



<b>TOSHIBA</b>	Toshiba Transmission & Distribution Systems (India) Pvt.Ltd. Distribution Transformers Division	Engineering
		Unit-10

**GUARANTEED TECHNICAL PARTICULARS  
THREE PHASE DISTRIBUTION TRANSFORMER**

Work order No : 09173A	Customer: Re-Tech Oy, Finland .			
kVA : 1000	kV :20.5/0.41	Phase : 3	Freq. : 50Hz	Cooling : ONAN

Sl. No.	Description	UNIT	1000 kVA
1)	Make		Toshiba Transmission & Distribution Systems (India) Pvt. Ltd
2)	Type		Hermitically Sealed
3)	Phases	No.	Three
4)	Rating	kVA	1000 kVA
5)a)	Rated Voltage:		
	HV	V	20500
	LV	V	410
b)	Highest voltage for equipment		
	HV	kV	24
	LV	kV	1
c)	HV Tapping Range		+5% to -5% insteps of 2.5%
6)	Frequency	Hz	50
7)	Vector Group		Dyn 11
8)	Insulation Level		
	HV	kV peak	125
	LV	kV peak	Not Applicable
9)	Power Frequency Level		
	HV	kV rms	50
	LV	kV rms	3
10)	Winding material		Aluminium
11)	Core Material		CRGO
12)	Temperature Rise:		
	Oil	° C	60
	Winding	° C	65
13)	Losses		
	No Load Losses at rated Voltage and Frequency	Watt	693 (MAX)-Tier-2
	Load Losses at 75 ° C	Watt	7600 (MAX)-Tier-2
14)	Impedance Voltage	%	6% (+/- IEC Tolerance Applicable)
15)	Percentage Resistance	%	0.76
16)	Regulation at:		
	Full Load UPF	%	0.94
	Full Load 0.8 PF	%	4.27
17)	Efficiency at 0.8 PF:		

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	Full Load	%	98.97
	¾ Full Load	%	99.18
	½ Full Load	%	99.36
18)	Terminal Arrangement:		
	HV		Bare Bushings – Plug in –24kV/250A
	LV		Bare Bushings – Porcelain–1kV/2000A
19)	Actual Overall Dimensions:		
	Length	mm	1745
	Width	mm	980
	Height	mm	1550 (without rollers)*
20)	Overall Weight		
	Total Weight	Kg.	3500
21)	Noise Level	LwAdB(A)	55
<b>Applicability of Optional Fittings For above mentioned Actual Overall Dimensions</b>			
22)	Provision for Rollers		Yes
23)	Pole Mounting consoles		No
24)	HV bushing flags/connector/lug		No
25)	LV bushing flags/ connector/lug		No
26)	HV Tapping/Tap Switch		Yes

Note:

1. Actual overall dimensions and weights are subjected to +/-10% Tolerance.
2. All the efficiencies and regulations are calculated at the nominal values of NLL, LL AT 75DegC and %Z at 75 Deg C.
3. \* With Rollers transformer height will increase by 135mm.
4. Paint: Class C4 corrosion protection paint will be provided.