

ANNEXURE 2

Date: 24-12-2021

Subject: The drawings / sketches of the jobs / components to be machined on the proposed CNC Vertical Boring machine

Reference: Annexure-I (Specification Number - **TEX/EOI/CNC-V. BORING/2021/01**)

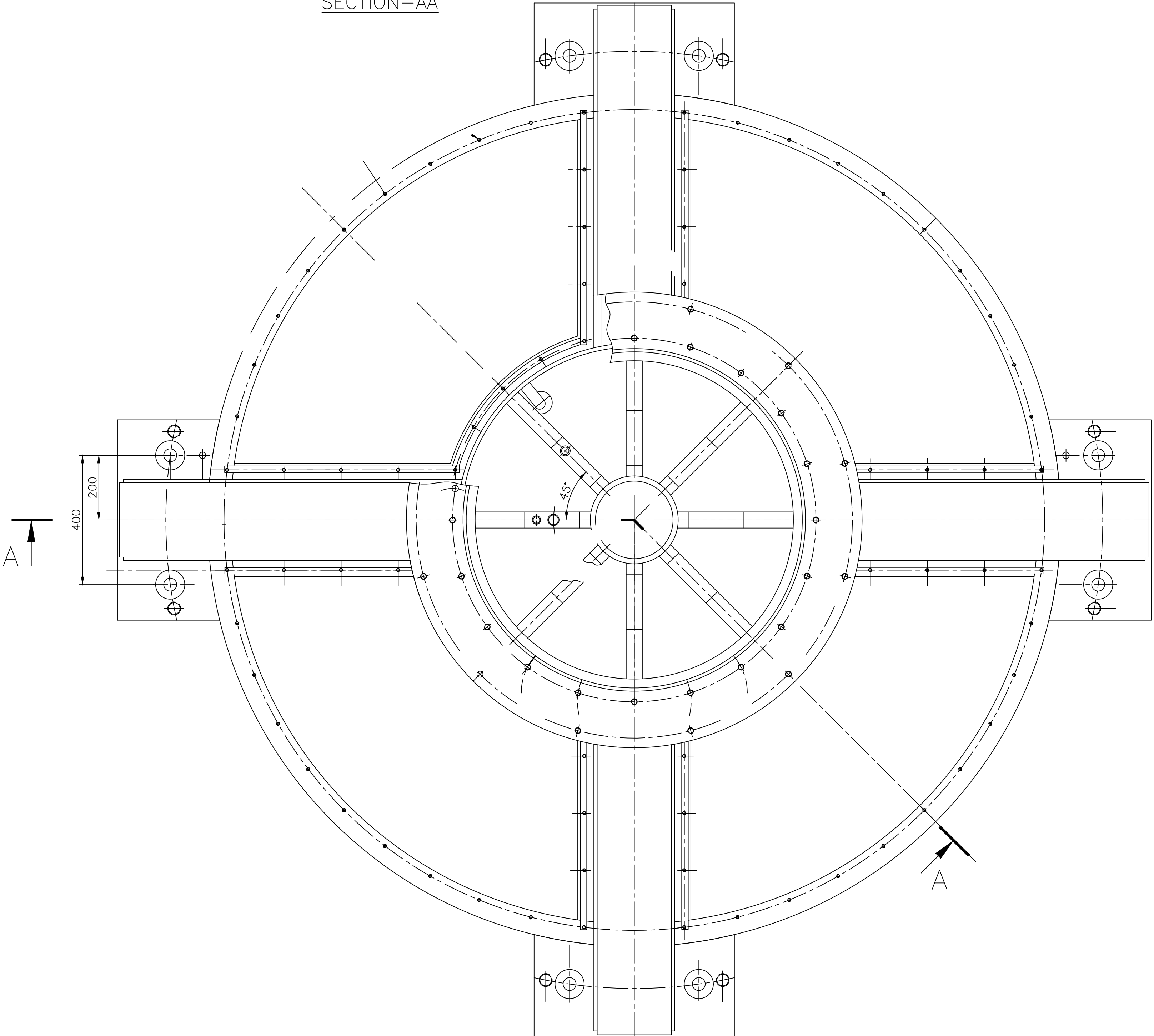
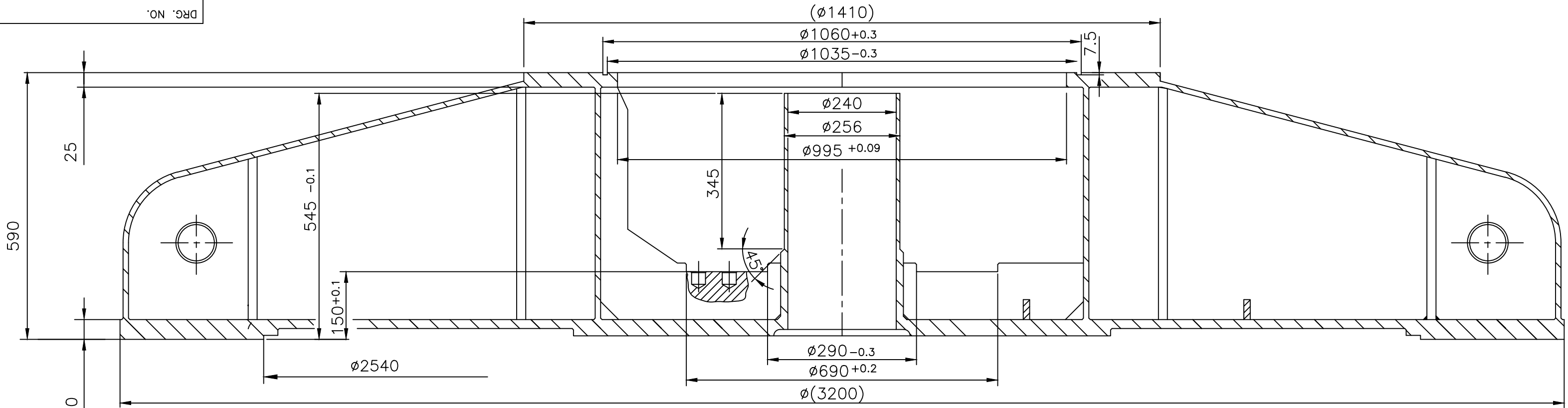
Contents: Drawings / Sketches as given below

- Upper Bracket
- Thrust collar and runner disc assembly
- Stator frame assly
- Combined stator frame welding and machining
- AME/SK/41379
- Sketch for top shaft machining
- Sketch for bottom bracket centre assly (m/c)

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FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)



INVENTORY NO.
SIGN. & DATE
REF. DRG. NO.

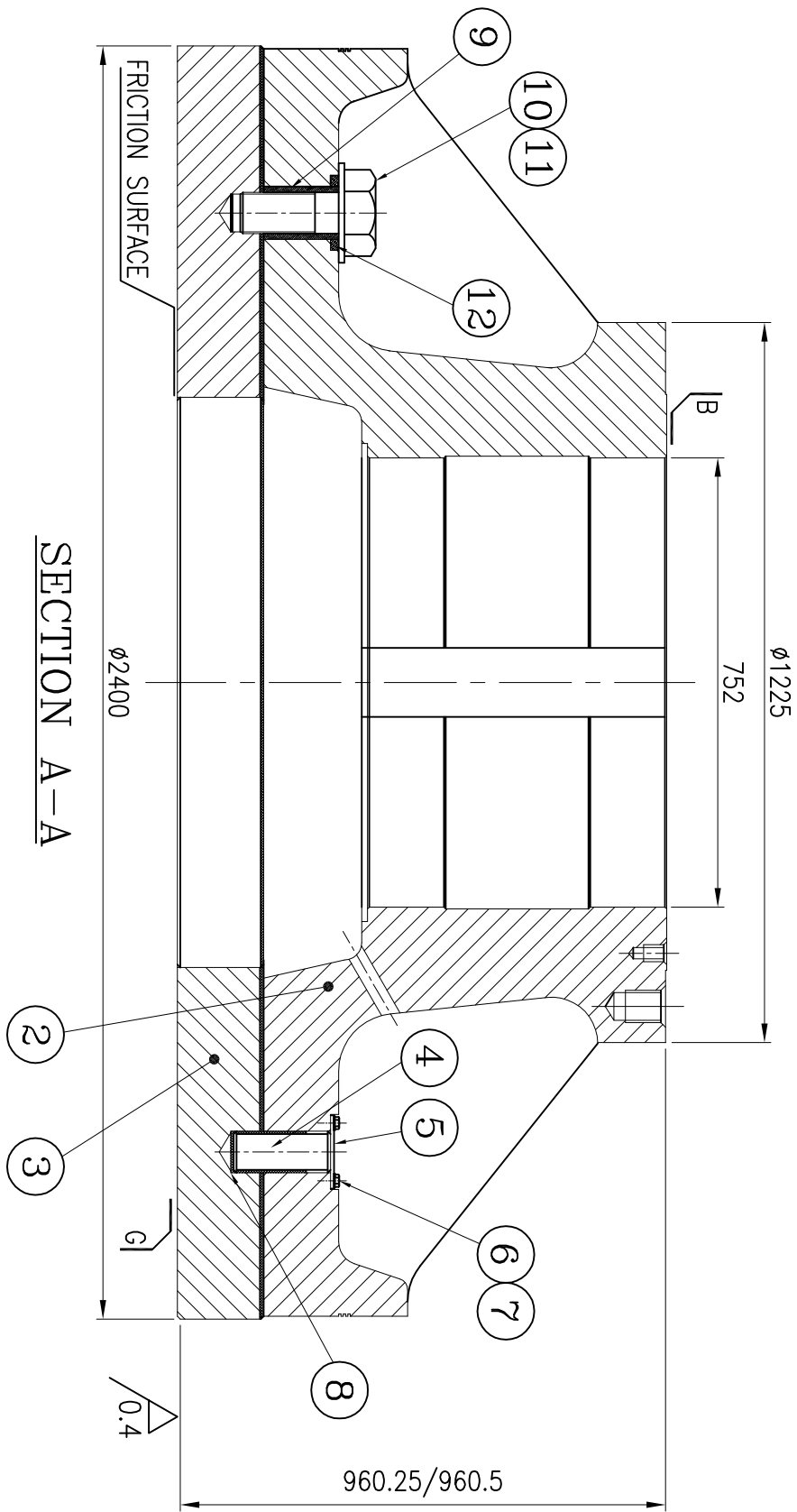
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ZONE B-2 F-3			ZONE			ZONE			ZONE			ZONE			ZONE		

ADDITION INFORMATION			TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT										
STATUS OF DRAWING			BHARAT HEAVY ELECTRICALS LTD. BHOPAL										
DISTRIBUTION OF PRINT			DEPT. AME CODE 404										
			GRADE OF UNTOL. DM. S/N/F										
			SCALE NTS										
			WEIGHT (kg)										
			REF. TO ASSY. DRG.										
			ITEM NO.										
			DRAWING NO.										
			SHEET NO.										
			NO. OF SHEET										

UPPER BRACKET
(MACHINING)

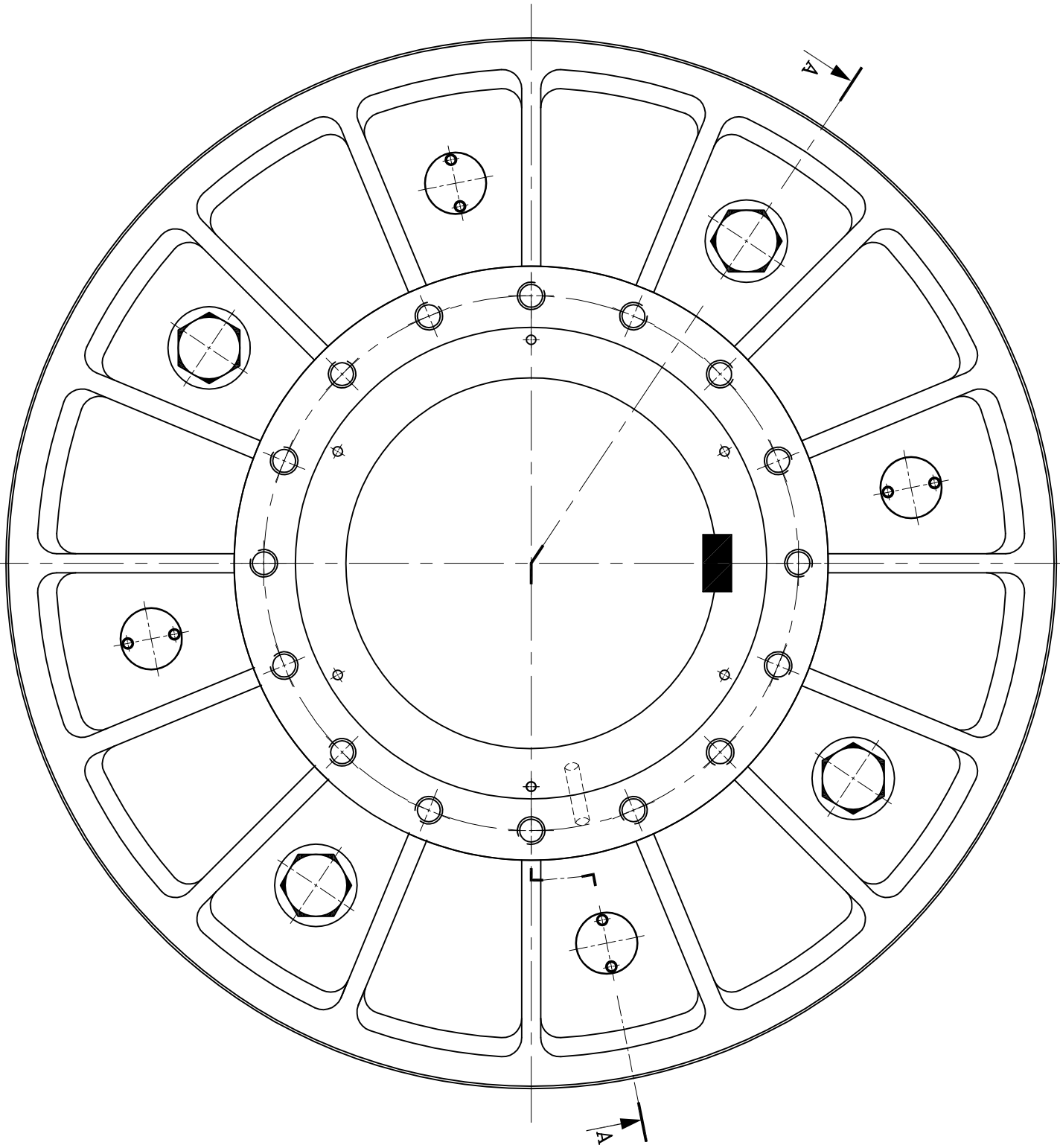
SIZE A1

ON DRG



SECTION A-A

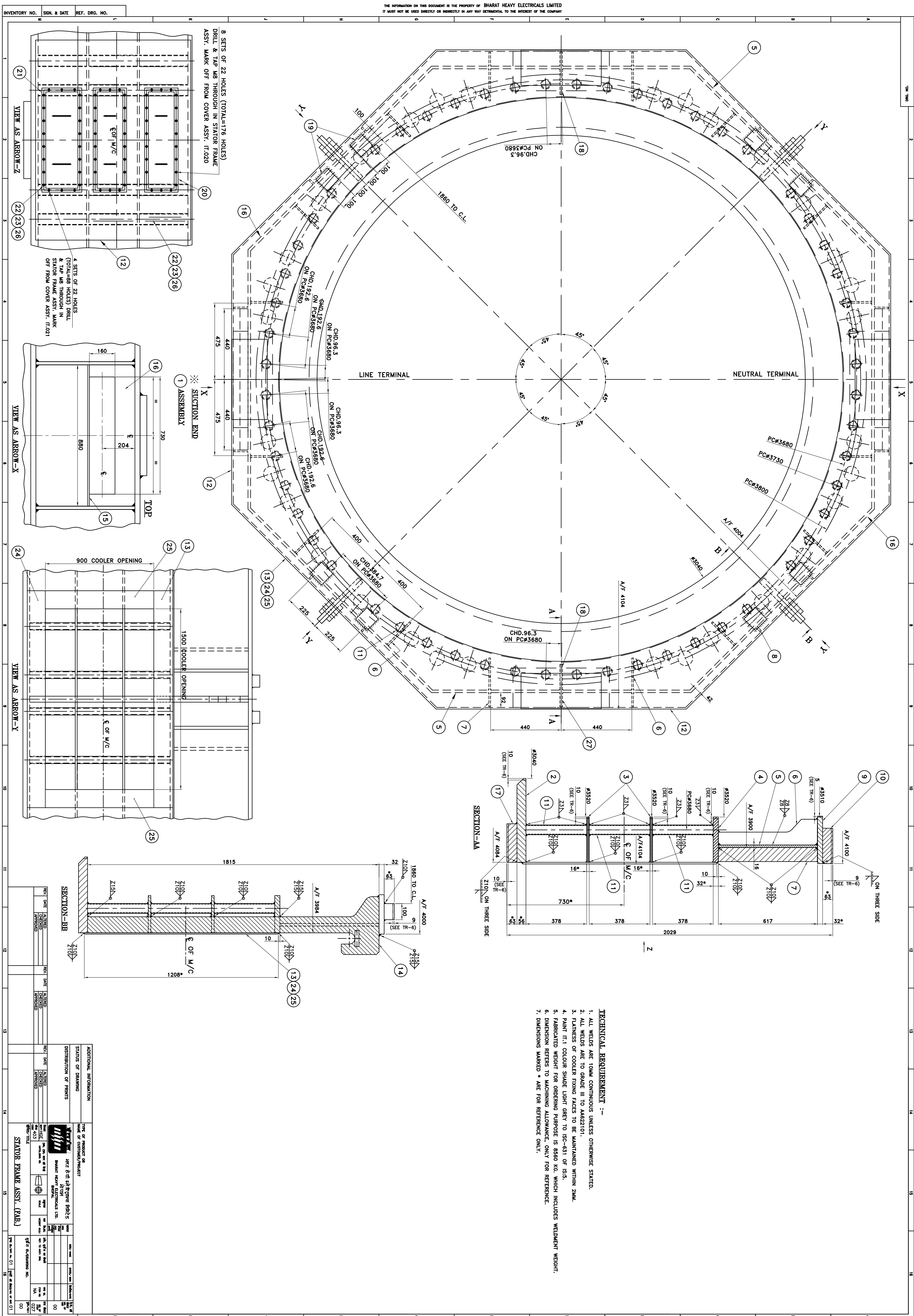
- TECHNICAL REQUIREMENTS:-
1. DEVIATION FROM PARALLELISM OF SURFACE 'B' WITH RESPECT TO SUPPORTING SURFACE 'G' SHOULD NOT BE MORE THAN 0.03MM.
 2. DEVIATION FROM FLATNESS OF SURFACE 'G' SHOULD NOT BE MORE THAN 0.03MM.
 3. RECORD I.R. VALUE WITH A 500V MEGGER AS FOLLOWS :-
 - A) INDIVIDUAL DOWEL TO THRUST COLLAR & RUNNER DISC.
 - B) THRUST COLLAR TO RUNNER DISC.
 - C) INSULATED STUD TO THRUST COLLAR AND RUNNER DISC.THE VALUE SHOULD BE MORE THAN 2 MEGA OHM. IF LESS, CONSULT HGE FOR ADVICE.
 4. THE ABOVE I.R. MEASUREMENT TO BE REPEATED AT SITE BEFORE ASSEMBLING THE THRUST COLLAR ON SHAFT.



1 ASSY.

INVENTORY NO.		SIGN AND DATE		REF. DRG. NO.		THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.											
1		2		3		4		5		6		7		8			
ON DRG																	
FIRST ANGLE PROJECTION																	
ALL DIMENSIONS ARE IN mm																	
SECTION A-A																	
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1 ASSY.																	
THRUST COLLAR & RUNNER DISC ASSEMBLY																	
BHARAT HEAVY ELECTRICALS LTD. BHOPAL																	
NAME SIGN DATE NO. OF VAR.																	
REF. TO ASSY. DRG. ITEM NO. NO. OF REV.																	
SHT. NO. NO. OF SHT.																	

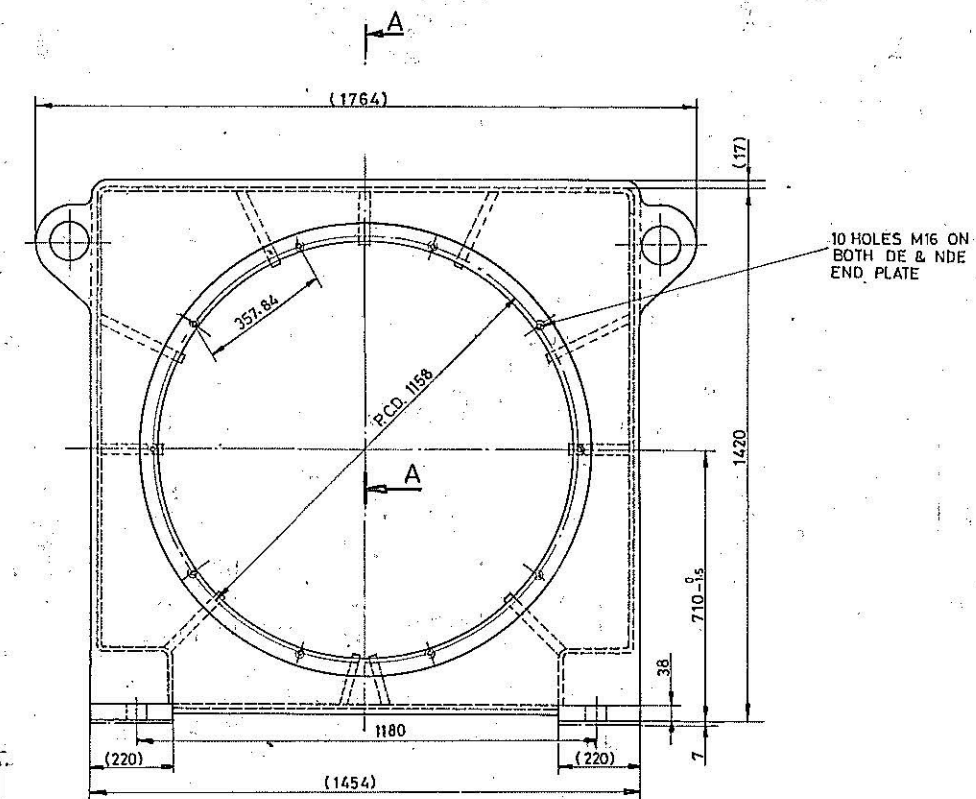
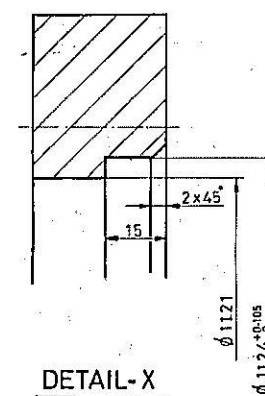
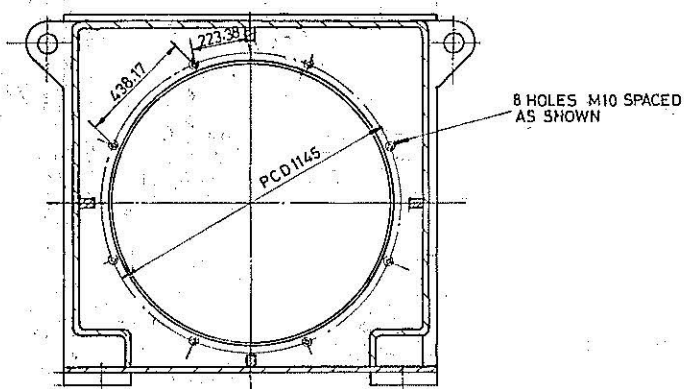
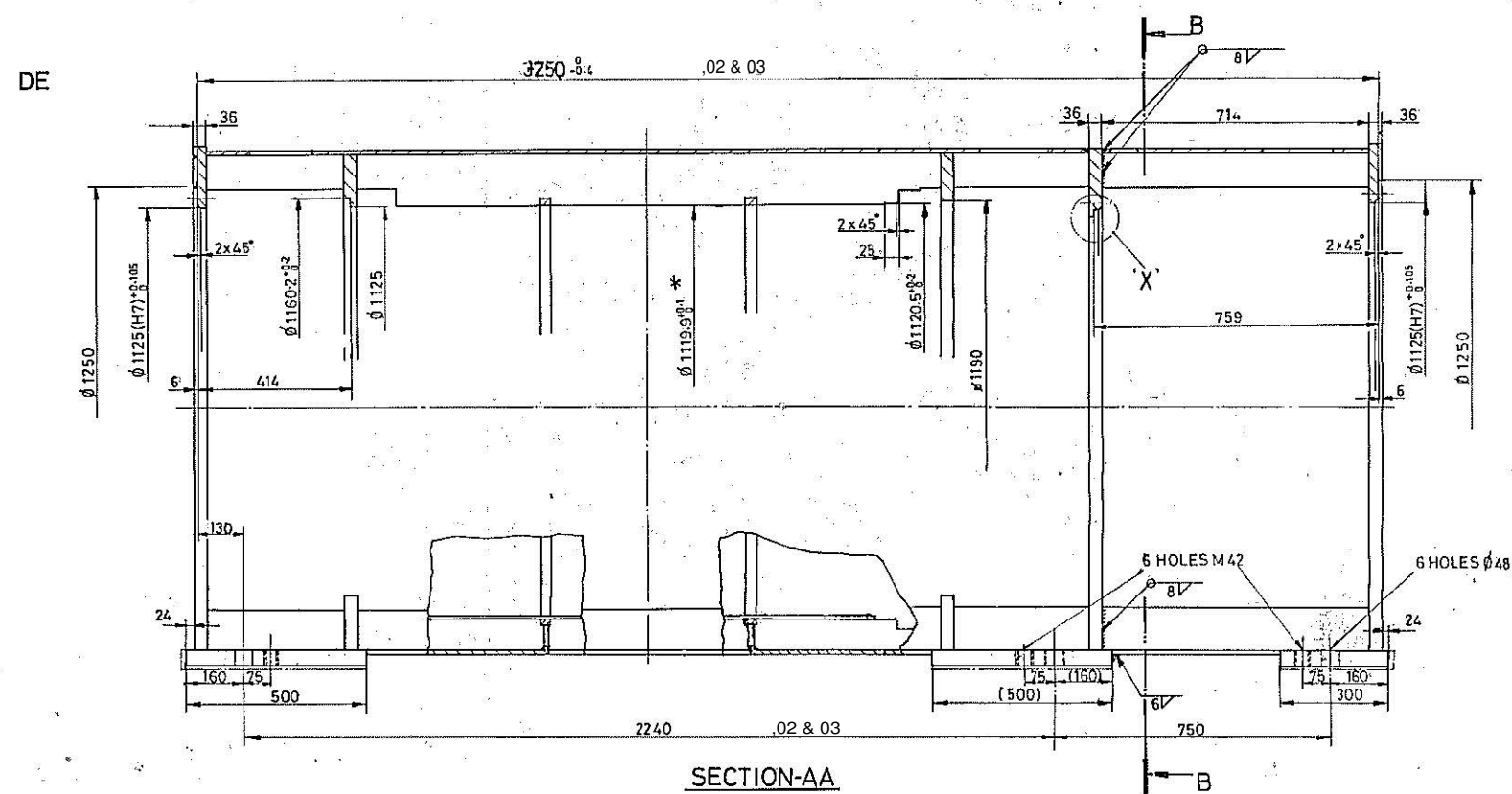
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TECHNICAL REQUIREMENT :-

1. ALL WELDS ARE 10MM CONTINUOUS UNLESS OTHERWISE STATED.
2. ALL WELDS ARE TO GRADE III TO A862/101.
3. FLATNESS OF COOLER FIXING FLIGHTS TO BE MAINTAINED WITHIN 2MM.
4. PAINT IT I, COLOUR SHADE LIGHT GREY TO ISO-637 OF ISS.
5. FABRICATED WEIGH FOR ORDERING PURPOSE IS 8580 KG. WHICH INCLUDES WELDMENT WEIGHT.
6. DIMENSION REFERS TO MACHINING ALLOWANCE, ONLY FOR REFERENCE.
7. DIMENSIONS MARKED * ARE FOR REFERENCE ONLY.

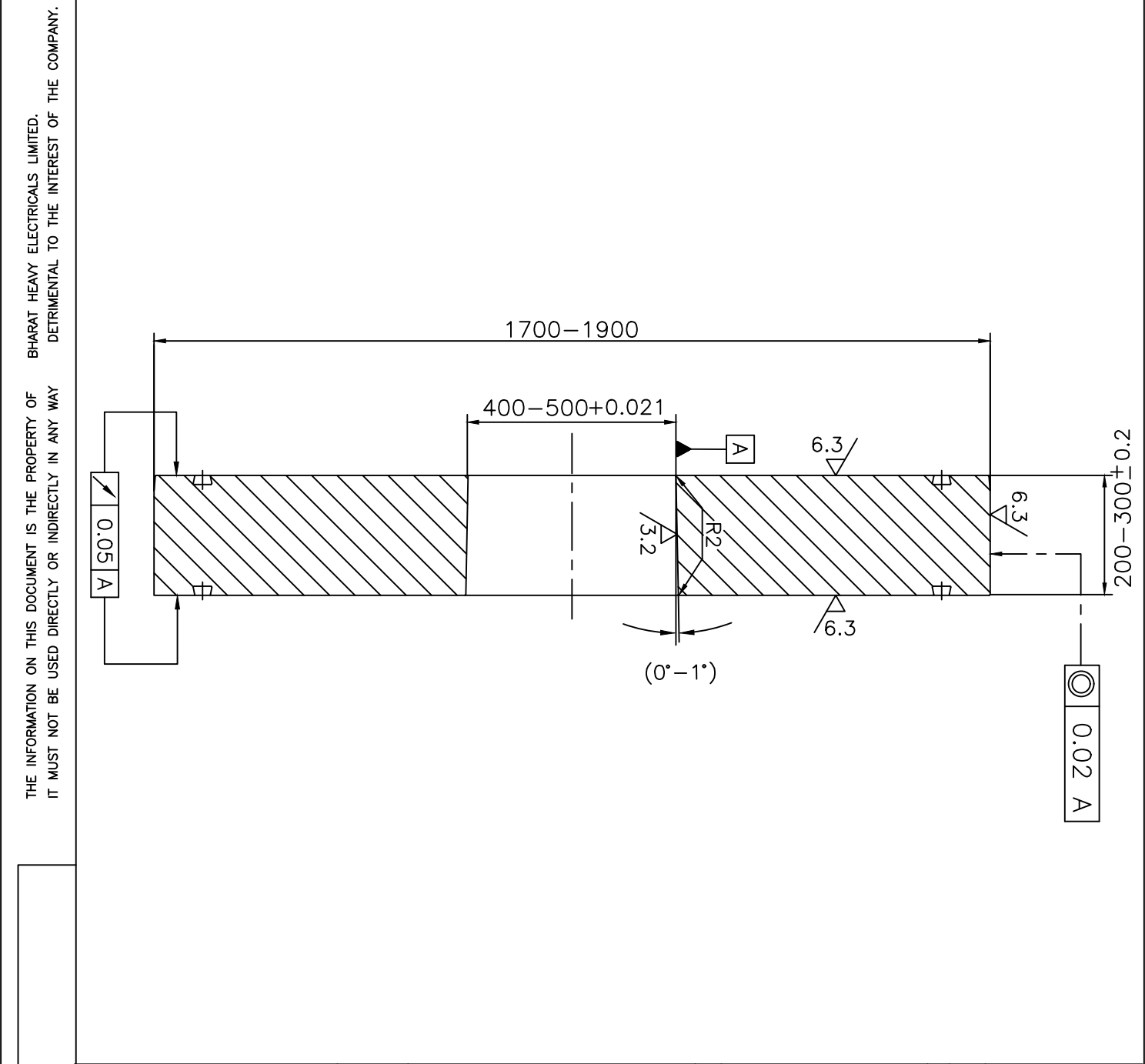
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
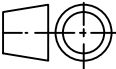


IMPORTANT NOTE:-
8 HOLES M10 SHOWN IN SECTION B-B TO BE DRILLED IN NDE END STAND OF STATOR FRAME BEFORE WELDING SLIPRING HOUSING ITEM 02 TO STATOR FRAME.

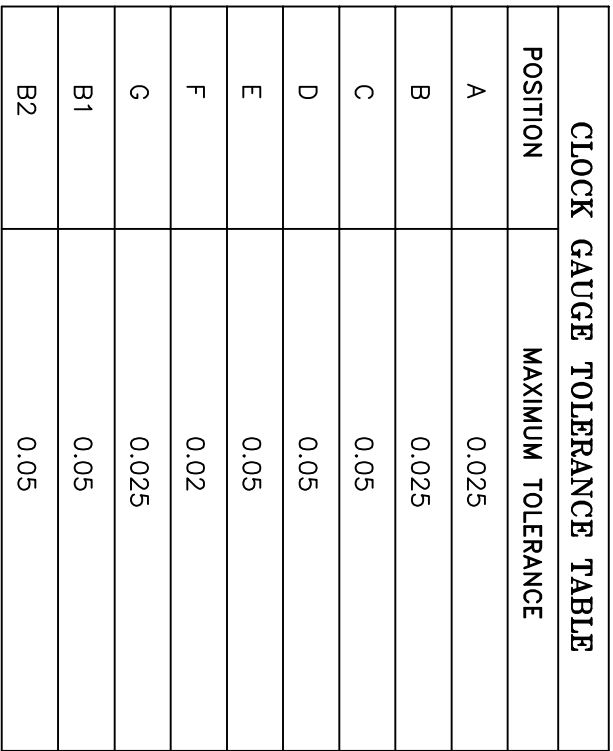
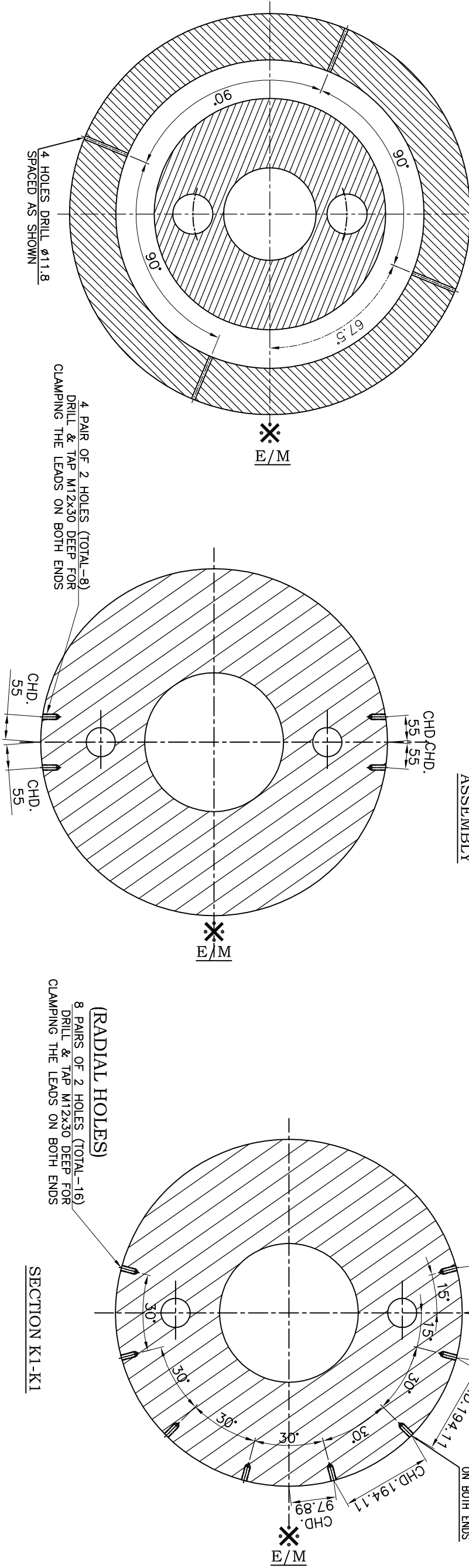
ADDITIONAL INFORMATION		TYPE OF PRODUCT OR NAME OF CUSTOMER / PROJECT		Bharat Heavy Electricals Ltd. Bhopal		DRN.	NAME	SIGN	DATE	73	74
STATUS OF DRAWING		DISTRIBUTION OF PRINTS		Bharat Heavy Electricals Ltd. Bhopal		CHD.					
REV.		DATE	ALTERED	CHECKED	DEPT.	AME	GRADE OF	SCALE	WEIGHT (Kg)	REF. TO ASSY. DRG.	ITEM NO.
ZONE					CODE	404	DIA. 2.5				75
TITLE		COMBINED STATOR FRAME WELDING & MACHINING		CARD CODE		DRAWING NO.		SHEET NO. 01		NO. OF SHEETS 01	

REV.	DATE	ALTERED	REV.	DATE	ALTERED	ADDITIONAL INFORMATION	TECHNOLOGY	
		CHECKED			CHECKED			
						STATUS OF DRAWING		
						DISTRIBUTION OF PRINTS	OC-1, PLM-3 TEX(PLM)-1	



SIGN & DATE	65	REMARKS				75	25	27	29	DESCRIPTION				58	59	34	MATL. CODE		45	55	56	58	UNIT WT.		65	
								ITEM No.					STD.		46	MATL. SPECN.		54	57	A	C	UNIT	66	QTY.		71
	CARD TYPE 3 28 28 CARD TYPE 1														28 CARD TYPE 2											
	<div></div> <div>BHARAT HEAVY ELECTRICALS LTD.</div> <div>BHOPAL</div>														DRN	NAME		SIGN		DATE						
															CHD											
															APPD	MHN				30.11.21						
INVENTORY No.	DEPT.		GRADE			SCALE		WEIGHT (Kg.)		REF. TO ASSY. DRG.				ITEM		75 77										
	CODE		OF UN. TOL.															No. No. OF								
	404		DIM. ϕ /M/f		NTS		3000-6000 APPROX.																			
	TITLE								1		3		7 DRAWING No.								22		23 24			
	FORGED STEEL PLATE								CARD CODE				AME/SK/41379								00		REV.			
												SHEET No.				01		No. OF SHEETS				01				

INVENTORY NO.	SIGN. & DATE	REF. DRG. NO.
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STATUS OF DRAWING	ADDITIONAL INFORMATION
उद्देश्य का प्रकार या प्रकार/प्रयोजन का नाम TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT	

[illegible]

विभागा	उदाहरण, वायु और जलवायु	उदाहरण	भारतीय	उपनाम	परिचय
DEPT.	UNINTOL. DIMS. OR.	SOLE	WING	REF. TO ASS. DIR.	ITEM NO.
कोड			9725	-	-
					परिचय
					NO. OF
					ITEM

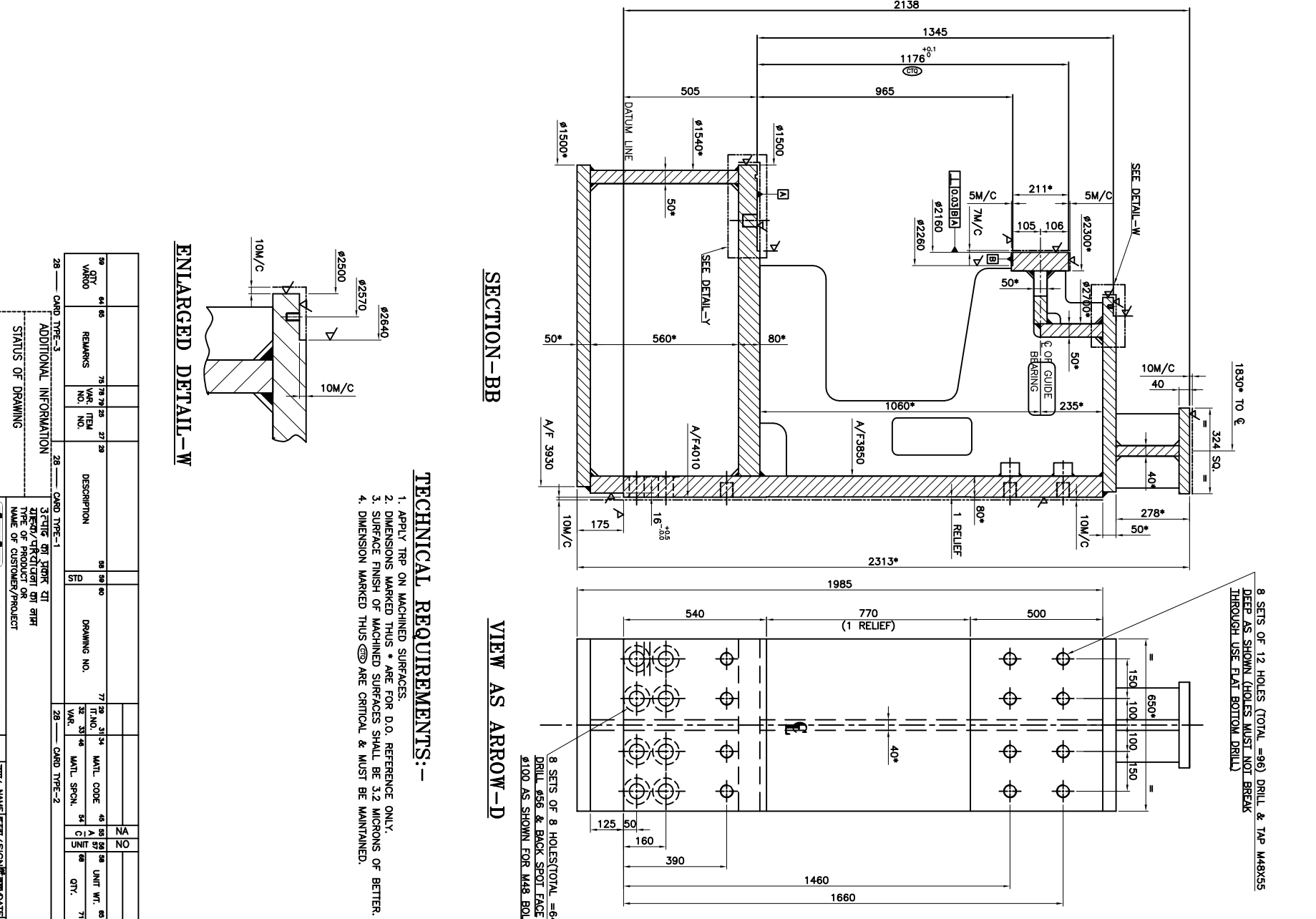
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1. IMPORTANT -- ENSURE FOLLOWING TO ACHIEVE BEST POSSIBLE LINE OUT BEFORE DOING ANY DRILLING, TAPPING AND SLOT MACHINING. LOW AND HIGH POINTS ON SURFACE AT SPIDER ENDS SHOULD BE MATCHED WITH THE HIGH AND LOW POINTS ON SURFACE 'A' OF THE SPIDER.
2. BOTH ENDS OF SHAFT BORE #300 TO BE SKIMMED TRUE FOR LATHE CENTRES INSERTS.
3. ROUND OFF ALL SHARP CORNERS TO R1.5.
4. THE SURFACE FINISH OF MACHINED SURFACES SHALL BE 6.3 MICRONS OR BETTER UNLESS OTHERWISE STATED.
5. SPIDER COUPLING FACE INDICATED THUS @ TO BE AT 90° TO SHAFT AXIS WITH IN 0.02 MM/MO CONNECTIVITY IS PERMITTED.
6. ALL IDENTIFICATION MARKS TO BE TRANSFERRED ON SUBSEQUENT MACHINING (P.F. NO. ETC)
7. DIMENSIONS MARKED THUS * ARE FOR D.O. REF. ONLY.
8. SHAFT TO BE PROTECTED FROM RUSTING BY TRP.
9. DIMENSIONS MARKED (C/D) ARE CRITICAL & MUST BE MAINTAINED.
10. THE Ø740 NOM. TO BE MACHINED TO GIVE A MAX. CLEARANCE OF 0.02 TO 0.05 MM ON ACTUAL MEASURED DIA. OF SPIDER.
11. THE Ø340 NOM. TO BE MACHINED TO GIVE A MAX. CLEARANCE OF 0.02 TO 0.05 MM ON ACTUAL MEASURED DIA. OF TUBULAR SHAFT.

पूठस ठु/ SHT. NO. 01	पूठसो ठी शीठ/NO. OF SHT. 01
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TECHNICAL REQUIREMENTS:-

1. APPLY TRP ON MACHINED SURFACES.
2. DIMENSIONS MARKED THIS * ARE FOR D.O. REFERENCE ONLY.
3. SURFACE FINISH OF MACHINED SURFACES SHALL BE 3.2 MICRONS OR BETTER.
4. DIMENSION MARKED THIS (Φ) ARE CRITICAL & MUST BE MAINTAINED.

[illegible][illegible]