

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

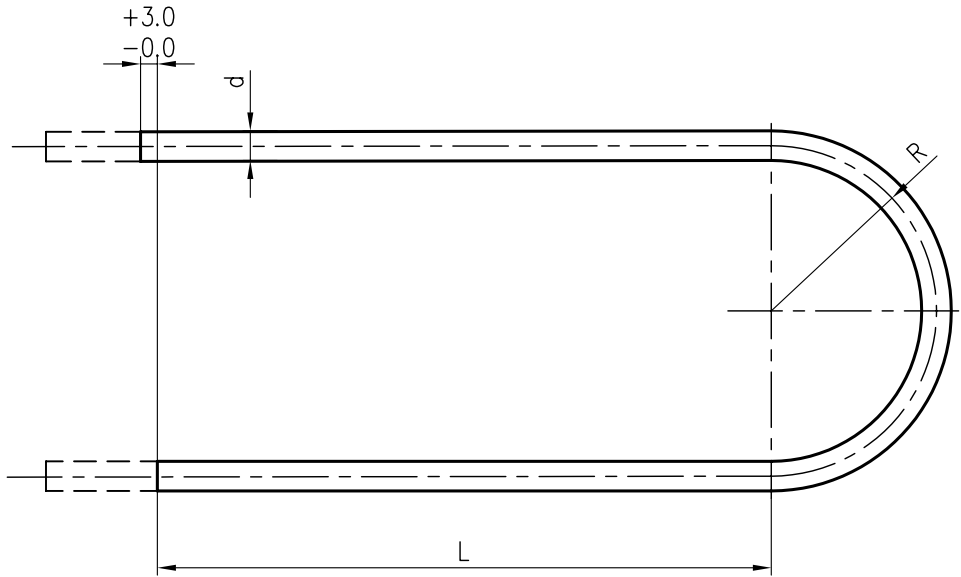
FIRST ANGLE PROJECTION

(ALL DIMENSIONS ARE IN mm)

DRG. NO. 3-175-01-01777

SL.NO.	RADIUS "R"	H.P.HEATER NO. 5			H.P.HEATER NO. 6		
		THK / BWG	QTY.	DEVELOPED LENGTH	THK / BWG	QTY.	DEVELOPED LENGTH
1	31.7	14 Min.	30	22100	14 Min.	30	22100
2	49.6	14 Min.	33	22156	14 Min.	33	22156
3	67.5	14 Min.	34	22212	14 Min.	34	22212
4	85.4	14 Min.	33	22268	14 Min.	34	22268
5	103.2	14 Avg.	34	22324	14 Min.	34	22324
6	121.1	14 Avg.	33	22380	14 Min.	33	22380
7	139.0	14 Avg.	34	22437	14 Min.	34	22437
8	156.9	14 Avg.	35	22493	14 Min.	35	22493
9	174.7	14 Avg.	34	22549	14 Min.	34	22549
10	192.6	14 Avg.	33	22605	14 Min.	33	22605
11	210.5	14 Avg.	30	22661	14 Min.	31	22661
12	228.4	14 Avg.	29	22718	14 Min.	29	22718
13	246.2	14 Avg.	28	22773	14 Avg.	28	22773
14	264.1	14 Avg.	29	22830	14 Avg.	29	22830
15	282.0	14 Avg.	26	22886	14 Avg.	26	22886
16	299.9	14 Avg.	25	22942	14 Avg.	25	22942
17	317.7	14 Avg.	22	22998	14 Avg.	23	22998
18	335.6	14 Avg.	19	23054	14 Avg.	19	23054
19	353.5	14 Avg.	16	23111	14 Avg.	16	23111
20	371.4	14 Avg.	10	23167	14 Avg.	10	23167
TOTAL / HEATER			567 U	—		570 U	—
TOTAL DEVELOPED LENGTH FOR 14 BWG (MIN.) TUBES IN METERS.				2884.193			8828.076
TOTAL DEVELOPED LENGTH FOR 14 BWG (AVG.) TUBES IN METERS.				9912.685			4036.731
TOTAL DEVELOPED LENGTH FOR THE TUBE BUNDLE IN METERS.				12796.878			12864.806
ESTIMATED WEIGHT OF TOTAL NUMBER OF TUBES IN Kgs.				9542.61			9952.2

H.P.HEATER-5	H.P.HEATER-6
L = 11000	L = 11000
d = 15.875mm	d = 15.875mm
MATERIAL CODE HE9718589635	MATERIAL CODE HE9718589627



NOTES: -

- MATERIAL SA 688 TP 304 WITH CARBON MAX. 0.05% AS PER ASME SEC-II PART A. (YEAR & ADDENDA AS PER INDENT/PO)
- TECHNICAL REQUIREMENTS AS PER PRODUCT STANDARD  
HE 5 1396 REV. (LATEST AS PER P.O/INDENT). AND AS PER MATL. SPECIFICATION.
- QUALITY REQUIREMENTS INSPECTION & CERTIFICATION AS PER  
QUALITY PLAN :- HY/ HE/ 011/ U-TUBES REV(LATEST AS PER P.O/INDENT) .
- INSPECTION :- M/S LLOYD'S .& CIB. ( NO CIB IF IMPORTED )
- HYDRO TEST PRESSURE ON EACH TUBE = 405 Kg/sq.cm (g)
- a) MINIMUM WALL THICKNESS = +20% , Avg. WALL THICK. = ±10%  
-0%  
b) 14 BWG = 2.1082mm.
- a) MAX. WORKING PRESSURE :- 270 Kg/Cm<sup>2</sup> (g).  
b) MAX. WORKING TEMP. :- 270°C.  
c) OPERATING MEDIUM: -  
SHELL SIDE :- STEAM & DRAIN.  
TUBE SIDE :- FEED WATER.

TYPE OF PRODUCT OR NAME OF CUSTOMER/PROJECT 150MW(WELDED TUBES)



BHARAT HEAVY ELECTRICALS LTD. HYDERABAD

DRN.	NAME KIRTI KUMAR	SI KIRTI KUMAR	DATE 05.04.10	NO.OF VAR.
CHD.	A K SAHOO	K S	05.04.10	NA
APPD.	K KIRAN KUMAR	KIRAN	05.04.10	

REV.	DATE	ALTERED	CHECKED	APPD	REV.	DATE	ALTERED	CHECKED	APPD
ZONE					ZONE				

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 5 & 6			CARD CODE	DRAWING NO. 3-175-01-01777	REV. 00	
				SHEET No. 1	NO OF SHEETS 1	