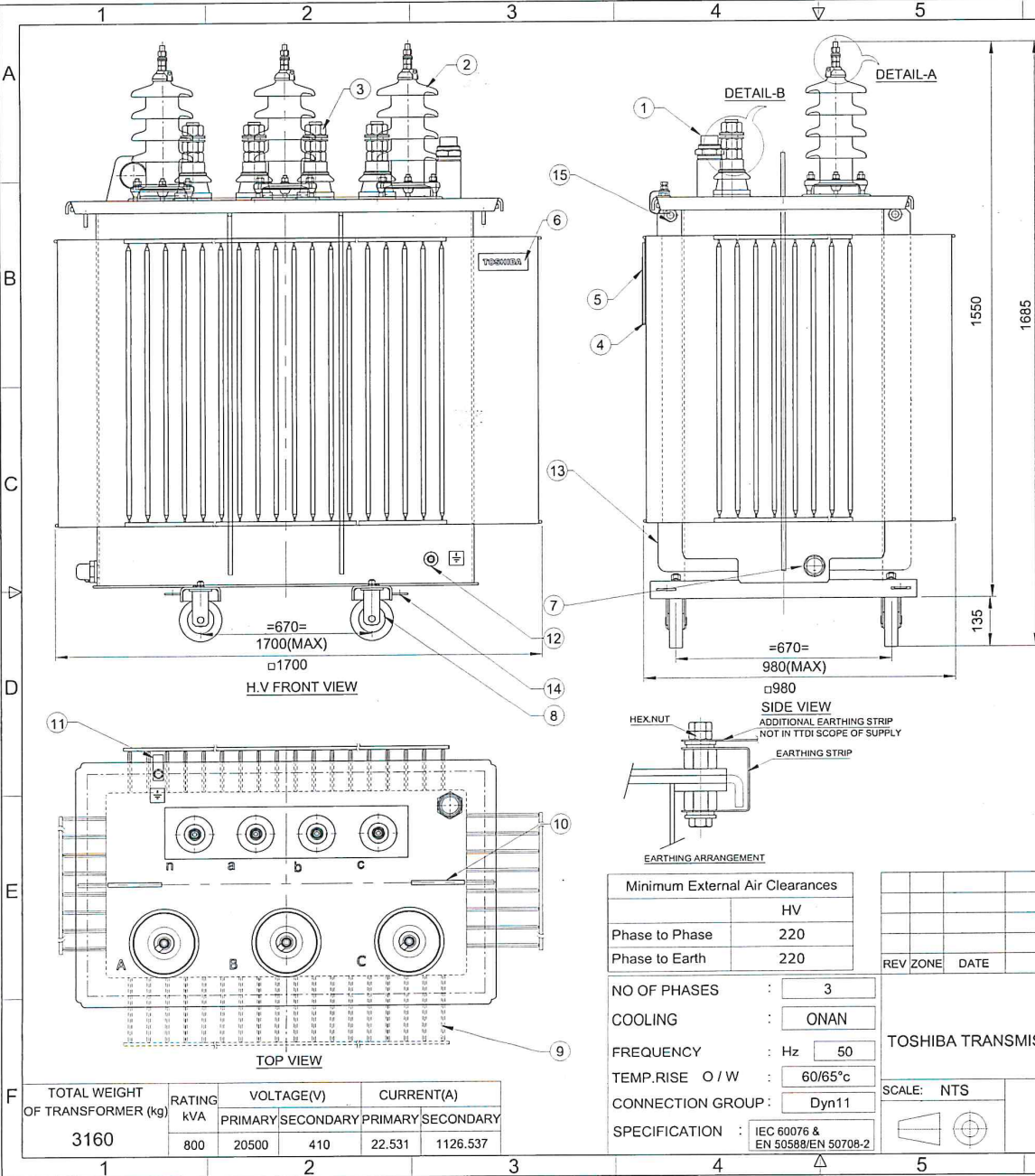


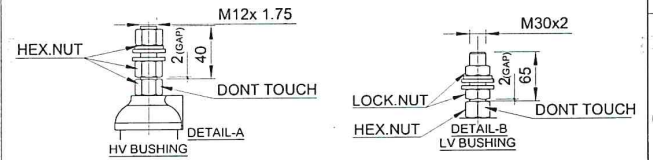
Product design meets OHSAS requirements (Ref. Work instructions DOC No. WI1U101ENG01).
 ALL DIMENSIONS ARE IN mm & WEIGHTS ARE IN kg UNLESS OTHERWISE SPECIFIED.
 FORMAT No. Mech003/R0

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NOTE:-

1. FINISH PAINT SHADE: RAL 7035 (LIGHT GREY).
 2. □ " ACTUAL OVERALL DIMENSIONS & WEIGHTS ARE SUBJECT TO ±10% TOLERANCE, PROVIDED THAT THE TOLERANCE IS NOT EXCEEDED THE MAX. VALUE DEFINED.
 3. THE POSITION, LOCATION, DESIGN OF FITTINGS & ACCESSORIES MAY SLIGHTLY VARY DURING MANUFACTURING.
 4. COMPLETE TRANSFORMER WITHSTANDS LOWER LIMIT OF AMBIENT TEMPERATURE -40°C.
 5. ROLLERS WILL BE PROVIDED AS SPARE ITEM & SHALL BE SUPPLIED IN LOOSE CONDITION.
 6. 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.
7. TERMINAL MARKING AND EARTHING SYMBOL SHALL BE PAINTED WITH BLACK COLOUR.
 8. OIL LEVEL MARKING SHALL BE VISIBLE FROM TANK SHORTER SIDE
 9. GAP (2mm) SHOULD MAINTAIN BETWEEN TWO ADJACENT NUTS AS PER DETAIL-A & B
 10. LASHING EYES PROVIDED FOR TRANSPORT PURPOSE , LASHING EYES SHALL BE REMOVED AFTER REACHING DESTINATION/BEFORE INSTALLATION



| S.NO | DESCRIPTION | QTY. |
|------|---|------|
| 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 (Ø160x50) | 4 |
| 7 | OIL DRAINING CUM SAMPLING DEVICE | 1 |
| 6 | NAME OF THE MANUFACTURER (MONOGRAM) | 1 |
| 5 | RATING PLATE | 1 |
| 4 | RATING PLATE FIXING | 1 |
| 3 | L.V. BUSHINGS(1kV/1250A) | 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

SCALE: NTS

**OUTLINE GENERAL ARRANGEMENT OF
800 kVA, 20.5/0.41 kV TRANSFORMER**

| | | |
|----------|------|------|
| DESIGNED | NAME | DATE |
| DRAWN | NAME | DATE |
| CHECKED | NAME | DATE |
| APPROVED | NAME | DATE |

PRJ.NO. E-11158-6
DRG.NO. 3 OG 86672
SHT.NO. 1 OF 1 R 0

| TOTAL WEIGHT OF TRANSFORMER (kg) | RATING KVA | VOLTAGE(V) | | CURRENT(A) | |
|----------------------------------|------------|------------|-----------|------------|-----------|
| | | PRIMARY | SECONDARY | PRIMARY | SECONDARY |
| 3160 | 800 | 20500 | 410 | 22.531 | 1126.537 |

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 : 11158-6 | | Customer: KKM POWER Oy, Finland (CARUNA) | | | |
| kVA : 800 | | kV :20.5/0.41 | Phase : 3 | Freq. : 50Hz | Cooling : ONAN |
| | | | | | Doc No: EGT 44454 |
| Sl. No. | Description | UNIT | 800 kVA | | |
| 1) | Make | | Toshiba Transmission & Distribution Systems (India) Pvt. Ltd | | |
| 2) | Type | | Hermitically Sealed | | |
| 3) | Phases | No. | Three | | |
| 4) | Rating | kVA | 800 kVA | | |
| 5a) | 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 | | 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 | 585 (MAX)-Tier-2 | | |
| | Load Losses at 75 ° C | Watt | 6000 (MAX)-Tier-2 | | |
| 14) | Impedance Voltage | % | 6% (+/- IEC Tolerance Applicable) | | |
| 15) | Percentage Resistance | % | 0.75 | | |
| 16) | Regulation at: | | | | |
| | Full Load UPF | % | 0.93 | | |
| | Full Load 0.8 PF | % | 4.26 | | |
| 17) | Efficiency at 0.8 PF: | | | | |

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| TOSHIBA | Toshiba Transmission & Distribution Systems (India) Pvt.Ltd. Distribution Transformers Division | | Engineering |
|---|--|----------|--|
| | | | Unit-10 |
| | Full Load | % | 98.98 |
| | ¾ Full Load | % | 99.18 |
| | ½ Full Load | % | 99.35 |
| 18) | Terminal Arrangement: | | |
| | HV | | Bare Bushings – Porcelain-24kV/250A-P2 |
| | LV | | Bare Bushings – Porcelain-1kV/1250A |
| 19) | Actual Overall Dimensions: | | |
| | Length | mm | As per GA drawing 3OG86672 |
| | Width | mm | |
| | Height | mm | |
| 20) | Overall Weight | | |
| | Total Weight | Kg. | 3010 |
| 21) | Noise Level | LwAdB(A) | 53 |
| 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 @ 75DegC and %Z @ 75 Deg C.
3. * With Rollers transformer height will increase by 135mm.
4. With HV flags transformer overall height will increase.
5. Paint: Class C4 corrosion protection paint will be provided.