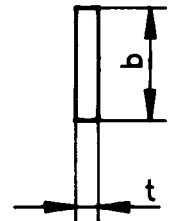
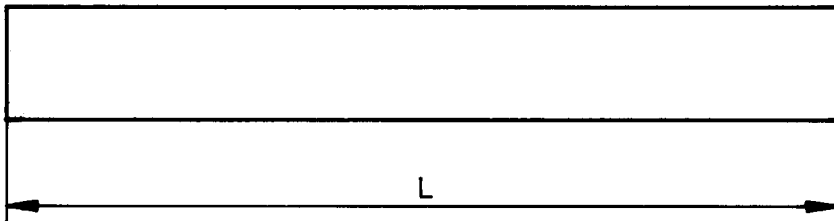
 <p>432-003</p>	<p><b>ENQUIRY</b> VALVES</p>	<p><b>Bharat Heavy Electricals Limited</b> (A Government of India undertaking) HIGH PRESSURE BOILER PLANT PURCHASE DEPARTMENT/VALVES TIRUCHIRAPPALLI-620 014.</p>	<p>Phone:04312577913 FAX :0431-2520383 Email: <a href="mailto:fayasmalik@bheltry.co.in">fayasmalik@bheltry.co.in</a></p>	
		<p><b>ENQUIRY NO.</b> <b>EN-SWL-409</b></p>	<p><b>DATE</b> <b>17.07.2014</b></p>	<p><b>DUE DATE FOR QUOTATION</b> <b>07.08.2014</b></p>
<p>Please quote Enquiry No., and due date in correspondences This is only a request for quotation and not an order.</p>				
<p>Supply of Guage Glass &amp; green Glass.</p> <p><u>Date , Time &amp; Venue of tender opening :</u></p> <p>07.08.2014 at 14.30 Hrs. at Valves Purchase Conference Hall , Building No 24, III Floor BHEL, Tiruchirappalli-620 014, Tamil Nadu State, India.</p>	<p><b><u>Scope of supply</u></b></p> <p>Supply of Guage Glass and Green Glass for Water Level Gauge.</p> <p>List of Annexures Annexure 1A- Scope of Supply and Technical specification. Annexure 2A- Commercial terms and conditions.</p>			
<p>The rate of Excise Duty and Sales Tax, Prevalent on the date of quotation, should be clearly indicated in the quotation itself.</p> <p>Please, submit your lowest quotation in duplicate subject to our terms and conditions , for the above materials, so as to reach us on or before the due date by 14.00 Hrs. (IST)</p> <p>Quotation will be opened at 14.30 Hrs. (IST) on the due date in the presence of tenderers who may like to be present.</p> <p>Late tenders are liable to be rejected.</p>			<p><b>Yours faithfully,</b></p> <p>For Bharat Heavy Electricals Ltd</p> <p><b>Fayas Malik K</b> Engineer/Purchase/Valves</p>	

Annexure to Enquiry Proposal EN:SHP:409						
SLoc	Matl Group	Material	Matl Desc	Req. Date	Del. Date	RFQ Qty
36	GLWLG	964157040000	GREEN GLASS 21"-0467 (IMPORTED)	06.08.2014	15.09.2014	100.00
36	GLWLG	964157180000	GAUGEGLASS IDEWL-0467 (IMPORTED)	06.08.2014	15.09.2014	1000.00
36	GLWLG	964157220000	CLEAR GLASS L486-0470	06.08.2014	15.09.2014	100.00
36	GLWLG	964157270000	CLEAR GLASS L524-0469	06.08.2014	15.09.2014	100.00

CAUTION : THE INFORMATION OF 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

REV 01	DATE 20-08-92	ALTERED: THOMAS.V	REV 02	DATE 08-07-95	ALTERED <i>[Signature]</i>
ZONE		IN TABULATION SL.NO. 5 AND 6 ARE ADDED.	ZONE IN TABULATION, SL Nos 07 & 08 ADDED REFER DCN WL 0012 DT 08-07-95		



SL.NO.	DESCRIPTION	SIZE bxt -L	DRAWING NUMBER	WT. (KG)	COMP. CODE
01	CLEAR GLASS (ILLN)	36X3-524	4-V-0469-06680	0.14	964157270000
02	CLEAR GLASS (V.H.)	36X3-486	4-V-0470-06680	0.125	964157220000
03	CLEAR GLASS (ILLN)	36X3-584	4-V-0467-06680	0.16	964157280000
04	CLEAR GLASS (V.H.)	36X3-560	4-V-0468-06680	0.15	964157230000
05	CLEAR GLASS (ILLN)	36X3-457	4-V-0471-06680	0.11	964157350000
06	CLEAR GLASS (V.H.)	36X3-424	4-V-0472-06680	0.092	964157360000
07	CLEAR GLASS (ILLN)	36x3-721	4-V-0479-06680	0.19	964602630000
08	CLEAR GLASS (V.H.)	36x3-719	4-V-0480-06680	0.19	964602640000

**NOTES:-**

- 1) IT SHOULD BE PERFECTLY TRANSPARENT.
- 2) THE GLASS SHOULD BE COMPLETELY FLAWLESS WITH NO SCRATCHES ON THE SURFACES AND NO AIR BUBBLES INSIDE.
- 3) IT SHOULD BE CAREFULLY CUT TO THE SIZE.
- 4) THE EDGES OF THE GLASS SHOULD BE SMOOTH.
- 5) GLASS SHOULD BE PACKED TO AVOID ANY TRANSIT DAMAGE.



		<b>BHARAT HEAVY ELECTRICALS LTD.,</b> BOILER PLANT UNIT, TIRUCHIRAPALLI-620 014.		DRAWN THOMAS.V	NAME THOMAS.V	SIGN <i>[Signature]</i>	DATE 21-8-92
				CHECKED N.DHANAPAL	SIGN <i>[Signature]</i>		DATE 26/8/92
				APPROVED P.LOGANATHAN	SIGN <i>[Signature]</i>		DATE 26/8/92
DEPT VL CODE 320	GRADE OF UNTOI DIM 8/M/V	FIRST ANGLE 	SCALE N.T.S.	WEIGHT (kg) —	COMP CODE / REF		ITEM No.
TITLE <b>CLEAR GLASS</b>				DRG No. <b>4-V-0000-06680</b>		REVISION 02	

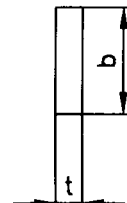
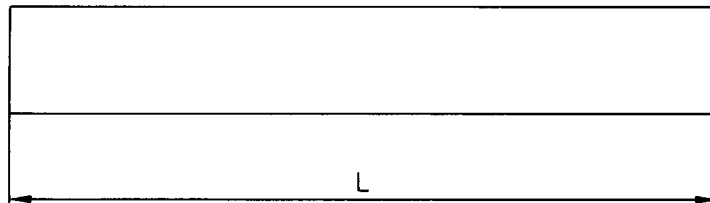
FOR TOLERANCES OF UNTOLERANCED DIMENSIONS

ALL DIMENSIONS ARE IN MILLIMETRES.  
DURING MANUFACTURE REFER RELEVANT QCP/QP

REV	DATE	ALTERED
04	07.08.01	CHD & APPD

K-S  
[Signature]

SL.NO:1&2 MATERIAL CODE ALTERED  
SL.NO:4 DELETED  
REFER DCN WL: 0029



TABULATION:-

SL.NO	DESCRIPTION	SIZE bxt-L	DRAWING NUMBER	WT (KG)	MATERIAL CODE
01	GREEN COLOUR GLASS	15X3 -524	4-V-0466-06608/02	0.061	972554200000
02	GREEN COLOUR GLASS	15X3- 584	4-V-0467-06608/02	0.068	972554500000
03	GREEN COLOUR GLASS	15X3- 457	4-V-0471-06608/01	0.053	974509030000
<del>04</del>	<del>GREEN COLOUR GLASS</del>	<del>15X3- 721</del>	<del>4-V-0479-06608/00</del>	<del>0.08</del>	<del>974509020000</del>

04  
04  
04

NOTES:-

1. IT SHOULD BE PERFECTLY TRANSPARENT
2. THE GLASS SHOULD BE COMPLETELY FLAWLESS WITH NO SCRATCHES ON THE SURFACES AND NO AIR BUBBLES INSIDE
3. IT SHOULD BE CAREFULLY CUT TO THE SIZE
4. THE EDGES OF THE GLASS SHOULD BE SMOOTH
5. GLASS SHOULD BE PACKED TO AVOID ANY TRANSIT DAMAGE



REVISED & RETRACED WITH REV 04 ON 07.08.01

NO OFF	DESCRIPTION	MATL CODE	MATL SPECN	HEAT TREATMENT	SCRAP SORT	NET WT (kg)	GROSS WT (kg)	DRAWING No	ITEM No
BHARAT HEAVY ELECTRICALS LTD., UNIT: HIGH PRESSURE BOILER PLANT. TIRUCHIRAPALLI 620014. 365-122					DRN	K.JAYARAMAN	SIGN	DATE	NO.OF VAR
					CHD	N.RAJASEKAR	[Signature]	07.08.01	
					APPD	N.RAJASEKAR	[Signature]	07.08.01	
DEPT VL			SCALE	WEIGHT (KG).	REFERENCE INFORMATION				NO. OF ITEMS
CODE			NTS	REFER TABULATION					
TITLE					CARD CODE	DRAWING NO.			REV
GREEN GLASS					U 01	4-V-0000-06608			04

CAUTION: The information on this document is the property of BHARAT HEAVY ELECTRICALS LTD. It must not be used directly or indirectly in any way detrimental to the interest of the company.



365-147

PE/ VALVES  
BHEL/TRICHY-14**TECHNICAL SPECIFICATION  
FOR  
GAUGE GLASS****1. Specifications**

<b>Application</b>	: For Port Type Direct Water Level Gauge for Boiler Drum
<b>Medium</b>	: Boiler water / steam
<b>Maximum Pressure</b>	: 3000 psig operating
<b>Maximum Temperature</b>	: Corresponding saturation temperature
<b>pH of medium</b>	: 9 to 11
<b>Glass material</b>	: Tempered Alumino Silicate
<b>Size</b>	: Refer clause 2.4 "Dimensions and Tolerances"
<b>Finish</b>	: The faces of glass should be polished. Their edges may be smooth ground or as moulded.
<b>Annual requirement</b>	: 2500 Nos. (After acceptance of sample)
<b>Sample qty, required</b>	: 100 Nos.
<b>Quality requirement</b>	: Refer clause 2 "Quality of Glass"

**1.1. Special Notes for Specifications**

- 1.1.1. Glass will be subjected to 4500 psig at 30°C during hydraulic test of gauge for a small duration.
- 1.1.2. Ambient temperature will vary from 5 – 40°C. During blow down of gauge, glass will be subjected to upshock.
- 1.1.3. Glass will be mounted with mica and sealing gasket on one side and cushion gasket on the other side.
- 1.1.4. All work on glass must be done before toughening / tempering.

Revision	Date	Altered	Chd & Appd	Revision	Date	Altered	Chd&Appd	Sheet 1 of 4
Prepared	M.C.K	Chd & Appd	M.S.V & N.R.S	<b>SPEC:WL:0004</b>		01		
Date	19.08.2013	Date	19.08.2013					



365-147

PE/ VALVES  
BHEL/TRICHY-14

## TECHNICAL SPECIFICATION

FOR  
GAUGE GLASS**1.2. Other details required along with the quotation:**

- 1) Catalogue for circular port gauge glass.
- 2) Compliance with major international codes
- 3) The following data for the offered gauge glass.
  - a) Bending strength
  - b) Surface compressive stress
  - c) Plane parallelism
  - d) Flatness
  - e) Thermal shock resistance ( $\Delta t/\text{min}$ )
  - f) Maximum permissible pressure & temperature with and without mica
  - g) Tolerances on diameter & thickness
  - h) Co-efficient of thermal expansion
  - i) Transformation temperature
  - j) Density
  - k) Refractive Index
  - l) Alkali resistance
  - m) Water resistance / hydrolytic class

Revision	Date	Altered	Chd & Appd	Revision	Date	Altered	Chd&Appd	Sheet 2 of 4
Prepared	M.C.K	Chd & Appd	M.S.V & N.R.S	<b>SPEC:WL:0004</b>		01		
Date	19.08.2013	Date	19.08.2013					



365-147

PE/ VALVES  
BHEL/TRICHY-14**TECHNICAL SPECIFICATION****FOR  
GAUGE GLASS****2. QUALITY OF GLASS**

Port gauge glasses shall be free from defects that could interfere with vision or service. Manufacturer shall subject or cause to be subjected, the toughened port gauge glasses to the following tests and reports shall be submitted along with each supply.

**2.1. INSPECTION UNDER POLARIZED LIGHT:**

Each toughened port gauge glass shall be examined under polarized light by means of polarized light strain viewer. Any glass which does not show a polarized pattern, indicative of toughening, shall be rejected. Hoop stress as seen by rotation of the glass in the strain viewer shall be of similar intensity around the complete periphery and shall not be interrupted by the presence of surface cracks, heavy cord or other defects.

**2.2. THERMAL SHOCK REQUIREMENTS:**

The toughened port gauge glasses shall be subjected to a thermal shock test as described below. The number of glasses so subjected shall be minimum 10 glasses (for sample quantity of 100) selected at random. A failure of a single glass shall cause the whole of the consignment to be rejected. Glasses subjected to and passing the test may be put into service.

**2.3. THERMAL SHOCK TEST:****2.3.1. APPARATUS:**

1. Cold bath for use with water capacity at least 4.5 litres (or for large articles at least 10 litres for each 1 kg of mass of glass) maintained at a temperature ( $t_2$ ) and provided with means of agitation and a thermometer graduated at each  $1^\circ\text{C}$ .
2. Air oven for heating provided with means of agitation and of maintaining the temperature ( $t_1$ ) and uniform to  $1^\circ\text{C}$ .

**2.3.2. PROCEDURE:**

The cold bath (temperature  $t_2$ ) and the oven (temperature  $t_1$ ) shall be adjusted to give required thermal shock, i.e.,  $t_1 - t_2 = 280^\circ\text{C}$ . The samples selected shall be placed in the oven and maintained at the temperature  $t_1$  for 15 minutes. The articles shall be taken one at a time and plunged into the cold bath maintained at temperature  $t_2$ . Port gauge glasses being small shall be supported above the base of the oven while being heated. Individual wire frames with the glass resting on its edges on two thin wires shall be used. After reaching the specified temperature, the glass shall be transported in the frame as quickly as possible to the quenching bath but the glass only shall be tipped into the water. These small glasses may enter the water edges first.

**2.3.3. EXAMINATION:**

All glasses shall be examined with unaided vision (other than spectacles if worn) after subjecting them to the test described above. A glass is deemed to pass the thermal shock test if it shows no sign of damage, cracks, surface cracks, scaling or other defects.

Revision	Date	Altered	Chd & Appd	Revision	Date	Altered	Chd&Appd	Sheet 3 of 4
Prepared	M.C.K		Chd & Appd	M.S.V & N.R.S				01
Date	19.08.2013		Date	19.08.2013			<b>SPEC:WL:0004</b>	



365-147

PE/ VALVES  
BHEL/TRICHY-14

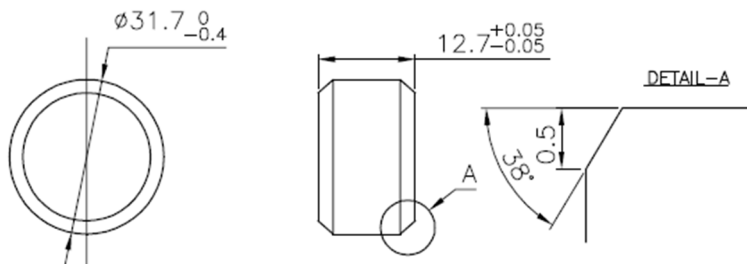
**TECHNICAL SPECIFICATION  
FOR  
GAUGE GLASS**

**2.3.4 ACCEPTANCE:**

The whole lot shall be rejected even if a single glass fails the test.

**2.4. Dimensions and Tolerances**

The dimensions and tolerances should be as per the drawing shown below.



Parallelism = 0.025 mm max.

The parallelism of surfaces shall be assessed by measuring the variation of thickness around the perimeter of a circle having a diameter 3mm less than that of the glass. A minimum of 6 measurements shall be taken. Variation in thickness in any one glass shall not exceed the value specified.

Flatness = 0.025 mm max.

**3. Record of Revisions:**

Rev 01: Annexure (Gauge Glass Drawing) attached.

Revision	Date	Altered	Chd & Appd	Revision	Date	Altered	Chd&Appd	Sheet 4 of 4
Prepared	M.C.K		Chd & Appd	M.S.V & N.R.S				SPEC:WL:0004
Date	19.08.2013		Date	19.08.2013				



# BHARAT HEAVY ELECTRICALS LTD

Annexure 2A

## VALVES PURCHASE

Trichy - 620 014. India

### GENERAL TERMS AND CONDITIONS-INDIGENOUS

#### **1. QUOTATIONS:**

- a. **BID system:** The offers are invited in Two part bid system Part I will be Techno-commercial bid and part II will be Price Bid
- b. **Submission of Tender:** Each offer should be sent in triple cover separately for each bid and the same should be sealed and super scribed with correct Tender No., description & due date of opening. Two or more quotations should not be sent in one cover. Tender should not be addressed to any individual's name but only by designation.
- c. **Late tenders:** Late tenders will not be considered under any circumstance.
- d. **Regulations:** Tenders should be free from CORRECTION AND ERASURES. Corrections if any must be attested. All amounts shall be indicated both in words as well as figures. Where there is difference between amount quoted in words and figures, amount quoted in words shall prevail.
- e. **Duties and Taxes:** If any Sales Tax is payable as extra to the quoted price, it should be specifically stated in quotation along with CST & T.N.G.S.T No. failing which the purchaser will not be liable for payment of Sales Tax. Our T.N.G.S.T No. 3550005 Dated 01-04-1995 C.S.T. No. 259383 Dt. 11.06.1991.
- f. **PVC:** Price Variation clause not acceptable. Prices should be firm.
- g. **Catalogue:** Manufacturer's name, Trade Mark or Patent No. if any should be specified. Illustrative leaflets giving technical particulars are required along with quotation.
- h. **Samples:** Samples should be submitted separately in tender before due date of the enquiry. They should be clearly marked with the enquiry No and date on the outside cover. Offer without samples will be rejected.
- i. **Deviation.** Any deviations from the specification are to be furnished separately as "Annexure 4A Schedule of Deviation ".If there is no deviation vendor should indicate "No Deviation".
- j. **Confirmation:** Confirmation for compliance is to be given in the offer for all the techno commercial conditions specified in the specification.

#### **2. COMMERCIAL TERMS & CONDITIONS:**

- a. **Terms of Payment:**
  - **FOR TRICHY:** Payment 100% after 45 days on satisfactory receipts and acceptance of material at BHEL stores.
- b. **Liquidated Damage:** A sum equivalent to 0.5% of price for each week of delay up to a maximum of 15% of the delayed/ undelivered goods.
- c. **Delivery Terms:** Price should be quoted FOR Designation as mentioned in enquiry inclusive of freight and insurance in transit.
- d. **Validity of Offer:** Prices should be valid for 120 days from the date of opening of this tender.
- e. **Taxes & Duties:** Excise duty, sales tax and other levies (if any) shall be indicated as extra in the offer.
- f. **Risk Purchase:** Alternatively the purchaser at his option will be entitled to terminate the contract and to purchase elsewhere at the risk and cost of seller either the whole of goods or any part which the supplier has failed to deliver or dispatch within the time stipulated as aforesaid or if the same were not available, the best and the nearest available substitute therefore. Supplier shall be liable for any loss which the purchaser may sustain by reason for such risk purchases in addition to penalty.
- g. **MODVAT/CREDIT:** If any Excise Duty is payable, the chapter head/sub-head reference and the rate of the duty should be quoted. If the tender is availing MODVAT credit for his input materials, the effect of proforma invoice should be passed on to the purchaser; tenderer under MODVAT shall be preferred.

#### **3. GENERAL CONDITIONS**

- a. BHEL reserves the right to finalize the tender as per item sl no wise or as a total package or project wise. Separate orders will be released for each project and documents should be supplied for each order separately.
- b. BHEL reserves the right to increase or reduce or split the Tender Quantity and to NOT to order for some or all material based on the changes in project.
- c. BHEL shall have the right to visit vendor works during the execution of contract along with end customer for verifying status, inspection and testing of the material.
- d. BHEL reserves the right to negotiate or re-float the tender in case the quoted prices are not acceptable.
- e. Supplier shall arrange packing to avoid lose or damages during Road Transport, Site handling & Storage.
- f. Purchase Order, PO Item Sl No, Material code, Quantity should marked the Packing clearly.



# BHARAT HEAVY ELECTRICALS LTD

Annexure 2A

## VALVES PURCHASE

Trichy - 620 014. India

### GENERAL TERMS AND CONDITIONS-INDIGENOUS

- g. BHEL reserves the right to finalize the tender either through price bid opening or through Reverse Auction route.
- h. BHEL reserves the right to reject the offer of a particular bidder due to unsatisfactory past performance in the execution of a contract at any of BHEL projects / units.
- i. The Drawings and Technical documents given in this enquiry are the sole property of BHEL. This should not be misused in any form.

#### **4. DOCUMENTATION:**

- a. **With Consignment:** Original duplicate for transporter copy, Invoice, Packing List, Delivery Challan, O&M manual Material Test Certificate, Calibration Report, Compliance Certificate, Guarantee/Warranty Certificate etc...
- b. **Online Submission:** Supplier should upload the soft copy of Test Certificates in BHEL website <http://vis.bheltry.co.in/vis/index.jsp> at Vendor information system tab.
- c. **To Finance:** Original and Duplicate Invoice for payment should be sent directly to  
Senior Manager  
Finance/Valves-Bills section  
BHEL TRICHY 620014
- d. **To Purchase:**
  - i. **FOR BHEL TRICHY case-** Copy of Invoice, Packing list, LWB and Delivery challan.
- e. **Identification:** Material code, Purchase Order, PO item SI No, Unique SI No if any should be provided in all despatch documents, materials and packing clearly.

#### **5. TENDER EVALUATION:**

##### **Part I-& II Pre-Qualification Bid & techno-commercial Bid-**

- All Vendors should submit supply record, end user certificate and PO reference, catalogue etc...
- Vendor who are not registered in BHEL Trichy Product Material Directory (PMD), Vendor should submit duly filled supplier registration forms (SRF) which can be downloaded from our website [www.bhel.com](http://www.bhel.com) and supporting documents to the data filled in SRF.
- Vendors who are registered in other BHEL units can submit vendor code, Name of BHEL unit, Nature of item supplied, Vendor performance rating along with supplier registration form (SRF).
- BHEL reserves right to visit vendor works before registration for verification of facilities.
- Point by point technical confirmation of all pages of our technical specifications and commercial conditions are required with your sign and seal along with techno commercial Offer.
- Offers from supplier not having technical capability or not agreed for commercial terms, will be rejected

##### **PART II Price Bid.**

- Bidders qualified for both part I and part II will be intimated for participating in priced bid opening/Reverse Auction.
- L1 bidder will be decided based on landed cost for the equipment to BHEL.