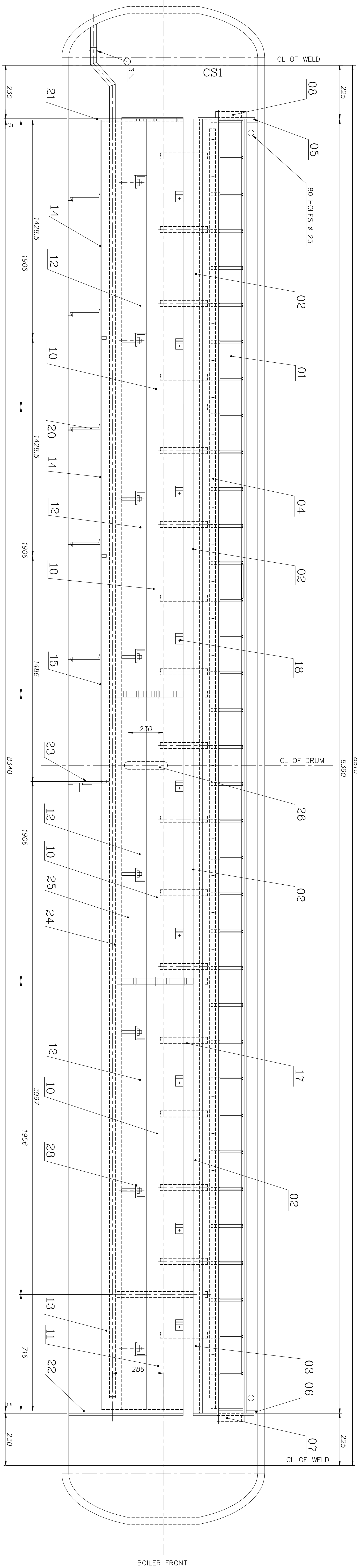


VIEW-P

ASSEMBLY NOTES FOR STEAM SEPARATOR BOX

01. INSTALL THE CORRUGATED SHEET BASKET ASSY. (ITEM No.01) INITIALLY THROUGH THE ENDS OF DRY BOX.
02. COMPLETE THE ASSY. OF PANELS (ITEM No.02 & 03) IN THE ABOVE ZONE.
03. ASSEMBLE END PLATES (ITEM No.05 & 06) ENSURE THAT ITEM No.01 CAN BE REMOVED THROUGH END PLATES.
04. WELD PANELS TO DRUM ON WELDED ATTACHMENTS.
05. INSTALL WELD PANEL FLANGES.
06. SEAL ALL THE PIECES OF ITEM No.01, INSTALL ANGLE (ITEM No.04) AND BOLT IT THIGHTLY IN PLACE, CONNECTING ALL PIECES OF ITEM No.01. THIS WILL PREVENT BY-PASS & ALSO ACT AS ADDITIONAL SUPPORT.
07. THE END PLATE (ITEM No.07 & 08) ARE BOLTED IN PLACE TO ASSURE TIGHTNESS OF CORRUGATED SHEET BASKET.
08. ITEM No.09 IS TO BE FORCED TOGETHER AGAINST END SECTIONS (ITEM No.01) AND BOLTED TO END PLATE.
09. DO NOT WELD FLANGES OF ITEM No.05 TO 08 OR 06 TO 07. THIS IS FOR THE REMOVAL OF ITEM No.01 THROUGH THE ENDS WHEN REQUIRED.
10. DRAIN HOLES OF DIA 5 MM. ARE DRILLED ONE AT EACH END OF THE PANELS AND DRY BOX (INDICATED IN CROSS SECTIONAL VIEW).

GENERAL NOTES

11. CHECK ASSY OF DRAW INTERVALS TO BE DONE AFTER TUBE HOLE DRILLING AND THEN DESPATCHED TO SITE.
12. ALL SITE WELDS SHOWN IN THIS ASSEMBLY ARE TO BE TACK WELDED IN SHOP.
13. THE ASSEMBLY IS TO BE REMOVED AT SITE BEFORE TUBE EXPANSION IN THE ITEM NOs. 21, 22 & 23 HOLES OF Ø14 ARE TO BE MARKED IN POSITION
14. IN ITEM NOs. 21, 22 & 23 HOLES OF Ø14 ARE TO BE MARKED IN POSITION
15. ITEM NO. 24 HAS 100 MM EXTRA LENGTH IN THE WELDED END. LUGS WELDED TO ABOVE PIPE SHOULD BE MATCHED WITH SUPPORTING LUGS AND EXTRA LENGTH TO BE CUT OFF DURING SHOP ASSEMBLY.
16. WHERE SECTION-BB, SECTION-CC & SECTION-DD REFER DRG No. 2-04-114-08043 FOR SECTION-DB, SECTION-CC & SECTION-DD REFER DRG No. 2-04-114-08043

REF. DRGS:

S/L NO	TITLE	DWG. NO
01	NOZZLE & ATTACHMENTS FOR UPPER DRUM	0-04-114-UB014
02	UPPER DRUM WELDED ATTACHMENTS	0-04-114-UB014
03	TUBE HOLE DRILLING DETAIL FOR UPPER DRUM	0-04-114-UB016

DETAIL-R

FEED CONNECTION DETAIL

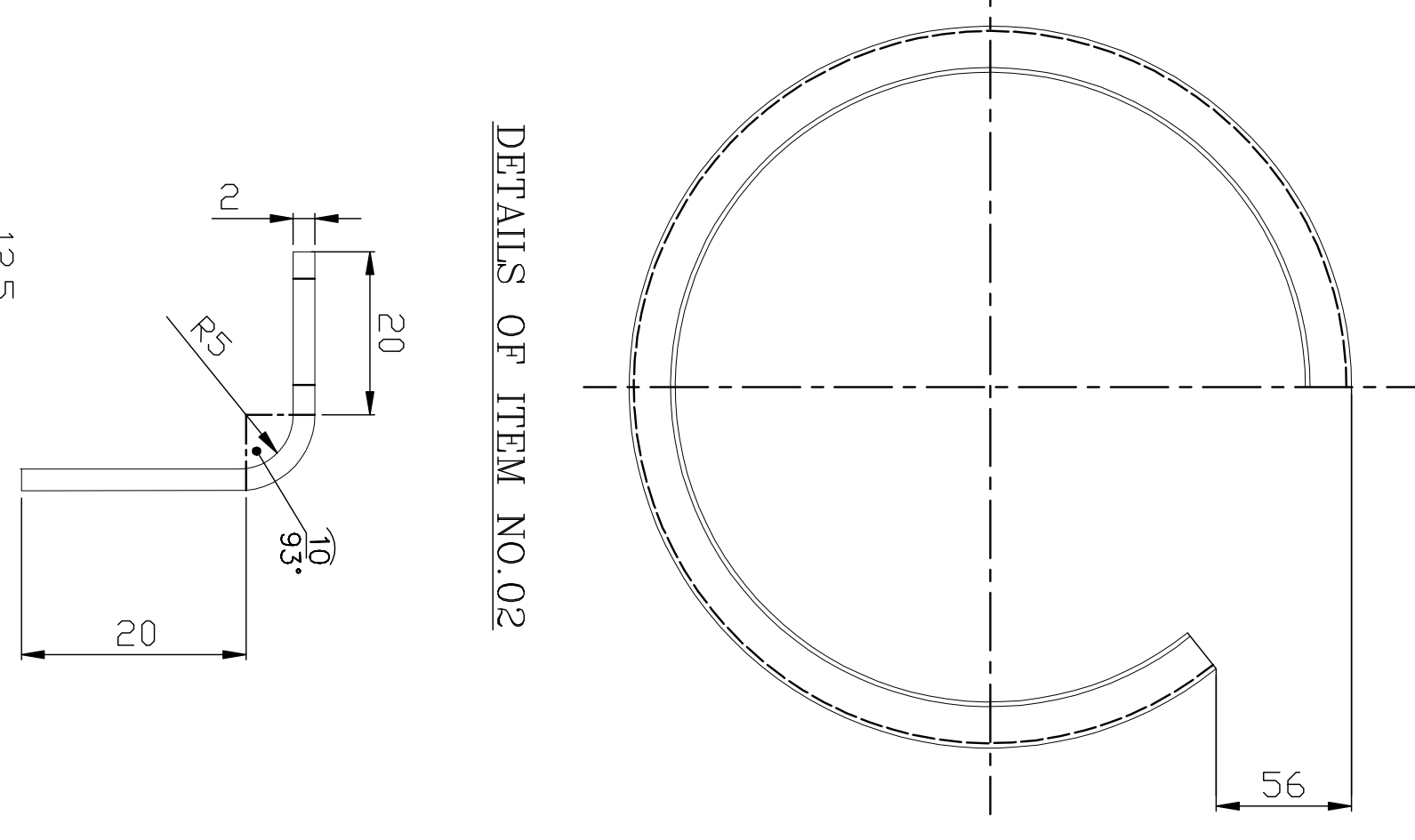
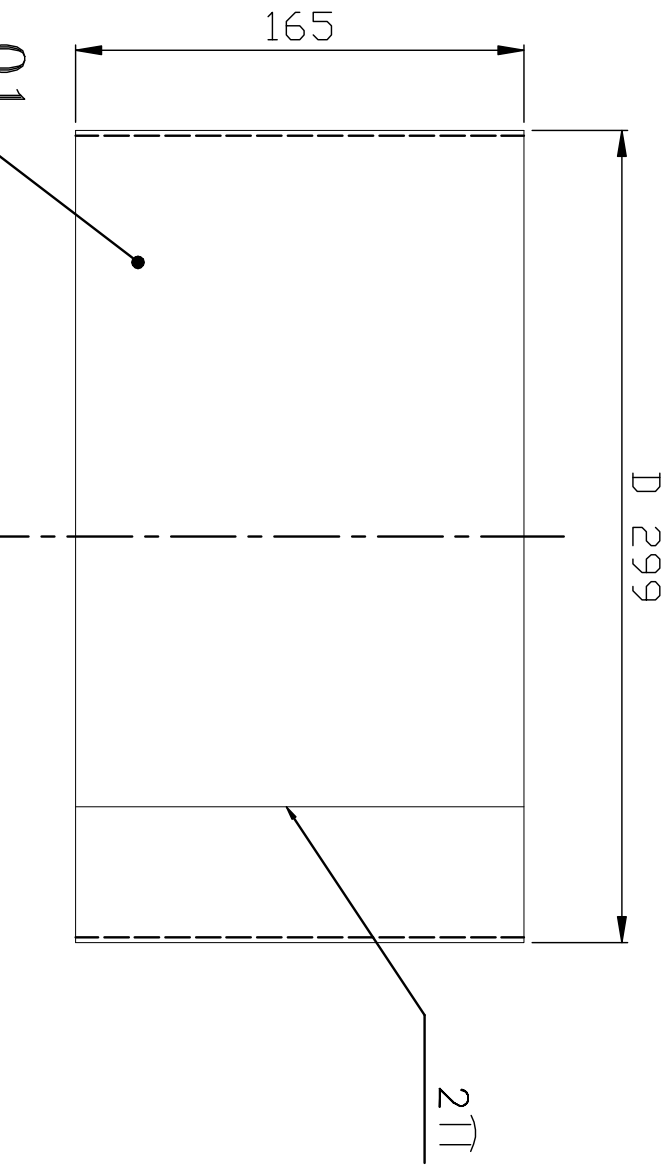
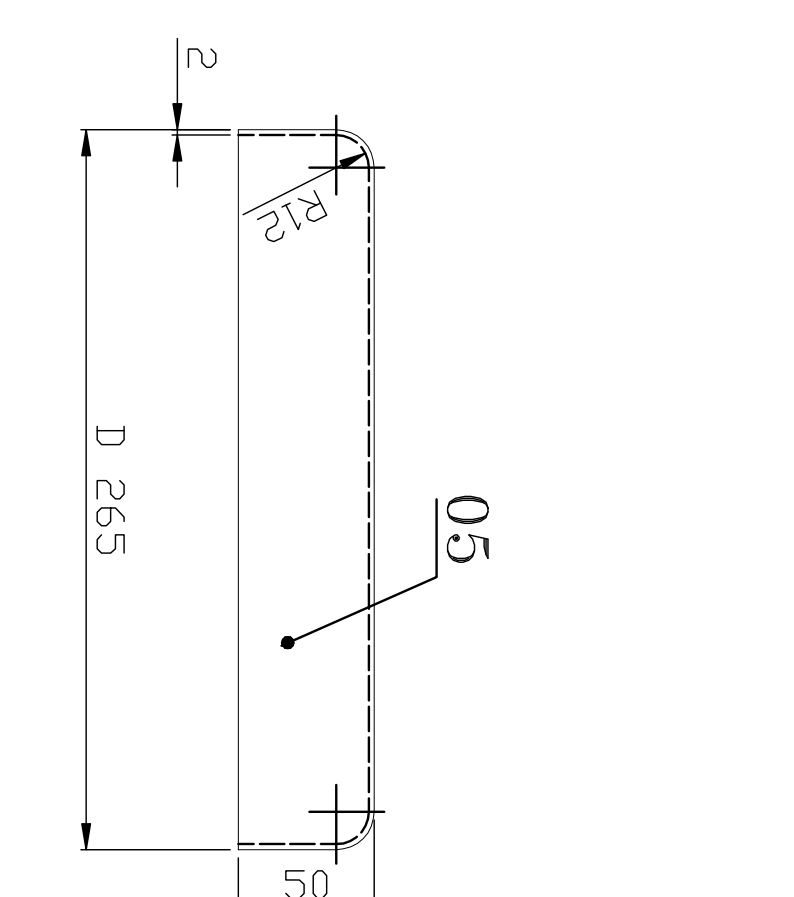
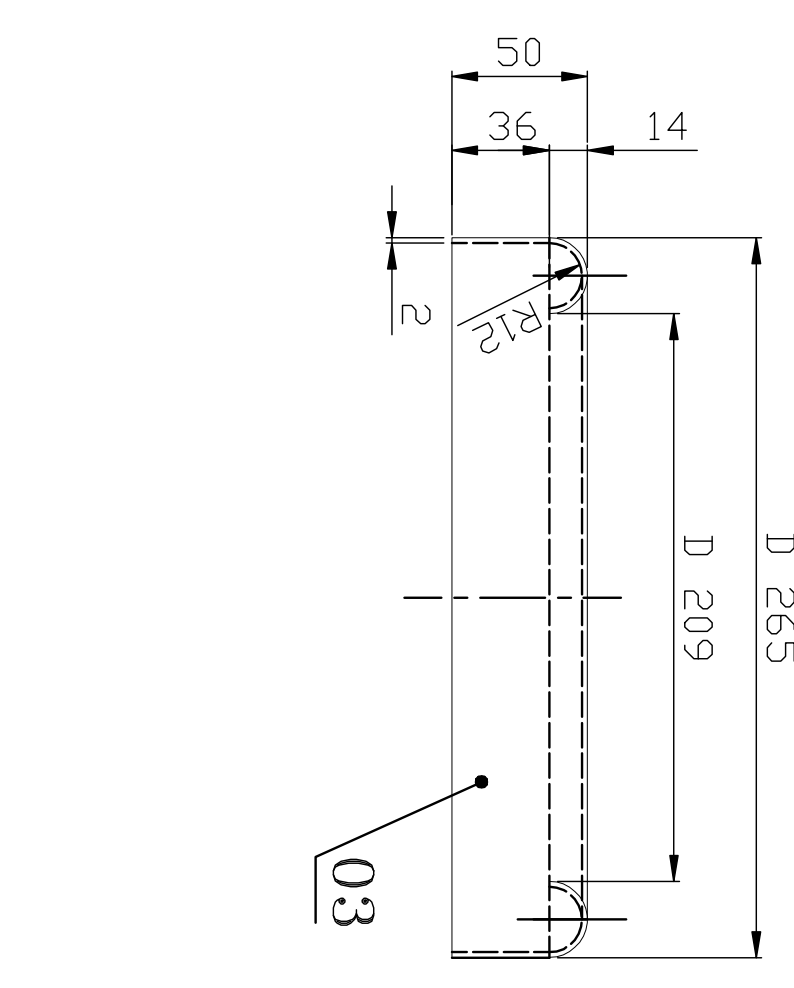
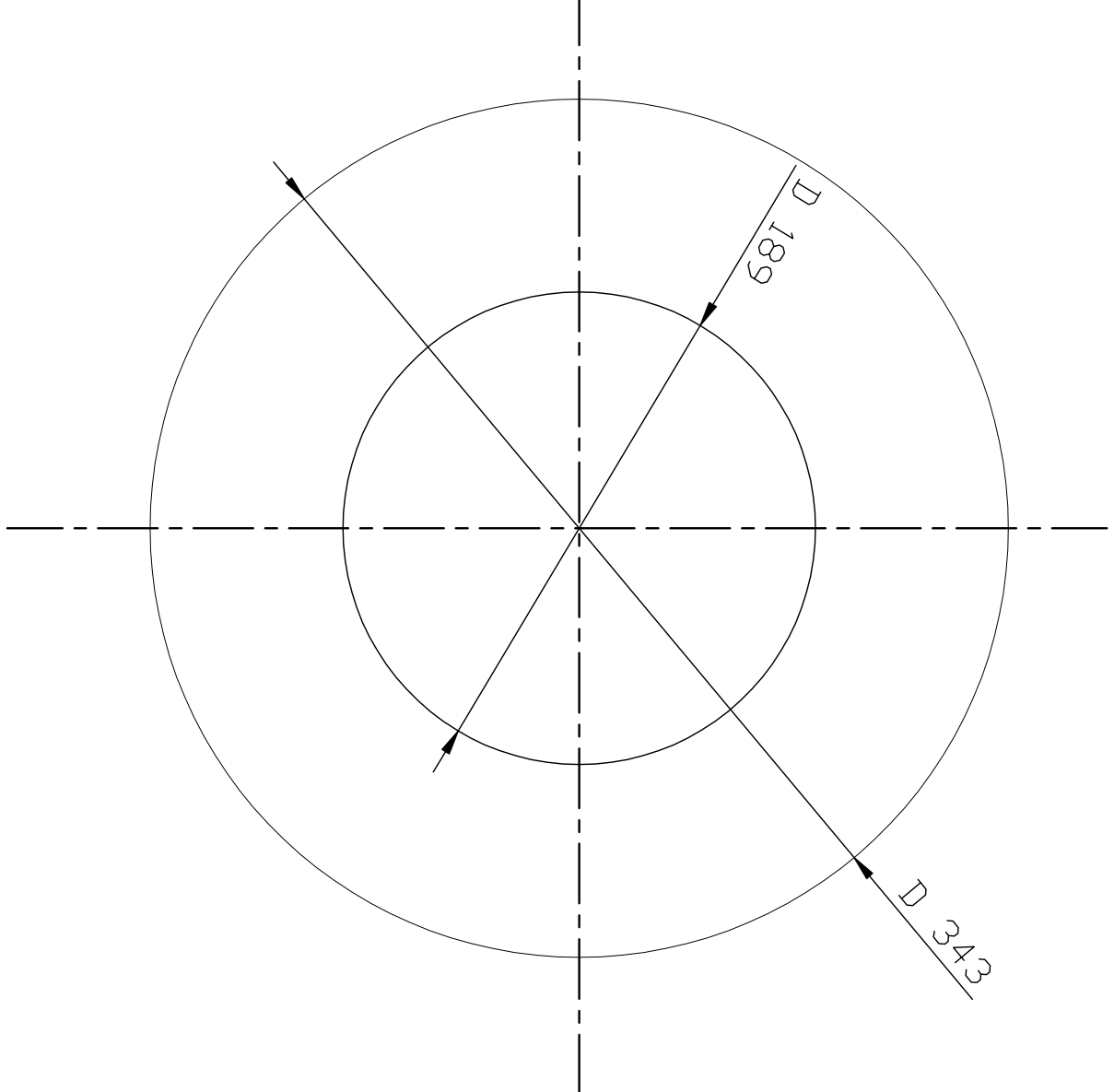
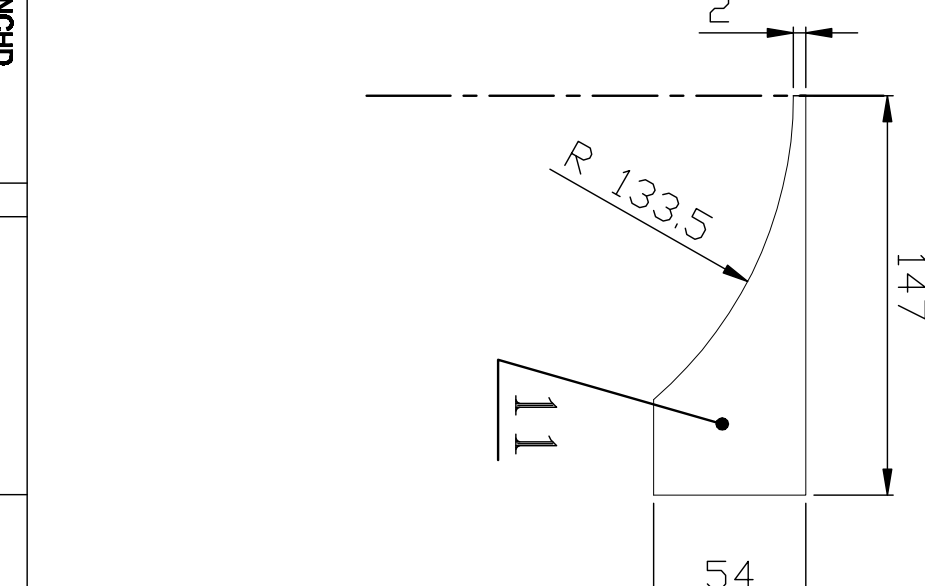
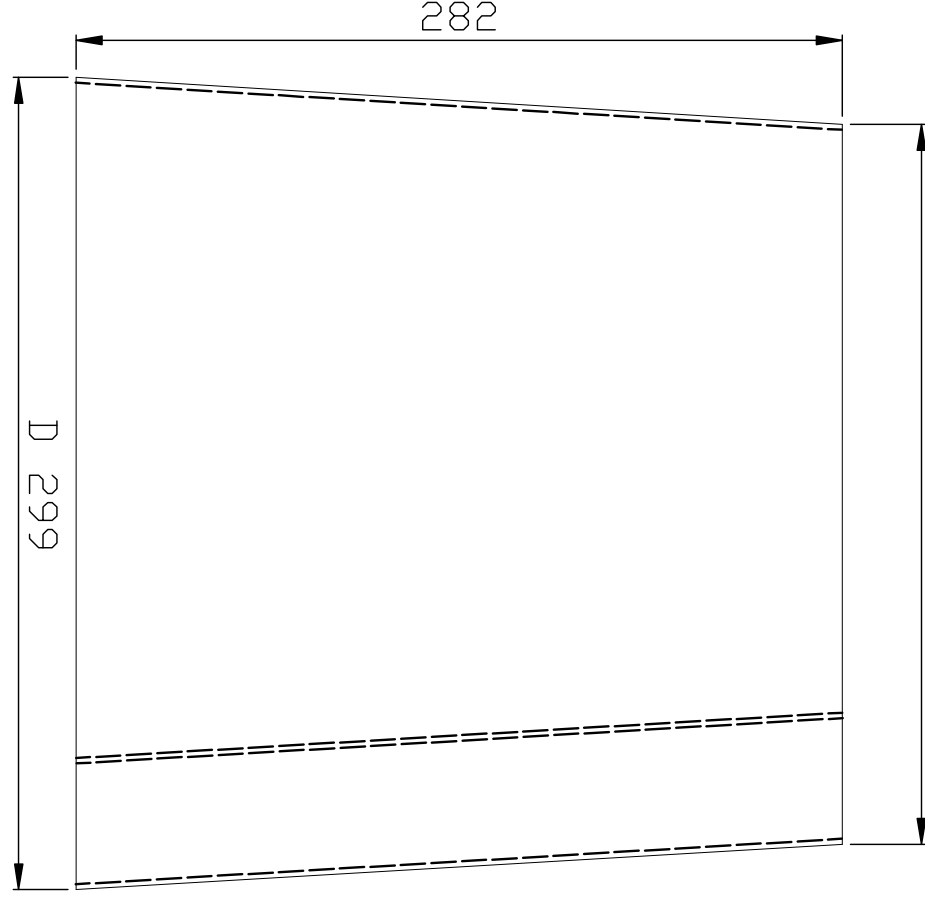
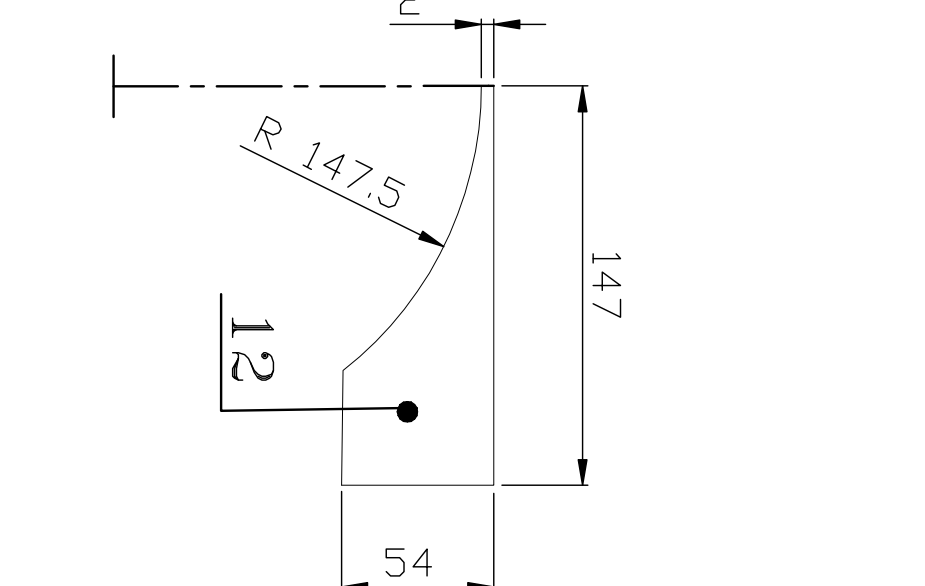
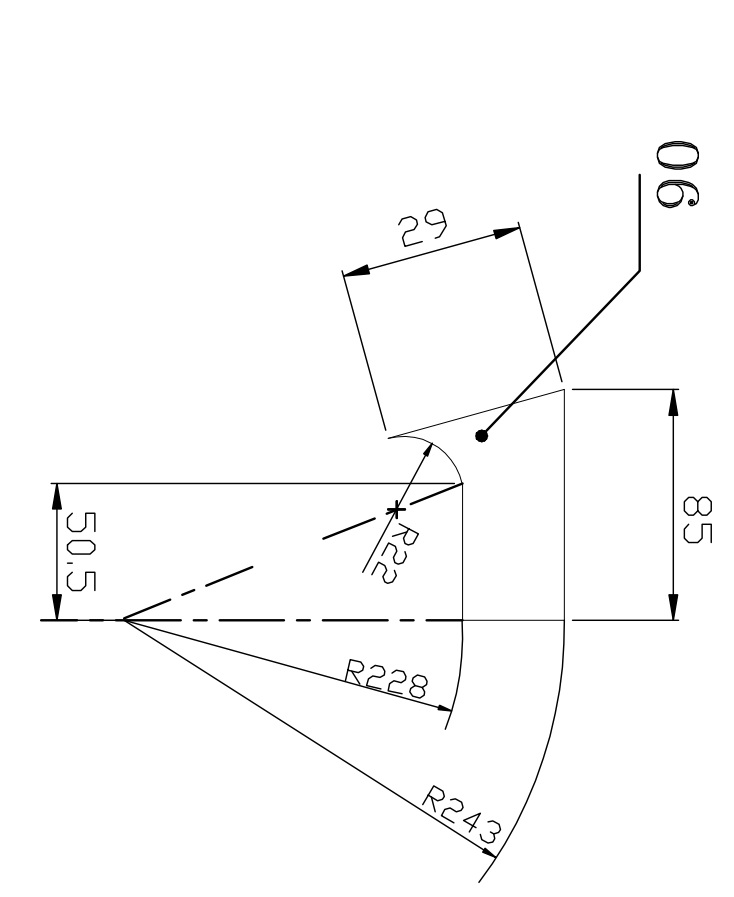
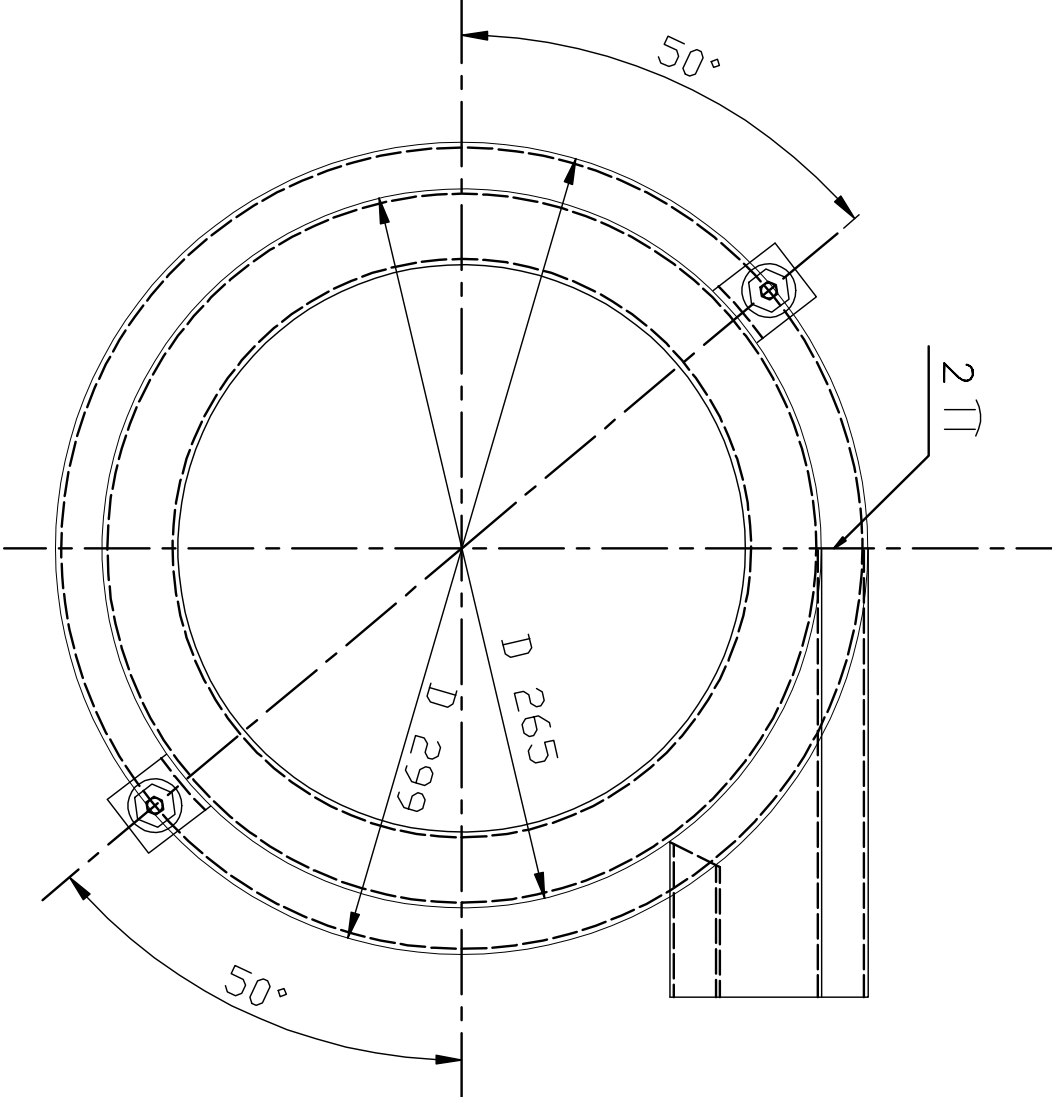
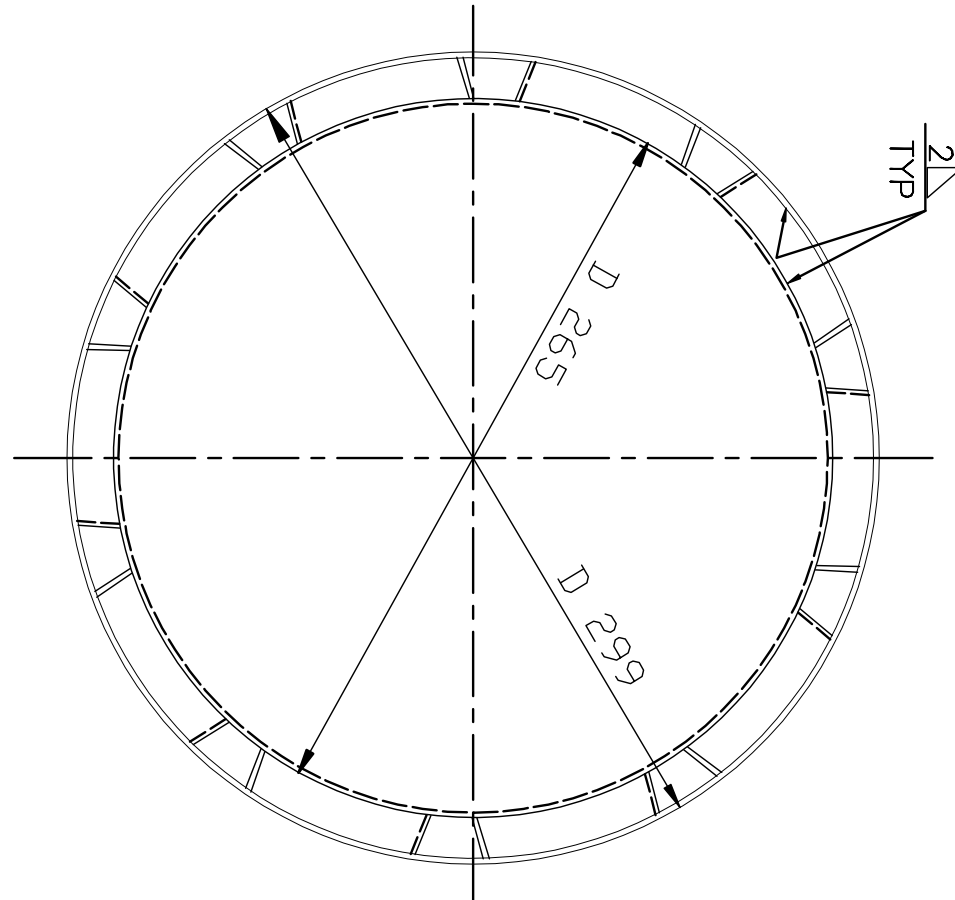
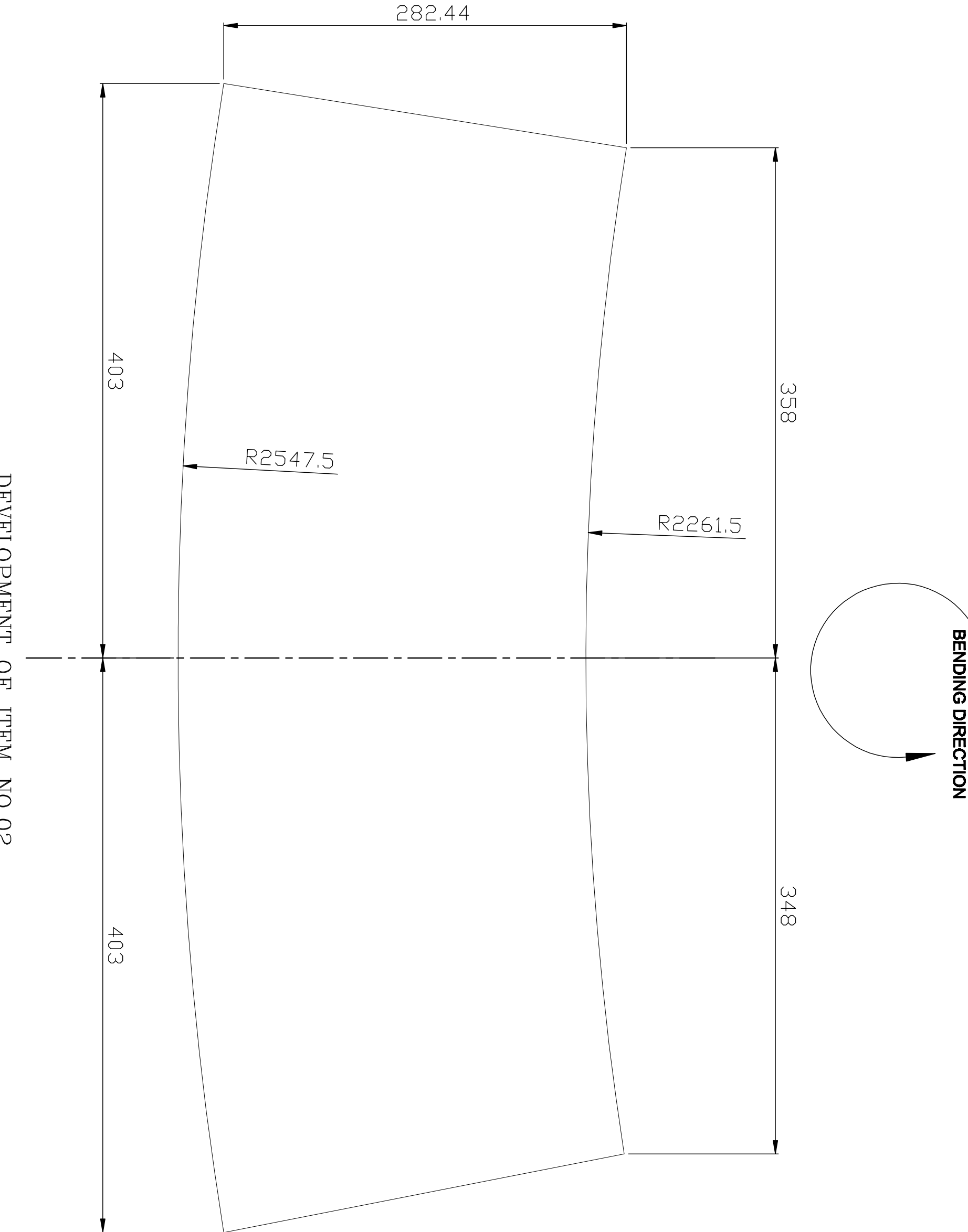
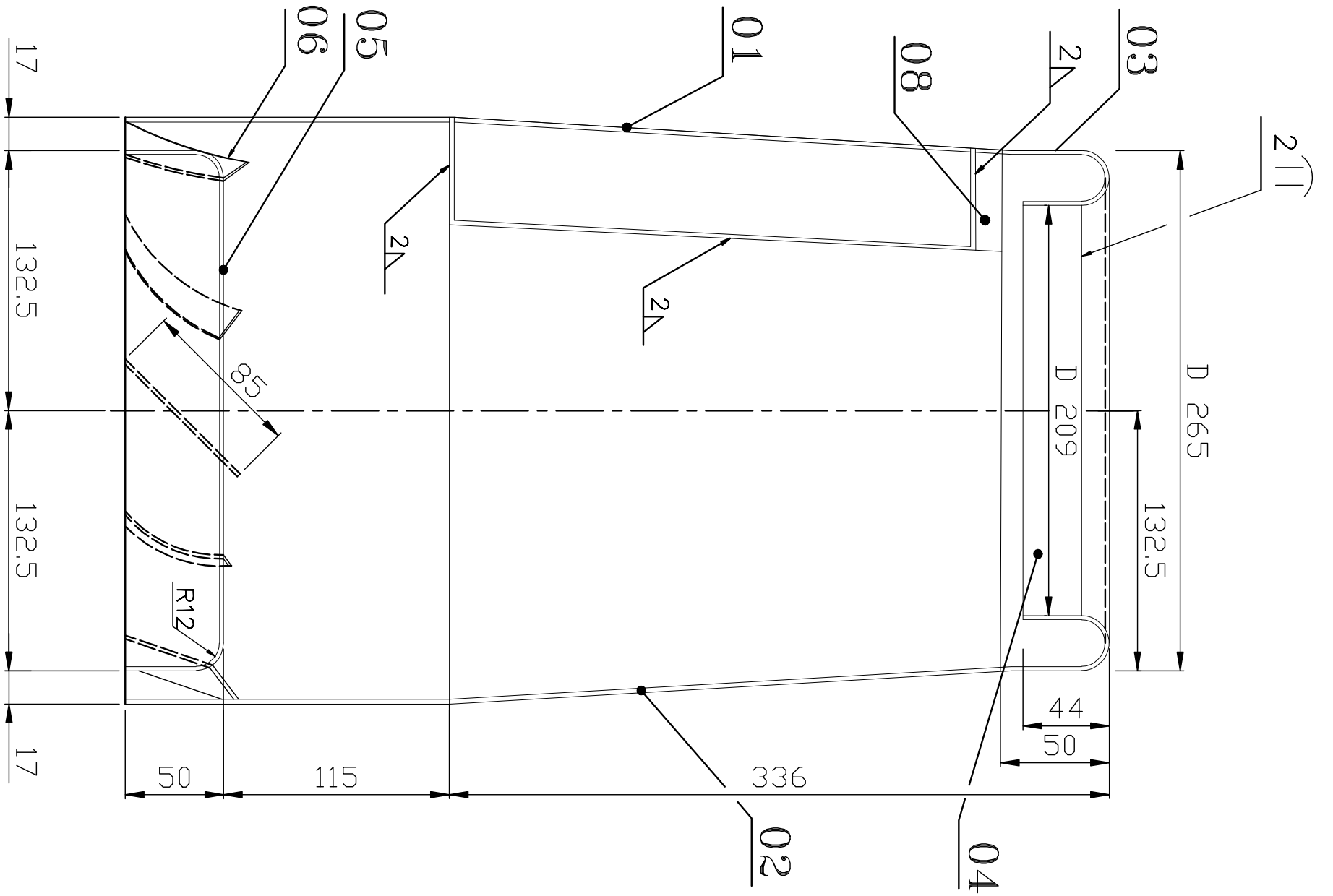
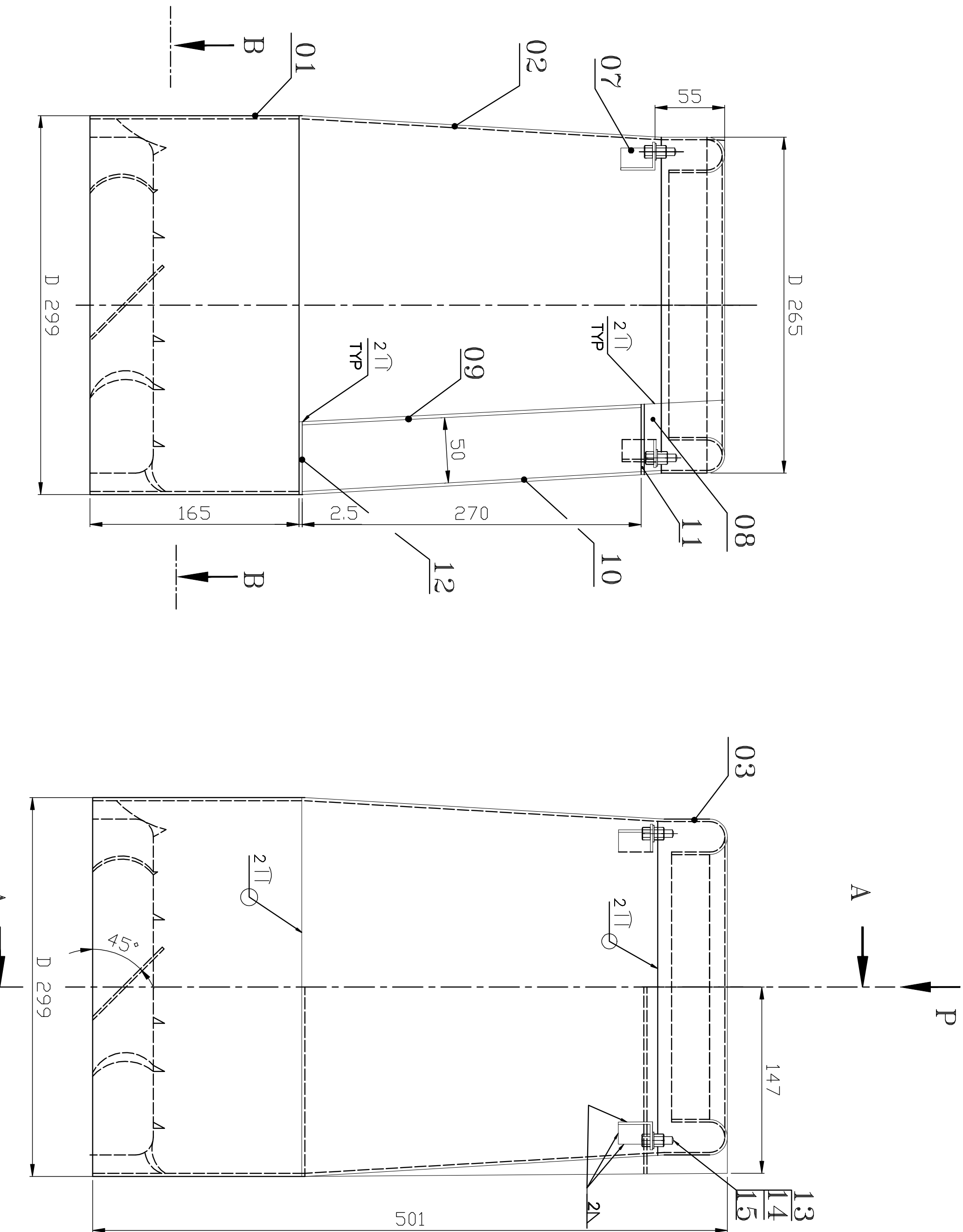
SECTION-YY

REV	DATE	ALTERED :	REV	DATE	ALTERED :
02		CHD & APPD:	01		CHD & APPD :
ZONE			ZONE		

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TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT			
Bharat Heavy Electricals Ltd UNIT - HEAVY PLATES & VESSELS PLANT VISKAHAPATNAM - 530012			
DEPT TITLE	ALT DIMENSIONS ARE IN MM	PROJECTION 	SCALE N.T.S.
CODE 320			WEIGHT (KGS) 1198.436
		DATE	NAME
		22.07.2017	K.H. THOMAS
		22.07.2017	MWP/SGR
		22.07.2017	Y.P. KUMAR
DRAWING NO : 0-04-114-U8015		REV 00	

[illegible]



15	WASHER P/NO A6					4168 2006A			0.002
14	NUT HEX GR C M8					IS 2017A			4
13	SCREW HEX GR C M6 X25					IS 1904 C			0.005
12	DRIVER NUT BOTTOM SH 22 X 14 X H 4					B 1080 P3 CL 4			2
11	DRIVER INLET TOP SH 22 X 14 X H 4					4122082025			0.014
10	SH 2.5 X 16.5 X 2.0					IS 1980 P3 CL 6			2
09	NUT F PLATE 377 SH 25 X 14 X H 4					IS 1070 D			0.100
08	FLAT GRIP SH 2 X 10 X 130					IS 1070 B			1
07	CLIP SH 2 X 80					IS 1070 D			0.100
06	DRIVE PLATE SH 2 X 43 X 86.5					IS 1070 B			0.000
05	BOTTOM PLATE SH 12 350					IS 1070 D			0.000
04	TOP BAND SH 2 X 28 X 61					IS 1070 D			0.001
03	TOP RING SH 12 310 X 345					IS 1070 D			0.001
02	CORONAL RING SH 2 X 34 X 506					IS 1070 D			1
01	SH 2 X 165 X 381					IS 1070 D			2.600
ITEM NUMBER	DESCRIPTION	STD	DRAWING NUMBER	ITEM NO	WASHER	MATERIAL SPEC	MATERIAL CODE	UNIT	UNIT QTY

INVENTORY NO	SIGN AND DATE	REF. DRG. NO.	COMPUTER FILE NAME
			03810101560.000.R01.DWG

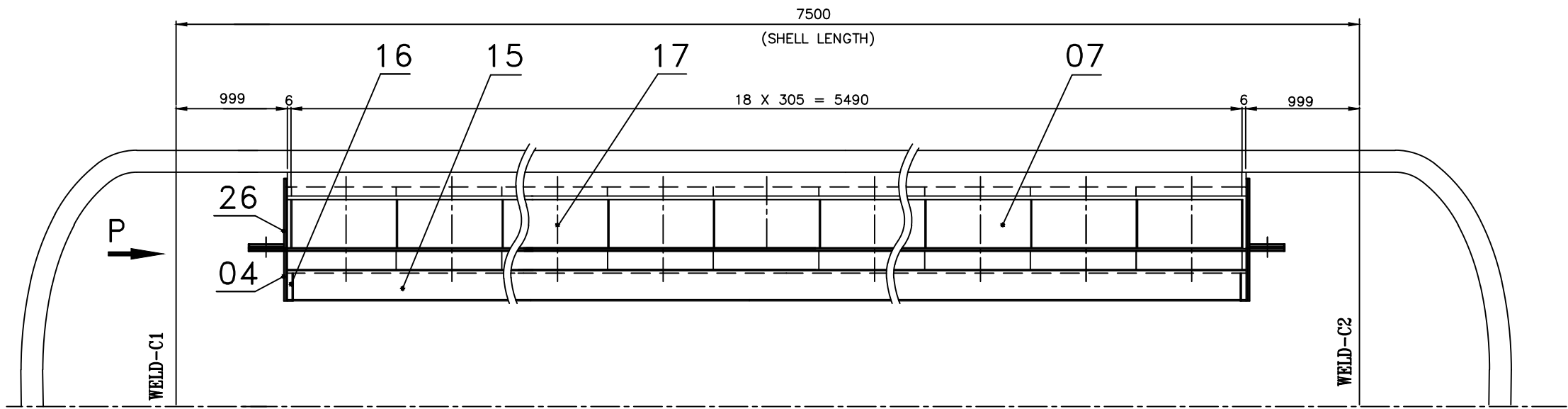
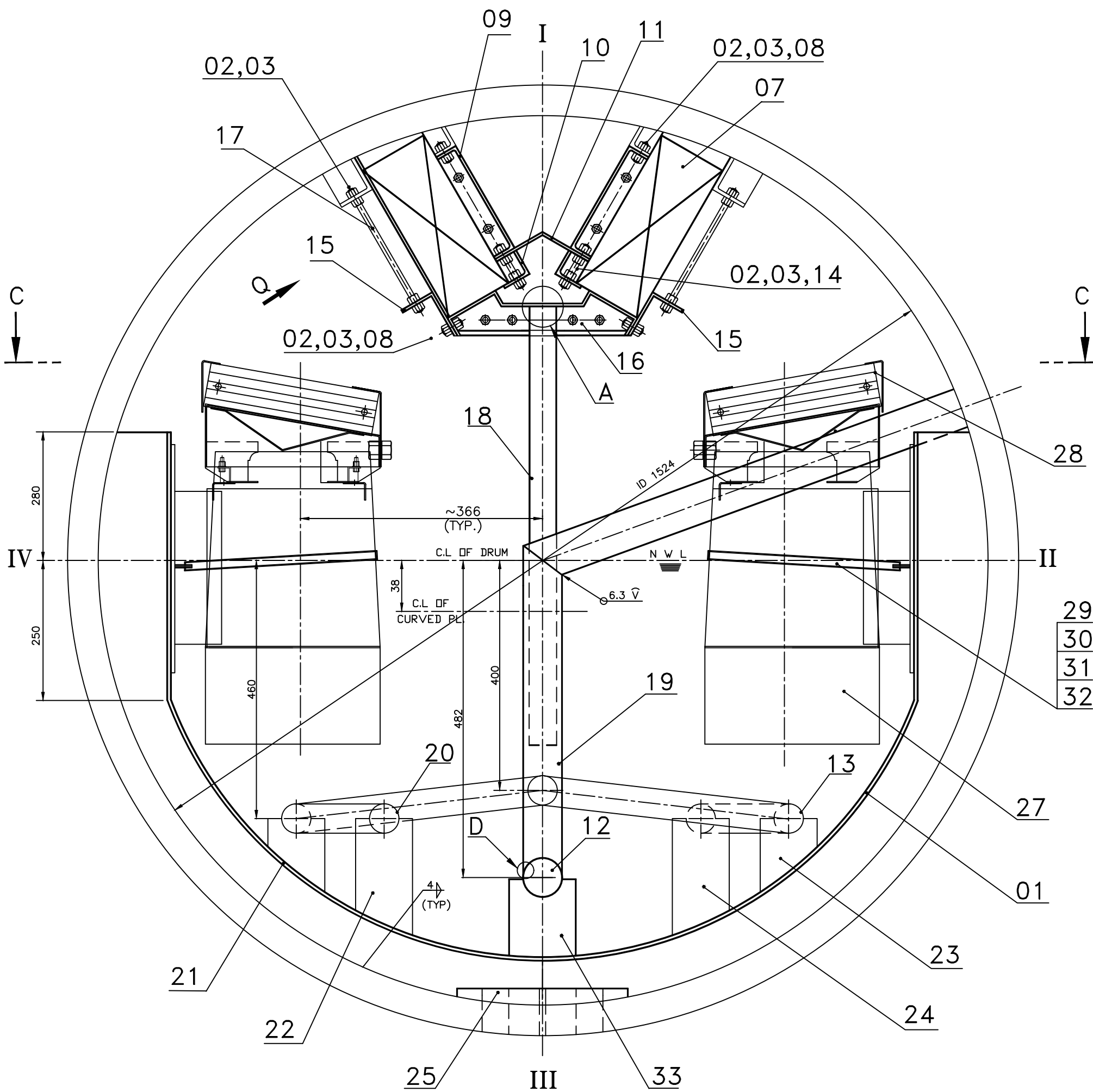
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GENERAL DIMENSIONAL LIMITS, FITS & TOLERANCES AS PER HY0230261

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TYPE OF PRODUCT CENTRAL SEPARATOR	
DATE 16.03.2018	
DRAWING NO. 0-04-116-UB047	
REVISION 00	

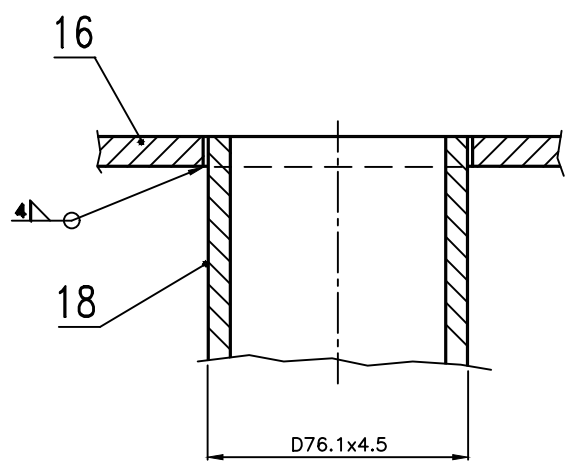
0-04-116-U8051

- NOTES: -
01. USE TWO WASHERS ONE IN BACK OF NUT AND ANOTHER IS IN FRONT OF SCREW HEAD FOR ALL SCREWED CONNECTIONS.
 02. ALL SCREWED CONNECTIONS ARE TO BE TIGHT.
 03. NECESSARY MATCH DRILLS ARE TO BE DONE DURING ASSY.
 04. ITEM No.21, 22, 23, 24, 25 & 33 ARE TO BE PREPARED TO THE PROFILE OF THE DRUM SURFACE/SEPARATING CHAMBER.
 05. ITEM No.25 IS TO BE SIMPLY PLACED IN THE DOWN COMER HOLE. DO NOT WELD.
 06. TWO DRAIN HOLES (D6) SHOULD COME AT THE BOTTOM OF CBD AND PHOSPHATE DOSING PIPINGS DURING ASSY.
 07. ITEM NOS. 02, 03, 08, 14, 17, 29, 30 & 31 ARE SUPPLYING EXTRA QUANTITY FOR CONTINGENCY PURPOSE.

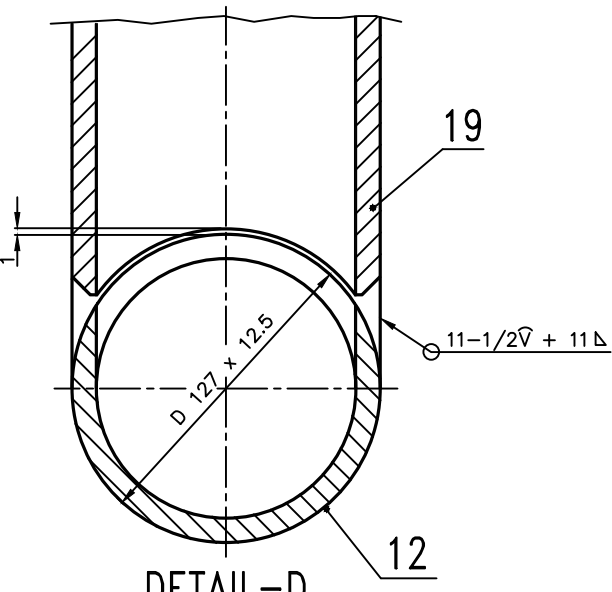


VIEW-Q

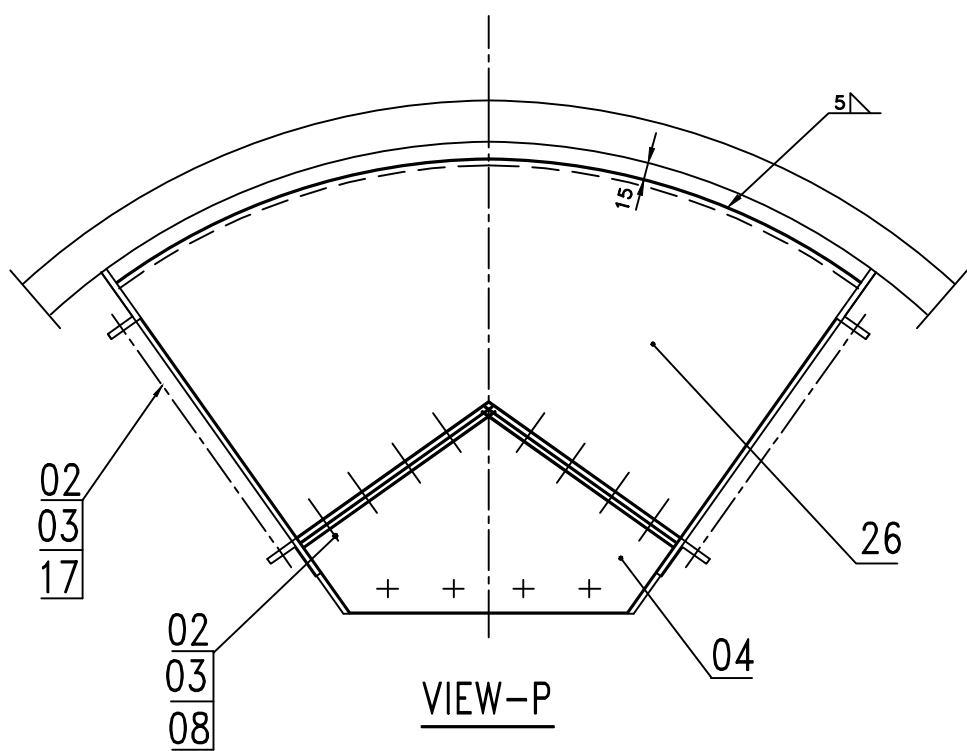
VIEW FROM RIGHT SIDE OF DRUM
(FROM WELD-C2)



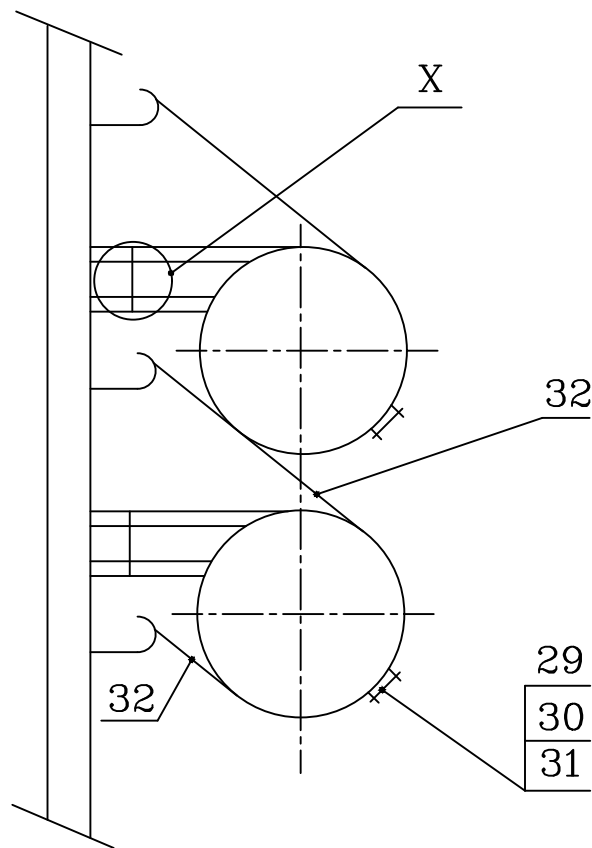
DETAIL-A



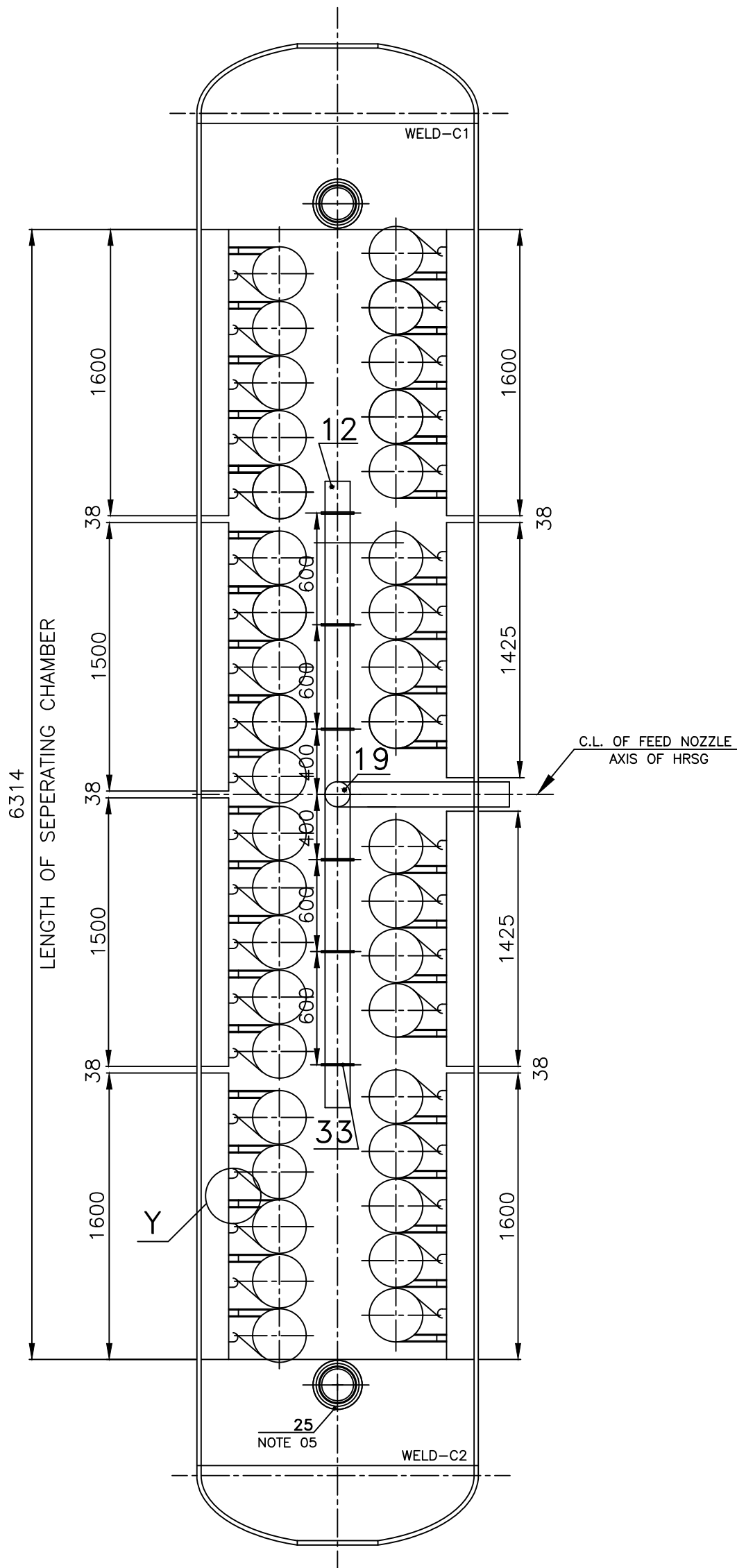
DETAIL-D
WELDING DETAIL OF
ITEM No 19 WITH 12



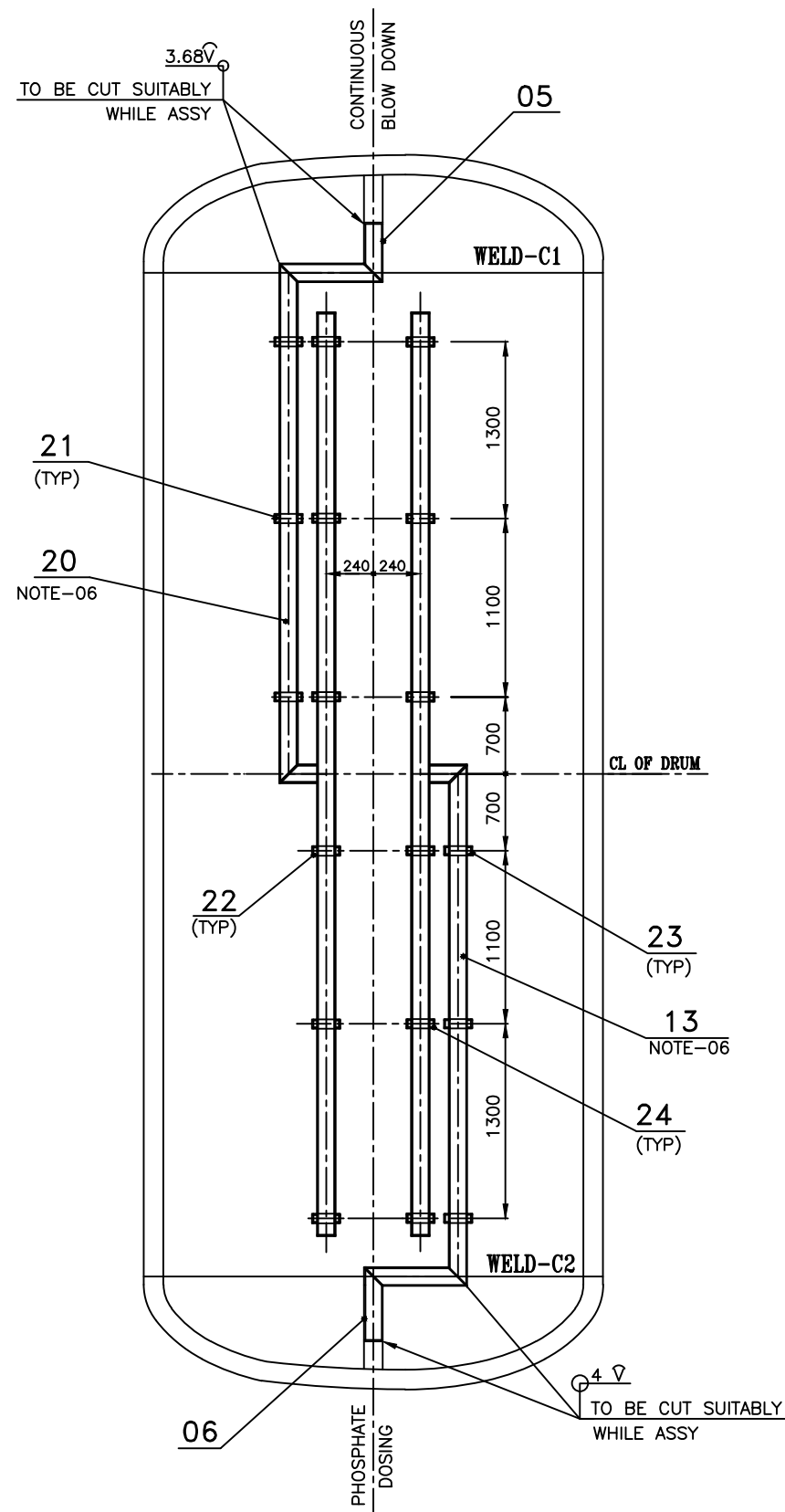
VIEW-P



DETAIL-Y
(DETAIL OF DRYER STRAP CONNECTION)



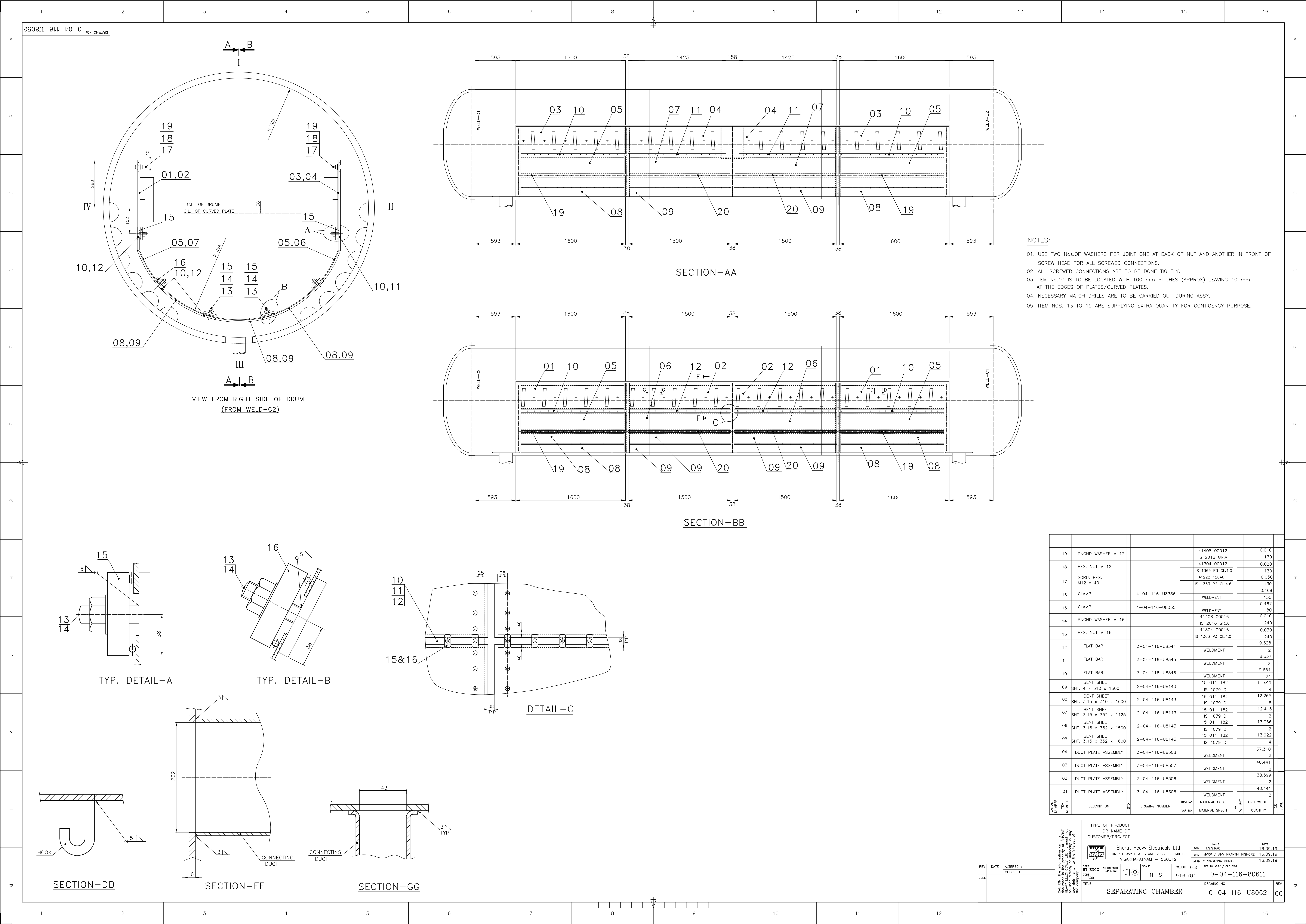
SECTION-CC



SECTION-CC
(DETAIL OF PHOSPHATING & CBD PIPINGS)

VARIANT NUMBER	DESCRIPTION	STD	DRAWING NUMBER	ITEM NO	MATERIAL CODE	UNIT WEIGHT	QUANTITY	ZONE
33	SUPPORT PLATE-5	4-04-116-U8305	15 211 092 IS 2062 FE410A	6	1.657			
32	STRAP	3-04-116-U8348	WELDMENT	76	0.308			
31	HEX HD. SCREW M12 :L =40 Lg.		41222 12125 IS 1363 P2 CL4.6	50	0.093			
30	PNCHD WASHER M 12		41408 00012 IS 2016A	50	0.010			
29	NUT HEX M 12		41304 00012 IS 1363 P3 CL.4	50	0.020			
28	SEPARATOR SCRUBBER BOX ASSY	2-04-116-U8146	WELDMENT	12	12.386			
27	CENTRIFUGAL SEPARATOR (POT)	0-04-116-U8047	WELDMENT	38	11.106			
26	END COVER (TOP)	2-04-116-U8136	WELDMENT	2	7.329			
25	SPIDER PLATE ASSY	2-04-116-U8135	WELDMENT	2	7.890			
24	SUPPORT PLATE-4	4-04-116-U8304	15 211 092 IS 2062 FE410A	4	0.544			
23	SUPPORT PLATE-3	4-04-116-U8303	15 211 092 IS 2062 FE410A	4	0.362			
22	SUPPORT PLATE-2	4-04-116-U8302	15 211 092 IS 2062 FE410A	4	0.544			
21	SUPPORT PLATE-1	4-04-116-U8301	15 211 092 IS 2062 FE410A	2	0.362			
20	C B D HEADER ASSY	2-04-116-U8134	WELDMENT	1	44.360			
19	FEED PIPE	4-04-116-U8300	15 182 183 SA 106 GR B	1	18.986			
18	TUBE D 76.1X4.5 L = 825		15 484 128 SA 192	4	6.983			
17	STUD	4-04-116-U8330	15 039 138 SA 105	40	0.200			
16	BOTTOM PLATE ASSY	3-04-116-U8326	WELDMENT	1	107.000			
15	BENT PLATE	3-04-116-U8324	WELDMENT	2	38.342			
14	STUD	4-04-116-U8329	15 627 503 SA 105	2	0.106			
13	PHOSPHATE DOSING HEADER ASSY	2-04-116-U8133	WELDMENT	1	33.124			
12	FEED HEADER	3-04-116-U8323	WELDMENT	1	135.868			
11	BENT PLATE	3-04-116-U8322	15 011 029 IS 2062 FE410A	1	43.500			
10	BENT PLATE	3-04-116-U8321	15 211 092 IS 2062 FE410A	2	29.500			
09	PERFORATED PLATE ASSY	3-04-116-U8320	WELDMENT	2	47.405			
08	SCRU HEX M12 :L = 30	41222 12030	41222 12030	250	0.041			
07	FINAL SCRUBBER ASSY	2-04-116-U8145	WELDMENT	36	9.997			
06	PHOSPHATE DOSING PIPE	3-04-116-U8347	WELDMENT	1	2.389			
05	C B D PIPE	3-04-116-U8317	WELDMENT	1	4.579			
04	END COVER (BOTTOM)	2-04-116-U8132	WELDMENT	2	4.527			
03	WASHER PNCHD A 12	41408 12000	41408 00012	1150	0.010			
02	NUT HEX GR C M 12	41304 12000	41304 00012	1000	0.020			
01	SEPARATING CHAMBER	0-04-116-U8052	WELDMENT	1	916.704			

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	Bharat Heavy Electricals Ltd	T.S.S.RAO	16.09.2019	-
	UNIT: HEAVY PLATES AND VESSELS LIMITED	M.V.R.PRASAD/ANVKK	16.09.2019	-
	VISAKHAPATNAM - 530012	Y.PRASADNA KUMAR	16.09.2019	-
	DEPT	SCALE	WEIGHT (Kg)	REF TO ASSY / QTY Dwg
	HT. ENGR.	N.T.S	2644.158	0-04-116-80610
	CODE			
	TITLE	CARD CODE	DRAWING NO :	REV
	DRUM INTERNALS		0-04-116-U8051	00



- NOTES:
- 01. USE TWO Nos.OF WASHERS PER JOINT ONE AT BACK OF NUT AND ANOTHER IN FRONT OF SCREW HEAD FOR ALL SCREWED CONNECTIONS.
 - 02. ALL SCREWED CONNECTIONS ARE TO BE DONE TIGHTLY.
 - 03. ITEM No.10 IS TO BE LOCATED WITH 100 mm PITCHES (APPROX) LEAVING 40 mm AT THE EDGES OF PLATES/CURVED PLATES.
 - 04. NECESSARY MATCH DRILLS ARE TO BE CARRIED OUT DURING ASSY.
 - 05. ITEM NOS. 13 TO 19 ARE SUPPLYING EXTRA QUANTITY FOR CONTINGENCY PURPOSE.

ITEM NUMBER	DESCRIPTION	STD	DRAWING NUMBER	ITEM NO VARI NO	MATERIAL CODE	MATERIAL SPECN	UNIT WEIGHT	QUANTITY	ZONE
19	PNCHD WASHER M 12				41408 00012		0.010		
					IS 2016 GRA		130		
18	HEX. NUT M 12				41304 00012		0.020		
					IS 1363 P3 CL.4.0		130		
17	SCRU. HEX. M12 x 40				41222 12040		0.050		
					IS 1363 P2 CL.4.6		130		
16	CLAMP	4-04-116-U8336			WELDMENT		0.469		
							150		
15	CLAMP	4-04-116-U8335			WELDMENT		0.467		
							80		
14	PNCHD WASHER M 16				41408 00016		0.010		
					IS 2016 GRA		240		
13	HEX. NUT M 16				41304 00016		0.030		
					IS 1363 P3 CL.4.0		240		
12	FLAT BAR	3-04-116-U8344					9.328		
					WELDMENT		2		
11	FLAT BAR	3-04-116-U8345					8.537		
					WELDMENT		2		
							9.654		
10	FLAT BAR	3-04-116-U8346					24		
					WELDMENT		24		
09	BENT SHEET SHT. 4 x 310 x 1500	2-04-116-U8143			15 011 182		11.499		
					IS 1079 D		4		
08	BENT SHEET SHT. 3.15 x 310 x 1600	2-04-116-U8143			15 011 182		12.265		
					IS 1079 D		6		
07	BENT SHEET SHT. 3.15 x 352 x 1425	2-04-116-U8143			15 011 182		12.413		
					IS 1079 D		2		
06	BENT SHEET SHT. 3.15 x 352 x 1500	2-04-116-U8143			15 011 182		13.056		
					IS 1079 D		2		
05	BENT SHEET SHT. 3.15 x 352 x 1600	2-04-116-U8143			15 011 182		13.922		
					IS 1079 D		4		
04	DUCT PLATE ASSEMBLY	3-04-116-U8308					37.310		
					WELDMENT		2		
03	DUCT PLATE ASSEMBLY	3-04-116-U8307					40.441		
					WELDMENT		2		
02	DUCT PLATE ASSEMBLY	3-04-116-U8306					38.599		
					WELDMENT		2		
01	DUCT PLATE ASSEMBLY	3-04-116-U8305					40.441		
					WELDMENT		2		

REVISIONS

REV	DATE	ALTERED	CHECKED
1			

APPROVALS

DESIGNED	DATE	CHECKED	DATE

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT

Bharat Heavy Electricals Ltd
UNIT: HEAVY PLATES AND VESSELS LIMITED
VISAKHAPATNAM - 530012

NAME

T.S.S.RAO

DATE

16.09.19

MRP / ANV KRANTH KISHORE

16.09.19

Y.PRASANNA KUMAR

16.09.19

SCALE

N.T.S

WEIGHT (kg)

916.704

REF TO APP / Q.D. NO.

0-04-116-80611

DRAWING NO :

0-04-116-U8052

REV

00

REV	DATE	ALTERED	CHECKED
1			

GENERAL DIMENSIONAL LIMITS, FITS & TOLERANCES AS PER HY0230261

INVENTORY NO	SIGN. AND DATE	REF. DRG. NO.	COMPUTER FILE NAME
			1381010XXX-S00-R00.DWG

[illegible]

TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT



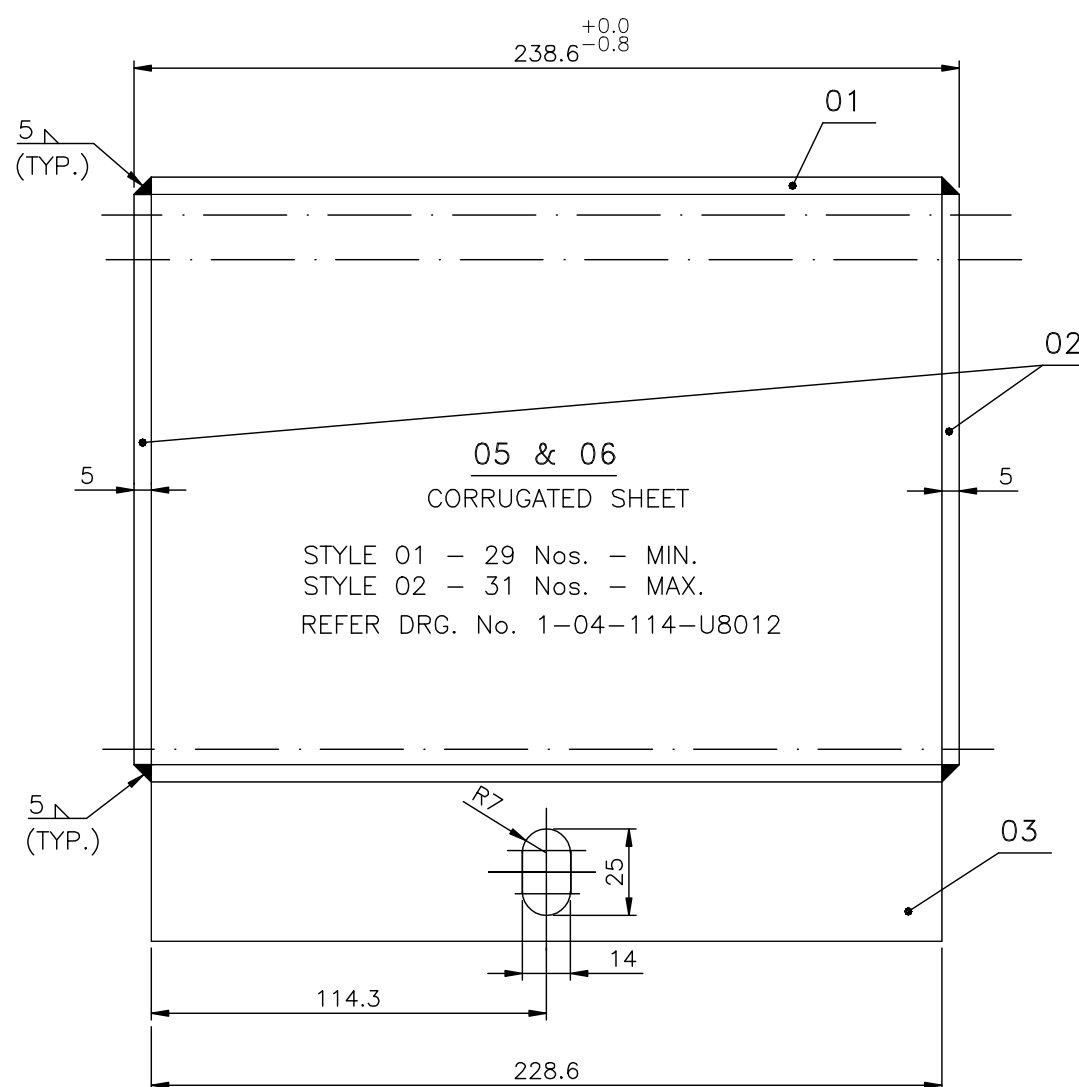
Bharat Heavy Electricals Ltd
UNIT: HEAVY PLATES & VESSELS PLANT
VISAKHAPATNAM - 530012

	NAME	DATE
DRN	K.H.THOMAS	24.07.2017
CHD	MVRP/GGR	24.07.2017
APPD	Y.P.KUMAR	24.07.2017

REV 02	DATE	ALTERED :	REV 01	DATE	ALTERED :
		CHD & APPD:			CHD & APPD :
ZONE			ZONE		

CORRUGATED SHEET

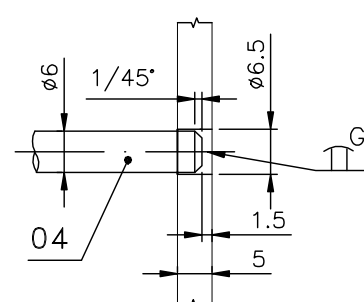
DRAWING NO :	REV
1-04-114-U8012	00



5Δ - E 6013 - 1m

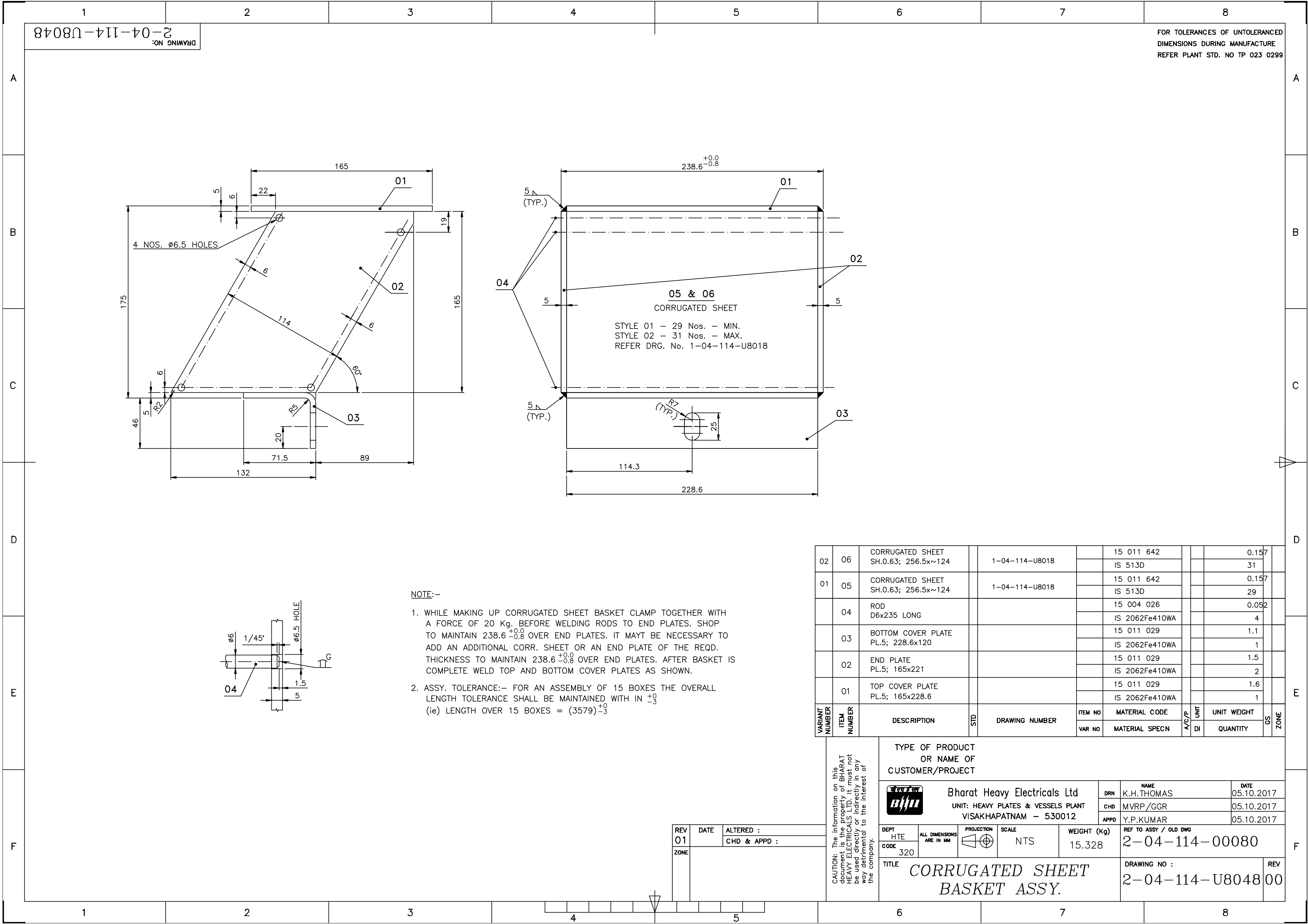
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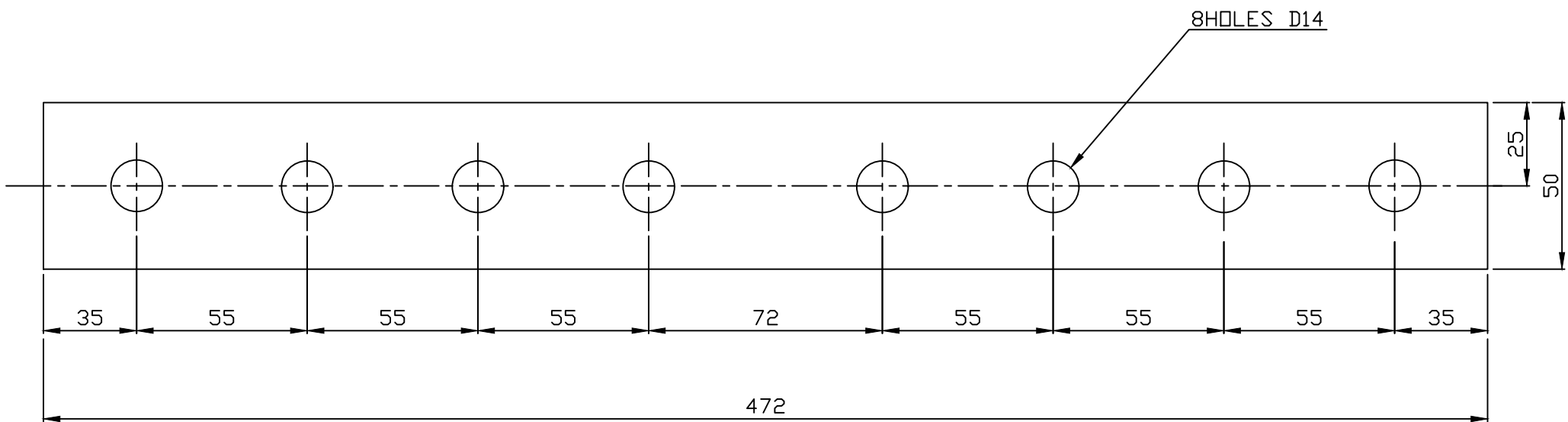
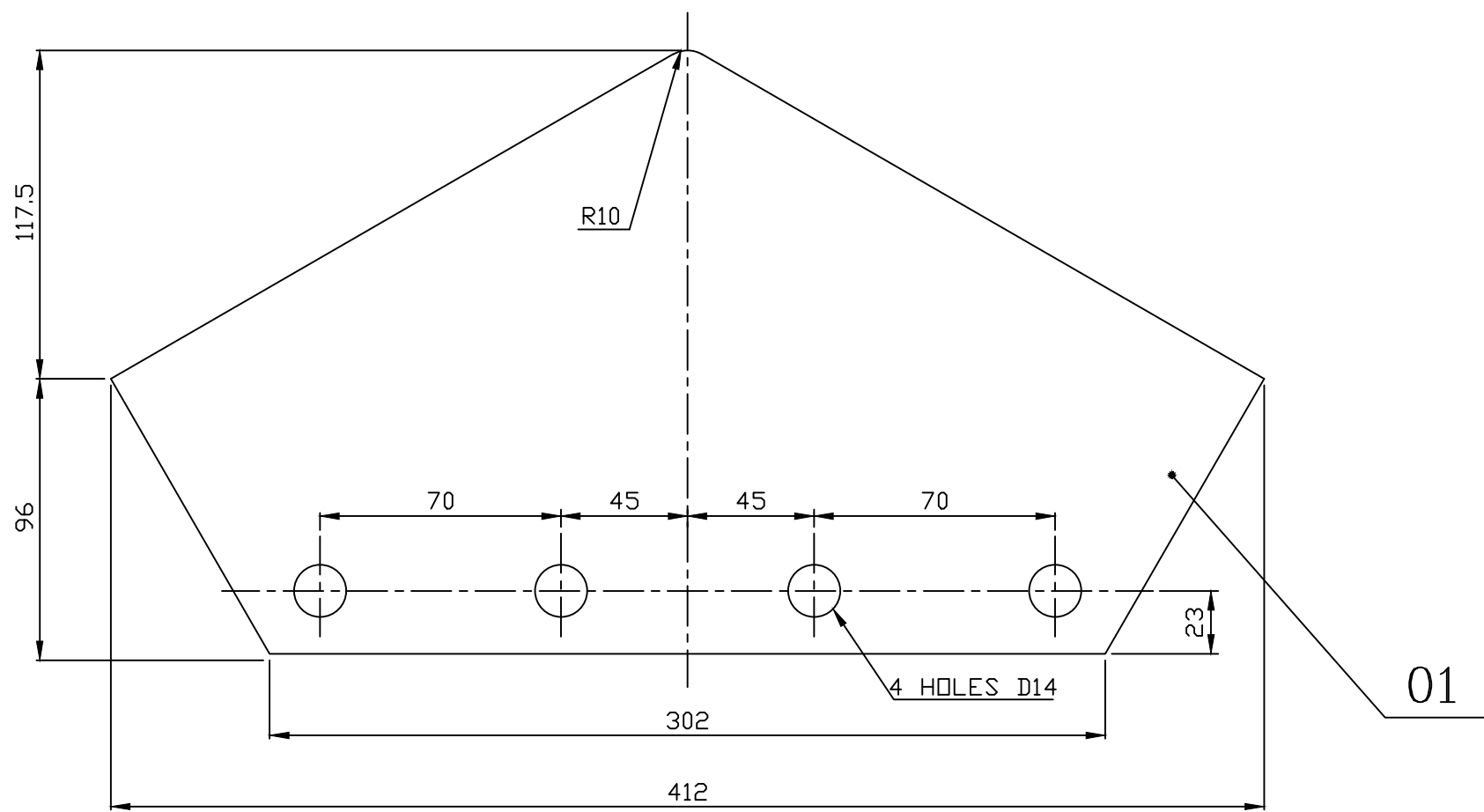
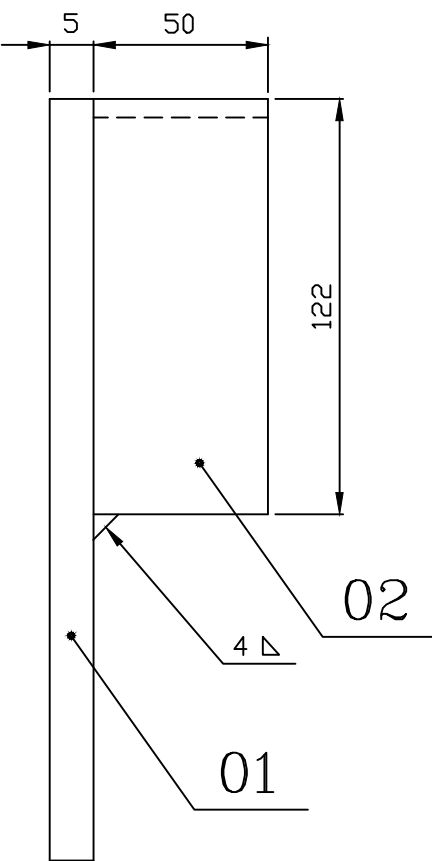
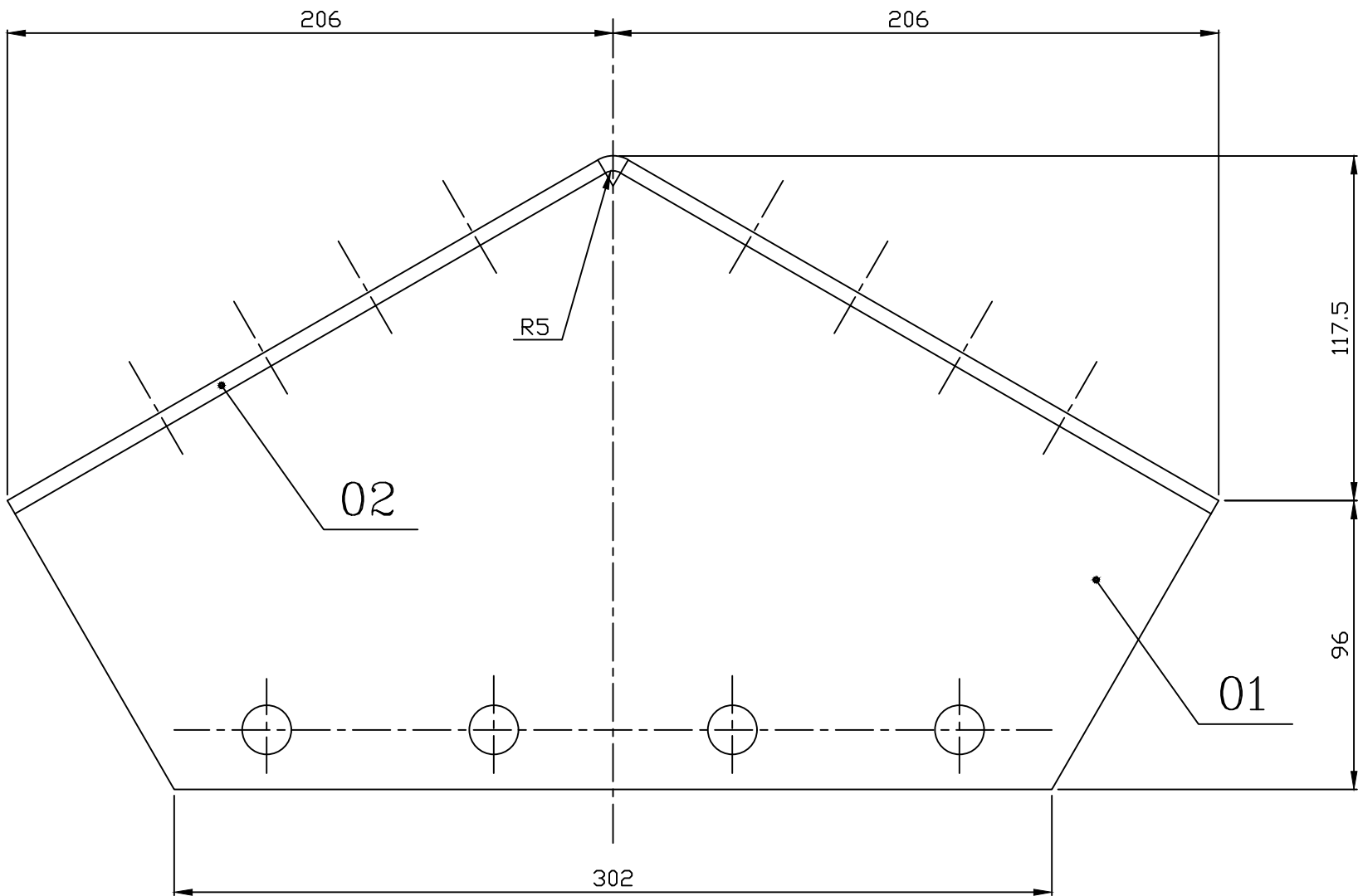
1. WHILE MAKING UP CORRUGATED SHEET BASKET CLAMP TOGETHER WITH A FORCE OF 20 Kg. BEFORE WELDING RODS TO END PLATES. SHOP TO MAINTAIN $238.6^{+0.0}_{-0.8}$ OVER END PLATES. IT MAY BE NECESSARY TO ADD AN ADDITIONAL CORR. SHEET OR AN END PLATE OF THE REQD. THICKNESS TO MAINTAIN $238.6^{+0.0}_{-0.8}$ OVER END PLATES. AFTER BASKET IS COMPLETE WELD TOP AND BOTTOM COVER PLATES AS SHOWN.
2. ASSY. TOLERANCE:— FOR AN ASSEMBLY OF 15 BOXES THE OVERALL LENGTH TOLERANCE SHALL BE MAINTAINED WITH IN $^{+0}_{-3}$
(ie) LENGTH OVER 15 BOXES = $(3579)^{+0}_{-3}$



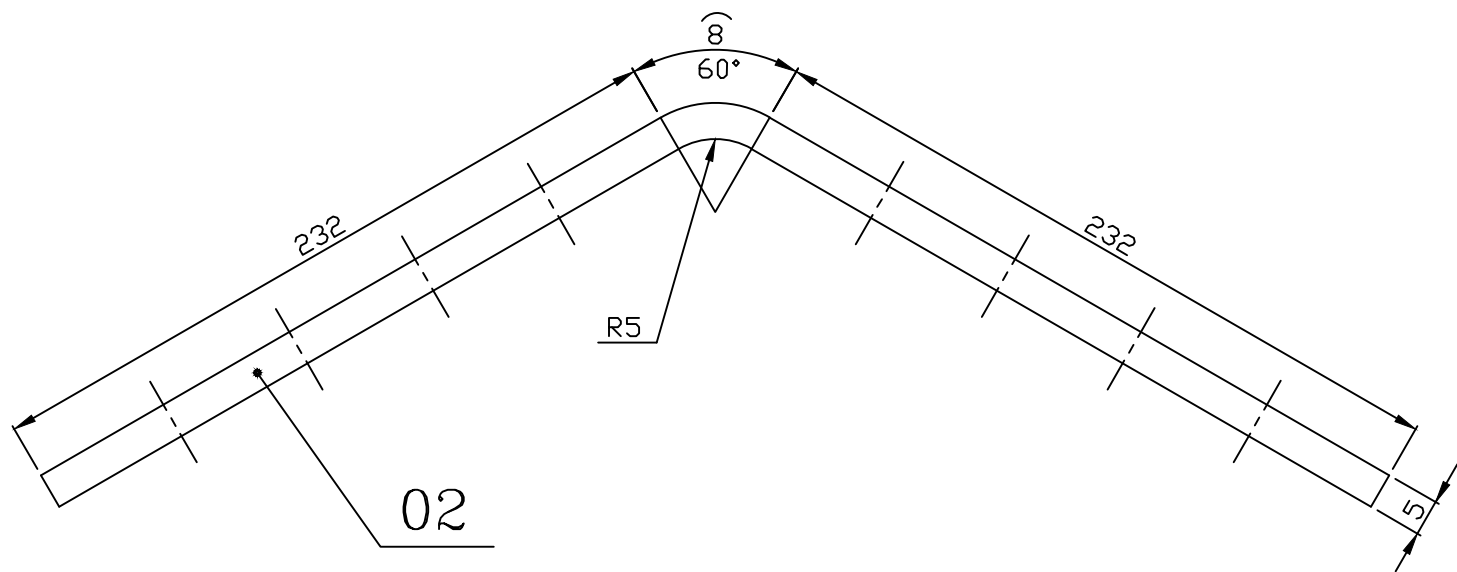
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TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT											
		Bharat Heavy Electricals Ltd UNIT: HEAVY PLATES & VESSELS PLANT VISAKHAPATNAM – 530012				NAME K.H. THOMAS		DATE 24.07.2017			
						CHD MVRP/GGN.RAO		24.07.2017			
						APPD Y.P.KUMAR		24.07.2017			
DEPT HTE CODE 320		ALL DIMENSIONS ARE IN MM				PROJECTION SCALE N.T.S.		WEIGHT (Kg) 15.680		REF TO ASSY / OLD DWG	
TITLE CORRUGATED SHEET BASKET ASSEMBLY								DRAWING NO : 2-04-114-U8040		REV 00	



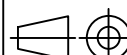


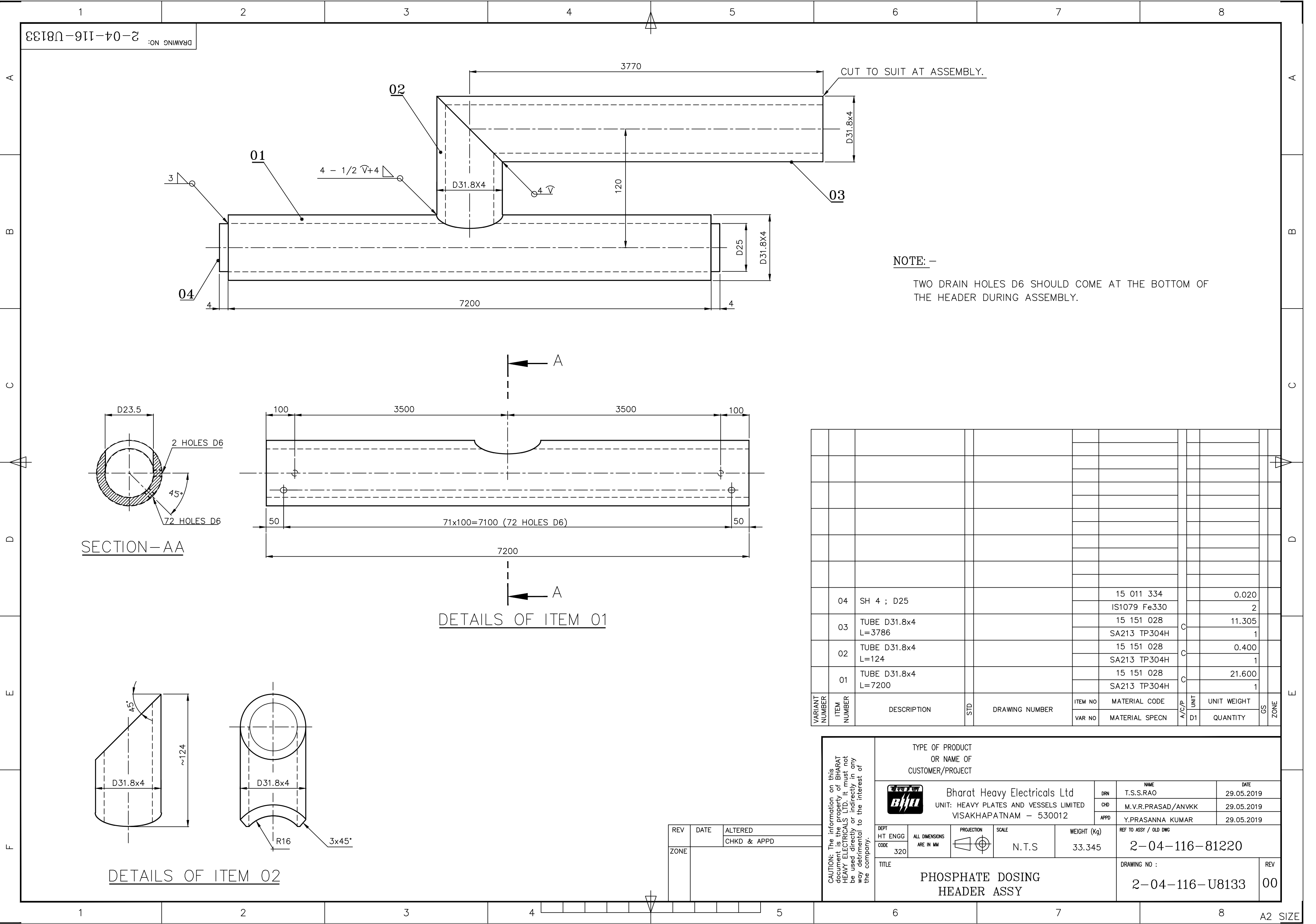
DEVELOPED VIEW OF ITEM No.02

[illegible]

REV	DATE	ALTERED
		CHKD & APPD
ZONE		

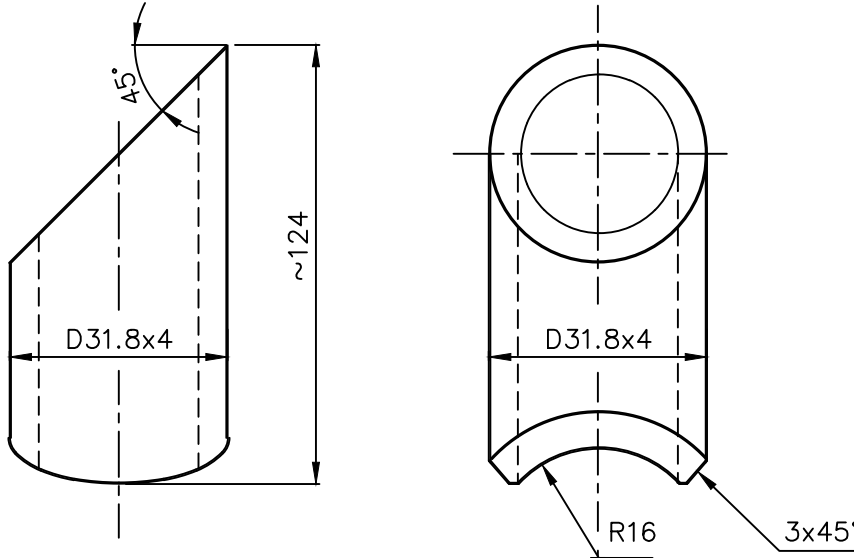
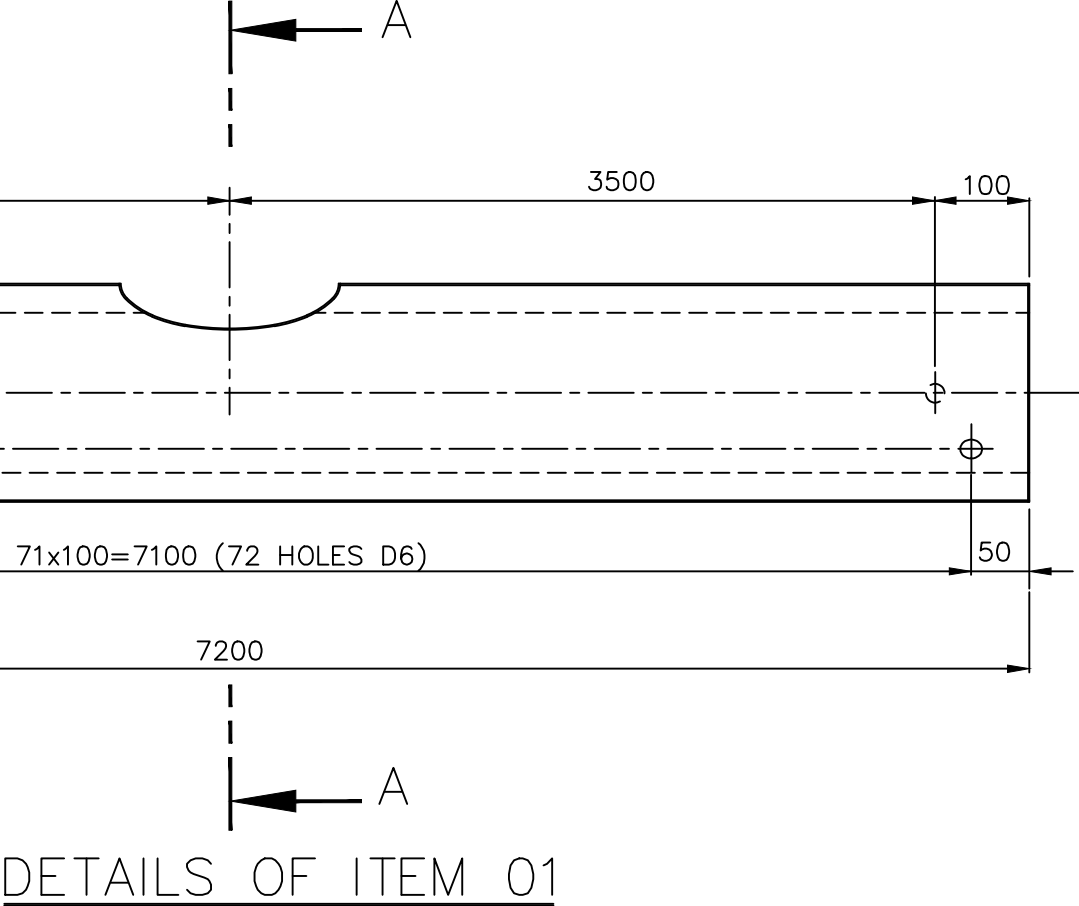
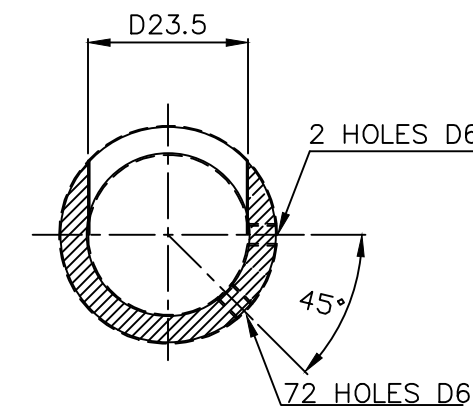
CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT							
		Bharat Heavy Electricals Ltd UNIT: HEAVY PLATES AND VESSELS PLANT VISAKHAPATNAM – 530012			DRN	NAME T.S.S.RAO	DATE 16.09.2019
					CHD	M.V.R.PRASAD/ANVKK	16.09.2019
					APPD	Y.PRASANNA KUMAR	16.09.2019
DEPT HTE	ALL DIMENSIONS ARE IN MM		SCALE N.T.S	WEIGHT (Kg) 4.527	REF TO ASSY / OLD DWG 2-04-116-80219		
CODE 320							
TITLE END COVER (BOTTOM)					DRAWING NO : 2-04-116-U8132		REV 00



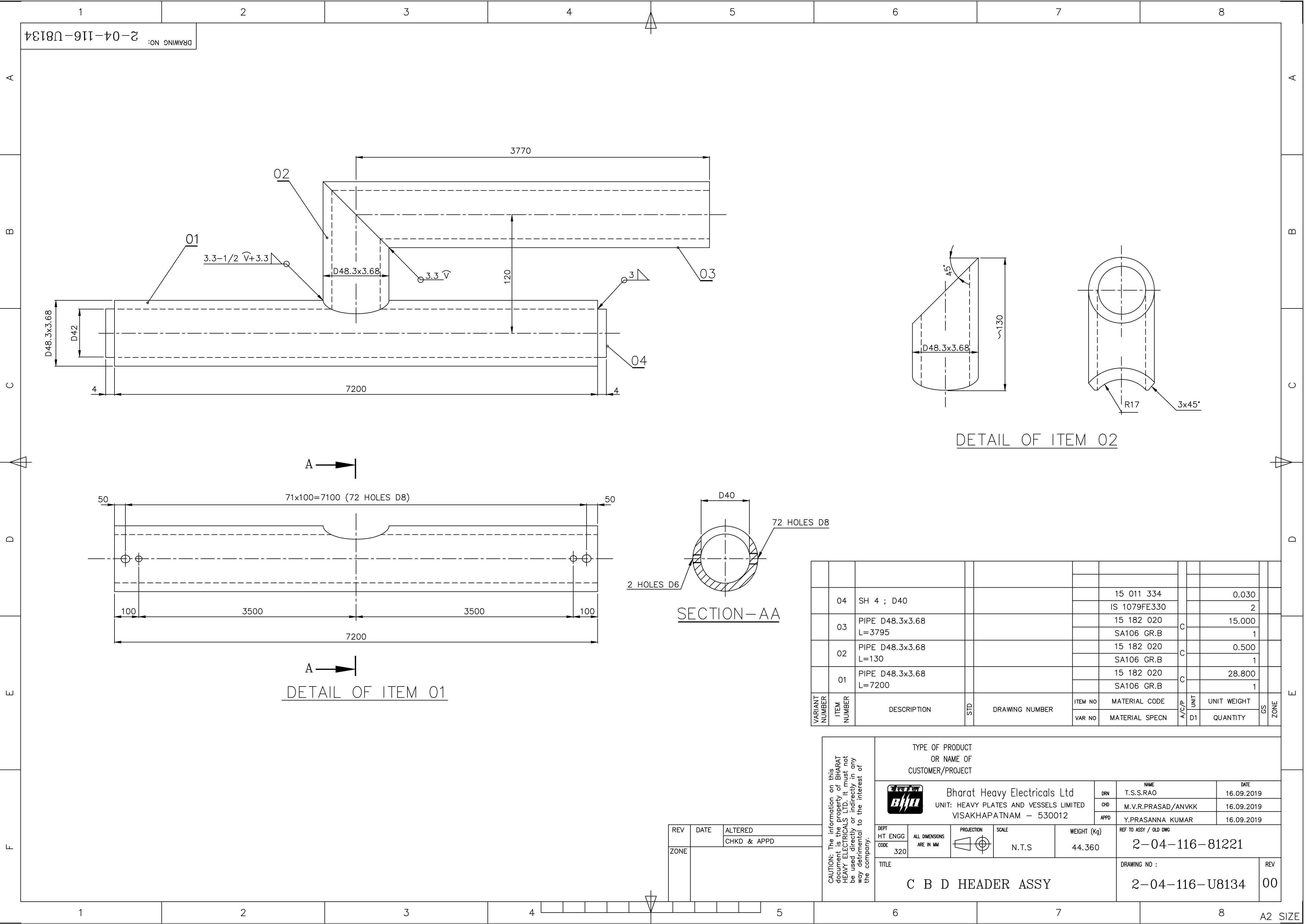
DRAWING NO. 2-04-116-U8133

NOTE: -
TWO DRAIN HOLES D6 SHOULD COME AT THE BOTTOM OF THE HEADER DURING ASSEMBLY.



VARIANT NUMBER	ITEM NUMBER	DESCRIPTION	STD	DRAWING NUMBER	ITEM NO	MATERIAL CODE	A/C/P	UNIT	UNIT WEIGHT	CS	ZONE
					VAR NO	MATERIAL SPECN		D1	QUANTITY		
	04	SH 4 ; D25				15 011 334			0.020		
						IS1079 Fe330			2		
	03	TUBE D31.8x4 L=3786				15 151 028		C	11.305		
						SA213 TP304H			1		
	02	TUBE D31.8x4 L=124				15 151 028		C	0.400		
						SA213 TP304H			1		
	01	TUBE D31.8x4 L=7200				15 151 028		C	21.600		
						SA213 TP304H			1		

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			NAME T.S.S.RAO				
	UNIT: HEAVY PLATES AND VESSELS LIMITED VISAKHAPATNAM - 530012		DATE 29.05.2019				
	DEPT HT ENGG CODE 320		CHD M.V.R.PRASAD/ANVKK 29.05.2019				
	ALL DIMENSIONS ARE IN MM		APPD Y.PRASANNA KUMAR 29.05.2019				
REV DATE ZONE		PROJECTED SCALE N.T.S		WEIGHT (Kg) 33.345		REF TO ASSY / OLD DWG 2-04-116-81220	
TITLE PHOSPHATE DOSING HEADER ASSY				DRAWING NO : 2-04-116-U8133		REV 00	



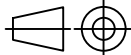
DETAIL OF ITEM 02

DETAIL OF ITEM 01

SECTION-AA

VARIANT NUMBER	ITEM NUMBER	DESCRIPTION	STD	DRAWING NUMBER	ITEM NO	MATERIAL CODE	A/C/P	UNIT	UNIT WEIGHT	CS	ZONE
					VAR NO	MATERIAL SPECN		D1	QUANTITY		
	04	SH 4 ; D40				15 011 334 IS 1079FE330			0.030 2		
	03	PIPE D48.3x3.68 L=3795				15 182 020 SA106 GR.B	C		15.000 1		
	02	PIPE D48.3x3.68 L=130				15 182 020 SA106 GR.B	C		0.500 1		
	01	PIPE D48.3x3.68 L=7200				15 182 020 SA106 GR.B	C		28.800 1		

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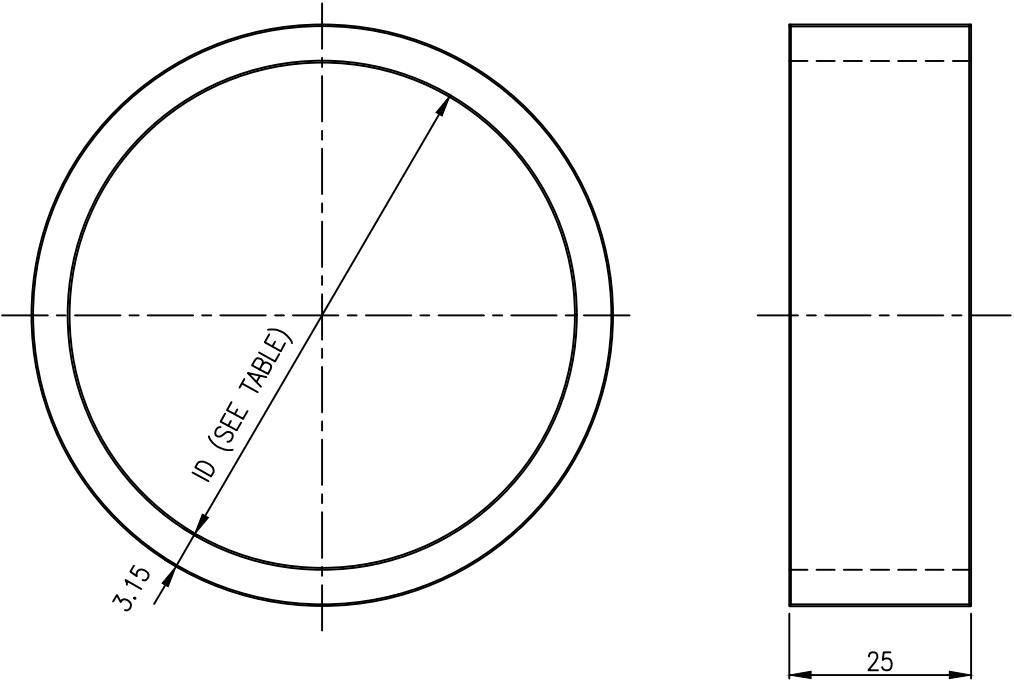
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT											
				Bharat Heavy Electricals Ltd UNIT: HEAVY PLATES AND VESSELS LIMITED VISAKHAPATNAM – 530012			DRN T.S.S.RAO		DATE 16.09.2019		
							CHD M.V.R.PRASAD/ANVKK		16.09.2019		
							APPD Y.PRASANNA KUMAR		16.09.2019		
DEPT HT ENGG CODE		ALL DIMENSIONS ARE IN MM		PROJECTION	SCALE		WEIGHT (Kg)		REF TO ASSY / OLD DWG		
320					N.T.S		44.360		2-04-116-81221		
TITLE								DRAWING NO :		REV	
C B D HEADER ASSY								2-04-116-U8134		00	

REV	DATE	ALTERED
		CHKD & APPD
ZONE		

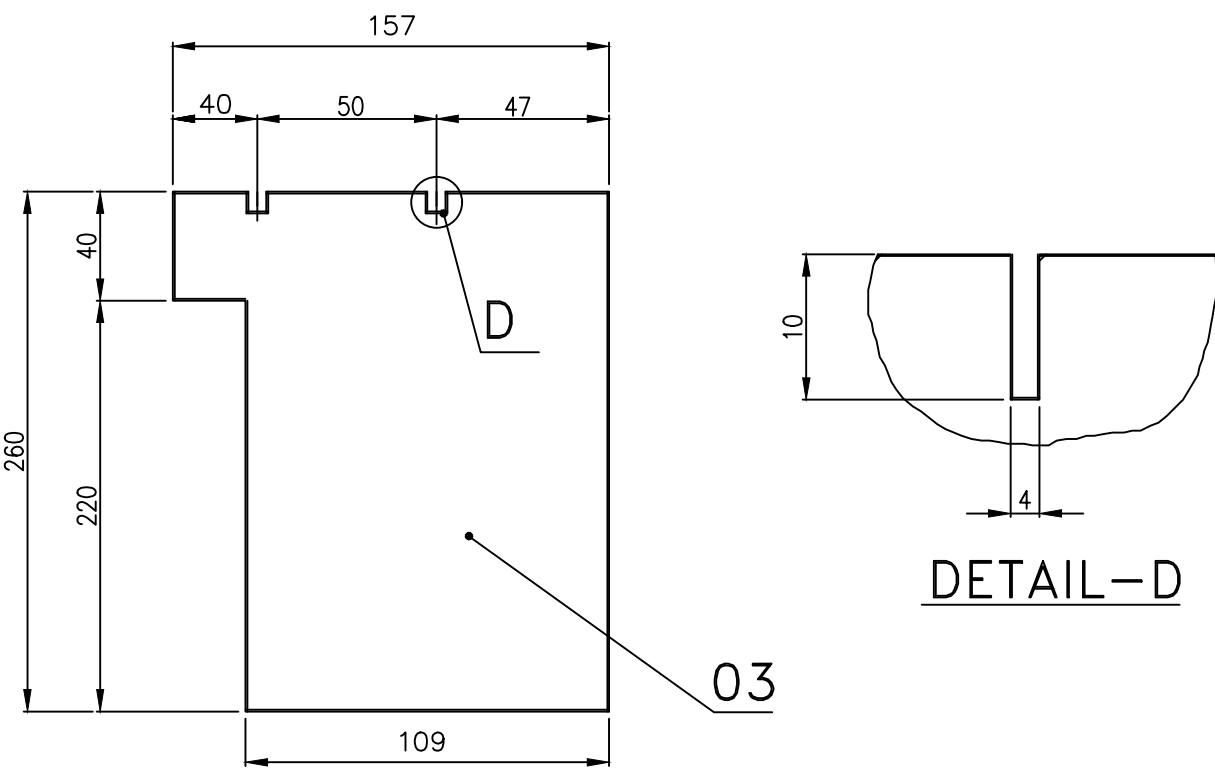
DRAWING NO: 2-04-116-U8134

ALL DIMENSIONS ARE IN MILLIMETERS

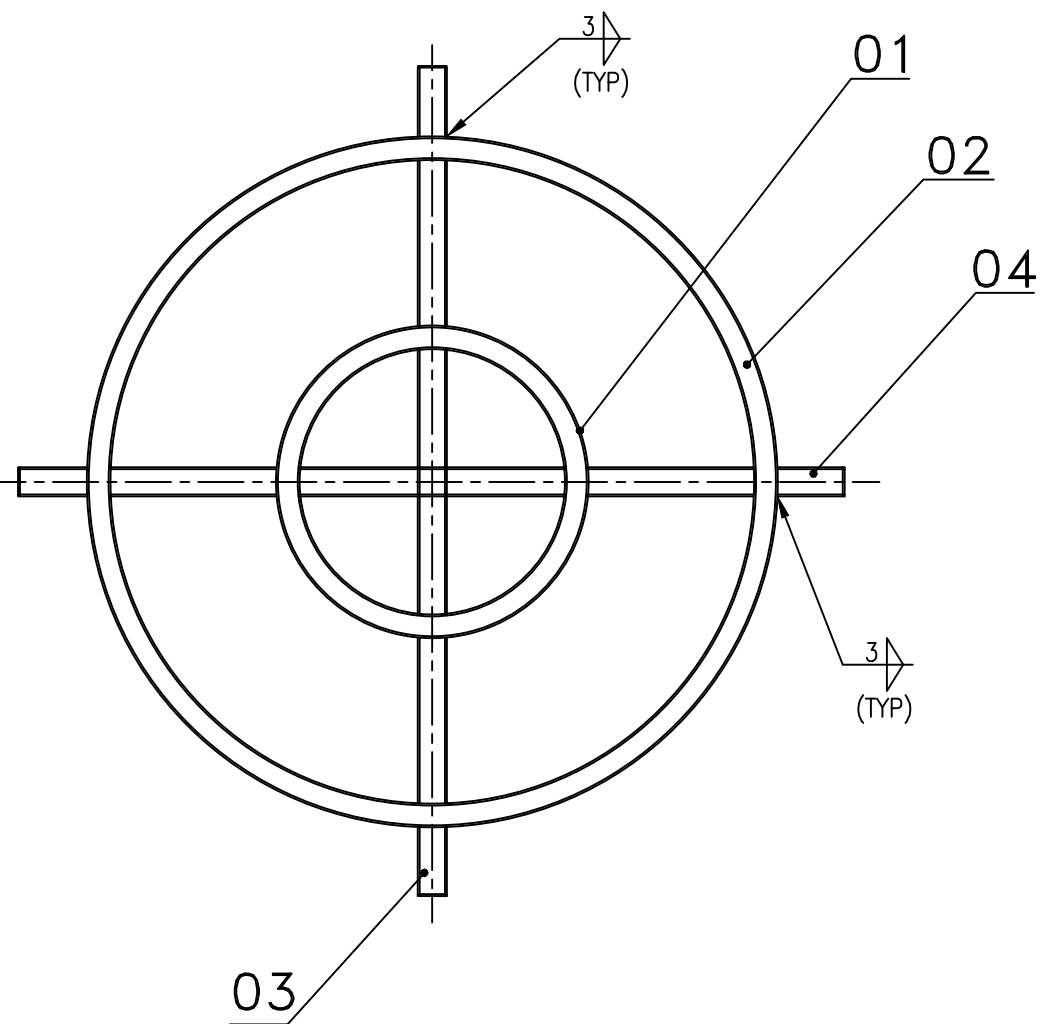
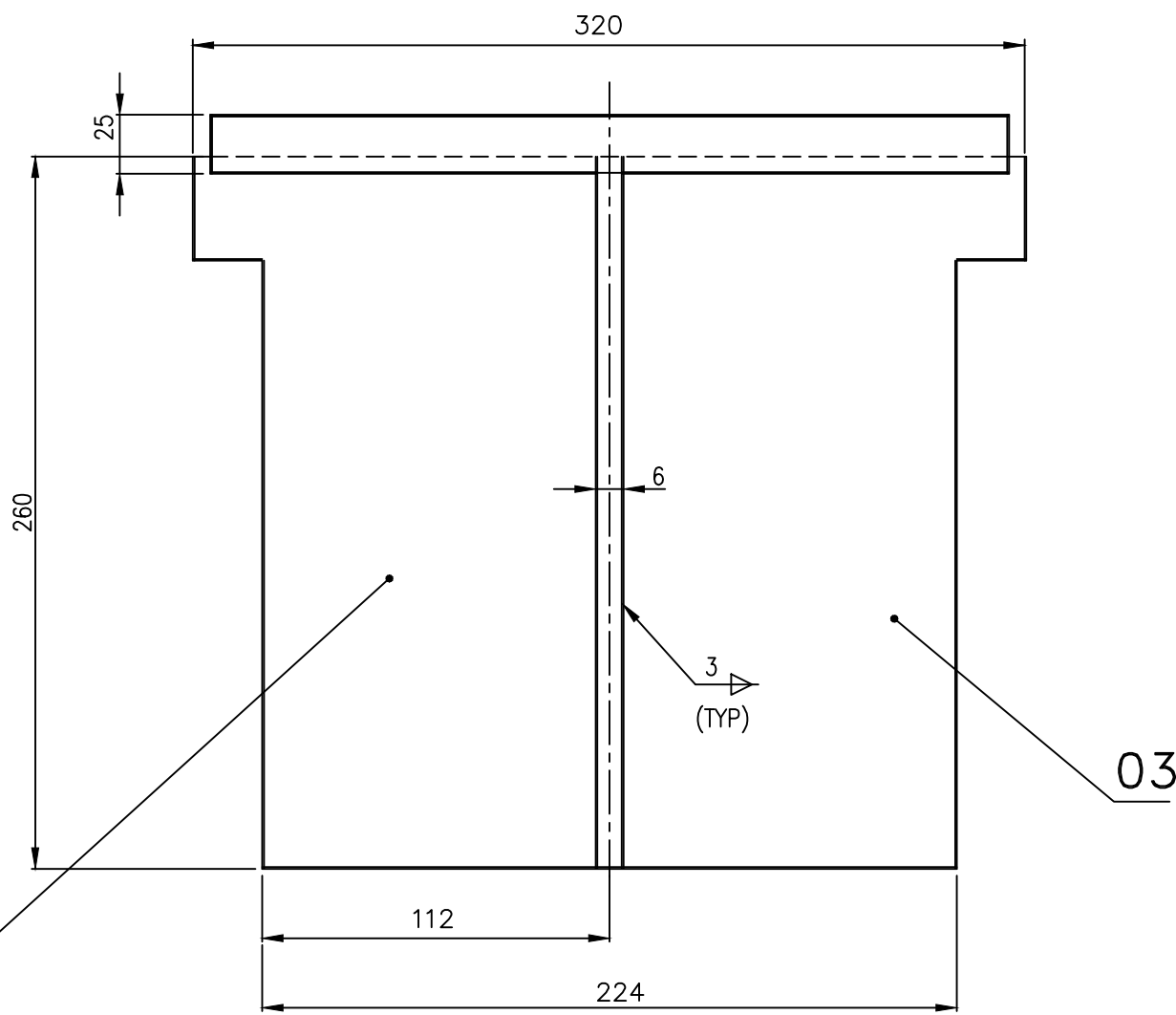
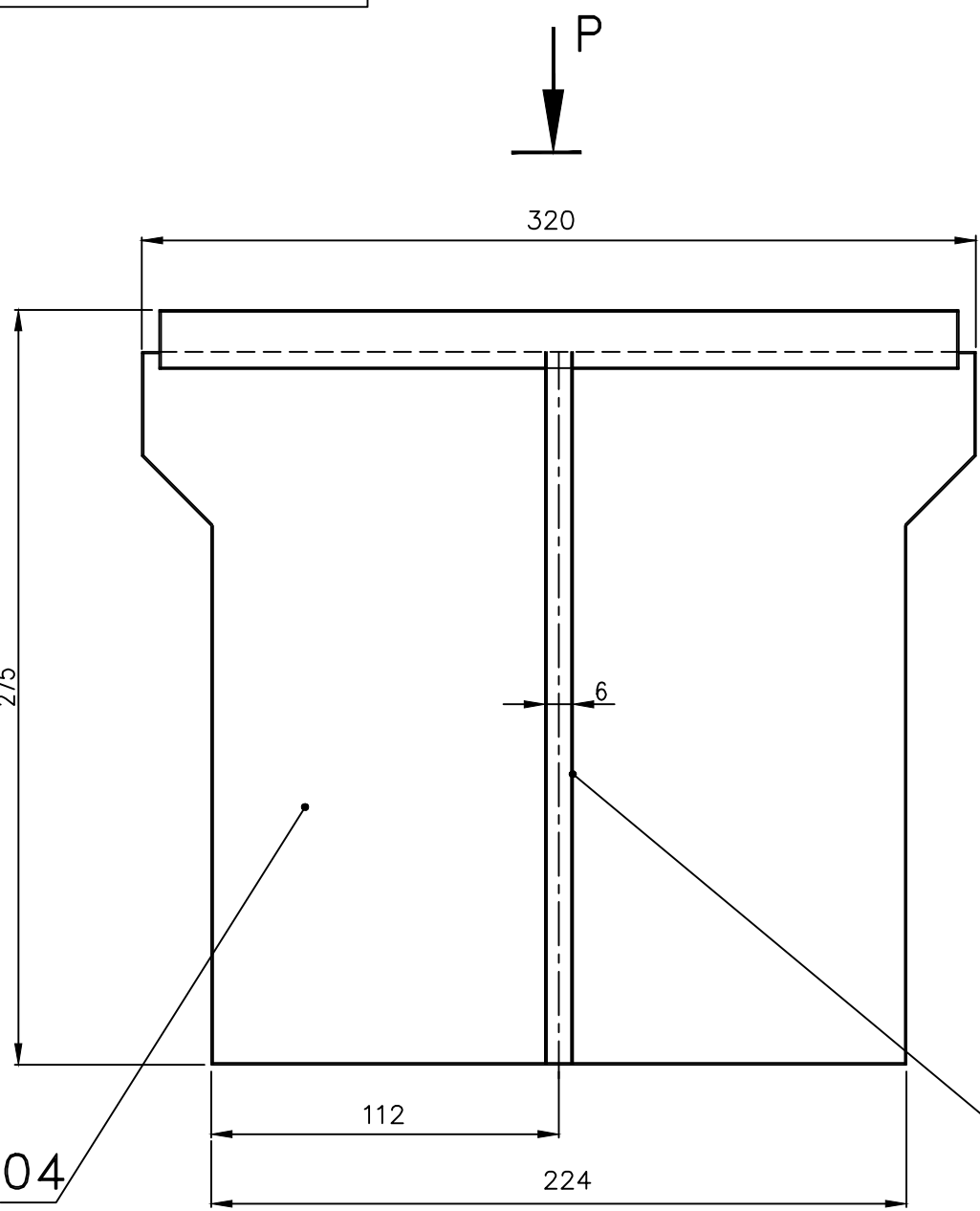
ITEM NO.	ID
01	117
02	237



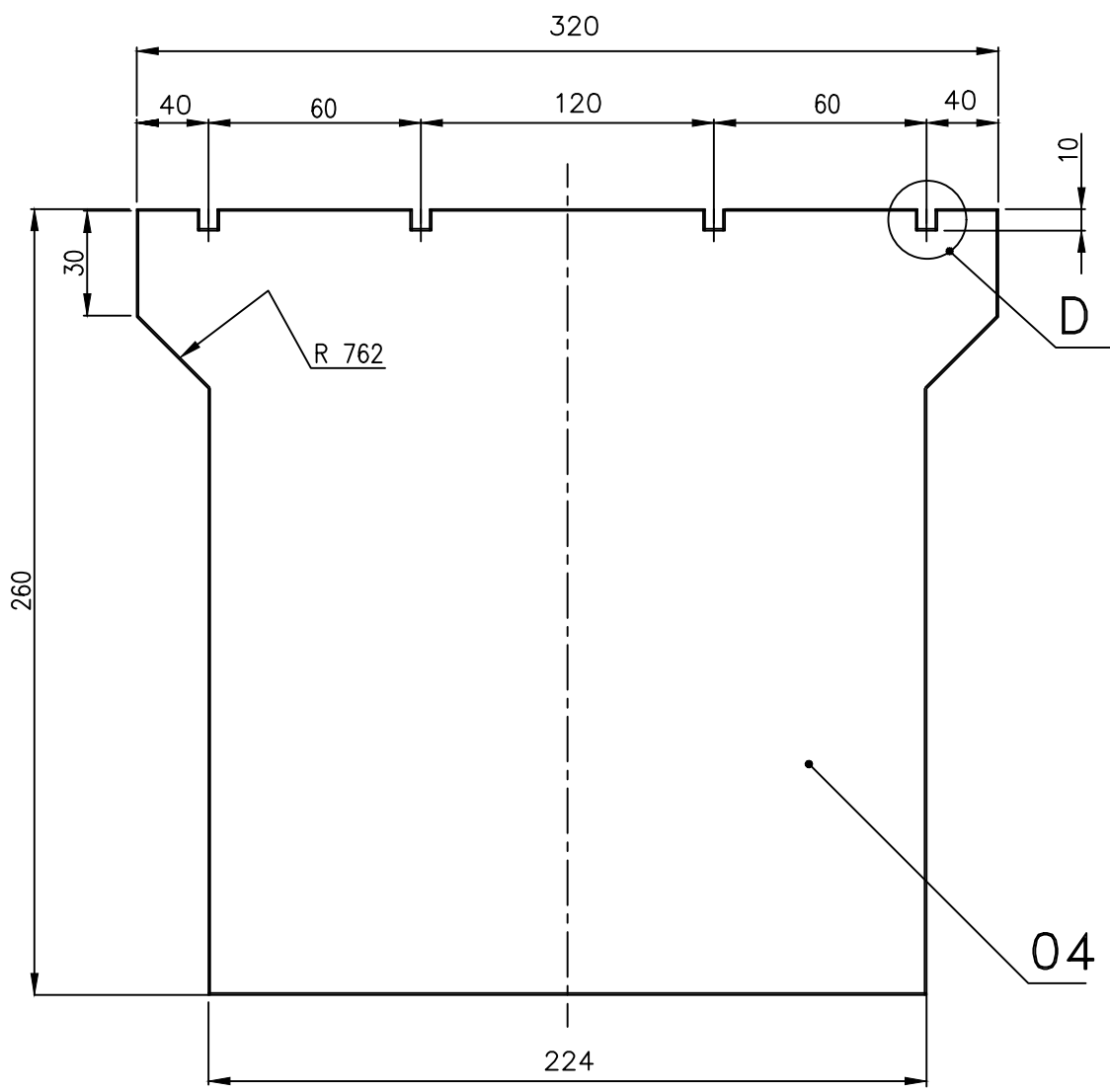
DETAIL OF ITEM NO. 01 & 02



DETAIL-D

[illegible]

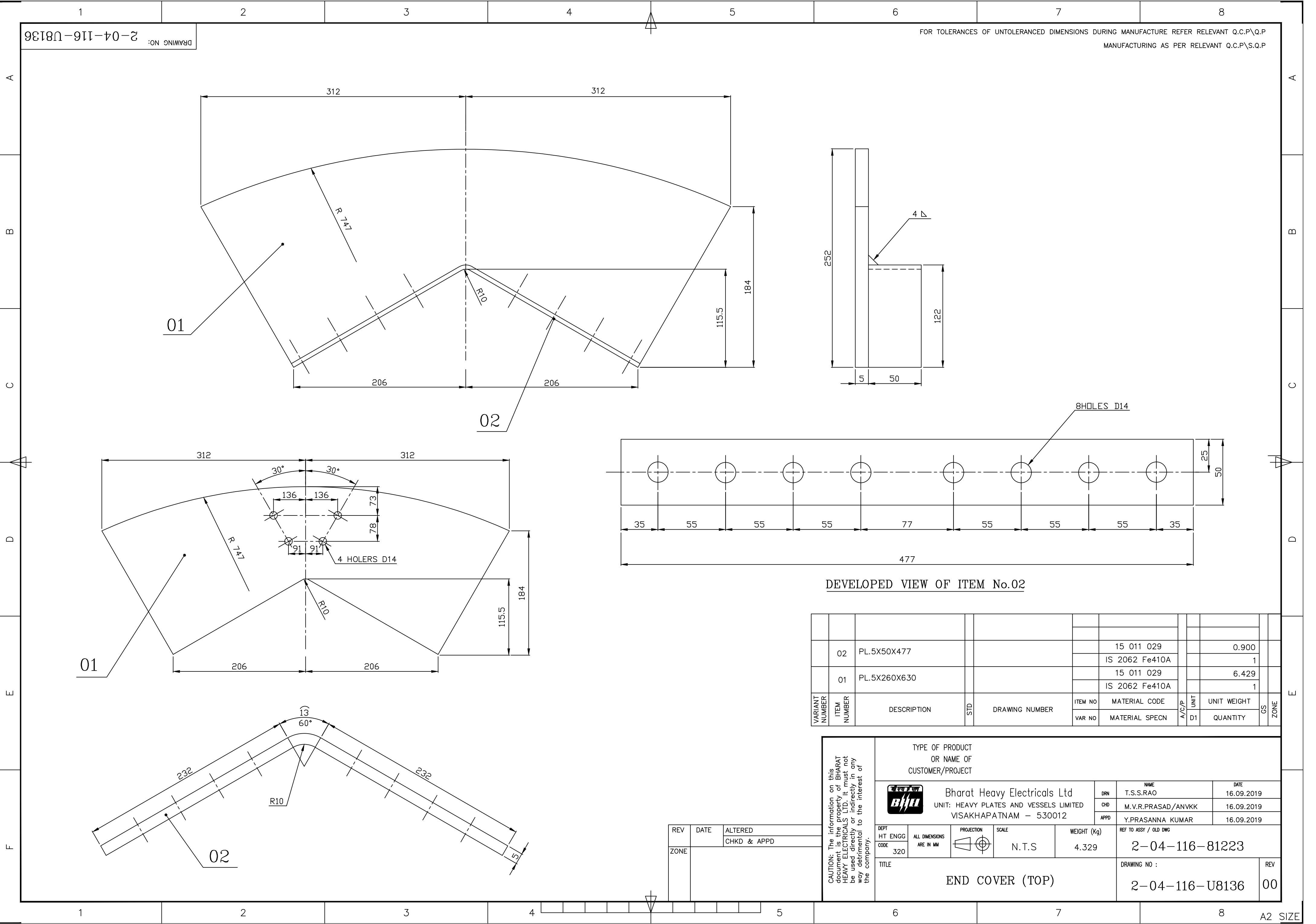
VIEW-P

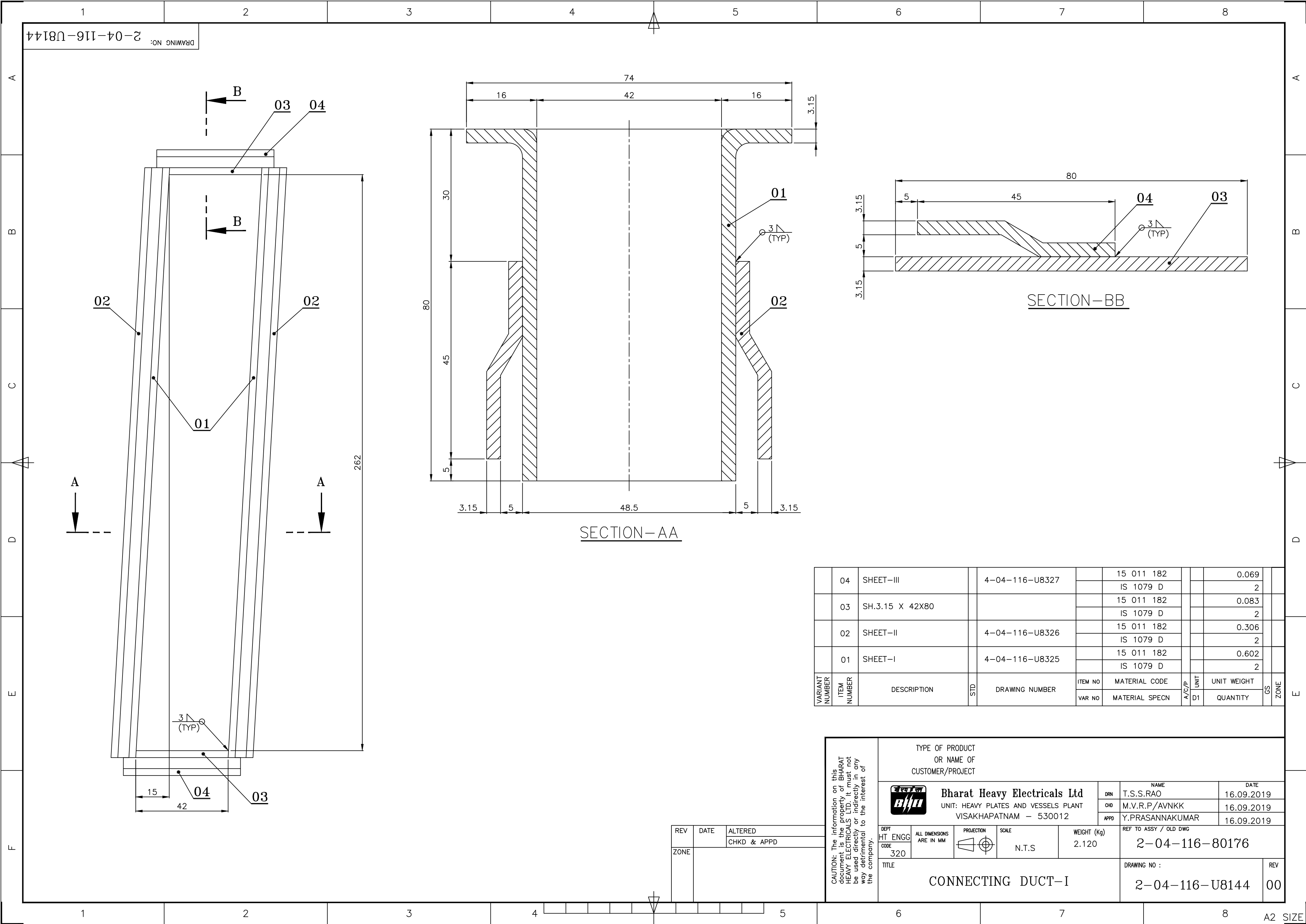


REV	DATE	ALTERED :
01		CHECKED :
ZONE		

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TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT													
		Bharat Heavy Electricals Ltd				NAME T.S.S.RAO		DATE 16.09.2019					
		UNIT: HEAVY PLATES AND VESSELS LIMITED				CHD M.V.R.PRASAD/ANVKK		16.09.2019					
		VISAKHAPATNAM – 530012				APPD Y.PRASANNA KUMAR		16.09.2019					
DEPT HT ENGG CODE 320		GRADE OF UNITOL DIM C/M/F				SCALE N.T.S		WEIGHT (Kg) 7.890		REF TO ASSY / OLD DWG 2-04-116-81222			No OF ITEMS
TITLE SPIDER PLATE ASSY								CARD CODE U 01		DRAWING NO : 2-04-116-U8135			REV 00





DRAWING NO: 2-04-116-U8144

VARIANT NUMBER	ITEM NUMBER	DESCRIPTION	STD	DRAWING NUMBER	ITEM NO	MATERIAL CODE	A/C/P	UNIT	UNIT WEIGHT	GS	ZONE
04	SHEET-III	4-04-116-U8327				15 011 182			0.069		
						IS 1079 D			2		
03	SH.3.15 X 42X80					15 011 182			0.083		
						IS 1079 D			2		
02	SHEET-II	4-04-116-U8326				15 011 182			0.306		
						IS 1079 D			2		
01	SHEET-I	4-04-116-U8325				15 011 182			0.602		
						IS 1079 D			2		

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TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT

DEPT

HT ENGG

CODE

320

ALL DIMENSIONS
ARE IN MM

PROJECTION

SCALE

N.T.S

WEIGHT (Kg)

2.120

NAME

T.S.S.RAO

DATE

16.09.2019

CHD

M.V.R.P/AVNKK

DATE

16.09.2019

APPD

Y.PRASANNAKUMAR

DATE

16.09.2019

REF TO ASSY / OLD DWG

2-04-116-80176

DRAWING NO :

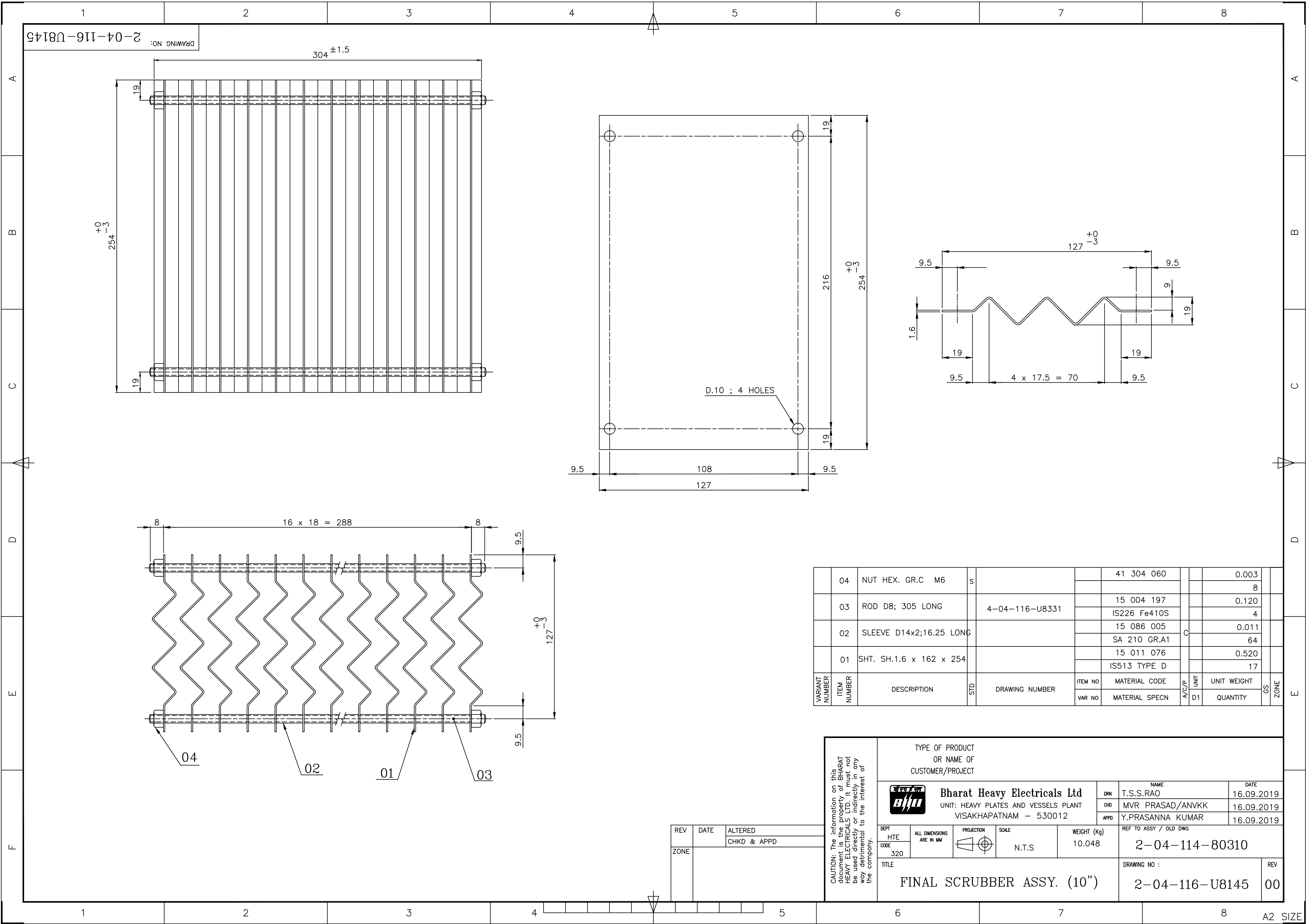
2-04-116-U8144

REV

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CONNECTING DUCT-I

REV	DATE	ALTERED
		CHKD & APPD
ZONE		



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REV	DATE	ALTERED
ZONE		CHKD & APPD

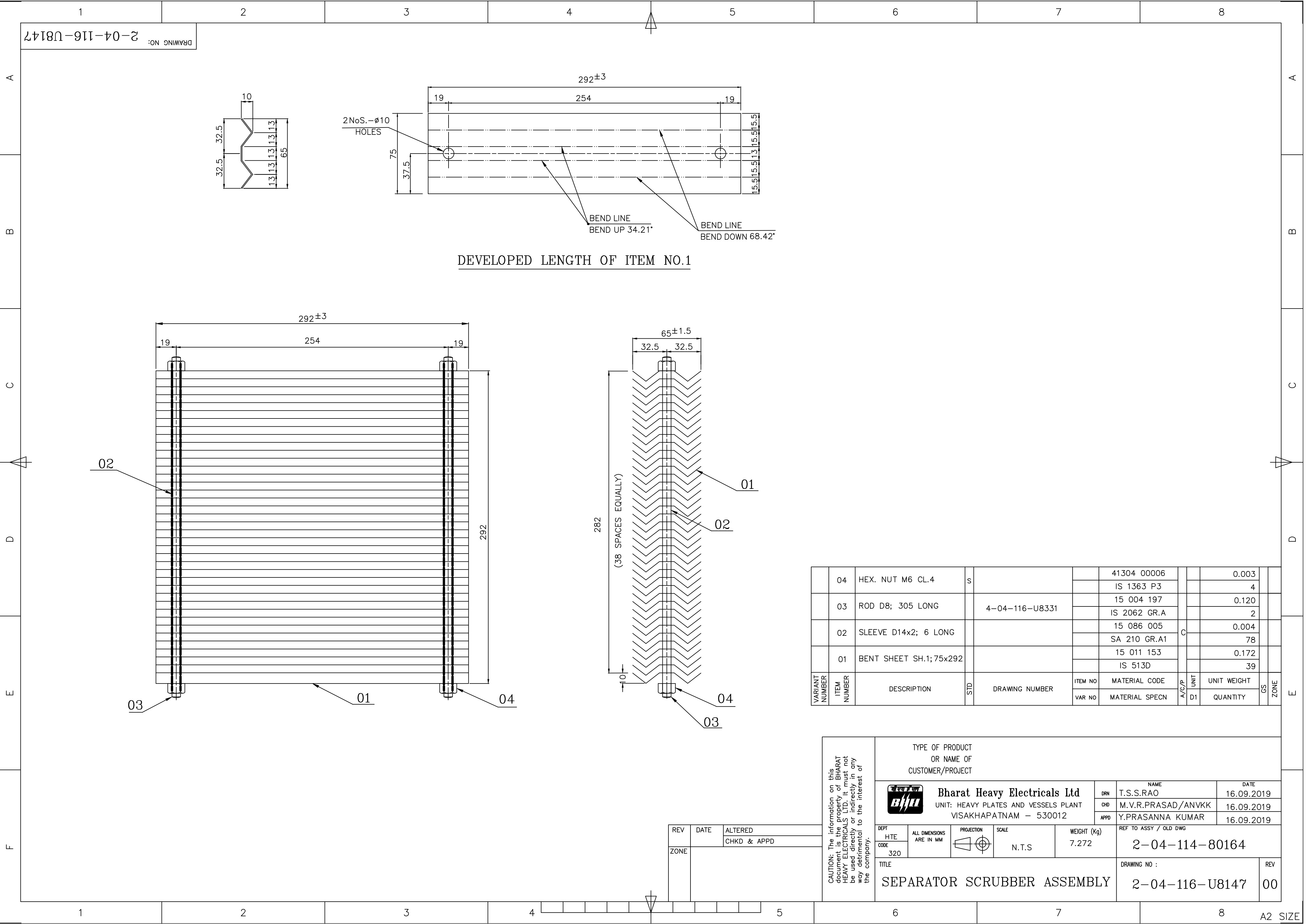
TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT

Bharat Heavy Electricals Ltd
UNIT: HEAVY PLATES AND VESSELS PLANT
VISAKHAPATNAM - 530012

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
HTE			N.T.S	10.048	2-04-114-80310
CODE	320				
TITLE	FINAL SCRUBBER ASSY. (10'')				DRAWING NO : 2-04-116-U8145

NAME	DATE
T.S.S.RAO	16.09.2019
MVR PRASAD/ANVKK	16.09.2019
Y.PRASANNA KUMAR	16.09.2019

DEPT	UNIT	QUANTITY	REV
HTE	D1		00



	04	HEX. NUT M6 CL.4	s			41304 00006			0.003		
						IS 1363 P3			4		
	03	ROD D8; 305 LONG		4-04-116-U8331		15 004 197			0.120		
						IS 2062 GR.A			2		
	02	SLEEVE D14x2; 6 LONG				15 086 005	C		0.004		
						SA 210 GR.A1			78		
	01	BENT SHEET SH.1;75x292				15 011 153			0.172		
						IS 513D			39		
VARIANT NUMBER	ITEM NUMBER	DESCRIPTION	STD	DRAWING NUMBER	ITEM NO	MATERIAL CODE	A/C/P	UNIT	UNIT WEIGHT	GS	ZONE
					VAR NO	MATERIAL SPECN	A/C/P	D1	QUANTITY		

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TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT



Bharat Heavy Electricals Ltd

UNIT: HEAVY PLATES AND VESSELS PLANT
VISAKHAPATNAM - 530012

DRN

NAME

T.S.S.RAO

DATE

16.09.2019

CHD

M.V.R.PRASAD/ANVKK

16.09.2019

APPD

Y.PRASANNA KUMAR

16.09.2019

DEPT
HTE
CODE

320

ALL DIMENSIONS
ARE IN MM

PROJECTION

SCALE

N.T.S

WEIGHT (Kg)

7.272

REF TO ASSY / OLD DWG

2-04-114-80164

TITLE

SEPARATOR SCRUBBER ASSEMBLY

DRAWING NO :

2-04-116-U8147

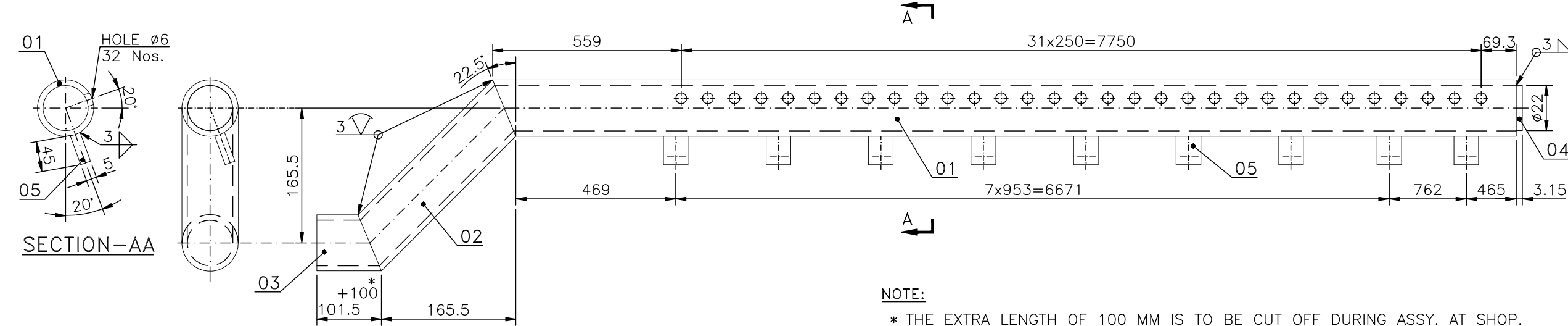
REV

00

FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

3-04-114-U8081
DRG. NO.



3 ∇ - E 7018 - 2 Nos.
3 $\triangle$ - E 7018 - 1.0 M

VARIANT No.	ITEM No.	DESCRIPTION	STD	DRAWING No.	ITEM No.	MATL.CODE	UNIT	UNIT WT.(Kg.)	QTY
05	PLATE 5 45 x 50				15 011 029	IS 2062FE410WA		0.088	
04	SHEET 3.15 D 22				15 011 182	IS 2062FE410WA		0.010	
03	TUBE D 27.3x2.65; 101.5 +100 LONG				15 605 012	IS 1239		0.160	
02	TUBE D 27.3x2.65; 259 LONG				15 605 012	IS 1239		0.400	
01	TUBE D 27.3x2.65; 8378.3 LONG				15 605 012	IS 1239		13.200	

REV	DATE	ALTERED :	REV	DATE	ALTERED :
02		CHD & APPD:	01		CHD & APPD :
ZONE			ZONE		

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TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT



Bharat Heavy Electricals Ltd
UNIT: HEAVY PLATES & VESSELS PLANT
VISAKHAPATNAM - 530012

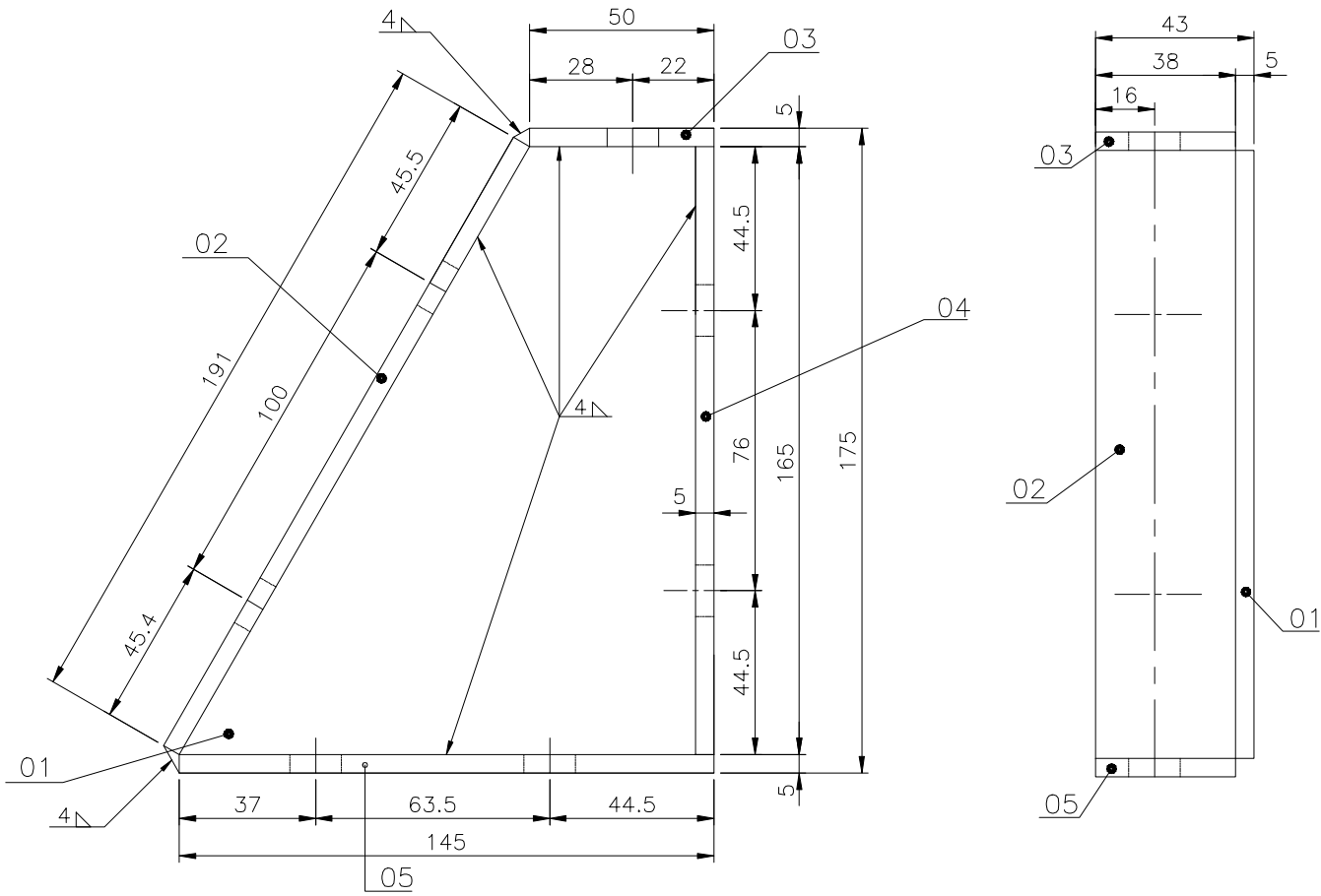
DRN	NAME	DATE
K.H.THOMAS		24.07.2017
MVRP/GGR		24.07.2017
Y.P.KUMAR		24.07.2017

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
HTE			N.T.S.	14.562	
CODE	320				
TITLE	CBD HEADER				DRAWING NO : 3-04-114-U8081
					REV 00

FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

4/4 - E 6013-0.627m



NOTE
ALL HOLES ARE TO BE Ø14

05				15 011 029			0.20		PL5 ;38 x 145	
				IS 2062Fe410WA			1			
04				15 011 029			0.25		PL5 ;38 x 165	
				IS 2062Fe410WA			1			
03				15 011 029			0.075		PL5 ;38 x 50	
				IS 2062Fe410WA			1			
02				15 011 029			0.30		PL5 ;38 x 191	
				IS 2062Fe410WA			1			
01				15 011 029			1.00		PL5 ;145 x 165	
				IS 2062Fe410WA			1			
STYLE No.	ITEM No.	BPS	REF. DRG./BPS No.	RVN STL	MATERIAL CODE MATERIAL SPECN	A C	COMP GROUP	UNIT wt.(kg) QUANTITY	BMI D	DESCRIPTION/ REMARKS

INVENTORY NO
SIGN. AND DATE
REF. DRG. NO.
COMPUTER FILE NAME
NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY

REV 02	DATE	ALTERED : CHD & APPD:	REV 01	DATE	ALTERED : CHD & APPD :
ZONE			ZONE		

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TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT



Bharat Heavy Electricals Ltd
UNIT: HEAVY PLATES & VESSELS PLANT
VISAKHAPATNAM - 530012

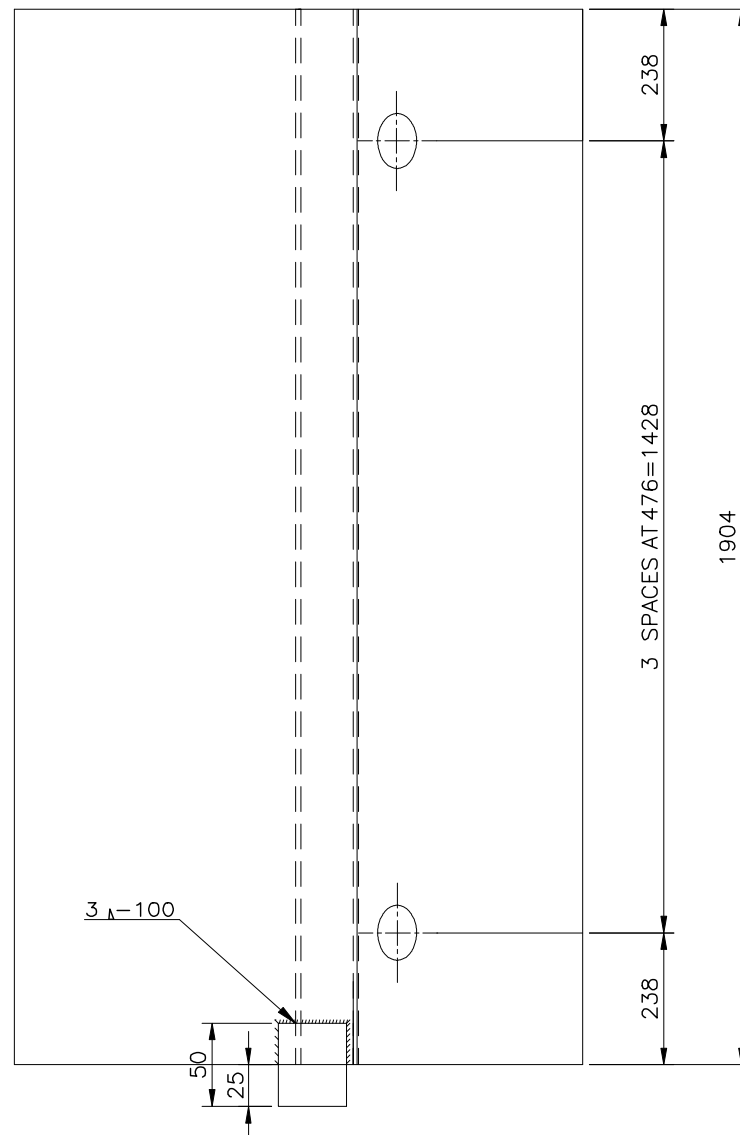
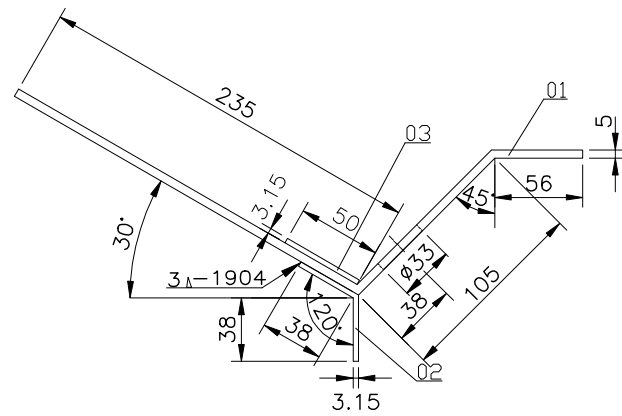
DRN	NAME K.H.THOMAS	DATE 25.07.2017
CHD	MVRP/GGR	25.07.2017
APPD	Y.P.KUMAR	25.07.2017

DEPT HTE	ALL DIMENSIONS ARE IN MM	PROJECTION 	SCALE N.T.S.	WEIGHT (Kg) 1.825	REF TO ASSY / OLD DWG
CODE 320					

TITLE BENT STRIP	DRAWING NO : 3-04-114-U8090	REV 00
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(ALL DIMENSIONS ARE IN mm)

DRG. NO. 3-04-114-U8093



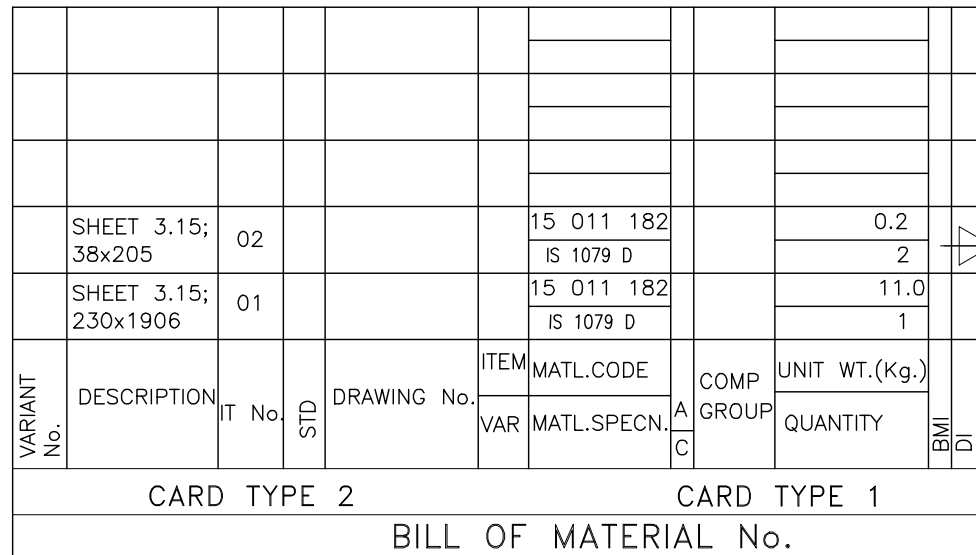
	SHEET 3.15 50 x 50	03			15 011 182			0.06		
					IS 1079 D			1		
	SHEET 3.15 1904 x 80	02			15 011 182			3.8		
					IS 1079 D			1		
	PL.5 ; 1904 x 407	01			15 011 029			31.014		
					IS2062Fe410WA			1		
VARIANT No.	DESCRIPTION	IT.No.	STD	DRAWING No.	ITEM	MATERIAL CODE	C/A	COMP GROUP	UNIT wt. (kg)	BMI
					VAR	MATERIAL SPECN			QUANTITY	DI

REV 02	DATE	ALTERED : CHD & APPD:	REV 01	DATE	ALTERED : CHD & APPD :
ZONE			ZONE		

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TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT						
	Bharat Heavy Electricals Ltd UNIT: HEAVY PLATES & VESSELS PLANT VISAKHAPATNAM – 530012			DRN	NAME K.H.THOMAS	DATE 25.07.2017
				CHD	MVRP/GGR	25.07.2017
				APPD	Y.P.KUMAR	25.07.2017
DEPT HTE	ALL DIMENSIONS ARE IN MM		SCALE N.T.S.	WEIGHT (Kg) 34.874	REF TO ASSY / OLD DWG	
CODE 320						
TITLE BENT PANEL					DRAWING NO : 3-04-114-U8093	
					REV 00	

(ALL DIMENSIONS ARE IN mm)



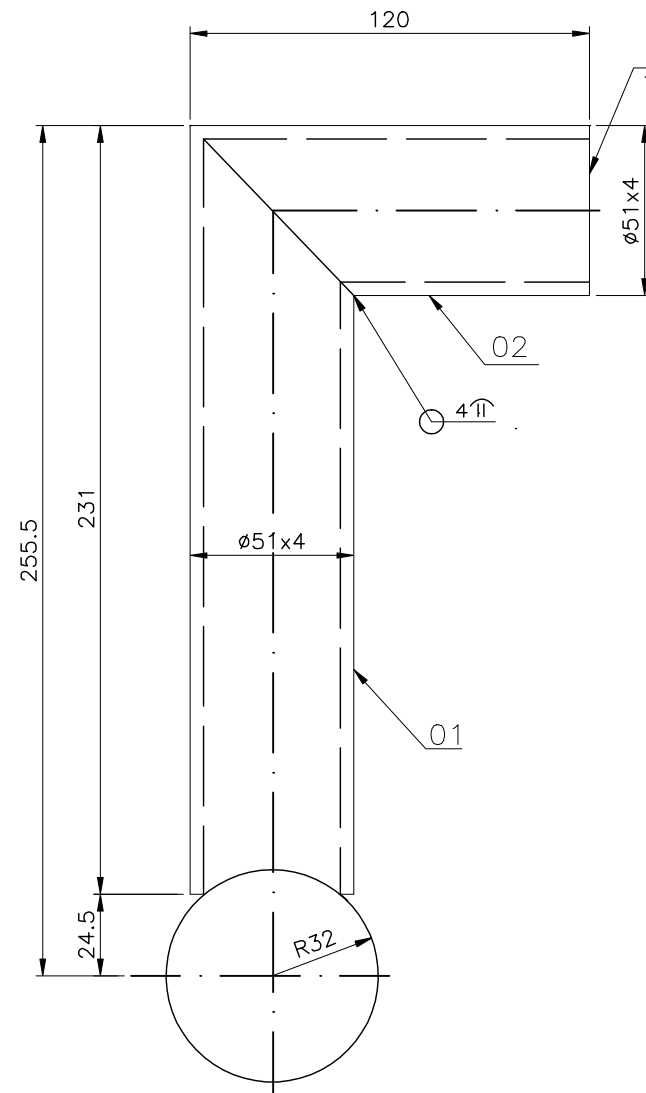
REV 02	DATE	ALTERED :	REV 01	DATE	ALTERED :
		CHD & APPD:			CHD & APPD :
ZONE			ZONE		

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TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT							
		Bharat Heavy Electricals Ltd UNIT: HEAVY PLATES & VESSELS PLANT VISAKHAPATNAM – 530012			DRN	NAME K.H.THOMAS	DATE 25.07.2017
					CHD	MVRP/GGR	25.07.2017
					APPD	Y.P.KUMAR	25.07.2017
DEPT HTE	ALL DIMENSIONS ARE IN MM		SCALE N.T.S.	WEIGHT (Kg) 11.400	REF TO ASSY / OLD DWG		
CODE 320							
TITLE PANEL					DRAWING NO : 3-04-114-U8095		REV 00

(ALL DIMENSIONS ARE IN mm)

D	42.5	TO	STD
TP	.062	05	99



	02	TUBE D 51X4 120 LONG			15-184-104	C		0.630	▶	
					SA-192			1		
	01	TUBE D 51X4 231 LONG			15-184-104	C		1.200	▶	
					SA-192			1		
VARIANT NO.	ITEM NO.	DESCRIPTION	STD	DRAWING No.	ITEM NO.	MATL. CODE	A	UNIT	UNIT WT.	GS
					VAR. NO.	MATL. SPEC.	C	DI	QTY.	

REV 02	DATE	ALTERED :	REV 01	DATE	ALTERED :
		CHD & APPD:			CHD & APPD :
ZONE			ZONE		

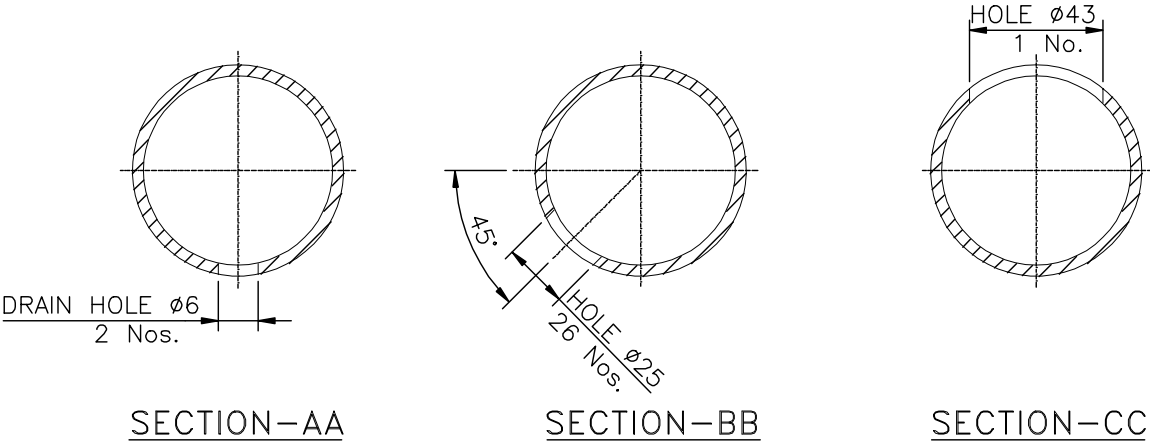
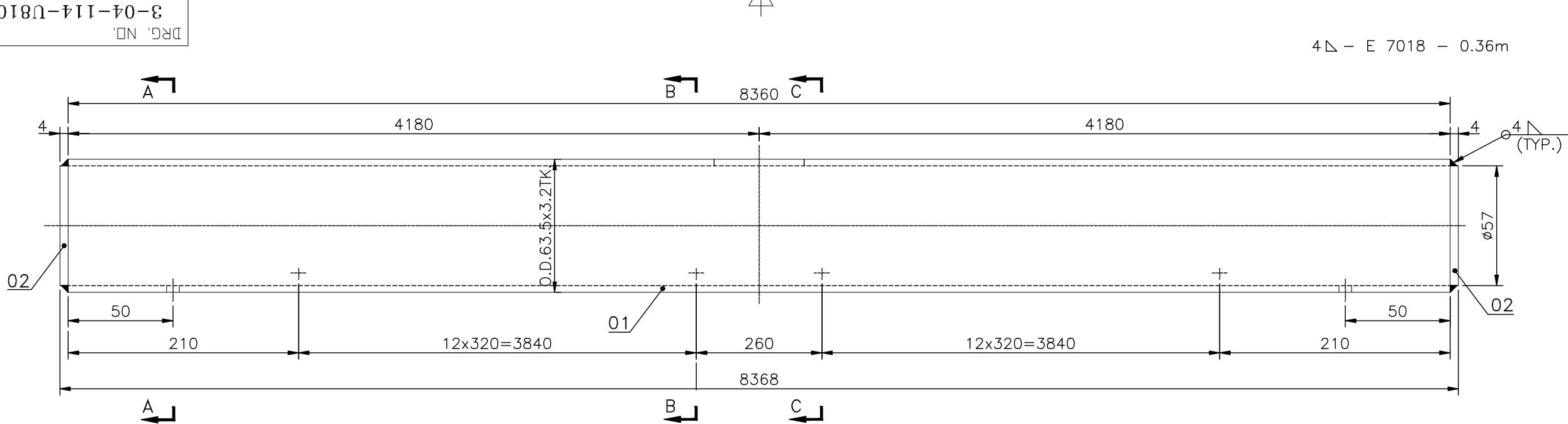
CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT						
 Bharat Heavy Electricals Ltd UNIT: HEAVY PLATES & VESSELS PLANT VISAKHAPATNAM – 530012		DRN	NAME K.H.THOMAS	DATE 25.07.2017		
		CHD	MVRP/GGR	25.07.2017		
		APPD	Y.P.KUMAR	25.07.2017		
DEPT HTE	ALL DIMENSIONS ARE IN MM	 PROJECTION	SCALE N.T.S.	WEIGHT (Kg) 1.830	REF TO ASSY / OLD DWG	
CODE 320						
TITLE FEED TUBE					DRAWING NO : 3-04-114-U8098	
					REV 00	

FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

4 Δ - E 7018 - 0.36m



VARIANT No.	ITEM No.	DESCRIPTION	STD	DRAWING No.	ITEM No.	MATL.CODE	UNIT	UNIT WT.(Kg.)
	02	SHEET 4 TK. D57			15 011 334	IS 1079D		0.2
	01	TUBE D 63.5 x 3.2; 8360 LONG			15 484 111	SA 192		42.410
								1

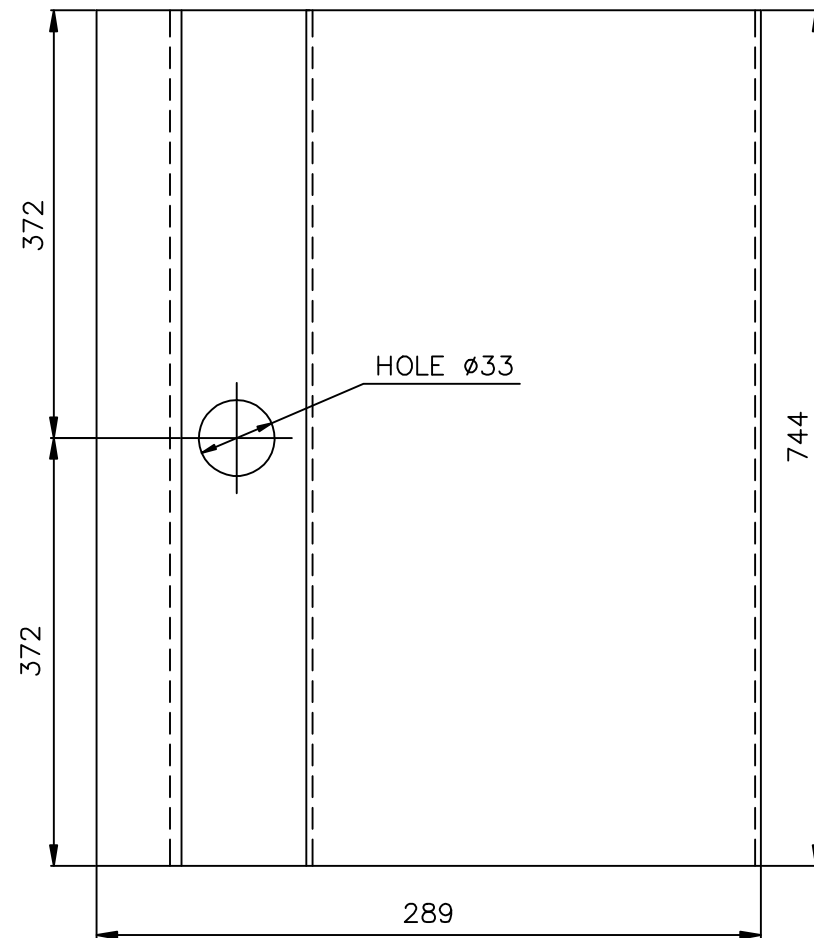
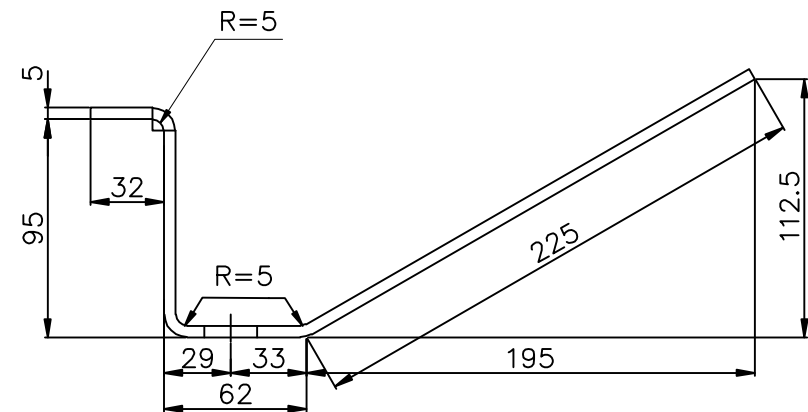
INVENTORY NO
SIGN. AND DATE
REF. DRG. NO.
COMPUTER FILE NAME
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REV	DATE	ALTERED :	REV	DATE	ALTERED :
02		CHD & APPD:	01		CHD & APPD :
ZONE			ZONE		

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TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT							
		Bharat Heavy Electricals Ltd		DRN	K.H.THOMAS	DATE	25.07.2017
		UNIT: HEAVY PLATES & VESSELS PLANT		CHD	MVRP/GGR		25.07.2017
		VISAKHAPATNAM - 530012		APPD	Y.P.KUMAR		25.07.2017
DEPT	HTE	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG	
CODE	320			N.T.S.	42.610		
TITLE						DRAWING NO :	REV
FEED HEADER						3-04-114-U8100	00

DRAWING NO: 3-04-114-U8125



REV	DATE	ALTERED :
00		CHD & APPD:
ZONE		

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TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT



Bharat Heavy Electricals Ltd
UNIT: HEAVY PLATES & VESSELS PLANT
VISAKHAPATNAM - 530012

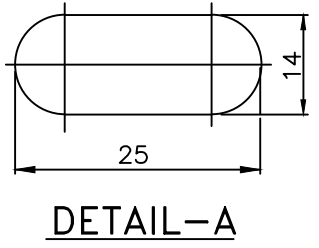
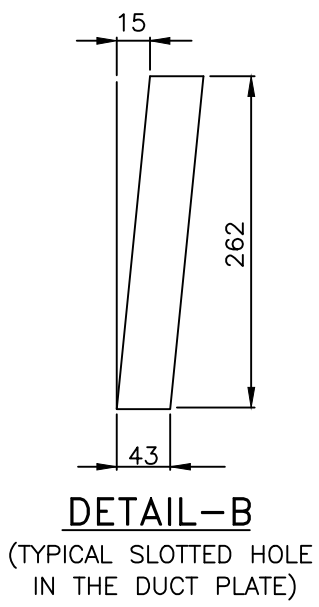
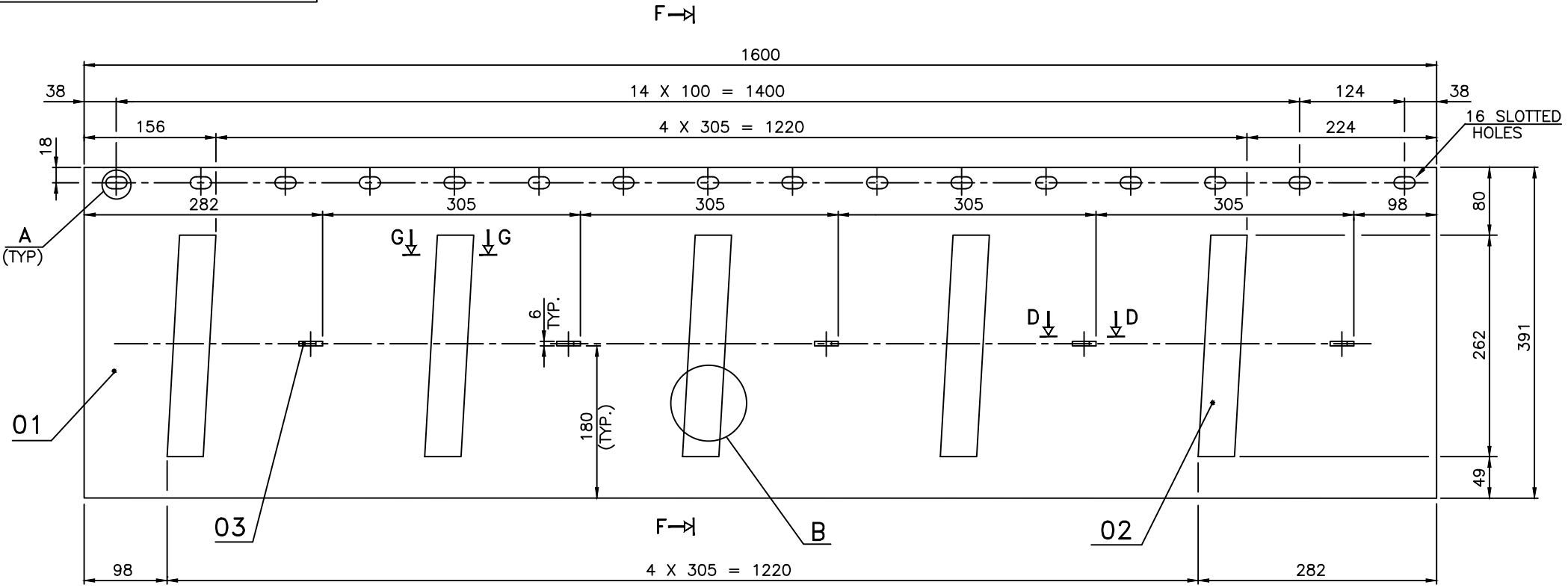
DRN	NAME	DATE
	K.H.THOMAS	28.09.2017
CHD	MVRP/GGRAO	28.09.2017
APPD	Y.P.KUMAR	28.09.2017

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
HTE			NTS N.T.S	11.900	3-04-114-02947
CODE	320				DRAWING NO : 3-04-114-U8125
TITLE	BENT PANEL				REV 00

VARIANT NUMBER	ITEM NUMBER	DESCRIPTION	STD	DRAWING NUMBER	ITEM NO	MATERIAL CODE	A/C/P	UNIT	UNIT WEIGHT
	01	PLATE 5; 407x744				15 011 029 IS2062GR A			11.900
					VAR NO	MATERIAL SPECN		DI	QUANTITY

3-04-116-U8305
DRAWING NO:

ALL DIMENSIONS ARE IN MILLIMETERS



NOTE:-

FOR ALL OTHER DETAILS (SECTION-DD, FF & GG)
REFER ASSY. DRG. No. 0-04-116-U8052

VARIANT NUMBER	ITEM NUMBER	DESCRIPTION	STD	DRAWING NUMBER	ITEM NO	MATERIAL CODE	A/C	UNIT	UNIT WEIGHT	QTY
03	H00K; PL.6X32X50	4-04-116-U8328				15 211 092			0.075	
						IS 2062 E250A			5	
02	CONNECTING DUCT-I	2-04-116-U8144				WELDMENT			2.120	
									5	
01	DUCT PLATE PL.6 X 391 X 1600					15 211 092			29.466	
						IS 2062 FE410A			1	

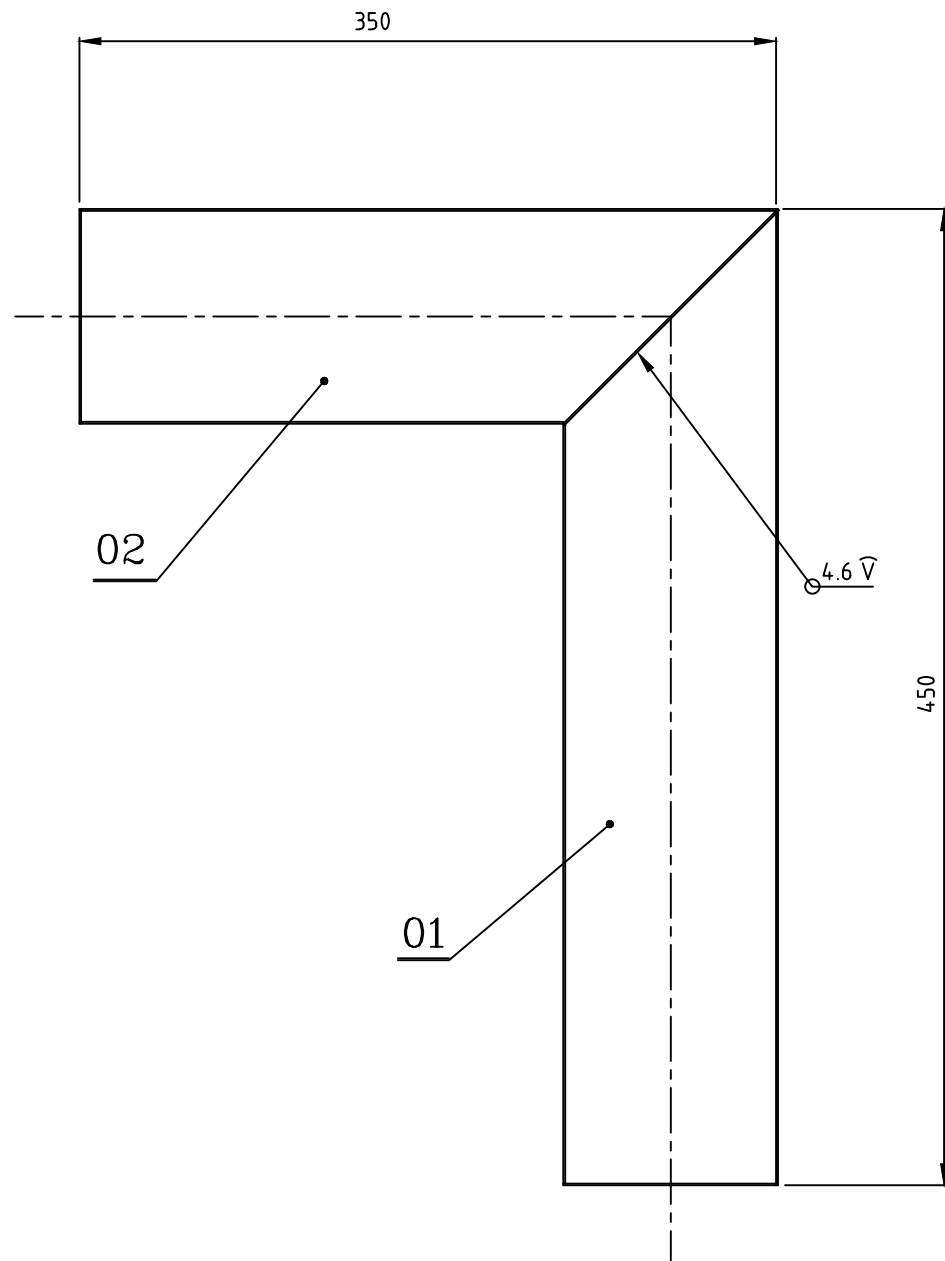
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TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT							
		Bharat Heavy Electricals Ltd UNIT: HEAVY PLATES AND VESSELS PLANT VISAKHAPATNAM – 530012			DRN	NAME T.S.S.RAO	DATE 16.09.19
					CHD	M.V.R.P/ANVK KISHORE	16.09.19
					APPD	Y.PRASANNA KUMAR	16.09.19
DEPT HT ENGG.	ALL DIMENSIONS ARE IN MM		SCALE N.T.S	WEIGHT (Kg) 40.441	REF TO ASSY / OLD DWG 3–04–116–83978		
CODE 320					DRAWING NO : 3–04–116–U8305		REV 00
TITLE DUCT PLATE ASSEMBLY							

REV	DATE	ALTERED :
01		CHECKED :
ZONE		

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.

DRAWING NO: 3-04-116-U8317



NOTES: -

01. PIPE ENDS CUT TO SUIT AT ASSEMBLY.

VARIANT NUMBER	ITEM NUMBER	DESCRIPTION	STD	DRAWING NUMBER	ITEM NO	MATERIAL CODE	A/C/P	UNIT	UNIT WEIGHT	GS
					VAR NO	MATERIAL SPECN		D1	QUANTITY	
	02	PIPE D48.3 X 5.08 L = 350				15 182 021 SA 106 GR.B	C		2.011 1	
	01	PIPE D48.3 x 5.08 L = 450				15 182 021 SA 106 GR.B	C		2.586 1	

REV	DATE	ALTERED
		CHKD & APPD
ZONE		

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TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT



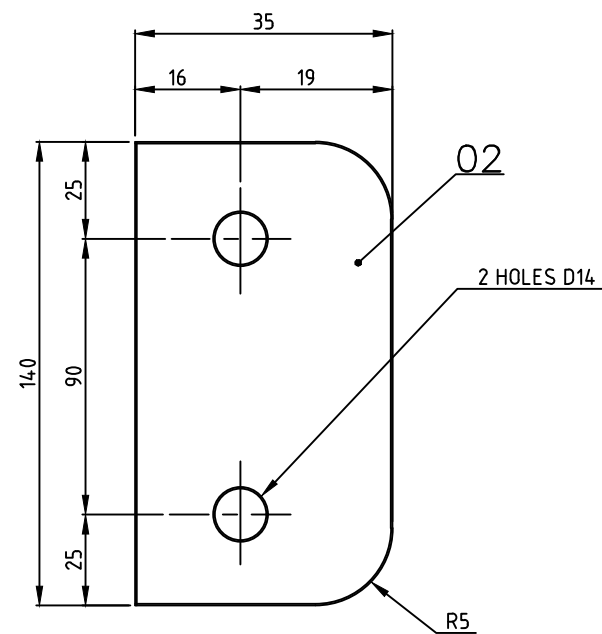
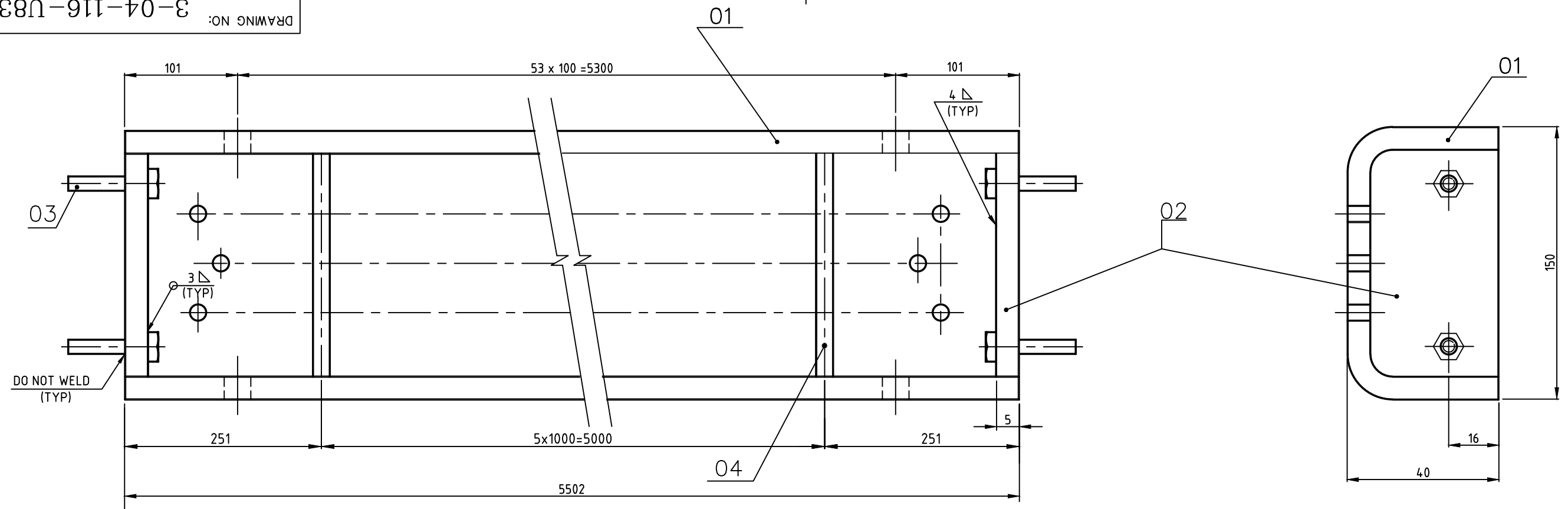
Bharat Heavy Electricals Ltd
UNIT: HEAVY PLATES AND VESSELS LIMITED
VISA KHAPATNAM - 530012

DRN	NAME	DATE
	T.S.S.RAO	16.09.2019
CHD	M.V.R.PRASAD/ANVKK	16.09.2019
APPD	Y.PRASANNA KUMAR	16.09.2019

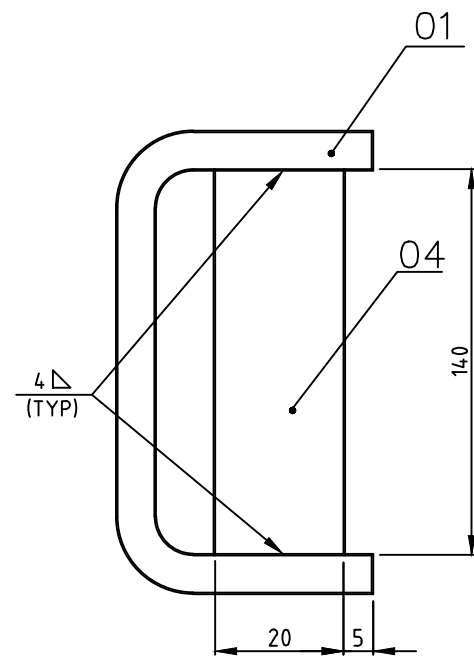
DEPT	HT ENGG	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG	REV
	CODE	320		N.T.S	4.579	3-04-116-83991	
TITLE						DRAWING NO :	
CBD PIPE						3-04-116-U8317	00

3-04-116-U8320

DRAWING NO:



DETAILS OF ITEM No.02



DETAIL OF ITEM No.04

REV	DATE	ALTERED :
01		CHECKED :
ZONE		

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	04	PL.5 X 20 X 140				15 011 029			0.110	CS
						IS 2062 Fe410A			6	
	03	SCRU HEX Gr.C M12 X 30	S	41222 12030		41222–12030			0.041	CS
						–			4	
	02	PL.5 X 35 X 140				15 011 029			0.192	CS
						IS 2062 Fe410A			2	
	01	PERFORATED PLATE		3–04–116–U8319		15 011 029			46.197	CS
						IS 2062 Fe410A			1	
VARIANT NUMBER	ITEM NUMBER	DESCRIPTION	STD	DRAWING NUMBER	ITEM NO	MATERIAL CODE	A/C	UNIT	UNIT WEIGHT	CS
					VAR NO	MATERIAL SPECN		D1	QUANTITY	

TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT



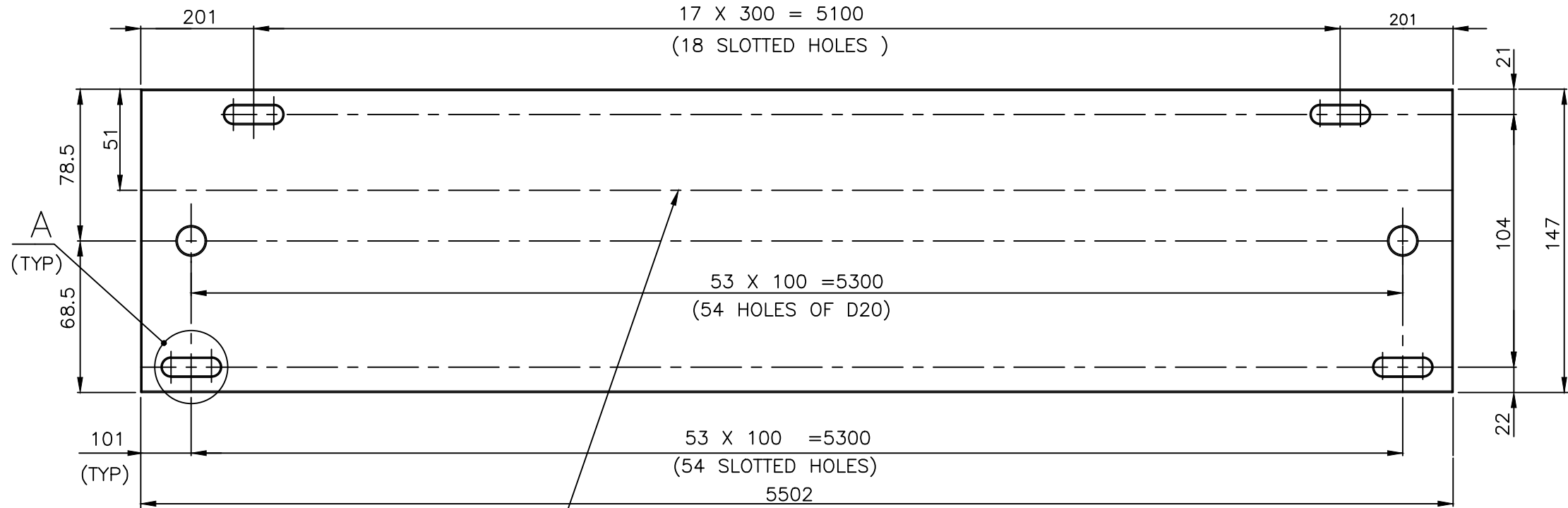
Bharat Heavy Electricals Ltd
UNIT: HEAVY PLATES AND VESSELS LIMITED
VISAKHAPATNAM - 530012

DRN	NAME	DATE
	T.S.S.RAO	16.09.2019
CHD	M.V.R.PRASAD/ANVKK	16.09.2019
APPD	Y.PRASANNA KUMAR	16.09.2019

DEPT HT ENGG		GRADE OF UNTOL. DIM C/M/F		SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG	
CODE 320				N.T.S	47.405	3-04-116-83994	
TITLE						DRAWING NO :	REV
PERFORATED PLATE ASSY.						3-04-116-U8320	00

3-04-116-U8324

DRAWING NO:



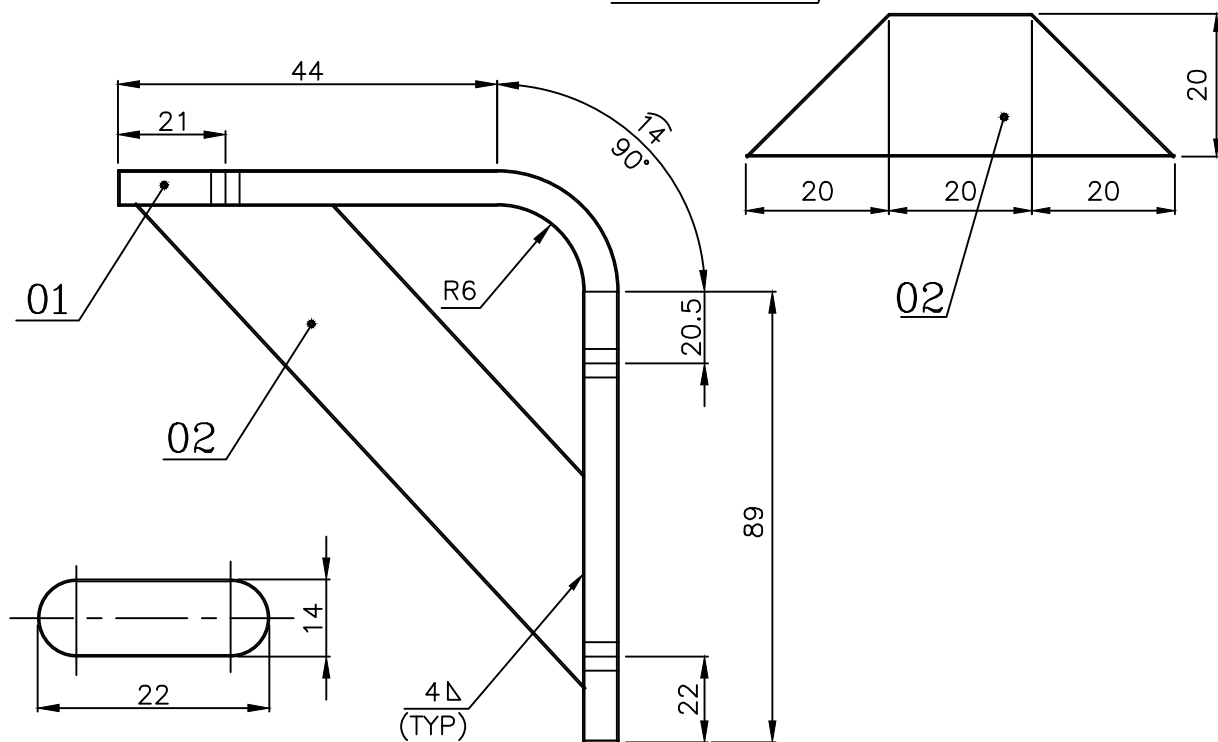
WELD:

6 $\bar{\Pi}$ - E7018 - 2Nos.
(OPTIONAL)

LINE OF BEND

NOTE: -

ITEM NO.02 SHOULD BE PROVIDED AT 6 SUITABLE PLACES
HAVING 1M SPAN APPROX.



DETAIL-A

REV	DATE	ALTERED :
01		CHECKED :
ZONE		

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VARIANT NUMBER	ITEM NUMBER	DESCRIPTION	STD	DRAWING NUMBER	ITEM NO VAR NO	MATERIAL CODE MATERIAL SPECN	A/C	UNIT D1	UNIT WEIGHT QUANTITY	GS
	02	PL.6 X 20 X 60				15 211 092 IS 2062 FE410A			0.057 6	
	01	PL.6 X 147 X 5502				15 011 092 IS 2062 FE410A			38.000 1	

TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT



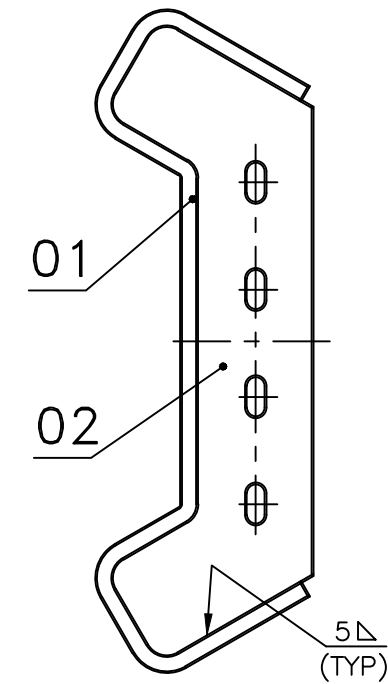
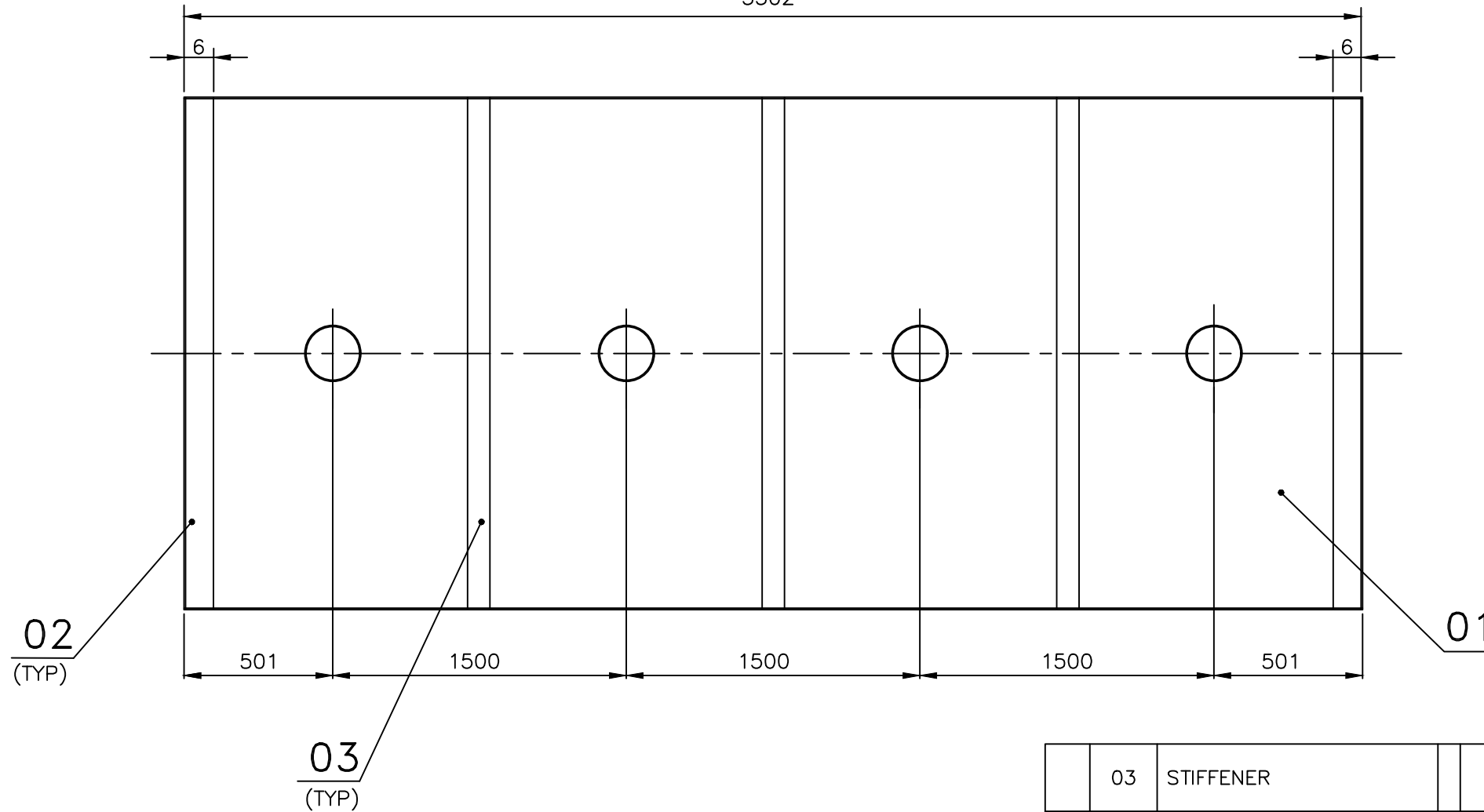
Bharat Heavy Electricals Ltd
UNIT: HEAVY PLATES AND VESSELS LIMITED
VISAKHAPATNAM - 530012

DRN	NAME T.S.S.RAO	DATE 16.09.2019
CHD	M.V.R.PRASAD/ANVKK	16.09.2019
APPD	Y.PRASANNA KUMAR	16.09.2019

DEPT HT ENGG CODE 320	GRADE OF UNTOL. DIM C/M/F	SCALE N.T.S	WEIGHT (Kg) 38.342	REF TO ASSY / OLD DWG 3-04-116-83998
TITLE BENT PLATE				DRAWING NO : 3-04-116-U8324
				REV 00

DRAWING NO: 3-04-116-U8326

5502



NOTE:-

ITEM 03 TO BE LOCATED AT 3 EQUAL AND SUITABLE LOCATIONS.

	03	STIFFENER		4-04-116-U8311		15 211 092			1.000	
						IS 2062 FE410A			3	
	02	STIFFENER		4-04-116-U8310		15 211 092			1.000	
						IS 2062 FE410A			2	
	01	BOTTOM PLATE		3-04-116-U8325		15 011 029			102.000	
						IS 2062 FE410A				
VARIANT NUMBER	ITEM NUMBER	DESCRIPTION	STD	DRAWING NUMBER	ITEM NO	MATERIAL CODE	A/C	UNIT	UNIT WEIGHT	GS
					VAR NO	MATERIAL SPECN		D1	QUANTITY	

REV 01	DATE	ALTERED :
		CHECKED :
ZONE		

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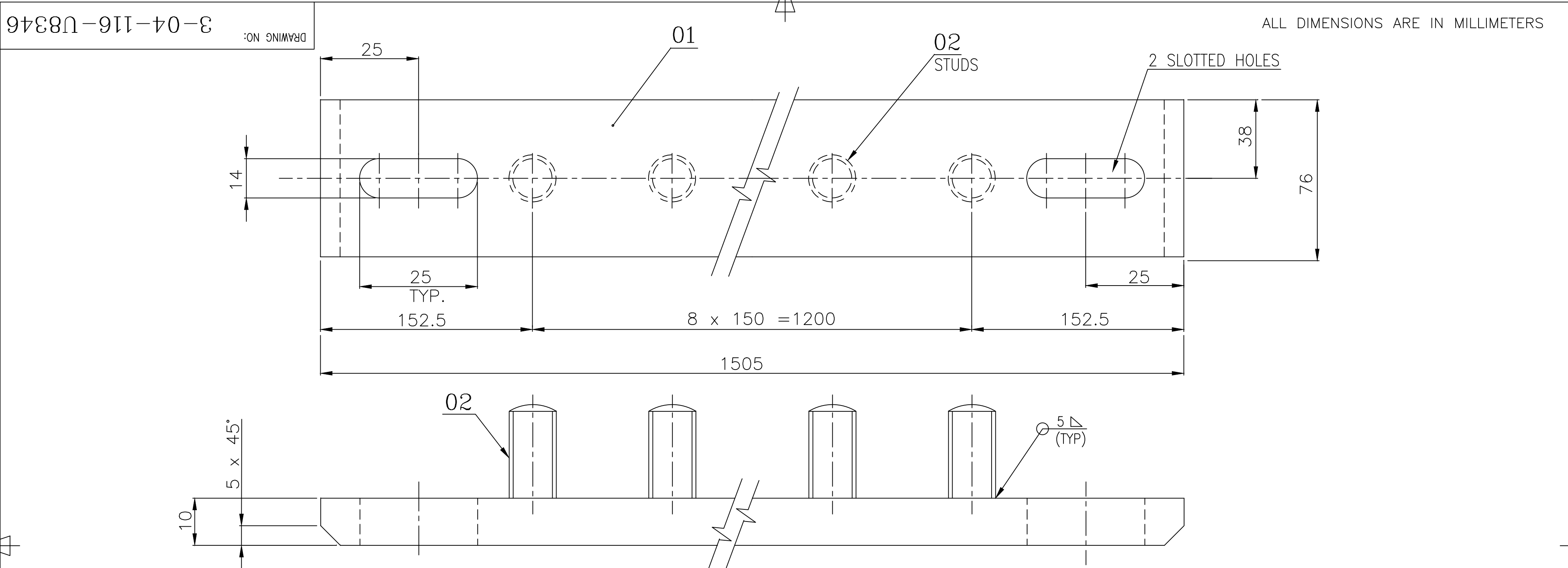
TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT



Bharat Heavy Electricals Ltd
UNIT: HEAVY PLATES AND VESSELS LIMITED
VISAKHAPATNAM – 530012

DRN	NAME T.S.S.RAO	DATE 16.09.2019
CHD	M.V.R.PRASAD /ANVKK	16.09.2019
APPD	Y.PRASANNA KUMAR	16.09.2019

DEPT HT ENGG	GRADE OF UNTOL. DIM		SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
CODE 320	C/M/F		N.T.S	107.000	3-04-116-84000
TITLE				DRAWING NO :	REV
BOTTOM PLATE ASSY				3-04-116-U8326	00



	02	STUD M16 X 50	4-04-116-U8337		15 627 240			0.076	
					SA 105			9	
	01	PL.10 x 76 x1505			15 011 098			8.970	
					IS 2062 Fe 410A			1	
VARIANT NUMBER	ITEM NUMBER	DESCRIPTION	STD	DRAWING NUMBER	ITEM NO	MATERIAL CODE	A/C	UNIT	UNIT WEIGHT
					VAR NO	MATERIAL SPECN		D1	QUANTITY

REV	DATE	ALTERED :
		CHECKED :
01		
ZONE		

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TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT

Bharat Heavy Electricals Ltd

UNIT: HEAVY PLATES AND VESSELS PLANT

VISAKHAPATNAM - 530012

DRN

T.S.S.RAO

DATE

16.09.2019

CHD

M.V.R. PRASAD/ANVKK

16.09.2019

APPD

Y.PRASANNA KUMAR

16.09.2019

DEPT

HT

ENGG

CODE

320

ALL DIMENSIONS ARE IN MM

SCALE

N.T.S

WEIGHT (Kg)

9.654

REF TO ASSY / OLD DWG

3-04-116-83500

TITLE

FLAT BAR

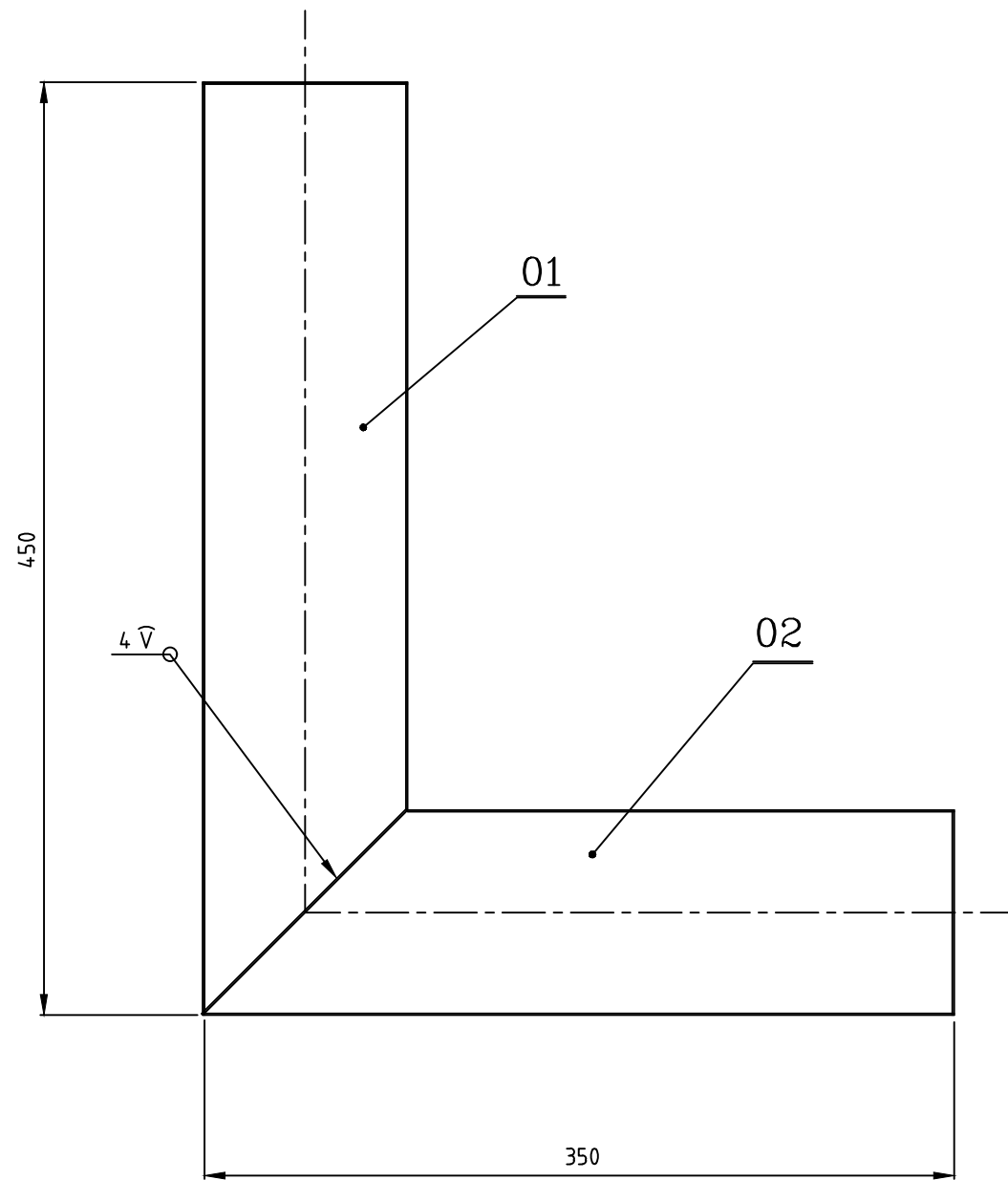
DRAWING NO :

3-04-116-U8346

REV

00

DRAWING NO: 3-04-116-U8347



NOTES: —

01. PIPE ENDS CUT TO SUIT AT ASSEMBLY.

VARIANT NUMBER	ITEM NUMBER	DESCRIPTION	STD	DRAWING NUMBER	ITEM NO	MATERIAL CODE	A/C/P	UNIT	UNIT WEIGHT	GS
					VAR NO	MATERIAL SPECN		D1	QUANTITY	
	02	TUBE D31.8 x 4 L = 350				15 151 028 SA 213 TP 304H	C		1.045	1
	01	TUBE D31.8 x 4 L = 450				15 151 028 SA 213 TP 304H	C		1.344	1

REV	DATE	ALTERED
		CHKD & APPD
ZONE		

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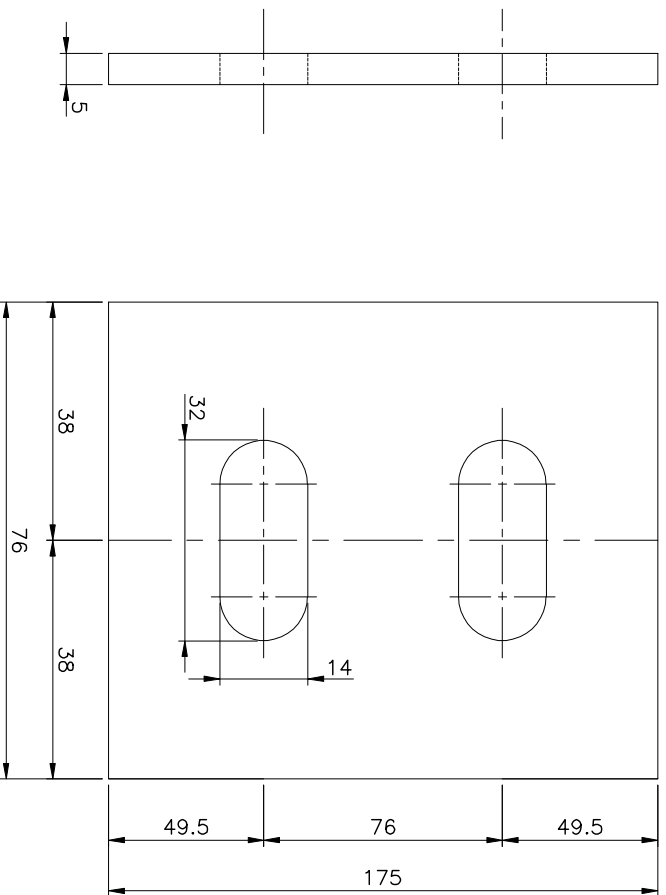
TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT



Bharat Heavy Electricals Ltd
UNIT: HEAVY PLATES AND VESSELS LIMITED
VISAKHAPATNAM — 530012

DRN	NAME	DATE
	T.S.S.RAO	16.09.2019
CHD	M.V.R.PRASAD/ANVKK	16.09.2019
APPD	Y.PRASANNA KUMAR	16.09.2019

DEPT	HT ENGG	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
	CODE	320		N.T.S	2.389	3-04-116-83992
TITLE						DRAWING NO : 3-04-116-U8347
						REV 00



STYLE No.	ITEM No.	BPS	REF. DRG./BPS No.	RVN	MATERIAL CODE	A	COMP GROUP	UNIT wt.(kg)	BMI	DI	DESCRIPTION/REMARKS
				STL	MATERIAL SPECN			QUANTITY			
					15 011 029			0.50			PL 5; 76 x 175
					IS 2062Fe410WA						

REV.NO.	BRIEF RECORD OF REVISIONS	PPD	CHD.	APPD

TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT

Bharat Heavy Electricals Ltd
UNIT: HEAVY PLATES & VESSELS PLANT
VISAKHAPATNAM – 530012

	NAME	DATE
DRN	K.H. THOMAS	25.07.2017
CHD	MVRP /GGR	25.07.2017
APPD	Y.P.KUMAR	25.07.2017

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (kg)	REF TO ASSY / OLD DWG
HTE			N.T.S.	0.500	
CODE					
320					

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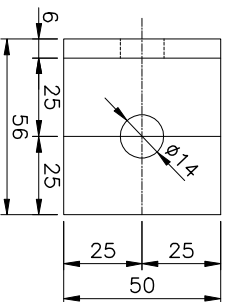
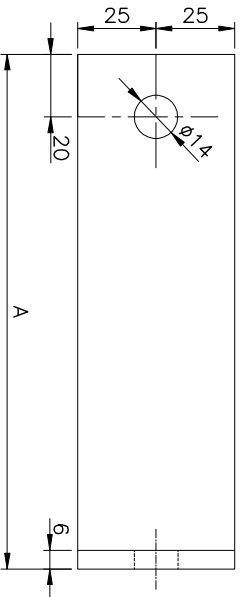
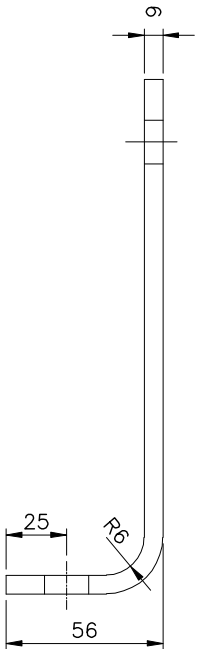
TITLE

STRIP

DRAWING NO :

4-04-114-U806700

REV



STYLE NO	A
01	164
02	219

STYLE NO.	ITEM NO.	SP. NO.	REF. DRG./BPS No.	RVN	STL	MATERIAL CODE	MATERIAL SPECN	A	COMP GROUP	UNIT wt.(kg)	QUANTITY	W	D	DESCRIPTION/REMARKS
02						15 008 011 IS 2062Fe410WA				0.65				FLAT 50x6; ~ 265 LONG
01						15 008 011 IS 2062Fe410WA				0.50				FLAT 50x6; ~ 210 LONG

REV.No.	BRIEF RECORD OF REVISIONS	PPD	CHD.	APPD.

TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT



Bharat Heavy Electricals Ltd
UNIT: HEAVY PLATES & VESSELS PLANT
VISA KHAPATNAM - 530012

NAME	DATE
K.H.THOMAS	25.07.2017
MVRP/GGR	25.07.2017
Y.P.KUMAR	25.07.2017

DEPT	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)
HTE			N.T.S.	01=0.5 02=0.65
CODE	320			

REF TO ASSY / OLD DWG

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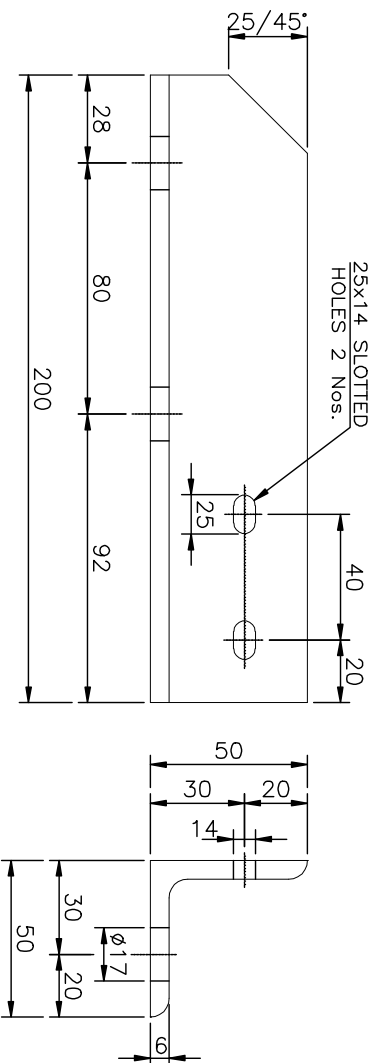
TITLE

SUPPORT BAR

DRAWING NO :

4-04-114-U806800

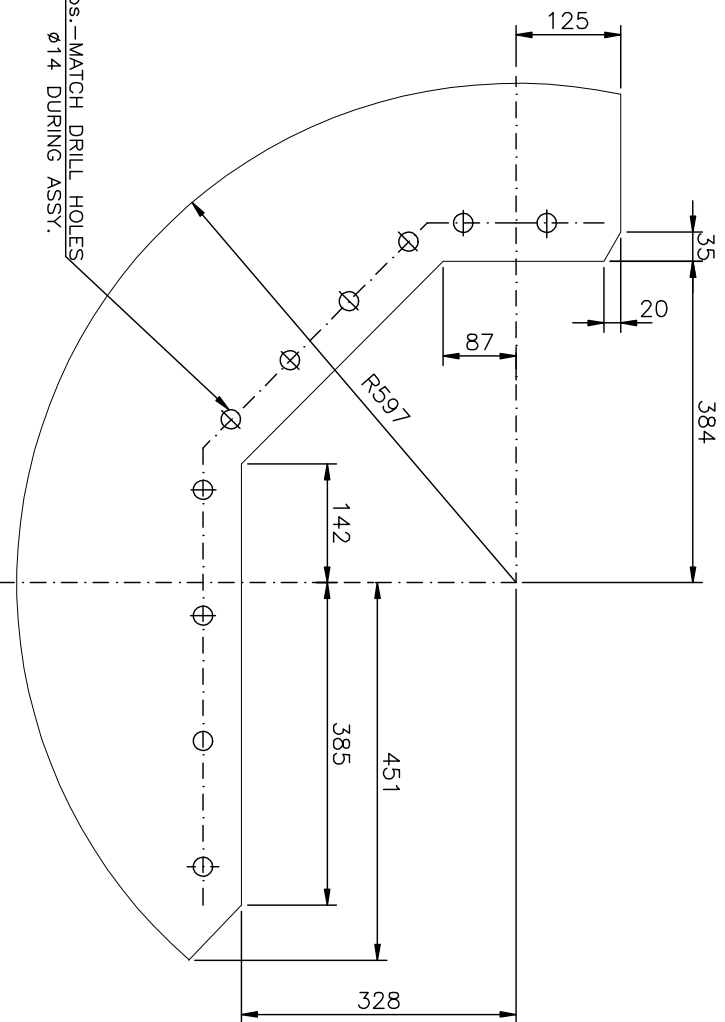
REV

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REV.No.	BRIEF RECORD OF REVISIONS	PPD	CHD.	APPD

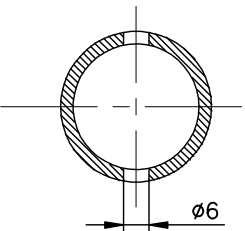
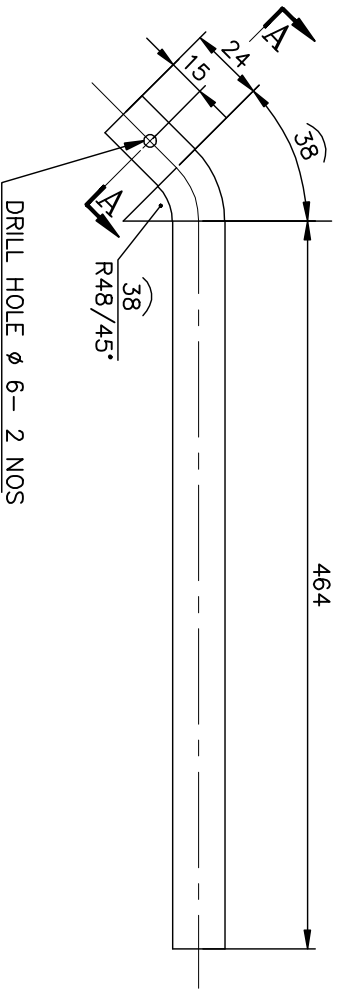
CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.									
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT									
Bharat Heavy Electricals Ltd UNIT: HEAVY PLATES & VESSELS PLANT VISAKHAPATNAM - 530012									
		DRN		NAME		DATE			
CHD		MVRP /GCR		K.H.THOMAS		25.07.2017			
APPD		Y.P.KUMAR		REF TO ASSY / OLD DWG		25.07.2017			
DEPT HTE		ALL DIMENSIONS ARE IN MM		PROJECTION 		SCALE N.T.S.		WEIGHT (Kg) 0.900	
CODE 320									
TITLE FEED SUPPORT ANGLE								DRAWING NO : 4-04-114-U8070	
								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.

[illegible]

REV.No.	BRIEF RECORD OF REVISIONS	PPD	CHD.	APPD.

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									
				Bharat Heavy Electricals Ltd UNIT: HEAVY PLATES & VESSELS PLANT VISAKHAPATNAM - 530012					
DEPT HTE		ALL DIMENSIONS ARE IN MM		PROJECTION 		SCALE N.T.S.		WEIGHT (Kg) 14.000	
CODE 320									
TITLE END COVER		DRAWING NO : 4-04-114-U8072		REF TO ASSY / OLD DWG		NAME K.H.THOMAS		DATE 27.07.2017	
						CHD MVRP /GGR		27.07.2017	
						APPD Y.P.KUMAR		27.07.2017	
								REV	



SECTION A-A

VARIANT NUMBER	TUBE ϕ 33.4X3.38 526 LONG	15 182 010	1.400
DESCRIPTION	SA106 GRB	MATERIAL CODE	UNIT WEIGHT
	STD	MATERIAL SPECN	QUANTITY
	A/C/P	UNIT	

REV.No.	BRIEF RECORD OF REVISIONS	PPD	CHD.	APPD.

TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT



Bharat Heavy Electricals Ltd
UNIT: HEAVY PLATES & VESSELS PLANT
VISAKHAPATNAM – 530012

DRN	NAME	DATE
CHD	K.H. THOMAS	27.07.2017
APPD	MVRP/GGR	27.07.2017
	Y.P.KUMAR	27.07.2017

DEPT HTE	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)
CODE 320			N.T.S.	1.400

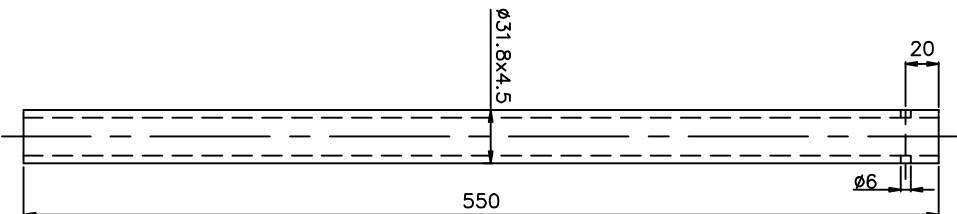
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TITLE	DRAWING NO :	REV
DRAIN TUBE	4-04-114-U8076	00

REV	DATE	ALTERED :
01		CHD & APPD :

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

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VARIANT NUMBER	TUBE ϕ 31.8x4.5	15 486 028	1.760
	550 LONG	SA210GRA1	1
	DESCRIPTION	MATERIAL CODE	UNIT WEIGHT
		MATERIAL SPECN	QUANTITY
		A/C/P	UNIT
		STD	



Bharat Heavy Electricals Ltd
UNIT: HEAVY PLATES & VESSELS PLANT
VISAKHAPATNAM – 530012

DRN	NAME	DATE
CHD	K.H.THOMAS	03.10.2017
APPD	MVRP /GGR	03.10.2017
	Y.P.KUMAR	03.10.2017

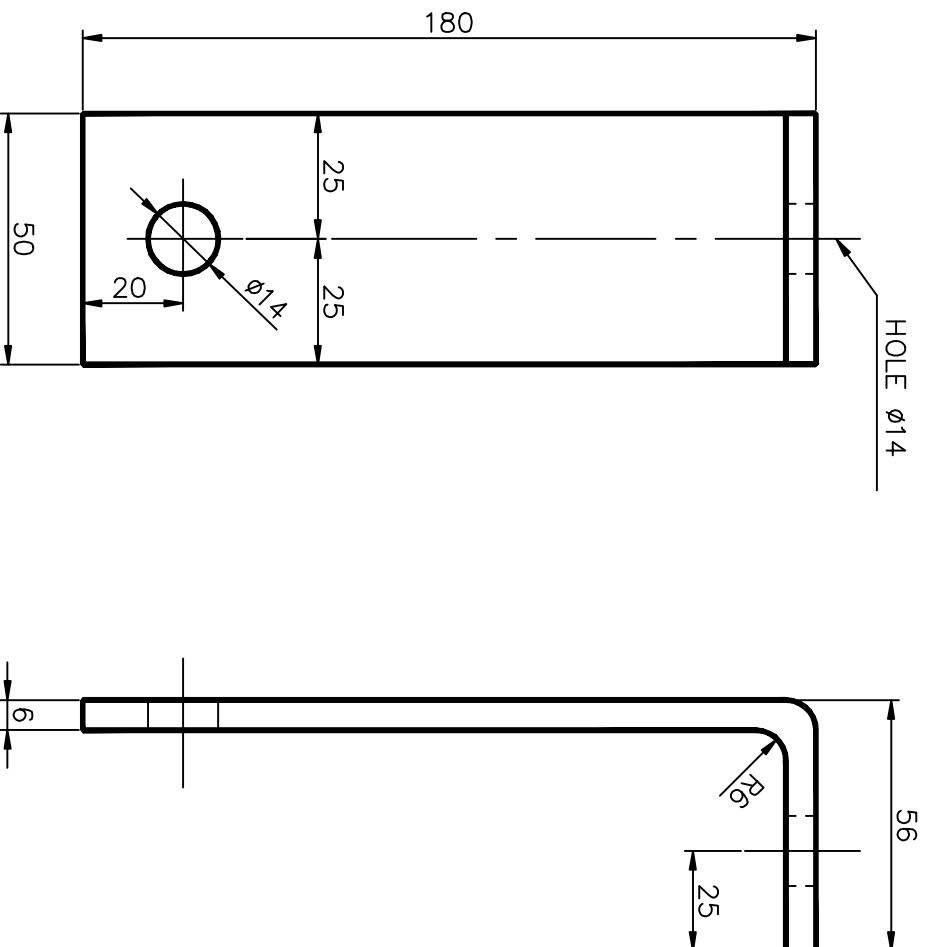
DEPT	ALL	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
HTE					
CODE	DIMENSIONS				
320	ARE IN MM		N.T.S	1.760	4-04-114-03152

TITLE	DRAWING NO :	REV
DRAIN TUBE	4-04-114-U8115	00

REV	DATE	ALTERED :
01		CHD & APPD :

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

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VARIANT NUMBER	PLATE 6 50x226	15 211 092	IS2062FE410WA	A/C/P	UNIT	UNIT WEIGHT
						1
	DESCRIPTION	DS	MATERIAL SPECN			QUANTITY



Bharat Heavy Electricals Ltd
UNIT: HEAVY PLATES & VESSELS PLANT
VISAKHAPATNAM - 530012

DRN	NAME	DATE
CHD	K.H.THOMAS	03.10.2017
APPD	MVRP/GGR	03.10.2017
	Y.P.KUMAR	03.10.2017

DEPT	HTE	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
CODE	320			N.T.S	0.500	4-04-114-03153

TITLE

SUPPORT PLATE

DRAWING NO :

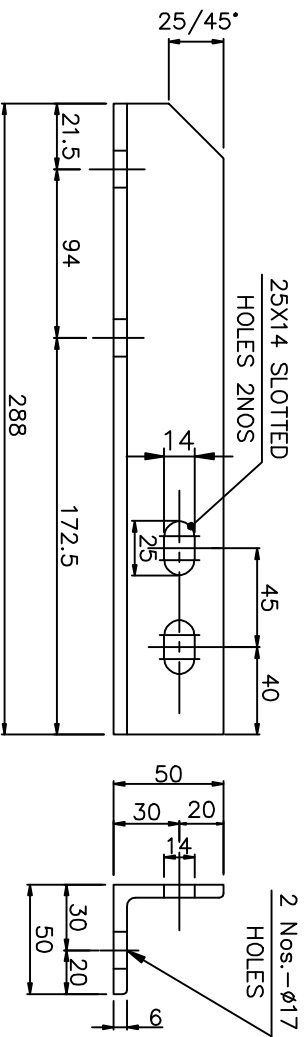
4-04-114-U8116 00

REV

REV	DATE	ALTERED :
01		CHD & APPD :

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

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VARIANT NUMBER	ISA 50x50x6	15 013 156	1.300
	288 LONG	IS2062 E250A	1
DESCRIPTION	DS	MATERIAL CODE	UNIT WEIGHT
		MATERIAL SPECN	QUANTITY



Bharat Heavy Electricals Ltd
UNIT: HEAVY PLATES & VESSELS PLANT
VISAHHAPATNAM – 530012

DRN	NAME	DATE
CHD	K.H. THOMAS	03.10.2017
APPD	MVRP/GGR	03.10.2017
	Y.P. KUMAR	03.10.2017

DEPT	ALL	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
HTE			N.T.S	1.300	4-04-114-03158
CODE	DIMENSIONS ARE IN MM				
320					

TITLE

FEED SUPPORT ANGLE

DRAWING NO :

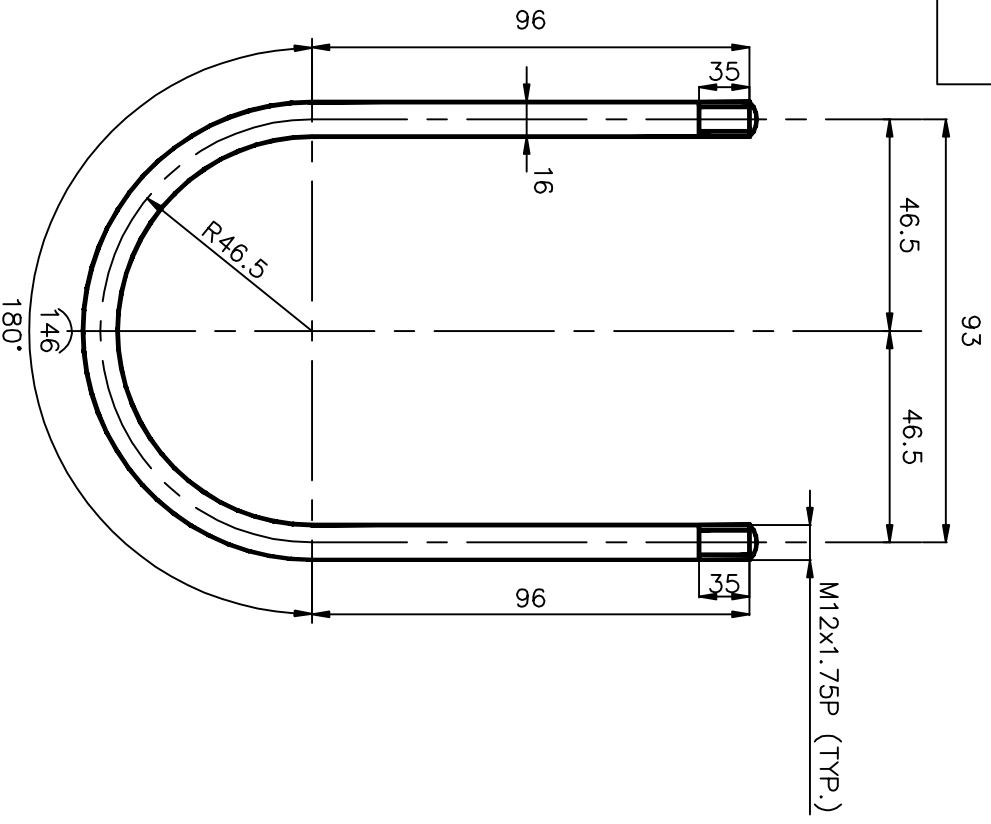
4-04-114-U8121

REV

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REV	DATE	ALTERED :
00		CHD & APPD :

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



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IN ANY WAY DETRIMENTAL TO THE INTEREST OF BHEL

VARIANT NUMBER	ROD D16; 338 LONG	15 004 106	0.530
DESCRIPTION	IS 2062FE410WA	MATERIAL CODE	UNIT WEIGHT
	IS	MATERIAL SPECN	UNIT QUANTITY



Bharat Heavy Electricals Ltd
UNIT: HEAVY PLATES & VESSELS PLANT
VISAKHAPATNAM - 530012

DRN	NAME	DATE
CHD	K.H. THOMAS	03.10.2017
APPD	MVRP/GCR	03.10.2017
	Y.P. KUMAR	03.10.2017

DEPT	ALL	PROJECTION	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG
HTE	DIMENSIONS		N.T.S	0.530	4-14-114-03159
CODE	ARE IN MM				
320					

TITLE

U-ROD

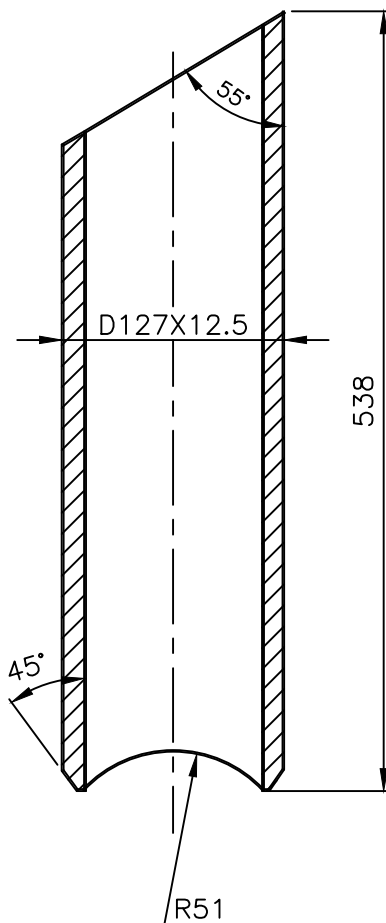
DRAWING NO :

4-14-114-U8122 00

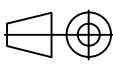
REV

CAUTION:

REV 01	DATE	ALTERED :
		CHECKED :

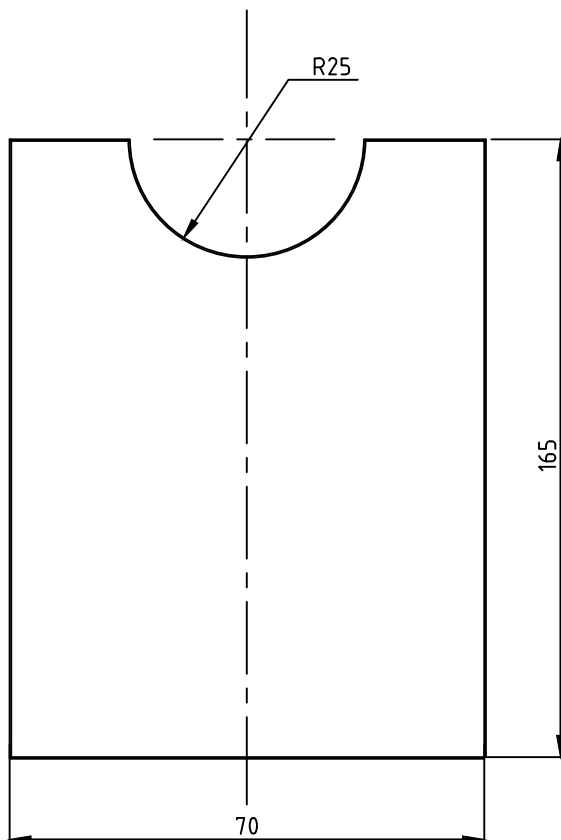


	PIPE D 127 X 12.5 L = 538		15 182 183 SA 106 Gr.B	C		19.986
VARIANT NUMBER	DESCRIPTION	STD	MATERIAL CODE	A/C	UNIT	UNIT WEIGHT
			MATERIAL SPECN			QUANTITY

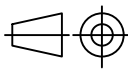
 Bharat Heavy Electricals Ltd UNIT: HEAVY PLATES AND VESSELS LIMITED VISAKHAPATNAM – 530012			DRN	NAME T.S.S.RAO	DATE 19.09.2019	NO. OF VAR	
			CHD	M.V.R.PRASAD/ANVKK	19.09.2019		
			APPD	Y.PRASANNA KUMAR	19.09.2019		
DEPT HT ENGG	GRADE OF UNTOL. DIM		SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DWG	ITEM NO	No OF ITEMS
CODE 320	C/M/F		N.T.S	19.986	4-04-116-82118		
TITLE				CARD CODE	DRAWING NO :		REV
FEED PIPE				U 01	4-04-116-U8300		00

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REV	DATE	ALTERED
		CHD & APPD

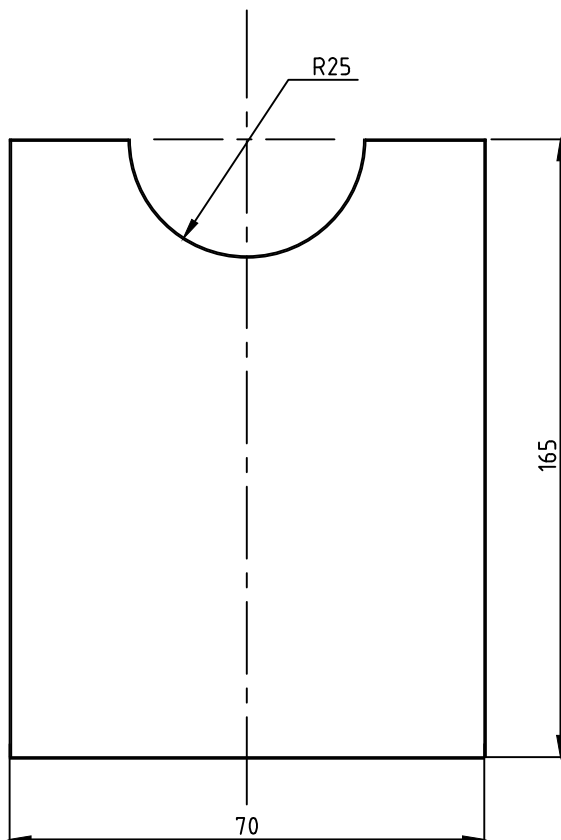


	PL6 X 70 X 165		15 211 092		0.544
			IS 2062 FE410A		
VARIANT NUMBER	DESCRIPTION	STD	MATERIAL CODE	A/C/P	UNIT WEIGHT
			MATERIAL SPECN	UNIT	QUANTITY

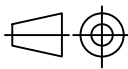
		Bharat Heavy Electricals Ltd UNIT: HEAVY PLATES AND VESSELS LIMITED VISAKHAPATNAM – 530012		DRN	T.S.S.RAO	DATE	16.09.2019
				CHD	M.V.R.PRASAD/ANVKK		16.09.2019
				APPD	Y.PRASANNA KUMAR		16.09.2019
DEPT HT ENGG CODE 320	ALL DIMENSIONS ARE IN MM	PROJECTION 	SCALE N.T.S	WEIGHT (Kg) 0.544	REF TO ASSY / OLD DWG 4-04-116-82120		
TITLE SUPPORT PLATE – 2					DRAWING NO : 4-04-116-U8302		REV 00

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REV	DATE	ALTERED
		CHD & APPD

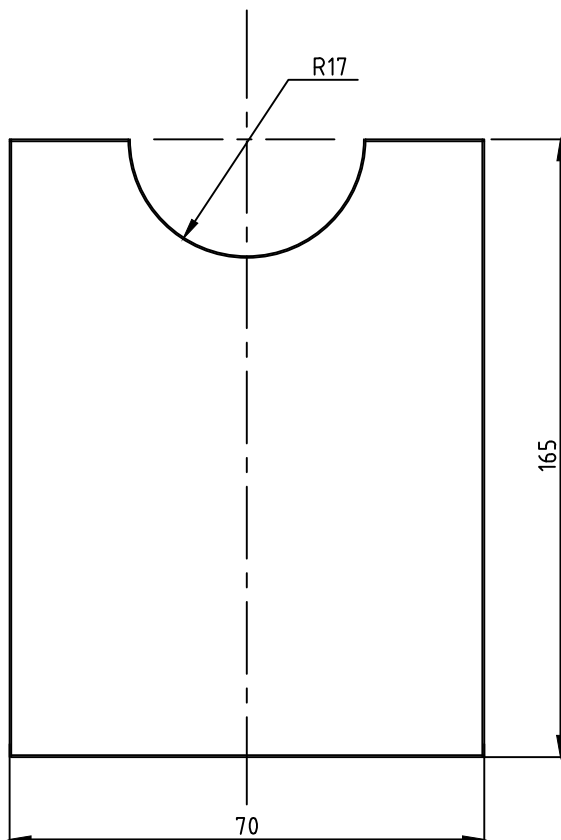


	PL6 X 70 X 165		15 211 092		0.544
			IS 2062 FE410A		
VARIANT NUMBER	DESCRIPTION	STD	MATERIAL CODE	A/C/P	UNIT WEIGHT
			MATERIAL SPECN	UNIT	QUANTITY

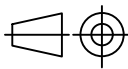
		Bharat Heavy Electricals Ltd UNIT: HEAVY PLATES AND VESSELS LIMITED VISAKHAPATNAM – 530012		DRN	T.S.S.RAO	DATE	16.09.2019
				CHD	M.V.R.PRASAD/ANVKK		16.09.2019
				APPD	Y.PRASANNA KUMAR		16.09.2019
DEPT HT ENGG CODE 320	ALL DIMENSIONS ARE IN MM	PROJECTION 	SCALE N.T.S	WEIGHT (Kg) 0.544	REF TO ASSY / OLD DWG 4-04-116-82120		
TITLE SUPPORT PLATE – 2					DRAWING NO : 4-04-116-U8302		REV 00

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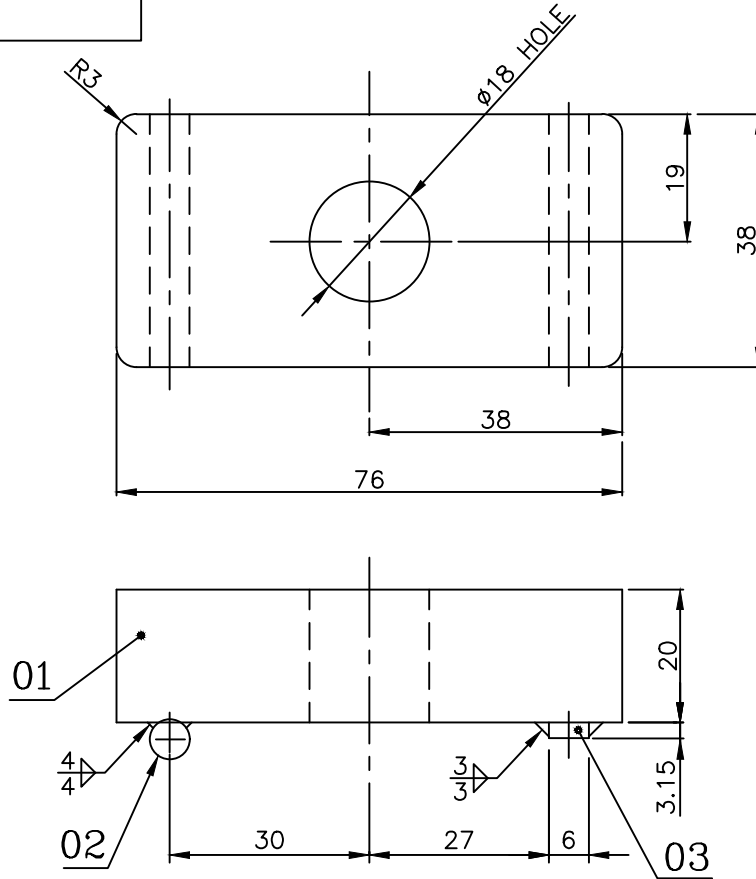
REV	DATE	ALTERED
		CHD & APPD



	PL6 X 70 X 165		15 211 092		0.544
			IS 2062 FE410A		
VARIANT NUMBER	DESCRIPTION	STD	MATERIAL CODE	A/C/P	UNIT WEIGHT
			MATERIAL SPECN	UNIT	QUANTITY

		Bharat Heavy Electricals Ltd UNIT: HEAVY PLATES AND VESSELS LIMITED VISAKHAPATNAM – 530012		DRN	T.S.S.RAO	DATE	16.09.2019
				CHD	M.V.R.PRASAD/ANVKK		16.09.2019
				APPD	Y.PRASANNA KUMAR		16.09.2019
DEPT HT ENGG CODE 320	ALL DIMENSIONS ARE IN MM	PROJECTION 	SCALE N.T.S	WEIGHT (Kg) 0.544	REF TO ASSY / OLD DWG 4-04-116-82122		
TITLE SUPPORT PLATE – 4					DRAWING NO : 4-04-116-U8304		REV 00

REV	DATE	ALTERED
		CHD & APPD



03	SHEET 3.15 THK. 6 x 38	15 011 182		0.006
		IS 1079D		1
02	ROUND D6; L=38	15 004 026		0.008
		IS 2062 Gr.A		1
01	PLATE 20THK. x 38 x 76	15 011 150		0.453
		IS 2062 E250A		1
ITEM NUMBER	DESCRIPTION	MATERIAL CODE	A/C/P	UNIT WEIGHT
		MATERIAL SPECN	UNIT	QUANTITY



Bharat Heavy Electricals Ltd

UNIT: HEAVY PLATES AND VESSELS PLANT
VISAKHAPATNAM - 530012

DEPT HT ENGG	ALL DIMENSIONS ARE IN MM	PROJECTION	SCALE	WEIGHT (Kg)	NAME T.S.S.RAO	DATE 16.09.19
CODE 320			N.T.S	0.467	CHD M.V.R.P/ANVKK	16.09.19
					APPD Y.PRASANNA KUMAR	16.09.19
TITLE CLAMP					REF TO ASSY / OLD DWG 3-04-116-80601	
					DRAWING NO : 4-04-116-U8335	REV 00

A4 SIZE