

DRG.NO: 3-VAD 3387

IF IN DOUBT, ASK

LIST OF STANDARD DRAWINGS APPLICABLE FOR 245kV IVT

SR. NO.	DESCRIPTION	DRG./DOC.NO.	APP. CAT.	REMARKS
01	GENERAL ARRANGEMENT	3-VAD 3388/R0		
02	RATING/SCHEMATIC PLATE	3-VAD 3389/R0		
03	SECONDARY TERMINAL BOX G.A.	3-VAD 3390/R0		

LIST OF VARIABLE DRAWINGS APPLICABLE FOR 245 kV IVT

SR. NO.	DESCRIPTION	DRAWING NO.
01	COVER SHEET	AS APPLICABLE
02	RATING/SCHEMATIC PLATE	AS APPLICABLE

**NOTE : DRAWING APPROVAL SUBJECT TO VALID TYPE TEST REPORTS, TO BE CHECKED DURING ACCEPTANCE TESTS.**


- 1). Minimum 300 mm Plinth shall be maintained for Current transformers in the substation during foundation works to ensure safe live to ground clearances as per IE rules.
- 2). Since the supply of terminal connectors is not in the scope of CT Manufacturer as mentioned in the drawings, the EPC contractors shall be instructed to supply the same in line with the CT requirement and compatibility.

**FOR EPC CONTRACTS ONLY**

REMARKS	APPROVAL LETTER NO.

Chief Engineer  
 Planning & Power Systems  
 APTransco

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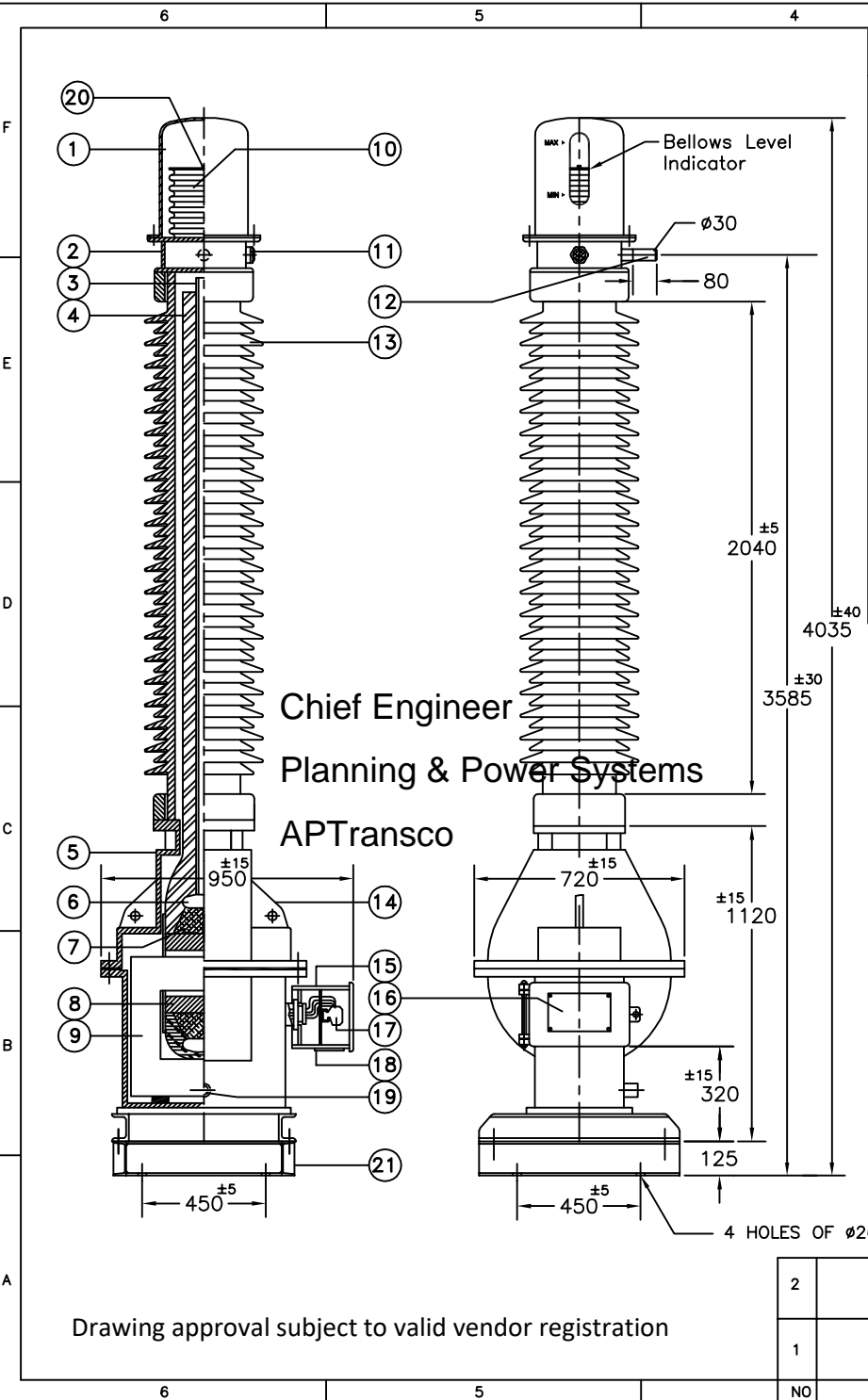
CUSTOMER : APTRANSCO			
4	GEN. TOL.	MATL. SPEC.:	TITLE : LIST OF STANDARD DRGS. / DOCUMENTS APPLICABLE FOR 245 kV IVT (CREEPAGE = 31 mm/ kV)
3	THIRD ANGLE PROJECTION		
2	SCALE: NTS	INITIALS	NAME
1	ALL DIMNS. IN MM. UNLESS OTHERWISE SPECIFIED.	ORG	NSB
		CHD	PBN
NO	REVISION	SIGN	DATE
DATE : 15.12.2021		 <b>CG Power and Industrial Solutions Limited</b> S1 - DIVISION, AMBAD, NASHIK	
DRG.NO: 3-VAD 3387			REV 0

DRG.NO: 3-VAD 3388

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FRAME : DOM-ST-7595

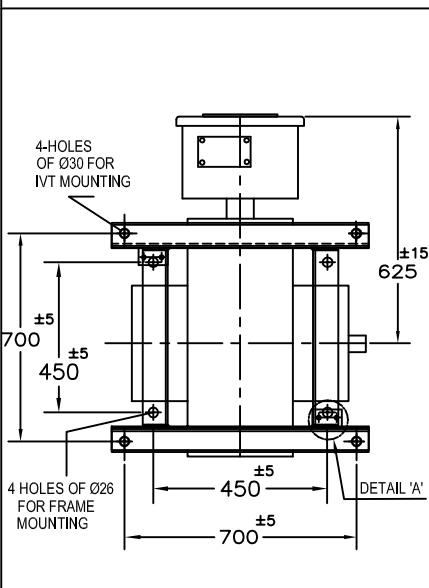
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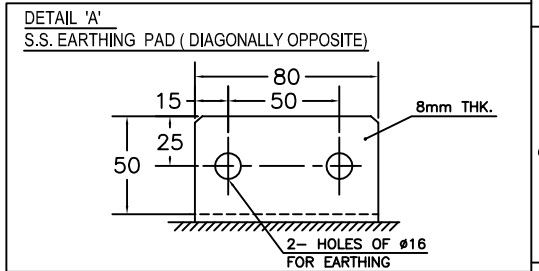
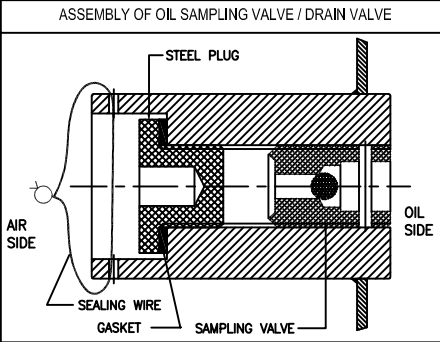
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BOTTOM VIEW



TOTAL MASS	= 850	±10%
OIL MASS	= 125	±10%
TOTAL CREEPAGE DISTANCE(MIN)	= 7595	mm

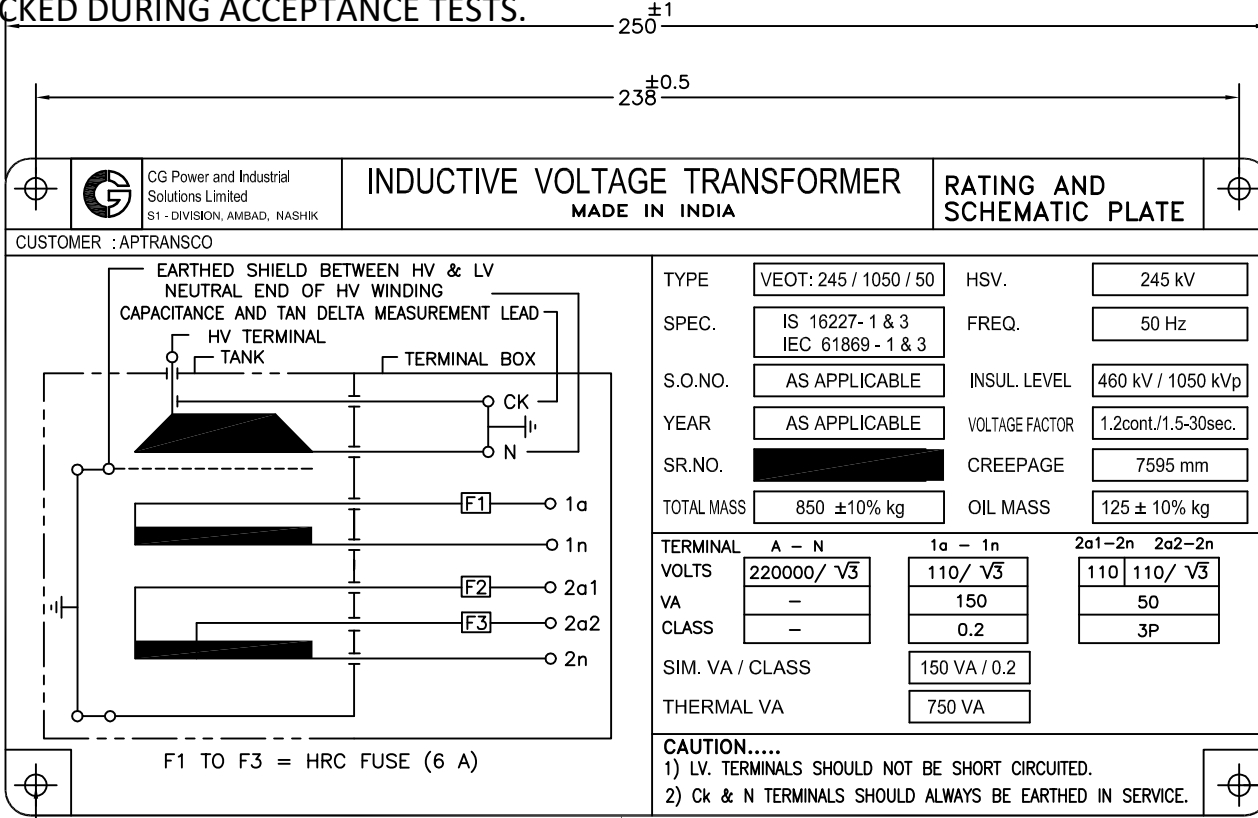


SR.NO.	QTY.	DESCRIPTION	MATERIAL
1	1	HOOD	ALUMINIUM
2	1	TOP HOUSING	ALUMINIUM
3	1	BUSHING TUBE	ALUMINIUM
4	1	BUSHING PORTION OF ACTIVE PART	O.I.P.
5	1	TANK	STEEL HDG.
6	1	SHIELD	ALUMINIUM
7	1	PRIMARY WINDING	COPPER
8	-	SECONDARY WINDING	COPPER
9	1	C.R.G.O. CORE	C.R.G.O.
10	1	METALLIC BELLOWS	STAINLESS STEEL
11	1	OIL INDICATOR	PRISMATIC TYPE
12	1	PRIMARY TERMINAL	COPPER (NICKEL PLATED)
13	1	INSULATOR	PORCELAIN
14	2	LIFTING LUG Ø35	STEEL HDG.
15	1	SECONDARY TERMINAL BOX	STEEL HDG.
16	1	RATING/SCHEMATIC PLATE	ALUMINIUM
17	-	SECONDARY TERMINALS	ELMEX
18	1	GLAND PLATE	STEEL HDG.
19	1	OIL SAMPLING VALVE	STEEL E.G.
20	1	OIL PLUG	BRASS PLATED
21	1	MOUNTING FRAME (SHALL BE SUPPLIED LOOSE)	STEEL HDG

CUSTOMER : APTRANSCO				TITLE : STANDARD DRAWING GENERAL ARRANGEMENT OF 245 kV IVT (CREEPAGE = 31 mm/ kV)		
GEN. TOL.	MATL.:	THIRD ANGLE PROJECTION		 CG Power and Industrial Solutions Limited S1 - DIVISION, AMBAD, NASHIK	DRG.NO: 3-VAD 3388	
	SPEC.:	SCALE: NTS	INITIALS			NAME
		ORG	NSB			
		CHD	PBN			
		APPD	USS			
ALL DIMNS. IN MM. UNLESS OTHERWISE SPECIFIED.				DATE : 15.12.2021	REV 0	

NO	REVISION	SIGN	DATE
2			
1			

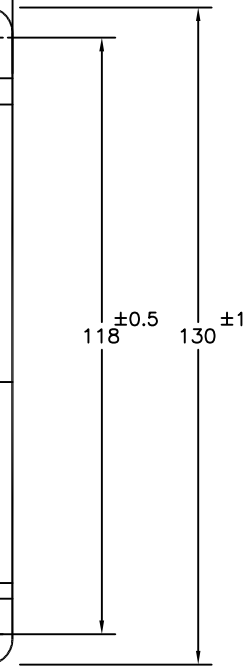
NOTE : DRAWING APPROVAL SUBJECT TO VALID TYPE TEST REPORTS, TO BE CHECKED DURING ACCEPTANCE TESTS.



TYPE	VEOT: 245 / 1050 / 50	HSV.	245 kV
SPEC.	IS 16227- 1 & 3 IEC 61869 - 1 & 3	FREQ.	50 Hz
S.O.NO.	AS APPLICABLE	INSUL. LEVEL	460 kV / 1050 kVp
YEAR	AS APPLICABLE	VOLTAGE FACTOR	1.2cont/1.5-30sec.
SR.NO.		CREEPAGE	7595 mm
TOTAL MASS	850 ±10% kg	OIL MASS	125 ± 10% kg

TERMINAL	A - N	1a - 1n	2a1-2n	2a2-2n
VOLTS	220000/ √3	110/ √3	110	110/ √3
VA	-	150	50	50
CLASS	-	0.2	3P	3P
SIM. VA / CLASS		150 VA / 0.2		
THERMAL VA		750 VA		

**CAUTION.....**  
 1) LV. TERMINALS SHOULD NOT BE SHORT CIRCUITED.  
 2) Ck & N TERMINALS SHOULD ALWAYS BE EARTHED IN SERVICE.



4 HOLES OF Ø4

1 mm THK. ALUMINIUM

- 1). Minimum 300 mm Plinth shall be maintained for Current transformers in the substation during foundation works to ensure safe live to ground clearances as per IE rules.
- 2). Since the supply of terminal connectors is not in the scope of CT Manufacturer as mentioned in the drawings, the EPC contractors shall be instructed to supply the same in line with the CT requirement and compatibility.

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 Planning & Power Systems

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2			
1			
NO	REVISION	SIGN	DATE

CUSTOMER : APTRANSCO		<b>APTranSCO</b>	
GEN. TOL.	MATL.:	TITLE : STANDARD DRAWING RATING/SCHEMATIC PLATE	
	SPEC.:	OF 245 KV IVT ( CREEPAGE = 31 mm/ kV )	
THIRD ANGLE PROJECTION			
SCALE: NTS		INITIALS	NAME
ALL DIMNS. IN MM. UNLESS OTHERWISE SPECIFIED.	ORG		NSB
	CHD		PBN
	APPD		USS
DATE : 15.12.2021		DRG.NO: 3-VAD 3389	
		REV 0	

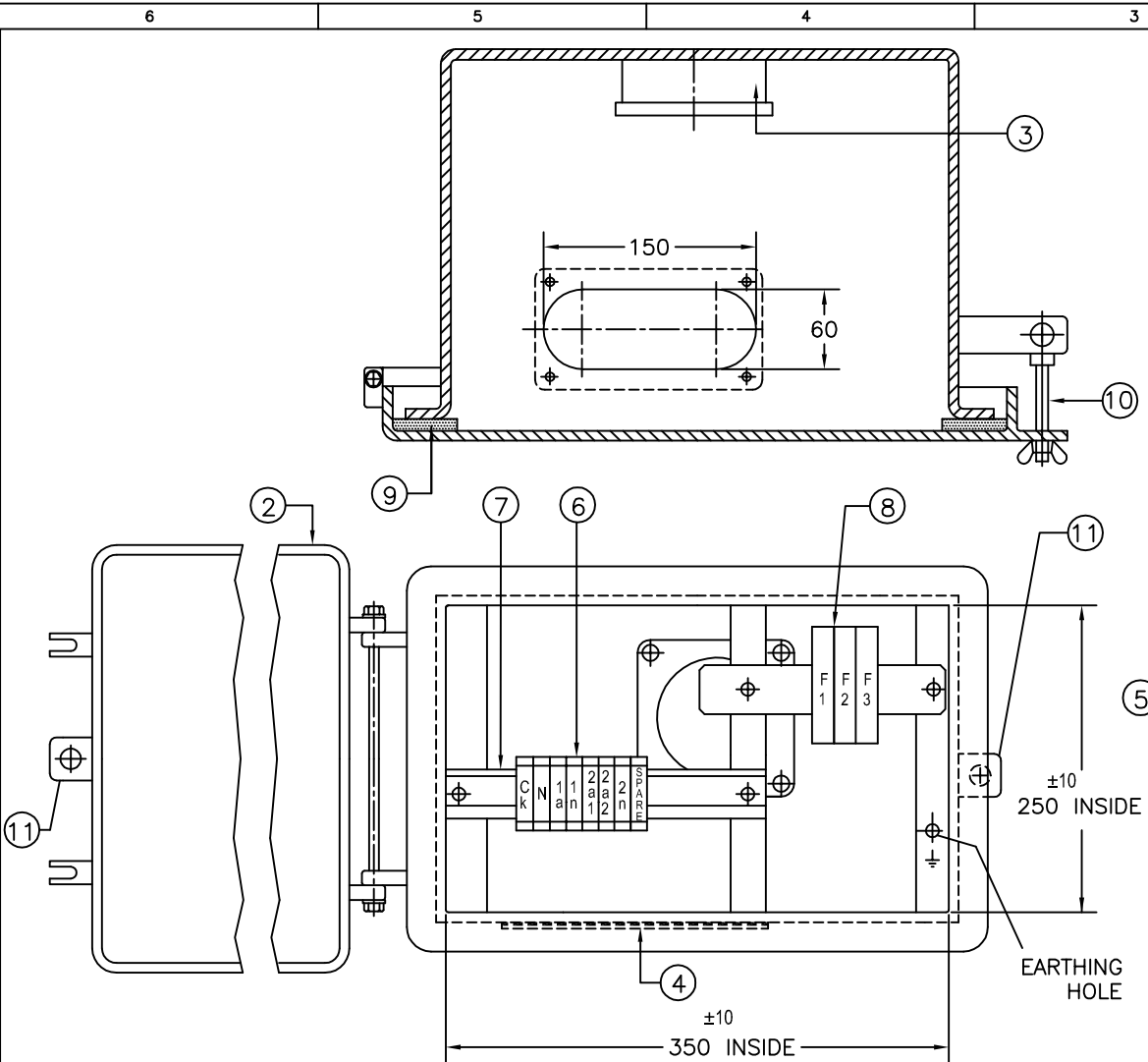


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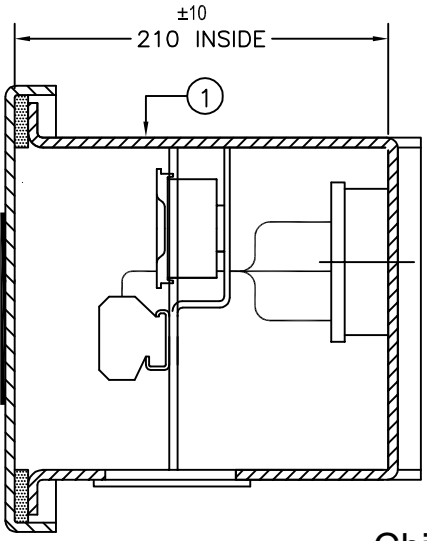
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DRG.NO: 3-VAD 3390

IF IN DOUBT, ASK



ITEM NO.	QTY.	DESCRIPTION	MATERIAL / RATING
1	1	SECONDARY TERMINAL BOX	STEEL HDG
2	1	SECONDARY TERMINAL BOX COVER	STEEL HDG
3	1	MONOBLOCK	EPOXY
4	1	REMOVABLE GLAND PLATE	STEEL HDG
5	1	RATING/SCHEMATIC PLATE	ALUMINIUM
6	7+1 SPARE	STUD TYPE SECONDARY TERMINAL	ELMEX
7	1	TERMINAL MOUNTING BRACKET	STEEL POWDER COATED
8	3	HRC FUSE	F1 TO F3
9	1	DOOR GASKET	EPDM SPONGE RUBBER
10	2	HINGE ARRANGEMENT	S.S, BRASS
11	1	PAD LOCK / SEALING ARRANGEMENT	STEEL. HDG




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NOTES:-

- 1) SECONDARY BOX ASSEMBLY CONFORMS TO IP55
- 2) Ck : TERMINAL FOR CAPACITANCE & TAN DELTA MESUREMENT ONLY. IT SHOULD ALWAYS BE EARTHED IN SERVICE & DISCONNECT ONLY FOR MEASUREMENT.

CUSTOMER : APTRANSCO			
GEN. TOL.	MATL.:	TITLE : STANDARD DRAWING	
	SPEC.:	SECONDARY BOX GA	
THIRD ANGLE PROJECTION			
SCALE: NTS	INITIALS	NAME	
ALL DIMNS. IN MM. UNLESS OTHERWISE SPECIFIED.	ORG	NSB	 CG Power and Industrial Solutions Limited S1 - DIVISION, AMBAD, NASHIK
	CHD	PBN	
	APPD	USS	
DRG.NO: 3-VAD 3390			REV 0

NO	REVISION	SIGN	DATE
2			
1			

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NOTE : DRAWING APPROVAL SUBJECT TO VALID TYPE TEST REPORTS, TO BE CHECKED DURING ACCEPTANCE TESTS.

5565996/2022/EEMRT-ENE51

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A-3, MIDC, Ambad,  
Nashik – 422 010. INDIA



**APTRANSCO**

Date:17.12.2021

**Our ref: GTP 245kV IVT GTP/ 2 winding/Protection/31mm/kV**

**FOR EPC CONTRACTS ONLY**

**SCHEDULE OF TECHNICAL & GUARANTEED PARTICULARS**  
**FOR 245kV POTENTIAL TRANSFORMER**

Sr. No.	Type:	Oil filled, Outdoor, Hermetically sealed, single phase IVT.
1.	Manufacturer's type/designation:	VEOT: 245/1050/50.
2.		Mounting of tank (Bottom): - Dead tank.
3.	Conforming to standard	IS: 16227 & IEC:61869-1&3
4.	System rated voltage/highest voltage(kV)	220 kV/ $\sqrt{3}$ / 245/ $\sqrt{3}$
5.	Rated primary voltage (kV)	220 kV/ $\sqrt{3}$ .
6.	Secondary voltage details	
	a. No. of secondary windings	<b>a. Winding-I</b> <b>Winding-II</b>
	b. Rated secondary voltage (VA)	b. 110 V/ $\sqrt{3}$ 110-110 V/ $\sqrt{3}$
	c. Rated burden (VA)	c. 150 VA      50 VA
	d. Class of accuracy	d. 0.2      3P
7.	Temperature rise at 1.1 times rated voltage with rated burden (deg C):	Less than 50 deg C.
8.	Rated voltage factor and time	1.2 for continuous & 1.5 for 30Sec.
9.	Temperature rise for item-10 above (deg C)	Not Applicable.
10.	Impulse withstand test voltage (kV) peak: -	1050kVp.
11.	One minute power frequency withstands test voltage on primary (kV rms)	460kV rms.
12.	One minute power frequency withstands test voltage on secondary (kV rms)	3 kV rms
13.	Porcelain bushing (make)	IEC/CJI/Ravi Kiran
14.	Total creepage distance of the bushing (mm)	7595mm.
15.	Protected creepage distance of the bushings (mm)	Not Applicable.
16.	Quantity of insulating oil (litres)	In the event of order.
17.	Weight of OIL (Kg)	As per attached GA drawing
18.	Total weight including OIL (Kg)	As per attached GA drawing
19.	Mounting details	Kindly refer our tender purpose GA drawings.
20.	Whether V.T. is sealed construction with nitrogen at top	Our VT is hermetically sealed with stainless steels below at the top, hence nitrogen is not provided.
21.	Tan-delta	< 0.005
22.	Grade of oil: -	IS335.
23.	RIV at 1.1 x Um/Root3 (micro volts)	<1000 $\mu$ V
24.	Partial discharge at Um is <10pC	<10 pC @ Um <5 pC @ 1.2 Um/ $\sqrt{3}$
25.	Terminal Connectors	Not In CGPISL scope of Supply in case of EPC contractors
26.	Support Structures & Marshalling Boxes	Not In CGPISL scope of Supply in case of EPC contractors

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