

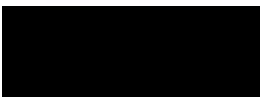
TOSHIBA**Toshiba Transmission & Distribution
Systems (India) Private Limited
NOISE LEVEL LABORATORY**Works: Rudraram (V), Patancheru (M) Sangareddy (D) -502 329
Telangana, India. Ph: 08455-692298,692267 Fax: 08455-692245

NABL Cert.No.TC-7827

NOISE LEVEL TEST REPORT

Date: 05th March 2021

ULR Number : ULR-TC782721500000040F
Test Report Number : NOISE 2103003R
Discipline & Product Group : Electrical Testing & Inductors and Transformers
Name & Address of the Customer : M/s.UK POWER NETWORKS (OPERATIONS) LTD.,UNITED KINGDOM.
Name & Address of the Manufacturer : M/s.Toshiba Transmission & Distribution Systems (India) Private Limited.,
Rudraram(v), Patancheru (M),Sangareddy (D),Telangana, India - 502329
Particulars of sample tested : 800 kVA,Three Phase, 11000/433V, 50Hz, CRGO Core, Aluminium
Wound Free Breathing Unit Substation Oil filled Radiators Transformer
: Specification-EDS 04-6020
Work Order / Project : P10702
Condition of sample on receipt : New
Serial number / Job number : P10702
Date (s) of test (s) : 25th February 2021
Particulars of test Conducted : Sound Level Measurement Test
Test in accordance with Standard / Specification : IEC :60076 Part-10:2016 & TS:35-1 ISSUE 6 2014
Customer's requirement : Nil
Deviations if any : Nil
Name of the witnessing person
Customer representative : None
Other than Customer representative : None
Documents constituting this report (in Words)
Number of Sheets : Three
Number of drawings : Two (Drawing Nos: 3 RP 85366 Rev0, 3 OG 80474 Rev2)


(G.MAHESH KUMAR)
Test Engineer




(M.SUDHAKAR REDDY)
Asst.Manager
Verified by
AUTHORIZED SIGNATORY

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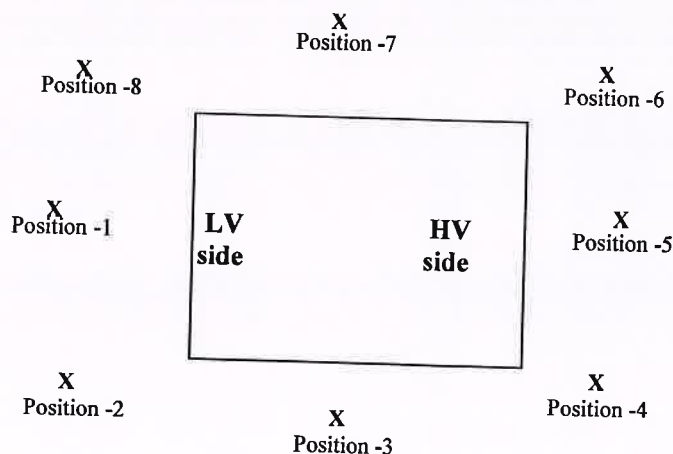
TRANSFORMER DETAILS

Rating	: 800 kVA	Frequency (Hz)	: 50Hz
Primary Voltage	: 11000 Volts	Type of Cooling	: ONAN
Secondary Voltage	: 433 Volts	Vector group / Polarity	: Dyn11
Primary Current	: 41.989 Amps	No of Phases	: Three
Secondary Current	: 1066.698 Amps		

Tappings on HV Winding	: +5% to -5% in Steps of 2.5%
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DETAILS OF MEASURING INSTRUMENT**TEST CONDITIONS**

Name of Instrument	: Sound Level Meter	Excitation Voltage (V)	: 433
Make	: Lutron	Frequency (Hz)	: 50
Type	: SL-4022	Measurement Distance	
Range	: 30 to 130db	From Principle	: 0.3mts
Microphone Type	: Class-1	Radiating Surface	
Serial No	: I53587	Tap switch Position	: 3

MICROPHONE POSITION FOR NOISE LEVEL MEASUREMENT

TOSHIBA

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TEST MEASUREMENTS:

	1	2	3	4	5	6	7	8	Average
Background Noise Level Before the Test(dB)	33.0	33.2	33.1	33.3	33.2	33.1	33.0	33.2	33.14
Background Noise Level after the Test(dB)	33.1	33.0	33.2	33.0	33.1	33.3	33.1	33.0	33.10
Combined noise level of background plus transformer excited by rated voltage at no load condition (dB)	40.3	35.7	39.2	38.0	40.6	38.9	41.8	36.0	38.81

A-weighted background noise pressure level(LbgA) = 33.12 dB
 Uncorrected Average A-weighted sound pressure level(LpA0) = 39.26 dB
 Height of transformer tank(h) = 1.68 m
 Length in mts of prescribed counter(lm) = 7.72 m
 Area of measurement surface (S) = 15.29 m²
 Reference area (So) = 1.00 m²
 Average acoustic absorption coefficient(α) = 0.35
 (Room with acoustic material on both ceilings and walls)
 Sound absorption area of the test room (A) = 97.60 m²
 Environmental correction (K) = 2.112 dB
Corrected Average A-weighted sound pressure level(LpA)
 (Rounded to the nearest integer) = **36** dB(A)
Calculated A-weighted sound power level(LWA)
 (Rounded to the nearest integer) = **48** dB(A)
Guaranteed sound level :- 58dB

Conclusion: The Sample Tested Complies With The Requirement of IEC 60076-10 for Test Conducted.

NOTE

- 1 This test results relates only to the items tested.
- 2 The test report shall not be reproduced except in full, without the written consent of Quality Manager - Toshiba Transmission & Distribution Systems (India) Private Limited, Telangana.
- 3 The results reported in this report are valid at the time of and under the stipulated conditions of measurements.



CE TOSHIBA TRANSFORMER
TOSHIBA TRANSMISSION & DISTRIBUTION SYSTEMS (INDIA) PVT. LTD.
Rudramnagar, Palancheru(M), Sangareddy(D), Telangana - 502329, India

THREE PHASE OIL FILLED DISTRIBUTION TRANSFORMER
TRANSFORMER SPECIFICATION REF: IEC : 60076

MVA	800	FREQUENCY	Hz	50
VOLTS AT NO LOAD	H.V. 11000	TYPE OF COOLING	ONAN	
	L.V. 433	VECTOR GROUP	Dyn 11	
LINE CURRENT AMPERES	H.V. 41.9A	OIL/FIRST FILLING	kg	650
	L.V. 1056.6A	CORE MASS	kg	1180
IMPEDANCE VOLTAGE %	*	CONDUCTOR MASS	kg	458
NATURE OF CONDUCTOR	ALUMINIUM	TOTAL MASS	kg	3350
CORE	CRGO	MAX NO-LOAD LOSSES W	585	
GUARANTEED RISE ΔT °C	60/65	MAX LOAD LOSSES W AT 75°C	6000	
MONTH & YEAR OF MANUFACTURE	*	OUTLINE DRG. NO.	3 OG 80474	
SERIAL NO	P10702			

SYSTEM SHORT CIRCUIT POWER MVA 500

OIL TYPE UNINHIBITED NAPHTHENE PCB FREE IEC-60296
UK POWER NETWORKS (OPERATIONS) LTD., UNITED KINGDOM

OFF-CIRCUIT TAP SWITCH POSITION	STEP	CONNECTION	H.V.	L.V.
1	+5	5-6	11550	
2	+2.5	6-4	11275	
3	0	4-7	11000	433
4	-2.5	7-3	10725	
5	-5	3-8	10450	

INSULATION LEVEL

LI (kV)	75	NA
PI (kV)	28	3

MEASURED LOSSES (W)

RL	LL @ 75°C @ RATED TAP
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VECTOR GROUP DIAGRAM

READ THE INSTRUCTION MANUAL & SAFETY INSTRUCTIONS BEFORE INSTALLATION & CHARGING THIS EQUIPMENT

RP 85366

Ø 3.6-6 Nos

MADE IN INDIA

NOTE:-

- MATERIAL : STAINLESS STEEL GRADE - 304 S1 CONFORMING TO IS:6911-1992, THICKNESS: 20 SWG (0.9 mm).
- SERIAL No., ACTUAL IMPEDANCE VOLTAGE (%), MONTH AND YEAR OF MANUFACTURE WILL BE PUNCHED AT THE TIME OF DESPATCH.
- ALL LETTERS, FIGURES AND DIVIDING LINES SHALL BE WHITE IN COLOUR ON BLACK BACK GROUND.
- (*) MARKED BOXES BACK GROUND SHALL BE WHITE IN COLOUR TO SUIT PUNCHING.

CUSTOMER : M/s. UK POWER NETWORKS (OPERATIONS) LTD., UNITED KINGDOM



REV	ZONE	DATE	MODIFICATION			

TOSHIBA

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

DESIGNED: *[Signature]* 15.07.21
DRAWN: *[Signature]* 15.07.21
CHECKED: *[Signature]* 17.07.21
APPROVED: *[Signature]* 17.07.21

PRJ. NO. P10702
DRG. NO. 3 RP 85366
SHT. NO. 1 OF 1

SCALE: NTS

RATING & TERMINAL MARKING PLATE
800 kVA, 11/0.433 kV 3Ø TRANSFORMER

1. WEIGHTS ARE SUBJECTED TO $\pm 10\%$ TOLERANCE
☐ ACTUAL OVERALL DIMENSIONS ARE SUBJECTED TO $\pm 10\%$ TOLERANCE PROVIDED THAT THE TOLERANCE IS NOT EXCEEDED THE MAX. VALUE DEFINED.
 2. THE POSITION AND LOCATION OF FITTINGS & ACCESSORIES MAY SLIGHTLY VARY DURING MANUFACTURING.
 3. FINISH PAINT : CEMENT GREY - RAL 7033
 4. LIFTING LUGS & JACKING PADS SHALL BE PAINTED WITH YELLOW COLOUR.
 5. TOTAL MASS SHALL BE STENCILED ON TRANSFORMER WITH 50mm LETTER SIZE, AS PER MASS PER WEIGHT.

S. NO	DESCRIPTION	QTY
19	LV DUMMY ENCLOSURE	1
18	HAULING LUGS	4
17	RMU SUPPORT STEEL STRUCTURE	1
16	THERMOMETER POCKET WITH OIL TEMPERATURE INDICATOR	1
15	OIL LEVEL INDICATOR	1
14	LV EPOXY MONOBLOCK BUSHING WITH SINGLE CONNECTION	1
13	FREE BREATHING DEVICE	1
12	LIFTING LUGS FOR TOP COVER	2
11	RADIATORS	3
10	SKID BASE ARRANGEMENT	1
9	OIL DRAINING CUM SAMPLING DEVICE	1
8	JACKING PADS	4
7	EARTHING TERMINAL	1
6	RATING AND TERMINAL MARKING PLATE	1
5	MONOGRAM	1
4	TAP SWITCH WARNING LABEL	1
3	DE-ENERGISED TAP SWITCH	1
2	H.V PLUG-IN MONOBLOCK BUSHING	1
1	LIFTING LUGS FOR COMPLETE TRANSFORMER	4

RATING (kVA)	VOLTAGE (V)		CURRENT(A)		TAPPINGS ±5% IN STEPS OF 2.5%	TOTAL WEIGHT (kg)
	PRIMARY	SECONDARY	PRIMARY	SECONDARY		
800	11000	433	41.969	1065.698		3750

[illegible]

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

SCALE: NTS

OUTLINE GENERAL ARRANGEMENT FOR 800kVA, 110-43.5kV
FREE BREATHING UNIT SUBSTATION TRANSFORMER

APPROVED	K.V.K.R	27.02.20
PRJ.NO.	P10702	
DRG.NO.	3 OG 80474	
SHT.NO.	1 OF 1	R2

