

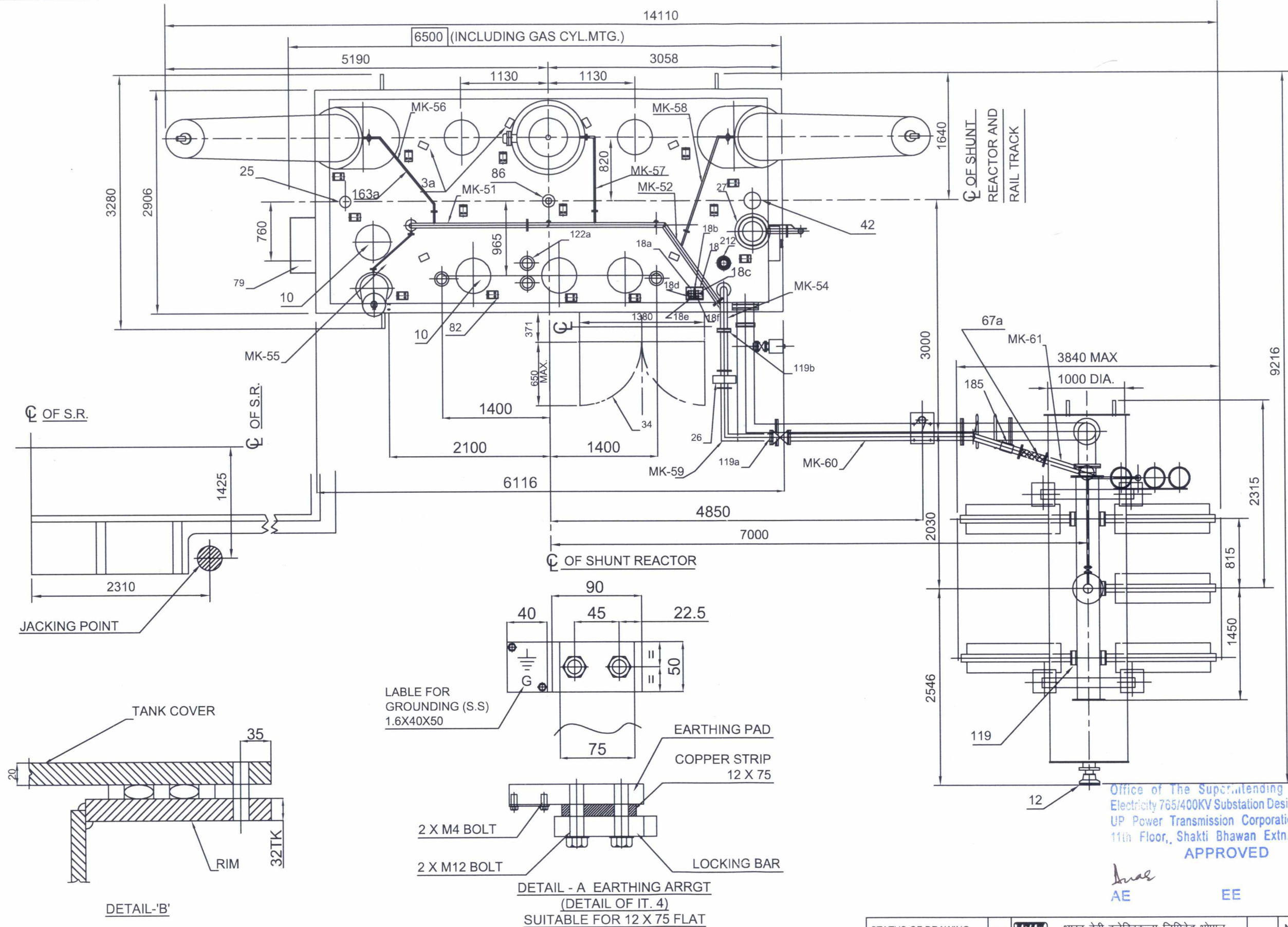
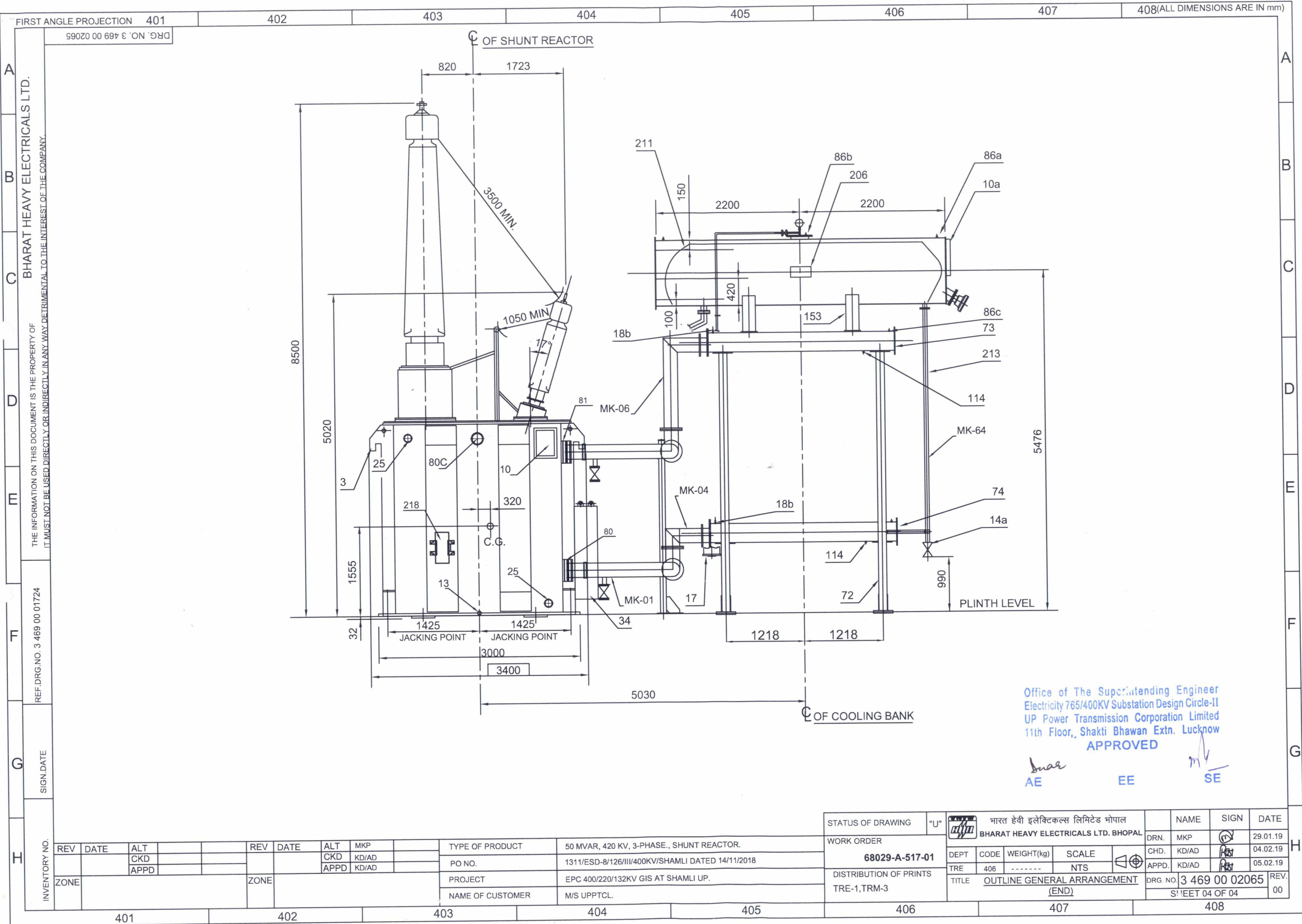


STATUS OF DRAWING	"U"	 भारत हेवी इलेक्ट्रिकल्स लिमिटेड भोपाल BHARAT HEAVY ELECTRICALS LTD. BHOPAL				NAME	SIGN	DATE
WORK ORDER	68029-A-517-01	DEPT	CODE	WEIGHT(kg)	SCALE	DRN.	MKP	29.01.19
		TRE	406	-----	NTS	CHD.	KD/AD	04.02.19
DISTRIBUTION OF PRINTS		TITLE				APPD.	KD/AD	05.02.19
TRE-1,TRM-3		OUTLINE GENERAL ARRANGEMENT (ELEVATION)				DRG. NO.	3 469 00 02065	REV.
						SHEET 02 OF 04		00

TYPE OF PRODUCT	50 MVAR, 420 KV, 3-PHASE., SHUNT REACTOR.
PO NO.	1311/ESD-8/126/III/400KV/SHAMLI DATED 14/11/2018
PROJECT	EPC 400/220/132KV GIS AT SHAMLI UP.
NAME OF CUSTOMER	M/S UPPTCL.

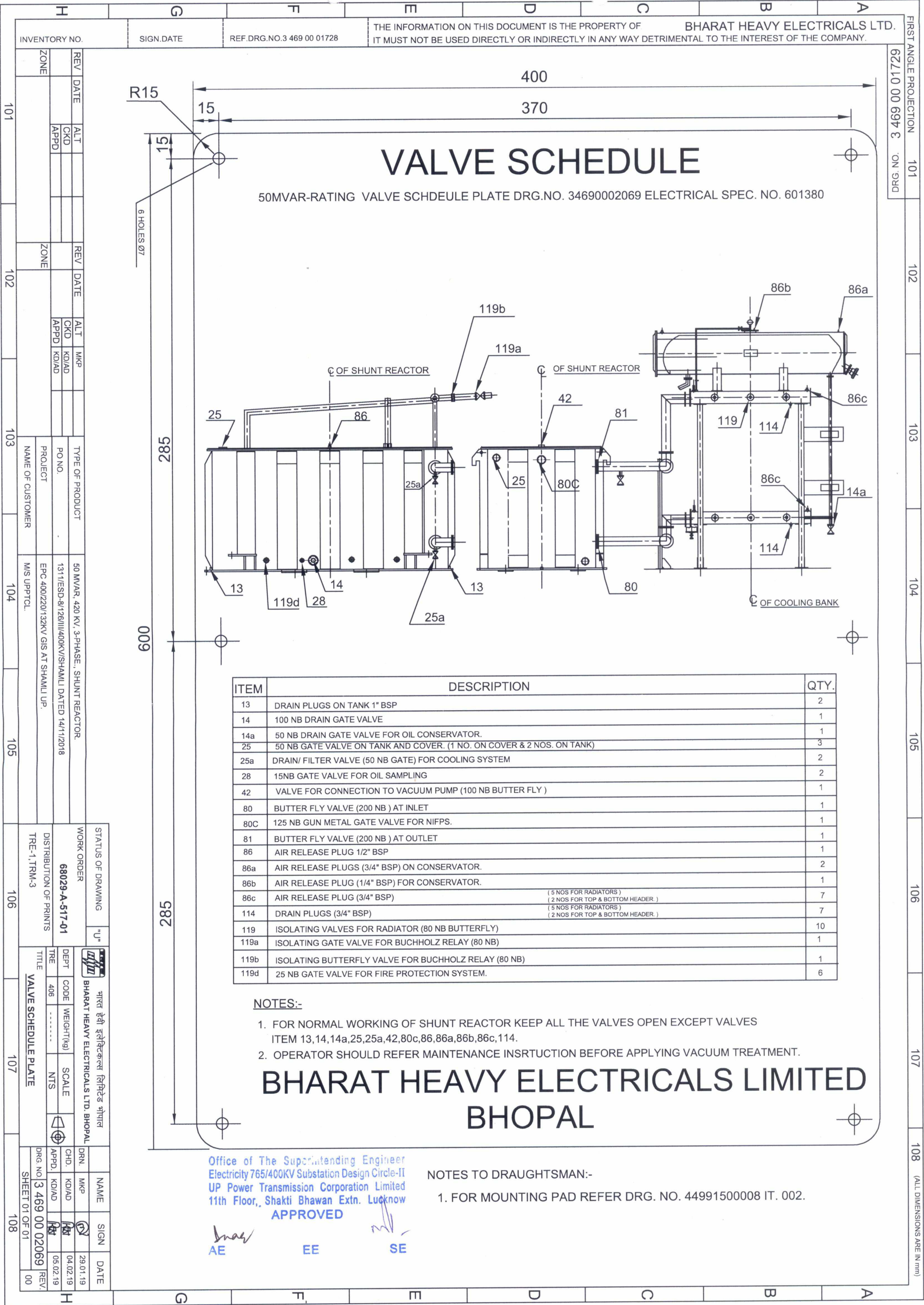
STATUS OF DRAWING		"U"		 भारत हेवी इलेक्ट्रिकल्स लिमिटेड भोपाल BHARAT HEAVY ELECTRICALS LTD. BHOPAL		NAME		SIGN		DATE									
WORK ORDER				DEPT		CODE		WEIGHT(kg)		SCALE		DRN.		MKP		 29.01.19			
68029-A-517-01				TRE		406		-----		NTS		 CHD.		KD/AD		 04.02.19			
DISTRIBUTION OF PRINTS				TITLE		OUTLINE GENERAL ARRANGEMENT						APPD.		KD/AD		 05.02.19			
TRE-1, TRM-3				(PLAN)						DRG. NO.		3 469 00 02065						REV.	
												SHEET 03 OF 04						00	

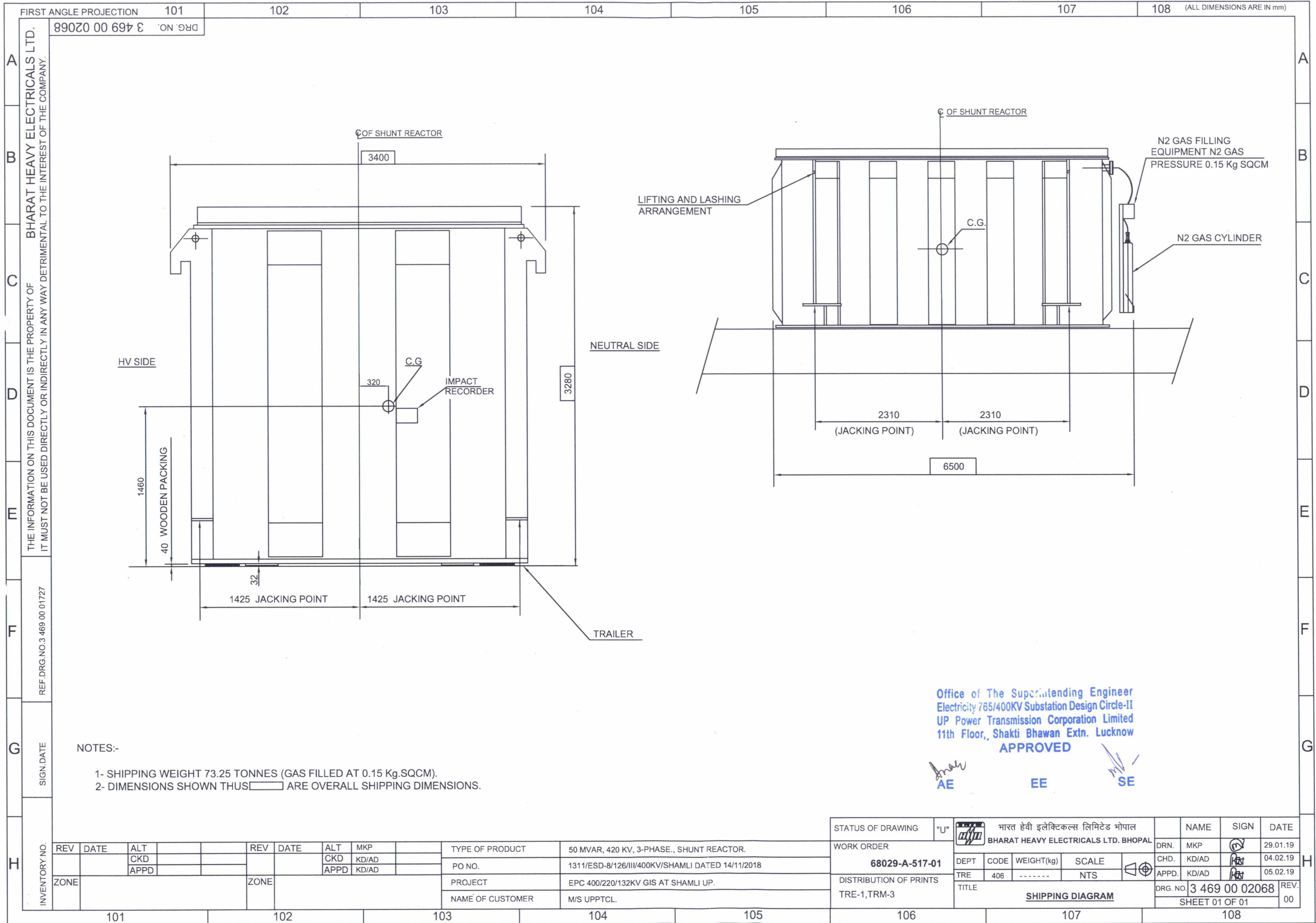




FIRST ANGLE PROJECTION		101	102	103	104	105	106	107	108 (ALL DIMENSIONS ARE IN mm)
99070 00 697 8		ON 'DRG'							
Bharat Heavy Electricals Ltd.		THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LTD. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.							
REF.DRG.NO.3 469 00 01725		SIGN DATE							
INVENTORY NO.		REV. DATE ALT. MKP. TYPE OF PRODUCT 50 MVAR, 420 KV, 3-PHASE., SHUNT REACTOR. PO NO. 1311/ESD-8/126/III/400KV/SHAMLI DATED 14/11/2018 PROJECT EPC 400/220/132KV GIS AT SHAMLI UP. NAME OF CUSTOMER M/S UPPTCL.							
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NOTES:-

- 1- SHIPPING WEIGHT 73.25 TONNES (GAS FILLED AT 0.15 Kg.SQCM).
2- DIMENSIONS SHOWN THUS ARE OVERALL SHIPPING DIMENSIONS.

Office of The Superintending Engineer
Electricity 765/400KV Substation Design Circle-II
UP Power Transmission Corporation Limited
11th Floor, Shakti Bhawan Extn. Lucknow
APPROVED

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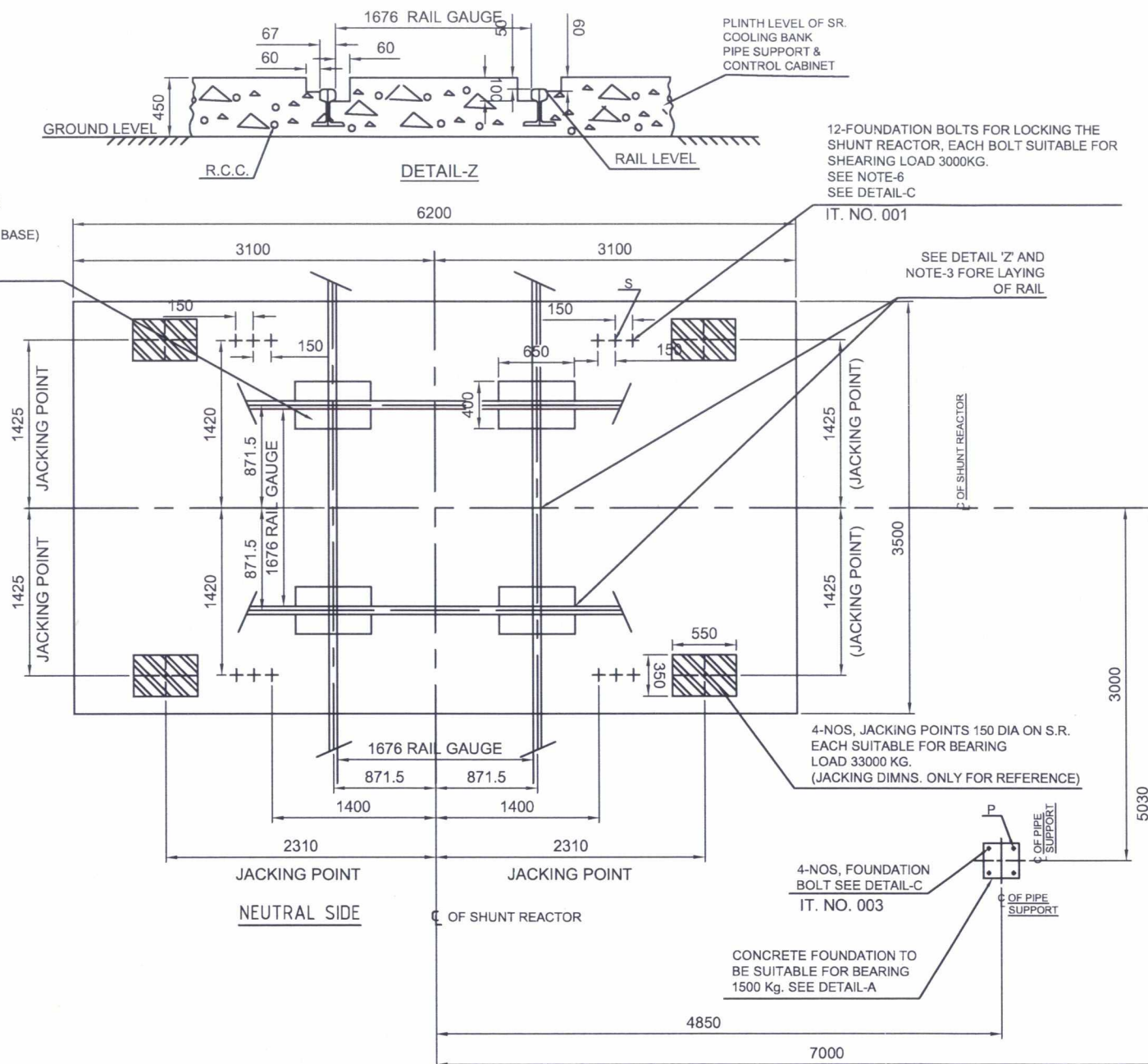
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STATUS OF DRAWING		"U"	भारत हेवी इलेक्ट्रिकल्स लिमिटेड भोपाल		NAME	SIGN	DATE
WORK ORDER		68029-A-517-01	BHARAT HEAVY ELECTRICALS LTD. BHOPAL		DRN.	MKP	29.01.19
DISTRIBUTION OF PRINTS		TRE-1, TRM-3	DEPT	CODE	WEIGHT(kg)	SCALE	CHD.
			TRE	406	-----	NTS	KD/AD
			TITLE		DRG. NO.		REV.
			SHIPPING DIAGRAM		3 469 00 02068		00
					SHEET 01 OF 01		

DRG. NO. 3 469 00 02067

4-LOCALPOCKETS IN FOUNDATION OF SHUNT REACTOR PLINTH, EACH OF SIZE 400 X 650 X 50 DEEP TO ACCOMODATE ROLLER MTG. PADS. (WELDED ON TANK BASE) IT WILL BE SAME FOR ANY DIRECTION OF RAIL TRACK POSITION.



NOTES:-

- FOUNDATION BOLTS WITH HARDWARES WILL BE SUPPLIED BY BHEL.
- FOR OUTLINE GENERAL ARRGT. REFER DRG. 3 469 00 02065.
- POSITION OF RAILS HAVE BEEN SHOWN IN BOTH TRANSVERSE AND LONGITUDINAL DIRECTIONS HOWEVER ACTUAL LAYING OF RAIL SHALL BE IN ONE DIRECTION ONLY AS PER CUSTOMER'S REQUIREMENT AS SHOWN IN DETAIL 'Z'.
- THE DRAWING GIVES THE SIZE AND LOCATING DIMENSIONS OF THE LOAD BEARING PADS PROVIDED WITH REACTOR AND ACCESSORIES. SUITABLE CONCRETE SLAB SIZE TO RECEIVE THESE PADS TO BE DECIDED BY CUSTOMER'S CIVIL ENGINEER.
- POCKETS OF SUITABLE SIZE MAY BE LEFT WHILE CASTING. FOUNDATION FOR EMBEDDING FEMALE PART OF FOUNDATION BOLT (TO BE SUPPLIED BY BHEL) AT THE TIME OF FINAL ERECTION.
- ONLY 12 NOS. FOUNDATION BOLTS ARE REQD. AS PER REACTOR RATING.

DIRECTION OF
WITHDRAWAL4 X 4 FOUNDATION
BOLTS SEE DETAIL-C

4-CONCRETE FOUNDATIONS TO
BE SUITABLE FOR BEARING LOAD
3500 Kg. SEE DETAIL-A
IT. NO. 002

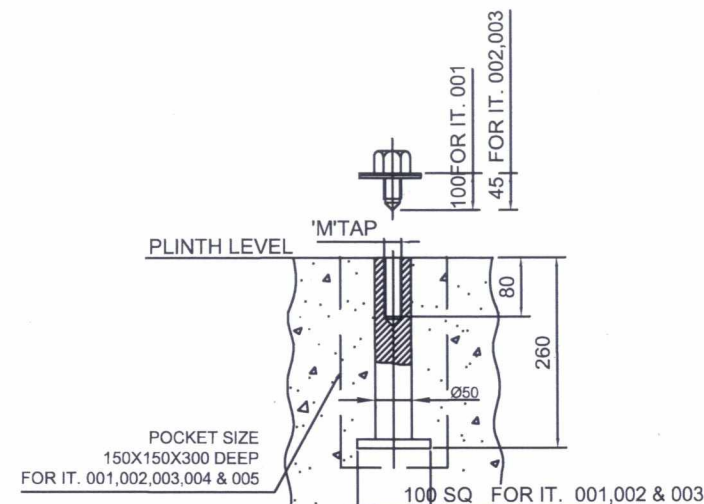
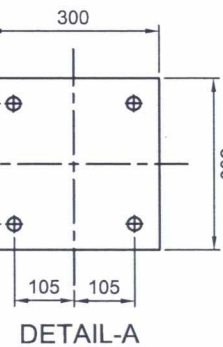
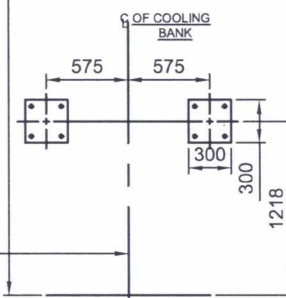
Office of The Superintending Engineer
Electricity 765/400KV Substation Design Circle-II
UP Power Transmission Corporation Limited
11th Floor, Shakti Bhawan Extn. Lucknow
APPROVED

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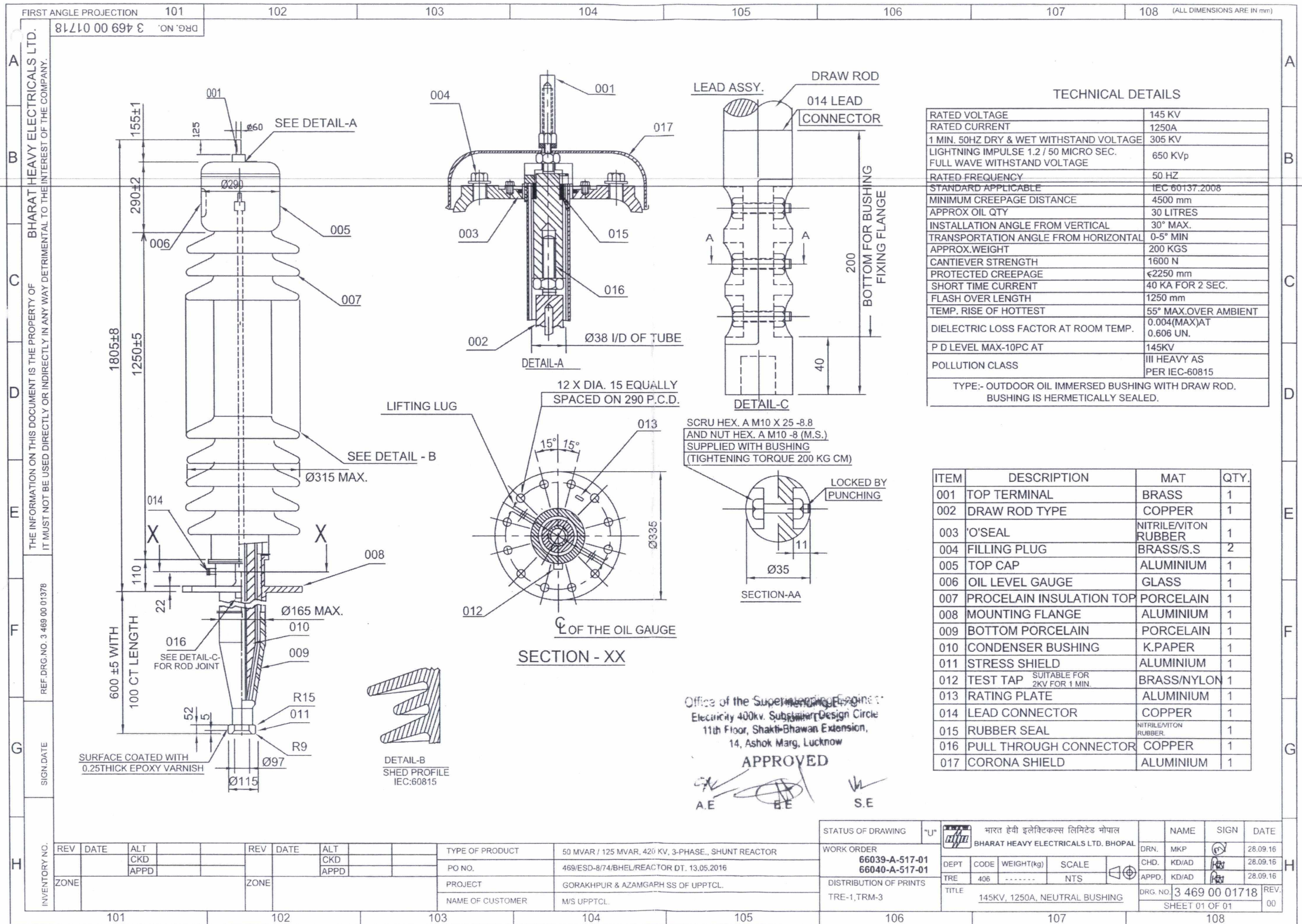
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TABLE FOR FOUNDATION BOLT						
IT. NO.	DESCRIPTION	BOLT SIZE M TAP	HOLE SIZE IN PAD (Ø)	QTY. (PAD)	QTY. OF HOLE FOR PAD	TOTAL QTY. OF BOLTS
001	SHUNT REACTOR MTG.	M-20	24	1	12	12
002	RADIATOR SUPPORT	M-20	24	4	4	16
003	PIPE SUPPORT	M-20	24	1	4	4

DETAIL OF
FOUNDATION BOLTS
DETAIL-C

DETAIL-A

STATUS OF DRAWING		"U"		भारत हेवी इलेक्ट्रिकल्स लिमिटेड भोपाल		NAME	SIGN	DATE
WORK ORDER		68029-A-517-01		BHARAT HEAVY ELECTRICALS LTD. BHOPAL		DRN.	MKP	29.01.19
DISTRIBUTION OF PRINTS		TRE-1, TRM-3		DEPT	CODE	WEIGHT(kg)	SCALE	CHD.
				TRE	406	-----	NTS	KD/AD
				TITLE		FOUNDATION PLAN		APPD.
						DRG. NO. 3 469 00 02067		REV.
						SHEET 01 OF 01		00



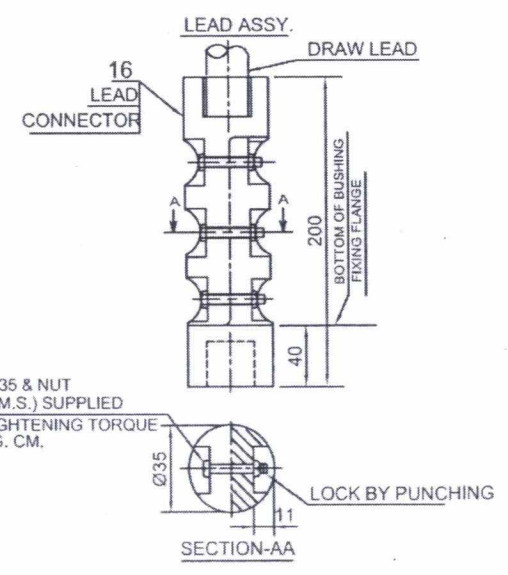
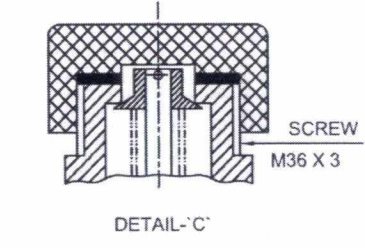
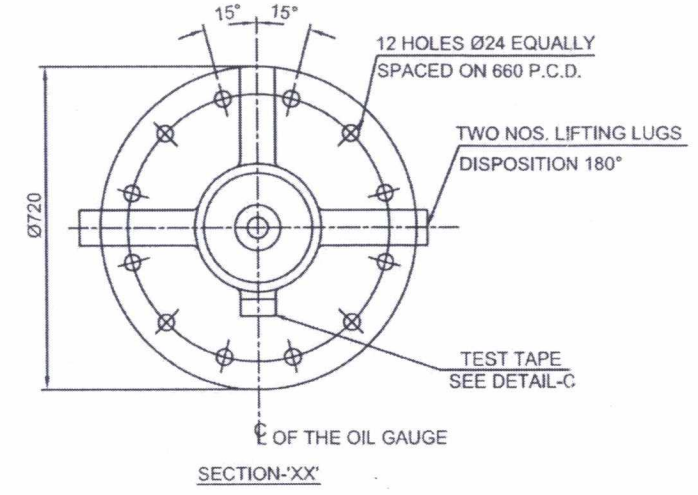
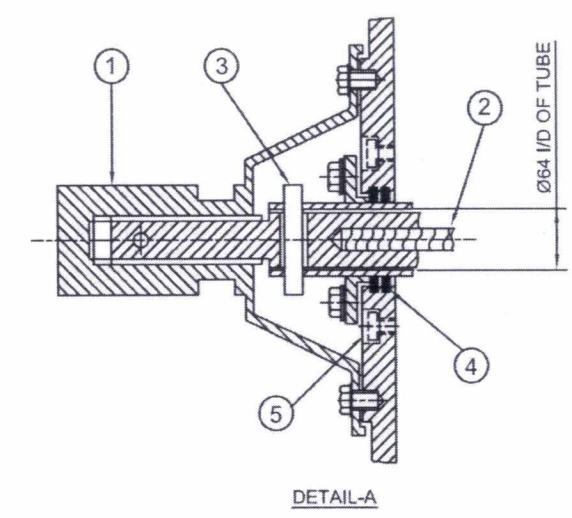
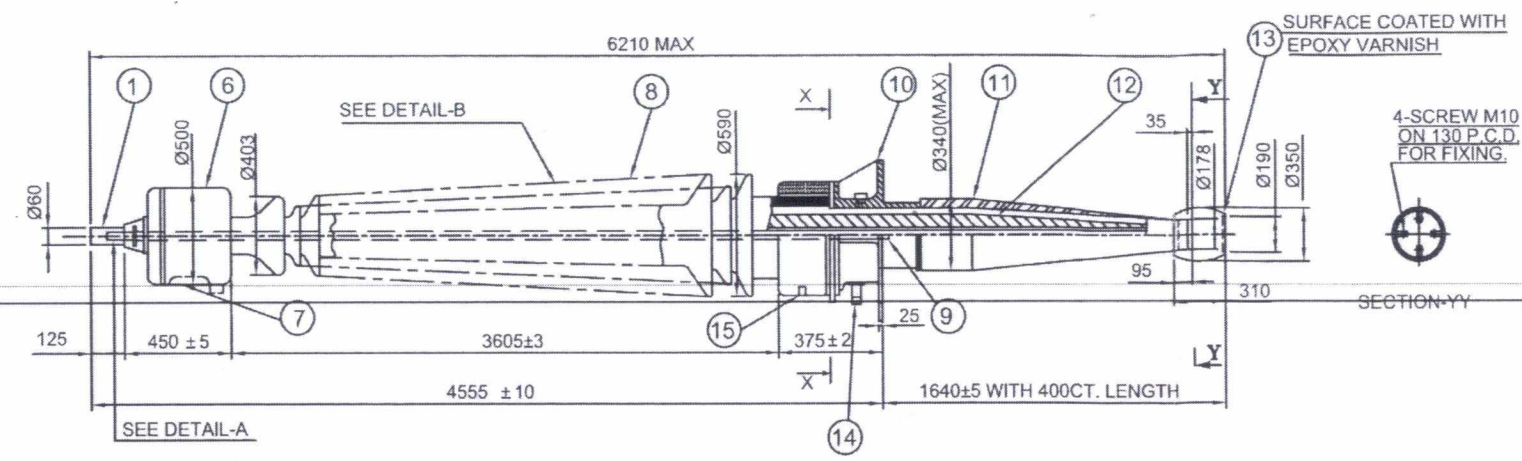
DRG. NO. 3 469 00 01719

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REF.DRG.NO. 3 469 00 01379

SIGN DATE

INVENTORY NO.



HEX. BOLT M10 X 35 & NUT
HEX. PM10-8/R16(M.S.) SUPPLIED
WITH BUSHING TIGHTENING TORQUE
200 KG. CM.

TECHNICAL DETAILS:-	
RATED VOLTAGE	420 KV
RATED CURRENT	1250 A
SHORT TIME CURRENT RATING (FOR 2SEC.)	40 kA
1 MIN. 50 HZ. DRY & WET WITHSTAND VOLTAGE	695 KV
LIGHTNING IMPULSE 1.2/50 SEC. FULL WAVE WITHSTAND VOLTAGE.	1425 KVP
SWITCHING IMPULSE 250/2500 SEC. WITHSTAND VOLTAGE.	1050 KVP
STANDARD APPLICABLE	IEC60137.2008
TOTAL CREEPAGE	14700 MM
APPROX. OIL QUANTITY	160 LTRS.
APPROX. WEIGHT	1500 KGS
INSTALLATION ANGLE FROM VERTICAL	30° MAX
TRANSPORTATION ANGLE FROM HORIZONTAL	0-5° MIN
P D LEVEL MAX.	10 PC AT 420 KV
POLLUTION CLASS	HEAVY AS PER IEC:60815
TEMP. RISE OF HOTTEST SPOT AT RATED CURRENT.	55° MAX OVER AMBIENT OF 50°C.
CANTILEVER STRENGTH	2500 N
PROTECTIVE CREEPAGE	≤5250
DIELECTRIC DISSIPATION AT ROOM TEMP.	0.004(MAX.) AT 0.606UN
MAX. CAPITANCE TO EARTH	450 pF ±25%
TYPE:- OUTDOOR OIL IMMERSED BUSHING. BUSHING IS HERMETICALLY SEALD.	

ALL DIMENSIONS ARE IN mm.

QTY.	ITEM	DESCRIPTION	MATERIAL
1	1	TOP TERMINAL.	GUN METAL
1	2	LEAD ASSY.	COPPER FLEX.
1	3	RETAINING PIN	H.T. STEEL
2	4	'O' SEAL.	NITRILE/VITON RUBBER
2	5	FILLING/DRAIN PLUG.	S.STEEL.
1	6	TOP CAP.	AL. ALLOY.
1	7	OIL LEVEL GAUGE	AL. / GLASS
1	8	PORCELAIN INSULATOR TOP	PROCELAIN
1	9	LEAD CONNECTOR	COPPER
1	10	MOUNTING FLANGE	AL. ALLOY
1	11	BOTTOM PORCELAIN	PROCELAIN
1	12	CONDENSER CORE	K.PAPER
1	13	STRESS SHIELD.	AL. ALLOY.
1	14	TEST TAP.	BRASS/NYLON
1	15	RATING PLATE.	AL. ALLOY

of the Superintending Engineer
400kv. Substation Design Cell
1st Floor, Shakti Bhawan Extension,
14, Ashok Marg, Lucknow
APPROVED
S.E.

STATUS OF DRAWING	"U"	भारत हेवी इलेक्ट्रिकल्स लिमिटेड भोपाल	NAME	SIGN	DATE
WORK ORDER	66039-A-517-01 66040-A-517-01	BHARAT HEAVY ELECTRICALS LTD. BHOPAL	DRN.	MKP	28.09.16
DISTRIBUTION OF PRINTS	TRE-1, TRM-3	DEPT CODE WEIGHT(kg) SCALE	CHD.	KD/AD	28.09.16
		TRE 406 NTS	APPD.	KD/AD	28.09.16
		TITLE 420KV, 1250A, LINE BUSHING	DRG. NO.	3 469 00 01719	REV. 00
			SHEET 01 OF 01		

REV	DATE	ALT	REV	DATE	ALT	TYPE OF PRODUCT	50 MVAR / 125 MVAR, 420 KV, 3-PHASE., SHUNT REACTOR.
		CKD			CKD	PO NO.	469/ESD-8/74/BHEL/REACTOR DT. 13.05.2016.
		APPD			APPD	PROJECT	GORAKHPUR & AZAMGARH SS OF UPPTCL.
ZONE			ZONE			NAME OF CUSTOMER	M/S UPPTCL.

