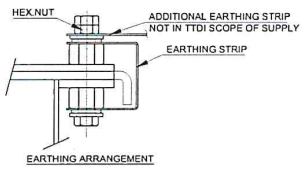
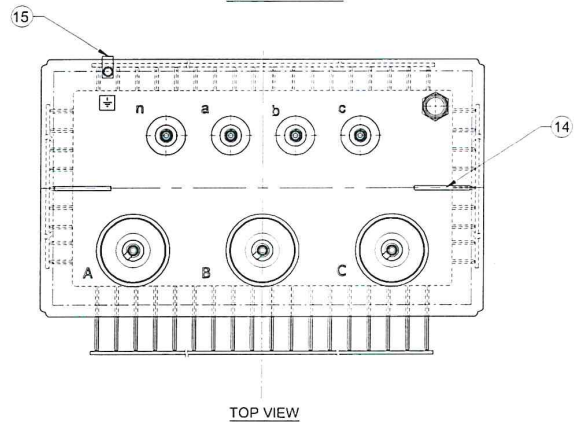
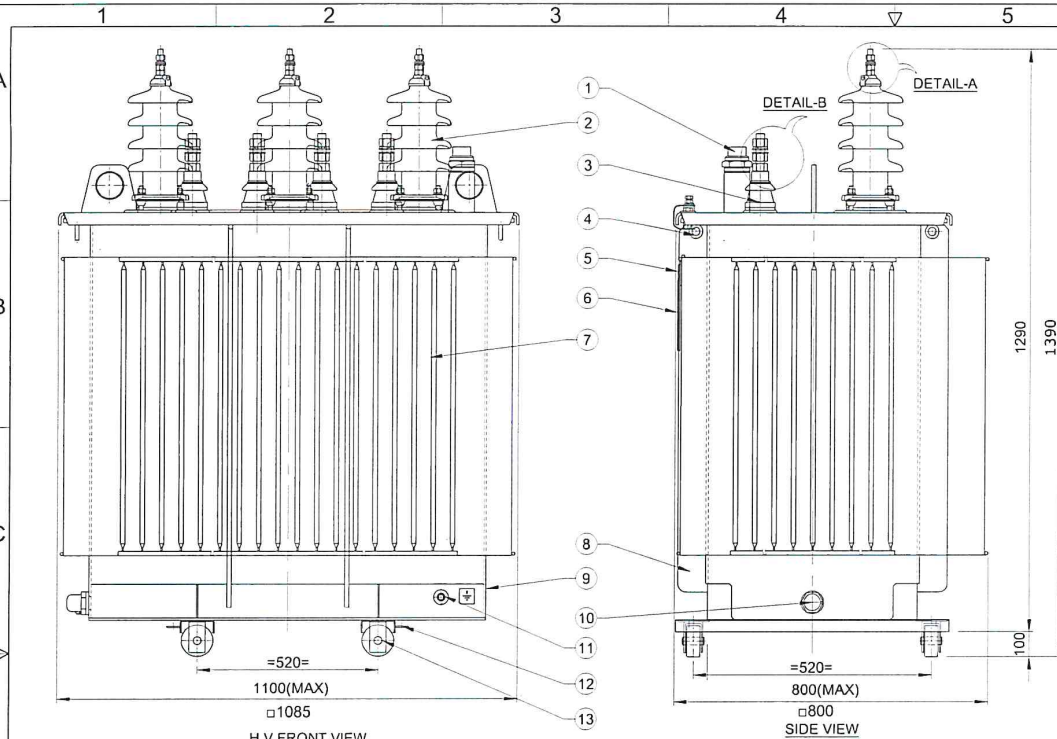


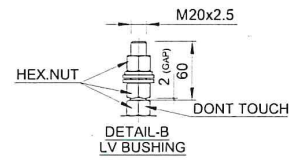
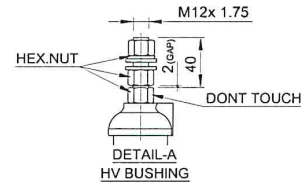
Product design meets OHSAS requirements (Ref: Work instructions DOC No. WI/UT/ENG/01). ALL DIMENSIONS ARE IN mm & WEIGHTS ARE IN kg UNLESS OTHERWISE SPECIFIED.
FORMAT No.: Meeh009/R0

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NOTE:-

- FINISH PAINT SHADE: RAL 7035 (LIGHT GREY).
 - ACTUAL OVERALL DIMENSIONS & WEIGHTS ARE SUBJECT 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) M20- 50Nm.
 - HV BUSHING FIXING STUD M12 - 15Nm.
- TERMINAL MARKING AND EARTHING SYMBOL SHALL BE PAINTED WITH BLACK COLOUR.
 - OIL LEVEL MARKING SHALL BE VISIBLE FROM TANK SHORTER SIDE
 - GAP (2mm) SHOULD MAINTAIN BETWEEN TWO ADJACENT NUTS AS PER DETAIL-A & DETAIL-B
 - LASHING EYES PROVIDED FOR TRANSPORT PURPOSE , LASHING EYES SHALL BE REMOVED AFTER REACHING DESTINATION/BEFORE INSTALLATION



S.NO	DESCRIPTION	QTY.
15	EARTHING STRIP BETWEEN TANK AND TOP COVER	1
14	LIFTING LUGS FOR LIFTING OF TRANSFORMER	2
13	BI-DIRECTIONAL ROLLERS (Ø125x40)	4
12	TOWING EYES	4
11	EARTHING TERMINALS	2
10	OIL DRAINING CUM SAMPLING DEVICE	1
9	NAME OF THE MANUFACTURER (MONOGRAM)	1
8	VERTICAL STIFFENER	-
7	CORRUGATION PANEL	-
6	RATING PLATE	1
5	RATING PLATE FIXING	1
4	LASHING EYES	4
3	L.V. BUSHINGS(1kV/630A)	4
2	H.V. BUSHINGS(24kV/250A-P2)	3
1	OIL FILLING PIPE WITH VERTICAL FLOAT OLG	1

Minimum External Air Clearances	
	HV
Phase to Phase	220
Phase to Earth	220

NO OF PHASES	: 3
COOLING	: ONAN
FREQUENCY	: Hz 50
TEMP. RISE O / W	: 60/65°C
CONNECTION GROUP	: Dyn11
SPECIFICATION	: IEC 60076 & EN 50588/EN 50708-2

REV	ZONE	DATE	MODIFICATION	MODIFIED	CHECKED	APPRD.

TOSHIBA

TOSHIBA TRANSMISSION & DISTRIBUTION SYSTEMS (INDIA) PVT. LTD.
DISTRIBUTION TRANSFORMERS DIVISION

DESIGNED	NAME	DATE
Arav		20.4.21
DRAWN	NAME	DATE
Hand		20.4.21
CHECKED	NAME	DATE
PCJ		20.4.21
APPROVED	NAME	DATE
Arav		20.4.21

TOTAL WEIGHT OF TRANSFORMER (kg)	RATING KVA	VOLTAGE(V)		CURRENT(A)	
		PRIMARY	SECONDARY	PRIMARY	SECONDARY
1210	200	20500	410	5.633	281.634

SCALE: NTS

OUTLINE GENERAL ARRANGEMENT OF
200 kVA, 20.5/0.41 kV TRANSFORMER

PRJ.NO. E-11158-3
DRG.NO. 3 OG 86669
SHT.NO. 1 OF 1 R 0

HERMETICALLY SEALED COMPLETELY FILLED - (TIER-2)

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

**GUARANTEED TECHNICAL PARTICULARS
THREE PHASE DISTRIBUTION TRANSFORMER**

ENQUIRY No : 11158-3	Customer: KKM POWER Oy, Finland (CARUNA)				
kVA : 200	kV :20.5/0.41	Phase : 3	Freq. : 50Hz	Cooling : ONAN	Doc No: EGT 44451

Sl. No.	Description	UNIT	200 kVA
1)	Make		Toshiba Transmission & Distribution Systems (India) Pvt. Ltd
2)	Type		Hermitically Sealed
3)	Phases	No.	Three
4)	Rating	kVA	200 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		Not Applicable
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		Aluminum
11)	Core Material		CRGO
12)	Temperature Rise:		
	Oil	° C	60
	Winding	° C	65
13)	Losses		
	No Load Losses at rated Voltage and Frequency	Watt	225 (MAX)-Tier-2
	Load Losses at 75 ° C	Watt	2016.66 (MAX)-Tier-2
14)	Impedance Voltage	%	4% (+/- IEC Tolerance Applicable)
15)	Percentage Resistance	%	1.01
16)	Regulation at:		
	Full Load UPF	%	1.08
	Full Load 0.8 PF	%	3.16
17)	Efficiency at 0.8 PF:		

TOSHIBA		Toshiba Transmission & Distribution Systems (India) Pvt.Ltd. Distribution Transformers Division		Engineering
				Unit-10
	Full Load	%		98.62
	¾ Full Load	%		98.88
	½ Full Load	%		99.10
18)	Terminal Arrangement:			
	HV			Bare Bushings – Porcelain-24kV/250A-P2
	LV			Bare Bushings – Porcelain-1kV/630A
19)	Actual Overall Dimensions:			
	Length	mm	As per GA drawing 3 OG 86669	
	Width	mm		
	Height	mm		
20)	Overall Weight			
	Total Weight	Kg.		1210
21)	Noise Level	LwAdB(A)		45.33
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			No

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 75 Deg C and % Z at 75 Deg C.
3. * With Rollers transformer height will increase by 100mm.
4. With HV flags transformer overall height will increase.
5. Paint: Class C4 corrosion protection paint will be provided.