POWER DISTRIBUTION SOLUTION PROVIDER

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CKSG

Three-phase series filter reactor

When the CKSG series three-phase series filter reactor capacitor compensates for capacitive reactive power, it is often affected by harmonic current, inrush current and operating overvoltage, which causes capacitor damage and reduces the power factor.

This product is available in three-phase and single-phase versions, and it is of iron core dry type.
The core is made of high-quality cold-rolled silicon steel sheets, which are cut by a high-speed shearing machine. It features small burrs, uniformity, neat and beautiful laminations, ensuring that the transformer operates with low temperature rise and low noise.
The coil is made of high-quality insulated wire and is wound by a special machine. It has the advantages of good flatness and a beautiful appearance.

During the assembly process of the reactor, all the clamps have undergone anti-corrosion treatment. The key clamps are made of non-magnetic materials and go through a process of pre-drying → vacuum impregnation → heat curing, which ensures that the reactor coil and core are firmly integrated, significantly reducing the temperature rise and noise during operation, and effectively improving the quality factor of the reactor and reducing the effect of harmonics.

The dimensions of the reactor are designed according to the standard cabinet size. It is small in size, easy to connect, and significantly reduces the cost investment for the user's cabinet.



○ Model definition and description

CKSG	—	□	□	□	□
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1.Dry-type air-cooled three-phase series-connected filter reactor

2.Rated voltage of power and distribution capacitors (kV)

3.Rated electrical capacity of the power capacitor (kvar)

4.Rated reactance ratio XL/Xc (%)

5.K: With temperature protection switch No marking: Without

○ Normal working conditions and precautions

- The applicable capacitor voltages are: 0.4 kV, 0.45 kV, 0.48 kV, 0.525 kV, 0.66 kV, 0.69 kV;
- Reactance rate: 0.1%, 0.3%, 0.5%, 1%, mainly used to limit the closing inrush current; 4.5%, 5%, 6%, 7% are used to limit the closing inrush current and suppress harmonics of 5th and above; 12%, 14% are used to limit the closing inrush current and suppress harmonics of 3rd and above.
- Rated pressure: 5kV/min; Insulation class: B, F, H; Noise < 30dB; Overload capacity < 1.35In; Continuous operation under overload conditions.
- The voltage rises after the series reactor is connected. The calculation formula is:

$$U=\frac{Uo}{1-\lambda}$$

In the formula:

Working voltage of the capacitor bank: U;

System fundamental voltage: Uo;

Reactance rate:

- The conversion formulas among reactor capacity, capacitor capacity, reactance rate and inductance are as follows:

$$U_L=Uc\times\frac{XL}{Xc} \qquad L=\frac{UL}{I\times 0.314} \qquad Qw=Qc\times\frac{XL}{Xc} \qquad \text{Reactance rate: } =\frac{XL}{Xc}$$

Capacitance: Qc

Inductor current: I

Capacitor capacity: Qw

Capacitor phase voltage: Uc

Reactance voltage at the inductor terminal: UL

Inductance reactance: XL

Inductance: L

Capacitor reactance: Xc

○ The main specification is an impedance rate of 7%.

Product model	Distribution capacity	Dimensions (of the shape)	Installation dimensions
	(kvar)	L×W×H(mm)	L×W(mm)
CKSG-0.35/0.45-7%	5	170×100×160	150×60
CKSG-0.7/0.45-7%	10	175×110×160	150×70
CKSG-1.05/0.45-7%	15	175×145×160	150×80
CKSG-1.4/0.45-7%	20	200×155×185	170×80
CKSG-1.75/0.45-7%	25	240×165×210	200×90
CKSG-2.1/0.45-7%	30	240×170×210	200×95
CKSG-2.45/0.45-7%	35	240×175×210	200×100
CKSG-2.8/0.45-7%	40	240×180×210	200×105
CKSG-3.15/0.45-7%	45	240×190×210	200×110
CKSG-3.5/0.45-7%	50	250×190×210	210×110
CKSG-4.2/0.45-7%	60	250×190×250	210×110
CKSG-4.9/0.45-7%	70	250×195×250	210×115
CKSG-5.6/0.45-7%	80	250×195×265	210×115
CKSG-6.3/0.45-7%	90	310×190×285	260×110
CKSG-7.0/0.45-7%	100	310×190×285	260×110

○ The main specification is an impedance rate of 14%.

Product model	Distribution capacity	Dimensions (of the shape)	Installation dimensions
	(kvar)	L×W×H(mm)	L×W(mm)
CKSG-1.4/0.525-14%	10	200×155×185	170×80
CKSG-2.1/0.525-14%	15	240×170×210	200×95
CKSG-2.8/0.525-14%	20	240×180×210	200×105
CKSG-3.5/0.525-14%	25	250×190×210	210×110
CKSG-4.2/0.525-14%	30	250×190×250	210×110
CKSG-5.6/0.525-14%	40	250×195×265	210×115
CKSG-7.0/0.525-14%	50	310×190×285	260×110