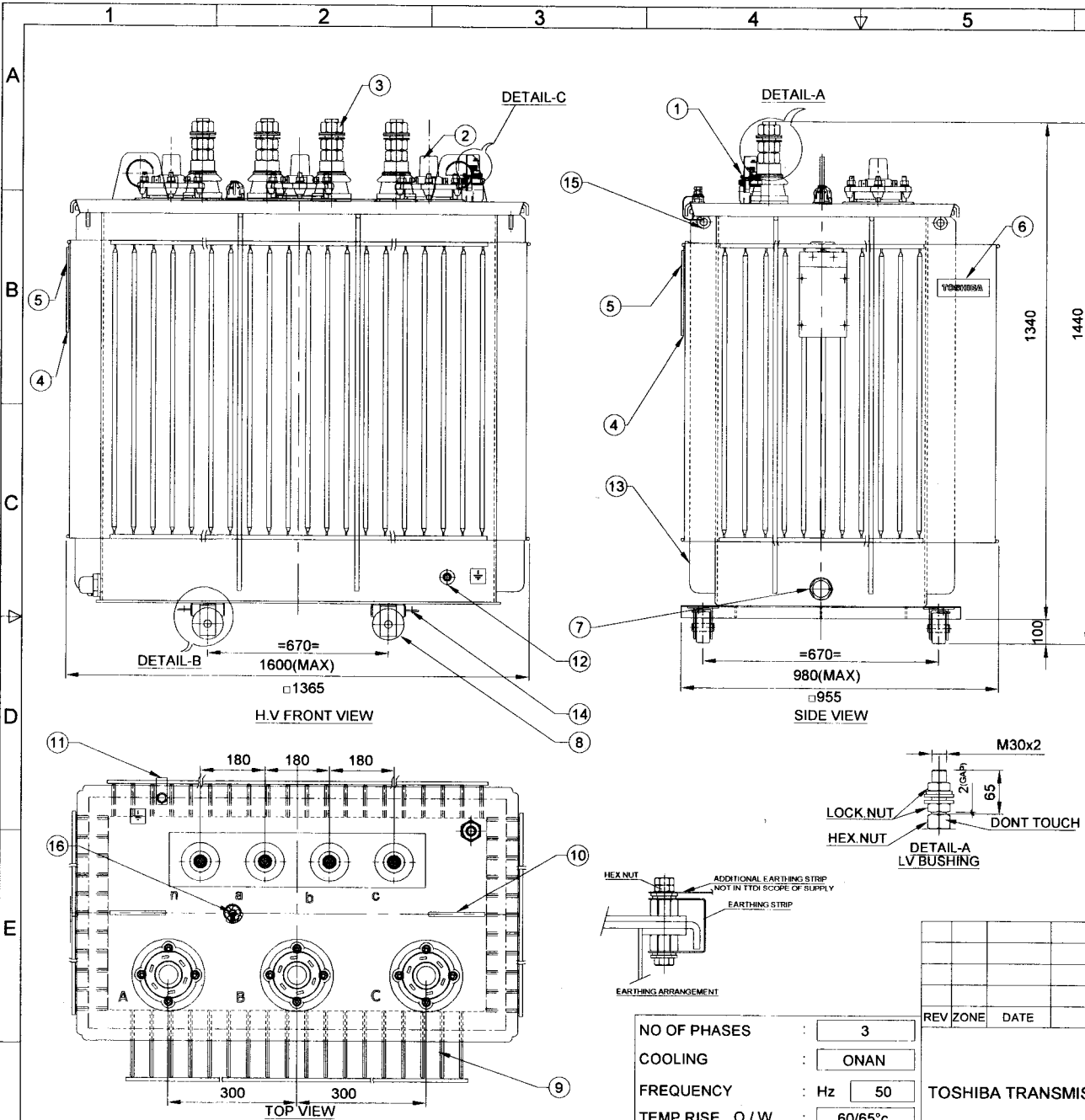
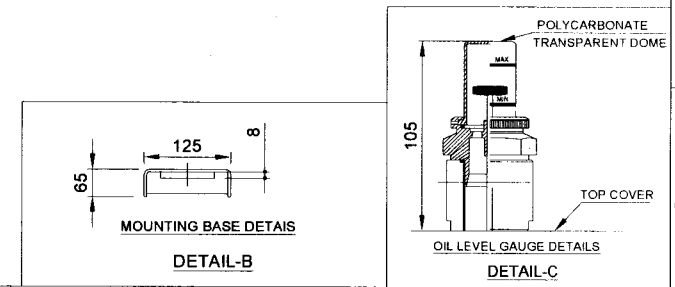


Product design meets CHSAS requirements (Ref: Work instructions DOC No. W/1/1/1/ENG/01). ALL DIMENSIONS ARE IN mm & WEIGHTS ARE IN kg UNLESS OTHERWISE SPECIFIED.
Doc No: TTD-DTR-ENG-(MECH)-G-DS-03

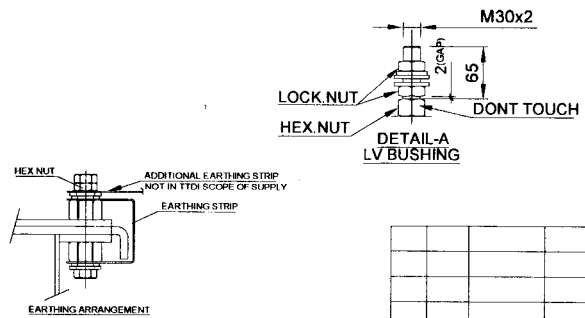
ALL INFORMATION CONTAINED IN THIS DOCUMENT IS CONFIDENTIAL AND THE PROPERTY OF TOSHIBA TRANSMISSION & DISTRIBUTION SYSTEMS (INDIA) PVT. LTD. REPRODUCTION OF THIS IN ANY FORM IS TO BE DONE WITH THE SPECIFIC PERMISSION OF THE ORGANISATION.



- NOTE:-
- FINISH PAINT SHADE: RAL 7035 (LIGHT GREY).
 - "1" ACTUAL OVERALL DIMENSIONS & WEIGHTS ARE SUBJECTED TO ±10% TOLERANCE PROVIDED THAT THE TOLERANCE IS NOT EXCEEDED THE MAX.VALUE DEFINED.
 - THE POSITION, LOCATION, DESIGN OF FITTINGS & ACCESSORIES MAY SLIGHTLY VARY DURING MANUFACTURING.
 - COMPLETE TRANSFORMER WITHSTANDS LOWER LIMIT OF AMBIENT TEMPERATURE -40°C.
 - ROLLERS WILL BE PROVIDED AS SPARE ITEM & SHALL BE SUPPLIED IN LOOSE CONDITION.
 - RATING PLATE SHALL BE PROVIDED ONLY ON LV SIDE.
- TIGHTENING TORQUE :-
- HV BUSHING STEM(OUTSIDE) M12- 13Nm.
 - LV BUSHING STEM(OUTSIDE) M30- 70Nm.
 - HV BUSHING FIXING STUD M10 - 15Nm.
- TERMINAL MARKING AND EARTHING SYMBOL SHALL BE PAINTED WITH BLACK COLOUR.
 - GAP (2mm) SHOULD MAINTAIN BETWEEN TWO ADJACENT NUTS AS PER DETAIL-A & B
 - LASHING EYES PROVIDED FOR TRANSPORT PURPOSE , LASHING EYES SHALL BE REMOVED AFTER REACHING DESTINATION/BEFORE INSTALLATION



16	TAP SWITCH	1
15	LASHING EYES	4
14	TOWING EYES	4
13	VERTICAL STIFFENER	-
12	EARTHING TERMINALS	2
11	EARTHING STRIP BETWEEN TANK AND TOP COVER	1
10	LIFTING LUGS FOR LIFTING OF TRANSFORMER	2
9	CORRUGATION PANEL	-
8	BI-DIRECTIONAL ROLLERS (Ø125x40)	4
7	OIL DRAINING CUM SAMPLING DEVICE	1
6	NAME OF THE MANUFACTURER (MONOGRAM)	1
5	RATING PLATE	2
4	RATING PLATE FIXING	2
3	L.V. BUSHINGS(1kV/1250A)	4
2	H.V BUSHINGS(24kV/250A-PLUG IN)	3
1	OIL FILLING PLUG WITH VERTICAL FLOAT OLG	1
S.NO	DESCRIPTION	QTY.



NO OF PHASES	: 3
COOLING	: ONAN
FREQUENCY	: Hz 50
TEMP. RISE O/W	: 60/65°C
CONNECTION GROUP	: Dyn11
SPECIFICATION	: EN(IEC) : 60076 -1

REV	ZONE	DATE	MODIFICATION	MODIFIED	CHECKED	APPRD.
			TOSHIBA	DESIGNED	NAME	DATE
			TOSHIBA TRANSMISSION & DISTRIBUTION SYSTEMS (INDIA) PVT. LTD.	DRAWN	DATE	
			DISTRIBUTION TRANSFORMERS DIVISION	CHECKED	DATE	
				APPROVED	DATE	
			SCALE: NTS	PRJ.NO.	08861 D	
			OUTLINE GENERAL ARRANGEMENT OF	DRG.NO.	3 OG 93500	
			500 kVA, 20.5/0.41 kV TRANSFORMER	SHT.NO.	1 OF 1 R 0	

TOTAL WEIGHT OF TRANSFORMER (kg)	RATING kVA	VOLTAGE(V)		CURRENT(A)	
		PRIMARY	SECONDARY	PRIMARY	SECONDARY
2440	500	20500	410	14.082	704.086

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

**GUARANTEED TECHNICAL PARTICULARS
THREE PHASE DISTRIBUTION TRANSFORMER**

Work order No : 08861D	Customer: Re-Tech Oy, Finland .			
kVA : 500	kV :20.5/0.41	Phase : 3	Freq. : 50Hz	Cooling : ONAN

Sl. No.	Description	UNIT	500 kVA
1)	Make		Toshiba Transmission & Distribution Systems (India) Pvt. Ltd
2)	Type		Hermitically Sealed
3)	Phases	No.	Three
4)	Rating	kVA	500 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		Dyn11
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	459 (MAX)-Tier-2
	Load Losses at 75 ° C	Watt	3900 (MAX)-Tier-2
14)	Impedance Voltage	%	4% (+/- IEC Tolerance Applicable)
15)	Percentage Resistance	%	0.78
16)	Regulation at:		
	Full Load UPF	%	0.86
	Full Load 0.8 PF	%	3.01
17)	Efficiency at 0.8 PF:		

TOSHIBA	Toshiba Transmission & Distribution Systems (India) Pvt.Ltd. Distribution Transformers Division		Engineering
			Unit-10
	Full Load	%	98.92
	¾ Full Load	%	99.12
	½ Full Load	%	99.29
18)	Terminal Arrangement:		
	HV		Bare Bushings – Plug-in –24kV/250A
	LV		Bare Bushings – Porcelain-1kV/1250A
19)	Actual Overall Dimensions:		
	Length	mm	1365
	Width	mm	955
	Height	mm	1340 (without rollers)*
20)	Overall Weight		
	Total Weight	Kg.	2440
21)	Noise Level	LwAdB (A)	51
	Applicability of Optional Fittings For above mentioned Actual Overall Dimensions		
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 @ 75DegC and %Z @75 DegC.
3. * With Rollers transformer height will increase by 100mm.
4. Paint: Class C4 corrosion protection paint will be provided.