

		Bharat Heavy Electricals Ltd Boiler Auxiliaries Plant Ranipet - 632 406		EDC / AIR PREHEATERS TECHNICAL SPECIFICATION Effective Date: 16.12.2010	
Specification No : APSQ – 094			Rev. No : 01		Page No : 01 of 04
01.	Item	AIR RECEIVER 10 Cu.m WITH ACCESSORIES			
02.	Material code & Qty	Air receiver 10 Cu.m	964180201001	1No	
		Foundation Bolts & Nuts	964180201002	8 Sets	
		Safety valve with bolts, nuts & Gaskets	964180201003	1 Set	
		Ball valve with piping assembly	964180201004	1 Set	
		Auto drain trap assembly	964180201005	1 Set	
		Pressure gauge with needle valve & piping	964180201006	1 Set	
03.	Application	Used for storing Compressed Air required for emergency drive air motor in Regenerative Air Heaters.			
04.	Capacity	10 Cu.m			
05.	Arrangement	Vertical, Cylindrical with dished ends. Dimensions as per Clause 18.			
06.	Code of Construction	ASME section VIII, Division – 1.			
07.	Material	Shell, dished ends & pad plates	SA 515 Gr 70 / SA 516 Gr 70		
		Flanges	SA 105 / SA 516 Gr 70		
		Nozzles & Pipelines	SA106 Gr B		
		Foundation bolts	EN24		
		Gasket	Non Asbestos		
08.	Heat treatment	Dished Ends shall be normalized if hot formed or Stress relieved if cold formed.			
09.	Corrosion Allowance	3 mm			
10.	Working Pressure	7.0 Kg / cm ² (g)			
11.	Design Pressure	10.5 Kg / cm ² (g)			
12.	Working Temperature	50°C			
01	16.12.10	(Sd) VMR	(Sd) KP	(Sd) PPS	Clause 17f updated & 17h added.
00	29.06.10	(Sd) VMR	(Sd) GA	(Sd) PPS	FRESH ISSUE
Rev.No	Date	Prepared	Checked	Approved	Record of Revisions.

13. SCOPE OF SUPPLY

- a) Air receiver with Dished ends
- b) Skirt for supporting the Vessel.
- c) Manhole with cover for inspection & cleaning.
- d) One Safety Valve, sized as per specified code, and set at 1.25 times the operating pressure of the Air Receiver.
- e) Counter flanges for all flanged connections with gaskets, bolts, and nuts.
- f) Foundation bolts and nuts.
- g) Blow down connection with ball valve.
- h) Auto Drain Trap.
- i) Piping for Auto Drain Trap.
- j) Pressure gauge with Needle Valve & Impulse pipe.

14. DESIGN REQUIREMENTS

- a) Permissible Number of shell course three maximum, and each shell course shall not have more than two long seam joints and total long seam shall not exceed 5 Nos.
- b) All pressure parts butt welding shall be 100% Radiographed.
- c) All flanges are of 150 PSI rating.
- d) Approved vendors for sub-delivery items are given below.

i)	Safety valve	Leader / Teleflow
ii)	Ball valve	Leader / Audco
iii)	Auto drain trap	Leader / Spirax
iv)	Pressure gauge	H.Guru / BELLS / ANI

- e) Foundation loading data shall be based on wind load as per IS 875 and seismic load as per IS 1893 Zone-III.

15. PAINTING

- a) All external surfaces that require painting shall be :
 - i) Cleaned by Power Tool as per surface preparation standard St3 (SSPC-SP3).
 - ii) Then, applied with 2 coats of Red Oxide Zinc Phosphate (IS 12744) primer paint to have a dry film thickness of 40 microns (minimum).
 - iii) Finally, applied with 3 coats of Synthetic Enamel (IS 2932) finish paint of Grey shade 692 of IS 5 to have a dry film thickness of 60 microns (minimum).
 - iv) Total dry film thickness shall be 100 microns (minimum) after final coat.
- b) The internal surfaces (before welding the Dished Ends) shall be :
 - i) Cleaned by Power Tool as per surface preparation standard St3(SSPC-SP3).
 - ii) Then, applied with 1 coat of Red Oxide Zinc Phosphate (IS 12744) primer paint to have a dry film thickness of 25 microns (minimum).

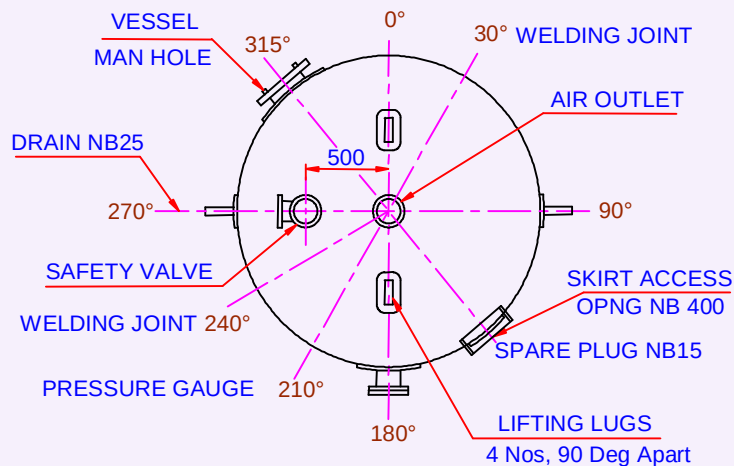
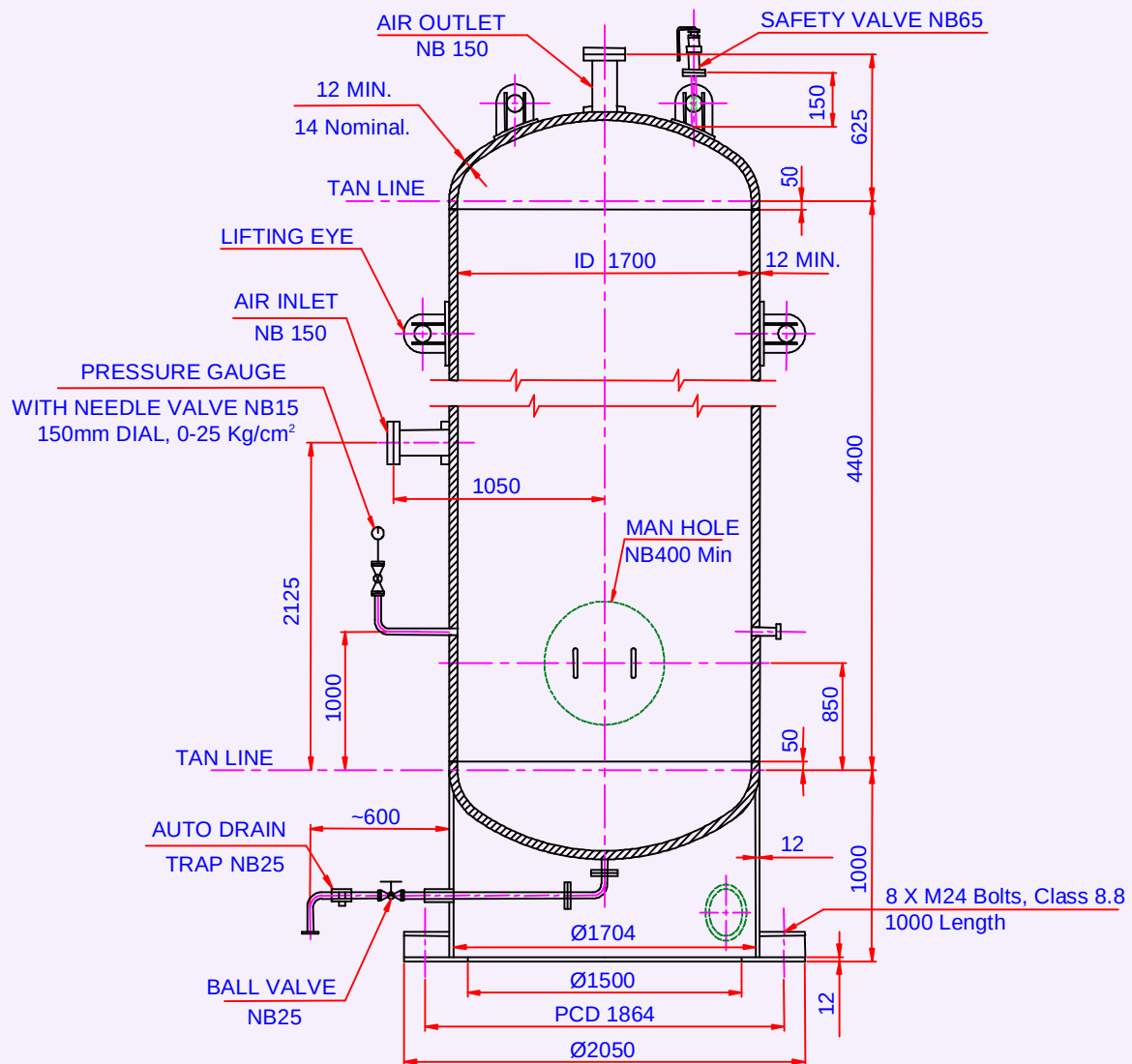
16. INSPECTION

- a) Inspection by BHEL / NTPC.
- b) Air Receiver shall be Hydraulically Tested to 1.5 times the design pressure for at least 30 minutes.
- c) Necessary Material Test & Guarantee Certificates shall be submitted.

17. GENERAL

- a) Vendor shall submit design calculations as per code specified for our Approval before manufacture.
 - b) Vendor shall submit detailed dimensional drawing with all connection details for our approval before manufacture. Foundation loading data drawing shall also be submitted for our approval.
 - c) Drawings / documents once approved is valid for 5 years. Any revision in Approved drawings / documents shall be submitted for re-approval.
 - d) All opening shall be closed with steel sheets and shipped with mating flanges, bolts & nuts.
 - e) Safety valve, Auto drain trap, Drain piping with Ball valve, Pressure gauge with piping, foundation Bolts & nuts shall be shipped loose.
 - f) Manufacture of Air Receiver shall be as per NTPC / BHEL approved Quality Plan SQP:APH-103 and RQP No 0000-999-QVM-P-218.
 - g) After the Hydraulic test, Air receiver shall be completely drained and dried using compressed air. Silica gel in cotton cloth bag shall be put into the vessel.
 - h) Only latest revision shall be referred for all the Standards / RQP specified.
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18. DIMENSIONS & ORIENTATION

AIR RECEIVER - 10 Cu.m**ORIENTATION PLAN**

TOLERANCE FOR UNTOLERANCED DIMENSIONS ARE AS PER MEDIUM CLASS OF IS 2102 PART I
ALL DIMENSIONS ARE IN mm