

# Annexure to Tender No.40.17.5014

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## SPECIFICATION OF POWER TRANSFORMERS -

Power distribution transformer 750KVA, 3 Phase, 11 KV/415V/440V at no load oil immersed naturally cooled copper wound indoor type star delta connected with phase and neutral brought out and terminated on porcelain bushings. The tapping provided in the HT windings should be 0,  $\pm 2.5\%$ ,  $\pm 5\%$  and should be brought out to an off load triple pole hand operated tape changing switch for HV compensation, suitable with following standard accessories confirming to IS 2026/1977. Insulating oil of IS 12463.

1. First fill of transformer oil.
2. Rating plate.
3. Terminal marking plate.
4. 2 nos. earthing terminals.
5. Lifting lugs.
6. Oil drain valve with plugs.
7. Dehydrating breather.
8. Oil level indicator.
9. Thermometer packed with dial type thermometer
10. Oil filling hold with cover
11. Oil conservator tank.
12. Air released device.
13. Six nos. Roller.
14. Explosion vent.
15. Unmounted quadfurcating box and brass sealing glass (secondary side)
16. Unmounted quadfurcating cable box with brass sealing glass (secondary side)

### Description / Guarantee/ Technical Specification :-

Make of transformer	M/s.NGEF/Kirlosker/Hind Rectifier/BHEL/Crompton Greaves / Rajasthan Transformer & Switchgear.
Type of cooling	O.N.
Indoor/Outdoor	Indoor type
Core type or shell type	Core type
Governing specification	ISS 2026 of 1977
Normal output KVA	750KVA (Continipstrated)

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Frequency	50CPS
No. of phase (LV Side)	Three
Voltage bet. Phase (LV side)	415/440V
Voltage bet. Ph (HV side)	11000V
No. Of ph. (HV side)	Three
Connection of LV side	star
Connection of HV side	Delta
Vector group DY-11	DY-11
Type of terminals	a)HV side 3 terminals. Terminated on open porcelain bushing b)LV side 4 Terminals. Terminated on porcelain bushing.
Whether neutral is brought out	Yes On LV Side
Tapping on HV side	Yes
Magnetising current in amp.	Max.5% of the rated current.
Temperature rise at full load in	a) Winding resistance 55°C
An ambient temp. of 45°C	b)Core-55°C Oil 45°C
Impedance voltage	4.49%

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Core : The core shall be silicon steel. The core shall be made up of cold rolled grain oriented laminations insulated on both sides.

Winding : Double wound with copper conductor. The coils shall be varnished impregnated with Elmotherm F-50 class impregatory varnish Mr.Mech's products.

Insulation: High quality insulating materials like draft paper, fibre glass tape polyester tape and elephantiee grade 'S' or 'K' press board shall be used for electrical insulation conf. to IS 1567-1977.

Tap switch : A triple pole tap changing switch shall be provided with external handle and indicting disc for denoting the tap position in which it is set and devise for looking the tap switch.

Terminal Arrangement : 3 nos. of porcelain bushings suitable for 21 KV on the primary side and 4 nos. Porcelain bushings suitable for 1100 V. Grade on secondary side and a separate quadfurcation cable box with brass seeling gland . The porcelain bushings shall conf. To IS 2099/1973.

Tank : The tank shall be robust design and adequate mechanical stiffeners. Pressed sheet steel/ Elleptical tublar radiator shall be provided for cooling core and

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winding assembly shall be independently housed in the Tank and fixed to the sides of the tank by special clamps.

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Conservator: The conservator shall be fixed on the top cover parallel to the boarder side on LV side with suitable oil level gauge and detachable and cover, the connecting pipes between the conservator and top cover protrudes inside the conservator for in 25 mm max. 30mm.

Painting: The inside of the tank shall be painted with hot oil resistant anticorrosive paint Two coat of red oxide Zinc chromate primer shall be given on the outside of the tank two coats of synthetic enamel finish paint colour.

Tests: All routine tests will have to be conducted by the manufacturer as per ISS in presence of Railway representative and to the entire satisfaction of the inspection at the manufacturer work and at site.

Warranty: Warranty for one year from use date of commissioning or 18 months from use date of supply whichever is earlier should be given.

SSE (EL) WRS Kota

AWM (EL) WRS-KOTA

Sr. DEE (G) KOTA

सी. से. इंजीनियर/प्रभारी (विद्युत)  
Sr. Sec. Engineer/Incharge (Electric)  
माल डिब्बा मरम्मत कारखाना, प.म.रे. कोटा  
Wagon Repair Shop, W.G. Rly, KOTA