恩波利
ENBOLI

11OKV 3Phase on-load Power Transformer

Summary

We have adopted series of important reforms on the 110kV level three-phase oil-immersed on-load tap-changing transformer referring material, process and structure. The transformer has the features of small size, light weight, high efficiency, low loss, low noise, reliable operation etc. which can reduce a large amount of power network loss and operation expenses with significant economic benefits.It is suitable for power plant substation, heavy section plant ore enterprises etc.

Model and meaning

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- Protection Code (Usually don't mark, TH-hygrothermal, TA-dry-hot)
- Rated high voltage (kV)
- Rated Power (kVA)
- Design serial number (9,10.....)
- Tap-changing mode (Don't mark for NLTC, Z-OLTC)
- Conductor mode (Don't mark copper conductor, L-Aluminum conductor)
- Coil number (Don't mark two windings, S three windings, F-splitting windings)
- Circulation mode (Don't mark natural circulation, P-Forced circulation)
- Cooling method (J-Don't mark self-cooling, F-Oil-immersed air force cooling, S-Water cooling)
- Phase number (D-Single phase, S-Three phase)

Main 110kV level three-phase on-load tap-changing power transformer technical parameters

Rated capacity (kVA)	Voltage combination: High voltage (kV)	Voltage combination: Low voltage (kV)	Vector Group	No-load loss (kW)	Load loss (kW)	No load current (%)	Short circuit impedance (%)
6300	110±2x2.5% 115±2x2.5% 121±2x2.5%	6.3 6.6 10.5 11 13.8 15.75 18 21	YNd11	7.40	35.0	0.62	10.5
8000				8.90	42.0	0.62	
10000				10.5	50.0	0.58	
12500				12.4	59.0	0.58	
16000				15.0	73.0	0.54	
20000				17.6	88.0	0.54	
25000				20.8	104	0.50	
31500				24.6	123	0.48	
40000				29.4	148	0.45	
50000				35.2	175	0.42	
63000				41.6	208	0.38	
75000				47.2	236	0.33	12-14
90000				54.4	272	0.30	
120000				67.4	337	0.27	
150000				80.1	399	0.24	
180000				90.0	457	0.20	

Note 1:-5% tapping position is maximum current tapping.
Note 2: For boost transformer, it is advisable to adopt non-tapping structure. If there is any requirement for operation, sub-connectors can be set up.
Note 3: When the average annual load rate of transformer is between 42% and 46%, the maximum operating efficiency can be obtained by using the loss value in the table.

63000kVA-63000kVA three-phase three-winding NLTC power transformer

Rated capacity (kVA)	Voltage combination: High voltage (kV)	Voltage combination: Medium voltage (kV)	Voltage combination: Low voltage (kV)	Vector group	No-load loss (kW)	Load loss (kW)	No load current (%)	Short-circuit impedance (%): Step up	Short-circuit impedance (%): Step down
6300	110±2x2.5% 115±2x2.5% 121±2x2.5%	33 35 37 38.5	6.3 6.6 10.5 11	YNyn0d11	8.90	44.0	0.66	H-M 17.5-18.5 H-L 10.5	H-M 10.5 H-L 18-19 M-L 6.5
8000					10.6	53.0	0.62		
10000					12.6	62.0	0.59		
12500					14.7	74.0	0.56		
16000					17.9	90.0	0.53		
20000					21.1	106	0.53		
25000					24.6	126	0.48		
31500					29.4	149	0.48		
40000					34.8	179	0.44		
50000					41.6	213	0.44		
63000					49.2	256	0.40		

Note 1:High, medium and low voltage winding capacity allocation is (100/100/100)% high, medium and low.
Note 2:The connection group label can be YNd11y11bas required.
Note 3:According to the user's requirement, medium voltage can be selected as different from the voltage value in the meter or with taps.
Note 4:-5% tapping position is maximum current tapping.
Note 5:For boost transformer, it is advisable to adopt non-tapping structure. If the operation requires, tapping can be set up.
Note 6:When the average annual load rate of transformer is about 45%, the maximum operating efficiency can be obtained by using the loss value in the table.

6300kVA-63000kVA three-phase two winding OLTC power transformer

Rated capacity (kVA)	Voltage combination: High voltage (kV)	Voltage combination: Low voltage(kV)	Vector Group	No-load loss (kW)	Load loss (kW)	No load current (%)	Short circuit impedance (%)
6300	110±8x1.25%	6.3 6.6 10.5 11 21	YNd11	8.00	35.0	0.64	10.5
8000				9.60	42.0	0.64	
10000				11.3	50.0	0.59	
12500				13.4	59.0	0.59	
16000				16.1	73.0	0.55	
20000				19.2	88.0	0.55	
25000				22.7	104	0.51	
31500				27.0	123	0.51	
40000				32.3	156	0.46	
50000				38.2	194	0.46	12-18
63000				45.4	232	0.42	

Note 1:On-load tap-changer, temporarily providing step-down structure products.
Note 2:According to user's requirements, other voltage combination products can be provided.
Note 3:- 10% tapping position is maximum current tapping.
Note 4:When the average annual load rate of transformer is between 45% and 50%, the maximum operating efficiency can be obtained by using the loss value in the table.

6300kVA-63000kVA three-phase two winding OLTC power transformer

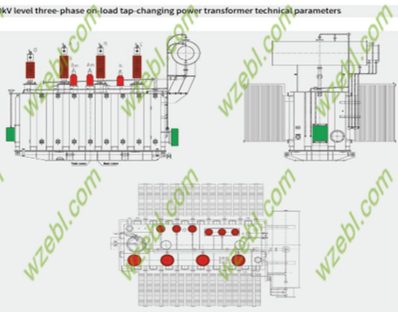
Rated capacity (kVA)	Voltage combination: High voltage (kV)	Voltage combination: Medium voltage (kV)	Voltage combination: Low voltage(kV)	Vector Group	No-load loss (kW)	Load loss (kW)	No load current (%)	Short circuit impedance (%)
6300	110±8x1.25%	33 36 37 38.5	6.3 6.6 10.5 11 21	YNyn0d11	9.60	44.0	0.76	H-M 10.5 H-L 18-19 M-L 6.5
8000					11.3	53.0	0.76	
10000					13.6	62.0	0.71	
12500					16.1	74.0	0.71	
16000					19.3	90.0	0.67	
20000					22.8	106	0.67	
25000					27.0	126	0.62	
31500					32.1	149	0.62	
40000					38.5	179	0.58	
50000					45.5	213	0.58	
63000					54.1	256	0.50	

Note 1:On-load tap-changer, temporarily providing step-down structure products.
Note 2:High, medium and low voltage winding capacity allocation is (100/100/100)% high, medium and low.
Note 3:The connection group label can be YNd11y10 as required.
Note 4:- 10% tapping position is maximum current tapping.
Note 5:According to user's requirement, medium voltage can be selected as different from the voltage value in the meter or with taps.
Note 5:When the average annual load rate of transformer is about 47%, the maximum operating efficiency can be obtained by using the loss value in the table.

6300kVA-63000kVA three-phase two winding OLTC power transformer

Rated capacity (kVA)	Voltage combination: High voltage (kV)	Voltage combination: Low voltage (kV)	Vector Group	No-load loss (kW)	Load loss (kW)	No load current (%)	Short circuit impedance (%)
6300	110±8x1.25%	6.3 6.6 10.5 11 21	YNd11	8.00	35.0	0.64	10.5
8000				9.60	42.0	0.64	
10000				11.3	50.0	0.59	
12500				13.4	59.0	0.59	
16000				16.1	73.0	0.55	
20000				19.2	88.0	0.55	
25000				22.7	104	0.51	
31500				27.0	123	0.51	
40000				32.3	156	0.46	
50000				38.2	194	0.46	12-18
63000				45.4	232	0.42	

Main 110kV level three-phase on-load tap-changing power transformer technical parameters



Specification of power transformer could be customized.

Ordering instructions
Consumer needs to offer the following technical parameters when ordering:
Model, Product, rated volume, system voltage, voltage combination, connection symbol labeling, short circuit impedance, no-load lossfon-load loss, no-load current, rated frequency, cooling method, altitude, working environment and other requirements. Serial number.