91.25 mm

128.00 mm

No.	Product Parameter				Copper			Product outline	Aluminum			Product outline
	Reactor Model	Reactor capacity (Kvar)	Capacitor capacity (Kvar)	Reactance ratio (%)	Dimension (mm)	Installation dimension (mm)	Hole dimension (mm)		Dimension (mm)	Installation dimension (mm)	Hole dimension (mm)	
					L×W×H	A×B	a×b		L×W×H	A×B	a×b	
42	HKSG-0.6/0.525-12%	0.6	5		160×115×165	130×70	Φ7×17	D	200×105×190	170×70	Φ7×17	D
43	HKSG-1.2/0.525-12%	1.2	10		200×115×190	170×80	Φ7×17		200×120×190	170×85	Φ7×17	
45	HKSG-1.8/0.525-12%	1.8	15		200×125×190	170×90	Φ7×17		200×170×180	170×95	Φ7×17	
47	HKSG-2.4/0.525-12%	2.4	20		240×185×200	200×100	Φ10×22	Y	240×190×200	200×100	Φ10×22	Y
48	HKSG-3.0/0.525-12%	3	25		240×195×200	200×110	Φ10×22		250×190×230	210×100	Φ10×22	
49	HKSG-3.6/0.525-12%	3.6	30		250×200×230	210×110	Φ10×22		250×190×230	210×100	Φ10×22	
50	HKSG-4.2/0.525-12%	4.2	35		250×210×230	210×120	Φ10×22		250×215×230	210×115	Φ10×22	
51	HKSG-4.8/0.525-12%	4.8	40		280×215×260	220×125	Φ10×22		250×215×230	210×115	Φ10×22	
52	HKSG-5.4/0.525-12%	5.4	45		280×215×260	220×125	Φ10×22		250×215×230	210×115	Φ10×22	
53	HKSG-6.0/0.525-12%	6	50		280×215×260	220×125	Φ10×22		280×225×260	220×125	Φ10×22	
54	HKSG-7.2/0.525-12%	7.2	60		300×220×280	240×130	Φ10×22		280×225×260	220×125	Φ10×22	
55	HKSG-8.4/0.525-12%	8.4	70		305×220×280	240×130	Φ10×22		305×215×280	240×110	Φ10×22	
56	HKSG-1.4/0.525-14%	0.7	5		200×105×190	170×70	Φ7×17	D	200×110×190	170×80	Φ7×17	D
57	HKSG-1.4/0.525-14%	1.4	10		200×120×190	170×90	Φ7×17		200×120×190	170×90	Φ7×17	
58	HKSG-2.1/0.525-14%	2.1	15		240×135×210	200×95	Φ10×22		240×180×200	200×90	Φ7×17	
59	HKSG-2.8/0.525-14%	2.8	20		240×195×200	200×110	Φ10×22	Y	240×200×200	200×110	Φ10×22	Y
60	HKSG-3.5/0.525-14%	3.5	25		250×205×230	210×120	Φ10×22		250×200×230	210×110	Φ10×22	
61	HKSG-4.2/0.525-14%	4.2	30		250×205×230	210×120	Φ10×22		250×200×230	210×110	Φ10×22	
62	HKSG-4.9/0.525-14%	4.9	35		250×220×230	210×130	Φ10×22		250×220×230	210×130	Φ10×22	
63	HKSG-5.6/0.525-14%	5.6	40		280×220×260	220×130	Φ10×22		250×220×230	210×130	Φ10×22	
64	HKSG-6.39/0.525-14%	6.39	45		305×210×280	250×120	Φ10×22		280×225×260	220×125	Φ10×22	
65	HKSG-7.0/0.525-14%	7	50		305×220×280	250×130	Φ10×22		280×225×260	220×125	Φ10×22	
66	HKSG-8.4/0.525-14%	8.4	60		305×230×280	250×140	Φ10×22		305×220×280	250×120	Φ10×22	
67	HKSG-9.8/0.525-14%	9.8	70		305×230×280	250×140	Φ10×22		305×220×280	250×120	Φ10×22	

Note: the error of the above overall dimension is ± 10 mm, and the error of the installation dimension is ± 5 mm.

8. Operating Environment and Working Conditions

- Altitude: ≤ 2000m
- Ambient temperature: - 25 ~ + 40 ℃
- No harmful gas and inflammable and explosive materials around
- Surroundings should have good ventilation conditions, e.g. if it is installed in the cabinet, ventilating facilities should be added.
- There is no pollution and corrosive and explosive medium in the atmosphere that seriously affects the insulation of reactors.
- No serious vibration and turbulence at the installation sites.
- Places that are free from rain and snow.

9. Ordering instructions

When purchasing the reactor, following points should be pointed out:

9.1 Reactor model: specify the connection mode of reactor outlet line. (Mark the connection mode of outlet line in special case)

9.2 Rated capacity of reactor or capacity of adaptive capacitor;

9.3 Rated voltage of capacitor;

9.4 Reactance ratio;

9.5 Order quantity.

9.6 Please communicate with R & D to determine other technical parameters.

10. Attention on the Product Selection

Clients should confirm the capacity and rated operating voltage of the matching capacitor and required reactance ratio of the reactor before they booking the order.
For example:
Capacitor capacity is 20kvar, and its rated operating voltage is 450V, while required reactance ratio is 7%, then Rated capacity of reactor = matching capacitor capacity × reactance ratio = 20kvar × 7% = 1.4kvar
Therefore, the required model is HKSG-1.4/0.45-7.
If you have any questions, please contact the dealer or our customer service department.

HIMEL
www.himel.com

Mar. 2020

HKSG Series
three-phase series reactor

User Manual

In conformity to the standard: IEC 60289
□Please read the instructions manual carefully before installation and use, and keep it properly for possible reference.

Himel
The Right Choice!

1. Overview:

HKSG series three-phase series reactors are used in low-voltage reactive power compensation cabinet, which are generally used in series with capacitor. They are capacitive under power frequency, so as to prevent parallel resonance and issue about amplified harmonic current. They can restrain high-order harmonics, limiting closing inrush current, improving system power factor, preventing capacitors against being damaged by harmonics. They are applied to avoid excessive amplification of power grid harmonics and resonance happening due to the connection of capacitor banks.

2. Technical parameters of (model and meaning description)

- Rated operating voltage: AC0.45kV, AC0.525kV, AC0.48kV; (others can be customized)
- Temperature rise limitation: The temperature of iron core cannot exceed 85K under rated operating current, and the temperature rise of windings cannot exceed 95K;
- Withstand voltage grade: 3000V / min;
- Reactor noise: < 50dB;
- Insulation class: > F;
- Overload ability: ≤ 1.35 times;
- IP grade: IP00

HK S G - □ / □ - □
- Reactance rate XL / XC
- Rated voltage of capacitof (kV)
- Rated capcity (kvar)
- Dry series reactof
- D (One-phae), S (Three-phae)
- Series reactof

3. Product features

3.1 Reactors adopt three-phase three-column type structure;

3.2 The gap of the iron core adopts epoxy resin impreged glass cloth laminated sheet as the spacer. High-impact binder is applied (high-temperature tolerance) to ensure that gaps of reactors have no change and no noise during the operation;

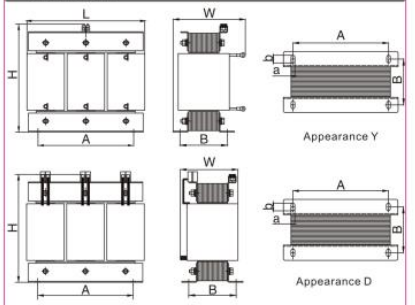
3.3 Coils are tightly wound with enameled flat wires to ensure that coils of reactors will not vibrate during the operation; (foil winding is used when current is more than 100A)

3.4 Advanced low-loss silicon steel sheet is used; fast punching mode is applied to ensure that products have high efficiency and low loss.

4. Model and dimension of HKSG series three-phase series reactor

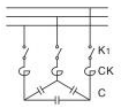
No.	Product Parameter				Copper			Product outline	Aluminum			Product outline
	Reactor Model	Reactor capacity (Kvar)	Capacitor capacity (Kvar)	Reactance ratio (%)	Dimension (mm)	Installation dimension (mm)	Hole dimension (mm)		Dimension (mm)	Installation dimension (mm)	Hole dimension (mm)	
					L×W×H	A×B	a×b		L×W×H	A×B	a×b	
1	HKSG-0.3/0.45-6%	0.3	5		160×95×165	130×60	Φ7×17	D	160×110×165	130×75	Φ7×17	D
1	HKSG-0.6/0.45-6%	0.6	10		160×105×165	130×70	Φ7×17		160×110×165	130×75	Φ7×17	
3	HKSG-0.9/0.45-6%	0.9	15		200×105×190	170×70	Φ7×17		200×120×190	170×80	Φ7×17	
5	HKSG-1.2/0.45-6%	1.2	20		200×115×190	170×80	Φ7×17		200×160×180	170×80	Φ7×17	
6	HKSG-1.5/0.45-6%	1.5	25	4.50%	200×170×180	170×90	Φ7×17	Y	200×160×180	170×80	Φ7×17	Y
7	HKSG-1.8/0.45-6%	1.8	30		240×175×200	200×90	Φ10×22		200×170×180	170×95	Φ7×17	
8	HKSG-2.1/0.45-6%	2.1	35	5.60%	240×190×200	200×105	Φ10×22		240×185×200	200×95	Φ10×22	
9	HKSG-2.4/0.45-6%	2.4	40		250×190×230	210×105	Φ10×22		240×195×200	200×105	Φ10×22	
10	HKSG-2.7/0.45-6%	2.7	45	6%	250×195×230	210×105	Φ10×22		240×195×200	200×105	Φ10×22	
11	HKSG-3.0/0.45-6%	3	50		250×205×230	210×115	Φ10×22		250×205×230	210×105	Φ10×22	
12	HKSG-3.6/0.45-6%	3.6	60	7%	250×210×230	210×115	Φ10×22		250×205×230	210×105	Φ10×22	
13	HKSG-4.2/0.45-6%	4.2	70		250×230×230	210×125	Φ10×22		250×215×230	210×115	Φ10×22	
14	HKSG-0.7/0.45-7%	0.35	5	12%	160×105×165	130×70	Φ7×17	D	160×105×165	130×75	Φ7×17	D
15	HKSG-0.7/0.45-7%	0.7	10		160×115×165	130×80	Φ7×17		160×115×165	130×80	Φ7×17	
17	HKSG-1.05/0.45-7%	1.05	15	13%	200×110×190	170×80	Φ7×17		200×110×190	170×80	Φ7×17	
19	HKSG-1.4/0.45-7%	1.4	20	14%	200×115×190	170×90	Φ7×17		200×165×180	170×90	Φ7×17	
20	HKSG-1.75/0.45-7%	1.75	25		240×175×180	200×90	Φ10×22	Y	200×170×180	170×95	Φ7×17	Y
21	HKSG-2.1/0.45-7%	2.1	30		240×185×200	200×100	Φ10×22		240×190×200	200×100	Φ10×22	
22	HKSG-2.45/0.45-7%	2.45	35		240×195×200	200×110	Φ10×22		240×190×200	200×100	Φ10×22	
23	HKSG-2.8/0.45-7%	2.8	40		250×190×230	210×105	Φ10×22		240×200×200	200×110	Φ10×22	
24	HKSG-3.15/0.45-7%	3.15	45		250×190×230	210×105	Φ10×22		240×200×200	200×110	Φ10×22	
25	HKSG-3.5/0.45-7%	3.5	50		250×205×230	210×115	Φ10×22		250×205×230	210×105	Φ10×22	
26	HKSG-4.2/0.45-7%	4.2	60		250×220×230	200×130	Φ10×22		250×215×230	210×115	Φ10×22	
27	HKSG-4.9/0.45-7%	4.9	70		250×220×230	200×130	Φ10×22		250×230×230	210×130	Φ10×22	
28	HKSG-0.35/0.48-7%	0.35	5		160×105×165	130×70	Φ7×17	D	160×105×165	130×75	Φ7×17	D
29	HKSG-0.7/0.48-7%	0.7	10		160×115×165	130×80	Φ7×17		160×115×165	130×80	Φ7×17	
31	HKSG-1.05/0.48-7%	1.05	15		200×115×190	170×80	Φ7×17		200×155×180	170×80	Φ7×17	
33	HKSG-1.4/0.48-7%	1.4	20		200×170×180	170×90	Φ7×17		200×165×180	170×90	Φ7×17	
34	HKSG-1.75/0.48-7%	1.75	25		200×170×180	170×90	Φ7×17	Y	200×170×180	170×95	Φ7×17	Y
35	HKSG-2.1/0.48-7%	2.1	30		240×180×200	200×95	Φ10×22		240×185×200	200×95	Φ10×22	
36	HKSG-2.45/0.48-7%	2.45	35		240×205×200	200×115	Φ10×22		240×195×200	200×105	Φ10×22	
37	HKSG-2.8/0.48-7%	2.8	40		250×200×230	210×105	Φ10×22		240×195×200	200×105	Φ10×22	
38	HKSG-3.15/0.48-7%	3.15	45		250×200×230	210×110	Φ10×22		240×200×200	200×110	Φ10×22	
39	HKSG-3.5/0.48-7%	3.5	50		250×200×230	210×110	Φ10×22		250×210×230	210×110	Φ10×22	
40	HKSG-4.2/0.48-7%	4.2	60		250×230×230	210×130	Φ10×22		250×210×230	210×110	Φ10×22	
41	HKSG-4.9/0.48-7%	4.9	70		250×230×230	210×130	Φ10×22		250×215×230	210×130	Φ10×22	

5. Outline of Product (corresponding to the remark in the table above):



Notification for the wiring method:
(1) Appearance D is with terminal block for wiring;
(2) Appearance Y is without terminal block: cables will be led out directly.

6. Product Connection Method



△Formconn ection

Note: the standard connection type △ type connection (as shown in the figure above). Other connection methods need to be made comments separately when ordering.

7. Product Standard

- IEC 60289