
TECHNICAL SPECIFICATION

FOR

AIR RECEIVERS

CONFIDENTIAL

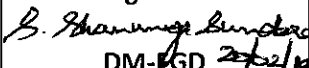
CUSTOMER : M/s. BIFPCL Bangladesh
PROJECT : Maitree 2X660MW
APPLICATION : FLUE GAS DESULPHURIZATION SYSTEM
TENDER REF : BIFPCL: MAI: FGD: AR: R00



BHARAT HEAVY ELECTRICALS LIMITED
(A GOVT OF INDIA UNDERTAKING)
Flue Gas Desulphurization Group
Ranipet

	TECHNICAL SPECIFICATION OF AIR RECEIVERS -MAITREE 2X660MW
BIFPCL:MAI:FGD:AR:R00	

TECHNICAL SPECIFICATION FOR AIR RECEIVERS:

Department	Prepared	Checked	Approved
FGD	Kabilash K.M  Senior Engineer-FGD	Shanmuga Sundaram  DM-FGD	O Sashi Kumar  DM-FGD
Revision – 00 Dated 20/02/2019		COMMENTS : -----	

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TECHNICAL SPECIFICATION OF AIR RECEIVERS -MAITREE 2X660MW

BIFPCL:MAI:FGD:AR:R00

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TECHNICAL SPECIFICATION OF AIR RECEIVERS -MAITREE 2X660MW

BIFPCL:MAI:FGD:AR:R00

1.0 PROJECT INFORMATION:

a.	Owner	BIFPCL (BANGLADESH-INDIA FRIENDSHIP POWER COMPANY (PVT.) LIMITED), Bangladesh
b.	Buyer	BHEL, Ranipet
c.	Process/Application	Flue Gas Desulphurization

2.0 APPLICABLE CODES & REGULATIONS

The design of Air receivers shall conform to the latest edition of International codes accepted by the Buyer according to good engineering practice. The material shall confirm to the latest edition of International Standards only. Indian/GB standards not acceptable.

If there is a conflict between this specification and a referenced document or between the codes and standards the most stringent shall apply.

3.0 INTENT OF SPECIFICATION

This specification covers the minimum requirements for the complete design, material and manufacturing at the manufacturer's works, delivery at site of Air Receivers at the Flue Gas Desulphurization plant of Maitree 2x660MW project in Bangladesh. The following points may be noted.

- Bidder shall assume full unit responsibility and make all possible efforts to comply strictly with the requirements of this specification and other specifications/attachments to inquiry/order.
- In case, deviations are considered essential by the Bidder (after exhausting all possible efforts), the same shall be separately listed in the Bidder's proposal under separate section, titled as "List of Deviations/Exceptions to the Enquiry Document (**Annexure-II**)".

		Bharat Heavy Electricals Ltd Boiler Auxiliaries Plant Ranipet - 632 406		EDC / FGD TECHNICAL SPECIFICATION Effective Date: 20.02.2019	
4	TECHNICAL INFORMATION				
a	Component description & Quantity	Air receiver 6.85 Cu.m		2 No's (1 No for each Unit)	
		Each Air receiver shall consists of following			
		Foundation Bolts & Nuts		Min 4 Sets. Finalized as per design	
		Safety valve with bolts, nuts & Gaskets		1 Set	
b	Application	Used for storing Compressed Air required for Flue Gas Desulphurization system Operation			
c	Capacity	6.85 m3 each			
d	Arrangement	Vertical, Cylindrical with dished ends. Dimensions as per Clause 18.			
e	Code of Construction	ASME section VIII, Division — 1.			
f	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		
		Fasteners	Material & threading shall be as per international standards only viz EN, ASTM, ASME, ISO, DIN All other material used in the fabrication of Air Receiver shall be of international standards only viz.All other materials EN, ASTM, ASME, ISO, DIN.		
g	Heat treatment	Dished Ends shall be normalized if hot formed or Stress relieved if cold formed.			
h	Corrosion Allowance	3 mm			
i	Working Pressure	7.0 Kg / cm2 (g)			
j	Design Pressure	10.5 Kg / cm2 (g)			
l	Working Temperature	50°C			

**Bharat Heavy Electricals Ltd**

Boiler Auxiliaries Plant

Ranipet - 632 406

EDC / FGD

TECHNICAL SPECIFICATION

Effective Date: 19.02.2019

Specification : Air Receivers

5 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.

6 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
- e) For calculating the Foundation loading data, following shall be considered
 - I. Wind Load : As per "**Bangladesh National Building Code**" (Basic Wind Speed 73 m/s, Exposure category-"C").
 - II. Seismic Load : As per "**Bangladesh National Building Code**" & Site specific Study Report (enclosed with this specification).

7 PAINTING

- a) All external surfaces that require painting shall be
 - i) Cleaned by blast cleaning as per surface preparation standard SA 2.5.
 - ii) Then, applied with 1 coat of Zinc Epoxy primer paint to have a dry film thickness of 80 microns (minimum).
 - iii) One/two coats of epoxy high solid paint shall be applied to have a intermediate dry film thickness of 160 microns (minimum).
 - iv) Finally, one coat of 2-component Polyurethane paint of Signal White (RAL 9003) shall be applied to have a dry film thickness of 50 microns (minimum).
 - v) Total dry film thickness shall be 290 microns (minimum) after final coat.
- b) The internal surfaces (before welding the Dished Ends) shall be :
 - i) Cleaned by blast cleaning as per surface preparation standard SA 2.5.
 - ii) Then, applied with 1 coat of Zinc Epoxy primer paint to have a dry film thickness of 80 microns (minimum).

**Bharat Heavy Electricals Ltd**

Boiler Auxiliaries Plant

Ranipet - 632 406

EDC / FGD

TECHNICAL SPECIFICATION

Effective Date: 19.02.2019

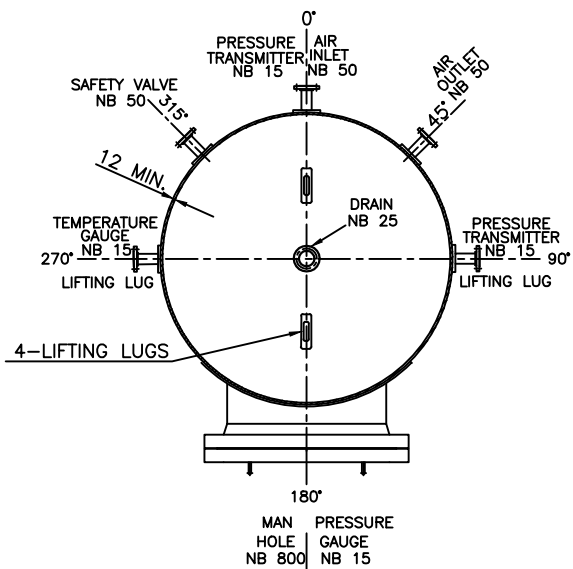
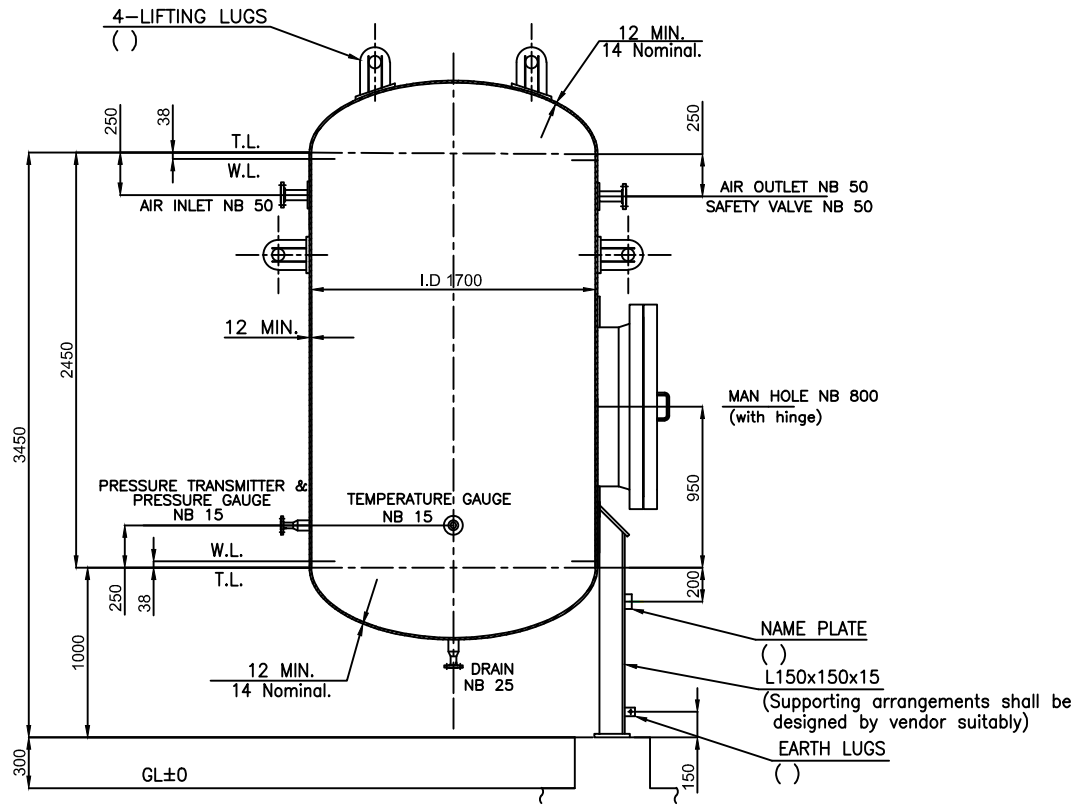
Specification : Air Receivers

8 INSPECTION

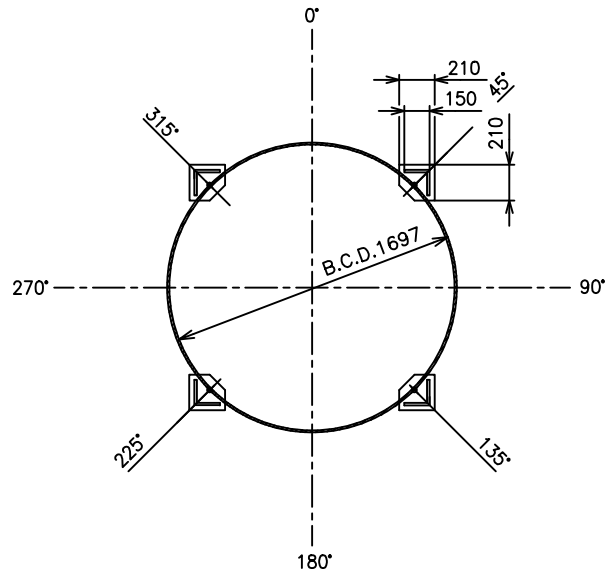
- a) Inspection by BHEL / BIFPCL
- b) Air Receiver shall be Hydraulically Tested to 1.5 times the design pressure for at least 30 minutes.
- c) Necessary Material Test & Guarantee Certificates shall be submitted.

9 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) All opening shall be closed with steel sheets and shipped with mating flanges, bolts & nuts.
- d) Safety valve, foundation Bolts & nuts shall be shipped loose. All the loose items shall be packed properly in a wooden box to avoid damage during transit. Air Receiver tank shall also to be shipped in a proper packing to avoid transit damage
- e) Manufacture of Air Receiver shall be as per NTPC / BIFPCL approved Quality Plan SQP:APH-103
- f) 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.
- g) Only latest revision shall be referred for all the Standards



NOZZLE ORIENTATION



ANCHOR PLAN



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10.0	PACKING AND FORWARDING
1.	Packing shall be as per relevant clause of product packing specification – Annexure-IV-AA049004-Seaworthy Packing.
2.	Crates and packing material used for shipping will become the property of owner.(BIFPCL)
3.	Each package should have the following inscriptions and signs stenciled with an indelible ink legibly and clearly: a. Destination b. Package Number c. Gross and Net Weight d. Dimensions e. Lifting places f. Handling marks and the following delivery marking
4.	Each package or shipping units shall be clearly marked or stenciled on at least two sides as follows. BANGLADESH-INDIA FRIENDSHIP POWER COMPANY (Pvt) LIMITED 2X660 MW MAITREE SUPER THERMAL POWER PROJECT BANGLADESH EPC CONTRACTOR: BHARAT HEAVY ELECTRICALS LIMITED, INDIA” In addition, each package or shipping unit shall have the symbol painted in red on at least two sides of the package, covering one fourth of the area of the side.
5.	Each case shall contain a packing list showing the detailed contents of the package. When any technical documents are supplied together with the shipment of materials no single package shall contain more than one set of such documents. Shipping papers shall clearly indicate in which packages the technical documents are contained.
6.	The packing slip shall contain the following information: - Customer name, Name of the equipment, Purchase Order number with Date, Address of the delivery site, Name and Address of the Sender, Serial Number of pump & accessories, BHEL item Code, Gross Weight and Net weight of Supplied items.
7.	Prior to transport from manufacturer’s work to destination, components of the unit shall be completely cleaned to remove any foreign particles.
8.	All necessary coating/finishing, corrosion protection & preservation measures shall be taken as applicable. Supplier shall consider the coastal environment zone which is defined as “very severe” during final finishing/shipping.



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11.0 ANNEXURES

ANNEXURE – I- TECHNICAL DATA SHEET

Bidder to provide the filled in technical data sheet.

SIGNATURE OF BIDDER -----

NAME -----

DESIGNATION -----



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ANNEXURE-II

LIST OF DEVIATIONS/EXCEPTIONS TO THE ENQUIRY DOCUMENT

Sl No	Clause No	Page No	Description of Deviation

Note: Enlarge the table to incorporate items

SIGNATURE OF BIDDER -----

NAME -----

DESIGNATION -----



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ANNEXURE -III

A) DOCUMENTS TO BE SUBMITTED AFTER AWARD OF CONTRACT:

Sl. No.	Description	No of copies
1.	Data Sheet	1
2.	Foundation loading details	1
3.	Safety Valve GA and details	1
4.	Proforma Packing List	1
5.	Shortest Manufacturing Time	1
6.	Delivery Schedule	1
7.	GA Drawing of Air receiver	1
8.	Thickness calculation of Shell & Dished Ends	1
9.	Air receiver support calculations	1

SIGNATURE OF BIDDER -----

NAME -----

DESIGNATION -----



TECHNICAL SPECIFICATION OF AIR RECEIVERS -MAITREE 2X660MW

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ANNEXURE-IV

TECHNICAL SPECIFICATION FOR SEAWORTHY PACKING

Refer to Specification No: AA0490004 for detailed specification on Seaworthy packing.

SIGNATURE OF BIDDER -----

NAME -----

DESIGNATION -----



CORPORATE STANDARD

AA0490004

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SEAWORTHY PACKING

(PACKING INSTRUCTIONS FOR GENERAL COMPONENTS / ASSEMBLIES / EQUIPMENTS)

1.0 GENERAL

This standard lays down packing instructions for packing of Components /Assemblies/Equipments to be dispatched against Customer's contracts, for which there are no special instructions issued by the Engineering Departments.

The Components/Assemblies need to be packed suitably to avoid physical damage & corrosion during transit for storage. For specific applications the concerned engineering department shall issue a product standard. Reference of this standard, must appear in the Shipping list/Packing List.

2.0 SCOPE:

This procedure gives minimum guidelines to be complied with for packing of Components /Assemblies / Equipments. This packing shall be suitable for different handling operations and for the adverse conditions during transportation and during indoor / outdoor storage for periods more than one year.

3.0 CROSS REFERED SPECIFICATION:

Expanded Polyethylene Foam Sheet	: AA51420
Packing Wood	: AA51401
Silica gel	: AA55619
Thermocole	: AA51416
Packing slip holders	: AA7240901
Corrugated Fibre Board	: AA51414
Rubber sheet	: AA59001
VCI paper	: AA51406

4.0 WOOD SPECIFICATION FOR PACKING:

The wood shall conform to specification AA51401.

5.0 TYPE OF PACKING:

The following 5 types of packings have been standardized for packing of General Components /Assemblies.

'OP' - Open Type

'PP' - Partially Packed

'CP' - Crate Packing - Components/Equipments requiring physical protection

'CQ' - Case Packing - Small medium Components/ Assemblies/ Equipments which require corrosion & physical protection

'CR' - Case Packing - Electrical Components/Assemblies which require special packing viz. Water Proof, Shock Proof, etc.

Revisions:
Refer 25th MOM of MRC-M&CD

APPROVED:
INTERPLANT MATERIAL RATIONALISATION
COMMITTEE - MRC(M&CD)

Rev No.00	Amd No.	Reaffirmed	Prepared	Issued	Dt. of 1 st Issue
Dt:17-08-2013	Dt:	Year:	HPBP, Trichy	Corp.R&D	17 Aug 2013

CORPORATE STANDARD**14.0 PROVISION FOR INSPECTION:**

This clause is applicable only where contractual requirement of customer is there. For other packings this is not applicable.

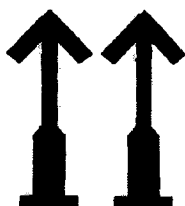
Each transportable packing's shall have provision for inspection by customer authority etc. during transport from origin of dispatched till destination. This inspection may require opening of the package and subsequently closing it again. For this purpose suitable designed opening with bolted cover shall be provided. Such an opening shall be clearly marked as "OPENING" with clear instruction for opening & closing written on this cover. For large consignment the size of the opening shall be suitable to facilitate entry of personnel.

- b) Sling protection brackets to be provided on cases wherever required.
- c) It shall be ensured that all stencil marks external, front & rear sides of the casing shall be of water proof Material to prevent obliteration in transit.
- d) The various caution signs shall be marked with stencil on both sides of the packing box.
- e) Do not pack any other Mechanical items with this case.

THE FOLLOWING DETAILS ARE TO BE MARKED ON THE PACKING CASES.

- a) Address of consignee.
- b) Purchase Order No.
- c) Description of item or title of packing list.
- d) Case identification Number.
- e) Net Weight.
- f) Gross Weight.
- g) Dimensions of box
- h) Marking showing upright position.
- i) Marking showing sling position.
- j) Marking showing umbrella (i.e. for machines/components to be stored under covered storage).

MARKING ON PACKING BOXES



A



B



C



D



E

- A UPRIGHT**
- B FRAGILE**
- C PROTECTION FROM FALLING OR CONDENSING MOISTURE**
- D SLING POSITION**
- E PROTECTION FROM DIRECT RADIATION**

CORPORATE STANDARD

- 8.7. For indoor panels/equipments, provide suitable packing batons with covering of Thermocole/expanded soft polyethylene foam/polyethylene air bubble film wrapped with suitable cords, to avoid cutting of the polyethylene sheet so that finished surface is not damaged.
- 8.8. Empty space in the box shall be filled with adequate cushioning material e.g. Thermocole Chips, Wood Wool etc. to avoid movement for shocks. Alternatively put wooden blocks/batons wherever necessary.
- 8.9. The inner side of the top cover shall be lined with polyethylene sheet, of at least 100 micron thickness, which shall project approximately 25 to 150 mm depending upon the size of the case on all sides of the top cover shall be provided below the top cover. This projection, after nailing the top cover, shall be folded over, on the sides of the crates ft tacked, to, prevent ingress of water from the top.

9.0 STEEL CONTAINERS:

Steel containers for packing can be used in case of repeated supplies of the same equipment. Empty steel containers are to be returned back from customer's end and to be reused for the next supplies.

The containers are to be made of structural steel as per AA 10108 with proper reinforcement with I, C and T Sections.

Following precautions are to be taken during packing:-

Put the Components/Assemblies/Equipments in the steel container properly.

Cover the Components/Assemblies/Equipments with polythene.

To arrest the movement in the steel container necessary wooden Blocks/Batons may be put.

Put cover on steel, container and Bolt Properly.

10.0 SEALED PACKING:

Components sub-assemblies and assemblies sensitive to climatic conditions shall be packed seal tight. All the openings of the sensitive components, sub-assemblies and assemblies shall be blanketed to prevent the ingress of dust and moisture.

The components sub-assemblies and assemblies are completely covered with 2 layers of polyethylene sheet. All sharp corners and edges are to be protected by rubber mats to prevent the polyethylene sheet from damage. Top surface of the case shall be free from dents to prevent rain water pockets.

11.0 SLING PLATE:

Sling plate shall be provided to prevent damage to the packing box during lifting. Size of the sling plate shall be selected depending upon the net weight of the consignment.

12.0 PACKING SLIP HOLDERS:

Two nos. steel packing slip holders, specification no. AA7240901 containing the packing list, sealed in thick polyethylene film, shall be fixed one inside and the other outside the packing box.

13.0 GENERAL PRECAUTIONS:

- a) While fixing nails during packing, necessary care shall be taken to ensure that materials used for protection inside the case e.g. paper, polyethylene sheet, coir etc. do not get damaged.



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AA0490004

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corrosion inhibitors which by evaporation and chemical conversion protect metals in an enclosed area against corrosion.

- b) 7 m³ VCI paper is necessary for 1 m³ of packed item approximately as per AA51406.

Application Limitation:

VCI paper shall not be used for components made of aluminium, aluminium alloys as well as Zinc, copper, brass, cadmium and silver.

VCI powder is sprinkled inside the piping components ends shall be protected with end cover as specified in plant standards, drawings.

6.7 Moisture Absorber:

Silica gel is used for this purpose to protect the contents over sufficiently long time from corrosion. At the time of use, silica gel should be so dried that its colour becomes dark blue. These shall be filled in small cotton bags. Before sealing the equipment, the silica gel bags should be kept inside the polyethylene film cover at different locations. The quantity of silica gel should not be less than 1.0 kg per cubic metre volume of the packing box

7.0 TYPE OF CASES:

For specific requirement of packing the cases are to be provided with Tongue and Groove joints.

8.0 PREPARATION OF PACKING CASE:

- 8.1. The base of the case shall be made of wooden batons for planks giving necessary reinforcement, such that the bottom of the equipment is at a height of 100 to 200 mm from the ground level depending upon size, ft weight of equipment. However for packing cases of smaller size equipment can be at a height of -40 mm from the ground level.

- 8.2. In case of 'CR1 - Packing Viz. Electrical ft Electronic components for instruments /assemblies, a rubber sheet, Self-expanded polyethene foam sheet, preferably 10 mm thick, shall be fixed on to the base to act as cushioning to the equipment.

- 8.3. The four sides, shall be lined, from inside with packing paper water proof bitumen laminated to AA51410 Type - I or polyethylene sheet to AA51408 of at least 100 micron thickness and tacked at suitable places.

Whenever specified in addition to the bitumen laminated paper/polyethylene sheet the top cover will have a layer of bitumen felt over the cover. This should project about 100 - 250 mm on all sides.

It is preferable to have a single piece of the above Kraft paper fixed on the four sides. In case jointing is unavoidable, it should be done by overlapping of approximately 100 mm.

- 8.4. Place the Components/cartons with corrosion inhibitors duly applied wherever necessary for place suitably, thin muslin cloths bags containing 100 grams (approx.) of activated Blue Silica Gel to AA55619, wherever necessary. Alternatively VCI Powder or Tablet may be used.

- 8.5. In case, depression is formed, at the top, after the equipment is lowered, provide ply board/wooden batons.

- 8.6. Cover the whole equipment with polyethylene sheet of at least 100 micron thickness, on all sides preferably by a single piece.

**6.0 DESCRIPTION OF TYPES OF PACKING:**

The various types of packing, as standardized above, are described below.

6.1 'OP' - Open Type:

In case, of components which are not affected by water & dust & do not require special protection &, are generally not machined, shall be sent as open packages. However these components may be sent in crates, wherever necessary.

6.2 'PP' - Partially Packed:

Components which need special protection, at selected portions only, shall be dispatched partially packed. Machined surfaces should not be allowed to come directly in contact with the wood. Such surfaces after application of TRP should be protected with Polyethylene Coated Bitumen Hessain Kraft Paper to AA51409 or Polyethylene sheet to AA51408 of at least 100 micron thickness.

6.3 'CP' - Crate Packing - General:

Assemblies/Components which need only physical protection from the point of view of handling shall be dispatched duly packed in crates.

6.4 'CQ' - Case Packing - Machined Components/Assemblies/Equipments:

- a) Small & Medium sized components/assemblies/equipments due to size/weight & to avoid handling, and pilferage, problems shall be packed in Case/Containers.
- b) Wherever required adequate quantity of silica gel to AA55619 or VCI Powder/ Tablets, packed in thin muslin cloth cotton bags shall be suitably placed.
- c) Small machines/components of less weight shall be provided with suitable cushioning. Wood Wool/Expanded Polyethylene Foam Sheet, if used, shall be sandwiched between polyethylene sheets and sealed.
- d) The components inside the case shall be entirely covered with a polyethylene sheet of at least 100 micron thickness to AA 51408, where-ever required.

6.5 'CR' - Case Packing - Electrical & Electronic Components/Assemblies:

Delicate components likely to be damaged e.g. Gauges, Instruments etc. are to be wrapped in waxed paper or polyethylene air bubble film and packed in cartons.

- a) Adequate quantity of Silica gel to AA55619 packed in cotton bags, of 100 grams each are to be suitably placed in the cartons. The cartons shall be entirely covered with a polyethylene sheet to AA51408 of at least 100 micron thickness, before being packed in the cases.
- b) VCI Powder/Tablets can be used as an alternative to Silica Gel to AA55619.
- c) Empty space in the cartons shall be filled with small chips of Expanded Polystyrene (Thermocole), Wood Wool etc. Polyethylene air bubble film shall conform to IS:12787/AA51420 Expanded polystyrene (Thermocole) shall conform to AA51416.
- d) The cartons shall be manufactured from corrugated Fibre Board, meeting requirements of AA 51414.

6.6 Volatile Corrosion Inhibitor (VCI) Paper:

- a) Un-protected surfaces of steel and cast iron components, tools bearing, shaft seals etc. are covered with VCI paper. VCI paper has been impregnated with

 Ranipet	MANUFACTURER'S NAME & ADDRESS M/S BHEL / BAP / RANIPET TAMIL NADU-632 406	STANDARD QUALITY PLAN		
		ITEM/SUB SYSTEM: Air Receiver	Doc. No	SQP APH 103
			Rev. No/Date	01/17 01 07
		Page No	01 of 03	

SL NO 1	COMPONENT & OPERATION 2	CHARACTERISTICS 3	TYPE OF CHECK 4	QUANTUM OF CHECK 5	REFERENCE DOCUMENTS 6	ACCEPTANCE NORMS 7	FORMAT OF RECORDS 8	Agency 9		REMARKS 10
								M	B	

1.0	Raw material									
1.1	Plates, Dished end, Flanges, Nozzles.	Chemical and mechanical properties	Chemical and Mechanical	100%	Respective material specification as per approved drawing	TC		P	V	
1.2	NDE for above plates	Soundness for plates ≥ 25 mm thick	UT	100%	SA 435	TC		P	V	
2.0	In process Control									
2.1	Welding	Welders & Procedures shall be qualified to ASME Sec IX. BHEL will review procedures and welders qualification								
2.2	Butt weld	Soundness	RT	100%	ASME VIII DIV 1/ UHT 57	NDT Report		P	V	
2.3	Attachment fillet weld	Soundness	MPI/LPI	100%	ASME VIII DIV 1/ UHT 57	NDT Report		P	V	

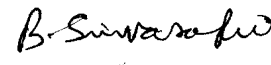
LEGENDS: M – Manufacturer, BHEL Shop / Subcontractor, B – BHEL QC/ Authorised Inspection agency P – Performed By, V – Verification Of Reports, W – Witness T C – Test Certificate R- report, HT-Heat treatment	Prepared by		APPROVED BY:  (SDGM/QA&OLI)
	Reviewed by	B. Suresh Kumar	

 Ranipet	MANUFACTURER'S NAME & ADDRESS M/S BHEL / BAP / RANIPET TAMIL NADU-632 406	STANDARD QUALITY PLAN		
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								M	B	

2.5	Shell	Dimension	Measurement	100%	As per approved drawing	DR		P	V	
2.6	Dished end	Thinning at knuckle	Measurement by D Meter	100%	As per approved drawing	Report		P	V	
		DP check at knuckle	DP check	100%	ASME VIII DIV I /UHT 57	NDT Report		P	V	
		Heat treatment (##)	Review of HT chart	100%	ASME VIII DIV I /UHT 57	HT Chart		P	V	
3.0	Final Inspection									
3.1	Dimensional Inspection of air receiver	Circumference, ovality, length, orientation of nozzles, wall thickness.	Measurement	100%	As per approved drawing/ PRQA 500/Latest	DR		P	W	CHP-Record verification along with Clause 3.1 CHP

- (##) (a) Stress relieving will be done in case of cold forming of dished ends, as there is no micro structural change.
(b) Normalizing will be done in case of hot forming of dished ends as there is micro structural change.

LEGENDS: M - Manufacturer, BHEL Shop / Subcontractor, B - BHEL QC/ Authorised Inspection agency P - Performed By, V - Verification Of Reports, W - Witness T C - Test Certificate R- report, HT-Heat treatment	Prepared by		APPROVED BY:  (Head/QA)
	Reviewed by		

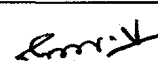
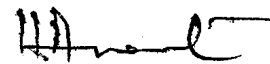
 Ranipet	MANUFACTURER'S NAME & ADDRESS M/S BHEL / BAP / RANIPET TAMIL NADU-632 406	STANDARD QUALITY PLAN			
		ITEM/SUB SYSTEM: Air Receiver	Doc. No	SQP APH 103	
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SL NO 1	COMPONENT & OPERATION 2	CHARACTERISTICS 3	TYPE OF CHECK 4	QUANTUM OF CHECK 5	REFERENCE DOCUMENTS 6	ACCEPTANCE NORMS 7	FORMAT OF RECORDS 8	Agency 9		REMARKS 10
								M	B	

3.2	Hydro test	Leak proof test of weld	Pressure test	100%	As per approved drawing/ Engineering specification & (Ref. note 1.0, 2.0)	DR	P	W	CHP
3.3	Painting and finish, Identification	Paint Finish	Visual	100%	BHEL Engineering Technical specification & Note 3.0	--	P	V	CHP

NOTE:

- 1.0 Hydro test details shall be punched & Bordered with white paint.
- 2.0 After hydro test, the water in Air receiver shall be completely drained and dried .All openings shall be closed with suitable end covers.
- 3.0 W.O details shall be punched and the same details shall be stenciled with paint.

Record of revision	Rev 00 / DT 19 11 2001	Original Issue		
	Rev 01/ DT 17 01 07	Painting requirement corrected		
LEGENDS: M – Manufacturer, BHEL Shop / Subcontractor, B - BHEL QC/ Authorised Inspection agency P - Performed By, V - Verification Of Reports, W - Witness T C - Test Certificate R- report, HT-Heat treatment		Prepared by		APPROVED BY:  (Head/QA)
		Reviewed by		