

SCBH15

series amorphous alloy
dry transformer



Brief introduction to products

Amorphous alloy is a thin strip of 0.02mm–0.04mm thickness that is generated by use of an advanced snap–chilling technology from iron, cobalt, boron, silicon and other liquid melts, which are jet onto a chassis that has a very high speed and are then rapidly cooled down. It has excellent soft magnetism, corrosion resistance, wear resistance and high resistivity and other characteristics.

The transformer with an amorphous alloy core, compared to cold rolled grain silicon steel sheets has the following advantages:

1. Amorphous alloy materials have no crystal structure, and are an isotropic soft magnetic material, with small magnetizing power.
2. There is no structure defect that impedes the movement of magnetic domain wall, and its hysteresis loss is smaller than silicon steel sheets.
3. Its resistivity is very high, 3–6 times of silicon steel sheets; its eddy current loss has greatly reduced and a unit of the eddy current loss is only 20%–30% of silicon steel sheets.

SCBH15 series amorphous alloy dry transformer is a new low–loss energy–saving distribution transformer. This product combines the technical advantages of amorphous alloy transformers and traditional epoxy resin dry transformers, and has a new structure so that it has the outstanding characteristic of low loss, and especially its no–load loss is 70% lower than conventional 10 series dry transformers. This product also has many advantages such as compact structure, beautiful appearance, low noise, low temperature rise, strong overload capacity, stable electrical performance, and convenient maintenance.

Application conditions

1. The height above sea level is not more than 1000m (special design shall be required when more than 1000m).
2. Ambient temperature: the maximum temperature is +40°C, and the average temperature in the hottest month is +30°C; the minimum temperature is –25°C, and the average temperature is +20°C in the hottest year.
3. Supply voltage wave form is similar to sine wave; three phase supply voltage is roughly symmetrical.
4. The product is installed indoors, with no obvious pollution to the environment.

SCBH15

series amorphous alloy
dry transformer

Product characteristics

SCBH15 series amorphous alloy dry transformer has such advantages as low no-load loss, no oil, flame retardant and self-extinguishing, moisture-free and maintenance-free. Now, the amorphous alloy transformers are applied to all sites (including airports, railway stations, metros, high-rise buildings and power plants) where normal dry transformers are applied, and especially they are more appropriate for the places with flammable, explosive and power shortage. The specific features are as follows:

1. Low consumption and energy-saving: the permeability magnetic materials with isotropic soft magnetism are used, with small magnetizing power, high resistivity and low eddy current loss. The core made of amorphous alloy has low no-load loss and no-load current, only one-third of silicon steel sheets. The no-load loss of the transformer falls 75% compared to the value provided in GB/T10228. It can significantly reduce operating costs and the energy-saving effect is significant.

2. Strong corrosion resistance: the amorphous alloy core is fully encapsulated with resin and heat-resistant silicone, thus effectively preventing rust and amorphous alloy debris shedding, so as to protect the core and coils effectively.

3. Low noise: to reduce the running noise, a reasonable working flux density is selected in the product design; prior to product processing, the core and coil structure are improved, and special noise-reducing materials are used, so that noise of the product is well below the requirement of the national standard JB/T10088.

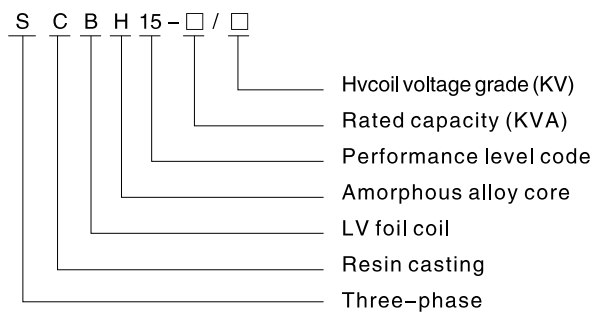
4. Strong ability to withstand short circuit: the products adopt three phase three limb structure, adopts the frame structure spread around the core, reasonably compact.

5. Low temperature rise and long service life: the product has low temperature rise and strong heat-sinking capability, and can run with 150% of the rated load under the condition of forced air cooling. A temperature control protection system with perfect performance can be selected and adopted to provide reliable protection for safe operation of the transformer.

SCBH15

series amorphous alloy
dry transformer

Model designation



TRANSFORMER

SCBH15

series amorphous alloy
dry transformer

Technical parameters of 10kV SCBH15 series amorphous alloy dry transformer

rated capacity	voltage combination			connection symbol	no-load current	load loss			no-load loss	short-circuit resistance
	high voltage	high voltage tapping range	low voltage			100℃ (B)	120℃ (F)	145℃ (H)		
30	6; 6.3; 6.6; 10; 10.5; 11; ± 2 × 2.5%; or ± 5%;			0.4 Dyn11	70	670	710	760	1.6	4.0
50					90	940	1000	1070	1.4	
80					120	1290	1380	1480	1.3	
100					130	1480	1570	1690	1.2	
125					150	1740	1850	1980	1.1	
160					170	2000	2130	2280	1.1	
200					200	2370	2530	2710	1.0	
250					230	2590	2760	2960	1.0	
315					280	3270	3470	3730	0.9	
400					310	3750	3990	4280	0.8	
500					360	4590	4880	5230	0.8	
630					420	5530	5880	6290	0.7	
630					410	5610	5960	6400	0.7	
800					480	6550	6960	7460	0.7	
1000					550	7650	8130	8760	0.6	
1250					650	9100	9690	10370	0.6	
1600					760	11050	11730	12580	0.6	
2000					1000	13600	14450	15560	0.5	
2500					1200	16150	17170	18450	0.5	
1600					760	12280	12960	13900	0.6	
2000	1000	15020	15960	17110	0.5					
2500	1200	17760	18890	20290	0.5					