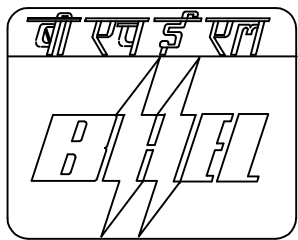


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भारत हेवी इलेक्टिकल्स लिमिटेड

BHARAT HEAVY ELECTRICALS LIMITED

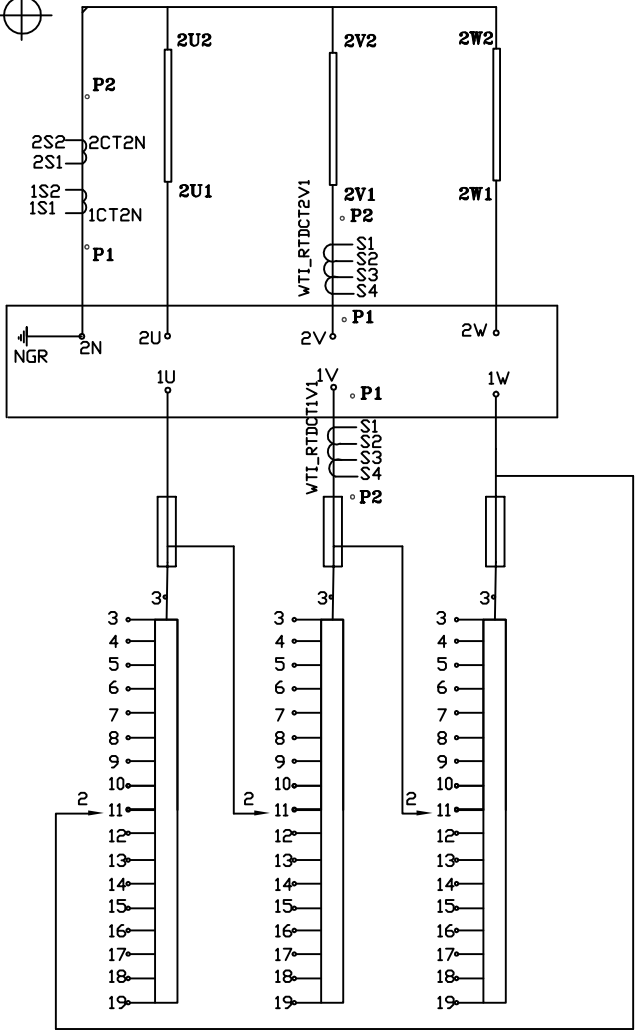
यूनिट परिणामिः UNIT TRANSFORMER
भारतीय मानक 2026-2009 / IEC 60076 -2011 के अनुसार
TO INDIAN STANDARD : 2026-2009 / IEC -60076 -2011

रीतब प्रकार TYPE OF COOLING	ONAF (100%)	ONAN (80%)
विधारण उ.वो. (मे.वो.ऐ.) RATING HV (MVA)	45	36
विधारण बि.वो. (मे.वो.ऐ.) RATING LV (MVA)	45	36
शून्य भार वोल्टता उ.वो. (कि.वो.) NO LOAD VOLTAGE HV (kV)	23.5	
शून्य भार वोल्टता बि.वो. (कि.वो.) NO LOAD VOLTAGE LV (kV)	11.5	
लाइन धारा उ.वो. (ऐ.) LINE CURRENT HV (AMPS)	1105.56	884.45
लाइन धारा बि.वो. (ऐ.) LINE CURRENT LV (AMPS)	2259.20	1807.36
ताप वृद्धि तेल (से.) TEMPERATURE RISE TOP OIL(°C)	50	OVER AMBIENT OF 50°C
ताप वृद्धि कुंडलन (से.) TEMPERATURE RISE WINDING(°C)	55	OVER AMBIENT OF 50°C
क.य आदेश संदर्भ PURCHASE ORDER REF.	PD.NO. CS-9549-501-2-FC-NDA-6207 DATED 10.09.2014	

फेज PHASE	3
आवृति (हर्ट्ज) FREQUENCY (HZ)	50
संयोजन प्रतीक CONNECTION SYMBOL	Dyn1
प्रतिबाधा वोल्ट 45 मे.वो.ऐ. आधार IMPEDANCE VOLT AT 45 MVA BASE	उ.वो. / बि.वो. HV / LV (NDR. TAP) 11.5%±7.5%TOL उ.वो. / बि.वो. HV / LV (MAX. TAP) 11.5%±10%TOL उ.वो. / बि.वो. HV / LV (MIN. TAP) 11.5%±10%TOL
वैद्युत रोधन स्तर INSULATION LEVEL	उ.वो. LI 170 -AC 70 बि.वो. LI 75 -AC 28

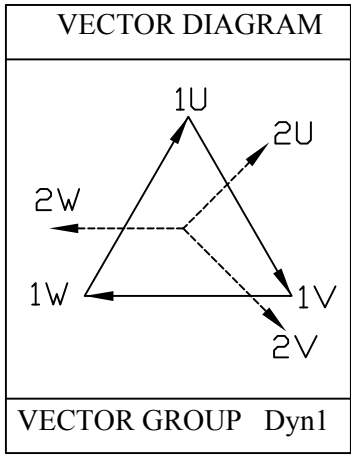
निर्माणकार की क्रम संख्या MAKER'S SERIAL NO.	204
वैद्युत विनिर्देश संख्या ELEC. SPEC. NO.	626
निर्माण वर्ष YEAR OF MANUFACTURE	201
आरेख ड्राइंग संख्या DIAGRAM DRG.NO.	1 456 19 51 484
प्रारूप ड्राइंग संख्या DGA DRG.NO.	1 456 00 50 880
कोर और कुंडलन (कि.ग्रा.) CORE & WINDING (kg)	40000
तेल का भार (कि.ग्रा.) WEIGHT OF OIL (kg)	19700
पूर्ण भार (कि.ग्रा.) TOTAL WEIGHT (kg)	80000
तेल मात्रा (लीटर) OIL QUANTITY (LITRE)	22000
परिवहन भार (कि.ग्रा.) TRANSPORT WEIGHT (kg)	51000 (GAS FILLED)
टैंकी से निकालने का भार (कि.ग्रा.) UNTANKING WEIGHT (kg)	41000
ग्राहक CUSTOMER	एन टी पी सी दारली पवली सुपर थर्मल पावर प्रोजेक्ट M/S NTPC DARLIPALI STPP -1 (2x800 MW)

● टर्मिनल्स टैंकी ढक्कन के उपर
TERMINALS ON TANK COVER



TAPPING : ON LOAD TAP CHANGER HAVING TAPPING RANGE OF +10% TO -10% IN STEP OF 1.25% EACH AND SHALL BE PROVIDED ON HV SIDE FOR HV VOLTAGE VARIATION
OLTC - 3XMI802-60/B-18170 BHEL MAKE

वोल्टता एवं वैद्युत धारा की सारणी TABLE OF VOLTAGES & CURRENTS									
संभव POSN	समायोजन CONNECTION	वोल्टता VOLTAGE K.V.	उ.वो. लाइन टर्मिनल्स HV LINE TERMINALS 1U, 1V, 1W		वोल्टता VOLTAGE K.V.	बि.वो. लाइन टर्मिनल्स LV LINE TERMINALS 2U, 2V, 2W		% IMPEDANCE MEASURED AT 45 MVA BASE	
			ONAF (45 MVA)	ONAN (36 MVA)		ONAF (45MVA)	ONAN (36MVA)		
1(MAX)	(Z-19)	25.850	1005.060	804.048					
2	(Z-18)	25.556	1016.611	813.289					
3	(Z-17)	25.263	1028.432	822.746					
4	(Z-16)	24.969	1040.531	832.425					
5	(Z-15)	24.675	1052.918	842.335					
6	(Z-14)	24.381	1065.604	852.483					
7	(Z-13)	24.088	1078.599	862.879					
8	(Z-12)	23.794	1091.915	873.532					
9 (NT)	(Z-11)	23.500	1105.564	884.451	11.5	2259.20	1807.36		
10	(Z-10)	23.206	1119.559	895.647					
11	(Z-9)	22.913	1133.912	907.130					
12	(Z-8)	22.619	1148.638	918.911					
13	(Z-7)	22.325	1163.752	931.002					
14	(Z-6)	22.031	1179.269	943.415					
15	(Z-5)	21.738	1195.205	956.164					
16	(Z-4)	21.444	1211.577	969.262					
17 (MIN)	(Z-3)	21.150	1228.405	982.724					



धारा परिणामिः CURRENT TRANSFORMER						
नामकरण NOMENCLATURE	अनुपात एवं टर्मिनल चिह्न RATIO & TERMINAL MARKING	श्रेणी ACCURACY CLASS	भार BURDEN	द्वितीयक प्रतिरोधक SECONDARY RESISTANCE (MAX)(OHMS)	जंघा बिन्दु वोल्टता KNEE POINT VOLTAGE (MIN)	उद्देश्य PURPOSE
1CT 2N	2500/1 1S1-1S2	PS	-	< 10	> 1000V	PROTECTION
2CT 2N	600/1 2S1-2S2	5P20	15VA	-	-	PROTECTION
3CT 2N	600/1 3S1-3S2	5P20	15VA	-	-	SPARE
WTI-RTDCT1V1	1228.4/3.0-2.8-2.6-2.4 4S1-4S2-4S3-4S4-4S5	5	10 VA	-	-	HV WTI & RTD
WTI-RTDCT2V1	2259.2/2.8-2.6-2.4-2.2 5S1-5S2-5S3-5S4-5S5	5	-	-	-	LV WTI & RTD

टिप्पणियाँ : 1 वोल्ट एवं वैद्युत धारा की सारणी में शून्य भार वोल्टता दिखाई गई है !
2 परिणामि के आपेक्षिक टर्मिनल स्थानें लगभग यहाँ दिखाये अनुसार है !
3 टैंकी कोड और कुंडलन के साथ शून्य भार के लिए उपयुक्त है !
4 निरीक्षण और डाइरेक्ट टेस्ट के लिए प्रत्येक छ महीने तेल का नमूना निकालें !

NOTES:-
1. THE TABLE OF VOLTAGES & CURRENTS GIVES VOLTAGE AT NO LOAD.
2. THE RELATIVE TERMINAL POSITIONS ON TRANSFORMER ARE APPROX. AS SHOWN.
3. THE TANK IS SUITABLE FOR FULL VACUUM WITH CORE AND WINDING INSIDE.
4. TAKE OIL SAMPLES EVERY SIX MONTHS FOR INSPECTION AND DIELECTRIC TEST.

MADE IN INDIA

- ### NOTES TO SHOP
- TESTED VALUES TO BE ENGRAVED AFTERWARDS.
 - ENGRAVE MAKER'S SERIAL NO., YEAR OF MANUFACTURE.
- ### NOTES TO DRAUGHTSMAN
- COLORS WHICH ARE NOT APPLICABLE ARE TO BE LEFT BLANK.
 - FOR MOUNTING PAD REFER DRG.44991500008 IT.002.
- ### NOTES TO DIAGRAM PLATE MANUFACTURER
- CONSULT ENGINEERS BEFORE ENGRAVING WEIGHTS AND OIL QUANTITY/RATING PARTICULARS TO BE ENGRAVED OR MACHINE STAMPED AND FILLED IN BLACK. HAND STAMPING NOT PERMITTED.
- ### 2. LETTERS AND NUMERALS
- STYLE AND DESIGN OF HINDI LETTERS SHALL BE AS PER STANDARD AA D421402.
 - STYLE AND DESIGN OF ENGLISH LETTERS SHALL BE AS PER STANDARD AA 0421403.
 - SIZE OF LETTERS AND NUMERALS SHALL BE AS PER TABLE-1 BELOW.
 - FINISH
 - PLATES ARE TO BE MANUFACTURED BY ETCHING PROCESS.
 - ALL LETTERS AND FIGURES, DIVIDING LINES, BORDER LINES AND DIAGRAM ETC. TO BE BLACK.
 - BACKGROUND TO BE SMOOTH AND BRIGHT.
 - THE PLATE SHOULD WITHSTAND OUT-DOOR DURABILITY TEST. AS PER CL. 7.11 TO 7.14 OF AA0401201.
 - THE SETTING OF THE RATING AND DIAGRAM PLATE, SHOULD BE DONE AS NEAR AS POSSIBLE TO DRAWINGS.
 - DRILLING IS TO BE DONE IN PLATE BEFORE ETCHING PROCESS.
 - DRAWING NO. 14561951484 REVISION NO. 01 W.D. NO.- 71193P17700 TO BE PAINTED ON THE BACK OF THE PLATE
- ### PACKING
- RATING AND DIAGRAM PLATE TO BE SUITABLY PACKED IN POLYTHENE COVERS (500 MICRONS TK.) TO AVOID DAMAGE DURING TRANSIT/STORING.
- ### MATERIAL
- 16TK x 400 x 600 STAINLESS STEEL SHEET TO AA 1073/KIS 6911 GR04 C- 13)
- ### NOTES TO CUSTOMER
- CUSTOMER IS REQUESTED TO QUOTE MAKER'S SL.NO.,ELEC.SPEC.NO., RATING & DIAGRAM PLATE DRG. NO. WHILE REFERRING ANY PROBLEM TO BHEL FOR EASY IDENTIFICATION.
* MEASURED VALUES OF % IMPEDANCE SHALL BE ENGRAVED IN R&D PLATE AFTER TESTING OF TRANSFORMER

TABLE - I

SIZE OF THE RATING PLATE	LETTER SIZE
HEADING	HINDI ENGLISH
BHARAT HEAVY ELECTRICALS LIMITED	10.5 8
MADE IN INDIA	6 6
NAME OF THE EQUIPMENT	6 6
RATING PARTICULARS NOMENCLATURE	3 3
NOTES	3 3

REV	DATE	ALTERED
		CHECKED
REV	DATE	ALTERED
02	11.02.16	CHECKED P.P

DRAWING REVISED IN LINE WITH NTPC COMMENTS

V.D. 71193P17700		NTPC DRG. NO. 9549-501-PVE-B-12		BHEL DRG. NO. 1 456 19 51 484	
PRJ. NO. - CS-9549-501-2-FC-NDA-6207 LIMITED 10.09.2014					
SPEC. NO. - CS-9549-501-2					
STATUS - U					
DISTRIBUTION					
BHEL TRE-1 TRX-1 TRM-3					
NTPC					
REV	DATE	ALTERED			
01	06/08/15	CHECKED MSC.			
		APPROVED VJ			
DRAWING REVISED IN LINE WITH NTPC COMMENTS.					