

FIRST ANGLE PROJECTION

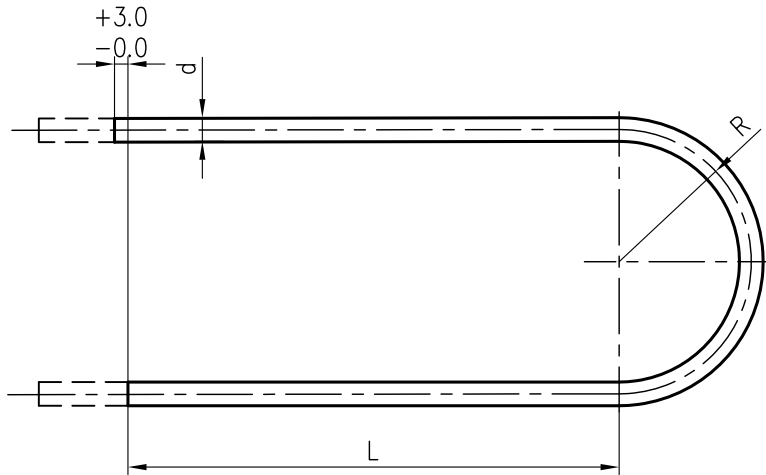
(ALL DIMENSIONS ARE IN mm)

INVENTORY NO. _____
SIGN. AND DATE _____
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DRG. NO. 3-175-01-01073



SL.NO.	RADIUS "R"	H.P.HEATER NO. 5A/5B			H.P.HEATER NO. 6A/6B		
		THK / BWG	QTY.	DEVELOPED LENGTH	THK / BWG	QTY.	DEVELOPED LENGTH
1	31.7	12 AVG.	48	17400	12 MIN.	48	20500
2	49.6	12 AVG.	52	17456	12 MIN.	52	20556
3	67.5	13 Min.	51	17512	12 AVG.	51	20612
4	85.4	13 Min.	50	17568	12 AVG.	50	20668
5	103.2	13 Min.	53	17624	13 Min.	53	20724
6	121.1	13 Min.	50	17680	13 Min.	50	20780
7	139.0	13 Min.	49	17737	13 Min.	49	20837
8	156.9	13 Min.	50	17793	13 Min.	50	20893
9	174.7	13 Min.	51	17849	13 Min.	51	20949
10	192.6	13 Min.	50	17905	13 Min.	50	21005
11	210.5	13 Min.	49	17961	13 Min.	49	21061
12	228.4	13 Min.	48	18018	13 Min.	48	21118
13	246.2	13 Min.	47	18073	13 Min.	47	21173
14	264.1	13 Min.	46	18130	13 Min.	46	21230
15	282.0	13 Min.	45	18186	13 Min.	45	21286
16	299.9	13 Min.	44	18242	13 Min.	44	21342
17	317.7	13 Min.	39	18298	13 Min.	39	21398
18	335.6	13 Min.	38	18354	13 Min.	38	21454
19	353.5	13 Min.	39	18411	13 Min.	39	21511
20	371.4	13 Min.	40	18467	13 Min.	40	21567
21	389.2	13 Min.	37	18523	13 Min.	37	21623
22	407.1	13 Min.	36	18579	13 Min.	36	21679
23	425.0	13 Min.	33	18635	13 Min.	33	21735
24	443.0	13 Min.	32	18692	13 Min.	32	21792
25	460.7	13 Min.	29	18747	13 Min.	29	21847
26	478.6	13 Min.	26	18804	13 Min.	26	21904
27	496.5	13 Min.	23	18860	13 Min.	23	21960
28	514.4	13 Min.	16	18916	13 Min.	16	22016
29	532.2	13 Min.	10	18972	13 Min.	10	22072
TOTAL / HEATER		1181 U			1181 U		
TOTAL DEVELOPED LENGTH FOR TUBE BUNDLE (12 BWG MIN.)/HEATER				—			2052.883
TOTAL DEVELOPED LENGTH FOR TUBE BUNDLE (12 BWG AVG.)/HEATER				1742.883			2084.630
TOTAL DEVELOPED LENGTH FOR TUBE BUNDLE (13 BWG MIN.)/HEATER				19597.077			20863.547
ESTIMATED WEIGHT OF TOTAL NUMBER OF TUBES PER HEATER IN Kgs./HEATER				18896			22320.9



NOTES: -

- 03 01 1. MATERIAL SA 688 TP 304 WITH CARBON MAX. 0.05% AS PER ASME SEC - II PART - A, YEAR OF EDITION AND ADDENDA AS PER P.O/ INDENT.
- 02 01 2. TECHNICAL REQUIREMENTS AS PER PRODUCT STANDARD
- 08 07 05 04 HE 5 1103 REV. LATEST AS PER P.O/INDENT AND AS PER MATL. SPECIFICATION.
- 08 06 02 01 3. QUALITY REQUIREMENTS INSPECTION & CERTIFICATION AS PER QUALITY PLAN :- HY/ HE/ 004/U-TUBES REV. LATEST AS PER P.O/INDENT.
- 09 4. INSPECTION :- BHEL APPROVED THIRD PARTY INSPECTION AGENCY & DIRECTOR OF BOILERS. (NO IBR/D.O.B. INSPECTION IS REQUIRED IF IMPORTED).
- 04 5. HYDRO TEST PRESSURE ON EACH TUBE = 495 Kg/sq.cm (g)
6. a) MINIMUM WALL THICKNESS = +20% , -0%
b) Avg. WALL THICK. = ±10%
c) 12 BWG = 2.77 mm.(0.109")
d) 13 BWG = 2.42 mm.(0.095")
- 04 7. a) MAXIMUM WORKING PRESSURE (DESIGN PRESSURE) : 330 Kg/sq.cm (g)
b) MAXIMUM WORKING TEMP. (DESIGN TEMP.) : 273°C
c) OPERATING MEDIUM : SHELL SIDE - STEAM & DRAIN.
TUBE SIDE - FEED WATER.

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT

500 MW.



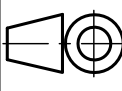
BHARAT HEAVY ELECTRICALS LTD. HYDERABAD

DRN.	NAME	SIGN.	DATE	NO.OF VAR.
CHD.	A.ESHWAR	Mathew	04.03.02	NA
APPD.	MATHEW	Mathew	04.03.02	
	B.SRINIVAS	Mathew	04.03.02	

REV.	DATE	ALTERED	CHECKED	APPD	REV.	DATE	ALTERED	CHECKED	APPD	REV.	DATE	ALTERED	CHECKED	APPD		
06	05.04.08	<u>Mathew</u>	<u>Mathew</u>	<u>Mathew</u>	05	01.12.07	<u>Mathew</u>	<u>Mathew</u>	<u>Mathew</u>	04	13.04.07	<u>Mathew</u>	<u>Mathew</u>	<u>Mathew</u>		
REVISED AS SHOWN AS <u>06</u>					ZONE	REVISED AS SHOWN. REV. <u>05</u>					ZONE	REVISED AS SHOWN. REV. <u>04</u>				
REV.	DATE	ALTERED	CHECKED	APPD	REV.	DATE	ALTERED	CHECKED	APPD	REV.	DATE	ALTERED	CHECKED	APPD		
07	11.11.08	<u>Mathew</u>	<u>Mathew</u>	<u>Mathew</u>	02	31.12.04	<u>Mathew</u>	<u>Mathew</u>	<u>Mathew</u>	01	09.09.03	<u>Mathew</u>	<u>Mathew</u>	<u>Mathew</u>		
REVISED AS SHOWN AS <u>07</u>					ZONE	REVISED AS SHOWN AS <u>02</u>					ZONE	REVISED AS SHOWN. REV. <u>01</u>				

DEPT. HEE CODE 405

GRADE OF TOL.DIM. C/M/F



SCALE NTS

WEIGHT (KG) NA

REF. TO ASSY DRG. NA

ITEM NO. NA NO.OF ITEMS NA

TITLE U - TUBE FOR H.P.HEATER 5A/5B & 6A/6B

CARD CODE

DRAWING NO. 3-175-01-01073

REV. 09

SHEET No. 1

NO OF SHEETS 1

Nov Wed 27 15:44 2013

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