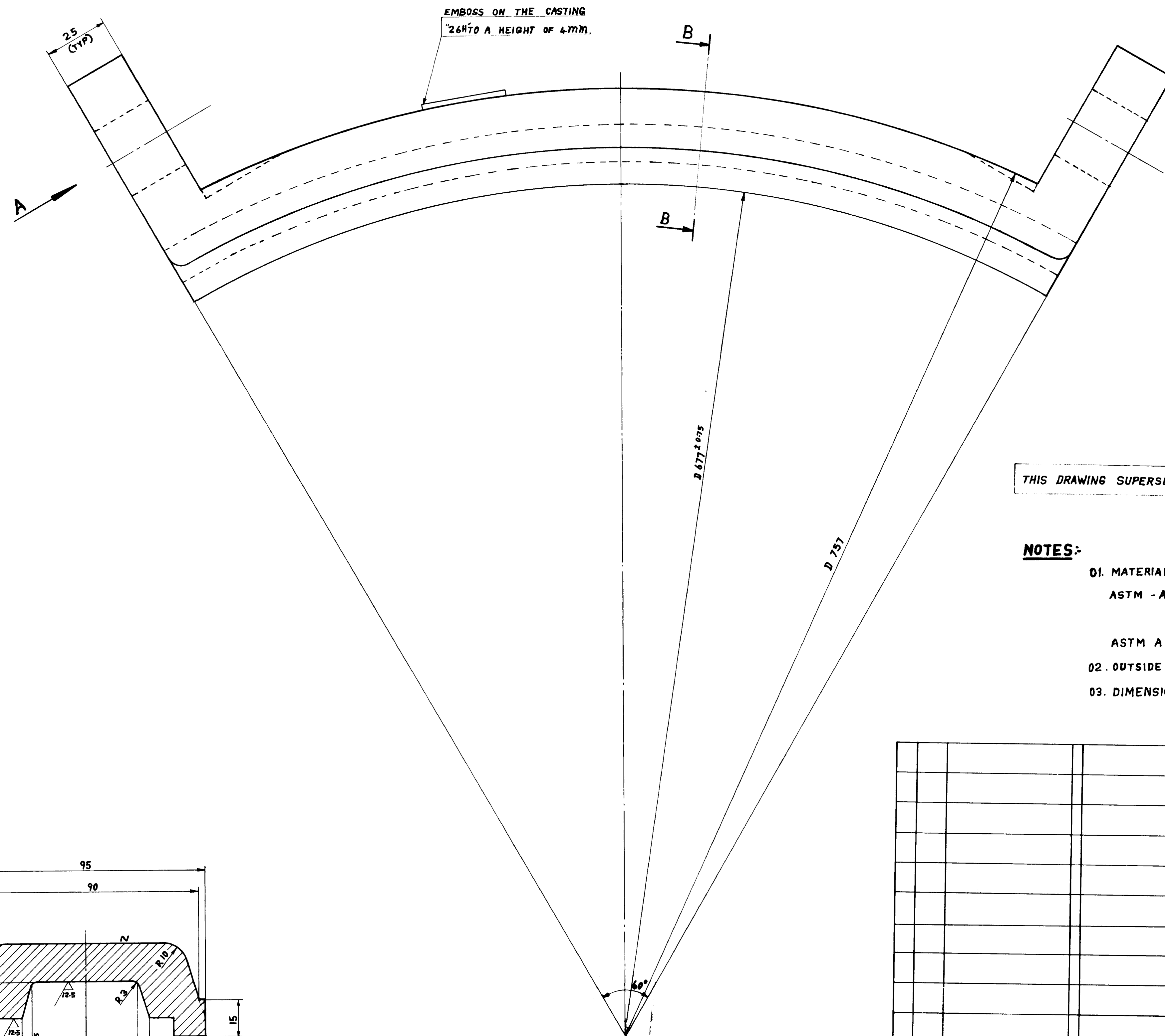
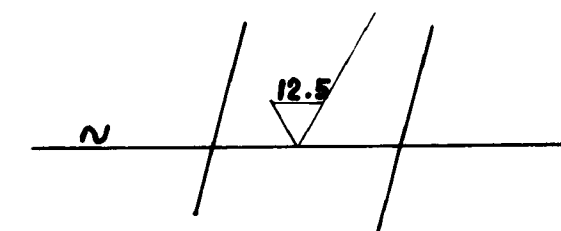


FIRST ANGLE PROJECTION (ALL DIMENSIONS IN MILLIMETRES)

1-47-263-00999

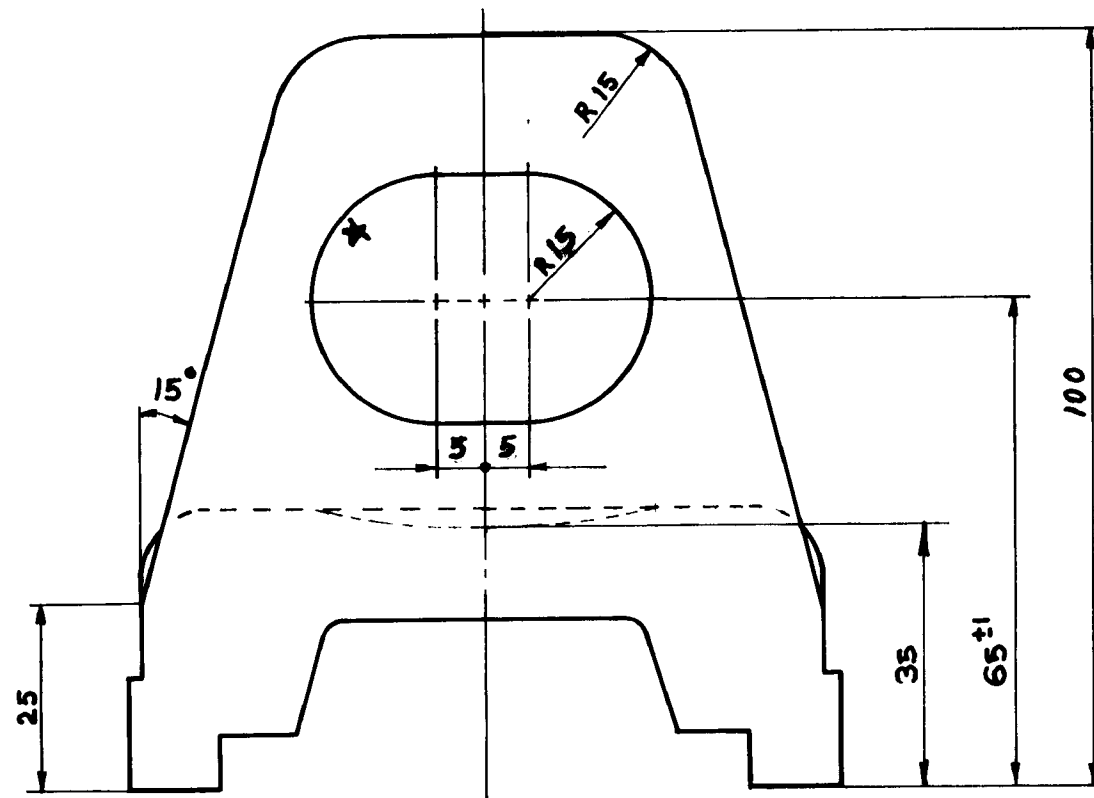
DRAWING NO.



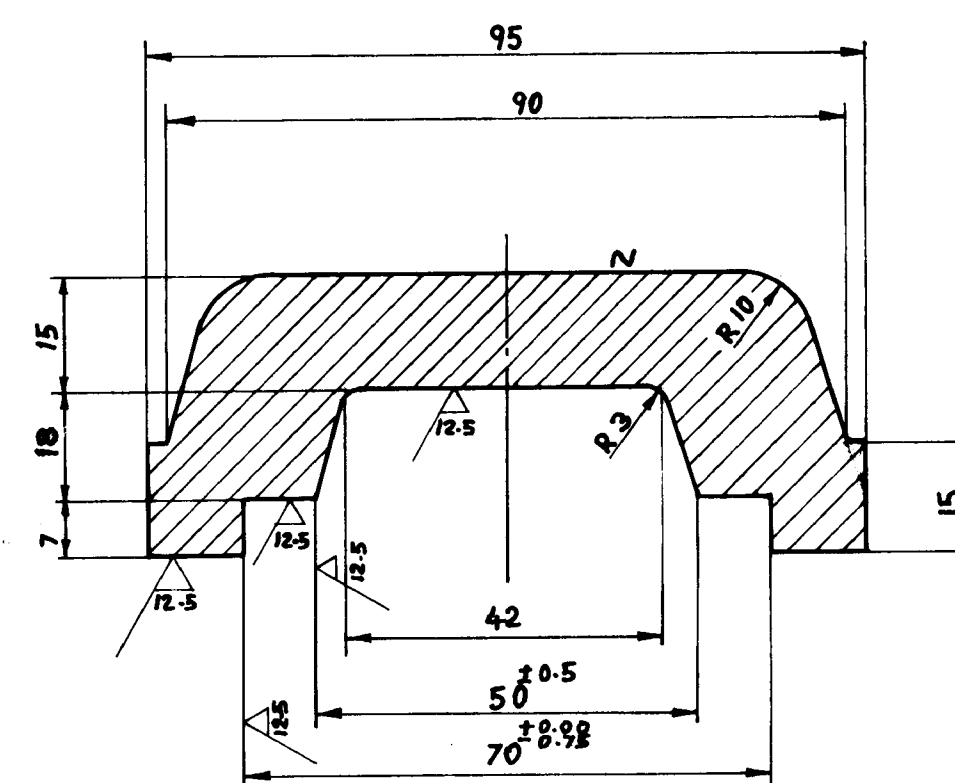
THIS DRAWING SUPERSEDES OLD DRG. NO. 2-47-018-00058.

NOTES:

01. MATERIAL FOR CASTING
ASTM - A 47 GRADE 32510
OR
ASTM A536 GRADE 65-45-12.
02. OUTSIDE SURFACE OF CASTING TO BE SMOOTH
03. DIMENSIONS SHOWN ARE FINISHED DIMENSIONS.

★ GRINDING OR MACHINING TO ENSURE
INTERCHANGEABILITY.

VIEW-A



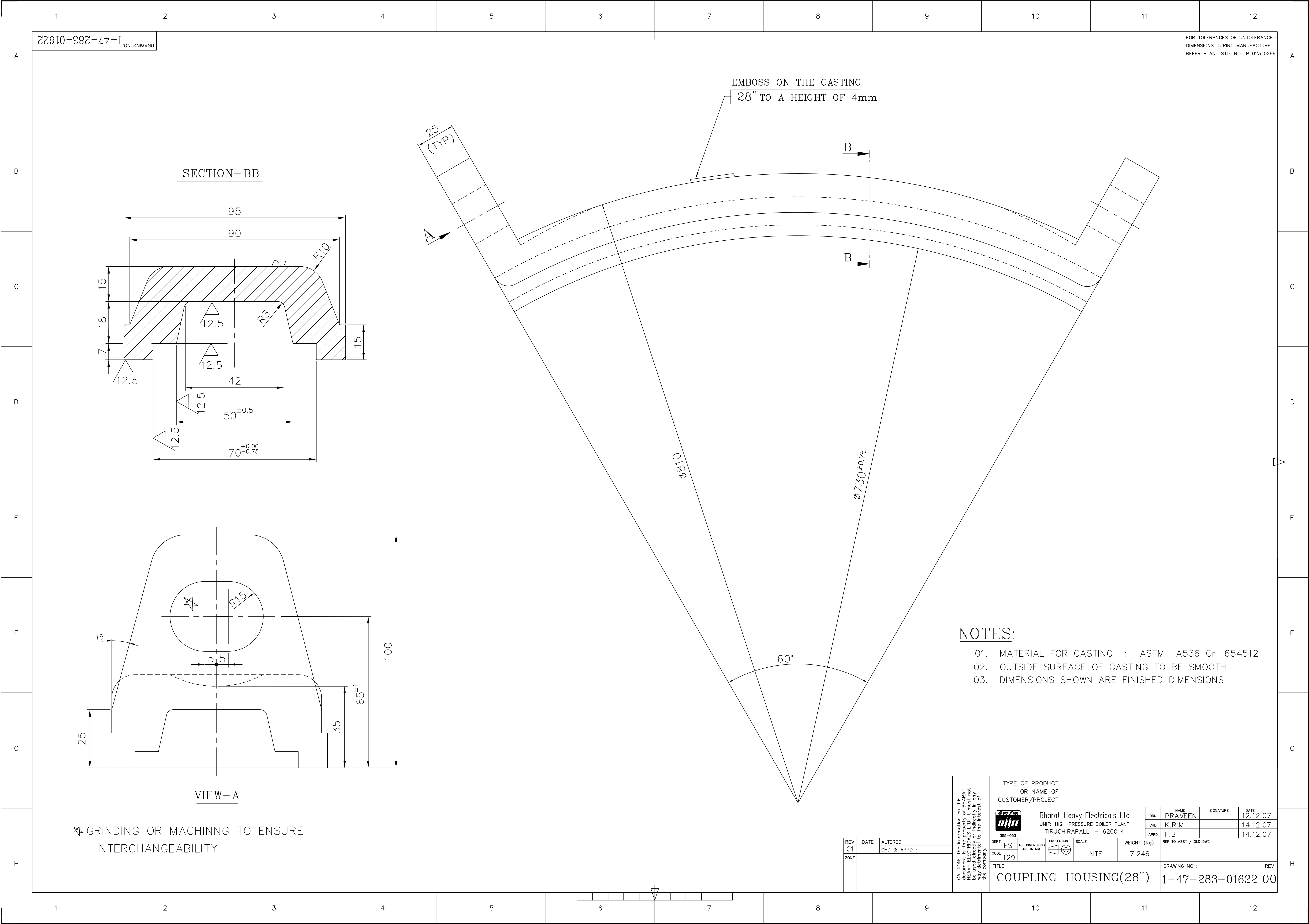
SECTION-BB

REV.	DATE	ALT.	CHKD.	REV.	DATE	ALT.	CHKD.
02	1.9.88	CHS	10/1/88	01	2/7/88	CHS	10/1/88
NOTE: MACHINES TO ACCOMMODATE BOLT HEAD REMOVED.				AS NOTED.			

TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECTBharat Heavy Electricals Ltd.,
BOILER PLANT UNIT
TIRUCHIRAPALLI-620 014

DRN	NAME	SIGN	DATE	NO. OF ITEM
CC	V. SUNDARAM		27-3-87	01
CHKD	NAME	SIGN	DATE	NO. OF ITEM
123	R. SUNDARAM		24/7/87	01
APPD	NAME	SIGN	DATE	NO. OF ITEM
			22-7-87	01
TITLE	CARD CODE	SCALE	WEIGHT (kg)	REF TO ASSY / SUB DRG
COUPLING HOUSING(26H)	U 01	NTS	6.75	2-47-263-00556
DRAWING NO.	REV			
1-47-263-00999	02			

Size A1



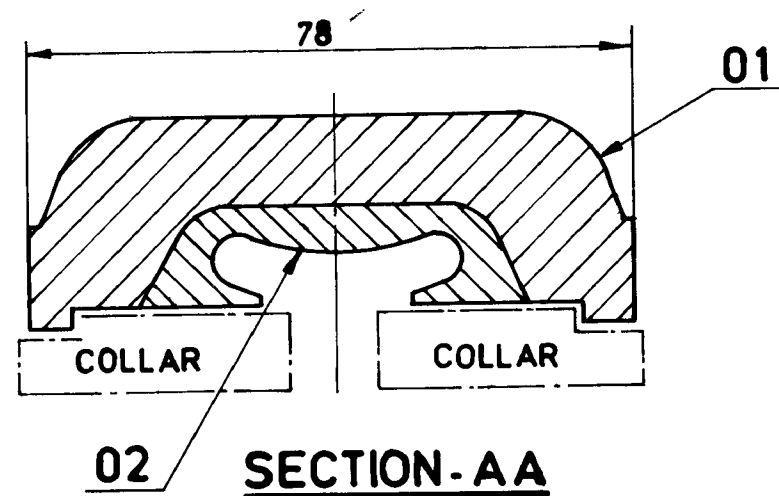
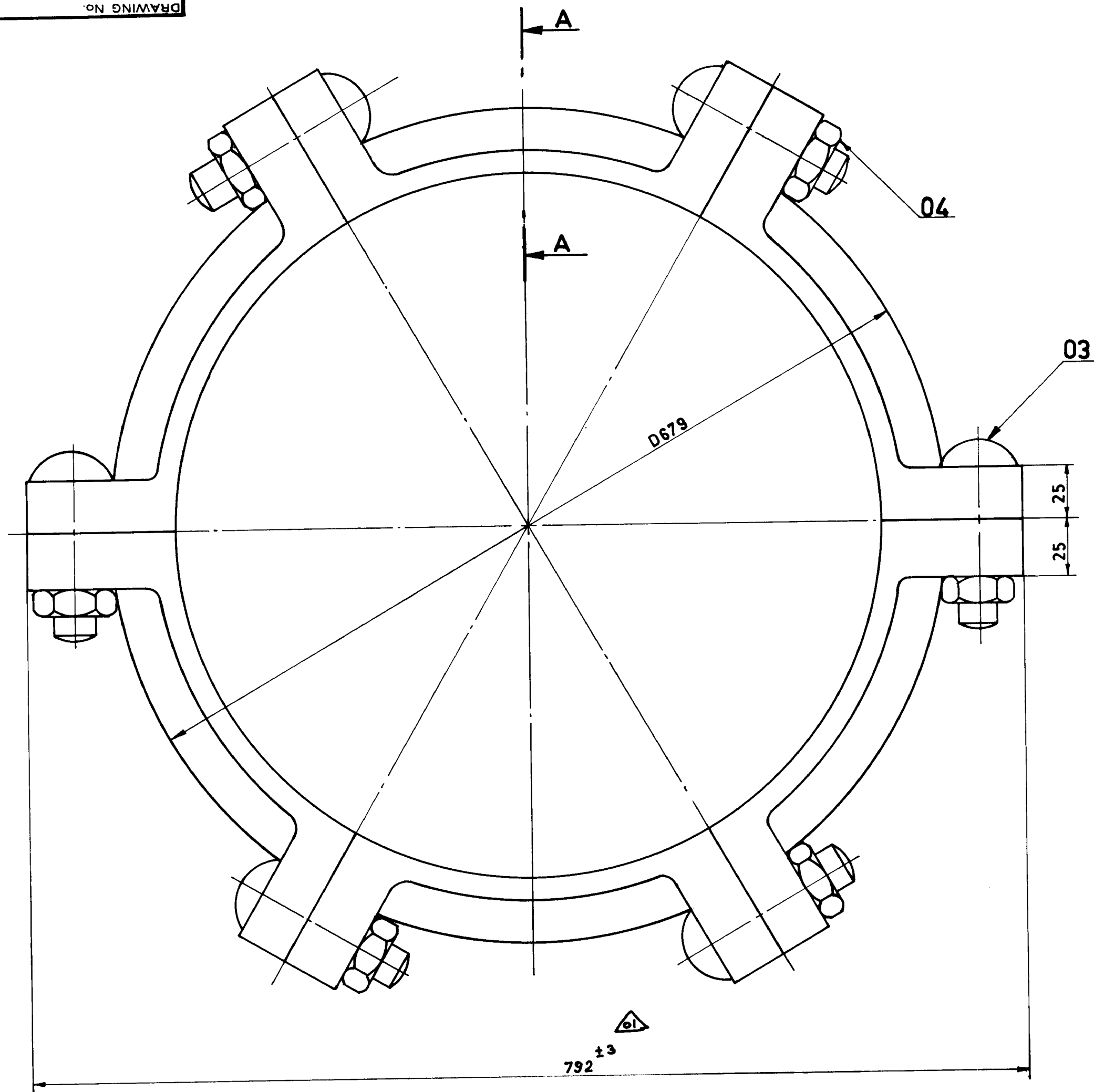
FIRST ANGLE PROJECTION (ALL DIMENSIONS IN MILLIMETRES)

89500-622-772

DRAWING NO.

NOTES:-

01. FUEL PIPE COUPLINGS SHOULD BE SENT AS A FULL PIECE INCLUDING GASKET, BOLTS, NUTS IN THE ASSEMBLED CONDITION WITH COVERED CRATE PACKING.
02. THE COUPLING HOUSING SHOULD BE PAINTED WITH PRIMER AND UNIFORM COAT OF RED LEAD PAINT.
03. COUPLING HOUSING MATCH MARKS IF ANY ARE NOT TO BE DISTURBED.
04. COUPLING SHALL BE CAPABLE OF WITHSTANDING AN INTERNAL PRESSURE OF $14.0 \frac{kg}{cm^2}$
05. GASKET SHALL BE RESILIENT TO PROVIDE PROPER SEAL AT THE SEALING SURFACE.



VARIANT NO.	ITEM NO.	DESCRIPTION	STD	DRAWING NO	ITEM NO	MATL CODE	UNIT	UNIT WT.	GS	ZONE
	04	HEX. NUT M 27		413 01 27000		413 01 00027		0.170		
	03	TRACK BOLT M27		4-47-263-01210		SA-105		0.680		
	02	FUEL PIPE GASKET 22 H		4-47-223-01213		SILICONE		1.100		
	01	COUPLING HOUSING 22 H		2-47-223-00568				5.650		

TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT



Bharat Heavy Electricals Ltd.,
BOILER PLANT UNIT
TIRUCHIRAPALLI - 620 014

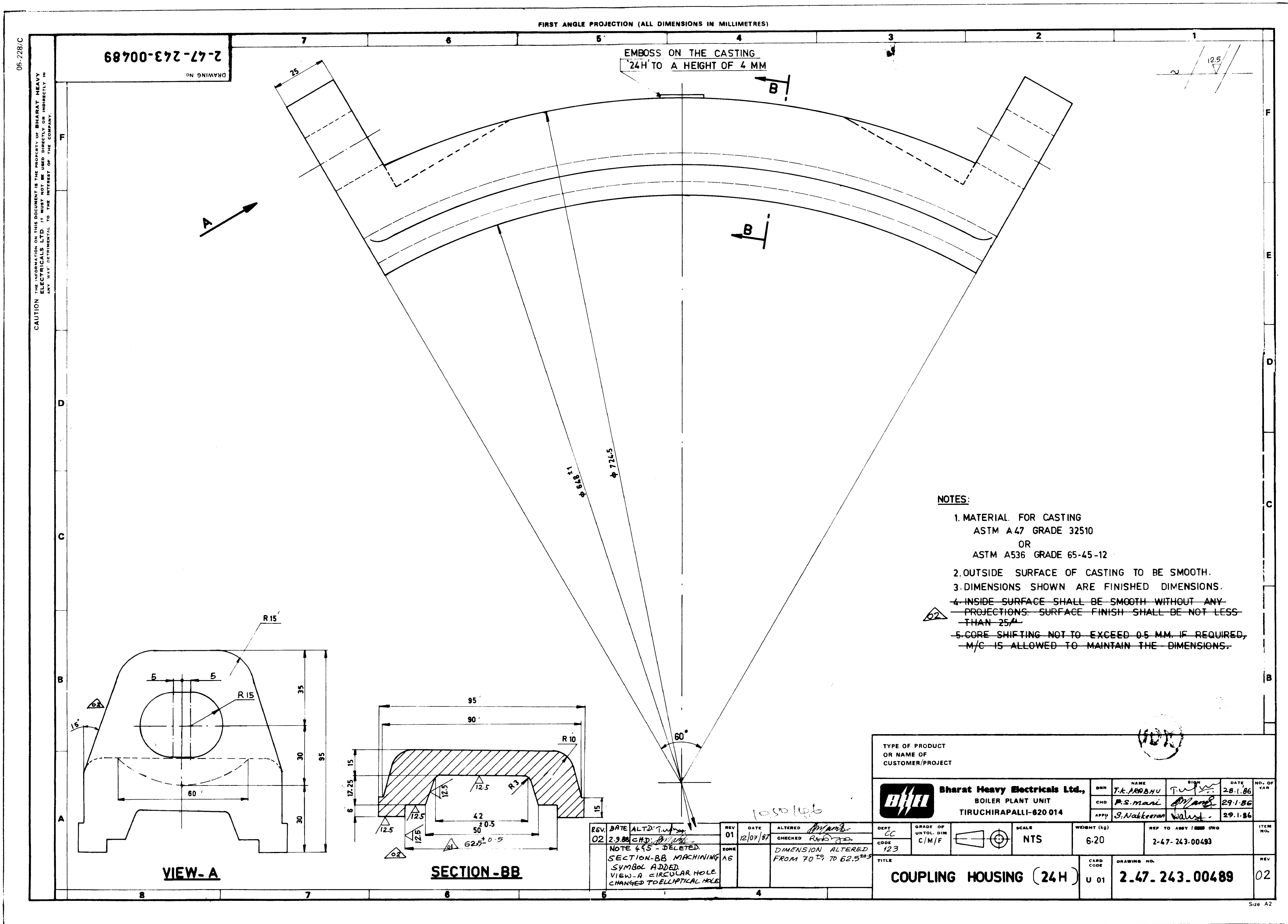
DRN	NAME	SIGN	DATE	NO OF VAR.
CHD	V.K. SUNDARAM	[Signature]	30-7-87	
APPD	P.S. Mani	[Signature]	04/08/87	
	S. Nalkeeran	[Signature]	4/8/87	

REV	DATE	ALTERED	CHECKED
01	1.9.88	[Signature]	[Signature]

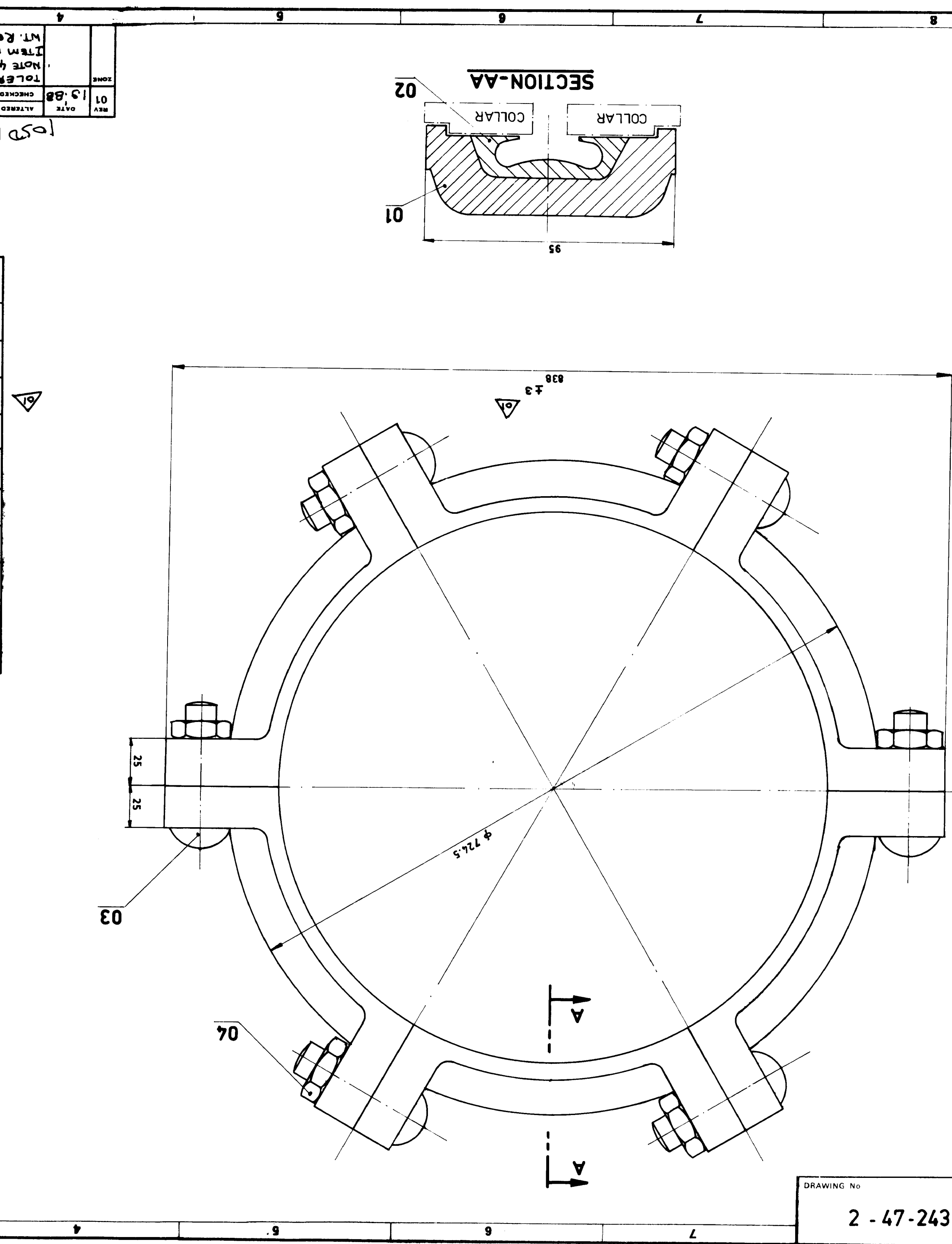
NOTE: 04 REVISED TOLERANCE ADDED

DEPT	GRADE OF UNTOL DIM		SCALE	WEIGHT (kg)	REF TO ASSY/OLO DRG	ITEM NO
CODE	C / M / F		N . T . S .	40 . 10	-	-
TITLE				CARD CODE	DRAWING NO	REV
COUPLING ASSY. 22 H				U 01	2 - 47 - 223 - 00568	01

Size A2



NOTES:	3	2	1
1. FUEL PIPE COUPLINGS SHOULD BE SENT AS A FULL PIECE INCLUDING GASKETS			
BOLTS, NUTS IN THE ASSEMBLED CONDITION WITH COVERED CRATE PACKING.			
2. THE COUPLING HOUSING SHOULD BE PAINTED WITH PRIMER AND UNIFORM COAT			
OF RED LEAD PAINT.			
3. COUPLING HOUSING MATCH MARKS IF ANY ARE NOT TO BE DISTURBED.			
4. COUPLING SHALL BE CAPABLE OF WITHSTANDING AN INTERNAL PRESSURE OF 3.5 kg/cm ²			
5. GASKET SHALL BE RESILIENT TO PROVIDE PROPER SEAL AT THE SEALING SURFACE.			



06-228/C

FIRST ANGLE PROJECTION (ALL DIMENSIONS IN MILLIMETRES)

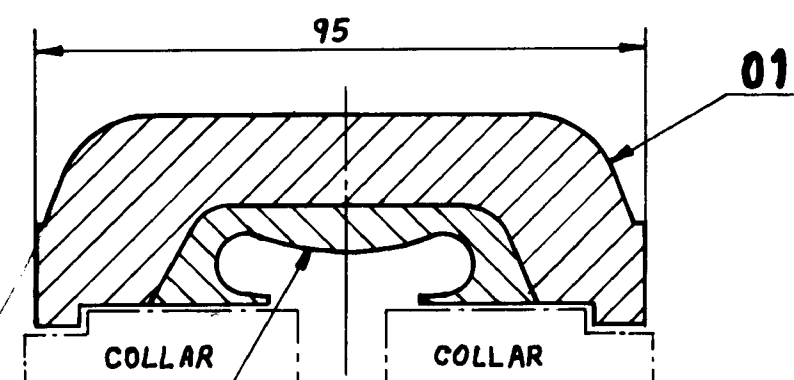
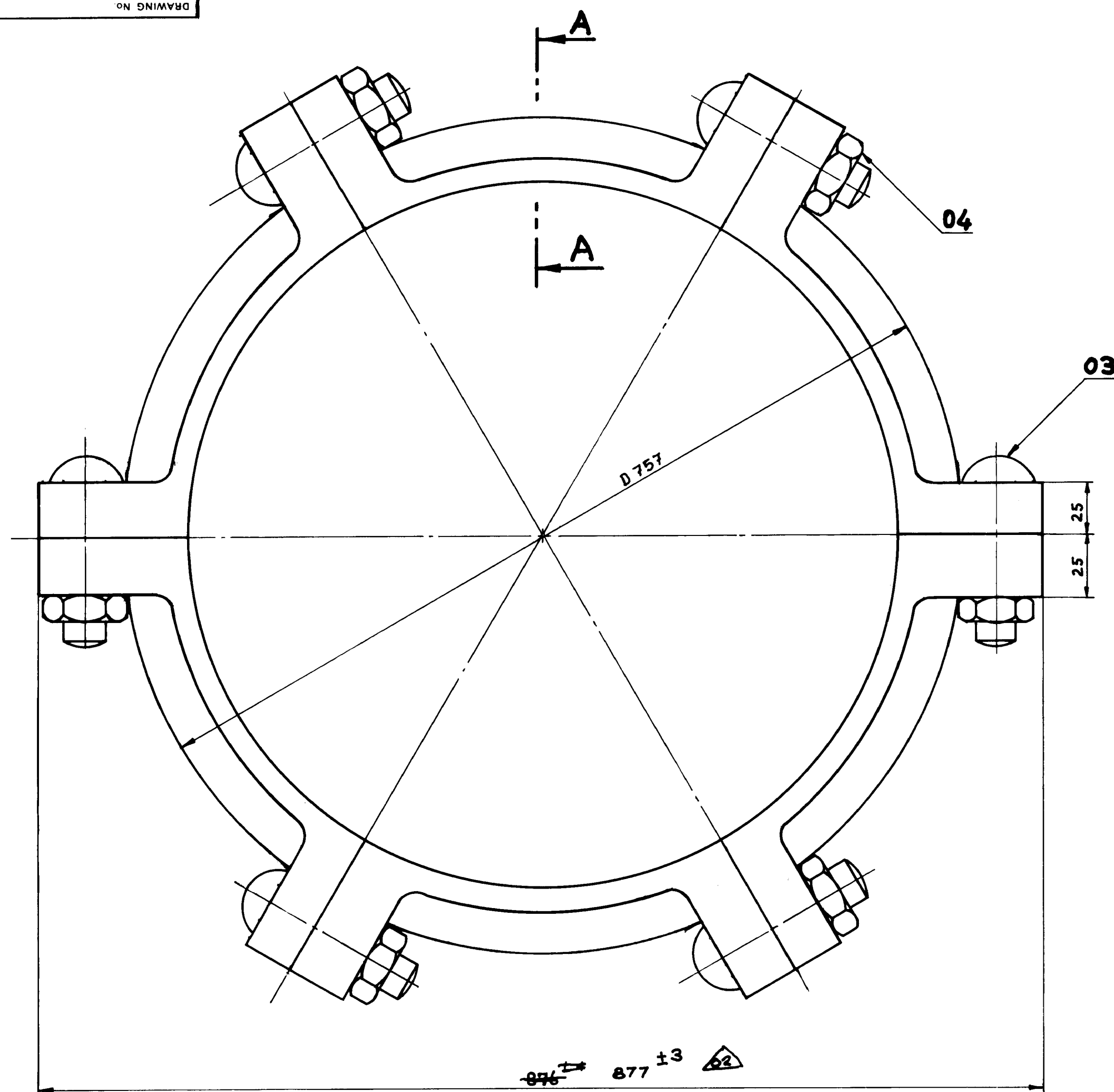
95500-692-47-2

DRAWING NO.

NOTES:-

1. FUEL PIPE COUPLINGS SHOULD BE SENT AS A FULL PIECE INCLUDING GASKETS, BOLTS, NUTS IN THE ASSEMBLED CONDITION WITH COVERED CRATE PACKING.
2. THE COUPLING HOUSING SHOULD BE PAINTED WITH PRIMER AND UNIFORM COAT OF RED LEAD PAINT.
3. COUPLING HOUSING MATCH MARKS IF ANY ARE NOT TO BE DISTURBED.
4. COUPLING SHALL BE CAPABLE OF WITHSTANDING AN INTERNAL PRESSURE OF $14.0 \pm 5 \text{ kg/cm}^2$.
5. GASKET SHALL BE RESILIENT TO PROVIDE PROPER SEAL AT THE SEALING SURFACE.

THIS DRAWING SUPERSEDES OLD DRR. NO. 2-47-821-00073



02 SECTION-AA

VARIANT NO.	ITEM NO.	DESCRIPTION	STD	DRAWING NO.	ITEM NO.	MATL CODE	A	UNIT	UNIT WT	QTY	ZONE
	04	HEX NUT M 27		413 01 27 000		413 01 00027			0.170		
	03	TRACK BOLT M27		4-47-263-01210		SA 105			0.680		
	02	FUEL PIPE GASKET 26 H		4-47-263-01209		SILICONE			1.300		
	01	COUPLING HOUSING 26 H		1-47-263-00999					6.750		

TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT



Bharat Heavy Electricals Ltd.,
BOILER PLANT UNIT
TIRUCHIRAPALLI-620 014

DRN	NAME	SIGN	DATE	NO. OF ITEMS
	V.K.SUNDARAM		18-3-87	
CHD	R.SESHAN		18-3-87	04
APPD	S.MAYKEERAN		18-3-87	

REV	DATE	ALD.	REV	DATE	ALD.
02	1.9.88	CHD: [Signature]	01	3/6/88	CHD: [Signature]

DEPT	GRADE OF UNTOOL. DIM	SCALE	WEIGHT (kg)	REF TO ASSY / OLD DRG	ITEM NO.
CC	21M/F	NTS	46.90		

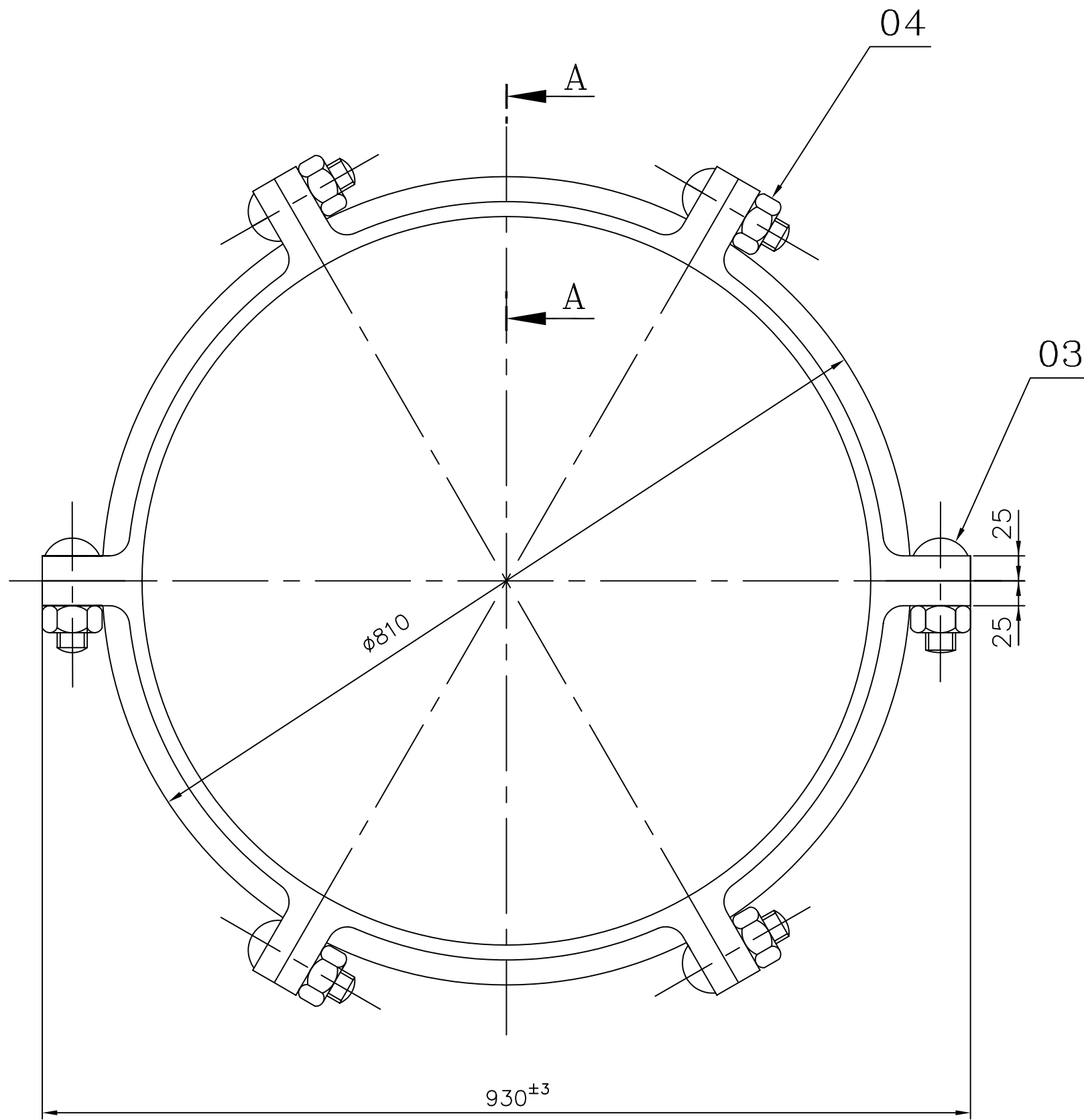
TITLE	CARD CODE	DRAWING NO.	REV
COUPLING ASSY. 26 H	U 01	2.47-263-00556	02

SCANNED

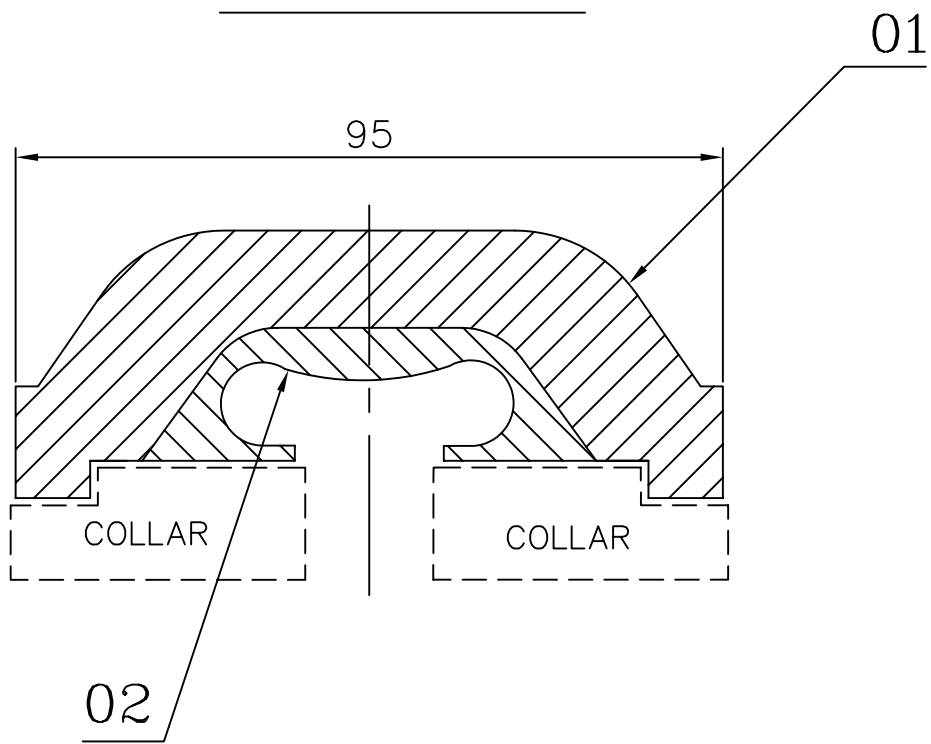
2-47-283-01413

DRAWING NO.

FOR TOLERANCES OF UNTOLERANCED
DIMENSIONS DURING MANUFACTURE
REFER PLANT STD. NO TP 023 0299



SECTION- AA



NOTES:

- FUEL PIPE COUPLINGS SHOULD BE SENT AS A FULL PIECE INCLUDING GASKETS, BOLTS,NUTS IN THE ASSEMBLED CONDITION WITH COVERED CRATE PACKING.
- THE COUPLING HOUSING SHOULD BE PAINTED WITH PRIMER AND UNIFORM COAT OF RED LEAD PAINT.
- COUPLING HOUSING MATCH MARKES IF ANY ARE NOT TO BE DISTURBED.
- COUPLING SHALL BE CAPABLE OF WITHSTANDING AN INTERNAL PRESSURE OF 14.0 Kg/cm²
- GASKET SHALL BE RESILIANIT TO PROVIDE PROPER SEAL AT THE SEALING SURFACE.

VARIANT NUMBER	ITEM NUMBER	DESCRIPTION	STD	DRAWING NUMBER	ITEM NO	MATERIAL CODE	A/C/P	UNIT	UNIT WEIGHT	CS	ZONE
	04	HEX NUT M 27				413010002700			0.0106		
	03	TRACK BOLD M 27	4-47-263-01210						0.6806		
	02	FUEL PIPE GASKET 28"	4-47-283-01874			SA 105			1.4001		
	01	COUPLING HOUSING 28"	1-47-283-01622			SILICONE			7.2466		
					VAR NO	MATERIAL SPECN	A/C/P	DI	QUANTITY		

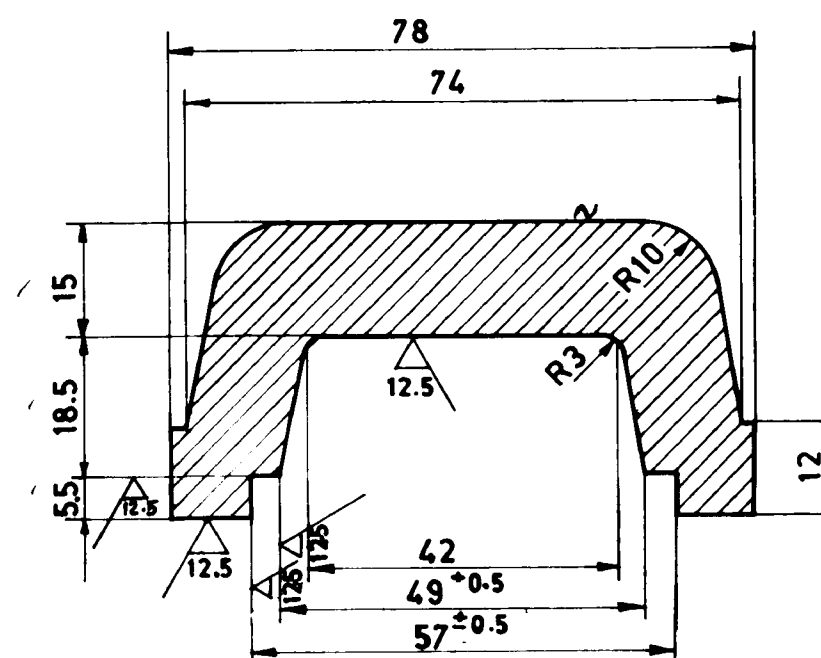
CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.	TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT									
	DEPT FS CODE 129	ALL DIMENSIONS ARE IN MM	PROJECTION SCALE NTS	WEIGHT (Kg) 49.016	REF TO ASSY / OLD DWG					
	TITLE COUPLING ASSY. (28")					DRAWING NO : 2-47-283-01413			REV 00	

DRAWING NO.

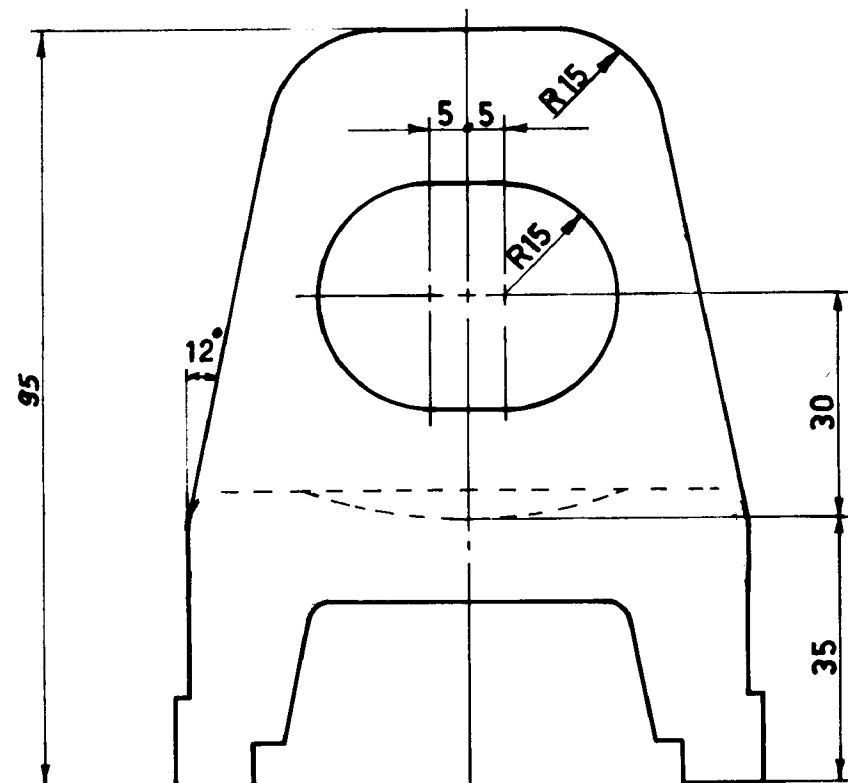
EMBOSS ON THE CASTING
22 H TO A HEIGHT OF 4MM

NOTES:-

01. MATERIAL FOR CASTING
ASTM - A 47 GRADE 32510.
OR
ASTM - A 536 GRADE 65-45-12 .
02. OUT SIDE SURFACE OF CASTING TO BE
SMOOTH .
03. DIMENSIONS SHOWN ARE FINISHED
DIMENSIONS.



SECTION-BB



VIEW - A

[illegible]TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT

Bharat Heavy Electricals Ltd.,
BOILER PLANT UNIT
TIRUCHIRAPALLI — 620 014

DRN	NAME	SIGN	DATE	NO OF VAR.
	Y.K. SMOORAM		3-7-87	
CHD	P.S. Mani		04/08/87	
APPD	S. Nakkeeran		4/8/87	

DEPT	CC
CODE	129

GRADE OF
UNTOL. DIM
P/M/F

SCALE

WEIGHT (kg)	5.65
-------------	------

REF TO ASSY / ~~OLD~~ DRG
2 - 47 - 223 - 00568

ITEM NO.	01
----------	----

127			
TITLE			
COUPLING HOUSING 22H			

CARD CODE	11-01
--------------	-------

DRAWING NO
2-47-223-00566

REV.

Size A2

Bharat Heavy Electricals Limited
Industrial Valves Plant
Goindwal

IVP:QM:Tech Req:Fuel Coupling:01

Dated: January 23, 2012.

Technical Requirements for purchase of Machined castings for Fuel Pipe Coupling.

- 1.1 SCOPE: These technical requirements detail out the Quality requirements of Machined castings for Shoulder Type Pipe couplings used in fuel system.
- 1.2 Reference Documents: TDC:5:189/02.
- 1.3 General: The pipe couplings are of mechanical type connecting coal lines with a positive grip, which allow some degree of angular deflection.
- 1.4 Applicable Material Specification: ASTM A 47 Gr 32510 Or
ASTM A 536 Gr 65-45-12.

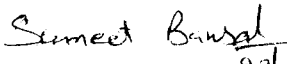
The machined castings shall be manufactured as per BHEL drawing and purchase specification.

- 1.5 Each coupling casting should be embossed with melt no. and vendor code for traceability to particular heat. All the relevant tests, as per the material specification, shall be carried out in a Govt. approved laboratory and the test certificate shall be provided. The foundry must send one test piece for each melt along with the castings to BHEL.
- 1.6 Dimensions shall be as per drawing and the profiles to be checked with template (Go and No Go). Templates will be developed by the vendor. Dimension report for coupling housing and assembly shall be submitted to BHEL.
- 1.7 One set of coupling (Six pieces/set – Preferably of same heat) shall be given a unique running serial number. Vendor will match mark the segment of coupling after machining and will encircle the same by paint.
- 1.8 Correlation report indicating coupling no. and Heat no. on segments will be submitted to BHEL.

Sumed Bainsal
23/01/12


23/01/12

- 1.9 For all new vendors, hydraulic testing shall be done (As per para 1.11) on minimum five sets out of first fifty sets supplied by vendor. Vendor will not be treated as established vendor until successful completion of order of first fifty sets.
- 1.10 After establishment of vendor, BHEL may carry out hydraulic testing randomly on any set supplied by the vendor. If, at any time, coupling does not pass the hydraulic testing, then atleast five more couplings containing the defective heat no. coupling will be tested. In case of further failure, vendor will have to give replacement for all the couplings supplied under particular heat. Additionally, vendor will have to re-establish himself for that particular size of the coupling in case of any failure in testing
- 1.11 The coupling manufactured shall be hydraulic tested at BHEL at a pressure of 300 psi. The hydraulic testing shall be carried out both in horizontal and deflected position (At 1.5 degree).
- 1.12 The coupling should be thoroughly cleaned before supply. It should be free from rust, grease, oil and other foreign materials.
- 1.13 All machined surfaces should be applied with rust preventive oil. No paint is to be applied to couplings.
- 1.14 Proper care shall be taken to avoid any damage during handling and transportation.


(Sumeet Bansal) 23/01/12
Sr. Engineer – QM

Sr. Manager - QM


23/1/12