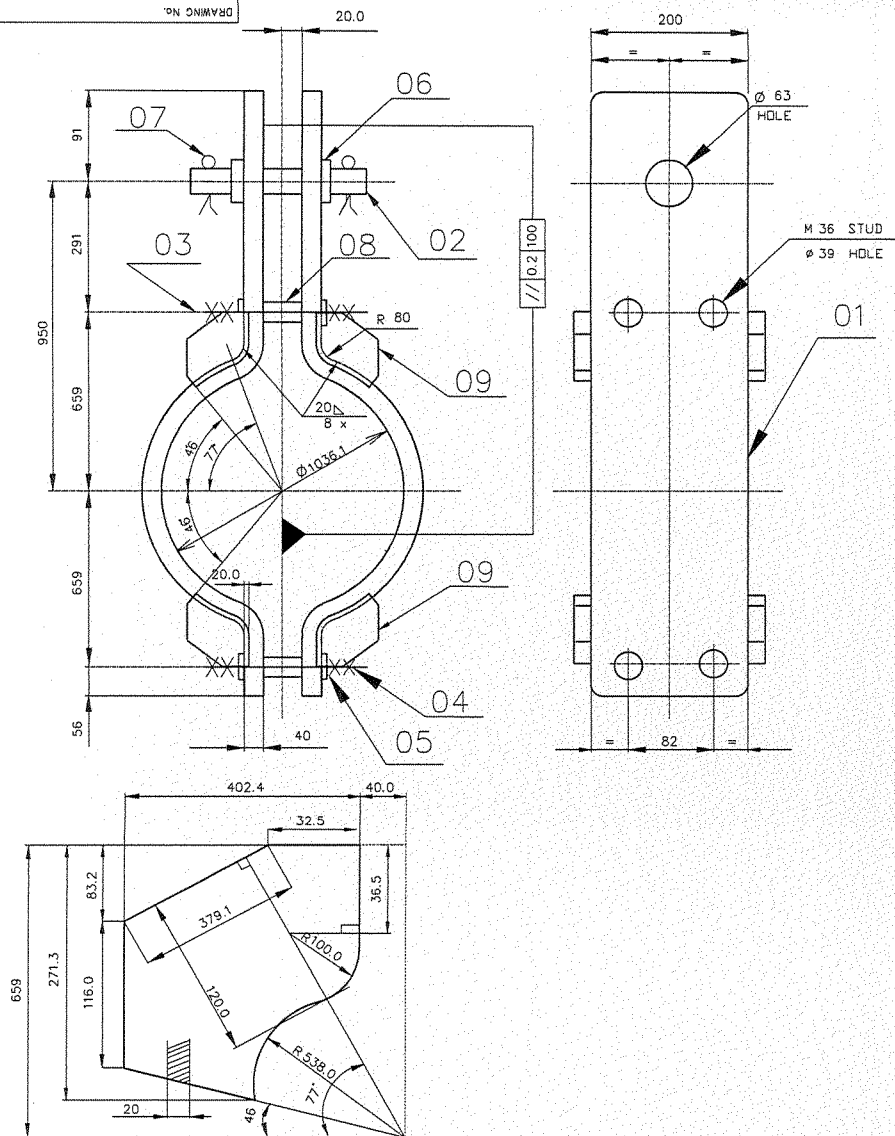


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ITEM No.09

12.5

1.0 FOR NOTES REFER DRAWING No. 4-80-800-34106

LOAD : 10000 KG (HYDRO LOAD: 25162KG)
TEMPERATURE : 596 °C

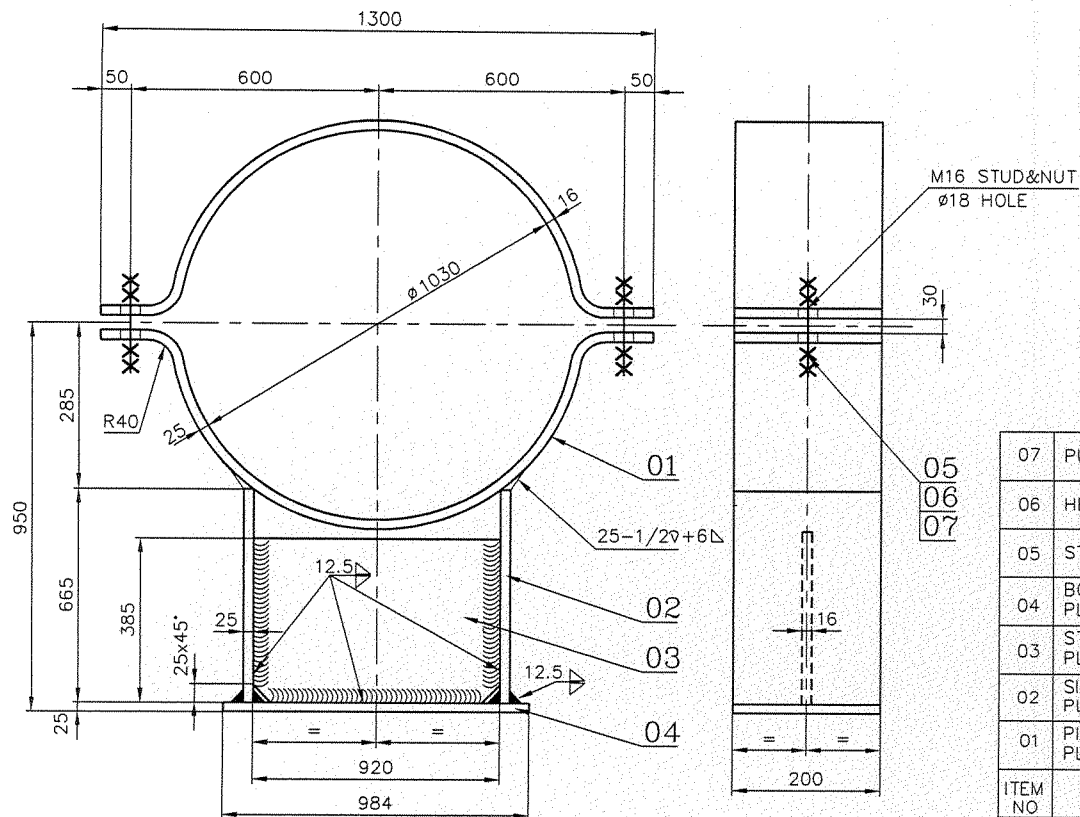
VAR NO.	ITEM NO.	DESCRIPTION	STD.	DRAWING NO.	ITEM NO.	MATL. CODE	UNIT	UNIT WT.	ZONE
					VAR NO.	MATL. SPECN	DI	QTY.	G.S.
	09	RIB PL.20x272x403		28083010936		159422540000	C	8.993	
						SA387GR91		8	
	08	SPACER RING		48092337402	2	153392420000	C	0.26	
						SA182F12		2	
	07	SPLIT PIN		4170410080		417041008000		0.047	
								2	
	06	LOAD PIN WASHER		4140872000		414080007200		0.543	
								2	
	05	STUD WASHER		4140836000		414080003600		0.087	
								8	
	04	NUT M36	4-80-999-99045			413244003600		0.43	
					5			16	
	03	STUD M36x290		48099999320		948223629600	P	2.001	
					3	SA193B16		4	
	02	LOAD PIN DIA 61x191		48083253538		153391440000	C	4.35	
					3	SA105		1	
	01	CLAMP PL 40x200x2233		28083010936		159421570000	C	140.244	
						SA387GR91		2	

TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT

	BHARAT HEAVY ELECTRICALS LTD. PIPING CENTRE, CHENNAI	DRN	NAME	SIGN	DATE	NO OF
			KONDAPA		18.08.11	ITEMS
		CHD	KONDAPA		18.08.11	
		APFD	KVRAMANI		18.08.11	

REV 01	DATE	ALTERED CHECKED	DEPT.	GRADE OF UN TOL DIM		SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DRG.	ITEM No.
ZONE			CODE	C/M/F		NTS	320.014		
			TITLE HORIZONTAL PIPE CLAMP				CARD CODE	DRAWING No.	REV
			FOR PIPE OD1016X52 LOAD:10000KG(AS)				U 01	2-80-830-10936	00

DRAWING NO.



FOR NOTES REFER DRAWING NO.4-80-800-34106

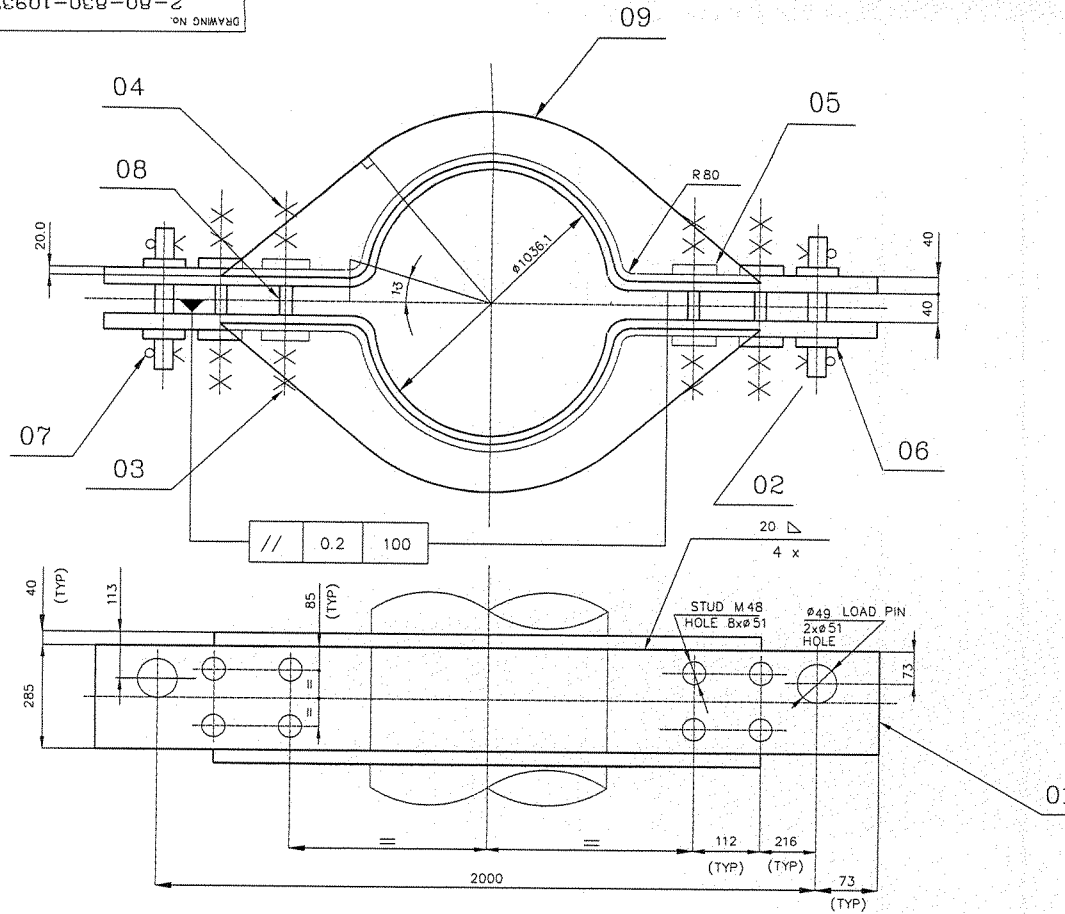
LOAD: 200KN, TEMP. 596°C

07	PUNCHED WASHER A16	4-80-999-99026		159482650000		0 017
			01	SA387GR22		4
06	HEX NUT M16	41324 16000		41324 0001600		0 01
						8
05	STUD M16X200	4-80-999-99320		948221620600	P	0 280
			05	SA193B16		2
04	BOTTOM PLATE PL 25X200X984	3-80-830-29054		159421560000	P	24 718
				SA387GR91		1
03	STIFFNER PLATE PL 25X920X385	3-80-830-29054		159421560000	P	40 905
				SA387GR91		1
02	SIDE PLATE PL 25X200X665	3-80-830-29054		159421560000	P	15 950
				SA387GR91		2
01	PIPE CLAMP PL 25X200X1832	3-80-830-29054		159421560000	P	46 019
				SA387GR91		2
ITEM NO	DESCRIPTION	DRAWING NO	ITEM NO VAR NO	MATERIAL CODE MATERIAL SPEC	A C	UNIT WEIGHT QTY

TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT

	BHARAT HEAVY ELECTRICALS LTD., PIPING CENTRE, MADRAS	DRN	NAME KONDAPA	SIGN	DATE 20.12.11	NO OF ITEMS
		CHD	KONDAPA		20.12.11	
		APPD	KV RAMANI		20.12.11	

REV 01	DATE	ALTERED CHECKED	DEPT.	GRADE OF UN TOL. DIM		SCALE N.T.S.	WEIGHT (Kg.) 98.10	NAME OF ORIGINAL ORGANISATION	ITEM No.
ZONE			CODE	C/M/F					
			TITLE BEARING CLAMP FOR PIPE OD1016 LOAD: 200KN				CARD CODE U 01	DRAWING No. 3-80-830-29054	REV 00

2-80-830-10937
DRAWING No.

DESIGN PARAMETERS

LOAD : 16000 KG (HYDRO LOAD: 35501KG)

TEMPERATURE : 596 °C

NOTES: -

FOR NOTES REFER DRG. No. 4-80-800-34106

09	RIB PL.40x639x2016	28083010937	159422720000	C	116.895				
			SA387GR91		4				
08	SPACER RING	48083260239	153391730000	C	0.34				
			SA182F22		8				
07	SPLIT PIN	4170410063	417041006300		0.037				
					4				
06	LOAD PIN WASHER	4140856000	414080005600		0.405				
					4				
05	STUD WASHER	4140848000	414080004800		0.284				
					16				
04	NUT M48	4132448000	413245004800		1.24				
					32				
03	STUD M48x350	48099993083	150391690000	P	4.36				
			SA193B16		8				
02	LOAD PIN DIA 49x191	48099937401	153391430000	C	2.8				
			SA105		2				
01	CLAMP PL.40x285x2624	28083010937	159421570000	C	234.821				
			SA387GR91		2				
VAR NO.	ITEM NO.	DESCRIPTION	DWG NO.	ITEM NO. VAR NO.	MATL CODE	A UNIT	UNIT WT.	QTY.	ZONE

TYPE OF PRODUCT
OR NAME OF
CUSTOMER/PROJECT

DEPT.	GRADE OF UN TOL DIM	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DRG.	ITEM No.
C/M/F	NTS	1026.414			

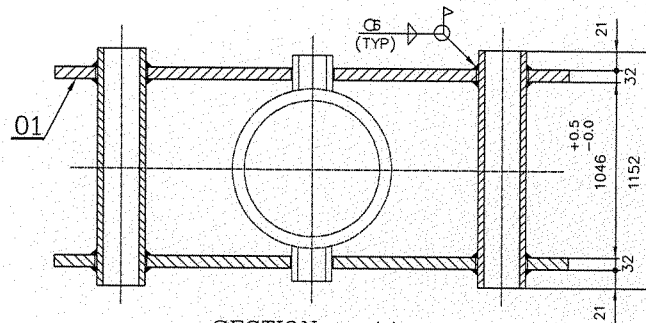
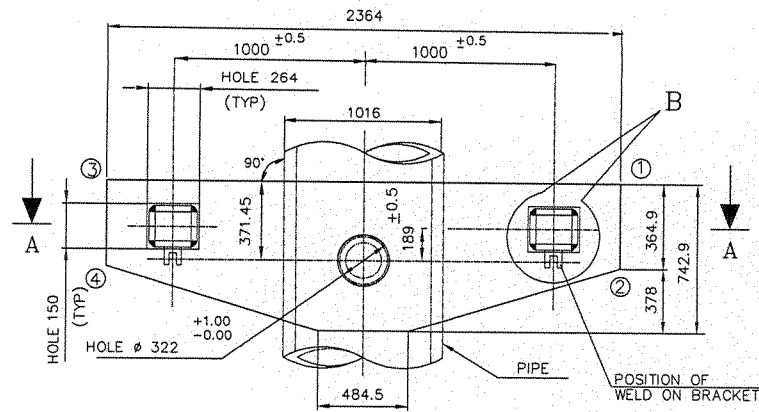
REV	DATE	ALTERED	DEPT.	GRADE OF UN TOL DIM	SCALE	WEIGHT (Kg)	REF TO ASSY / OLD DRG.	ITEM No.
01		CHECKED	C/M/F	NTS	1026.414			

TITLE	CARD CODE	DRAWING No.	REV
RISER CLAMP	U 01	2-80-830-10937	00

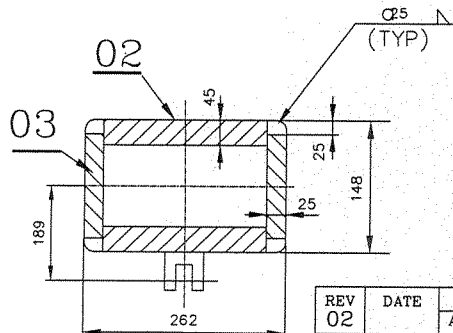
FOR PIPE OD1016X54 LOAD:16000KG(AS)

3-80-830-29062

DRAWING No



SECTION - AA



DETAIL - B

- 1.DESIGN LOAD : 310 KN
 2.MEDIUM TEMP : 596 °C
 3.WELD ON BRACKET: 250 KN
 4.TRUNNION SIZE : 321 ±0.08
 5.HYDRO LOAD : 310 KN

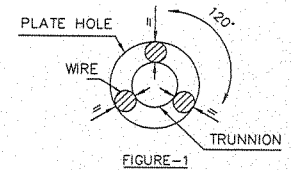
REV	DATE	ALTERED	REV	DATE	ALTERED
02		APPROVED	01		APPROVED
ZONE			ZONE		

A. NOTES FOR PRODUCTION

- 1.THE CLAMP PLATE & BOX PLATE ARE TO BE TACK WELDED AT SHOP AND SENT AS A SINGLE DESPATCHABLE UNIT,
 2.W.O NO & DU NO ARE TO BE MARKED IN BOTH THE CLAMP PLATE AS WELL AS IN BOTH THE BOXES BEFORE DESPATCH.
 3.REQUIRED SURFACE FINISH IS
 a. FOR HOLE: 6.3 µm
 b. OTHER MACHINED SURFACE :12.5 µm

B. NOTES FOR ERECTION

- 1,BEFORE TACK WELDING OF PLATE WITH BOX,THE FOLLOWING ARE TO BE ENSURED
 a,UNIFORM GAP BETWEEN PLATE HOLE AND TRUNNION ALONG THE CIRCUMFERENCE AS SHOWN IN FIGURE -1. THIS COULD BE ENSURED BY INSERTING THIN SHEETS OF SUITABLE THICKNESS OR WIRES OF SUITABLE DIAMETER AT 3 PLACES 120° APART.
 b,PARALLELITY OF THE TWO PLATES BY MEASURING THE INNER SURFACE TO INNER SURFACE DIMENSION AT THE FOUR CORNER POINTS (①-④) OF THE PLATES MARKED IN THE DRG.ALL THE FOUR MEASUREMENT SHALL BE TO THE DIMENSIONS GIVEN IN THE DRAWING TAKING IN TO CONSIDERATION THE TOLERANCE.
 2. BEFORE FINAL WELDING OF BOXES TO PLATE, ROTATION OF CLAMP ABOUT TRUNNIONS IS TO BE ENSURED.
 3.LOCATION OF WELD ON BRACKET SHALL BE AS INDICATED IN THIS DRAWING. ORIENTATION OF WELD ON BRACKET SHALL BE AS PER THE GUIDELINES GIVEN IN THE ERECTION NOTES FOR PIPING HANGERS AND SUPPORTS (DRG.NO. 4-80-999-99321)
 4.CORRECT ELECTRODE TO BE USED FOR WELDING PLATE WITH BOX CONSIDERING PLATE & BOX MATL.SPECIFICATION.



VAR NO.	ITEM NO.	DESCRIPTION	DRAWING NO.	ITEM NO. VAR NO.	MATERIAL CODE	MATERIAL SPEC.	UNIT WT.	QTY.
	03	BOX PLATE 2 25 x 98 x 1152	3-80-830-29062		159421140000 SA 515 Gr70	C	22.156	4
	02	BOX PLATE 1 45 x 212 x 1152	3-80-830-29062		159421180000 SA 515 Gr70	C	86.272	4
	01	CLAMP PLATE 40 x 742.9 x 2364	3-80-830-29062		159421570000 SA387GR91CL2	C	389.432	2

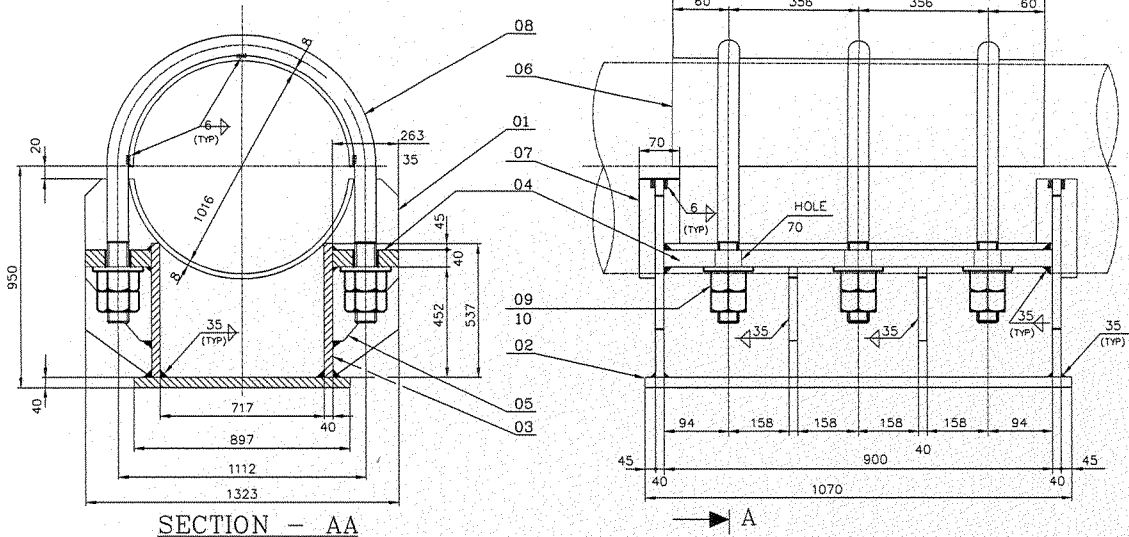
TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		XXXXXXXXXXXXXXXXXXXXXXXXXXXX		XXXXXXXXXXXXXXXXXXXXXXXXXXXX			
TAG No.							
	BHARAT HEAVY ELECTRICALS LTD.,		DRN	NAME	SIGN	DATE	NO OF ITEMS
	PIPING CENTRE,		CHD				
	CHENNAI 600 017		APPD				
DEPT.	GRADE OF UN TOL DIM	SCALE	WEIGHT (Kg).	REF TO ASSY / OLD DRG		ITEM No.	
CODE	C/M/F		1212.34				
TITLE			CARD CODE	DRAWING No.		REV	
TRUNNION CLAMP (PIPE OD /ID 1016)			U 01	3-80-830-29062		00	

FIRST ANGLE PROJECTION (ALL DIMENSIONS IN MILLIMETRES)

ALL DIMENSIONS ARE IN MILLIMETRES

05-228/C
DRAWING NO. 05-228/C

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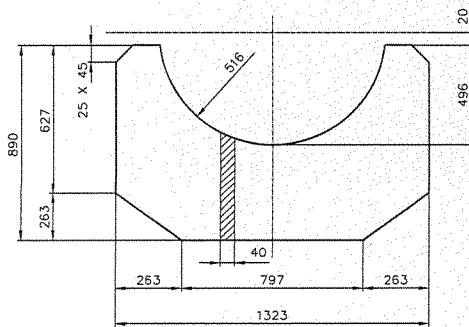


SECTION - AA

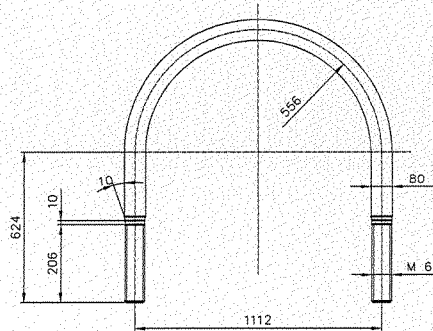
NOTES: -

01 FOR NOTES REFER DRAWING NO. 4-80-800-34106

DESIGN LOAD : 41200KG
DESIGN TEMP. : 596 °C



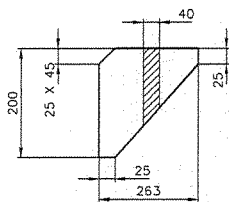
ITEM No. 01



ITEM No. 08

NOTES: -

01. METRIC SCREW THREADS AS PER IS: 4218.



ITEM No. 05

10	PUNCHED WASHER A68	4-80-999-99026	10	414080007200	C	0.543
				SA387GR22		6
09	NUT M68 X4	4-80-999-99045	03	413244006800	C	2.700
				SA194G77		12
08	'U' ROD M68 ROD DIA80 L=2995	2-80-830-10938		153394010000	C	118.166
				SA182GF91		3
07	PAD PLATE-2 PL 12THKX70X1560	2-80-830-10938		159421550000	C	6.858
				SA387G91CL2		2
06	PAD PLATE-1 PL 12THKX832X1600	2-80-830-10938		159421550000	C	83.599
				SA387G91CL2		1
05	STIFFNER PLATE PL 40THKX263X200	2-80-830-10938		159421570000	C	9.879
				SA387G91CL2		4
04	FIXING PLATE PL 40THKX263X900	2-80-830-10938		159421570000	C	70.699
				SA387G91CL2		2
03	VERTICAL PLATE PL 40THKX537X900	2-80-830-10938		159421570000	C	151.756
				SA387G91CL2		2
02	BOTTOM PLATE PL 40THKX897X1070	2-80-830-10938		159421570000	C	301.374
				SA387G91CL2		1
01	SIDE PLATE PL 40THKX890X1323	2-80-830-10938		159421570000	C	222.965
				SA387G91CL2		2

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT		HRH-H23 & H29A	
DEPT.	BHARAT HEAVY ELECTRICALS LTD.	DRN	NAME KONDAPA
CODE	PIPING CENTRE, MADRAS	CHD	KONDAPA
		APPD	KVRAMANI
GRADE OF UN TOL DIM	C/M/F	SCALE	1503.117
WEIGHT (Kg)	1503.117	NAME OF ORIGINAL ORGANISATION	
TITLE	SHOCK ABSORBER CLAMP FOR PIPE OD 1016 (AS)	CARD CODE	U 01
DRAWING No.	2-80-830-10938	REV	00