

Power Transformer up to 750kV

9. Data Sheet of Typical Products

330~500kV Power Transformer



330kV two-winding power transformer

Model	Rated capacity (kVA)	Rated voltage and tapping range		Vector group	No load current %	No load losses kW	On load losses kW	Impedance voltage (%)
		HV	LV					
SFP11-150000/330	150000	363±2×2.5%	10.5~20	Ynd11	0.3	90	400	14-15
SFP11-400000/330	400000	363±2×2.5%	10.5~20	Ynd11	0.15	185	820	14-15

330kV three-winding power transformer

Model	Rated capacity (kVA)	Rated voltage and tapping range			Vector group	No load current %	No load losses kW	On load losses kW	Impedance voltage (%)		
		HV	MV	LV					HV-MV	HV-LV	MV-LV
SFPSZ11-150000/330	150000	330±8×1.25%	110~121	10.5~35	YNyn0d11	0.3	95	440	14~15	24~26	7~9
SFPSZ11-240000/330	240000	330±8×1.25%	110~121	10.5~35	YNyn0d11	0.25	135	625	14~15	24~26	7~9
SFPSZ11-360000/330	360000	330±8×1.25%	110~121	10.5~35	YNyn0d11	0.15	185	850	14~15	24~26	7~9
OSFPSZ11-150000/330	150000	330±8×1.25%	110~121	10.5~35	YNa0d11	0.3	50	335	11~12	34~36	22~24
OSFPSZ11-240000/330	240000	330±8×1.25%	110~121	10.5~35	YNa0d11	0.25	70	480	11~12	34~36	22~24
OSFPSZ11-360000/330	360000	330±8×1.25%	110~121	10.5~35	Yna0d11	0.15	95	645	11~12	34~36	22~24

400kV power transformer

Model	Rated capacity (kVA)	Rated voltage and tapping range		Vector group	No load current %	No load losses kW	On load losses kW	Impedance voltage (%)
		HV	LV					
SFFZ11-60000/420	60000	420±8×1.25%	6.3~10.5/6.3~10.5	Ynyn0yn0+d11	0.5	45	270	12~14
SFZ11-438000/420	438000	420±8×1.25%	10.5~20	Ynd11	0.15	175	815	12~18

500kV two-winding power transformer

Model	Rated capacity (kVA)	Rated voltage and tapping range		Vector group	No load current %	No load losses kW	On load losses kW	Impedance voltage (%)
		HV	LV					
DFP11-240000/500	240000	500/√3±2×2.5%	10.5~20	II0	0.2	110	420	14~16
SFP11-480000/500	480000	550±2×2.5%	10.5~20	Ynd11	0.2	190	950	14~16

500kV three-winding power transformer

Model	Rated capacity (kVA)	Rated voltage and tapping range			Vector group	No load current %	No load losses kW	On load losses kW	Impedance voltage (%)		
		HV	MV	LV					HV-MV	HV-LV	MV-LV
ODFPSZ11-250000/500	250000	500/√3	242/√3±8×1.25%	10.5~66	Ia0I0	0.2	70	370	11~12	34~38	20~24
ODFPSZ11-334000/500	334000	550/√3	242/√3±8×1.25%	10.5~66	Ia0I0	0.15	95	485	11~12	34~38	20~24

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

Power Transformer up to 750kV

220kV Power Transformer



31500kVA~360000kVA two-winding transformer with NVTC (HV neutral is indirect grounding)

Rated capacity (kVA)	Rated voltage and tapping range		Vector group	No load current %	Impedance voltage %	No load losses kW	On load losses kW
	HV	LV					
31500				0.70		35	135
40000				0.70		41	157
50000		6.3,6.6,10.5,11		0.65		49	189
63000				0.65		58	220
90000				0.55		77	288
120000	220±2×2.5% 242±2×2.5%	10.5,13.8,11	YNd11	0.55	12~14	94	345
150000				0.50		112	405
180000		11,13.8,15.75		0.46		128	459
240000				0.42		160	567
300000				0.38		189	675
360000		15.75,18		0.38		217	774

31500kVA~240000kVA three-winding transformer with NVTC (HV neutral is indirect grounding)

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 up	Step down		
31500					0.70			40	162
40000			6.3,6.6, 10.5,11,		0.63			48	189
50000			35,38.5		0.56			56	225
63000	220±2× 2.5%,242	69,121		YNyn0d11	0.56	HV~MV: 22~24	HV~MV: 12~14	66	261
90000	±2×2.5%		10.5,11,13.8, 35,38.5		0.49	HV~LV: 12~14	HV~LV: 22~24	86	351
120000					0.49	MV~LV: 7~9	MV~LV: 7~9	106	432
150000					0.42			125	513
180000			11,13.8,15.75, 35,38.5		0.42			142	585
240000					0.35			176	720

31500kVA~240000kVA transformer with NVTC (HV neutral is indirect grounding)

Rated capacity (kVA)	Rated voltage and tapping range		Vector group	No load current %	Impedance voltage %	No load losses kW	On load losses kW
	HV	LV					
31500				0.89		38	151
40000				0.89		45	176
50000				0.82		53	211
63000				0.82		63	247
90000	220±2×2.5%	63,66,69	YNd11	0.75	12~14	83	323
120000				0.75		102	387
150000				0.68		122	453
180000				0.68		138	513
240000				0.61		171	635

Power Transformer up to 750kV

31500kVA~240000kVA Autotransformer with NVTC (HV neutral is indirect grounding)

Rated Capacity (kVA)	Rated voltage and tapping range			Vector group	Step-up set			Step-down set			Short-circuit Impedance%	
	HV	MV	LV		No load loss kW	On load loss kW	No load current%	No load loss kW	On load loss kW	No load current%	Step-up	Step-down
31500					25	117	0.57	22	99	0.5		
40000			6.6,10.5,		29	144	0.57	26	121	0.5		
50000			11,35,		34	170	0.5	30	144	0.43	HV~MV	HV~MV
63000	220±2×2.5%,	121	37,38.5	YNa0d11	40	201	0.5	36	171	0.43	12~14	8~10
90000	242±2×2.5%		50		276	0.43	46	234	0.36			HV~LV
120000			10.5,11		62	340	0.43	56	288	0.36	8~12	28~34
150000			13.8,15.75		73	405	0.36	66	342	0.33	MV~LV	MV~LV
180000			18,35,37,		84	463	0.36	76	387	0.33	14~18	18~24
240000			38.5		99	595	0.33	89	504	0.25		

31500kVA~180000kVA Two-winding transformer with OLTC (HV neutral is indirect grounding)

Rated Capacity (kVA)	Rated voltage and tapping range		Vector group	No load current%	Short-circuit Impedance%	No load loss kW(9)	On load loss kW(9)
	HV	LV					
31500				0.77		38	135
40000		6.3,6.6		0.63		45	157
50000		10.5,11		0.56		54	189
63000	220±8×	35,37,38.5	YNd11	0.56	12~14	63	220
90000	1.25%	10.5,11		0.49		80	288
120000		35,37,38.5		0.49		99	346
150000				0.42		116	405
180000				0.42		135	468

31500kVA~240000kVA Autotransformer with OLTC (HV neutral is indirect grounding)

Rated Capacity (kVA)	Rated voltage and tapping range			Vector group	No load loss kW	On load loss kW	No load current %	Capacity Allocation %	Short-circuit Impedance %
	HV	MV	LV						
31500			6.3		25	108	0.56		
40000			6.6		30	132	0.56		
50000			10.5		36	157	0.49		HV~MV
63000	220±8×	115	11	YNa0d11	42	189	0.49	100/100/50	8~10
90000	1.25%		37		51	247	0.42		HV~LV
120000			38.5		64	308	0.42		28~34
150000			10.5		73	365	0.35		MV~LV
180000			11		85	419	0.35		18~24
240000			35		104	540	0.3		

63000kVA~180000kVA Autotransformer with OLTC (HV neutral is indirect grounding)

Rated Capacity (kVA)	Rated voltage and tapping range			Vector group	No load loss kW	On load loss kW	No load current %	Capacity Allocation %	Short-circuit Impedance %
	HV	MV	LV						
63000			6.3,6.6		42	189	0.49		HV~MV
90000	220±8×	115	10.5,11	YNa0d11	51	247	0.42	100/100/50	8~10
120000	1.25%		35,37,38.5		64	308	0.42		HV~LV
150000			10.5,11		85	365	0.35		28~34
180000			35,37,38.5		104	419	0.35		MV~LV

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

Power Transformer up to 750kV



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

Power Transformer up to 750kV

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.

Power Transformer up to 750kV

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						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	63,66,69	±8×1.25	6.3,6.6,10.5,11	YNd11	9	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						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				Yd11		2.7	12.6	2.4	11.9	2.1	11.9
1600						3.2	14.9	2.9	14	2.6	14
2000		±5			8	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	63,66,69		6.3,6.6,10.5,11			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				YNd11		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		±2×2.5			9	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.