

6~10kV Oil-immersed transformers

1、Product overview

1.1 Characteristics

1、 Our company's improved oil immersed distribution transformer iron core is made of imported high-quality cold-rolled silicon steel sheets stacked together, greatly reducing no-load losses and no-load currents. The iron core is tied to ensure its compactness and reduce noise.

2、 The transformer connection group adopts the Dyn11 wiring method to reduce the impact of harmonics on the power grid and improve the quality of power supply.

3、 The transformer is a fully sealed structure that extends its service life, eliminates the need for hanging cores, and requires no maintenance.

4、 The high and low voltage windings are made of oxygen free copper. For low voltage windings of 500kVA and below, a double-layer cylindrical structure is used. For windings of 630kVA and above, a double helix or four helix structure is used. For high voltage windings, a multi-layer cylindrical structure is used.

5、 The measured noise level is lower than the standard.

1.2 Transformer product standards

GB 1094.1-2013	GB 1094.2-2013
GB 1094.3-2017	GB 1 094.5-2008
GB/T 6451-2015	GB/T 7595-2017
GB/T 25289-2010	JB/T 3837—2016

1.3 Normal operating conditions

Altitude: The altitude shall not exceed 1000m;

Environmental temperature: maximum temperature+40 ℃;

Maximum daily average temperature+30 ℃;

The highest annual average temperature is+20 ℃;

The minimum outdoor temperature is -25 ℃;

The waveform of the power supply voltage is approximately a sine wave.

The three-phase power supply voltage should be roughly symmetrical;

Installation environment: No obvious pollution;

Ground acceleration caused by earthquakes: Horizontal direction less than $3m/s^2$,

Vertical direction less than $1.5m/s^2$

Indoor use

Note: Any special usage conditions that need to be met beyond the normal usage conditions of the transformer should be specified during the inquiry and ordering process.

1.4 Ordering Instructions

When placing an order, the product model, rated capacity, high and low voltage ratings, high voltage tap range, number of phases, frequency, and connection group number should be provided.

2、Model Description

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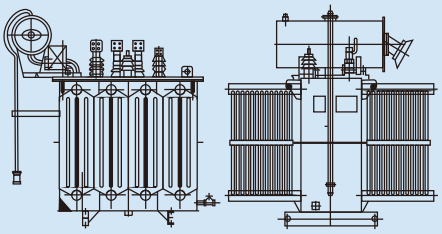
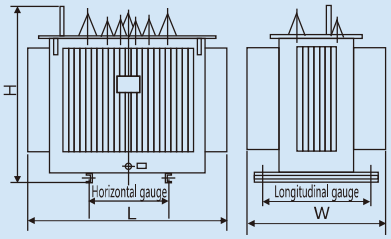
- Special use environment (WZ seismic WFZ anti-corrosion seismic GY plateau)
- Voltage level(kV)
- Rated capacity(kVA)
- Special purpose or special structure code (R-coil iron core M-fully sealed)
- Performance level code (11 13 14 20 22)
- Product model (D-single-phase S-three-phase F-air-cooled Z-on load voltage regulation)



Fully sealed (with capsule) sheet type transformer

Non fully sealed sheet type transformer



Fully sealed corrugated transformer

3、Technical Parameter

3.1 6kV-10kV S11 series oil immersed non excited voltage regulating distribution transformer

Rated Capacity kV.A	Voltage combination and tap range			Connection group label	Loss W		No-load current %	Impedance Voltage %	Weight kg			External dimensions L*B*H	Track gauge portrait/landscape
	HV kV	Tapping range of high voltage%	LV kV		No-load	Load 75℃			Body weight	oil	Total weight		
30	11 10.5 10 6.3 6	±5 ±2×2.5	0.4	Dyn11 Yzn11 Yyn0	100	630/600	1.5	4.0	135	55	325	680*480*846	550/400
50					130	910/870	1.3		210	75	435	765*690*876	
63					150	1090/1040	1.2		245	85	490	795*645*915	
80					180	1310/1250	1.2		290	90	550	825*660*925	550/550
100					200	1580/1500	1.1		315	95	590	810*770*980	
125					240	1890/1800	1.1		365	100	660	825*800*960	
160					280	2310/2200	1.0		440	115	720	1115*735*985	
200					340	2730/2600	1.0		490	160	790	1186*815*1050	
250					400	3200/3050	0.9		600	150	960	1290*860*1050	660/660
315					480	3830/3650	0.9		710	180	1120	1350*920*1090	
400					570	4520/4300	0.8		920	210	1440	1485*1030*1120	
500					680	5410/5150	0.8		1050	320	1800	1470*1030*1160	
630				Dyn11 Yyn0	810	6200	0.6	4.5	1130	260	1770	1550*1045*1225	820/820
800					980	7500	0.6		1340	290	2060	1730*1220*1285	
1000					1150	10300	0.6		1440	420	2505	1670*1160*1375	
1250					1360	12000	0.5		1750	480	2970	1750*1240*1425	
1600					1640	14500	0.5		2240	600	3950	1860*1260*1485	
2000					1940	18300	0.4	5.0	2575	635	4305	1990*1315*1620	
2500					2290	21200	0.4		3270	815	5440	2065*1360*1750	1070/1070

Note: ①For three-phase transformers with a rated capacity of 500kVA or less, the load loss values above the diagonal lines in the table apply to the Dyn11 or Yzn11 connection group,The load value below the diagonal line is applicable to the Yy0 combination group;
② When the annual average load rate of the transformer is between 35% and 40%, using the losses in the table can achieve the highest operating efficiency

3.2 6kV-10kV S11 series oil immersed non excited voltage regulating power transformer

Rated capacity kV.A	Voltage combination kV		Connection group label	Loss W		No-load current %	Impedance Voltage %	Weight kg			External dimensions L*B*H	Track gauge portrait/landscape
	HV	LV		No-load	Load 75℃			Body weight	oil	Total weight		
200	10.5 10 6.3 6	6.3 3.15 3	Yd11 Dy11	340	3150	1.8	4.5	650	160	1000	1180*740*1270	660/660
250				400	3600	1.7		770	200	1190	1230*780*1340	
315				480	4300	1.6		900	215	1360	1260*810*1370	
400				570	5200	1.5		1080	260	1650	1380*900*1390	
500				680	6200	1.4	5.5	1250	280	1890	1400*920*1450	
630				820	6920	0.6		1470	340	2245	1580*1020*1430	820/820
800				1000	8460	0.6		1735	385	2645	1665*1070*1520	
1000				1180	9910	0.6		1910	430	2980	1740*1160*1550	
1250				1400	11700	0.5		2210	590	3640	1820*1210*1740	
1600				1680	14100	0.4		2640	680	4270	1840*1240*1860	
2000				2010	16900	0.4		2890	725	4775	2210*1920*1970	1070/1070
2500				2370	19600	0.4		3460	910	5710	2260*1970*1995	
3150				2800	23000	0.4		4230	1350	7085	2320*2280*2360	
4000				3450	27300	0.4		5025	1675	9150	2460*2480*2475	
5000	10.5 10	6.3 3.15		4100	31300	0.4		6020	1940	9610	2575*2640*2590	
6300				4890	35000	0.4		8125	2550	12660	2640*2820*2810	
8000				6520	40500	0.55		9620	2780	15100	2710*2840*3040	1475/1475
10000				7700	47700	0.55		11660	3070	17480	2850*2880*3265	

Note: ① Tapping range of high voltage: ±5% or ±2x2.5%; Frequency 50Hz

② The provided external dimensions are for reference only during selection, and the final dimensions are subject to the product's external drawing

3.3 6kV-10kV S13 series three-level energy-efficient oil immersed non excited voltage regulating distribution transformer

Rated capacity kV.A	Voltage combination kV			Connection group label	Loss W		No-load current %	Impedance Voltage %	Weight kg			External dimensions L*B*H	Track gauge portrait/landscape
	HV kV	Tapping range of high voltage%	LV kV		No-load	Load 75℃			Body weight	oil	Total weight		
30	11 10.5 10 6.3 6	±5 ±2×2.5	0.4	Dyn11 Yzn11 Yyn0	80	630/600	1.5	4.0	140	70	320	745*555*830	550/400
50					100	910/870	1.3		205	75	390	775*595*890	
63					110	1090/1040	1.2		240	85	450	790*640*930	
80					130	1310/1250	1.2		290	95	520	857*700*950	550/550
100					150	1580/1500	1.1		340	100	576	845*720*950	
125					170	1890/1800	1.1		390	110	650	850*770*990	
160					200	2310/2200	1.0		470	150	760	1130*770*1013	
200					240	2730/2600	1.0		540	135	861	1160*780*1160	
250					290	3200/3050	0.9		670	160	1030	1220*810*1111	660/660
315					340	3830/3650	0.9		750	173	1160	1280*880*1150	
400					410	4520/4300	0.8		910	210	1390	1320*900*1196	
500					480	5410/5150	0.8		1070	230	1650	1420*980*1240	
630				Dyn11 Yyn0	570	6200	0.6	4.5	1310	290	1960	1510*1010*1310	
800					700	7500	0.6		1550	320	2320	1640*1120*1335	
1000					830	10300	0.6		1595	360	2550	1675*1145*1365	820/820
1250					970	12000	0.5		2110	500	3370	1820*1260*1492	
1600					1170	14500	0.5		2635	600	4190	1940*1300*1625	
2000					1360	18300	0.4	5.0	2700	755	4720	2000*1345*1700	
2500					1600	21200	0.4		3240	835	5460	2030*1360*1900	1070/1070

Note: ① For three-phase transformers with a rated capacity of 500kVA or less, the load loss values above the diagonal lines in the table apply to the Dyn11 or Yzn11 connection group,The load value below the diagonal line is applicable to the Yy0 combination group;

② When the annual average load rate of the transformer is between 35% and 40%, using the losses in the table can achieve the highest operating efficiency

③ The empty load losses listed in the table comply with the provisions of Level 3 energy efficiency in Table 1 of GB20052-2020

3.4 6kV-10kV S20 series secondary energy efficiency oil immersed non excited voltage regulating distribution transformer

Rated Capacity kV. A	Voltage combination and tap range			Connection group label	Loss W		No-load current %	Impedance Voltage %	Weight kg			External dimensions L*B*H	Track gauge portrait/landscape
	HV kV	Tapping range of high voltage%	LV kV		No-load	Load 75℃			Body weight	oil	Total weight		
30	11 10.5 10 6.3 6	±5 ±2×2.5	0.4	Dyn11 Yzn11 Yyn0	70	505/480	1.5	4.0	180	70	370	780*355*860	550/400
50					90	730/695	1.3		288	85	510	860*365*940	
63					100	870/830	1.2		335	95	590	865*370*960	
80					115	1050/1000	1.2		380	100	650	880*380*1015	550/550
100					135	1265/1200	1.1		440	115	735	920*580*1020	
125					150	1510/1440	1.1		525	120	850	930*675*1080	
160					180	1850/1760	1.0		630	150	1010	965*680*1160	
200					215	2185/2080	1.0		760	165	1170	1010*750*1180	
250					260	2560/2440	0.9		865	180	1290	1015*750*1190	660/660
315					305	3065/2920	0.9		1050	210	1560	1095*780*1230	
400					370	3615/3440	0.8		1100	230	1675	1100*900*1260	
500					430	4330/4120	0.8		1420	265	2090	1160*940*1310	
630					510	4960	0.6		1705	300	2450	1250*980*1345	
800				Dyn11 Yyn0	630	6000	0.6	4.5	1895	320	2700	1260*990*1360	
1000					745	8240	0.6		2080	360	3045	1615*1095*1450	820/820
1250					870	9600	0.5		2550	470	3790	1705*1100*1520	
1600					1050	11600	0.5		2910	575	1340	1800*1145*1700	
2000					1225	14640	0.4	5.0	3525	595	5000	1925*1180*1750	
2500					1440	14840	0.4		4860	690	6490	1945*1230*1990	1070/1070

注：① For three-phase transformers with a rated capacity of 500kVA or less, the load loss value above the diagonal line in the table applies to the Dyn11 or Yzn11 connection group, and the load value below the diagonal line applies to the Yy0 connection group;

② When the annual average load rate of the transformer is between 35% and 40%, using the losses in the table can achieve the highest operating efficiency

③ The empty load losses listed in the table comply with the provisions of Level 2 energy efficiency in Table 1 of GB20052-2020

3.5 6kV-10kV S22 series first level energy-efficient oil immersed non excited voltage regulating distribution transformer

Rated Capacity kV.A	Voltage combination and tap range			Connection group label	Loss W		No-load current %	Impedance Voltage %	Weight kg			External dimensions L*B*H	Track gauge portrait/landscape
	HV kV	Tapping range of high voltage%	LV kV		No-load	Load 75°C			Body weight	oil	Total weight		
30	11 10.5 10 6.3 6	±5 ±2×2.5	0.4	Dyn11 Yzn11 Yyn0	65	455/430	1.5	4.0	196	65	385	790*345*870	550/400
50					80	655/625	1.3		320	85	560	845*370*960	
63					90	785/745	1.2		365	90	600	865*380*1000	
80					105	945/900	1.2		430	100	685	895*390*1035	550/550
100					120	1140/1080	1.1		520	115	810	925*515*1045	
125					135	1360/1295	1.1		590	120	900	945*565*1085	
160					160	1665/1585	1.0		715	150	1075	985*570*1120	
200					190	1970/1870	1.0		895	160	1300	1015*605*1150	
250					230	2300/2195	0.9		985	180	1405	1030*640*1200	660/660
315					270	2760/2630	0.9		1200	215	1725	1120*750*1245	
400					330	3250/3095	0.8		1280	220	1845	1150*825*1300	
500					385	3900/3710	0.8		1545	240	3150	1205*845*1400	
630				Dyn11 Yyn0	460	4460	0.6	4.5	1890	270	2580	1275*900*1500	
800					560	5400	0.6		2180	335	2990	1365*950*1520	820/820
1000					665	7415	0.6		2260	400	3255	1430*1050*1550	
1250					780	8640	0.5		2890	470	4060	1480*1075*1590	
1600					940	10440	0.5		3260	510	4600	1520*1115*1725	
2000					1085	13180	0.4	5.0	4070	650	5600	1565*1235*1830	
2500					1280	13360	0.4		5615	670	7195	1680*1290*2110	1070/1070

注：① For three-phase transformers with a rated capacity of 500kVA or less, the load loss value above the diagonal line in the table applies to the Dyn11 or Yzn11 connection group, and the load value below the diagonal line applies to the Yy0 connection group;

② When the annual average load rate of the transformer is between 35% and 40%, using the losses in the table can achieve the highest operating efficiency;

③ The empty load losses listed in the table comply with the first level energy efficiency requirements in Table 1 of GB20052-2020

3.6 6kV~10kV SZ13 series three-phase double winding on load tap changer distribution transformer

Rated Capacity kV.A	Voltage combination and tap range			Connection group label	No load loss W	Load loss W	No load current%	Impedance Voltage %
	HV kV	Tapping range of high voltage%	LV kV					
200	6 6.3 10 10.5	±4×2.5	0.4	Dyn11 Yyn0	300	2900	1.0	4.0
250					350	3420	0.9	
315					420	4100	0.9	
400					510	4950	0.8	
500					600	5890	0.8	
630					770	7260	0.6	4.5
800					900	8890	0.6	
1000					1000	10400	0.6	
1250					1250	12300	0.5	
1600					1540	14700	0.5	
2000					1820	18600	0.4	5.0
2500					2100	21600	0.4	

注：When the annual average load rate of the transformer is between 35% and 40%, using the losses in the table can achieve the highest operating efficiency

1.1 20kV S11 series oil immersed non excited voltage regulating distribution transformer

Rated capacity kV. A	Voltage combination and tap range			Connection group label	No-load loss W	Load loss W	No-load current %	Impedance Voltage %
	HV kV	Tapping range of high voltage %	LV kV					
30	20	±5 ±2×2.5	0.4	Dyn11 Yzn11 Yyn0	100	690/660	2.1	5.5
50					130	1010/960	2.0	
63					150	1200/1150	1.9	
80					180	1440/1370	1.8	
100					200	1730/1650	1.6	
125					240	2080/1980	1.5	
160					290	2540/2420	1.4	
200					340	3000/2860	1.3	
250					400	3520/3350	1.2	
315					480	4210/4010	1.1	
400					570	4970/4730	1.0	
500					680	5940/5660	1.0	
630					810	6820	0.9	6.0
800					980	8250	0.8	
1000					1150	11330	0.7	
1250					1380	13200	0.7	
1600					1660	15950	0.6	
2000					1950	19140	0.6	
2500					2340	22220	0.5	

注：① For three-phase transformers with a rated capacity of 500kVA or less, the load loss values above the diagonal lines in the table apply to the Dyn11 or Yzn11 connection group,The load value below the diagonal line is applicable to the Yy0 combination group;
② The performance parameters in the table are also applicable to three-phase transformers with high voltage of dual voltage 20 (10) kV

1.2 20kV S12 series oil immersed non excited voltage regulating distribution transformer

Rated capacity	Voltage combination and tap range			连接组标号	No-load loss W	Load loss W	No-load current %	Impedance Voltage %
	HV kV	Tapping range of high voltage %	LV kV					
30	20	±5h ±2×2.5	0.4	Dyn11 Yzn11 Yyn0	90	690/660	2.1	5.5
50					120	1010/960	2.0	
63					140	1200/1150	1.9	
80					160	1440/1370	1.8	
100					180	1730/1650	1.6	
125					220	2080/1980	1.5	
160					260	2540/2420	1.4	
200					310	3000/2860	1.3	
250					360	3520/3350	1.2	
315					430	4210/4010	1.1	
400					510	4970/4730	1.0	
500					610	5940/5660	1.0	
630					730	6820	0.9	6.0
800					880	8250	0.8	
1000					1030	11330	0.7	
1250					1240	13200	0.7	
1600					1490	15950	0.6	
2000					1750	19140	0.6	
2500					2100	22220	0.5	

注：① For three-phase transformers with a rated capacity of 500kVA or less, the load loss values above the diagonal lines in the table apply to the Dyn11 or Yzn11 connection group,The load value below the diagonal line is applicable to the Yy0 combination group;
② The performance parameters in the table are also applicable to three-phase transformers with high voltage of dual voltage 20 (10) kV