

SPECIFICATION FOR TRANSFORMER

1. TYPE: Three windings, oil-immersed ONAN/ONAF Cooled 、 Indoor use.

2. SERVICE CONDITIONS:

The equipment supplied here under shall be installed at an altitude below 1,000 meters. Maximum ambient temperature will not exceed 50°C and the average ambient temperature during any 24-hour period will not exceed 30 °C.

3. RATING

- 3-1 Phase 3 ϕ
- 3-2 Frequency 50 Hz
- 3-3 Capacity 60000/80000 kVA
- 3-4 Primary rated voltage 115000 V (between lines) , 4 bushings
66395 V (between phase and neutral)
- Secondary rated voltage 6000 V (between lines) , 3 bushings
- Tertiary rated voltage 6000 V (between lines) , 3 bushing
- 3-5 Primary tap voltage (On load voltage tap changer)
Full capacity 115000 \pm 9*1.11% (19 taps) V
- 3-6 Connection Primary Y , Secondary Δ , Tertiary Δ
- 3-7 Phase displacement YNd11d11

4. DIELECTRIC STRENGTH:

The transformer shall be designed and constructed to withstand the imposition of voltages in accordance with the recommendation of IEC 60076 , as follows

- 4-1 AC
Primary line 230 kV Secondary line 20 kV Tertiary line 20 kV
Primary neutral 95 kV
- 4-2 BIL (LI)
Primary line 550 kV Secondary line 60 kV Tertiary line 60 kV
Primary neutral 250 kV

5. TEMPERATURE RISE:

- 5-1 Winding: Average winding temperature rise measured by resistance method shall not exceed 55 °C
- 5-2 Oil: Maximum oil temperature rise measured by thermometer method shall not exceed 50 °C

6. TRANSFORMER OIL

The transformer shall be delivered filled with normal quantity of insulation oil of IEC-60296 .

7. FACTORY PERFORMANCE TEST

The transformer shall be tested as follows, and visual/dimension inspection shall be performed prior to be delivered to the site.

- 7-1 Resistance measurement
- 7-2 Ratio test
- 7-3 Polarity test or phase displacement test
- 7-4 No load loss test
- 7-5 Load loss test
- 7-6 No load current test
- 7-7 Impedance test
- 7-8 Induced voltage test
- 7-9 Applied voltage test
- 7-10 Temperature Rise Test *
- 7-11 Audible sound level test *
- 7-12 Impulse Test *
- 7-13 Partial discharge test (Special test)

*: Only one transformer of random sampled from the transformers of same design in a contract will be subject to the test.

8. STANDARD :

The transformer shall be designed , manufactured and tested in accordance with IEC 60076 standard.

9. CHARACTERISTICS (AT 75 °C)

Test tap Primary 115000 V , Secondary 6000 V , Tertiary 6000 V

Capacity (kVA)	Efficiency (%)				Regulation(%)		No load current (%)
	Full load	3/4 load	1/2 load	1/4 load	100% P.F	80% P.F	
80000	99.59	99.65	99.70	99.66	---	---	0.5

Capacity (kVA)	NO Load loss(kW)	Load loss(kW)	Total loss(kW)	Impedance (%)	Sound Pressure Level (dB(A))
80000	51.3	280	331.3	---	79

Note:Tolerance of electrical performance shall comply with IEC 60076

10. OUTLINE DRAWING NO., TOTAL WEIGHT AND DIMENSIONS. (APPROX. VALUE)

Capacity (kVA)	Outline. drawing NO.	Dimensions (mm)			Weight (KG)
		Length (A)	Depth (B)	Height (C)	
60000/80000	TQ19-23606	6700	5400	6600	120000

11. CONSTRUCTION:Reference TATUNG power transformers catalog.

12. The oil preservation system is diaphragm sealed type.

REMARK

1. Impedance: 10% @40MVA, primary - secondary or primary - tertiary
2. HV neutral side insulaton class: graded for solid earthed
3. HV line side arresters will be supplied.
4. Option: on-line DGA (7 gases+moisture) monitor (Q19-23606-1)