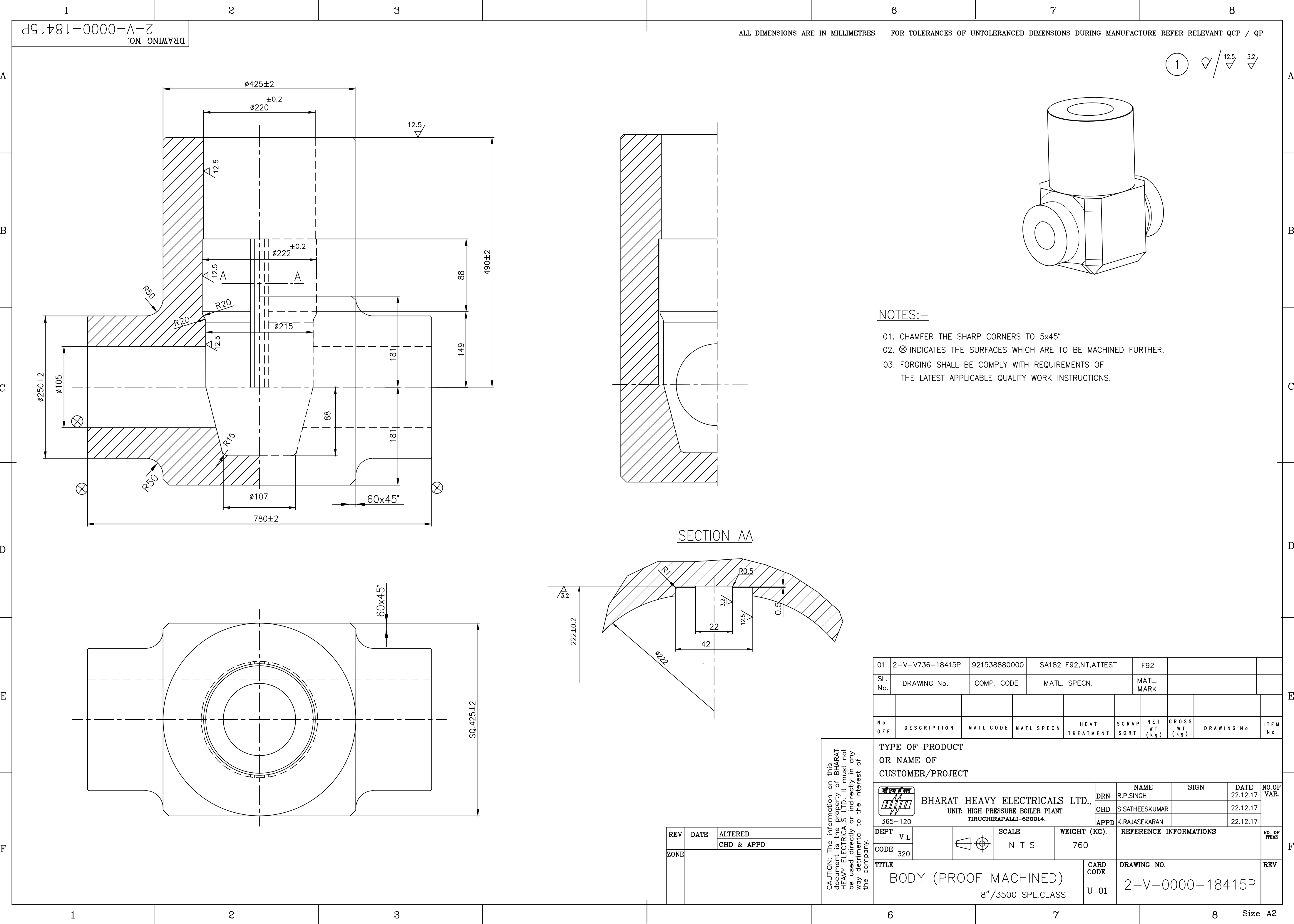
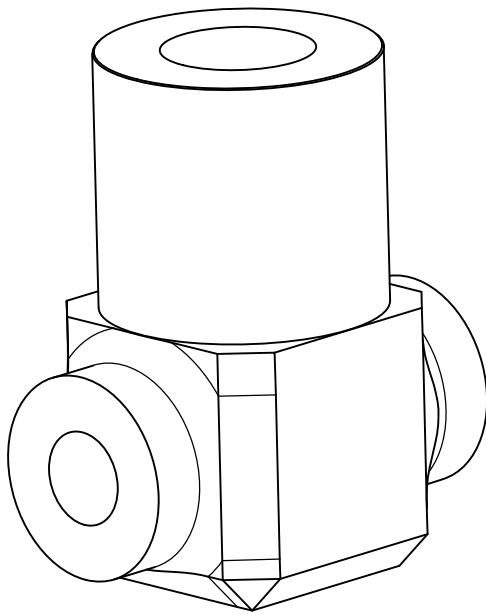




ALL DIMENSIONS ARE IN MILLIMETRES. FOR TOLERANCES OF UNTOLERANCED DIMENSIONS DURING MANUFACTURE REFER RELEVANT QCP / QP

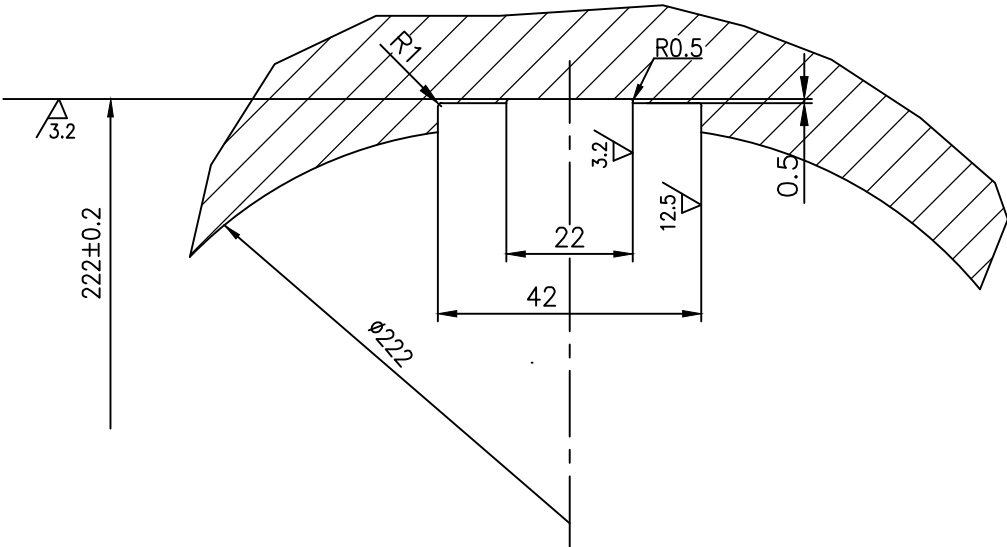
1 12.5 3.2



NOTES:-

- 01. CHAMFER THE SHARP CORNERS TO 5x45°
- 02. ⊗ INDICATES THE SURFACES WHICH ARE TO BE MACHINED FURTHER.
- 03. FORGING SHALL BE COMPLY WITH REQUIREMENTS OF THE LATEST APPLICABLE QUALITY WORK INSTRUCTIONS.

SECTION AA

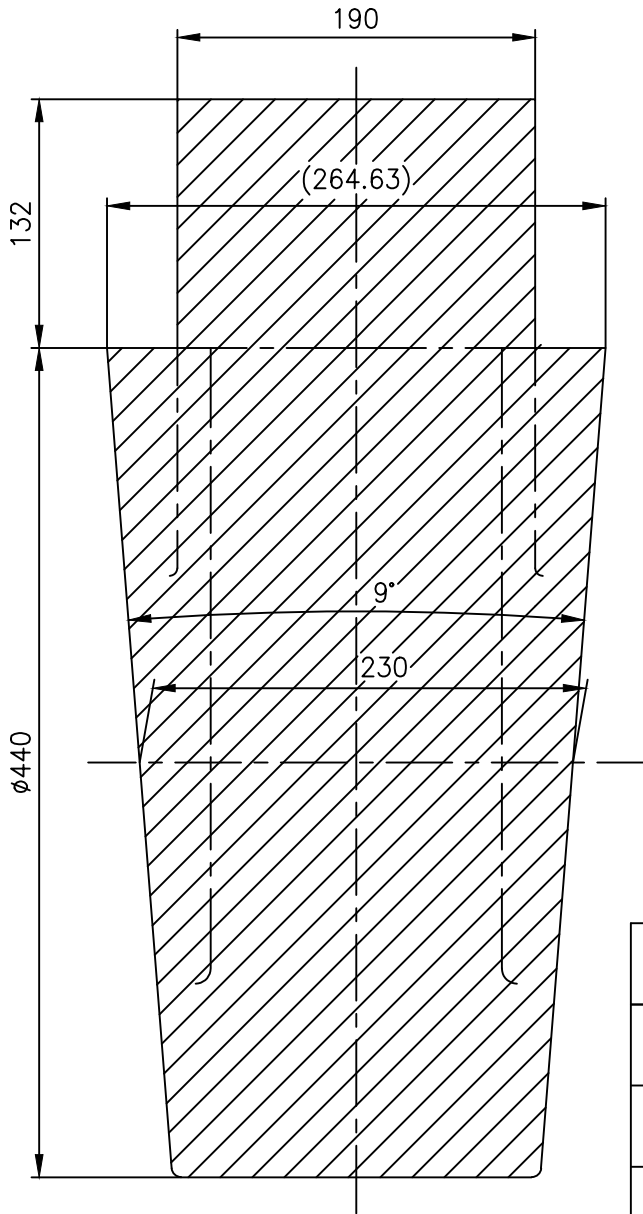
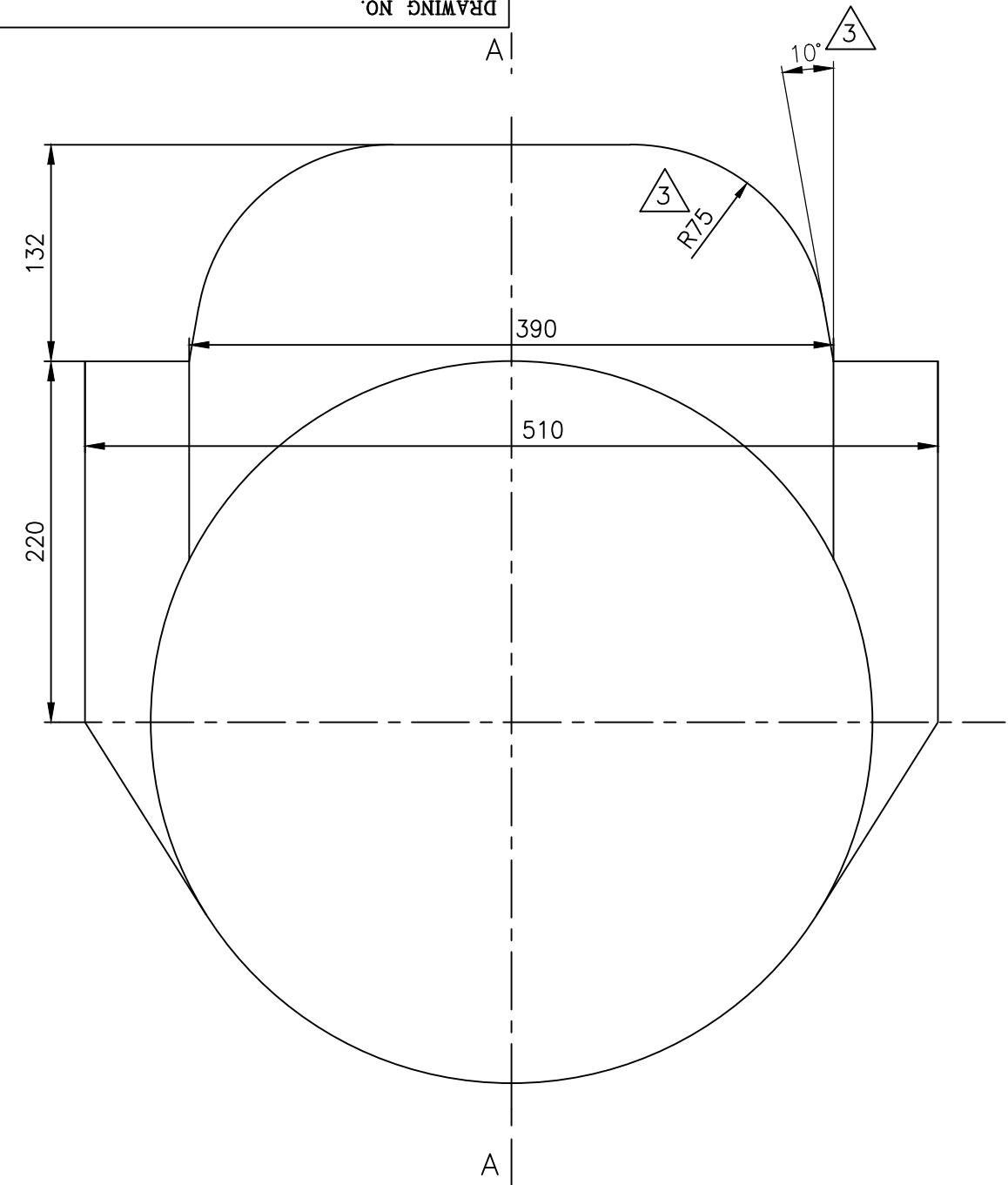


01	2-V-V736-18415P	921538880000	SA182 F92,NT,ATTEST	F92		
SL. No.	DRAWING No.	COMP. CODE	MATL. SPECN.	MATL. MARK		
No OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)
						GROSS WT (kg)
						DRAWING No
						ITEM No
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT						
BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI-620014.				DRN R.P.SINGH	SIGN	DATE 22.12.17
365-120				CHD S.SATHEESKUMAR		22.12.17
				APPD K.RAJASEKARAN		22.12.17
DEPT V L		SCALE N T S	WEIGHT (KG). 760	REFERENCE INFORMATION		NO.OF ITEMS
CODE 320						
TITLE BODY (PROOF MACHINED) 8"/3500 SPL.CLASS				CARD CODE U 01	DRAWING NO. 2-V-0000-18415P	REV

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.

REV	DATE	ALTERED
		CHD & APPD
ZONE		

DRAWING NO. 3-V-0000-21843P



VIEW-P (DETAILS TO BE FORGED)

MATL. MARK*
RATING**

NOTES:-

- FOR ALL OTHER DETAILS LIKE DIMENSIONAL TOLERANCE, EMBOSSING ETC., REFER LATEST APPLICABLE QUALITY WORK INSTRUCTIONS.
- UNSPECIFIED RADII 3mm.

03	3-V-V730-21843P/1	921539050000	A182 F92, NT PRODUCT ATTEST	F92	3500
02	3-V-WC58-21843P/2	921535190000	A105, NR PRODUCT ATTEST	A105	3000
01	3-V-WC33-21843P/3	921534590000	A182 F91, NT PRODUCT ATTEST	F91	3500
SL. No.	DRAWING No.	MATL. CODE	MATL. SPECN.	MATL* MARK	RATING**

NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
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TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT

DRAWING REDRAW WITH REV 03 10.01.18



BHARAT HEAVY ELECTRICALS LTD.,
UNIT: HIGH PRESSURE BOILER PLANT.
TIRUCHIRAPALLI-620014.

DRN	NAME	SIGN	DATE	NO.OF VAR.
CHD	V.BAIRAVAN		05.02.13	
APPD	K.RAJASEKARAN		05.02.13	
	M.RAJAKUMAR		05.02.13	

DEPT	VL	SCALE	WEIGHT (KG).	REFERENCE INFORMATION	NO. OF ITEMS
CODE	320	N T S	416.5		
TITLE	WEDGE	CARD CODE	DRAWING NO.	REV	
	550mm	U 01	3-V-0000-21843P	3	

REV	DATE	ALTERED	R.P.SINGH
3	10.01.18	CHD & APPD	SSK & KRS
DIMENSION R75 INCLUDED & 10° WAS 30°			
DCP NO. 802312			

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.

3-V-0000-31121P

DRAWING NO

125

SL.NO	DRAWING NO	MATL. SPECN.	ATTESTATION	MATL. CODE	SIZE/RATING	MATL.MARK	WT.(kg)	φD	φD1	φd	L	L1	R
1	3-V-V449-31121P	A105,NR	PRODUCT ATTEST	921538530000	350/3500	A105	168.6	311	231	64	413	161	20
2	3-V-V452-31121P	A182 F22 CL.3, NT		921538540000		F22							
3	3-V-V544-31121P	A105,NR		921538550000	400/3500	A105	238.4	358	258	74	454	180	20
4	3-V-V545-31121P	A182 F22 CL.3, NT		921538560000		F22							
5	3-V-WC20-31121P	A105,NR		921538570000	350/1500	A105	132.9	376	189	56	237	131	15
6	3-V-WC21-31121P	A182 F22 CL.3, NT		921538580000		F22							
7	3-V-V377-31121P	A105,NR		921538590000	400/2500	A105	201.8	406	206	74	312	173	20
8	3-V-V380-31121P	A182 F22 CL.3, NT		921538600000		F22							
9	3-V-V177-31121P	A105, NR		921538610000	400/1500	A105	179.0	426	181	64	265	144	15
10	3-V-V180-31121P	A182 F22 CL.3, NT		921538620000		F22							
11	3-V-V638-31121P	A182 F91,NT		921538630000		F91							
12	3-V-V393-31121P	A105,NR		921538640000	450/2500	A105	298.4	476	238	84	338	186	20
13	3-V-V396-31121P	A182 F22 CL.3, NT		921538650000		F22							
14	3-V-V193-31121P	A105,NR		921538660000	450/1500	A105	183.2	481	206	74	288	149	25
15	3-V-V196-31121P	A182 F22 CL.3, NT		921538670000		F22							
16	3-V-WC65-31121P	A182 F91,NT		921538680000		F91							
17	3-V-WB01-31121P	A105,NR		921538690000	500/2850	A105	399.7	481	228	94	693	200	75
18	3-V-WB04-31121P	A182 F22 CL.3, NT		921538700000		F22							
19	3-V-WB10-31121P	A182 F91,NT		921538710000		F91							
20	3-V-WA99-31121P	A105,NR		921538720000	550/2750	A105	548.5	538	286	94	450	270	30
21	3-V-WA98-31121P	A182 F22 CL.3, NT		921538730000		F22							
22	3-V-WA81-31121P	A182 F91,NT		921538740000	550/3000	F91	730.26	538	320	90	720	270	30
23	3-V-V730-31121P	A182 F92,NT		921539010000	F92								
24	3-V-V736-31121P	A182 F92,NT		921538950000	200/3500	F92	73.45	232	141	35	420	120	20
25	3-V-V693-31121P	A182 F92,NT		921537380000	80/3500	F92	17.95	130	93	27	280	84	15
26	3-V-V726-31121P	A105,NR		921539440000	250/900	A105	66.12	296	131	34	190	109	15
27	3-V-V727-31121P	A182 F22 CL.3, NT		921539450000		F22							
28	3-V-R674-31121P	A182 F92,NT		921539460000	80/3500	F92	11.5	110	87	32	235	70	15
29	3-V-V731-31121P	A182 F92,NT		921539300000	200/3500	F92	40.18	243	128	37	171	96	20
30	3-V-V737-31121P	A182 F92,NT		921539400000	350/3500	F92	168.6	311	231	64	413	161	20

NOTES:

1. FORGING SHALL BE MADE IN SUCH A WAY THAT MACHINING CAN BE DONE IN THE SPECIFIED DIMENSION SHOWN IN TABULAR COLOUMN.

2. CHAMFER THE SHARP CORNERS TO 1X45°

3. ⊗ INDICATES THE SURFACES WHICH ARE TO BE MACHINED FURTHER

4. FORGING SHALL COMPLY WITH THE REQUIREMENTS OF LATEST APPLICABLE QUALITY WORK INSTRUCTIONS.

5. UT SHALL BE CONDUCTED, DETAILS AS PER THE LATEST APPLICABLE QUALITY WORK INSTRUCTIONS.

REV	DATE	ALTERED	R.P.SINGH
1	08.05.18	CHD & APPD	SSK & KRS

SL. No.30 INCLUDED.

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

365-121

BHARAT HEAVY ELECTRICALS LTD.,

UNIT: HIGH PRESSURE BOILER PLANT.

TIRUCHIRAPALLI-620014.

DRN

R.P.SINGH

SIGN

DATE

20.11.17

NO.OF VAR.

CHD

S.SATHEESKUMAR

20.11.17

APPD

K.RAJASEKARAN

20.11.17

DEPT

VL

SCALE

N T S

WEIGHT (KG).

—

REFERENCE INFORMATION

NO. OF ITEMS

CODE

320

TITLE

BONNET

(PROOF MACHINING DRG)

CARD CODE

U 01

DRAWING NO.

3-V-0000-31121P

REV

01

Size A3

Technical drawing of a mechanical part, likely a flange or bracket, showing a cross-section with a central vertical axis and two horizontal mounting holes. A callout line points to a table of specifications.

BHEL	
SIZE	
RATING	
MATL. MARK	

1. THE EMBOSSED DETAILS SHALL BE AS PER THE DRAWING.
2. FOR ALL OTHER DETAILS REFER THE BASIC DRAWING No. LISTED IN THE TABULATION.

REV 02	DATE 18.05.18	ALTERED CHD & APPD	JALAL KRS	REV 01	DATE 13.04.18	ALTERED CHD & APPD	R.P.SINGH SSK & KRS
SL.No. 14 & 15 INCLUDED				SL.No. 4 TO 13 INCLUDED			

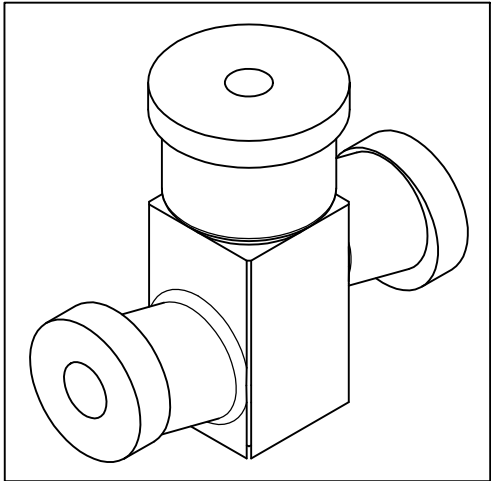
Size A3

3-V-U872-31203P

DRAWING NO.

12.5

SL. No.	DRAWING No.	MATL. CODE	BASIC DRAWING No.	BASIC MATL. CODE	MATL. SPECN.		*PUNCHING DETAILS		
							SIZE	RATING	MATL. MARK
01	3-V-U872-31203P	921539620005	3-V-R679-31077P	921539620000	SA182-F92,NT	ATTEST	6	3500SPL	F92
02	3-V-U874-31203P	921537670005	3-V-R677-31078P	921537670000	SA182-F92,NT		3	3500SPL	F92



NOTES:-

01. CHAMFER THE SHARP CORNERS TO 5x45°

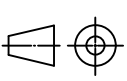
02. ⊗ INDICATES THE SURFACES WHICH ARE TO BE MACHINED FURTHER.

03. FORGING SHALL BE COMPLY WITH REQUIREMENTS OF THE LATEST APPLICABLE QUALITY WORK INSTRUCTIONS.

04. UT AND MPI SHALL BE CONDUCTED, DETAILS AS PER THE LATEST APPLICABLE QUALITY WORK INSTRUCTION

05. THE IDENTIFICATION MARKS AND SPECIFCATION NOS. SHALL BE IN RAISED LETTERS.

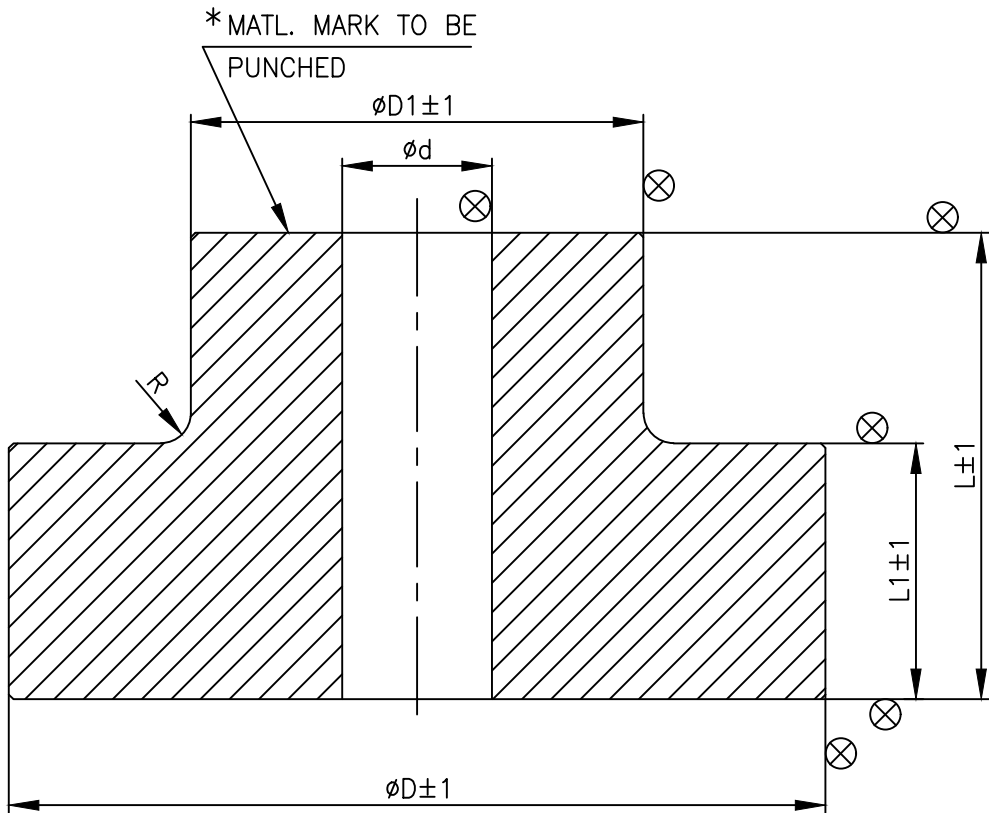
06. TOP FOUR CORNERS AND BOTTOM FOUR CORNERS OF SQUARE TO BE CHAMFERED AS SHOWN IN ISOMETRIC VIEW.

NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT										
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI-620014.						DRN	R.P.SINGH	SIGN	DATE	NO.OF VAR.
						CHD	S.SATHEES		28.03.18	
						APPD	K.RAJASEKARAN		28.03.18	
DEPT	VL			SCALE	WEIGHT (KG).	REFERENCE INFORMATION			NO. OF ITEMS	
CODE	320			N T S						
TITLE					CARD CODE	DRAWING NO.			REV	
BODY FORGING					U 01	3-V-0000-31203P				

REV	DATE	ALTERED
		CHD & APPD

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DRAWING NO 3-V-0000-31204P													
SL. No.	DRAWING No.	MATL. SPECN.	ATTEST	MATL. CODE	SIZE / RATING	MATL. MARK	WT. (kg)	ØD	ØD1	Ød	L	L1	R
1	3-V-U821-31204P	SA105, NR		921521210005	12 / 2500 GV	SA105	121.65	346	171	56	253	145	10
2	3-V-U822-31204P	SA105, NR		921521250005	18 / 2500 GV	SA105	298.33	476	238	84	338	186	20
3	3-V-U823-31204P	SA105, NR		921539800005	5 / 1500 GV	SA105	22.81	181	98	29	245	67	25
4	3-V-U826-31204P	SA 105, NR		921521230005	16 / 2500 GV	SA105	201.73	406	206	74	312	173	20
5	3-V-U827-31204P	SA105, NR		921532920005	22 / 2750 GV	SA105	548.3	538	286	94	450	270	30
6	3-V-U828-31204P	SA182 F92, NT		921538950005	8 / 3500 GV	SA182 F92	70.19	232	141	35	420	120	20
7	3-V-U829-31204P	SA182 F92, NT		921539010005	22 / 3500 GV	SA182 F92	712.9	538	320	90	720	270	30
8	3-V-U830-31204P	SA182 F92, NT		921537380005	3 / 3500 GV	SA182 F92	11.44	130	93	27	280	84	15
9	3-V-U834-31204P	SA 105, NR		921505010005	8 / 2750 GV	SA 105	56.66	266	130	44	390	90	25
10	3-V-U837-31204P	SA 105, NR		922040010005	4 / 1500 GV	SA 105	15.99	151	88	27	230	65	15
11	3-V-U838-31204P	SA 105, NR		921534210005	14 / 1500 GV	SA 105	133.88	378	173	56	241	135	10
12	3-V-U839-31204P	SA 105, NR		922040020005	3 / 1500 GV	SA 105	12.33	136	83	23	214	55	15
13	3-V-U840-31204P	SA 105, NR		922040030005	6 / 900 GV	SA 105	33.93	198	130	30	217	91	10
14	3-V-U825-31204P	SA 105, NR		922040040005	10 / 2750 GV	SA 105	79.69	283	128	49	350	126	10
15	3-V-U841-31204P	SA 105, NR		922040008005	8 / 900SPL GV	SA 105	50	241	128	35	288	89	10
16	3-V-U842-31204P	SA182 F22CL3,NT		922040090005	8 / 900SPL GV	SA 182 F22 CL3	40	241	128	35	167	89	10

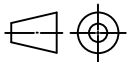


NOTES:

- FORGING SHALL BE MADE IN SUCH A WAY THAT MACHINING CAN BE DONE IN THE SPECIFIED DIMENSION SHOWN IN TABULAR COLOUMN.
- CHAMFER THE SHARP CORNERS TO 1X45°
- ⊗ INDICATES THE SURFACES WHICH ARE TO BE MACHINED FURTHER
- FORGING SHALL COMPLY WITH THE REQUIREMENTS OF LATEST APPLICABLE QUALITY WORK INSTRUCTIONS.
- UT SHALL BE CONDUCTED, DETAILS AS PER THE LATEST APPLICABLE QUALITY WORK INSTRUCTIONS.

REV	DATE	ALTERED	R.P.SINGH
01	29.05.18	CHD & APPD	SSK & KRS
SL.No. 4 TO 16 INCLUDED			

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.

NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT									
		BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI-620014.			DRN	NAME R.P.SINGH	SIGN	DATE 28.03.18	NO.OF VAR.
365-121					CHD	S.SATHEES KUMAR		28.03.18	
					APPD	K.RAJASEKARAN		28.03.18	
DEPT VL			SCALE N T S	WEIGHT (KG).	REFERENCE INFORMATION				NO. OF ITEMS
CODE 320									
TITLE BONNET FORGING						CARD CODE U 01	DRAWING NO. 3-V-0000-31204P		REV 01

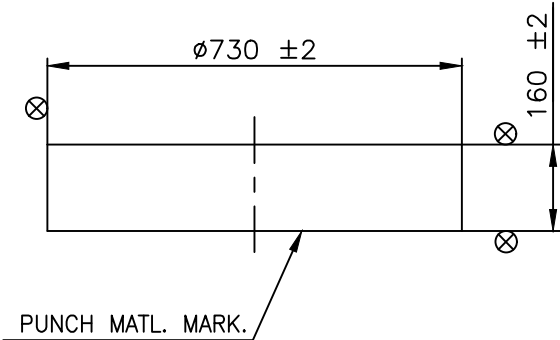
CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

FOR TOLERANCES OF UNTOLERANCED DIMENSIONS

ALL DIMENSIONS ARE IN MILLIMETRES.
DURING MANUFACTURE REFER RELEVANT QCP/QP

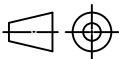
REV	DATE	ALTERED	R.P.SINGH
01	20.04.18	CHD & APPD	SSK & KRS
SL. NO. 02 INCLUDED			

12.5 / 



NOTE

- 01. FORGING SHALL BE MADE IN SUCH A WAY THAT MACHINING CAN BE DONE IN THE SPECIFIED DIMENSION.
- 02. CHAMFER THE SHARP CORNERS TO 1 X 45°
- 03. ⊗ INDICATES THE SURFACES WHICH ARE TO BE MACHINED FURTHER.
- 04. FORGING SHALL COMPLY WITH THE REQUIREMENTS OF LATEST APPLICABLE QUALITY PROCEDURE.

02	PROOF MACHINED FORGING	92 203 559	SA182 F92 ATTEST	NORMALISED & TEMPERED	—	—	—	4-V-3397-26712P	013	
01	PROOF MACHINED FORGING	92 201 681	SA182 F91 ATTEST	NORMALISED & TEMPERED	—	—	—	4-V-3244-26712P	013	
NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No	
 BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122					DRN	NAME A.S.PANDY	SIGN	DATE 18.08.07	NO.OF VAR	
					CHD	M.SRINIVASAN		18.08.07		
					APPD	P.BOOMINATHAN		18.08.07		
DEPT VL	/		SCALE	WEIGHT (KG).	REFERENCE INFORMATIONS				NO. OF ITEMS	
CODE 320			NTS	525.9						
TITLE					CARD CODE	DRAWING NO.				REV
BONNET					U 01	4-V-0000-26712P				01