

INVENTORY NO. _____ SIGN. AND DATE _____ REF. DRG. NO. _____ THE INFORMATION ON THIS DOCUMENT IS THE PROPERTY OF BHARAT HEAVY ELECTRICALS LIMITED. IT MUST NOT BE USED DIRECTLY OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY

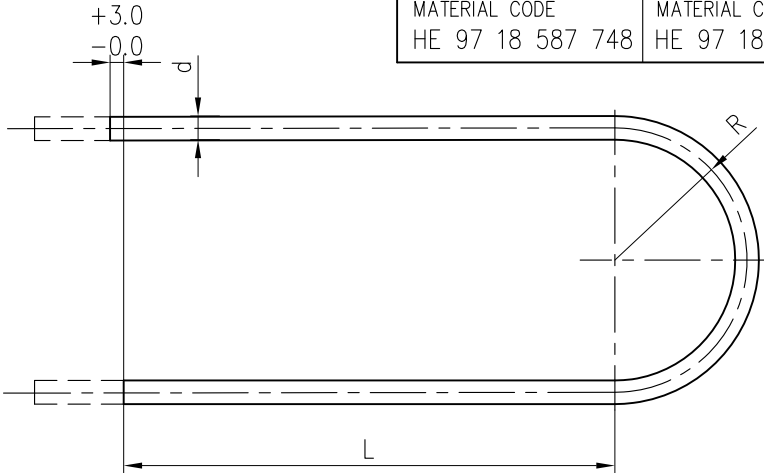
DRG. NO. 3-175-01-01993

FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

SL.NO.	RADIUS "R"	LEG LENGTH	H.P.HEATER NO. 6A/6B			H.P.HEATER NO. 7A/7B			H.P.HEATER NO. 8A/8B		
			THK	QTY.	DEV. LENGTH	THK	QTY.	DEV. LENGTH	THK	QTY.	DEV. LENGTH
1	31.7	L	2.68 MIN	56	17500	2.78 MIN	56	24100	2.85 MIN	56	19100
2	49.6	L	2.68 MIN	58	17556	2.78 MIN	58	24156	2.85 MIN	58	19156
3	67.5	L	2.68 MIN	61	17612	2.78 MIN	61	24212	2.65 MIN	61	19212
4	85.4	L	2.50 MIN	60	17668	2.61 MIN	60	24268	2.65 MIN	60	19268
5	103.2	L	2.50 MIN	61	17724	2.61 MIN	61	24324	2.65 MIN	61	19324
6	121.1	L	2.50 MIN	62	17781	2.61 MIN	62	24381	2.65 MIN	62	19381
7	139.0	L	2.50 MIN	59	17837	2.61 MIN	59	24437	2.65 MIN	59	19437
8	156.9	L	2.50 MIN	58	17893	2.55 MIN	58	24493	2.65 MIN	58	19493
9	174.7	L	2.50 MIN	59	17949	2.55 MIN	59	24549	2.65 MIN	59	19549
10	192.6	L	2.50 MIN	60	18005	2.55 MIN	60	24605	2.65 MIN	60	19605
11	210.5	L	2.50 MIN	59	18062	2.55 MIN	59	24662	2.65 MIN	59	19662
12	228.4	L	2.50 MIN	58	18118	2.55 MIN	58	24718	2.65 MIN	58	19718
13	246.2	L	2.50 MIN	59	18174	2.55 MIN	59	24774	2.55 MIN	59	19774
14	264.1	L	2.50 MIN	58	18230	2.55 MIN	58	24830	2.55 MIN	58	19830
15	282.0	L	2.41 MIN	57	18286	2.55 MIN	57	24886	2.55 MIN	57	19886
16	299.9	L	2.41 MIN	56	18343	2.55 MIN	56	24943	2.55 MIN	56	19943
17	317.7	L	2.41 MIN	55	18398	2.55 MIN	55	24998	2.55 MIN	55	19998
18	335.6	L	2.41 MIN	54	18455	2.55 MIN	54	25055	2.55 MIN	54	20055
19	353.5	L	2.41 MIN	53	18511	2.55 MIN	53	25111	2.55 MIN	53	20111
20	371.4	L	2.41 MIN	52	18567	2.55 MIN	52	25167	2.55 MIN	52	20167
21	389.2	L	2.41 MIN	47	18623	2.55 MIN	47	25223	2.55 MIN	47	20223
22	407.1	L	2.41 MIN	48	18679	2.55 MIN	48	25279	2.55 MIN	48	20279
23	425.0	L	2.41 MIN	47	18736	2.55 MIN	47	25336	2.55 MIN	47	20336
24	443.0	L	2.41 MIN	46	18792	2.55 MIN	46	25392	2.55 MIN	46	20392
25	460.7	L	2.41 MIN	45	18848	2.55 MIN	45	25448	2.55 MIN	45	20448
26	478.6	L	2.41 MIN	42	18904	2.55 MIN	42	25504	2.55 MIN	42	20504
27	496.5	L	2.41 MIN	41	18960	2.55 MIN	41	25560	2.55 MIN	41	20560
28	514.4	L+6	2.41 MIN	38	19029	2.55 MIN	38	25629	2.55 MIN	38	20629
29	532.2	L+12	2.41 MIN	35	19097	2.55 MIN	35	25697	2.55 MIN	35	20697
30	550.1	L+18	2.41 MIN	34	19165	2.55 MIN	34	25765	2.55 MIN	34	20765
31	568.0	L+24	2.41 MIN	31	19233	2.55 MIN	31	25833	2.55 MIN	31	20833
32	585.9	L+30	2.41 MIN	26	19301	2.55 MIN	26	25901	2.55 MIN	26	20901
33	603.8	L+36	2.41 MIN	22	19370	2.55 MIN	22	25970	2.55 MIN	22	20970
34	621.7	L+42	2.41 MIN	16	19438	2.55 MIN	16	26038	2.55 MIN	16	21038
TOTAL / HEATER				1673U			1673U			1673U	
TOTAL DEVELOPED LENGTH IN METER FOR TUBE BUNDLE /HEATER			2.68 MIN		3072.58	2.78 MIN		4227.58	2.85 MIN		2180.65
			2.50 MIN		11719.24	2.61 MIN		5893.25	2.65 MIN		1161.90
			2.41 MIN		15839.23	2.55 MIN		31552.02	2.55 MIN		19507.57
ESTIMATED WEIGHT OF TOTAL NUMBER OF TUBES PER HEATER IN Kgs./HEATER					~27253			~38385			~30969

H.P.HEATER-6A/6B	H.P.HEATER-7A/7B	H.P.HEATER-8A/8B
L = 8700	L = 12000	L = 9500
d = 15.875	d = 15.875	d = 15.875
MATERIAL CODE HE 97 18 587 748	MATERIAL CODE HE 97 18 587 756	MATERIAL CODE HE 97 18 587 764



- NOTES:-
- 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.
 - TECHINICAL REQUIREMENTS AS PER PRODUCT STANDARD
HE 5 1103 REVISION LATEST AS PER P.O/INDENT AND AS PER MATL. SPECIFICATION.
 - QUALITY REQUIREMENTS INSPECTION & CERTIFICATION AS PER
QUAILTY PLAN :- HY/ HE/ 004/U-TUBES REVISION LATEST AS PER P.O/INDENT.
 - INSPECTION :- M/S LLOYD'S .& CIB. (NO CIB IF IMPORTED)
 - HYDRO TEST PRESSURE ON EACH TUBE = 545 Kg/sq.cm (g)
 - a) MINIMUM WALL THICKNESS = +20% .
-0%
 - a) MAXIMUM WORKING PRESSURE (DESIGN PRESSURE) : 350 Kg/sq.cm (g)
b) MAXIMUM WORKING TEMP. (DESIGN TEMP.) : 327 °C
c) OPERATING MEDIUM : SHELL SIDE - STEAM & DRAIN.
TUBE SIDE - FEED WATER.

TYPE OF PRODUCT
OR
NAME OF CUSTOMER/PROJECT
800 MW.

	DRN.	NAME RAJESH M	SIGN. M RAJESH	DATE 09.11.11.	NO.OF VAR. NA
	CHD.	A K SAHOO	AKS	09.11.11.	
	APPD.	K.KIRAN KUMAR		09.11.11.	

DEPT. HEE	GRADE OF TOL.DIM. C/M/F		SCALE NTS	WEIGHT (KG) NA	REF. TO ASSY DRG. NA	ITEM NO. NA	NO.OF ITEMS NA
CODE 405							

TITLE U - TUBE FOR H.P HEATER - 6A/6B,7A/7B&8A/8B	CARD CODE	DRAWING NO. 3-175-01-01993		REV. 00
		SHEET No. 1	NO OF SHEETS 1	