629	51.3	270	Fig.2
33	NWC1-0.525-5-3	0.525	5	50	58	5.5	160	Fig.1
34	NWC1-0.525-6-3	0.525	6	50	69	6.6	160	Fig.1
35	NWC1-0.525-7.5-3	0.525	7.5	50	87	8.2	160	Fig.1
36	NWC1-0.525-8-3	0.525	8	50	92	8.8	160	Fig.1
37	NWC1-0.525-10-3	0.525	10	50	115	11.0	160	Fig.1
38	NWC1-0.525-12-3	0.525	12	50	139	13.2	220	Fig.1
39	NWC1-0.525-14-3	0.525	14	50	162	15.4	220	Fig.1
40	NWC1-0.525-15-3	0.525	15	50	173	16.5	220	Fig.1
41	NWC1-0.525-16-3	0.525	16	50	185	17.6	220	Fig.1
42	NWC1-0.525-18-3	0.525	18	50	208	19.8	260	Fig.1
43	NWC1-0.525-20-3	0.525	20	50	231	22.0	260	Fig.1
44	NWC1-0.525-24-3	0.525	24	50	277	26.4	230	Fig.2
45	NWC1-0.525-25-3	0.525	25	50	289	27.5	230	Fig.2
46	NWC1-0.525-30-3	0.525	30	50	346	33.0	230	Fig.2
47	NWC1-0.525-35-3	0.525	35	50	404	38.5	270	Fig.2
48	NWC1-0.525-40-3	0.525	40	50	462	44.0	270	Fig.2



Serial number	Type and Specification	Rated voltage (kV)	Rated capacity (kvar)	Rated frequency (Hz)	Rated capacitor (μF)	Rated current (A)	Enclosure height (mm)	Fig.ure
49	NWC1-0.69-5-3	0.69	5	50	33	4.2	160	Fig.1
50	NWC1-0.69-6-3	0.69	6	50	40	5.0	160	Fig.1
51	NWC1-0.69-7.5-3	0.69	7.5	50	50	6.3	160	Fig.1
52	NWC1-0.69-8-3	0.69	8	50	53	6.7	160	Fig.1
53	NWC1-0.69-10-3	0.69	10	50	67	8.4	160	Fig.1
54	NWC1-0.69-12-3	0.69	12	50	80	10.0	220	Fig.1
55	NWC1-0.69-14-3	0.69	14	50	94	11.7	220	Fig.1
56	NWC1-0.69-15-3	0.69	15	50	100	12.6	220	Fig.1
57	NWC1-0.69-16-3	0.69	16	50	107	13.4	220	Fig.1
58	NWC1-0.69-18-3	0.69	18	50	120	15.1	260	Fig.1
59	NWC1-0.69-20-3	0.69	20	50	134	16.7	260	Fig.1
60	NWC1-0.69-24-3	0.69	24	50	160	20.1	230	Fig.2
61	NWC1-0.69-25-3	0.69	25	50	167	20.9	230	Fig.2
62	NWC1-0.69-30-3	0.69	30	50	201	25.1	230	Fig.2
63	NWC1-0.69-35-3	0.69	35	50	234	29.3	270	Fig.2
64	NWC1-0.69-40-3	0.69	40	50	267	33.5	270	Fig.2
65	NWC1-0.4-50-3	0.4	50	50	995	72.2	300	Fig.3
66	NWC1-0.4-60-3	0.4	60	50	1194	86.6	300	Fig.3
67	NWC1-0.4-80-3	0.4	80	50	1591	115.5	300	Fig.4
68	NWC1-0.4-100-3	0.4	100	50	1990	144.3	300	Fig.4
69	NWC1-0.45-50-3	0.45	50	50	786	64.2	300	Fig.3
70	NWC1-0.45-60-3	0.45	60	50	943	77	300	Fig.3
71	NWC1-0.45-80-3	0.45	80	50	1258	102.6	300	Fig.4
72	NWC1-0.45-100-3	0.45	100	50	1573	128.0	300	Fig.4

5. Notices

- 5.1 Please guarantee that the capacitors are operated under specified conditions, including the proper temperature, voltage and current, as over- voltageand over-current may shorten the life of the capacitor;
- 5.2 Please pay attention to the points following when the capacitor is shuntly connected in the system
- For the system of current regulating system and the electric equipments system, the capacitor should not be directly connected;
 - Operational current of the capacitor should be less than the off-load current of the shuntly connected motor;
 - When the transformer is off-load, the capacitor should stop operating.
- 5.3 Specific switches, contactors and over-current relays should be adopted when the capacitor is shuntly connected in the system.

6. Mounting dimensions (mm)

Figure 1

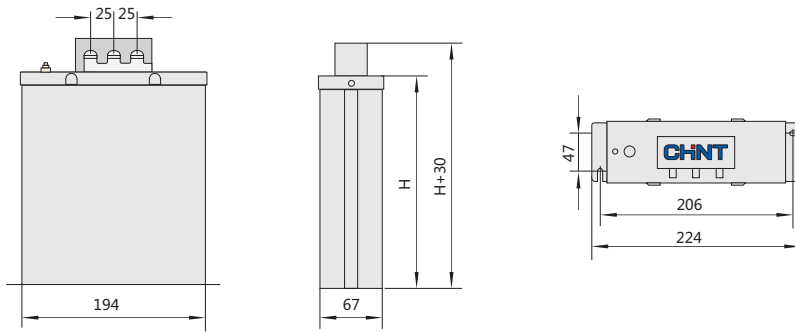


Figure 2

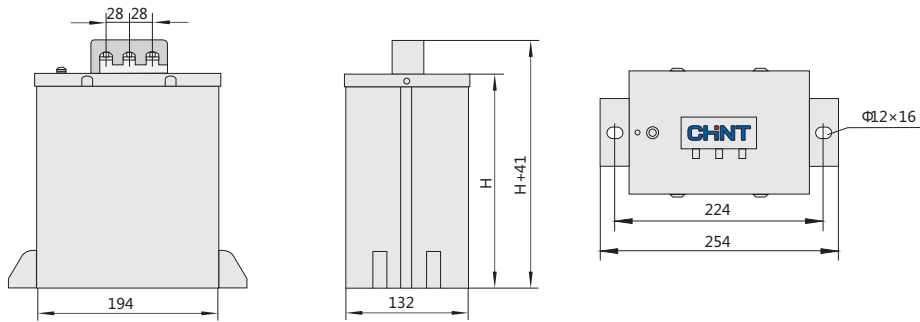


Figure 3

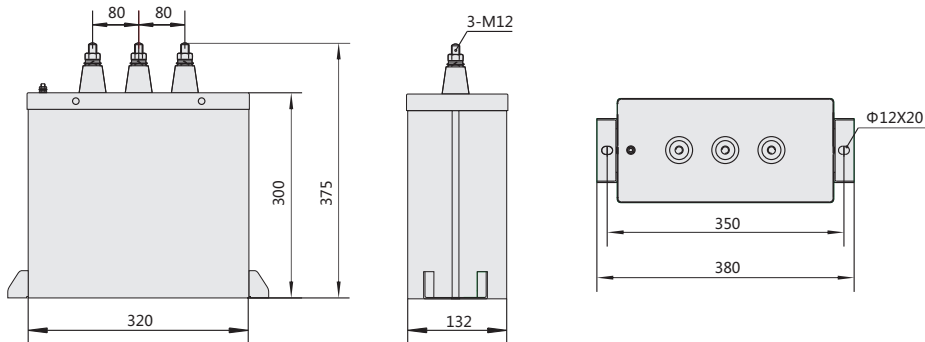
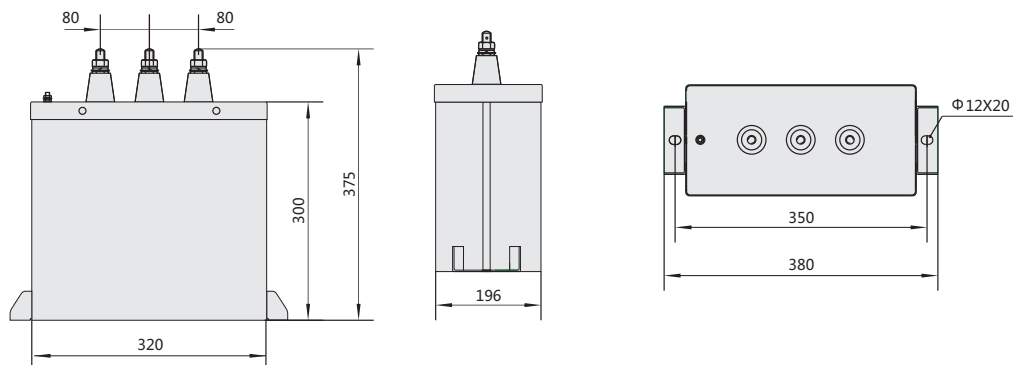


Figure 3



7. Ordering information

On ordering, please clarify rated voltage, capacity, number of phase, frequency, etc of the products; and associated conditions at the mounting place.

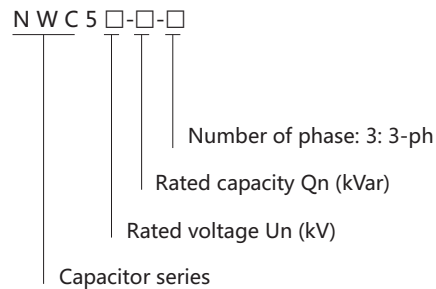


NWC5 Self-healing Shunt Capacitor

1. General

- 1.1 Electric ratings: $\leq AC1000V$.
- 1.2 Application: Newly developed energy-saving product for improvement of power factor and power quality;
- 1.3 Standards: IEC/EN 60831-1:2014 IEC/EN 60831-2:2014

2. Type designation



3. Operating conditions

- 3.1 Ambient temperature: $-25^{\circ}C \sim +50^{\circ}C$
- 3.2 Relative humidity: $\leq 50\%$ at $40^{\circ}C$, $\leq 90\%$ at $20^{\circ}C$
- 3.3 Altitude: $\leq 2000m$
- 3.4 Environmental conditions: without dangerous gas & steam, insulated and explosive dust and dramatic mechanical vibration.

4. Technical data

- 4.1 Rated voltage: 0.23, 0.4, 0.45, 0.525kV
- 4.2 Rated frequency: 50Hz or 60Hz.
- 4.3 Rated capacity: (1~40)kVar
- 4.4 Capacity error: $-5\% \sim +10\%$;
- 4.5 Dielectric loss tangent value: ≤ 0.0012 , at rated power frequency voltage
- 4.6 Max. allowed over-voltage: $1.1U_n$, not exceed 8h in 24h
- 4.7 Max. allowed over-current: $1.3I_n$
($1.6 I_n$, 2h/24h; $2.0 I_n$, 30min/24h)
- 4.8 Having Self-discharging property: power off, voltage reduces from $\sqrt{2} U_n$ (DC) to 75V and below within 3min.
- 4.9 Model and Specifications
- 4.10 Inrush current: $200I_n$
- 4.11 Withstand voltage: interelectrode, power frequency $2.15U_n$, 10s
- 4.12 Withstand voltage: pole-to-case, power frequency $3.6kV$, 60s
- 4.13 Losses : $\leq 0.2W/kvar$
- 4.14 Use safety : over-pressure protection device, self-healing
- 4.15 Fixing: Threaded bolt M12 and M16
- 4.16 Expected life : $\geq 170,000$ h

Main product models and data sheet

Serial number	Type and Specification	Rated voltage (kV)	Rated frequency (Hz)	Rated capacity (kVar)	Rated capacitor (μF)	Rated current (A)	Dimensions D×H(mm)	Mounting dimensions	figure number
1	NWC5-0.23-1-3 (60Hz)	0.23	60	1	50	2.5	Φ60×190	M10×10	Figure 1
2	NWC5-0.23-3-3 (60Hz)	0.23	60	3	151	7.5	Φ60×240	M10×10	Figure 1
3	NWC5-0.23-5-3 (60Hz)	0.23	60	5	251	12.6	φ76×240	M12×16	Figure 2
4	NWC5-0.23-7.5-3 (60Hz)	0.23	60	7.5	376	18.8	φ76×290	M12×16	
5	NWC5-0.23-10-3 (60Hz)	0.23	60	10	502	25.1	φ86×290	M16×25	Figure 3
6	NWC5-0.23-15-3 (60Hz)	0.23	60	15	753	37.7	φ96×290	M16×25	
7	NWC5-0.23-20-3 (60Hz)	0.23	60	20	1003	50.2	φ116×290	M16×25	Figure 3
8	NWC5-0.4-3-3	0.4	50	3	59.7	4.3	Φ60×175	M10×10	Figure 1
9	NWC5-0.4-5-3	0.4	50	5	99	7.2	Φ60×175	M10×10	Figure 1
10	NWC5-0.4-7.5-3	0.4	50	7.5	149	10.8	Φ60×240	M12×16	Figure 2
11	NWC5-0.4-10-3	0.4	50	10	199	14.4	φ76×240	M12×16	
12	NWC5-0.4-15-3	0.4	50	15	298	21.7	φ76×290	M12×16	Figure 2
13	NWC5-0.4-16-3	0.4	50	16	318	23.1	Φ76×290	M12×16	
14	NWC5-0.4-20-3	0.4	50	20	398	28.9	Φ86×290	M16×25	Figure 3
15	NWC5-0.4-25-3	0.4	50	25	497	36.1	Φ96×290	M16×25	
16	NWC5-0.4-30-3	0.4	50	30	597	43.3	φ106×290	M16×25	Figure 3
17	NWC5-0.4-40-3	0.4	50	40	796	57.7	φ116×290	M16×25	
18	NWC5-0.45-3-3	0.45	50	3	47.2	3.8	Φ60×175	M10×10	Figure 1
19	NWC5-0.45-5-3	0.45	50	5	79	6.4	Φ60×175	M10×10	Figure 1
20	NWC5-0.45-7.5-3	0.45	50	7.5	118	9.6	Φ60×240	M12×16	Figure 2
21	NWC5-0.45-10-3	0.45	50	10	157	12.8	φ76×240	M12×16	
22	NWC5-0.45-15-3	0.45	50	15	236	19.2	Φ76×290	M12×16	Figure 2
23	NWC5-0.45-16-3	0.45	50	16	252	20.5	Φ76×290	M12×16	
24	NWC5-0.45-20-3	0.45	50	20	314	25.7	Φ86×290	M16×25	Figure 3
25	NWC5-0.45-25-3	0.45	50	25	393	32.1	Φ96×290	M16×25	
26	NWC5-0.45-30-3	0.45	50	30	472	38.5	φ106×290	M16×25	Figure 3
27	NWC5-0.45-40-3	0.45	50	40	629	51.3	φ116×290	M16×25	
28	NWC5-0.48-3-3	0.48	50	3	41.5	3.6	Φ60×175	M10×10	Figure 1
29	NWC5-0.48-5-3	0.48	50	5	69	6.0	Φ60×175	M10×10	Figure 1
30	NWC5-0.48-7.5-3	0.48	50	7.5	104	9.0	Φ60×240	M12×16	Figure 2
31	NWC5-0.48-10-3	0.48	50	10	138	12.0	φ76×240	M12×16	
32	NWC5-0.48-15-3	0.48	50	15	207	18.0	Φ76×290	M12×16	Figure 2
33	NWC5-0.48-16-3	0.48	50	16	221	19.2	Φ76×290	M12×16	
34	NWC5-0.48-20-3	0.48	50	20	277	24.0	Φ86×290	M16×25	Figure 3
35	NWC5-0.48-25-3	0.48	50	25	346	30.0	Φ96×290	M16×25	
36	NWC5-0.48-30-3	0.48	50	30	415	36.1	φ106×290	M16×25	Figure 3
37	NWC5-0.48-40-3	0.48	50	40	553	48.1	φ116×290	M16×25	
38	NWC5-0.525-3-3	0.525	50	3	34.7	3.3	Φ60×240	M10×10	Figure 1
39	NWC5-0.525-5-3	0.525	50	5	58	5.5	Φ60×240	M10×10	Figure 1
40	NWC5-0.525-7.5-3	0.525	50	7.5	86.7	8.2	Φ60×240	M12×16	Figure 2
41	NWC5-0.525-10-3	0.525	50	10	115	11.0	φ76×240	M12×16	
42	NWC5-0.525-15-3	0.525	50	15	173	16.5	Φ76×290	M12×16	Figure 2
43	NWC5-0.525-16-3	0.525	50	16	185	17.6	Φ76×290	M12×16	
44	NWC5-0.525-20-3	0.525	50	20	231	22.0	Φ86×290	M16×25	Figure 3
45	NWC5-0.525-25-3	0.525	50	25	289	27.5	Φ96×290	M16×25	
46	NWC5-0.525-30-3	0.525	50	30	346	33.0	φ106×290	M16×25	Figure 3
47	NWC5-0.525-40-3	0.525	50	40	346	33.0	φ116×290	M16×25	
48	NWC5-0.45-5-3YN	0.45	50	5	79	6.4	φ76×240	M12×16	Figure 4
49	NWC5-0.45-7.5-3YN	0.45	50	7.5	118	9.6	φ76×240	M12×16	
50	NWC5-0.45-10-3YN	0.45	50	10	157	12.8	φ76×290	M12×16	Figure 4
51	NWC5-0.45-15-3YN	0.45	50	15	236	19.2	φ86×290	M12×16	
52	NWC5-0.45-16-3YN	0.45	50	16	252	20.5	φ96×290	M16×25	Figure 4
53	NWC5-0.45-20-3YN	0.45	50	20	314	25.7	φ96×290	M16×25	
54	NWC5-0.45-25-3YN	0.45	50	25	393	32.1	φ106×290	M16×25	Figure 4
55	NWC5-0.45-30-3YN	0.45	50	30	472	38.5	φ116×290	M16×25	

Note: All sizes are customizable with rated frequency 50Hz or 60Hz, single-phase or three-phase capacitor; the products of the same capacity have the same overall dimensions.

5. Features

- 5.1 Safe and reliable operation because of the independent protective enclosure;
- 5.2 With good sealing properties; and outgoing terminals for convenient wiring and reliable connection;
- 5.3 Available for use in the places with higher ambient temperature and voltage variation ;
- 5.4 Fixed type, convenient for mounting and elegant appearance due o to novel mounting pins.

6. Note

- 6.1 Please guarantee that the capacitors are operated under specified conditions, including the proper temperature, voltage and current, as over-voltage and over-current may shorten the life of the capacitor;
- 6.2 Please pay attention to the points following when the capacitor is shuntly connected in the system
 - a. For the system of current regulating system and the electric equipments system, the capacitor should not be directly connected;
 - b. Operational current of the capacitor should be less than the off-load current of the shuntly connected motor;
 - c. When the transformer is off-load, the capacitor should stop operating.
- 6.3 Specific switches, contactors and over-current relays should be adopted when the capacitor is shuntly connected in the system.

7. Mounting dimensions (mm)

Figure 1

Figure 2

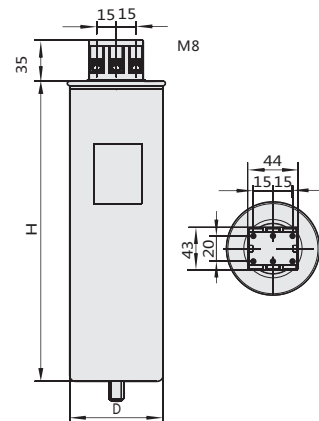
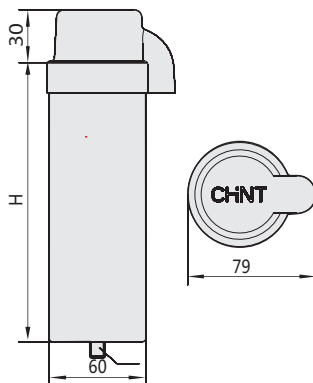
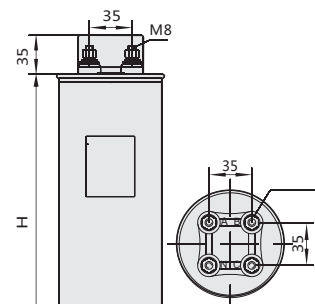
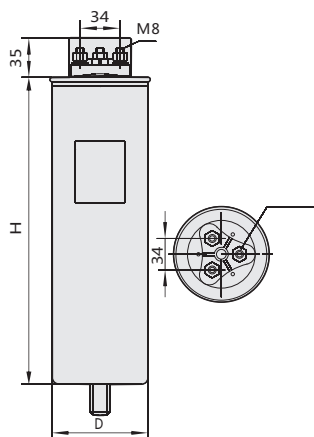


Figure 3

Figure 4



Note: The capacity of three-phase capacitor (1~8)kvar is seen in Fig.1; (10~25)kvar in Fig.2; (30~40)kvar in Fig.3;The split phase compensation capacitor has 4 connecting terminals with star connection and neutral line N lead-out, as shown in Fig.4.





NWC6 series dry low-voltage shunt capacitor

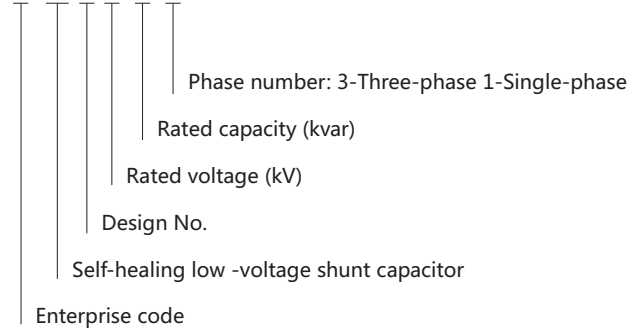
1. Scope of application

NWC6 series dry low-voltage shunt capacitor is suitable for power frequency AC power system with nominal voltage of 1000V and below to raise power factor, reduce line loss and improve voltage quality. It is filled with dry flame-retardant materials internally.

Operative norm: IEC/EN 60831-1:2014 IEC/EN 60831-2:2014.

2. Model and its meaning

N WC 6-□-□-□



Note: The default rated frequency is 50Hz. For products with the rated frequency of 60Hz, mark 60Hz.

3. Normal working conditions and installation conditions

- 3.1 Ambient air temperature: $-25^{\circ}\text{C} \sim +50^{\circ}\text{C}$ -25/C) ;
(can customized -25/D)
- 3.2 Relative humidity: $\leq 50\%$ at 40°C ; $\leq 90\%$ at 20°C ;
- 3.3 Altitude: $\leq 2000\text{m}$;
- 3.4 Environmental conditions: No harmful gases and vapor, conductive or explosive dust and severe mechanical vibration.

4. Main technical parameters and technical performance

- 4.1 Rated voltage: 0.23 kV, 0.25 kV, 0.4kV, 0.45kV, 0.48 kV, 0.525kV;
 4.2 Rated frequency: 50Hz or 60Hz;
 4.3 Rated capacity: (5 ~ 40)kvar;
 4.4 Capacitance deviation: -5% ~ +10% ; the ratio of maximum and minimum measured of the capacitance between any two outlet terminals of the three-phase capacitor should not exceed 1.08;
 4.5 Tangent of the loss angle $\text{tg}\delta$: Lower than 0.0012 under rated power frequency voltage;
 4.6 Withstand voltage: interelectrode, power frequency 2.15 U_N , 10s; pole-to-case, power frequency 3.6kV, 60s;
 4.7 Maximum permissible overvoltage: 1.1 U_N ; no more than 8h every 24h;
 4.8 Maximum permissible current: 1.3 I_N ; (1.6 I_N , 2h/24h; 2.0 I_N , 30min/24h)
 4.9 Self-discharge characteristic: After the capacitor is applied with $\sqrt{2} U_N$ DC voltage and the power is disconnected for 3min, the remaining voltage drops 75V or below;
 4.10 Inrush current: 200 In
 4.11 Withstand voltage: interelectrode, power frequency 2.15UN, 10s
 4.12 Withstand voltage: pole-to-case, power frequency 3.6kV, 60s
 4.13 Losses : $\leq 0.20\text{W/kvar}$
 4.14 Use safety: Dry-type, over-pressure protection device, self-healing
 4.15 Fixing: Bottom threaded bolt M12 and M16
 4.16 Expected life: $\geq 200,000$ h

Main product models and data sheet

Serial number	Type and Specification	Rated voltage (kV)	Rated frequency (Hz)	Rated capacity (kVar)	Rated capacitor (μF)	Rated current (A)	Dimensions D×H(mm)	Mounting dimensions	Figure number
1	NWC6-0.23-1-3 (60Hz)	0.23	60	1	50	2.5	Φ60×190	M10×10	Figure 1
2	NWC6-0.23-3-3 (60Hz)	0.23	60	3	151	7.5	Φ60×240		
3	NWC6-0.23-5-3 (60Hz)	0.23	60	5	251	12.6	Φ76×240	M12×16	Figure 2
4	NWC6-0.23-7.5-3 (60Hz)	0.23	60	7.5	376	18.8	Φ76×290		
5	NWC6-0.23-10-3 (60Hz)	0.23	60	10	502	25.1	Φ86×290		
6	NWC6-0.23-15-3 (60Hz)	0.23	60	15	753	37.7	Φ96×290	M16×25	Figure 3
7	NWC6-0.23-20-3 (60Hz)	0.23	60	20	1003	50.2	Φ116×290		
8	NWC6-0.4-3-3	0.4	50	3	59.7	4.3	Φ60×175	M10×10	Figure 1
9	NWC6-0.4-5-3	0.4	50	5	99	7.2	Φ60×175		
10	NWC6-0.4-7.5-3	0.4	50	7.5	149	10.8	Φ60×240	M12×16	Figure 2
11	NWC6-0.4-10-3	0.4	50	10	199	14.4	Φ76×240		
12	NWC6-0.4-15-3	0.4	50	15	298	21.7	Φ76×290		
13	NWC6-0.4-16-3	0.4	50	16	318	23.1	Φ76×290	M16×25	Figure 3
14	NWC6-0.4-20-3	0.4	50	20	398	28.9	Φ86×290		
15	NWC6-0.4-25-3	0.4	50	25	497	36.1	Φ96×290	M10×10	Figure 1
16	NWC6-0.4-30-3	0.4	50	30	597	43.3	Φ106×290		
17	NWC6-0.4-40-3	0.4	50	40	796	57.7	Φ116×290	M12×16	Figure 2
18	NWC6-0.45-3-3	0.45	50	3	47.2	3.8	Φ60×175		
19	NWC6-0.45-5-3	0.45	50	5	79	6.4	Φ60×175		
20	NWC6-0.45-7.5-3	0.45	50	7.5	118	9.6	Φ60×240	M10×10	Figure 1
21	NWC6-0.45-10-3	0.45	50	10	157	12.8	Φ76×240		
22	NWC6-0.45-15-3	0.45	50	15	236	19.2	Φ76×290	M12×16	Figure 2
23	NWC6-0.45-16-3	0.45	50	16	252	20.5	Φ76×290		
24	NWC6-0.45-20-3	0.45	50	20	314	25.7	Φ86×290		
25	NWC6-0.45-25-3	0.45	50	25	393	32.1	Φ96×290	M16×25	Figure 3
26	NWC6-0.45-30-3	0.45	50	30	472	38.5	Φ106×290		
27	NWC6-0.45-40-3	0.45	50	40	629	51.3	Φ116×290	M10×10	Figure 1
28	NWC6-0.48-3-3	0.48	50	3	41.5	3.6	Φ60×175		
29	NWC6-0.48-5-3	0.48	50	5	69	6.0	Φ60×175		
30	NWC6-0.48-7.5-3	0.48	50	7.5	104	9.0	Φ60×240	M12×16	Figure 2
31	NWC6-0.48-10-3	0.48	50	10	138	12.0	Φ76×240		
32	NWC6-0.48-15-3	0.48	50	15	207	18.0	Φ76×290		
33	NWC6-0.48-16-3	0.48	50	16	221	19.2	Φ76×290	M16×25	Figure 3
34	NWC6-0.48-20-3	0.48	50	20	277	24.0	Φ86×290		
35	NWC6-0.48-25-3	0.48	50	25	346	30.0	Φ96×290	M10×10	Figure 1
36	NWC6-0.48-30-3	0.48	50	30	415	36.1	Φ106×290		
37	NWC6-0.48-40-3	0.48	50	40	553	48.1	Φ116×290		



Serial number	Type and Specification	Rated voltage (kV)	Rated frequency (Hz)	Rated capacity (kVar)	Rated capacitor (μF)	Rated current (A)	Dimensions D×H(mm)	Mounting dimensions	figure number
38	NWC6-0.525-3-3	0.525	50	3	34.7	3.3	Φ60×240	M10×10	Figure 1
39	NWC6-0.525-5-3	0.525	50	5	58	5.5	Φ60×240		
40	NWC6-0.525-7.5-3	0.525	50	7.5	86.7	8.2	Φ60×240		
41	NWC6-0.525-10-3	0.525	50	10	115	11.0	Φ76×240	M12×16	Figure 2
42	NWC6-0.525-15-3	0.525	50	15	173	16.5	Φ76×290		
43	NWC6-0.525-16-3	0.525	50	16	185	17.6	Φ76×290		
44	NWC6-0.525-20-3	0.525	50	20	231	22.0	Φ86×290		
45	NWC6-0.525-25-3	0.525	50	25	289	27.5	Φ96×290	M16×25	Figure 3
46	NWC6-0.525-30-3	0.525	50	30	346	33.0	Φ106×290		
47	NWC6-0.525-40-3	0.525	50	40	346	33.0	Φ116×290		
48	NWC6-0.45-5-3YN	0.45	50	5	79	6.4	Φ76×240	M12×16	Figure 4
49	NWC6-0.45-7.5-3YN	0.45	50	7.5	118	9.6	Φ76×240		
50	NWC6-0.45-10-3YN	0.45	50	10	157	12.8	Φ76×290		
51	NWC6-0.45-15-3YN	0.45	50	15	236	19.2	Φ86×290		
52	NWC6-0.45-16-3YN	0.45	50	16	252	20.5	Φ96×290	M16×25	Figure 4
53	NWC6-0.45-20-3YN	0.45	50	20	314	25.7	Φ96×290		
54	NWC6-0.45-25-3YN	0.45	50	25	393	32.1	Φ106×290		
55	NWC6-0.45-30-3YN	0.45	50	30	472	38.5	Φ116×290		

Note: All sizes are customizable with rated frequency 50Hz or 60Hz, single-phase or three-phase capacitor; the products of the same capacity have the same overall dimensions.

5. Main technical parameters and technical performance

5.1 Main features

- 5.1.1 Use safety: This product is a dry product; it is filled with dry flame-retardant materials internally, such as: thermal conductivity silica gel. Cylindrical aluminum tensile shell is provided with the over-pressure protection device; it is characterized by oil-free, environmentally friendly, corrosion-resistant, anti-explosion etc. and it is safe and reliable.
- 5.1.2 Applicable environment: Suitable for places of higher fire rating.
- 5.1.3 Easy installation: The bottom is the M12/M16 stud fixedly installed; the product can be both mounted vertically and horizontally.
- 5.1.4 Using NWC6 dry capacitor can realize reactive power compensation cabinet modular design, reduce unit cost and make maintenance more convenient.

5.2 Notice for use

5.2.1 Capacitor selection:

Grid system voltage	Capacitor rated voltage	User grid frequency
127/220	0.23/0.25	Use 0.25kV-50 Hz or order 60Hz products
220/380	0.4/0.45/0.525	Use 0.45kV-50 Hz or order 60Hz products

- 5.2.2 Overvoltage and overheating will shorten the life of the capacitor. In tropical or high-altitude regions, recommend the users to choose products of higher rated voltage according to the voltage of power network system.
- 5.2.3 When the system is installed with the shunt capacitor, attention should be paid to the following circumstances:
 - a. Under the circumstance of severe harmonic content, do not directly install the shunt capacitor and connect the 7%/14% reactor in series for use. Under the circumstance of modest harmonic content, enhance the voltage level of the capacitor for derating, such as: 0.525kV. (Common harmonic sources are frequency converter, DC rectifier, inverter, electrolytic plating equipment, medium frequency furnace, electric arc furnace etc.).
 - b. When the motor is fixedly connected with the shunt capacitor, operating current of the
 - c. When the transformer is in empty load, the capacitor should be guaranteed to exit from the operation to prevent excessive compensation.
- 5.2.4 To ensure proper use of the capacitor, there should be short circuit, over-voltage, over-current protection and limiting inrush device in the capacitor circuit (such as series reactor or CJ19 special switch contacts).
- 5.2.5 The capacitor is disconnected from the power supply and must be short-circuited discharged, and then can be touched or tested.
- 5.2.6 The capacitor terminals and conductors should be well connected. Current-carrying capacity of the connecting wire is 1.43 times higher than the rated current of the capacitor.

Product rated voltage	Capacity range	Wire cross-sectional area
0.23, 0.25	≤5	4.0
0.23, 0.25	6~12	6.0
0.23, 0.25	14~20	10.0
0.4, 0.45	≤10	4.0
0.4, 0.45	12~20	6.0
0.4, 0.45	24~30	10.0

5.2.7 A distance of 20mm or more between the top of the capacitor and other components should be kept to ensure reliable operation of over-pressure protection device. The installation space between capacitors should be considered for the cooling condition of the equipment.

5.2.8 When the capacitor malfunctions or the service life is terminated, over-pressure protection device inside the product will be broken, the upper cover slightly bulges and the capacitor failure occurs. Users are asked to periodically detect the operating current and surface temperature of the capacitor and timely maintain it.

6. Physical and installation dimensions:

Figure 1

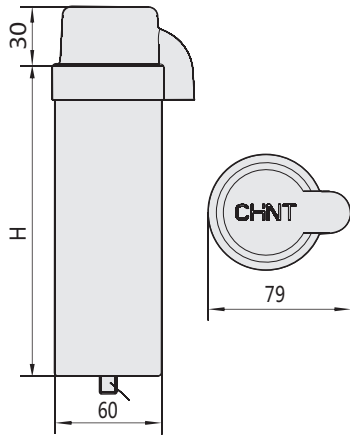


Figure 3

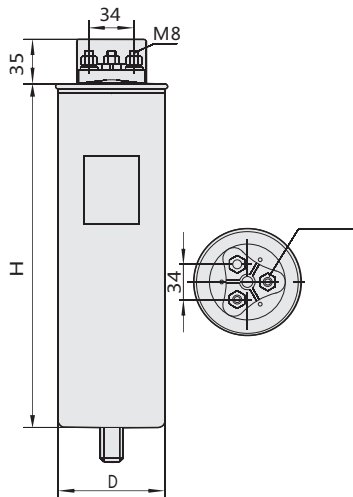


Figure 2

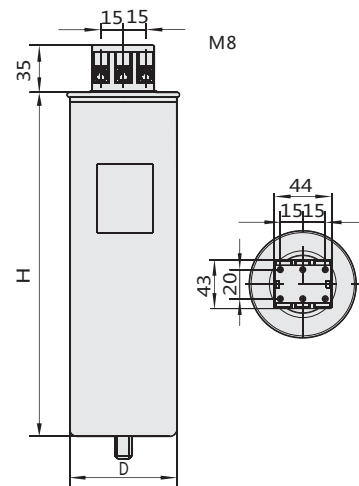
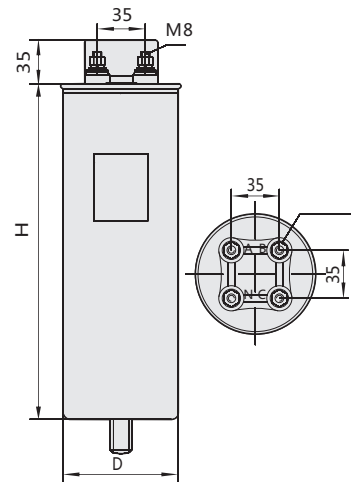


Figure 4



Note: The capacity of three-phase capacitor (1~8)kvar is seen in Fig.1; (10~25)kvar in Fig.2; (30~40)kvar in Fig.3; The split phase compensation capacitor has 4 connecting terminals with star connection and neutral line N lead-out, as shown in Fig.4.

7. Ordering information

7.1 Users must provide product rated voltage, rated capacity, frequency, phase number and other parameters.

7.2 Users must provide some of the features of the places of use as far as possible, such as environmental conditions, power network quality.

Such as: NWC6 0.4-30-3 10 sets

Ordering 10 NWC6 series three-phase capacitors with the rated voltage of 400V and rated capacity of 30kvar.

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