




BHEL GOINDWAL

TERMS AND CONDITIONS FOR
(Tender Enquiry No. 1213-008 Dated 09.04.2012 Due date of opening 04.05.2012)
Item: SG or MALLEABLE IRON HAND WHEELS

PRE-QUALIFICATION TERMS

- P1 Bidders should primarily be engaged Hand wheels manufacturing/SG or Malleable iron items. BHEL may carry out evaluation of bidder's capability. BHEL reserves the right to accept/reject any offer based on evaluation of bidder's capability. For verification of data presented for pre-qualification bid, BHEL may decide to visit the bidder(s) works. Any fact found deviating from bids during evaluation shall make the bidder liable to be dis-qualified.
- P2 **Bidders, who are not currently on registered list of BHEL IVP Goindwal Sahib, need to submit duly filled format for "Vendor Registration form" along with MSE or MSME certificates if any. This duly filled form can be submitted separately/immediately without waiting for the tender opening. If submitted separately, in the tender documents pl. mention that form has already been submitted with reference no. This will enable BHEL to evaluate the form and help in finalising the tender at the earliest. The form can be downloaded from our website www.bhel.com or can be requested at gss@ivp.bhel.in or vishal@ivp.bhel.in**
- Registered vendors with BHEL IVP Goindwal have to mention their vendor code. Registered vendors with any other unit of BHEL are also required mention the vendor code given by respective BHEL unit along with photocopy of latest POs from BHEL unit. Duly filled form can be submitted along with/separately, which is required for evaluation/records if the vendor gets order through this tender.
- P3 A copy of pre-qualification details can be submitted even before due date of opening for evaluation planning by BHEL.
- P4
- P4(i) Bidders not registered with any unit of BHEL are required to deposit an **amount of Rs. 50,000/- as Earnest Money (EMD)** by way of DD in favour of BHARAT HEAVY ELECTRICALS LIMITED, INDUSTRIAL VALVES PLANT, GOINDWAL SAHIB payable at Goindwal Sahib only. Central/State PSUs/State owned Corporations are exempted from EMD, for which relevant documentary proof has to be submitted in the envelop of EMD.
- P4(ii) EMD shall be forfeited if after opening the tender, the bidder revokes his tender within the validity period or increases his earlier quoted prices.
- P4(iii) EMD shall be forfeited if the bidder does not commence the work within the period as per LOI/PO.
- P4(iv) EMD submitted by all unsuccessful bidders shall be refunded normally within 20 days of finalisation of Rate Contract with interested bidders.
- P4(v) EMD shall not carry any interest.
- P4(vi) EMD amount (without any interest) shall be adjusted against security deposit SD/returned after receipt of security deposit(SD) for successful bidder.
- P5 **IF THE OFFER IS NOT ACCOMPANIED WITH ACCEPTANCE OF TERMS AND CONDITIONS, IT SHALL BE CONCLUDED THAT ALL THE TERMS AND CONDITIONS ARE ACCEPTABLE AND NO CLAIM WHATSOEVER SHALL BE ENTERTAINED LATER ON.**

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COMMERCIAL TERMS

C1 Inviting Quotations:

Tenders in three part bids are invited. Tender is for supply of '**SG OR MALLEABLE IRON HANDWHEELS**' as per BHEL Drawings, TDCs and other technical documents referred in these documents.

Sealed tenders in three parts; Part-I: EMD, Part II: Techno-commercial bid and Part-III: Price bid are hereby invited as per applicable specifications and Drawings provided by BHEL. The relevant documents are attached with the Enquiry.

The three bids should be submitted in **separate sealed inner envelopes** duly mentioning the detail as follows:

Bid	Description	Superscription on envelope	Min documents to be submitted
Part-I	EMD envelop	EMD for tender enquiry no. *** dated ***	Draft payable at Goindwal Sahib/Proof of claiming exemption.
Part-II	Pre-qualification & Techno-Commercial bid in response to tender enquiry no. 1213-008 Dated 09.04.2012	PART-I "Techno-Commercial Bid" Tender Enquiry no. 1213-008 Dated 09.04.2012 Due date of opening: 04.05.2012 Sender:	1. Registration details/filled registration format 2. Acceptance of all terms and conditions. 3. Un-priced (Prices not filled) format showing taxes and duties structure.
Part-III	Price bid in response to tender enquiry no. 1213-008 Dated 09.04.2012	PART-II "Price Bid" Tender Enquiry no. 1213-008 Dated 09.04.2012 Due date of opening: 04.05.2012 Sender:	Price bid duly filled prices in words also along with same taxes and duties as mentioned in unpriced bid. In case of discrepancy between prices in fig and words, prices in words are final. Prices in Rs. per piece only.
PLEASE SEE AND FOLLOW THE CHECKLIST PROVIDED AT THE END			


All the sealed envelopes should be put in an outer envelope clearly mentioning Tender Enquiry No., item description as "SG OR MALLEABLE IRON HAND WHEELS" and due date of opening as 04.05.2012 time 1530 Hrs. on it.

Part-I: EMD should contain:

DD of requisite amount payable at Goindwal Sahib only **OR** if exemption is sought, proper documents as required and explained in Pre-qualification para P4.

Part-II: Techno-Commercial bid should contain

- The details/data/ information/ supporting documents as per requirement of Pre-Qualification Bid.

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- b) Acceptance of Techno-Commercial terms and conditions should be attached next. This can be attached either by signing each page of terms and conditions or a confirmation statement.

Any deviation proposed by bidder shall be considered by BHEL at its own discretion; and if finally considered, shall carry loading factor at the discretion of BHEL.

- c) Unpriced price bid, filling all other details except **unit price**.

Sealed quotations shall reach by 1500 Hrs on due date. Part-I shall be opened on due date at 1530 Hrs. Based on evaluation of pre-qualification and/or techno-commercial offers, Price bids of bidders who qualify from pre-bid qualification and techno-commercial evaluation shall be opened. Date of opening of Price bid shall be informed to all successful bidders.

Part III: Price Bids:

Price quotation format shall be as attached.

Present rate of VAT/CST & Excise duty + any cess on ED shall be mentioned in the table as %. All duties shall be paid extra. However, the comparison among bidders shall be done on the basis of quoted rates converted to "Total landed cost to BHEL". Duties shall be payable extra against ED Gate Pass valid for CENVAT benefit.

Price quoted shall be firm and not subject to any escalation during the PO execution.

Price should be quoted on **FOR Destination Goindwal Sahib** basis. If not mentioned, it shall be concluded that the offer is on FOR Destination Goindwal Sahib basis.

C2 Validity of offers:

Offers shall be valid for **60 days** from due date of opening. In case of extension of due date of opening, the offers validity shall be extended accordingly.

C3 Terms of payment:

C4.1 Due payment against supplies received shall be made within 30-45 days of receipt subject to acceptance of material by BHEL and receipt of following dispatch documents. In case of any deviation from standard payment term mentioned BHEL at its discretion may load on the item price at prime lending rate of SBI + 2% for the period of relaxation sought by bidder.

C4.1.1 Commercial invoice (in duplicate).

C4.1.2 Original VAT invoice valid for claiming input tax credit.

C4.1.3 Compliance Certificate & Inspection clearance certificate released at the time of Pre-Despatch inspection at vendor's works, if any.





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- C4.2 Above documents should include your Registration numbers such as ECC no, PAN no, CST no, TIN/ VAT nos. etc.
- C4.3 BHEL will not be responsible for delays in release of payment on account of discrepancies in documentation, so vendor has to ensure compliance to documentation requirement
- C4.5 ***BHEL releases payment through EFT mode. Vendor can provide the necessary details by obtaining format before release of payment while supplying the material***

C4 **Security Deposit:**

An amount equal to **2% of basic value of each invoice** shall be deducted from running invoices of new vendor. Interest free Security Deposit (full or partial after deduction of any amount chargeable from vendor) shall be refunded after completion of order(s) against this tender.

C5 **Delivery schedule:**

Sequence of delivery shall be indicated by BHEL while placing the orders/through other communications. Vendor shall be required to complete the order ***within four months from placement of PO. 25% of PO quantity has to be supplied in each month.***

C6 **Access to Manufacturing Premises:**

For evaluation & during the currency of execution of PO, authorized representatives of BHEL shall be allowed free access to the manufacturing facilities for the purpose of inspection or monitoring the progress of purchase orders. This access will also be extended to representatives of BHEL's customers accompanying the authorized representative/s of BHEL, if our contractual requirements with our customers call for the same.

C7 **Quantity:**

Quantity mentioned in the annexure is indicative and can vary by 25%- item wise or full tender wise. BHEL may decide to increase or decrease the quantity by 25% or change the mix of items according to our requirement. Quantity variation from vendors' side is not allowed in negative side. Only positive side variation to the extent of 10% of individual item in PO can be considered at the discretion of BHEL. A request has to be made for the same for consideration by BHEL before despatch of any such excess material.

C8 **Loading:**

For all new vendors, initially Development PO will be released for 40% quantity for delivery within two month. On successful completion, further loading of 30% quantity shall be done for each month. In case a new vendor gets whole tender quantity due to non-acceptance of counter offers, then ordering on that new vendor shall be done for half tender quantity only.

BHEL reserves the right to negotiate with L1 or re-float the tender in case the quoted prices are not acceptable. BHEL will give counter-offer to vendors other than L1, in order to have broader



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vendors base for ensuring timely delivery. Following directions shall be followed when allotting the tender quantities:

1. Tender quantity shall be divided in the proportion 60:20:20 (60% for L1, 20% for L2 and 20% for MSE's) in case the L1 vendor is not a MSE subject to following conditions:
 - I. L2 acceptance of L1 rates.
 - II. In tender, participating Micro and Small Enterprises quoting price within price band of L1+15 per cent shall also be allowed to supply a portion of requirement at L1 price in a situation where L1 price is from someone other than a Micro and Small Enterprise and such Micro and Small Enterprise shall be allowed to supply up to 20 per cent of total tendered value. In case of more than one such Micro and Small Enterprise, the supply shall be shared equally.
 - III. 20% from the 20% quantity (i.e. 4% of the tender quantity) offered to the MSE's shall be reserved for MSE's owned by SC/STs. In event of failure of such Micro and Small Enterprises to participate in tender process or meet tender requirements and L1 price, 4 per cent quantity for Micro and Small Enterprises owned by SC/ST entrepreneurs shall be met from other Micro and Small Enterprises.
 - IV. In case any MSE vendor does not accept the counter offer, the above mentioned 20% quantity shall be offered to L2 subject to its acceptance to L1 price.
2. In case if the L1 vendor is MSE then quantity shall be provided as 56 % and 40% in L1 and L2 vendor subject to acceptance to above mentioned provision no.(i). 4% tender quantity shall be offered to the MSEs owned by SC/ST's. In event of failure of such Micro and Small Enterprises to participate in tender process or meet tender requirements and L1 price, 4 per cent sub-target for procurement earmarked for Micro and Small Enterprises owned by SC/ST entrepreneurs shall be met from L1 vendor.

This ratio can be altered in case of any failure on part of L1 regarding delivery commitment/quality of material. In case of non-acceptance of counter offer by L2 vendor whole quantity shall be given to L1 Vendor. All above mentioned preferences shall be given to MSEs and SC/STs only on the submission of documentary evidence.

C9 Risk Purchase

BHEL shall be entitled to terminate the contract with any vendor and to purchase elsewhere at the risk and cost of the vendor, either the whole or part thereof which the supplier has failed to deliver within the time stipulated as aforesaid. Vendor shall be liable for the losses, which BHEL may sustain by way of such risk purchase in addition to aforesaid penalty for delayed delivery. Purchases made from any other vendor at its quoted rates shall be made and the difference of rates of defaulter vendor and new vendor shall be deducted from running bills of the vendor who has failed to deliver.

C10 Liquidated Damages

'Time is the essence of the contract'. As such, delivery of goods specified in the Purchase Orders shall be made within the time limit prescribed therein. Liquidated damages clause will be applicable for delayed supplies @ 0.5% per week or part thereof subject to a maximum of 5%. Once the delivery period mentioned has expired, and BHEL may or may not take the delivery of item.



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C11 Force Majeure:

If at any time during the continuance of the contract, the performance in which or in any part by either party of any obligations under the contract are prevented or delayed by reason of any war, hostilities, acts of public enemy, civil commotion, sabotage, fires, explosions, epidemics, quarantine restrictions, or acts of God (hereinafter referred to "an events") then provided the notice of happening of any such event is given by either party to the other within 21 days of the occurrence thereof, neither party shall by reason of such event be entitled to terminate the contract nor shall either party have any claim for damages against the other in respect of such non-performance and delay in performance and delivery under the contract shall be resumed as soon as practicable after such event has come to an end or ceased to exist. If the performance in whole or part of any obligation under the contract is prevented or delayed by reason of any such event, claims of extension of time shall be granted for periods considered reasonable by BHEL subject to prior notification by the vendor to BHEL of the particulars of the event and supply to BHEL, if required, of any supporting evidence. Any waiver of time in respect of partial installment shall not be deemed a waiver of time in respect of remaining deliveries.

C12 Arbitration:

In the event of any dispute and/or difference arising between the Vendor and BHEL as to interpretation and/or execution of the contract and/or the respective rights and liabilities of the parties, such disputes and/or differences shall be referred to the sole arbitrator nominated by BHEL. The provisions of the Indian Arbitration Act and the rules thereunder shall apply to such arbitration. The award passed by the arbitrator shall be final and conclusively binding on all the parties.

C13 Jurisdiction:

The court of the place from where the purchase order is issued shall alone have jurisdiction to decide any dispute arising out of or in connection with the purchase order.

C14 Banned Firms

The offers of the bidders who are on the banned list as also the offer of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL website www.bhel.com.

C15 MSME & MSE Certification:

If the bidder is registered as any of Micro/Small/Medium enterprise as defined in Micro Small and Medium Enterprises Development Act, 2006; a copy of registration certificate to be attached. If the bidder is registered as any of Micro/Small/Medium enterprise as defined in Micro Small and Medium Enterprises Development Act, 2006; a copy of registration certificate to be attached. MSE's shall be given preferences as described in "Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012" subject to the submission of proper documentary evidence (i.e. District Industries Centers or Khadi and Village Industries Commission or Khadi and Village Industries Board or Coir Board or National Small Industries Corporation or Directorate of Handicrafts and Handloom or any other body specified by Ministry of Micro, Small and Medium Enterprises) with quotation. "Public Procurement Policy for Micro



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and Small Enterprises (MSEs) Order, 2012” document can be downloaded from link <http://dcmsme.gov.in/FinalPressorder.pdf> and can also be collected from the office of Manager/MM IVP Goindwal.

C16 General:

- a) BHEL will not be bound by any power of attorney granted by the vendors or by changes in the composition of the firm made subsequent to the execution of the contract. They may, however, recognize such power of attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the vendor concerned.
- b) BHEL reserves the right to accept or reject any part or whole of the tender by assigning a valid reason thereof. BHEL reserves the right to cancel the tender without assigning any reason thereof and without any obligation before any commitment.
- c) Please submit acceptance of all techno-commercial terms along with quotation. If nothing is mentioned for any term, it shall be concluded that the same is acceptable.
- d) Performance of suppliers shall be monitored periodically by user department of BHEL.

C17 LOI (Letter of Intent)

BHEL may issue LOI prior to the PO for any reason whatsoever. The LOI in such cases is to be treated as PO for all practical purposes and all the Terms & Conditions of the tender shall be applicable from the date of issue of LOI.

C18 PREFERENCES FOR MSE'S:

Preferences as mentioned in “Public Procurement Policy for Micro and Small Enterprises (MSEs) Order, 2012” shall be given to Micro and Small enterprises.

Main points which are mentioned in the above order are as follows:

- 20% Procurement of the tender value shall be made from MSE (Micro, Small Enterprises) firms.
- 4% from the above mentioned 20% procurement quantity shall be procured from MSE's owned by SC /ST's. Failure to participate by any MSE owned by SC/ST's this 4% quantity shall be procured from other MSEs.
- EMD shall be exempted for MSE's. All these benefits are subject to production of all statutory documents
- In tender, participating Micro and Small Enterprises quoting price within price band of L1+15 per cent shall also be allowed to supply a portion of requirement by bringing down their price to L1 price in a situation where L1 price is from someone other than a Micro and Small Enterprise and such Micro and Small Enterprise shall be allowed to supply up to 20 per cent of total tendered value. In case of more than one such Micro and Small Enterprise, the supply shall be shared proportionately (to tendered quantity).

All these preferences are applicable subject to the submission of applicable certificates (i.e. District Industries Centers or Khadi and Village Industries Commission or Khadi and Village Industries Board or Coir Board or National Small Industries Corporation or Directorate of Handicrafts and Handloom or any other body specified by Ministry of Micro, Small and Medium Enterprises).



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(Tender Enquiry No. 1213-008 Dated 09.04.2012 Due date of opening 04.05.2012)
Item: SG or MALLEABLE IRON HAND WHEELS

TECHNICAL TERMS:

T1 **Scope of Supply:**

Material shall be supplied as per the applicable latest Technical Delivery Conditions (TDC)/ Material Standard requirements/BPS/Drawing and other requirement as given in the Tender Enquiry. National & International material Standards shall have to be arranged by vendors themselves. **Material shall be any of SG Iron ASTM A536 or Malleable Iron IS 2108.** Dimensions, workmanship, marking shall be as per respective BPS. Pl. note that either material is acceptable or as such PO for any item will be decided and awarded based on comparison of Landed Cost to BHEL irrespective of material of construction. Justification of high prices due to material will not be entertained.

T2 **Applicable Technical Delivery Conditions:**

All hand wheels are to be supplied as per enclosed drawings. The material used shall meet the TDC requirement/Standard requirements as mentioned. Material shall be any of SG Iron ASTM A536 or Malleable Iron IS 2108. Dimensions, workmanship, marking shall be as per respective BPS. **All items to be supplied in machined form as per drawings.**

T3 **Inspection:**


1. All required tests shall be carried out by vendor at no extra cost. Relevant TCs shall accompany the consignment. **BHEL may decide to inspect itself/arrange third party at vendors' works itself as and when necessary with prior intimation to the vendor.** No additional charges shall be claimed for such inspections.
2. **Vendor will give inspection call sufficiently in advance considering the delivery period stipulated in the purchase order.**
3. **Material Test Certificates (MTC), Inspection reports and Compliance/Guarantee Certificate are to be provided along with the supplies.**
4. Latest applicable revisions of standards/procedures to be referred.
5. Any inspection carried out before supply by vendor/incoming stage at BHEL notwithstanding, if any defect/non-conformity is noted during processing, the same shall be attended/replaced by vendor at no extra cost.

T4 **Replacement/Repair of Rejected boxes:**

If the material is rejected due to defective workmanship during inspection or at the time of actual use, within the guarantee period (i.e. as per clause 11), the rejected material shall be replaced by the supplier. Corresponding quantity shall be treated as unsupplied against respective purchase order till replacement is received at BHEL. If the material is found defective and rejected during use for which payment has already been released the rejected quantity shall be supplied free of cost by the vendor within a month of intimation of the rejection by BHEL.

T5 **Marking and certificates:**

Marking shall be as per drawings.

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CHECKLIST AND SEQUENCE OF DOCUMENTS TO BE SUBMITTED IN THREE PARTS BIDS

S. No.	Document	Status [pl. check the following for ready ref]
1.	EMD envelope	Sealed envelope marked as Part-I "EMD envelope" DD submitted/ proof of claiming exemption submitted
2.	<p>Second envelope should contain</p> <p>(1) Pre-qualifying data, i.e. either of</p> <p>(A) Duly filled "Vendor registration form" [Registration form and any help in filling the same can also be asked from gss@ivp.bhel.in or vishal@ivp.bhel.in] along with MSE or MSME certificates if any</p> <p>OR</p> <p>(B) If existing vendor of BHEL IVP GWL, undertaking mentioning vendor code</p> <p>OR</p> <p>(C) If vendor of any other unit of BHEL, undertaking mentioning vendor code supported by copies of registration certificate and latest POs from BHEL unit.</p> <p>Alongwith any of above documents, clear undertaking of operations intended to be out-sourced, (refer para P1)</p> <p>(2) Techno-Commercial bid</p> <p>(3) Unpriced bid (item prices not to be mentioned)</p>	<p>Yes</p> <p>1. Filled format attached/ BHEL IVP GWL Vendor code mentioned/BHEL unit registration certificate copy and latest PO copies attached.</p> <p>2. Other details attached.</p> <p>3. Acceptance of techno-commercial terms.</p> <p>4. Unpriced bid attached.</p> <p>Envelop sealed.</p> <p>Sealed envelope marked as Part-II "Pre-Qualification & Techno-Commercial Bids"</p>
3.	Price Bid sealed in separate envelope superscribing tender enquiry detail, due date of opening, sender address	Sealed envelope marked as Part-III "Price Bid" Yes, sealed envelop
	All three sealed envelopes put in an outer envelope mentioning all details like Enquiry no., description, due date	Yes





PLANT STANDARD

HPBP TIRUCHIRAPPALLI

BPS 419026

Rev. No. 02

PAGE 01 OF 03

HANDWHEEL WITH PYRAMID HOLE (DIA 200 mm AND ABOVE)

0.0 SCOPE

0.1 This standard covers the requirements of off-set arm type handwheel with pyramid hole for sizes Ø 200 mm and above.

1.0 SPECIFICATION AND REFERENCE STANDARDS

Dimensions and preferred sizes	Figure 1 and Table 1 of this standard
Unspecified tolerances	As per relevant QWI
Material	Malleable Iron casting conforming to IS:14329
Surface finish	The surface should be smooth. Should be free from sharp edges and unevenness.
Marking (by embossing)	As shown in figure 1.
Manufacture, workmanship, Packing, Preservation and other requirements	As per relevant quality procedures.

2.0 REFERRED STANDARDS (Only current versions are applicable)

IS : 14329 - Malleable iron castings.

3.0 DESIGNATION

3.1 A hand wheel of rim diameter 250 mm shall be designated as :

- i) Material spec column : -----
- ii) Description column : **HAND WHEEL 250**
- iii) Drawing No. column : **BPS 419026**
- iv) Material code column : -----

4.0 ORDERING DESCRIPTION

4.1 For placing indents, issuing enquiries and on purchase order, ordering description given below shall be followed.

HAND WHEEL 250 TO BPS 419026

Revisions 02 Brought upto date			Approved STANDARDS SECTION PRODUCT ENGINEERING/ FOSSILE BOILER HPBP. TIRUCHIRAPPALLI		
Rev. No. 02	Amd. No.	Reaffirmed	Prepared STANDARDS	Issued STANDARDS	Dt of 1st Issue MAY 1977
Dt. 30-06-2000	Dt.	Year			

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PLANT STANDARD

HPBP TIRUCHIRAPPALLI

BPS 419026

Rev. No. 02

PAGE 02 OF 03

5.0 ADDITIONAL INFORMATION

5.1 Copies of this standard shall be sent along with purchase order.

TABLE - 1

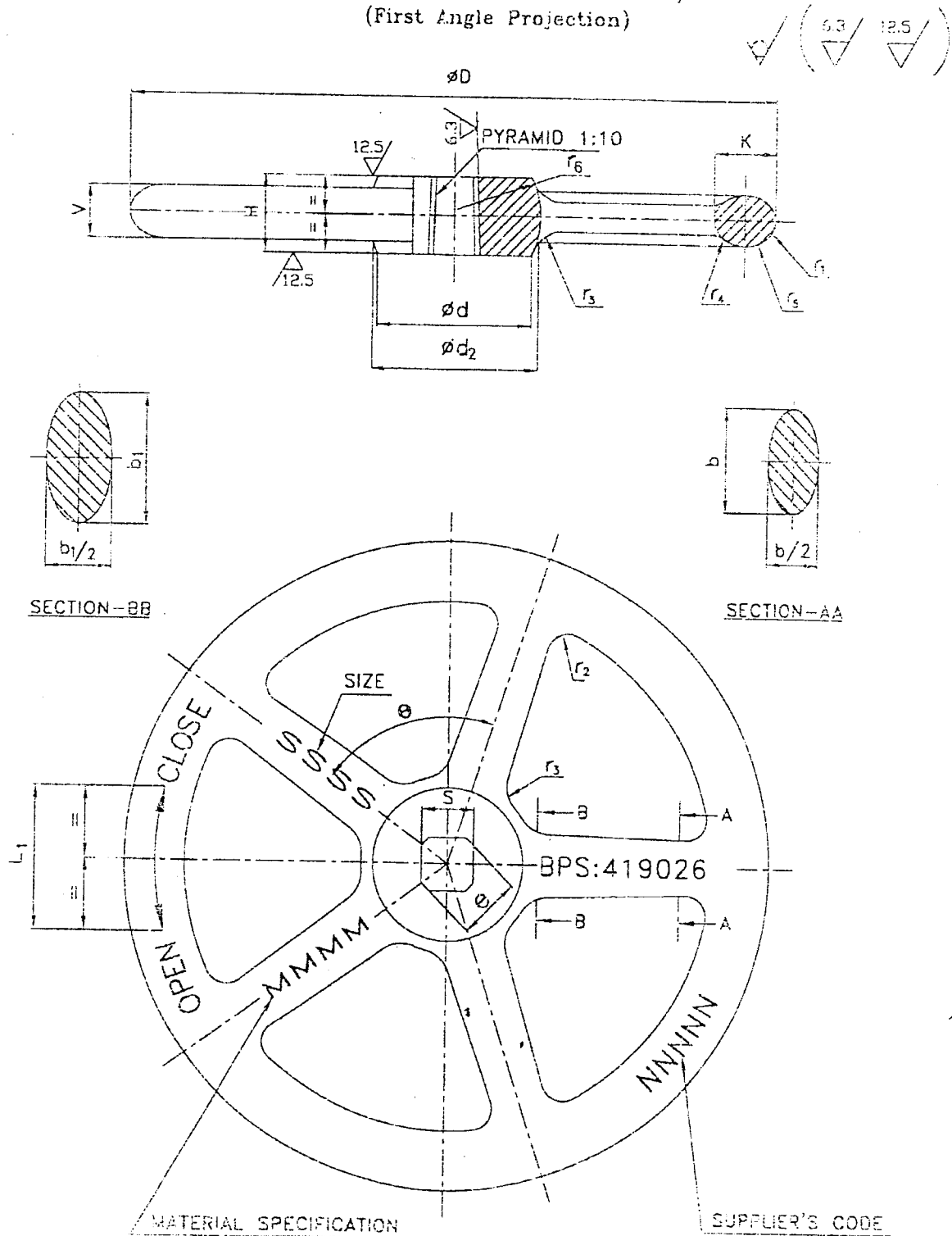
(All dimensions are in millimetres)

Rim ϕ of handwheel	ϕD	200	250	315	400	450	500	560	710
Dia of corresponding spindle	ϕd	20	24	28	32	36	40	44	52
Height of handwheel	H	24	28	32	37	42	47	52	62
Hub	S	15	18	21	24	27	30	33	39
		+ 0.0 - 0.3		+ 0.0 - 0.4					
	e	20.8	25	29	33.5	37.5	41.5	46	53
	ϕd_1	40	60	68	70	70	70	90	110
	ϕd_2	45	66	75	80	80	80	105	125
Rim	r_3	10	12	12	15	15	15	15	15
	r_6	28	28	30	30	30	30	30	40
	V	18	20	22	23	24	24	26	40
	k	24	26	30	34	36	36	38	60
	r_1	6	7	7	8	9	9	9	15
Arm	r_4	16	16	18	20	22	24	24	26
	r_5	16	18	20	24	27	30	30	36
	l_1	56	60	60	68	72	72	72	80
	b	18	20	22	26	30	30	30	38
	b_1	24	26	28	34	36	36	36	46
No. of arms	r_2	6	8	10	11	12	12	12	15
	θ	120°	120°	120°	90°	90°	90°	72°	51.43°
	N	3	3	3	4	4	4	5	7
Letter size (height) for embossing	I	8	8	10	10	12	12	12	15
Weight in Kg/piece		2.0	2.3	4.0	5.4	7.0	12.8	14.0	38.0

John

Figure-1

(ALL DIMENSIONS ARE IN MILLIMETRES)
(First Angle Projection)



Note : Size, Material spec and supplier's code are to be given in the purchase order for embossing.

Handwritten signature



PLANT STANDARD

HPBP TIRUCHIRAPPALLI

BPS 419027

Rev. No. 02

PAGE 01 OF 03

HANDWHEEL WITH CIRCULAR HOLE AND KEYWAY (Dia 250 mm AND ABOVE)

0.0 SCOPE

0.1 This standard covers the requirements of handwheels with circular hole for dia 250 mm and above.

1.0 SPECIFICATION AND REFERENCE STANDARDS

Dimensions and preferred sizes	Fig 1 and Table 1 of this standard
Unspecified tolerance	As per relevant QWI
Material	Malleable Iron castings conforming to IS:14329 or S.G.Iron conforming to GR. 450/10 of IS:1865
Surface finish	The surface should be smooth. Should be free from sharp edges and unevenness.
Marking (by embossing)	As shown in figure 1.
Manufacture, workmanship, Packing, Preservation and other requirements	As per relevant quality procedures.

2.0 REFERRED STANDARDS (Only current versions are applicable)

IS : 14329 - Malleable iron castings.

IS : 1865 - Iron castings with spheroidal or nodular graphite - specification.

3.0 DESIGNATION

3.1 A hand wheel of rim diameter 250 mm shall be designated as :

- i) Material spec column : -----
- ii) Description column : **HAND WHEEL 250**
- iii) Drawing No. column : **BPS 419027**
- iv) Material code column : -----

4.0 ORDERING DESCRIPTION

4.1 For placing indents, issuing enquiries and on purchase order, ordering description given below shall be followed.

HAND WHEEL 250 TO BPS 419027

Revisions 02 Brought upto date			Approved STANDARDS SECTION PRODUCT ENGINEERING/ FOSSILE BOILER HPBP, TIRUCHIRAPPALLI		
Rev. No. 02	Amd. No.	Reaffirmed	Prepared	Issued	Dt of 1st Issuc
Dt. 30-06-2000	Dt.	Year	STANDARDS	STANDARDS	1978



PLANT STANDARD

HPBP TIRUCHIRAPPALLI

BPS 419027

Rev. No. 02

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5.0 ADDITIONAL INFORMATION

5.1 Copies of this standard shall be sent along with purchase order.

Table - 1

(All dimensions are in millimetres)

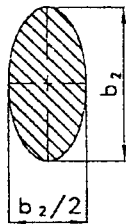
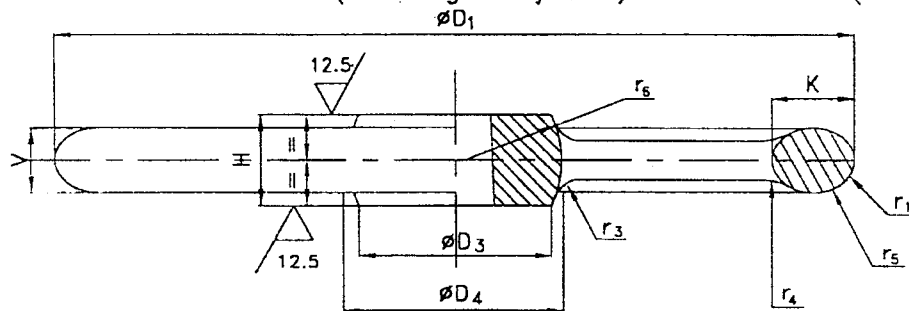
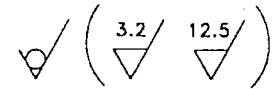
Rim of hand wheel	ϕD_1	250	315	400	450	500	560	710
Dia of corresponding stem		20 & 24	26 & 28	32	36 & 40	40	44	52
Hub	H	28	32	37	42	47	52	62
	ϕD_2	40	45	52	60	65	70	80
	ϕD_3	60	68	75	90	100	110	130
	ϕD_4	66	75	88	105	115	125	150
	r_6	28	30					40
Key Way	L_1	12	14	16	18	20	20	22
	L_2	43.3	48.8	56.3	64.4	69.9	74.9	85.9
	θ	120°	120°	72°	72°	72°	72°	≈51.43°
Rim	V	20	22	23	24	24	26	40
	K	26	30	34	36	36	38	60
	r_1	7	7	8	9	9	9	15
	r_5	18	20	24	27	30	30	36
	L_3	60	60	68	72	72	72	80
Arm	b_1	20	22	26	30	30	30	38
	b_2	26	28	34	36	36	36	46
	r_2	8	10	11	12	12	12	15
	r_3	12	12	12	12	12	12	15
	r_4	16	18	20	22	24	24	26
Number of arms		3	3'	5	5	5	5	7
Letter size (height)		8	10	10	12	12	12	15
Weight in Kg/piece (approx)		3.8	5.7	9.18	11.57	16.3	18.00	65.00

Osha

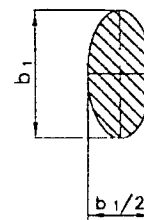
Figure-1

(ALL DIMENSIONS ARE IN MILLIMETRES)

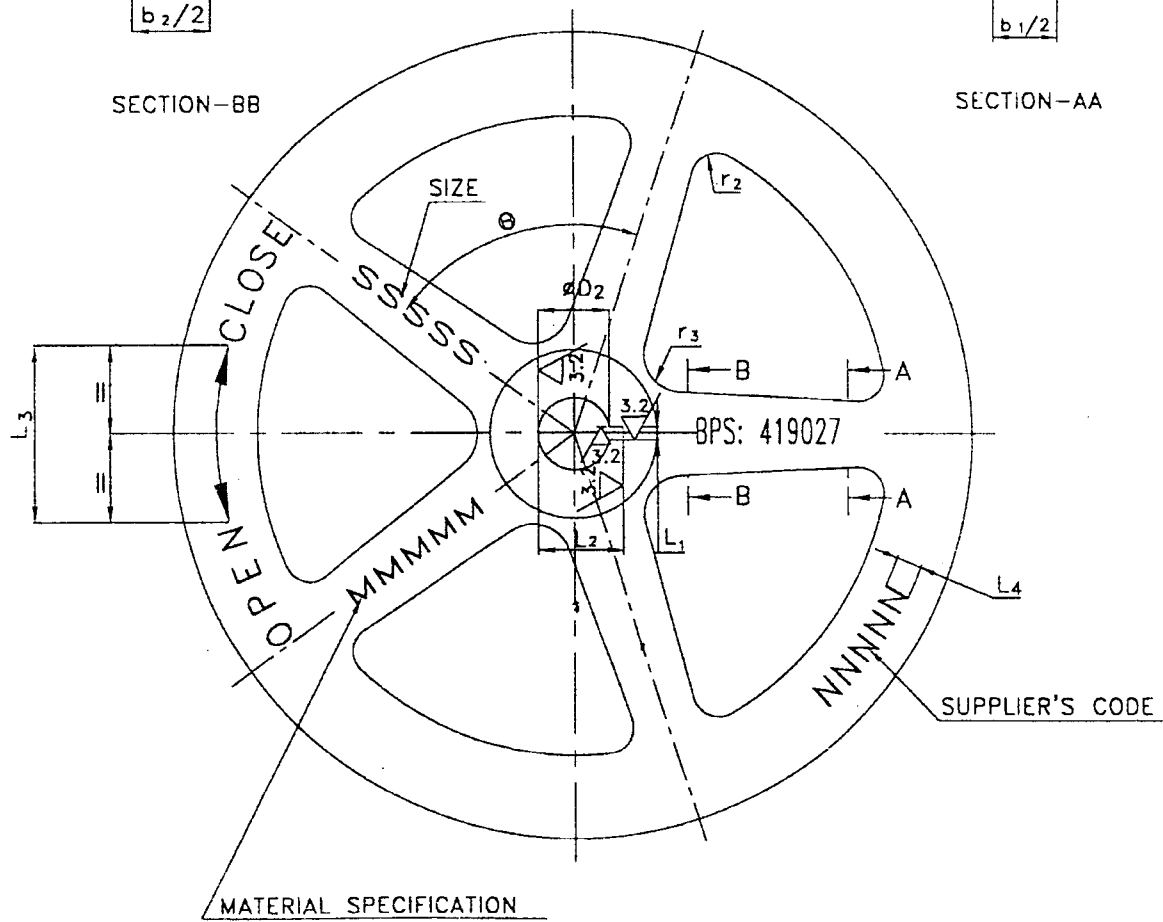
(First Angle Projection)



SECTION-BB



SECTION-AA



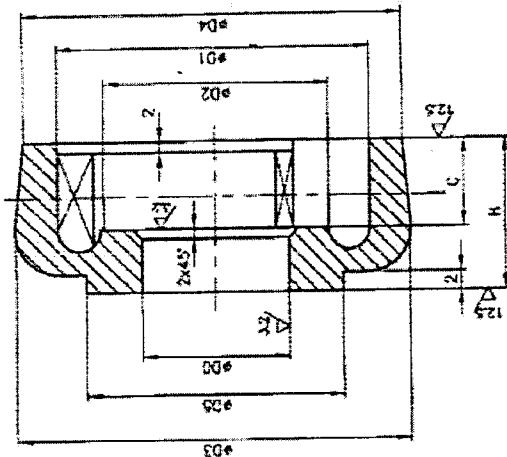
Note : Size, Material spec. and supplier's code are to be given in the purchase order for embossing.

Handwritten signature

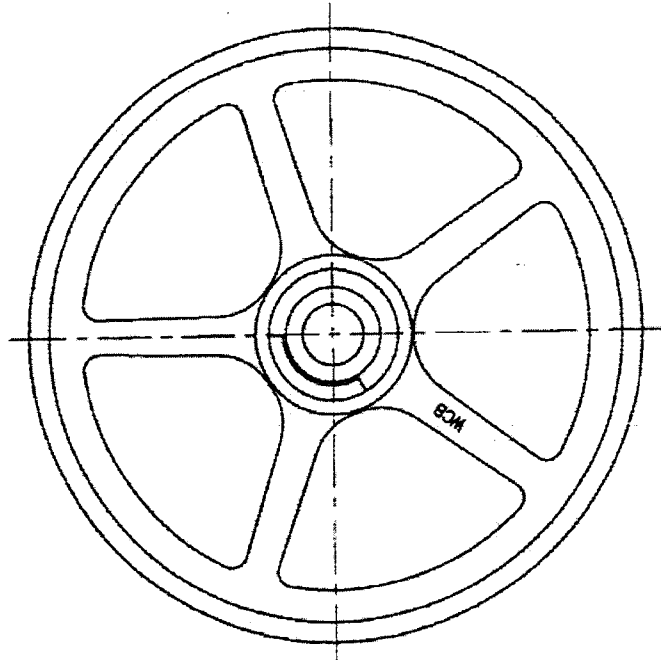
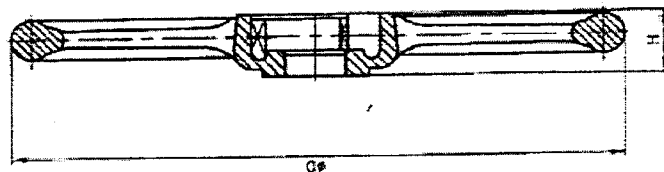
ALL DIMENSIONS ARE IN MILLIMETERS.
FOR TOLERANCES OF UNFINISHED DIMENSIONS SEE THE DIFFERENTIAL DIMENSIONAL SYSTEMS.

Δ
Δ
/ Δ

DETAIL OF BOSS



SL No	DRAWING No.	COMP. CODE	DIMENSIONS										No. OF ARMS	WT. (kg)	SIZE	SHAPE	Cast Dwg. No.
			øD	H	øD0	øD1	øD2	øD3	øD4	øD5	C						
01	3-V-K648-17701/01	93 025 013	400	37	50	85	62	110	103	70	24	4	9.38	400	32	2V-K648-06166R02	
02	3-V-K649-17701/01	93 106 888	450	41	60	100	75	130	123	80	26	4	11.91	450	36	2V-K650-06166R02	
03	3-V-K650-17701/01	93 025 611	500	41	60	100	75	130	123	80	26	5	15.6	500	40	2V-K651-06166R02	
04	3-V-K651-17701/01	93 106 889	560	46	70	110	85	145	138	90	28	5	17.50	560	44	2V-K651-06166R02	
05	3-V-K652-17701/01	93 106 890	630	46	70	110	85	145	138	90	28	6	19.7	630	48	2V-K652-06166R02	
06	3-V-K653-17701/01	93 106 891	710	52	96	125	100	165	158	110	30	6	25.8	710	52	2V-K653-06166R02	



NOTE-1. FOR CASTING DIMENSIONS REFER TO CASTING DRG. NO. 2V-0000-0416R

2. MATERIAL OF BAND WHEEL MAY BE ASTM A216 WCB/ YALISABLE IRON CONFORMING TO 19: 14236 /SG IRON CONFORMING TO GR.450/10 OF 19:1565.

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

NO	DESCRIPTION	MATERIAL CODE	MATERIAL SPECN	HEADS	SCRAP	NET	GROSS	DRAWING NO.	ITEM
QTY				TREATMENT	SOFT	(KG)	(KGS)		NO
<p align="center">TYPE OF PRODUCT</p> <p align="center">OR NAME OF</p> <p align="center">CUSTOMER/PROJECT</p>									
<p align="center"> </p>									
DRPT		SCALE		WEIGHT (KG)		NAME		DATE	
CODE		N T S				Vikas KUMAR		09.04.2012	
TITLE		/				SUNDEET BANSAI		09.04.2012	
						APPD S KERNY		09.04.2012	
						REFERENCE INFORMATION			
						3V-0000-17701/01			
						DRAWING NO.		REV	
						CARD CODE			
						U 01			
						SKETCH-HW-01			
						HAND WHEEL			
						(MACHINING)			

13126 87

BHARAT HEAVY ELECTRICALS LTD
IVP, GOINDWAL SAHIB
UN PRICE BID ANNEXURE

Annexure to Enquiry No.1213-008 dt 09.04.2012, due date 04.05.2012

Material : SG or Malleable iron Hand wheels

S.No.	Matl Code	Desc	Drawing No	Qty (No.)	Unit rates, FOR Goindwal Sahib	
					In Fig.	In Words
1	920090540000	HAND WHEEL-BPS 419027-DIA 400	419027	1250	"Not to be filled by supplier--Please see price bid"	"Not to be filled by supplier--Please see price bid"
2	920090550000	HAND WHEEL-BPS 419027-DIA 450	419027	1250	"Not to be filled by supplier--Please see price bid"	"Not to be filled by supplier--Please see price bid"
3	920100590000	HAND WHEEL(IMPACT)-DIA 500	3V000017701-01	300	"Not to be filled by supplier--Please see price bid"	"Not to be filled by supplier--Please see price bid"
4	920100800000	HAND WHEEL-BPS 419027-DIA 250	419027	3500	"Not to be filled by supplier--Please see price bid"	"Not to be filled by supplier--Please see price bid"
5	920090230000	HAND WHEEL-BPS 419026-DIA 250	419026	1000	"Not to be filled by supplier--Please see price bid"	"Not to be filled by supplier--Please see price bid"
6	920090240000	HAND WHEEL-BPS 419026-DIA 315	419026	1000	"Not to be filled by supplier--Please see price bid"	"Not to be filled by supplier--Please see price bid"
Excise Duty rate (mention in % if applicable, mention as NIL if not applicable)					Pl. clearly mention	
Cess on ED rate (mention in % if applicable)					Pl. clearly mention	
CST (%) / VAT (%)					Pl. clearly mention	
Validity of offers (As per BHEL terms 60 days validity is required)					Pl. clearly mention	
Delivery terms (FOR Goindwal Sahib)					Pl. clearly mention	
We accept all terms and conditions of the Tender Enquiry No. 1213-008 dt 09.04.2012						

Authorised signatory with seal

BHARAT HEAVY ELECTRICALS LTD
IVP, GOINDWAL SAHIB
PRICE BID ANNEXURE

Annexure to Enquiry No. 1213-008 Dt 09.04.2012, due date 04.05.2012

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Excise Duty rate (mention in % if applicable, mention as NIL if not applicable)					Pl. clearly mention	
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Authorised signatory with seal