GRID
INFRASTRUCTURE SOLUTIONS

220KV POWER TRANSFORMERS

Applications:

GRID offers custom-built 220kV power transformers that are used in high-voltage transmission substations, large industrial facilities, and renewable energy projects to efficiently step up or step down power for long-distance distribution. They also support urban substations and critical infrastructure, ensuring stable electricity supply for national grid.

Features:

- **Premium Durability:** Superior insulation and mechanical resilience allow for extended system life and overall system reliability – reducing the frequency of outages.
- **Certified Quality:** Oil-immersed power transformers are manufactured, tested and delivered our in accordance with all applicable standards (ANSI, IEEE) maintaining US compliance which simplifies service and retrofitting.
- **Energy Efficient:** Designed to accommodate heavier base loading for extended periods of time with low energy loss and minimal partial discharge for optimized energy savings.

Working Conditions:

- Max. ambient temperature: +40ºC
- Min. temperature: -30ºC (outdoor installation)
- No corrosive gas, no obvious dirt, etc.
- Altitude: ≤1000m
- Relative humidity: ≤90% (25ºC) (without condensation)
- Customized engineering available on request

Lead Time:

Approximately **6-24 Months** after drawings approved.

IEC ANSI IEEE

**Photos shown for visual reference only—actual product specifications may vary based on manufacturing and order requirements.*

220KV POWER TRANSFORMERS

3-Phase 3-Winding Non-Excited Regulating Autotransformer Specifications

Voltage Combination			Vector Group	Impedance (UK%)		Rated Capacity (kVA)	Step-Up Combination			Step-Down Combination		
HV (kV)	MV (kV)	LV (kV)		Step Up	Step Down		No-load Loss (kW)	Load Loss (kW)	No-load Current (%)	No-load Loss (kW)	Load Loss (kW)	No-load Current (%)
220±2x2.5% 230±2x2.5% 242±2x2.5%	115 121	6.6 10.5 21 36 37 38.5 --- 10.5 13.8 15.75 18 21 36 37 38.5	YNa0d11	HV-MV 17-14 HV-LV 8-12 MV-LV 14-18	HV-MV 8-10 HV-LV 28-34 MV-LV 18-24	31500	20	111	0.45	17	94	0.4
						40000	23	136	0.45	20	114	0.4
						50000	27	161	0.4	24	136	0.34
						63000	32	190	0.4	28	162	0.34
						90000	40	262	0.34	36	222	0.28
						120000	49	323	0.34	44	273	0.28
						150000	58	384	0.28	52	324	0.26
						180000	67	439	0.28	60	367	0.26
						240000	79	545	0.16	71	478	0.2

Notes:

1. *The capacity allocation of step-up structure is (100 / 50 / 100)%; and step-down strucure is (100 / 100 / 50)%*
2. *The short circuit impedance in the table above is 100% of the rated capacity*
3. *Transformer with low voltage of 35kV can also be provided upon request*
4. *The non tapping structure is preferred, and all taps can be set if required*
5. *When the annual load rate of the transformer is about 40%, the highest operation effeciency can be optained by using the loss value in the table above*

3-Phase 3-Winding OLTC Power Transformer Specifications

Voltage Combination			Vector Group	Capacity Allocation (%)	Impedance (UK%)	Rated Capacity (kVA)	No-load Loss P0 (kW)	Load Loss Pk (kW) at 75°C	No-load Current (I0%)
HV (kV)	MV (kV)	LV (kV)							
220±8x1.25% 230±8x1.25%	69 115 121	6.3 6.6 10.5 21 36 37 38.5 --- 10.5 21 36 37 38.5	YNyn0d11	100/100/100 100/50/100 100/100/50	HV-MV 12~14 HV-LV 22~24 MV-LV 7~9	31500	28	145	0.77
						40000	33	174	0.73
						50000	38	205	0.74
						63000	45	244	0.69
						90000	58	316	0.54
						120000	74	390	0.54
						150000	86	463	0.48
						180000	99	568	0.48
						240000	123	704	0.43

Notes:

1. *The data above is applicable to step-down transformers, however step-up transformers can also be provided upon request*
2. *Transformer with low voltage of 35kV can also be provided upon request*
3. *When the annual load rate of the transformer is between 45% and 50%, the highest operation efficiency can be obtained by using the loss value above*

3-Phase 2-Winding OLTC Power Transformer Specifications

Voltage Combination			Vector Group	Impedance (UK%)	Rated Capacity (kVA)	No-load Loss P0 (kW)	Load Loss Pk (kW) at 75°C	No-load Current (I0%)
HV (kV)	MV (kV)	LV (kV)						
220±8x1.25% 230±8x1.25%	69 115 121	6.3 6.6 10.5 21 36 37 38.5 --- 10.5 21 36 37 38.5 --- 66 69	YNd11	12~14	31500	24	122	0.68
					40000	29	142	0.7
					50000	34	170	0.64
					63000	40	199	0.64
					90000	51	259	0.55
					120000	63	321	0.56
					150000	74	380	0.51
					180000	86	436	0.47
					120000	65	320	0.55
					150000	77	374	0.53
					180000	90	428	0.47
					240000	112	532	0.37

Notes:

1. *Transformer with low voltage of 35kV can also be provided upon request*
2. *When the annual load rate of the transformer is between 45% and 50%, the highest operation efficiency can be obtained by using the loss value above*

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