

DR. NO. 1-332-10-01039

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GENERAL DIMENSIONAL LIMITS, FITS & TOLERANCES AS PER HY0230261

INVENTORY NO. JCS

COMPUTER FILE NAME

REF. DRG. NO.

DATE

REV. DATE

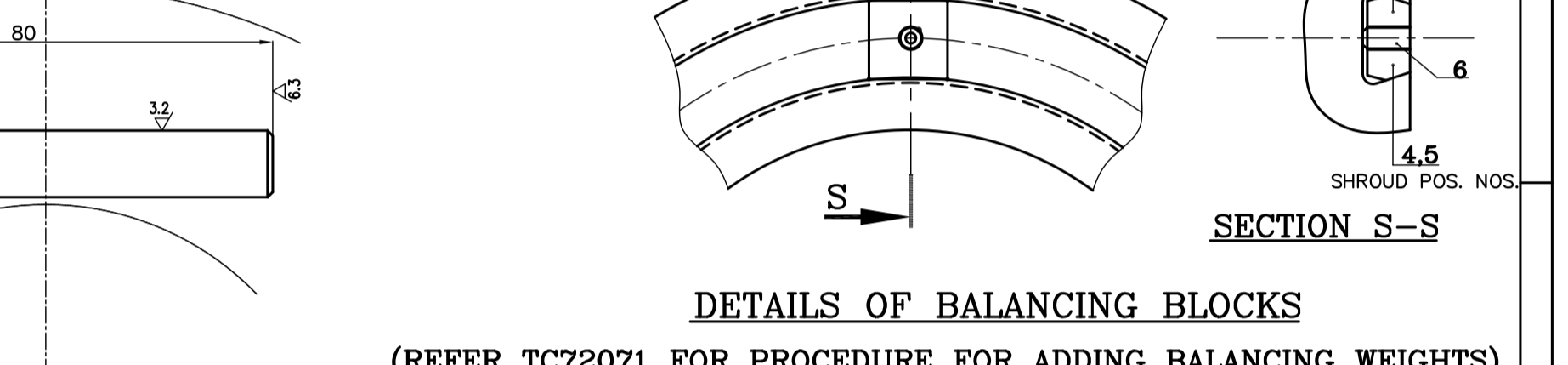
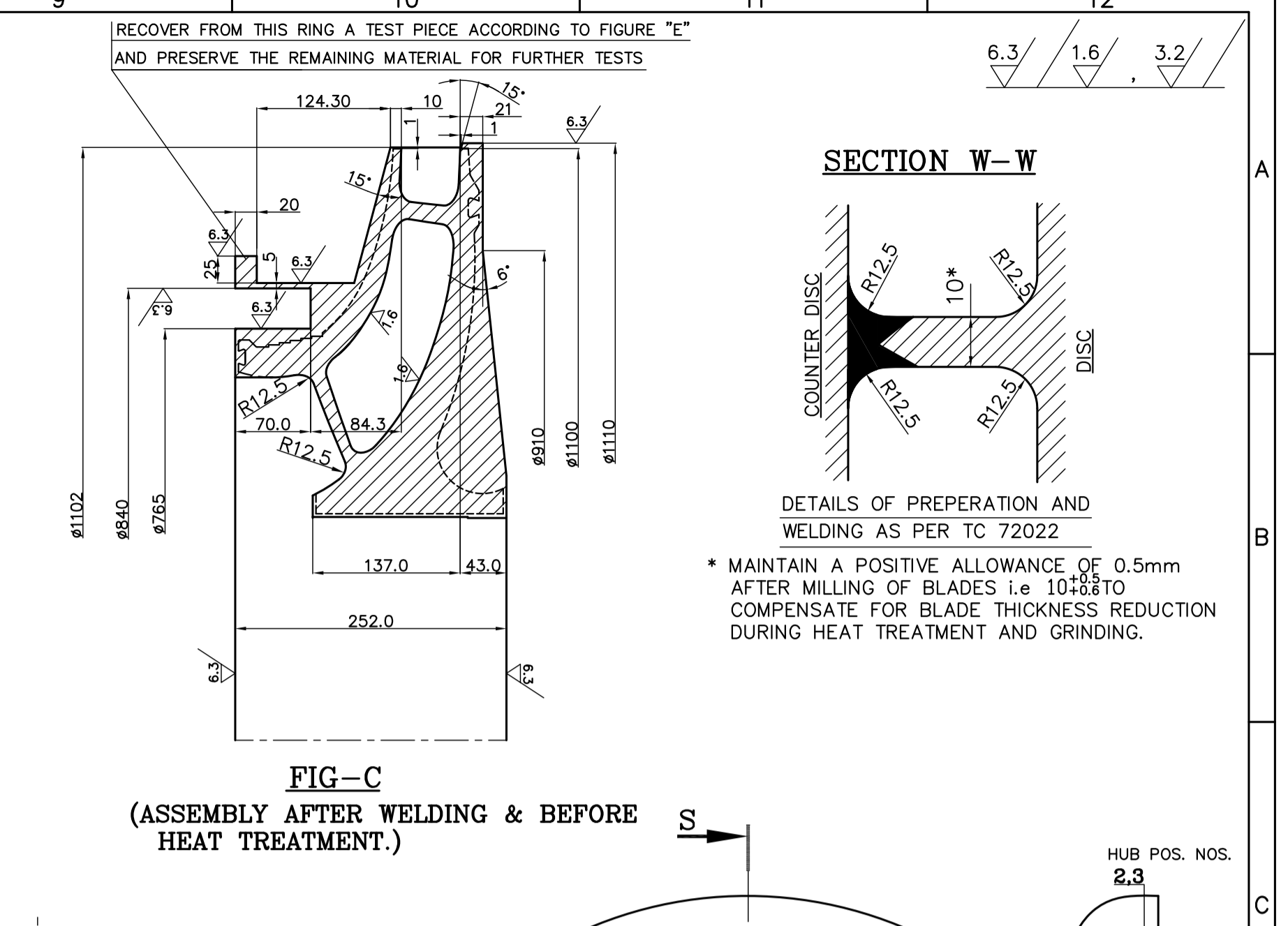
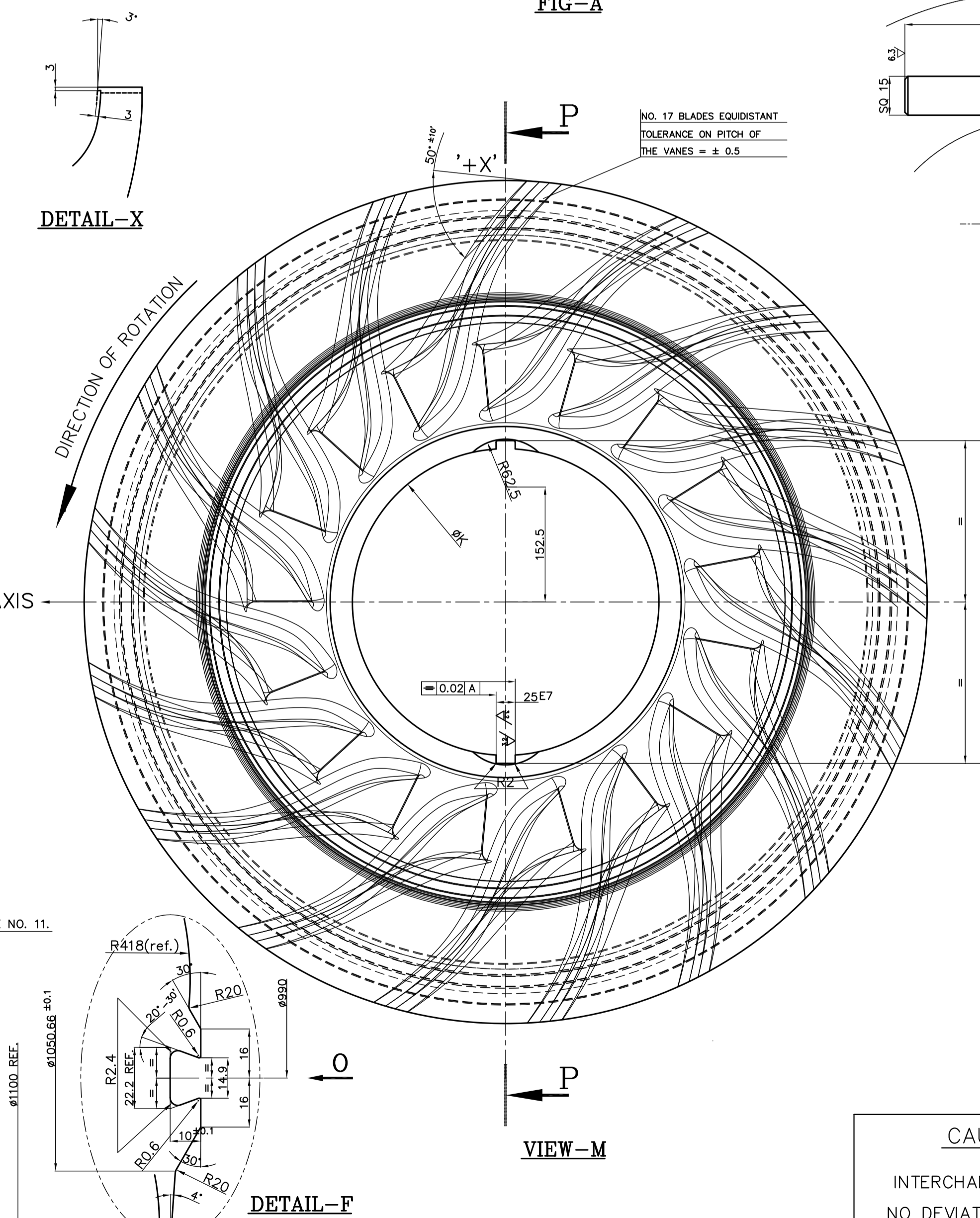
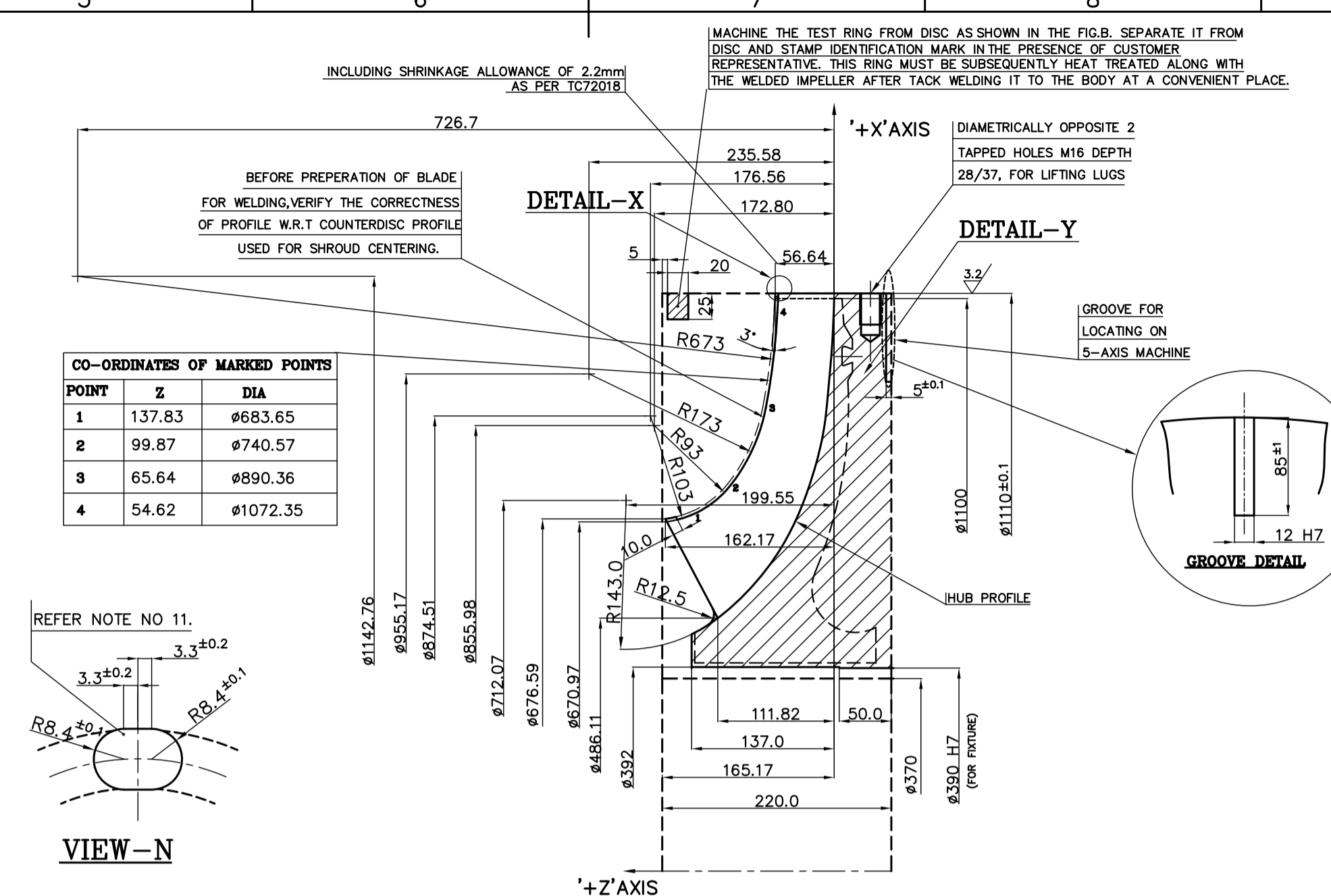
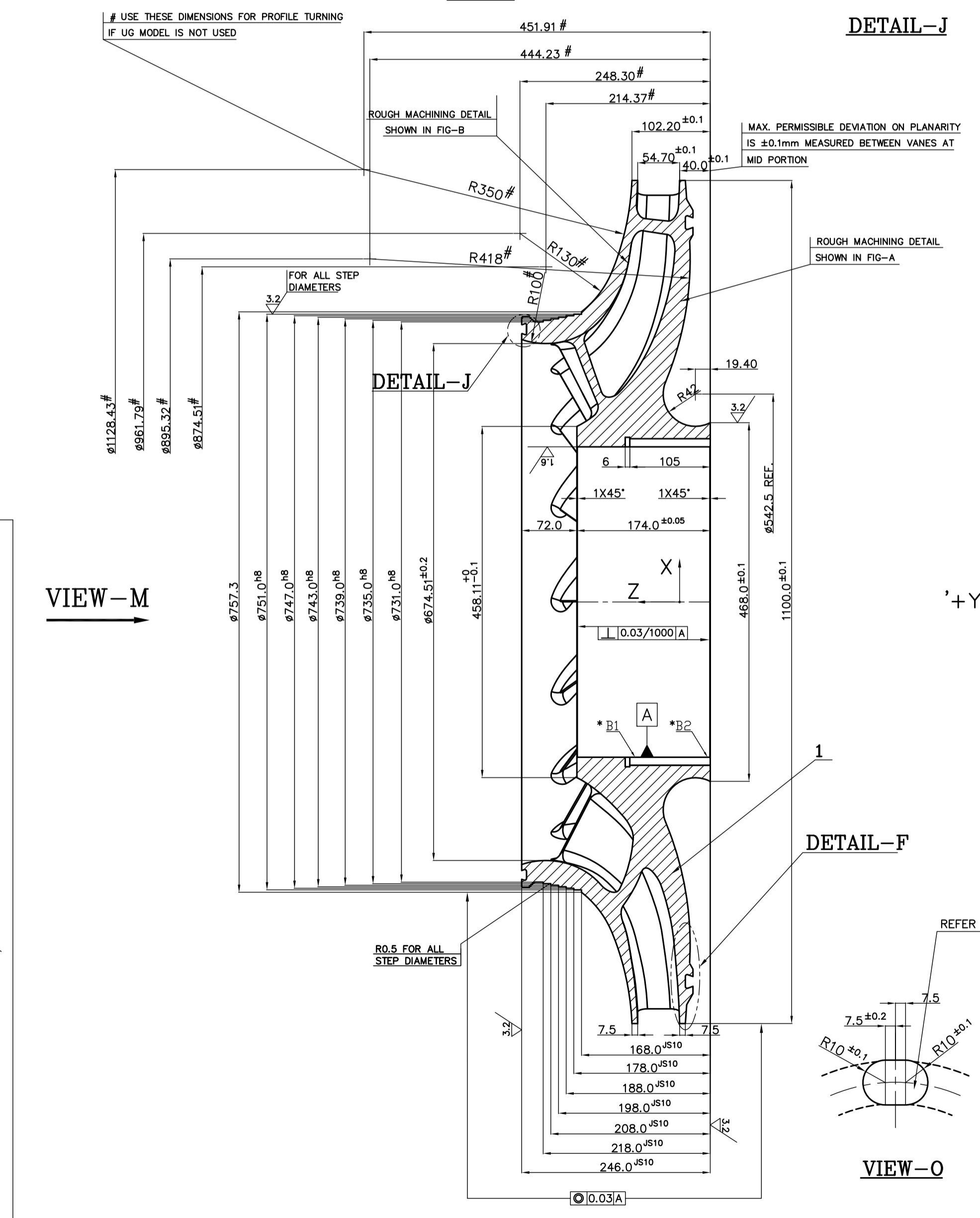
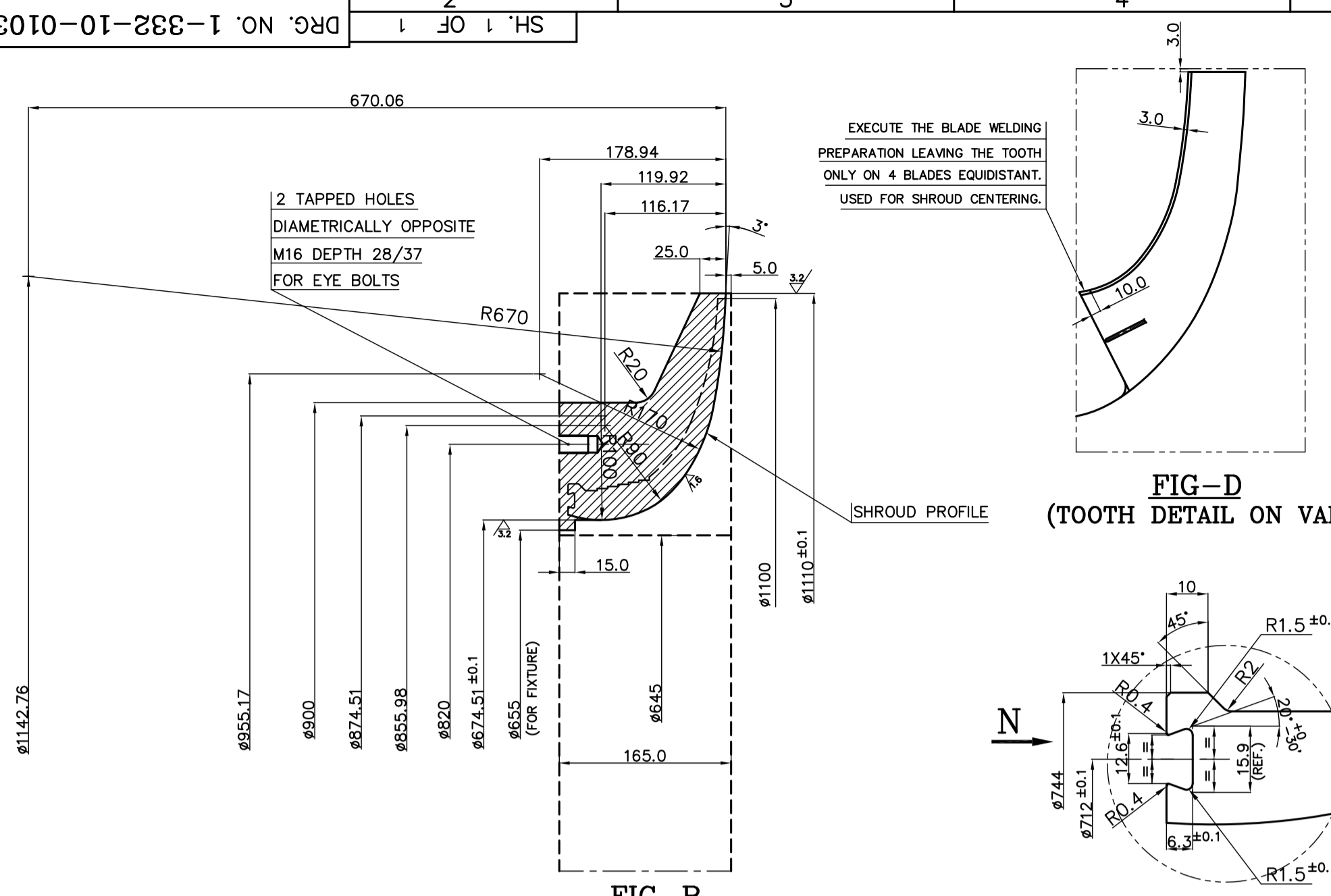
CHD/APPD

REV. DATE

CHD/APPD

REV. DATE

CHD/APPD



DETAILS OF BALANCING BLOCKS
(REFER TC72071 FOR PROCEDURE FOR ADDING BALANCING WEIGHTS)

VAR. NO.	MATERIAL	YIELD STRENGTH	WPS. NO.	ØK
01	HY 19395	68-80 Kg/mm ²	WE-137	Ø400H7
02	HY 19395	85-105 Kg/mm ²	WE-138	
03	HY 19395	80-95 Kg/mm ²	WE-162	
04	HY 19395	>105 Kg/mm ² (Min. 110 Kg/mm ²)	WE-139	

- NOTE**
- FOR BLADE PROFILE REFER THE UG MODEL PROVIDED. ALSO REFER TC92947.
 - PERFORM OVERSPEED TEST OF THE IMPELLER AS PER INSPECTION AND TESTING DOC AND CHECK THE DIAMETERS BEFORE AND AFTER THE TEST.
 - REFER INSPECTION AND TESTING DOC FOR HEAT TREAT THE MATERIAL SO AS TO ATTAIN REQUIRED YIELD STRENGTH (KG/mm²) AND AN IMPACT STRENGTH (KG-m/cm²) AT SPECIFIED TEMPERATURE (CHARPY 'U' NOTCH)
 - DYE PENETRANT TEST SHALL BE CONDUCTED AT SPECIFIED STAGES OF MANUFACTURE AS SPECIFIED IN TECHNOLOGICAL PROCESS
 - DYNAMIC BALANCING OF IMPELLER TO BE PERFORMED.
 - SEQUENCE OF OPERATION FOR PRODUCTION AND INSPECTION OF THE IMPELLER AS PER TECHNOLOGICAL PROCESS
 - STAGE INSPECTION/TEST AS PER TECHNOLOGICAL PROCESS.
 - GEOMETRIC TOLERANCES ARE THE MAX. READ ON THE COMPARATOR.
 - THE K VALUES MUST BE INSIDE TOLERANCE LIMITS AFTER OVER SPEED TEST.
 - DIMENSIONS TO BE TAKEN ON ØK IN THE AREAS
* B1 - CENTRAL
* B2 - OPPOSITE TO GAS ENTRANCE
 - TWO MILLINGS DIAMETRICALLY OPPOSITE TO FACILITATE BALANCING WEIGHTS ASSEMBLY, THE MILLINGS SHALL BE AT 90° W.R.T IMPELLER KEYWAYS, SLOT MILLING SHALL BE CARRIED OUT AFTER KEYWAY MILLING.

CAUTION
INTERCHANGEABLE JOB
NO DEVIATION PERMITTED



REVISE ON UG ONLY

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		NAME	SIGN.	DATE	NO. OF VAR.
BHARAT HEAVY ELECTRICALS LTD. HYDERABAD		RAGHU		26.12.14	
		YVRL		27.12.14	-N.A.-
		SDR		29.12.14	-N.A.-

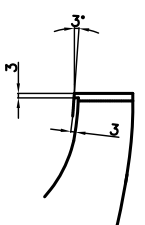
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420		NTS	388.0		-N.A.-	-N.A.-

TITLE	CARD CODE	DRAWING NO.	REV.
IMPELLER N10 Ø1100 CCW (FOR HY19395)	N.A.	1-332-10-01039	00

DRG. NO. 3-332-10-00008 SH. 1 OF 1

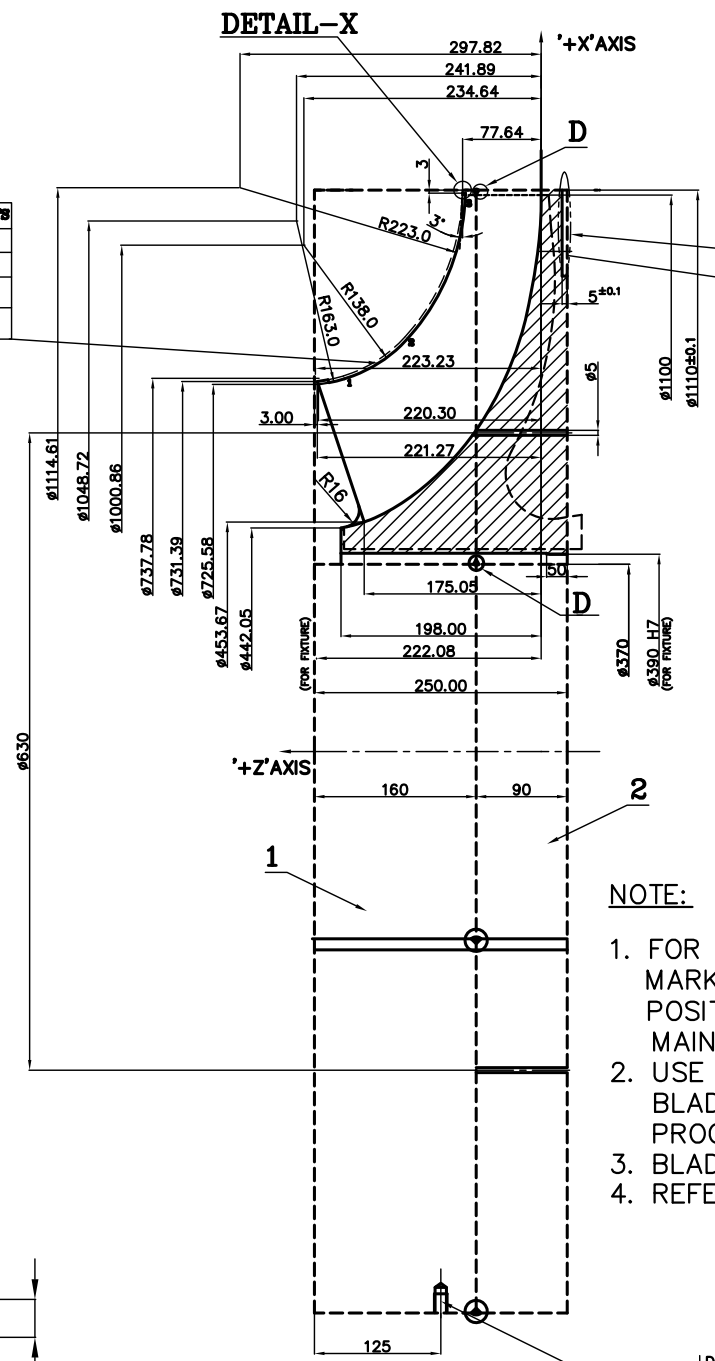
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GENERAL DIMENSIONAL LIMITS, FITS & TOLERANCES AS PER HY0230261

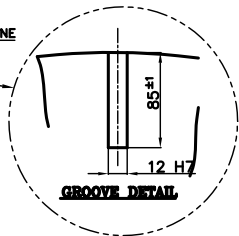


DETAIL-X

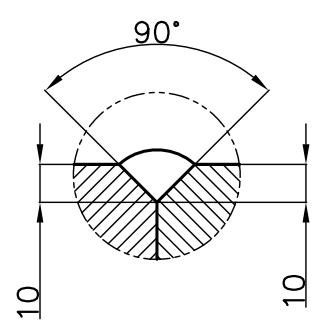
POINT	Z	DIA
1	194.65	ø736.7
2	132.09	ø816.18
3	75.11	ø1091.6



GROOVE FOR LOCATING ON 5-AXIS MACHINE



GROOVE DETAIL



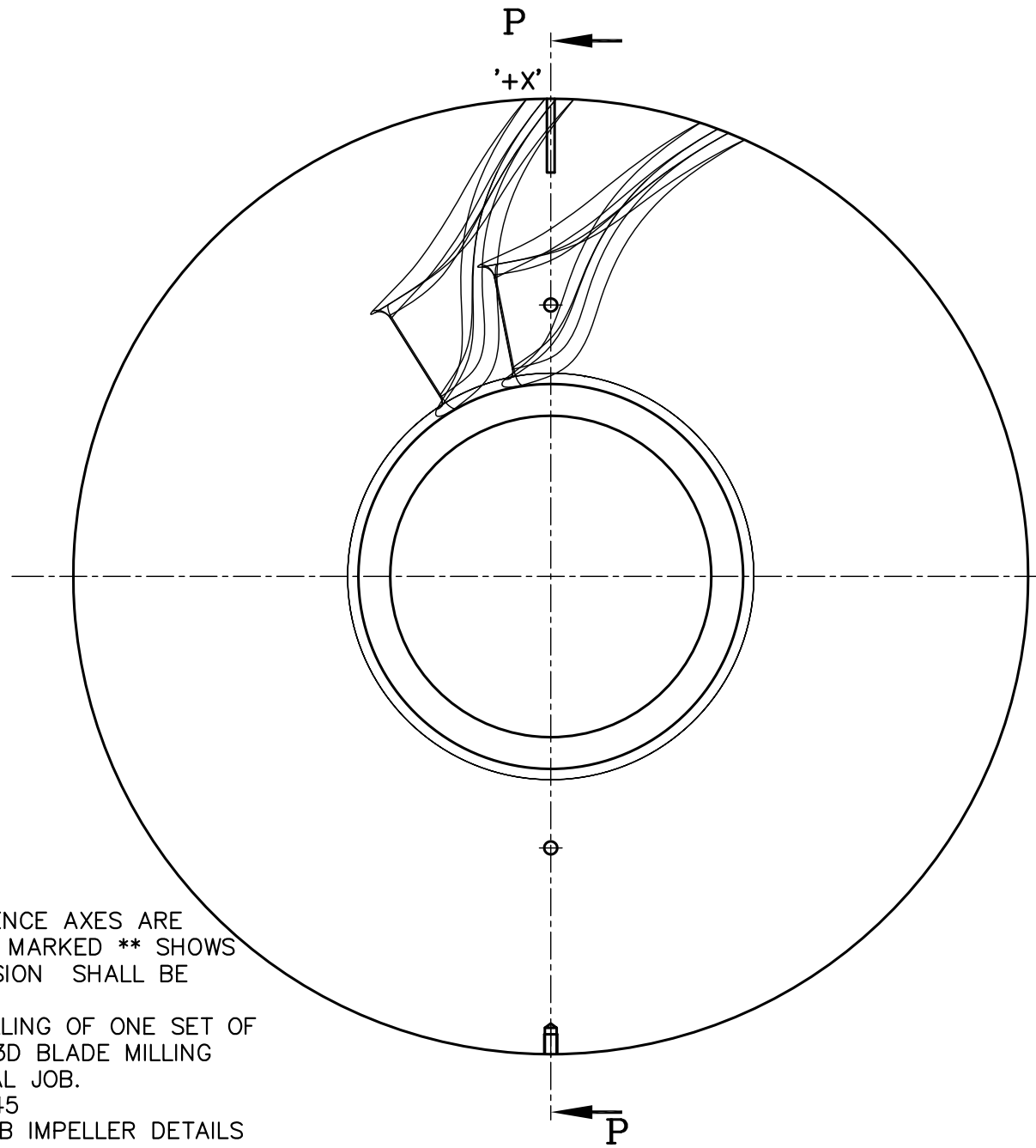
DETAIL D (WELD EDGE PREPARATION)

NOTE:

1. FOR VANE MILLING OPERATION REFERENCE AXES ARE MARKED ON THE DRAWING. DIMENSION MARKED ** SHOWS POSITION OF X-Y PLANE. THIS DIMENSION SHALL BE MAINTAINED.
2. USE THIS DRAWING FOR MOCK UP MILLING OF ONE SET OF BLADES ON A C.S PLATE TO PROVE 3D BLADE MILLING PROGRAME BEFORE TAKING UP ACTUAL JOB.
3. BLADE GEOMETRY IS AS PER TC 92945
4. REFER DRAWING 13321001037 FOR JOB IMPELLER DETAILS

DIAMETRICALLY OPPOSITE 2 TAPPED HOLES M16 DEPTH 28/37, FOR LIFTING LUGS

SECTION P-P



TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		BHARAT HEAVY ELECTRICALS LTD. HYDERABAD			
DRN.	RAGHU	SIGN.	DATE	NO. OF VAR.	
CHD.	YVRL		22.04.15		
APPD.	SDR		23.04.15		-N.A.-
			25.04.15		
DEPT. COMPR.	UNTOL. DIMS. GR. -G/M/F-	SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM NO.
CODE 420		N.T.S	1660	-N.A.-	-N.A.-
TITLE		CARD CODE	DRAWING NO.	REV.	
MOCK UP PLATE FOR N6-1100 IMPELLER		N.A.	3-332-10-00008	00	
		SHT. No	1	NO. OF SHT.	1

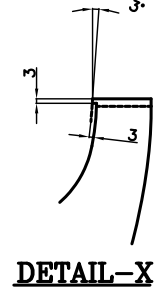


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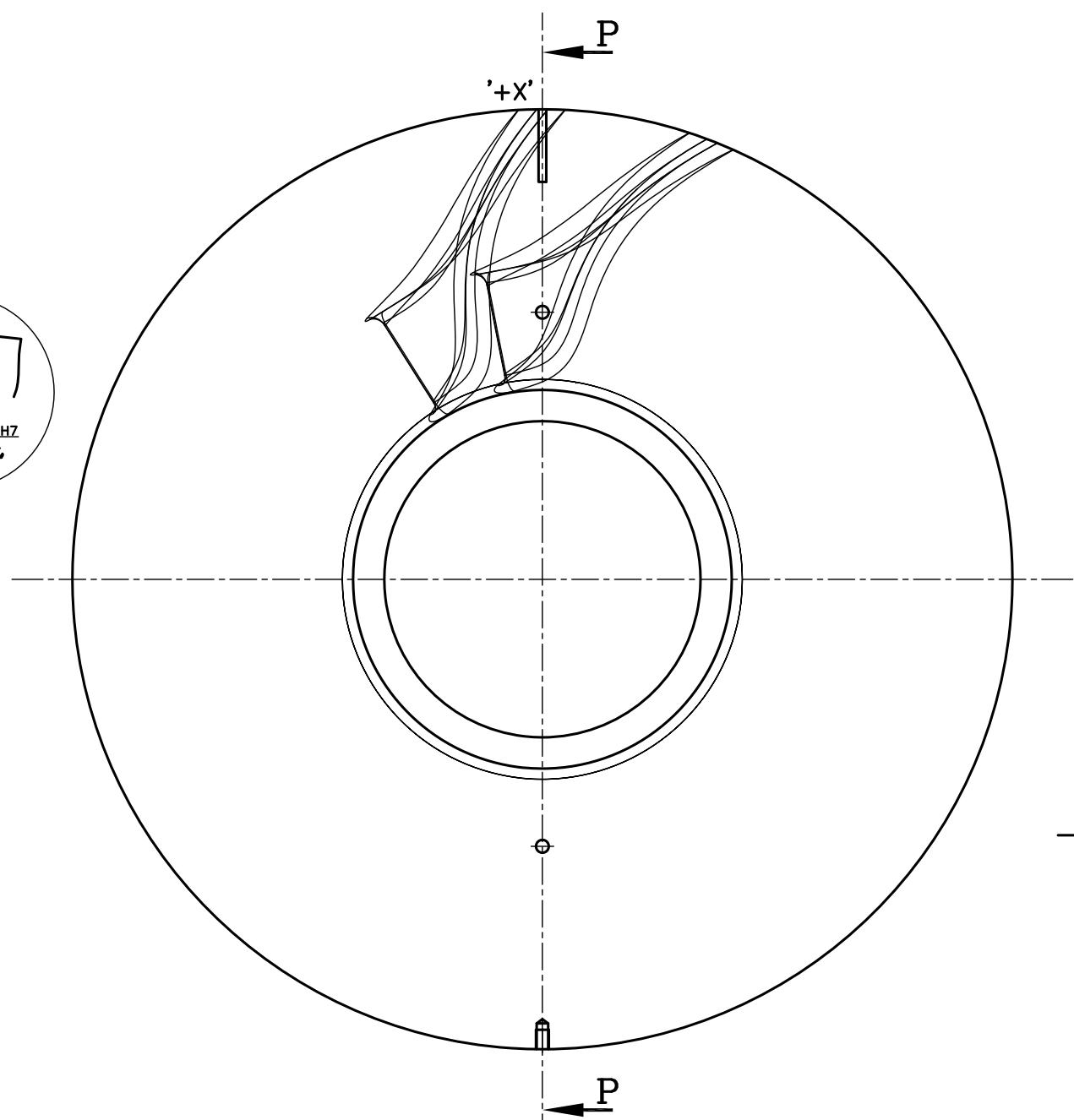
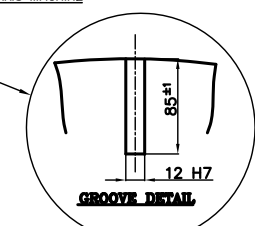
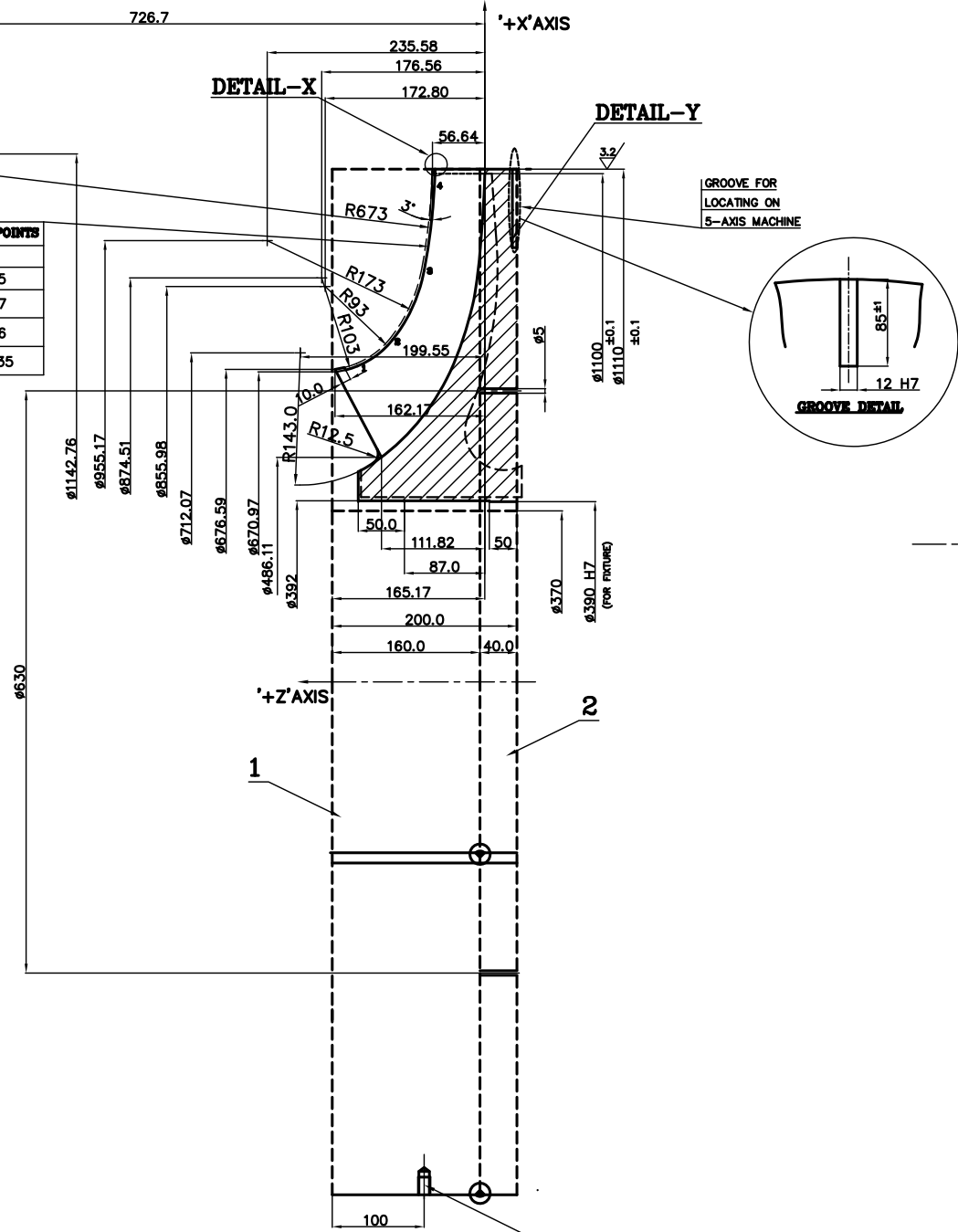
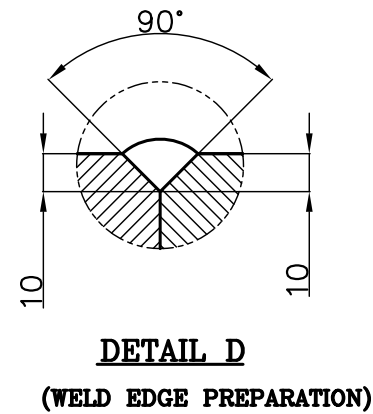
SH. 1 OF 1

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GENERAL DIMENSIONAL LIMITS, FITS & TOLERANCES AS PER HY0230261



POINT	Z	DIA
1	137.83	ø683.65
2	99.87	ø740.57
3	65.64	ø890.36
4	54.62	ø1072.35



DIAMETRICALLY OPPOSITE 2
TAPPED HOLES M16 DEPTH
28/37, FOR LIFTING LUGS

NOTE:

1. FOR VANE MILLING OPERATION REFERENCE AXES ARE MARKED ON THE DRAWING. DIMENSION MARKED ** SHOWS POSITION OF X-Y PLANE. THIS DIMENSION SHALL BE MAINTAINED.
2. USE THIS DRAWING FOR MOCK UP MILLING OF ONE SET OF BLADES ON A C.S PLATE TO PROVE 3D BLADE MILLING PROGRAM BEFORE TAKING UP ACTUAL JOB.
3. BLADE GEOMETRY IS AS PER TC 92947
4. REFER DRAWING 13321001037 FOR JOB IMPELLER DETAILS



TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT

BHARAT HEAVY ELECTRICALS LTD. HYDERABAD	NAME	SIGN.	DATE	NO. OF VAR.
	DRN.		22.04.15	
	CHD.		23.04.15	-N.A.-
APPD.		25.04.15		

DEPT. COMPR.	UNTOL. DIMS. GR. -G/M/F-	SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	ITEM NO.	NO. OF ITEMS
CODE 420		N.T.S		-N.A.-	-N.A.-	-N.A.-

TITLE	CARD CODE	DRAWING NO.	REV.
	N.A.	3-332-10-00009	00
		SHT. No 1	NO. OF SHT. 1

INVENTORY NO	ZONE	REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED
				CHD/APPD			CHD/APPD			CHD/APPD

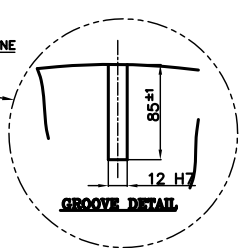
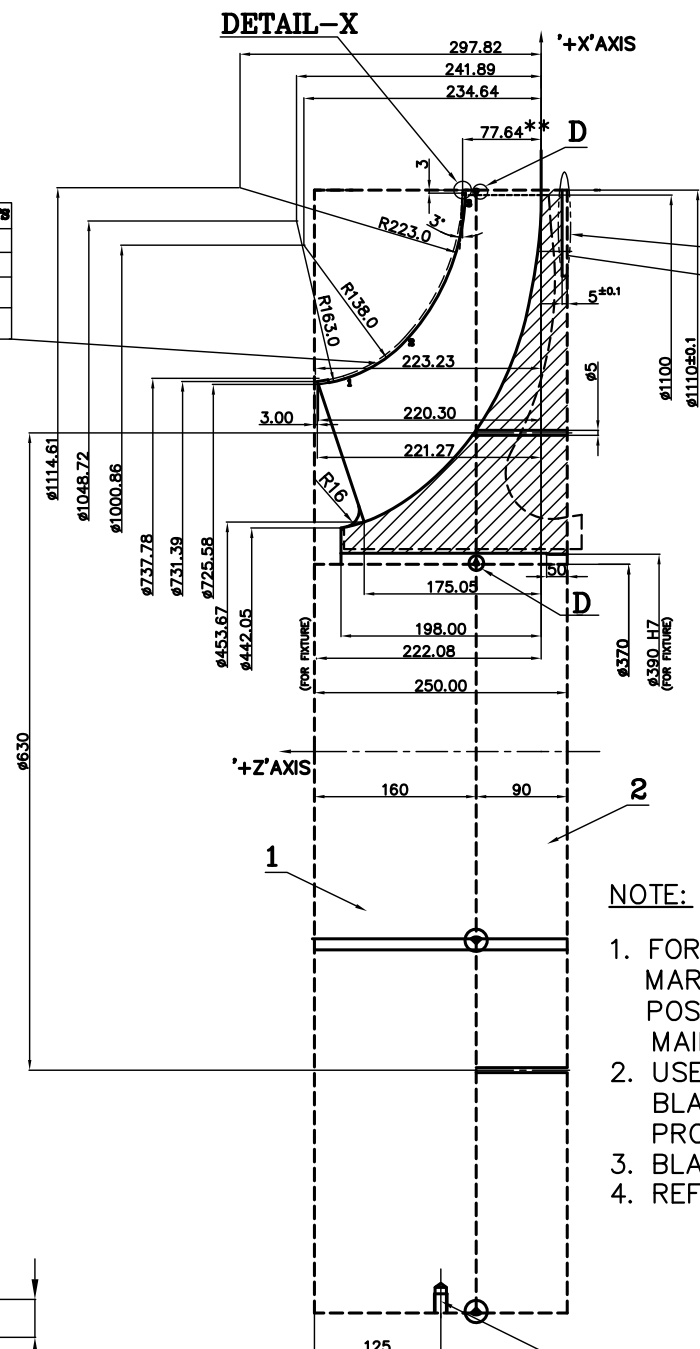
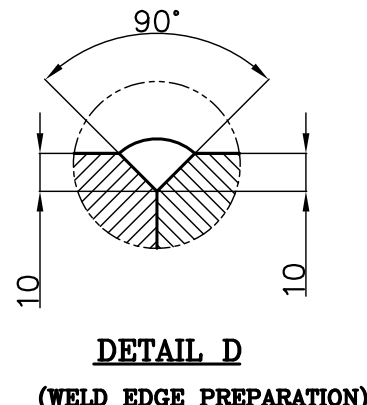
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GENERAL DIMENSIONAL LIMITS, FITS & TOLERANCES AS PER HY0230261

DRG. NO. 3-332-10-00010 SH. 1 OF 1

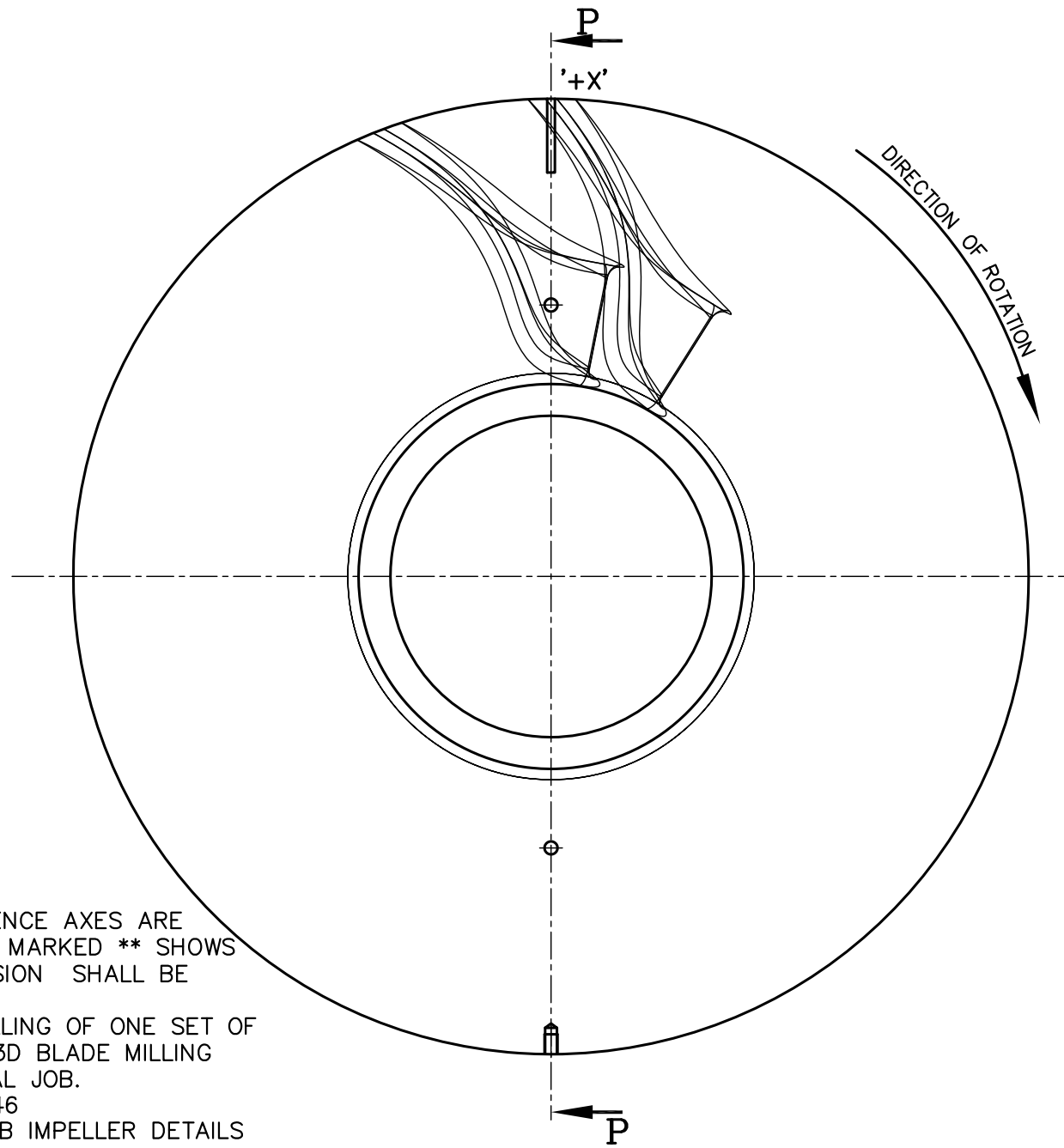
DETAIL-X

POINT	Z	DIA
1	194.65	ø736.7
2	132.09	ø816.18
3	75.11	ø1091.6



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 3. BLADE GEOMETRY IS AS PER TC 92946
 4. REFER DRAWING 13321001038 FOR JOB IMPELLER DETAILS

DIAMETRICALLY OPPOSITE 2
TAPPED HOLES M16 DEPTH
28/37, FOR LIFTING LUGS

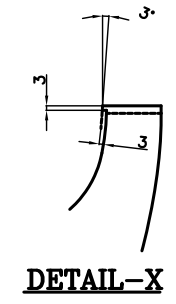


TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		BHARAT HEAVY ELECTRICALS LTD. HYDERABAD			
DRN.	NAME	SIGN.	DATE	NO. OF VAR.	
CHD.	RAGHU		22.04.15		
APPD.	YVRL		23.04.15	-N.A.-	
	SDR		25.04.15		
DEPT. COMPR.	UNTOL. DIMS. GR. -G/M/F-	SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	
CODE 420		N.T.S	1590	-N.A.-	
TITLE			CARD CODE	REV.	
MOCK UP PLATE FOR N6-1100 IMPELLER (CW)			N.A.	00	
DRAWING NO.		SHT. No 1			
3-332-10-00010		NO. OF SHT. 1			

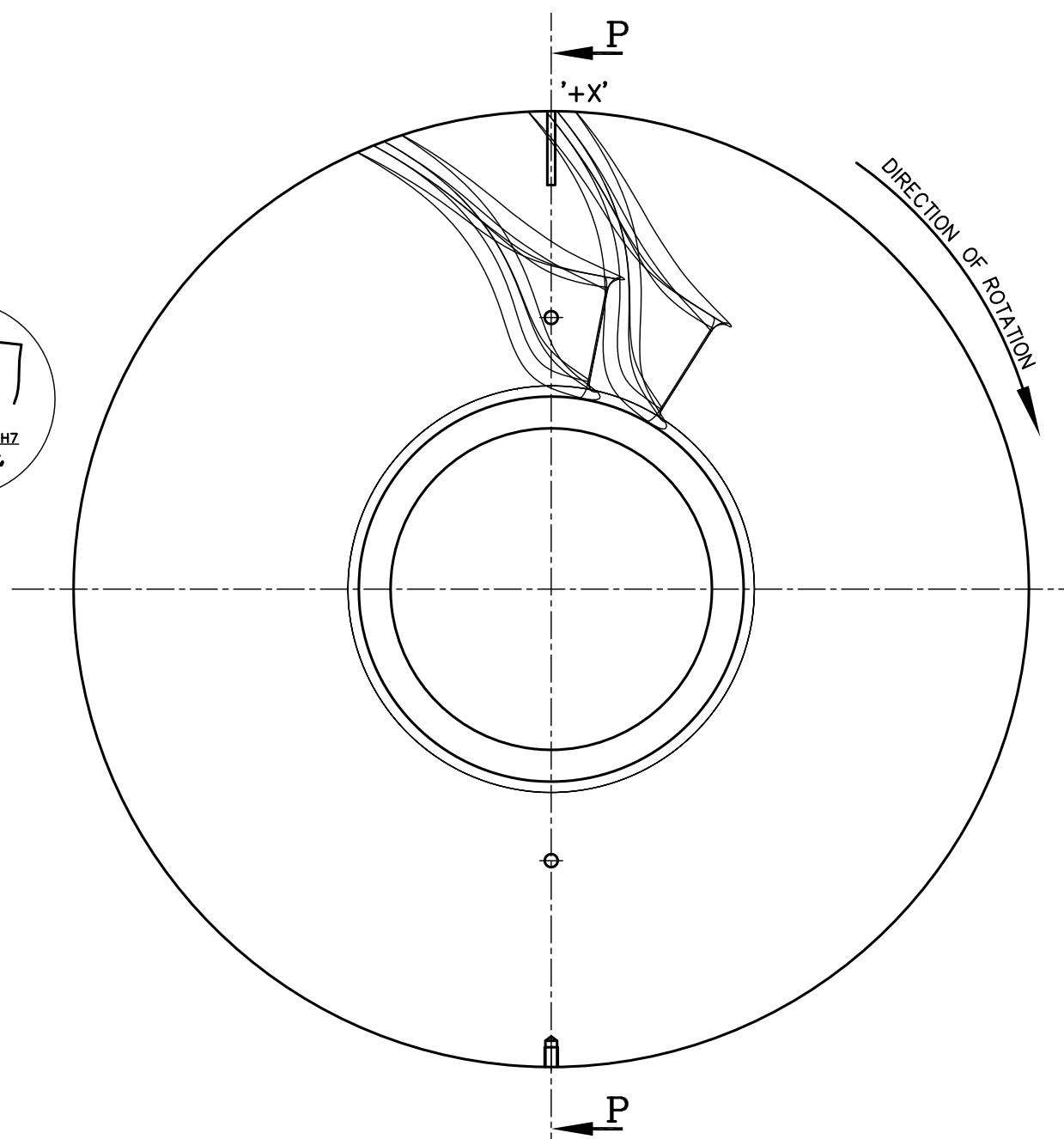
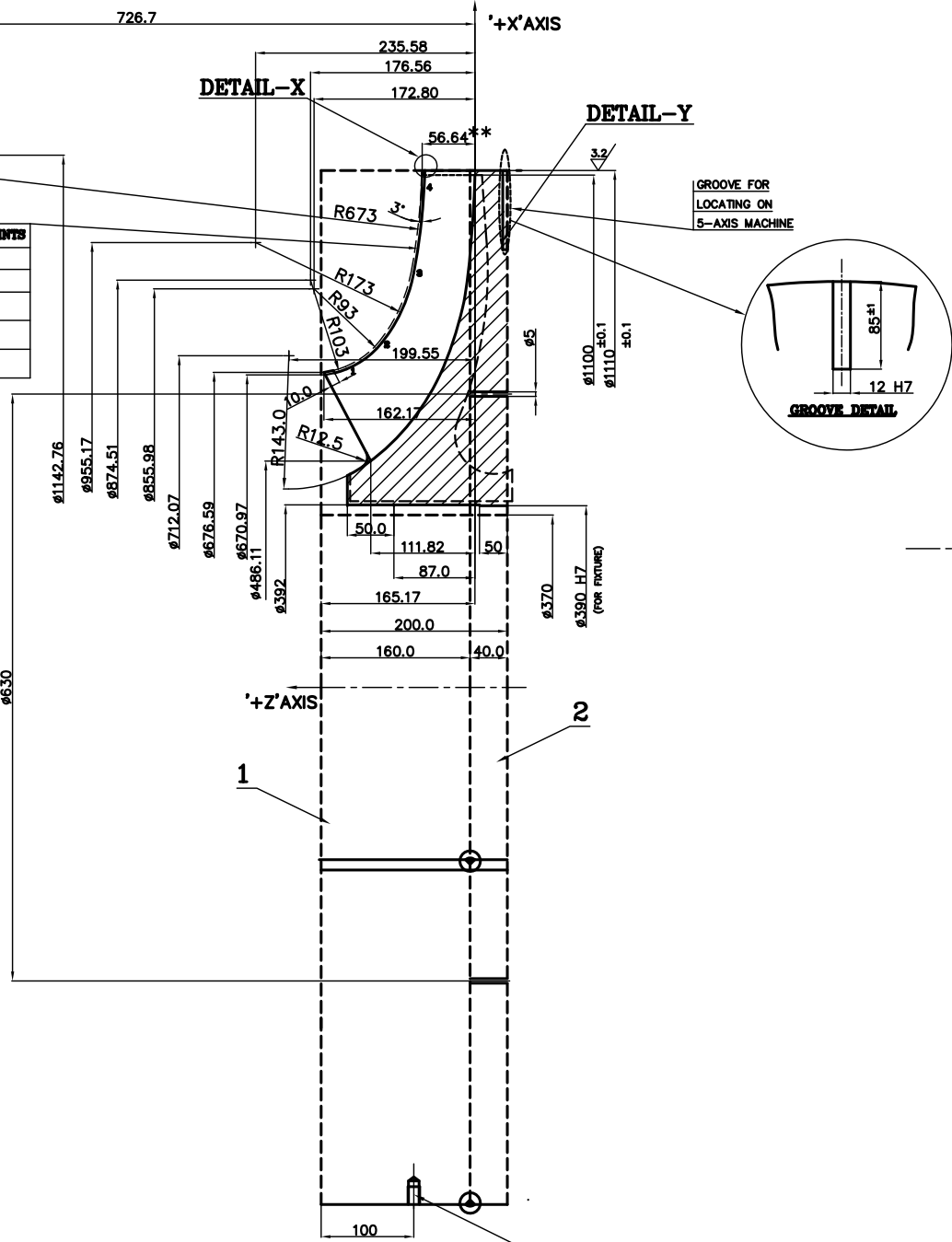
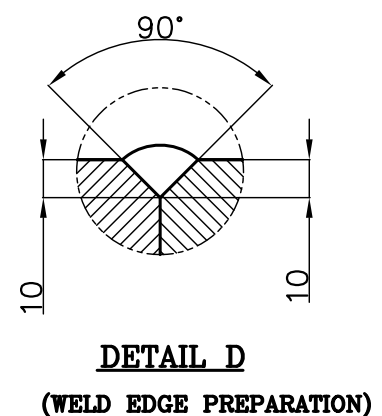
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GENERAL DIMENSIONAL LIMITS, FITS & TOLERANCES AS PER HY0230261

DRG. NO. 3-332-10-00011 SH. 1 OF 1

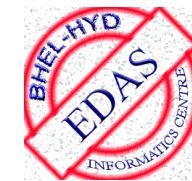


POINT	Z	DIA
1	137.83	ø683.65
2	99.87	ø740.57
3	65.64	ø890.36
4	54.62	ø1072.35



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3. BLADE GEOMETRY IS AS PER TC 92948
4. REFER DRAWING 13321001040 FOR JOB IMPELLER DETAILS



TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		BHARAT HEAVY ELECTRICALS LTD. HYDERABAD				
DRN.	RAGHU	NAME	SIGN.	DATE	NO. OF VAR.	
CHD.	YVRL	RESERVED FOR USE			22.04.15	-N.A.-
APPD.	SDR				23.04.15	25.04.15
DEPT. COMPR.	420	UNTOL. DIMS. GR. -G/M/F-	SCALE	WEIGHT (KG)	REF. TO ASSY. DRG.	
			N.T.S	1200	-N.A.-	
TITLE		CARD CODE	DRAWING NO.		REV.	
MOCK UP PLATE FOR N10-1100 IMPELLER (CW)		N.A.	3-332-10-00011		00	
		SHT. No	1		NO. OF SHT.	
		1				

INVENTORY NO	ZONE	REV.	DATE	ALTERED	REV.	DATE	ALTERED	REV.	DATE	ALTERED
				CHD/APPD			CHD/APPD			CHD/APPD