



Input data for larg distribution transformer temperature rise calculation			
Transformer Rate (kVA)			
No	Data	Inner Coil	Outer Coil
1	Windingding type		
2	Number Of Section or No of Disk		
3	Number of Strands in radial direction (Per Core)		
4	Strands dimension in radial direction (mm)		
5	Number of Strands in Axial Direction per core		
6	Number of strands in Axial Direction per Turn		
7	Insulation paper wrapped thickness ( 2 side)		
8	Strands dimension in Axial direction (mm)		
9	Duct thickness Before Winding (mm)		
10	<sup>6</sup> DIA_IN Before winding (mm)		
11	<sup>6</sup> DIA_Out After winding (mm)		
12	<sup>4</sup> Number of Inner Duct		
13	<sup>5</sup> Inner Duct thickness (mm)		
14	Outer Duct thickness (mm)		
15	Clearance BTW Outer-Inner coil (mm)		
16	(mm)		
17	Dimension of axial ducts in turn (mm)		NA
18	Coil Axial Length (mm)		
19	Winding A.C. Losses in Watts (on specified tapping)		
20	Total Losses in Watts (on specified tapping)		
21	Heat Dissipation Area in Square c.m.		
22	Tank Height (mm)		
23	Radiator type N=Normal S=Swan Neck		
24	Top Radiator header to tank bottom (mm)		
25	Top oil temperature rise (k)		
26	Inner winding temperature rise (k)		
27	Outer winding temperature rise (k)		

**Windingding type for paper wrapped rectangular copper wires conductors**

1L Layer type with axial ducts between turn

2L Layer type with axial ducts between turn and inner turn

H Helical or Spiral

D Disk

**Conditions of input data**

1.Maximum transformer rating 20 MVA

2.Total losses value Min 35,000 W to Max 150,000 W

3. Tank height Min 1,500 mm to Max 3,000 mm.

4.Min and Max value of Heat Dissipation Areal (Sq.cm)/Total losses is 30 Sq.cm/w and 80 Sq.cm/watt and max radiator fin/set is 30 with radiator header length Max 1600 mm

5. Number of inner ducts Min 0 to Max 6

6.Inner duct thickess Min 3 mm to Max 6 mm

7.DIA\_IN and DIA\_Out are distance to conductor

8.Axial ducts thickness Min 2 mm

