

CENTRAL POWER RESEARCH INSTITUTE  
(Member of STL)



CPRI

TEST REPORT

Test Report Number : CPRIBPLSTNC19T0226 Dated : 02.05.2019

Name and Address of the Customer : M/s Rajasthan Powergen Transformer Pvt. Ltd.,  
Khasra No.911-914, Karola-Bhinmal Road Karola  
Sanchore, Rajasthan-343041

Name and Address of the Manufacturer : M/s Rajasthan Powergen Transformer Pvt. Ltd.,  
Khasra No.911-914, Karola-Bhinmal Road Karola  
Sanchore, Rajasthan-343041

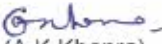
Particulars of Sample(s) Tested : 3.15 MVA, 33/11 kV Power Transformer


Condition of sample(s) on receipt : New  
Type : Outdoor  
Designation : Power Transformer  
Description of test sample : Power Transformer  
Serial Number(s) : RPTPL/JD/02  
Number of Sample(s) Tested : One  
Date(s) of Test(s) : 29.3.2019  
CPRI sample code number(s) : STNA19S0108  
Detail(s) of sealing(s) of sample(s) : The transformer was found sealed with polycarbonate seals by JdVVNL on middle of top cover at all the four sides of the tank, filter valve, drain valve and conservator sampling valve bearing sl no.ME2566561 to ME2566567. Seals checked before test & found intact.


Particulars of test(s) conducted : Temperature Rise Test

Test(s) in accordance with Standard / specification : Cl. 5 of IS: 2026 (Part-2), 2010 and as per customer's requirement.  
Sampling Plan : NIL  
Customer's Requirement : Maximum temperature rise limit of oil and winding to be 45°C/50°C as per customer's requirement.  
Deviations, if any : NIL

Name of the witnessing persons  
Customer's Representatives : (1) Mr. Vijai Pal (2) Mr. G. C. Mishra  
Other than Customer's Representatives : Mr. Latish Kumar, A.E. JdVVNL  
Test subcontracted with name and address of the laboratory : NONE  
Documents constituting this report (in words)  
Number of Sheets : FIVE  
Number of Oscillograms : NIL  
Number of Graphs : NIL  
Number of Photos : NIL  
Number of Test Circuit Diagrams : NIL  
Number of drawings : TWO

  
(A.K.Khanra)  
Test Engineer



  
(Sumbul Munshi)  
Joint Director  
Approved by

ULR - TC5181190STCT0226F

SWITCHGEAR TESTING & DEVELOPMENT STATION  
GOVINDPURA, BHOPAL, 462023, INDIA  
Phone: +91(0)755 2586882 Fax: +91(0)755 2587774

Sheet 1 of 5

**CENTRAL POWER RESEARCH INSTITUTE  
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**TEST REPORT**

**Test Report Number: CPRIBPLSTNC19T0226**

**Date : 02.05.2019**

**SUMMARY OF TEST**

1. Test conducted : Temperature Rise Test.
  
2. Rating for which tested : The test was conducted by feeding total measured losses of 19189.86 watts at tap no.7 (i.e. no load loss 2901.26 watts and load loss at 75°C at tap no. 7 i.e. 16288.60 watts) till the rate of change of top oil temperature rise has fallen below 1.0 °C and then current reduced to rated current 61.23 A for 1 hour as per standard.
  
3. DOCUMENTS CONSTITUTING THIS REPORT :
  - 3.1 Supplementary test report : NIL
  
  - 3.2 Oscillogram No(s) : NIL
  
  - 3.3 Drawing of the equipment tested : 1) RPTPL/3150NP Rev.01 Sheet 01 of 01  
2) RPTPL/3150GA Rev 01Sheet 01 of 01
  
  - 3.4 Test circuit drawing No(s). : NIL
  
  - 3.5 Photograph No(s). : NIL

  
(A.K. Khanra)  
Test Engineer

**CENTRAL POWER RESEARCH INSTITUTE**  
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**TEST REPORT**

**Test Report Number: CPRIBPLSTNC19T0226**

**Date : 02.05.2019**

**DESCRIPTION OF THE SAMPLE TESTED**  
(As assigned by manufacturer)

Sample	:	Power Transformer		
Rated Power (kVA)	:	3150		
Rated Voltage HV (Volts)	:	33000		
LV (Volts)	:	11000		
Rated Current HV (Amps)	:	55.11		
LV (Amps)	:	165.33		
No. of Phases	:	Three		
Insulation level LV (kV rms/kV Peak)	:	28/75		
Insulation level HV (kV rms/kV Peak)	:	75/170		
Type of Cooling	:	ONAN		
Connection (HV/LV)	:	Delta/Star		
Frequency (Hz)	:	50		
% Impedance	:	6.25%		
X/R	:	-		
Temperature rise of oil /Winding (deg C)	:	45/50		
Winding Material	:	Copper		
Type of Winding	:	Disc winding		
Quantity of Oil (litres)	:	1920		
Weight of Oil (kgs)	:	1630		
Weight of core and winding (kgs)	:	4800		
Total weight (Kgs)	:	8280		
Vector group	:	Dyn11		
Year of Manufacture	:	2019		
Serial Number	:	RPTPL/JD/02		
Guaranteed no load loss (Watts)	:	3000		
Guaranteed load loss at 75°C (Watts)	:	16000		
Details of taps	:	+5% to -10% (7 taps in 6 steps of 2.5% each)		
Tap No	Primary Voltage V	Secondary Voltage V	%Impedance	X/R Ratio
1	34650	11000	6.087	5.441
3	33000	11000	6.126	5.182
7	29700	11000	6.429	4.662

  
(A.K. Khanra)  
Test Engineer

**ULR - TC5181190STCT0226F**

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Phone: +91(0)755 2586682 Fax: +91(0)755 2587774

Sheet 3 of 5

**CENTRAL POWER RESEARCH INSTITUTE**  
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**TEST REPORT**

**Test Report Number: CPRIBPLSTNC19T0226**

**Date : 02.05.2019**

**SCHEDULE OF TESTS**

Test conducted : Temperature rise test  
Condition of the sample : New  
Date of test : 29/03/2019  
Starting time(Hrs.) : 06.35  
Shut down(Hrs.) : 15.35  
Test Detail : The test was conducted by feeding total measured losses of 19189.86 watts at tap no.7 (i.e. no load loss 2901.26 watts and load loss at 75°C at tap no. 7 i.e. 16288.60 watts) till the rate of change of top oil temperature rise has fallen below 1.0 °C at 14.35hrs and then current reduced to rated current 61.23 A for 1 hour as per standard.  
1. Measurement of winding resistance before test at amb. Temp. 35°C : H.V. Winding : 1V - 1W= 1.0953Ω  
: L.V. Winding : 2v - 2w= 133.45 mΩ

**2. Maximum temperature recorded**

Thermocouple locations	Temperature during total loss (°C) at 14.35 hours	Temperature at shut down (°C) at 15.35 hours
Top oil	75.9	75.7
Radiator Top	72.3	72.2
Radiator Bottom	57.0	57.2
Average ambient temperature	37.8	38.5

Resistance at shut down (Extrapolated from graph) : H.V. Winding : 1V-1W = 1.2868Ω  
: L.V. Winding : 2v-2w = 158.14 mΩ

The temperature rises of H.V. winding, L.V. winding and Oil : H.V. Winding : 1V-1W=44.49°C  
: L.V. Winding : 2v-2w= 47.24°C  
Oil : 38.1°C

Observations : The temperature rise of winding / oil were within the limits as specified by the customer

**CONCLUSION** : The test results indicate that the sample tested complies with the requirement of Clause 5 of IS: 2026 (Part-2), 2010 and customer's requirement.

(A.K. Khanra)  
Test Engineer

**ULR - TC5181190STCT0226F**

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**TEST REPORT**

**Test Report Number: CPRIBPLSTNC19T0226**

**Date : 02.05.2019**

**NOTE**

- a) The Test results relate only to the item(s) tested.
- b) Publication or reproduction of the test report /Certificate in any form other than by complete set of the whole test report /Certificate and in the language written is not permitted without the written consent of CPRI.
- c) Any Corrections/erasure invalidates the test Report/Certificate.
- d) NABL has Accredited this laboratory as per ISO/IEC 17025-2005 standard, vide certificate no. TC-5181 for the tests carried out.
- e) Any anomaly/discrepancy in the test report /Certificate should be brought to the notice of CPRI within 45 days from the date of issue.
- f) The verification of the sample drawings by CPRI is limited to dimensional checks only wherever possible.
- g) All documents constituting the test report/certificate are stitched together with a continuous silk thread/silk ribbon, the two ends of which have been brought over the front sheet of the test report / certificate and sealed with a CPRI printer paper sticker/embossed.

  
(A.K. Khanra)  
Test Engineer

**ULR - TC5181190STCT0226F**

SWITCHGEAR TESTING & DEVELOPMENT STATION  
GOVINDPURA, BHOPAL 462023, INDIA  
Phone: +91(0)755 2585582 Fax: +91(0)755 2587774

Sheet 5 of 5

**RAJASTHAN POWERGEN TRANSFORMER PVT.LTD**  
 BHINMAL-KAROLA ROAD, KAROLA, SANCHORE  
 RAJASTHAN (INDIA)

3 PHASE TRANSFORMER SL. No. RPTPL/JD/02

TYPE OF TRANSFORMER **OUT DOOR POWER**

STANDARD **IS 2026** FREQUENCY Hz **50**

KVA **3150** TYPE OF COOLING **ONAN**

VOLTS AT HV **33000** VECTOR GROUP **Dyn-11**

NO LOAD LV **11000** TOTAL MASS KG **8280**

AMPERES HV **55.11** MASS OF OIL KG **1630**

LV **165.33** VOLUME OF OIL Lts. **1920**

IMPEDANCE **6.25%** CORE & WINDING **4800**

MONTH & YEAR OF MFG. **/19** IMPULSE LEVEL HV/LV kVp **170/75**

PERFORMANCE GUARANTEED PERIOD **36 MONTHS**

CUSTOMER **JDVNL**

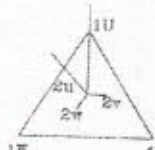
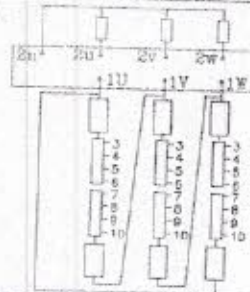
P.O. No. **JDVNL/SE(MM&C)/JU/EAI/TN-1487/**  
**PO 10905/D 6551 DL 14-01-2019**

NO LOAD LOSS **3 kW** LOAD LOSS **16 kW**

MAX. TEMPERATURE RISE IN OIL **45°C**

MAXIMUM WINDING TEMPERATURE. **50°C**

OFF CIRCUIT TAP		HV		LV	
SWITCH POSITION	CONNECTION	VOLTS	AMPS.	VOLTS	AMPS.
1	7 - 6	34650	52.48	11000	165.33
2	6 - 8	33825	53.76	11000	165.33
3	8 - 5	33000	55.11	11000	165.33
4	5 - 9	32175	56.32	11000	165.33
5	9 - 4	31350	58.04	11000	165.33
6	4 - 10	30525	59.53	11000	165.33
7	10 - 3	29700	61.23	11000	165.33



MADE IN INDIA

**NOTES**

1. ALL DIMENSIONS ARE IN mm.
2. MATERIAL : S.S.
3. THICKNESS : 1mm

के.वि.म.सं. द्वारा रेखा चित्र का सत्यापन जहाँ तक भी संभव हो किर्ह विनियम जॉब तक ही सीमित है।  
 THE VERIFICATION OF THIS DRAWING BY CPRI IS LIMITED TO DIMENSIONAL CHECKS ONLY WHEREVER POSSIBLE  
 दस्तावेज परिक्षण रिपोर्ट नं. \_\_\_\_\_ Document  
 Pertaining to Test Report No. \_\_\_\_\_

**CR13BLSTNC19T0226**

*Ganesh*  
 अभियांत्रिकी अधिकारी  
**Engineering Officer**  
 सी.पी.आर.आई. /C.P.R.I.,  
 भोपाल /Bhopal

225

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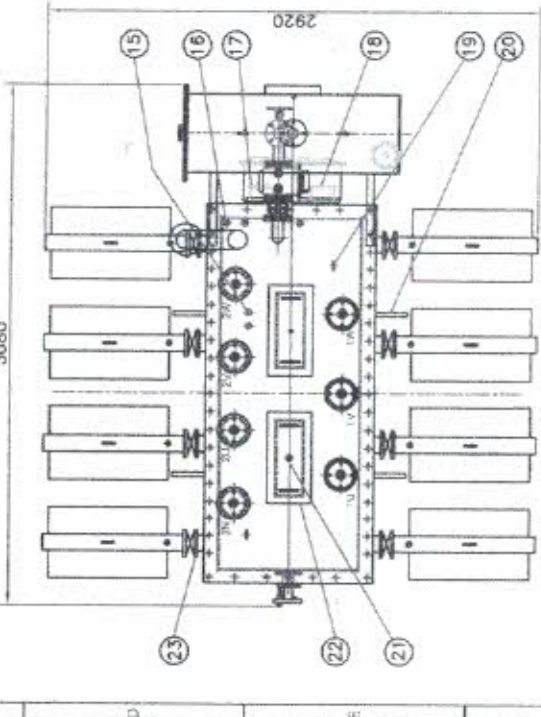
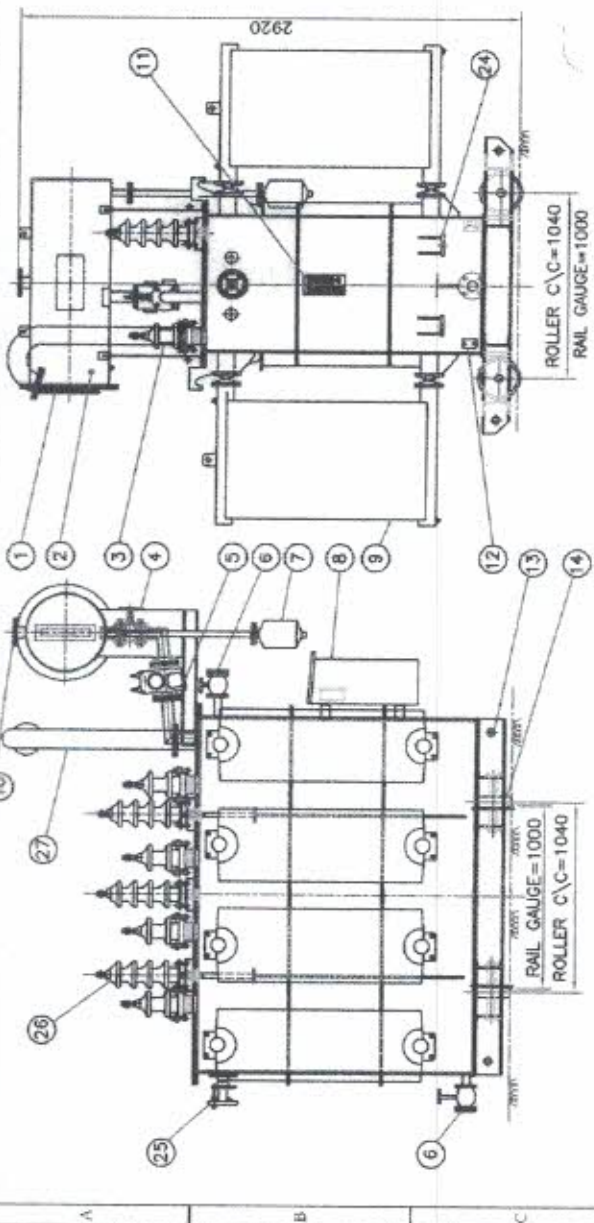
Rev	Date	Draw	Checked	Approved	Description

	<b>Title :</b> <b>RATING &amp; DIAGRAM PLATE</b>		<b>Work Order :</b> -----	
	<b>Rating</b> 3150 KVA, 33/11 KV, 3 PHASE T/F.	<b>Drawing No. :</b> <b>RPTPL/3150 NP</b>	<b>Rev. :</b> <b>01</b>	<b>Sheet No.</b> <b>01</b>
<b>RAJASTHAN POWERGEN TRANSFORMER P. LTD.</b> Bhinmal - Karola Road, Karola, Sanchore - 303441 Dist - Jaipur, Rajasthan, India		All dimensions are in millimeters unless otherwise stated. If in doubt - Please Ask		

Scale  
**NTS**

WEIGHT DETAILS		
S.N	WEIGHT CHART	WEIGHT
1.	CORE & WINDINGS	4800 Kgs.
2.	TANK & FITTINGS	1850 Kgs.
3.	WEIGHT OF OIL	1630 Kgs.
4.	TOTAL WEIGHT	8280 Kgs.
5.	QUANTITY OF OIL	1920 Ltrs.

TANK INTERNAL :-  
 1. LENGTH 1922 mm.  
 2. WIDTH 752 mm.  
 3. HEIGHT 1515 mm.



SL.No.	DESCRIPTION	HV LV
1	PHASE TO PHASE	350 255
2	PHASE TO EARTH	320 140

NOTES :-

1. All dimensions are in mm.
2. ±10% tolerance on weight & dimensions.
3. Arrangement of fitting is tentative.
4. Star marked item not fitted during test.
5. Radiator size 1100 X 300 X 14 fin per radiator.

Referring to Test Report No. CR18BLSTN1970224  
 @ Engineering Office  
 श्री. पी. आर. आ. मोपाल / Bhojpur

S.No.	N O M E N C L A T U R E	Qty.
1	PLAIN OIL LEVEL INDICATORS	1
2	CONSERVATOR WITH LIFTING & DRAIN PLUG	4
3	LV OUTDOOR BUSHINGS	4
4	SHUT-OFF VALVE BETWEEN CONSERVATOR & TANK	1
5	BUSH-HOLD RELAY WITH ALARM & TRIP CONTACTS	2
6	TRIPER VALVES (TOP & BOTTOM)	1
7	SILICAGEL BREATHER WITH STEEL GLASS WINDOW	1
8	MARKING BOX (TANK MOUNTED WEATHER PROOF)	1
9	RADIATORS WITH LIFTING LUG, AIR RELEASE & DRAIN PLUG	8
10	OIL FILLING HOLE WITH COVER PLATE	1
11	NAME PLATING & DIAGRAM PLATE	1
12	EARTHING PADS	4
13	PULLING HOLE	4
14	BI-DIRECTION UNDERBASE CHANNEL WITH FLANGED ROLLERS	2
15	C.T. TERMINALS FOR W.T.J.	2
16	THERMOMETER POCKET	1
17	OIL TEMPERATURE INDICATOR WITH ALARM & TRIP CONTACTS AND MAXIMUM READING POINTER.	1
18	WINDING TEMPERATURE INDICATOR WITH ALARM AND TRIP CONTACTS & MAX. READING POINTER.	2
19	COVER LIFTING LUGS	2
20	LIFTING LUGS FOR COMPLETE TRANSFORMER	2
21	AIR RELEASE PLUG	2
22	INSPECTION ROCKET WITH LIFTING HANDLES	4
23	SHUT OF VALVE FOR RADIATOR	16
24	JACKING PAD	4
25	OFF CIRCUIT TAP CHANGING SWITCH	1
26	HV OUTDOOR BUSHINGS	3
27	EXPLOSION VENT WITH DIAPHRAGM	1

This: **OUTLINE GENERAL ARRANGEMENT** Wind Order: ---

Rating: 3150 KVA, 33 KV, 3 PHASE DP. Drawing No.: RPTPL/3150 GA

Rev: 00 Rev: 01 Sheet No.: 01 Total Sheets: 01

RAJASTHAN POWERGEN TRANSFORMER P. LTD. Scale: N.T.S.

Kanoh - Bhand Road, Kanoh, Sanchos - 30301 Dda - Jodhpur (India)

Rev.  Des.  Draw.  Check.  Approval  Description

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