



## 110kV Three Phase On-load Power Transformer



6300kVA~120000kVA two-winding transformer with NVTC

Rated capacity (kVA)	Rated voltage and tapping range			Vector group	No load current %	Impedance voltage %	No load losses kW	On load losses kW
	HV	Tapping range %	LV					
6300					0.77		9.3	36
8000					0.77		11.2	45
10000					0.72		13.2	53
12500					0.72		15.6	63
16000					0.67		18.8	77
20000					0.67	10.5	22	93
25000	110,121	$\pm 2 \times 2.5\%$	6.3,6.6, 10.5,11	YNd11	0.62		26	110
31500					0.6		30.8	133
40000					0.56		36.8	156
50000					0.52		44	194
63000					0.48		52	234
75000					0.42		59	278
90000					0.38	12~14	68	320
120000					0.34		84.8	397

6300kVA~100000kVA three-winding transformer with NVTC

Rated capacity (kVA)	Rated voltage and tapping range			Vector group	No load current %	Impedance voltage %		No load losses kW	On load losses kW
	HV	MV	LV			Step up	Step down		
	6300								
8000					0.78			13.2	56.0
10000					0.74			15.8	66.0
12500					0.70			18.4	78.0
16000					0.66			22.4	95.0
20000					0.65			26.4	112.0
25000	110 $\pm 2 \times$				0.6	HV~MV: 17.5~18.5	HV~MV: 10.5	30.8	133.0
31500	2.5%,121	35,38.5	6.3,6.6, 10.5,11	YNyn0d11	0.6	HV~LV: 10.5	HV~LV: 17.5~18.5	36.8	157.0
40000	$\pm 2 \times 2.5\%$				0.55	MV~LV: 6.5	MV~LV: 6.5	43.6	189.0
50000					0.55			52.0	225.0
63000					0.50			61.6	270.0
75000					0.50			70.2	307.7
80000					0.50			73.7	323.0
100000					0.50			87.1	381.8

6300kVA~100000kVA two-winding transformer with OLTC

Rated capacity (kVA)	Rated voltage and tapping range			Vector group	No load current %	Impedance voltage %	No load losses kW	On load losses kW
	HV	Tapping range %	LV					
6300					0.8		10	36
8000					0.8		12	45
10000					0.74		14.2	53
12500					0.74		16.8	63
16000					0.69		20.2	77
20000					0.69		24	93
25000	110	$\pm 8 \times 1.25\%$	6.3,6.6, 10.5,11	YNd11	0.64	10.5	28.4	110
31500					0.64		33.8	133
40000					0.58		40.4	156
50000					0.58		47.8	194
63000					0.52		56.8	234
75000					0.63		64.7	266.7
80000					0.63		67.9	297.9
100000					0.63		80.3	330.9

**6300kVA~100000kVA three-winding transformer with OLTC**

Rated capacity (kVA)	Rated voltage and tapping range			Vector group	No load losses kW	On load losses kW	No load current %	Impedance voltage %
	HV	MV	LV					
6300					12.0	47	0.95	
8000					14.4	56	0.95	
10000					17.1	66	0.89	
12500					20.2	78	0.89	
16000					24.2	95	0.84	
20000					28.6	112	0.84	
25000	110±8×	35,	6.3,6.6,	YNyn0d11	33.8	133	0.78	HV-MV: 10.5 HV-LV: 17.5~18.5 MV-LV: 6.5
31500	1.25%	37	10.5,11		40.2	157	0.78	
40000		38.5			48.2	189	0.73	
50000					56.9	225	0.73	
63000					67.7	270	0.67	
75000					77.2	307.7	0.84	
80000					81.0	323	0.84	
100000					95.7	381.8	0.84	

- Note 1: For transformer with O.L.T.C, temporarily provide step-down structure product  
 2: Distribution of HV/MV/LV coil capacity is (100/100/100) %  
 3: Vector group label can be YNd11y10 according to requirements  
 4: Maximum current tap at -10% tap position  
 5: According to customer demand, voltage value or tapping position of MV can be different from those in the above tables.

**6300kVA~100000kVA two-winding transformer (LV is 35kV) with NVTC**

Rated capacity (kVA)	Rated voltage and tapping range		Vector group	No load losses kW	On load losses kW	No load current %	Impedance voltage %
	HV	LV					
6300				10.0	39	0.84	
8000				12.0	47	0.84	
10000				14.0	55	0.78	
12500				16.4	66	0.78	
16000				19.6	81	0.72	
20000				23.2	99	0.72	
25000	110±2×2.5%	35,	YNd11	27.4	116	0.67	10.5
31500	121±2×2.5%	37,		32.4	140	0.67	
40000		38.5		38.6	164	0.61	
50000				46.2	204	0.61	
63000				54.6	245	0.56	
75000				62.2	279.2	0.70	
80000				65.3	293.1	0.70	
100000				77.2	346.5	0.70	

- Note 1: Maximum current tap at -5% tap position  
 2: Step-up transformer should adopt the non-tap structure. It can set tap according to running requirements.

※ Note: 1. All the data included are only examples for your reference.  
 2. Customized and more-efficient transformer is available according to your requirements.

**66kV Power Transformer**

6300kVA~63000kVA two-winding transformer with OLTC

Rated capacity (kVA)	Rated voltage and tapping range			Vector group	Impedance voltage %	No load losses kW (9)	On load losses kW (9)	No load losses kW (10)	On load losses kW (10)	No load losses kW (11)	On load losses kW (11)
	HV	Tapping range %	LV								
6300	63,66,69	±8×1.25	6.3,6.6,10.5,11	YNd11	9	10	36	9.4	34	8.3	34
8000						12	42.8	11.1	40.4	9.8	40.4
10000						14.2	50.4	13.1	47.6	11.6	47.6
12500						16.8	59.9	15.4	56.5	13.6	56.5
16000						20.2	73.5	18.4	69.4	16.3	69.4
20000						24	89.1	21.8	84.2	19.2	84.2
25000						28.4	105.3	25.6	99.5	22.6	99.5
31500						33.7	126.9	30.3	119.9	26.8	119.9
40000						40.3	149	36.1	140.7	31.9	140.7
50000						47.6	184.5	42.6	174.3	37.6	174.3
63000						56.2	222.3	50.3	210	44.4	210

630kVA~63000kVA two-winding transformer with NVTC

Rated capacity (kVA)	Rated voltage and tapping range			Vector group	Impedance voltage %	No load losses kW (9)	On load losses kW (9)	No load losses kW (10)	On load losses kW (10)	No load losses kW (11)	On load losses kW (11)
	HV	Tapping range %	LV								
630	63,66,69	±5	6.3,6.6,10.5,11	Yd11	8	1.6	7.6	1.4	7.1	1.3	7.1
800						1.9	9	1.7	8.5	1.5	8.5
1000						2.3	10.4	2	9.9	1.8	9.9
1250						2.7	12.6	2.4	11.9	2.1	11.9
1600						3.2	14.9	2.9	14	2.6	14
2000						3.8	17.6	3.4	16.6	3	16.6
2500				4.5	20.7	4	19.6	3.5	19.6		
3150				5.3	24.3	4.8	23	4.2	23		
4000				6.3	28.8	5.6	27.2	5	27.2		
5000				7.4	32.4	6.6	30.6	5.9	30.6		
6300				9.2	36	8.5	34	7.5	34		
8000				11.2	42.8	10.2	40.4	9	40.4		
10000	13.2	50.4	12.1	47.6	10.7	47.6					
12500	15.6	59.9	14.2	56.5	12.5	56.5					
16000	18.8	73.5	17.1	69.4	15.1	69.4					
20000	22	89.1	20.2	84.2	17.9	84.2					
25000	26	105.3	23.9	99.5	21.1	99.5					
31500	30.8	126.9	28.4	119.9	25.1	119.9					
40000	36.8	149	34	140.7	30	140.7					
50000	44	184.5	40.1	174.3	35.4	174.3					
63000	52	222.3	47.7	210	42.1	210					

※ Note: 1. All the data included are only examples for your reference.  
 2. Customized and more-efficient transformer is available according to your requirements.



**SZ9(M), SZ10(M), SZ11(M)-1000-31500/35  
Three-phase Oil-immersed Transformer With OLTC**

**SZ9(M)-1000~31500/35 Three-phase oil-immersed transformer with OLTC**

Rated capacity (kVA)	Rated voltage and tapping range		Vector group	No load losses (kW)	On load losses (kW)	Impedance voltage (%)	No load current (%)	Weight (kg)				Outline dimension (mm) L×W×H	Trail distance (mm)
	HV	Tapping range						LV	body	oil	gross		
1000	35	±3×2.5	Yd11	1.7	13.0	6.5	1.1	1930	1240	4600	3650	2850×1930×2430	1070×1070
1250				2.0	15.0		1.1	2200	1320	4950	3800	2900×1950×2450	1070×1070
1600				2.4	18.0		1.0	2550	1400	5300	3980	2950×1980×2490	1070×1070
2000				2.9	20.0	1.0	2775	1560	5965	4925	3010×2065×2540	1070×1070	
2500				3.4	21.8	1.0	3300	1750	6950	5683	3035×2265×2610	1070×1070	
3150				4.1	26.0	0.9	3770	1970	7900	6075	3160×2095×2640	1070×1070	
4000				4.9	30.7	7.0	4520	2260	9110	7090	3295×2325×2890	1070×1070	
5000				5.8	36.0	0.68	5620	2980	11825	9500	3900×3000×3050	1070×1475	
6300				7.0	39.0	0.68	6700	3340	13400	10350	3920×3020×3090	1070×1475	
8000				9.84	44.0	7.5	8620	3670	16070	12500	4400×3200×3160	1475×1475	
10000				11.6	51.0	0.6	9900	4000	18500	15400	4450×3520×3500	1475×1475	
12500				13.68	60.5	0.56	11340	4365	21590	17800	4500×3600×3700	1475×1475	
16000				16.46	74.0	0.54	14300	5400	22800	20100	4950×4100×3750	1475×1475	
20000				19.46	87.14	8.0	15000	6100	30700	22800	5000×3930×3840	1475×1475	
25000				23.4	104	0.5	19750	9300	38400	33800	5650×4150×3900	1475×1475	
31500				27.5	123.1	0.45	23500	11500	45300	38800	5880×4300×3950	2040×1475	

**SZ10(M)-1000~31500/35 Three-phase oil-immersed transformer with OLTC**

Rated capacity (kVA)	Rated voltage and tapping range		Vector group	No load losses (kW)	On load losses (kW)	Impedance voltage (%)	No load current (%)	Weight (kg)				Outline dimension (mm) L×W×H	Trail distance (mm)
	HV	Tapping range						LV	body	oil	gross		
1000	35	±3×2.5	Yd11	1.5	12.3	6.5	1.1	2030	1290	4785	3795	2905 X 1970 X 2480	1070 X 1070
1250				1.8	14.2		1.1	2310	1370	5150	3950	2960 X 1990 X 2500	1070 X 1070
1600				2.2	17.0		1.0	2680	1460	5510	4130	3010 X 2020 X 2540	1070 X 1070
2000				2.6	19.2	1.0	2910	1620	6195	5120	3070 X 2105 X 2590	1070 X 1070	
2500				3.1	20.6	1.0	3465	1820	7230	5910	3095 X 2310 X 2660	1070 X 1070	
3150				3.7	24.6	0.9	3960	2050	8215	6310	3225 X 2140 X 2700	1070 X 1070	
4000				4.4	29.0	7.0	4750	2350	9475	7375	3355 X 2375 X 2950	1070 X 1070	
5000				5.2	34.0	0.8	5690	3010	11925	9600	3950×3050×3100	1070 X 1070	
6300				6.3	36.6	0.8	6750	3370	13500	10400	3970×3070×3140	1070 X 1070	
8000				8.8	40.4	7.5	8670	3700	16170	12600	4450×3250×3210	1475 X 1475	
10000				10.4	47.8	0.7	9970	4030	18600	15500	4500×3570×3550	1475 X 1475	
12500				12.3	56.6	0.6	11410	4395	21690	17900	4550×3650×3750	1475 X 1475	
16000				13.5	70.0	0.6	14370	5430	22900	20200	5000×4150×3800	1475 X 1475	
20000				17.8	83.0	8.0	15090	6130	30800	22900	5050×3980×3890	1475 X 1475	
25000				20.8	98.5	0.5	19820	9350	38500	33900	5700×4200×3950	1475 X 1475	
31500				24.5	117.0	0.45	23370	11530	45400	38900	5700×4350×4000	2040 X 1475	

**SZ11(M)-1000~31500/35 Three-phase oil-immersed transformer with OLTC**

Rated capacity (kVA)	Rated voltage and tapping range			Vector group	No load losses (kW)	On load losses (kW)	Impedance voltage (%)	No load current (%)	Weight (kg)				Outline dimension (mm) L×W×H	Trail distance (mm)
	HV	Tapping range	LV						body	oil	gross	Transport		
1000	35	±3×2.5	LV	Yd11	1.3	11.1	7.0	1.1	2125	1365	5060	4015	2965 X 2010 X 2530	1070 X 1070
1250					1.6	14.2		1.1	2420	1450	5445	4180	3015 X 2030 X 2550	1070 X 1070
1600					1.9	17.0		1.0	2805	1540	5830	4378	3070 X 2060 X 2590	1070 X 1070
2000					2.3	19.2		1.0	3050	1720	6560	5410	3130 X 2150 X 2640	1070 X 1070
2500					2.7	20.6		1.0	3630	1925	7645	6250	3160 X 2355 X 2715	1070 X 1070
3150					3.2	24.6		0.9	4150	2165	8690	6680	2865 X 2180 X 2750	1070 X 1070
4000					3.9	29.0		0.9	4970	2490	10020	7810	3425 X 2420 X 3010	1070 X 1070
5000					4.6	34.0		0.8	5720	3030	11975	9650	3980×3080×3130	1070 X 1070
6300					5.5	36.6		0.8	6780	3400	13560	10460	4000×3100×3170	1070 X 1070
8000					7.7	40.4		0.7	8720	3730	16230	12630	4470×3100×3170	1475 X 1475
10000					9.1	47.8		0.7	9990	4050	18640	15540	4520×3590×3570	1475 X 1475
12500					10.8	56.6		0.6	11430	4415	21710	17920	4570×3070×3770	1475 X 1475
16000					12.0	70.0		0.6	14390	5450	22910	20220	5030×4170×3840	1475 X 1475
20000					16.0	83.0		0.5	15110	6150	30840	22940	5070×4000×3910	1475 X 1475
25000					18.0	98.0		0.5	19840	9370	38540	33940	5720×4220×3970	1475 X 1475
31500					21.0	117.0		0.45	23390	11550	45440	38910	5930×4370×4030	2040 X 1475

※ Note: 1. All the data included are only examples for your reference.  
2. Customized and more-efficient transformer is available according to your requirements.



**S9(M), S10(M), S11(M)-1000~31500/35 Three-phase oil-immersed transformer with NVTC**

**S9(M)-1000~31500/35 Three-phase oil-immersed transformer with NVTC**

Rated capacity (kVA)	Rated voltage and tapping range			Vector group	No load losses (kW)	On load losses (kW)	Impedance voltage (%)	No load current (%)	Weight (kg)				Outline dimension (mm) L×W×H	Trail distance (mm)
	HV	Tapping range	LV						body	oil	gross	Transport		
1000	35	±5	LV	Yd11	1.48	12.2	7.0	1.0	1880	970	3780	3080	2400 X 1620 X 2490	820 X 820
1250					1.76	14.7		0.9	2070	1010	4080	3320	2420 X 1720 X 2470	820 X 820
1600					2.13	17.6		0.85	2480	1090	4660	3830	2465 X 1830 X 2520	820 X 820
2000					2.61	19.4		0.75	2830	1200	5300	4330	2545 X 1880 X 2600	1070 X 1070
2500					3.15	20.7		0.75	3410	1330	6170	5060	2610 X 2050 X 2670	1070 X 1070
3150					3.87	24.3		0.7	3900	1520	7100	5710	2700 X 2090 X 2690	1070 X 1070
4000					4.64	28.8		0.7	4730	1750	8620	7020	2770 X 2300 X 2800	1070 X 1070
5000					5.49	33.0		0.6	5600	1950	9950	7860	2865 X 2425 X 2870	1070 X 1070
6300					6.60	36.9		0.6	6860	2320	11580	9460	3090 X 2285 X 3150	1475 X 1475
8000					9.00	40.5		0.55	8090	2500	14120	11500	3230 X 3050 X 3280	1475 X 1475
10000					10.6	47.7		0.55	9860	2850	16480	13500	3380 X 3150 X 3370	1475 X 1475
12500					12.6	56.7		0.5	10930	3250	18340	14890	3550 X 3190 X 3430	1475 X 1475
16000					15.3	69.3		0.5	13450	3750	22410	18350	3910 X 3350 X 3580	1475 X 1475
20000					18.1	83.7		0.5	14200	5700	28800	23500	3950 X 3400 X 3620	1475 X 1475
25000					21.5	99.0		0.5	19650	7130	35600	28000	4950 X 4550 X 3850	1475 X 1475
31500					25.7	118.8		0.4	26000	12200	42100	36000	5020 X 4700 X 3950	2040 X 1475

**S10(M)-1000~31500/35 Three-phase oil-immersed transformer with NVTC**

Rated capacity (kVA)	Rated voltage and tapping range		Vector group	No load losses (kW)	On load losses (kW)	Impedance voltage (%)	No load current (%)	Weight (kg)				Outline dimension (mm) L×W×H	Trail distance (mm)
	HV	Tapping range						LV	body	oil	gross		
1000				1.32	11.48		1.0	1980	1020	3970	3235	2440 X 1645 X 2540	820 X 820
1250				1.57	13.86	6.5	0.9	2180	1060	4280	3490	2470 X 1750 X 2550	820 X 820
1600				1.90	16.58		0.85	2610	1145	4890	4020	2515 X 1870 X 2550	820 X 820
2000	35		3.15	2.32	18.28		0.75	2980	1260	5565	4550	2600 X 1920 X 2650	1070 X 1070
2500		±5	6.3	2.80	19.55		0.75	3580	1400	6480	5320	2670 X 2090 X 2750	1070 X 1070
3150			10.5	3.44	22.95	7.0	0.7	4095	1590	7455	5995	2755 X 2130 X 2750	1070 X 1070
4000				4.12	27.20		0.7	4970	1840	9050	7370	2830 X 2350 X 2855	1070 X 1070
5000				4.88	31.20		0.6	5880	2050	10450	8255	2930 X 2480 X 2930	1070 X 1070
6300				5.84	34.85	7.5	0.6	7200	2450	12160	9935	3150 X 2330 X 3220	1475 X 1475
8000	35		3.15	8.00	38.25		0.55	8500	2630	14830	12075	3295 X 3110 X 3345	1475 X 1475
10000			3.15	9.44	45.05		0.55	10350	3000	17310	14180	3450 X 3210 X 3440	1475 X 1475
12500	38.5		3.3	11.20	53.55		0.5	11500	3400	19260	15635	3620 X 3255 X 3500	1475 X 1475
16000		±2×2.5	6.3	13.60	65.45		0.5	14130	3940	23530	19270	3980 X 3420 X 3650	1475 X 1475
20000			6.6	16.08	79.05	8.0	0.5	14910	5990	30240	24675	4030 X 3470 X 3690	1475 X 1475
25000			10.5	19.12	93.50		0.5	20650	7490	37380	29400	5050 X 4640 X 3930	1475 X 1475
31500			11	22.80	112.2		0.4	27300	12810	44205	37800	5120 X 4800 X 4030	2040 X 1475

**S11(M)-1000~31500/35 Three-phase oil-immersed transformer with NVTC**

Rated capacity (kVA)	Rated voltage and tapping range		Vector group	No load losses (kW)	On load losses (kW)	Impedance voltage (%)	No load current (%)	Weight (kg)				Outline dimension (mm) L×W×H	Trail distance (mm)
	HV	Tapping range						LV	body	oil	gross		
1000				1.16	11.48		1.0	2070	1070	4160	3390	2500 X 1690 X 2590	1070 X 1070
1250				1.37	13.86		0.9	2280	1110	4490	3650	2520 X 1790 X 2590	1070 X 1070
1600				1.66	16.58	6.5	0.85	2730	1200	5130	4220	2560 X 1910 X 2620	1070 X 1070
2000	35		3.15	2.03	18.28		0.75	3120	1320	5830	4770	2650 X 1955 X 2700	1070 X 1070
2500		±5	6.3	2.45	19.55		0.75	3750	1465	6790	5560	2720 X 2135 X 2780	1070 X 1070
3150			10.5	3.01	22.95	7.0	0.7	4290	1680	7810	6280	2800 X 2180 X 2800	1070 X 1070
4000				3.61	27.20		0.7	5200	1930	9490	7720	2880 X 2390 X 2910	1070 X 1070
5000				4.27	31.20		0.6	6160	2150	10950	8650	2980 X 2520 X 2990	1070 X 1070
6300				5.11	34.85	7.5	0.6	7550	2550	12740	10410	3215 X 2380 X 3275	1475 X 1475
8000	35		3.15	7.00	38.25		0.55	8900	2750	15540	12650	3360 X 3170 X 3280	1475 X 1475
10000			3.15	8.26	45.05		0.55	10850	3140	18130	14850	3515 X 3280 X 3500	1475 X 1475
12500	38.5		3.3	9.80	53.55		0.5	12020	3580	20180	16380	3690 X 3320 X 3570	1475 X 1475
16000		±2×2.5	6.3	11.90	65.45		0.5	14795	4125	24650	20185	4065 X 3490 X 3730	1475 X 1475
20000			6.6	14.07	79.05	8.0	0.5	15620	6270	31680	25850	4110 X 3550 X 3770	1475 X 1475
25000			10.5	16.73	93.50		0.5	21615	7840	39160	30800	5150 X 4730 X 4000	1475 X 1475
31500			11	19.95	112.2		0.4	28600	13420	46310	39600	5220 X 4890 X 4110	2040 X 1475

※ Note: 1. All the data included are only examples for your reference.  
 2. Customized and more-efficient transformer is available according to your requirements.