

1. TECHNICAL DATA SHEET

Power transformer 25 MVA, 115 ± 9x1.78 % /38.5±2x2.5%/11 kV				
No	Description	Unit	Data required	Data offered
1	GENERAL			
1.1	Manufacturer			Zhejiang Jiangshan Transformer CO., LTD
1.2	- country			China
1.3	- city			Zhejiang Jiangshan
1.4	Kind of installation		outdoor	outdoor
1.5	Standards		IEC60076	IEC60076
			IEC60137	IEC60137
			IEC61463	IEC61463
			IEEE 693-2005	IEEE 693-2005
1.6	Single or three-phase unit		Three-phase	Three-phase
1.7	Type of core		3 limb, step-lap stacked core form	Three phase three column type, Iron core laminated type, Core type
1.8	Type of tank		Upper flange tank	Upper flange tank
1.9	Tank fully vacuum proof		Yes	Yes
1.10	Number of windings		Three	Three
1.11	Winding material (HV,MV,LV)		Coper	Coper
1.12	Insulation oil			
1.13	- manufacturer			LUBRICANT COMPANY, SINOPEC CORP.
1.14	- type			I-30#
1.15	- specification of oil		IEC 60296	IEC 60296
1.16	- insulation oil inhibited		Yes	Yes
1.17	- test method for corrosive sulphur		IEC 62535 and ASTDM D1275B	IEC 62535 and ASTDM D1275B
2	RATINGS			
2.1	Rated power at nominal voltage (primary/secondary/tertiary)			
2.2	- at ONAN cooling	MVA	20/20/20	20/20/20
2.3	- at ONAF cooling	MVA	25/25/25	25/25/25
2.4	Maximum ambient temperature	°C	50	50
2.5	Annual average ambient temperature	°C	15	15
2.6	Minimum ambient temperature	°C	-30	-30
2.7	Maximum service altitude	m	1000	1000
2.8	Temperature rise limits at all tap changer settings			
2.9	- oil/top	K	50	50

2.10	- windings/average	K	55	55
2.11	- windings/hot spot	K	68	68
2.12	Rated voltages (no load)			
2.13	- HV	kV	115	115
2.14	- MV	kV	38.5	38.5
2.15	- LV	kV	11	11
2.16	Rated frequency	Hz	50	50
2.17	Permissible load at neutral point	%	solidly earthed/surge arrester	solidly earthed/surge arrester
2.18	Vector group symbol		YNyn0d11	YNyn0d11
2.19	Impedance voltage – HV/LV (25 MVA basis)			
2.20	- maximum tap position	%	Specify	18.5
2.21	- nominal tap position	%	17.5	17.5
2.22	- minimum tap position	%	Specify	17
2.23	Impedance voltage – HV/MV (25 MVA basis)			
2.24	- maximum tap position	%	Specify	11.5
2.25	- nominal tap position	%	10.5	10.5
2.26	- minimum tap position	%	Specify	10
2.27	Impedance voltage – secondary/tertiary (25 MVA basis)	%	Min. 6.5 (±30%/-0%)	6.5
2.28	Magnetic flux density at			
2.29	-rated voltage and frequency	Tesla	Max. 1.7	Max. 1.7
2.30	No load losses (tolerance +0%)	kW	<15	<15
2.31	No load current (I ₀ /I _n)	%	0.1	0.2
2.32	Core losses (W17/50)	W/kg	Max. 0.9	<0.9
2.33	Short circuit voltage			
2.34	- HV-LV	%	17.5	17.5
2.35	- HV-MV	%	10.5	10.5
2.36	- MV-LV	%	6.5	6.5
2.37	Load losses at rated power			
2.38	HV/LV (25 MVA basis)			
2.39	- maximum tap position	kW	Specify	108
2.40	- nominal tap position	kW	Specify	110
2.41	- minimum tap position	kW	Specify	160
2.42	HV/MV (25 MVA basis)			
2.43	- maximum tap position	kW	Specify	111
2.44	- nominal tap position	kW	Specify	113
2.45	- minimum tap position	kW	Specify	166
2.46	MT/JT (25 MVA basis)	kW	Specify	95
2.47	HV winding (25 MVA basis)			
2.48	- maximum tap position	kW	Specify	46
2.49	- nominal tap position	kW	Specify	48
2.50	- minimum tap position	kW	Specify	90

2.51	LV winding (25 MVA basis)	kW	Specify	33
2.52	MT winding (25 MVA basis)			
2.53	- maximum tap position	kW	Specify	53
2.54	- nominal tap position	kW	Specify	54
2.55	- minimum tap position	kW	Specify	65
2.56	Power consumption of cooling plant	kW	Specify	1.48
2.57	Efficiency referred to 75 °C at rated voltage taping and at:			
2.58	- 100% rated output and 1.0 power factor	%	99.7	99.5
2.59	- 75% rated output and 1.0 power factor	%	Specify	99.58
2.60	- 50% rated output and 1.0 power factor	%	Specify	99.66
2.61	- 25% rated output and 1.0 power factor	%	Specify	99.65
2.62	- 100% rated output and 0.8 power factor	%	Specify	99.36
2.63	- 75% rated output and 0.8 power factor	%	Specify	99.48
2.64	- 50% rated output and 0.8 power factor	%	Specify	99.57
2.65	- 25% rated output and 0.8 power factor	%	Specify	99.56
2.66	Voltage variation range HV	kV	+/- 18.423	+/- 18.423
2.67	Taping range HV	%	+/- 16	+/- 16
2.68	Number of steps HV	steps	+/- 9	+/- 9
2.69	Continuous power on all taps		Yes	Yes
2.70	Voltage variation range MV 38.5 kV	kV	+/- 1.925	+/- 1.925
2.71	Tapping range MV 38.5 kV	%	+/- 5	+/- 5
2.72	Number of steps MV 38.5 kV	steps	+/- 2	+/- 2
2.73	Principal taping HV	kV	115	115
2.74	Principal taping MV	kV	38.5	38.5
2.75	Winding insulation design			
2.76	- HV		Uniform	Uniform
2.77	- MV		Uniform	Uniform
2.78	- LV		Uniform	Uniform
2.79	Seismicity on MSK scale		IX	IX
3	INSULATION LEVEL			
3.1	Insulation level HV winding			
3.2	- Power frequency withstand voltage line/neutral	kV	230/230	230/230
3.3	- Lightning impulse level line/neutral	kV	550/550	550/550
3.4	Insulation level LV winding			
3.5	- Power frequency withstand voltage	kV	34	34
3.6	- Lightning impulse level	kV	110	110
3.7	Insulation level MT winding			
3.8	- Power frequency withstand voltage	kV	95/95	95/95

	line/neutral			
3.9	- Lightning impulse level line/neutral	kV	250/250	250/250
4	OPERATION DETAILS			
4.1	Cooling method		ONAF	ONAN/ONAF
4.2	Noise level (LpA) at a measuring distance of 2.0 m (all forced cooling in operation)	dB(A)	Max. 60	<60
5	BUSHINGS			
5.1	HV (lines)			
5.2	- manufacturer			Jiangsu zhida
5.3	- type			Oil Impregnated Paper Condenser Bushing
5.4	- rated current	A	800	800
5.5	- power frequency test voltage	kV	255	255
5.6	- lightning impulse level		550	550
5.7	- minimum creepage distance in accordance with IEC 60815	mm	2835	3906
5.8	- cantilever load level according to IEC 60137	daN	Specify	3150N
5.9	HV (neutral)			
5.10	- manufacturer			Jiangsu zhida
5.11	- type			Oil Impregnated Paper Condenser Bushing
5.12	- rated current	A		630
5.13	- power frequency test voltage	kV	105	255
5.14	- lightning impulse level		250	550
5.15	- minimum creepage distance in accordance with IEC 60815	mm	1050	3906
5.16	- cantilever load level according to IEC 60137	daN	Specify	1000
5.17	LV			
5.19	- manufacturer			Jiangsu zhida
5.20	- type			Porcelain Bushing
5.21	- rated current	A	2000	2000
5.22	- power frequency test voltage	kV	42	55
5.23	- lightning impulse level		110	125
5.24	- minimum creepage distance in accordance with IEC 60815	mm	280	744
5.25	- cantilever load level according to IEC 60137	daN	Specify	1000
5.26	MT (lines/neutral)			
5.27	- manufacturer			Jiangsu zhida

5.28	- type			Porcelain Bushing
5.29	- rated current	A	630	630
5.30	- power frequency test voltage	kV	105	105
5.31	- lightning impulse level		250	250
5.32	- minimum creepage distance in accordance with IEC 60815	mm	1050	1426
5.33	- cantilever load level according to IEC 60137	dan	Specify	1000
6	CURRENT TRANSFORMERS			
6.1	115 kV line side			
6.2	For protection purposes			LRB-110
6.3	Rated output	VA	30	30
6.4	Ratio			
6.5	- primary	A	150-300	150-300
6.6	- secondary	A	5	5
6.7	Class		5P20	5P20
6.8	For protection purposes			LRB-110
6.9	Rated output	VA	30	30
6.10	Ratio			
6.11	- primary	A	150-300	150-300
6.12	- secondary	A	5	5
6.13	Class		5P20	5P20
6.14	115 kV neutral side			
6.15	For protection purposes			LRB-110
6.16	Rated output	VA	10	10
6.17	Ratio			
6.18	- primary	A	150-300	150-300
2.19	- secondary	A	5	5
6.20	Class		5P20	5P20
6.21	38.5 kV line side			
6.22	For protection purposes			LRB-40
6.23	Rated output	VA	30	30
6.24	Ratio			
6.25	- primary	A	600-800	600-800
6.26	- secondary	A	5	5
6.27	Class		5P20	5P20
6.28	For protection purposes			LRB-40
6.29	Rated output	VA	30	30
6.30	Ratio			
6.31	- primary	A	600-800	600-800

6.32	- secondary	A	5	5
6.33	Class		5P20	5P20
7	ON-LOAD TAP CHANGER			
7.1	Manufacturer			MR
7.2	Type			VRMIII-700Y/123C-10191W
7.3	Rated through current	A	≥400	700
7.4	Rated step capacity	kVA	≥2200	3000
7.5	Lightning impulses level	kV	550	550
7.6	Power frequency withstand test voltage	kV	230	230
7.7	Rated step voltage per phase	kV	3200	4500
7.8	Short-time current			
7.9	- 3s value	kA	≥10	10
7.10	- peak value	kA	≥25	25
7.11	Type of connection		Neutral	110kV side,Neutral
7.12	Type of switching		Vacuum type diverter switch	Vacuum type, OLTC
7.13	Contact life operation	Nos	Min. 500 000	> 500,000
7.14	Number of switching operation till first revision	Nos	Min. 250 000	> 250,000
7.15	Auxiliary supply voltage (AC)	V	400/230	400/230
8	PROTECTION AND MONITORING EQUIPMENT			
8.1	- Buchholz relay		EMB BF 80/10 (or. equ.)	EMB BF 80/10
8.2	- Oil flow operated protection relay		EMB URF 25/10 (or. equ.)	EMB URF 25/10
8.3	- Conservator gas detection relay		EMB CF-38 (or/ equ.)	EMB CF-38
8.4	- Oil level indicator			YZF-250/140
8.5	Type			traight pole float
8.6	Manufacturer			Shenyang sixing
8.7	- Pressure relief device		resettable spring loaded	Yes
8.8	Type			YSF9-55/130
8.9	Manufacturer			Shenyang keqi
8.10	- Dehydrating breather		Automatic, maintenance free	Yes
8.11	Type			STB-100-1
8.12	Manufacturer			QUALITROL
8.13	- Oil temperature indicator			
8.14	Type			BWY-804A/YE
8.15	Manufacturer			Fujian LEAD Automatic Equipment Co., Ltd
8.16	- Winding temperature indicator			
8.17	Type			BWR-4/YE

8.18	Manufacturer			Fujian LEAD Automatic Equipment Co., Ltd
9 MASSES, MEASURES AND DRAWINGS				
9.1	Transformer masses:			
9.2	- total mass	kg		64950
9.3	- transportation mass	kg		52500(With oil)
9.4	- untanking mass	kg		8900
9.5	- mass of insulating liquid	kg		14200
9.6	Overall dimensions including bushings:			
9.7	- height	mm		5910mm
9.8	- depth	mm		7200mm
9.9	- width	mm	max. 6250	5000mm
9.10	Gauge of the tank			
9.12	- longitudinal	mm	1524	1524
9.12	- transverse	mm	2000	2000
10 RELIABILITY REQUIREMENTS				
10.1	Design of windings and/or magnetic core pressing system should not require any maintenance for the whole expected life term		Yes	Yes
10.2	Manufacture has to have experience in short-circuit tests ≥ 110 kV rated voltage transformers (withstand short circuit) according to IEC standard in independent laboratories not earlier than 2010		Specify transformer type, present test report	SFZ-66000/132 type tests and SSZ22-63000/110-NX1 type tests
10.3	Life time	year	Min. 30	Min. 30
11 DELIVERY				
11.1	Incoterms		DAP	DDP
11.2	Unloading on site		No	No
12 DOCUMENTS TO BE PROVIDED WITH THE OFFER				
12.1	Transformer data plate (photo or drawing)		Provide	Provide
12.2	Passport or Test Certificate of the similar* transformer previously manufactured not earlier than 2010		Provide	Provide
12.3	Reference list of the similar transformers for the last 5 years with end users contacts		Provide	Provide
12.4	Certificate for manufacture's test laboratory (ISO/IEC)		Provide	Provide
12.5	Outline transformer drawing		Provide	Provide

12.6	Oil test certificate		Provide	Provide
12.7	Short-circuit test report		Provide	Provide
12.8	OLTC Type Test Report performed in independent and accredited European Laboratory according to IEC 60214-1:2014,		Provide	Provide
12.9	OLTC instalatuon and operation manual		Provide	Provide
12.10	Other documents required according to chapter 5 of the present document		Provide	Provide

- Similar transformer is a three – winding transformer with same/similar rated power, HV / MV/LV rated voltage, no-load and load losses, impedance voltage, sound pressure level.



赵玲燕

Ofertantul

„Business Intelligent” SRL

adresa completă: mun. Chișinău, bd. Decebal 6/2, of. 150

Data completării: 04.12.2023

Administratorul Dranga Iurii

(semnătura) și L.Ș.