

BHARAT HEAVY ELECTRICALS LIMITED
HEEP HARIDWAR INDIA-PIN 249403
PHONE NO: +91 1334 285120

Sub: Procurement of Plate Flange,Boss,Socket,Tie Rod as per BHEL Drawing)

The Heavy Electricals Equipment Plant (HEEP) located in Haridwar, India is one of the major manufacturing plants of Bharat Heavy Electricals Ltd. The core business of HEEP includes design and manufacture of large steam turbines, turbo generators and so on.

Bids are invited for following items through GeM Portal- <https://gem.gov.in>

SLNO	DRG	DESCRIPTION	LOT-QTY	UNIT	DELIVERY
1	31607270025-00 Spec- AA10119	Plate Flange	456	pcs	60 days from PO Date
2	31650170182-10 Spec- AA10119	Plate Flange	152	pcs	60 days from PO Date
3	31650170182-12 Spec- AA10119	Plate Flange	44	pcs	60 days from PO Date
4	31650170184-12 Spec- AA10119	Plate Flange	44	pcs	60 days from PO Date
5	41605170031-00 Spec- AA10109	SOCKET COUPLING	228	pcs	60 days from PO Date
6	41607270015-00 Spec- AA10109	SOCKET	72	pcs	60 days from PO Date
7	41620570002-00 Spec- AA10218	BOSS M33X2	65	pcs	60 days from PO Date
8	41621870005-00 Spec- AA10109	BOSS M33X2	196	pcs	60 days from PO Date
9	41621870008-00 Spec- AA10109	SOCKET 1/2" NB	139	pcs	60 days from PO Date
10	41621870009-00 Spec- AA10109	SOCKET	48	pcs	60 days from PO Date
11	41621870199-00 Spec- AA10109	TIE ROD	480	pcs	60 days from PO Date
12	41622270039-00 Spec- AA10109	SOCKET 1" PIPE	144	pcs	60 days from PO Date

Scope of Work: -

- a) Material procurement and machining only.
- b) T.R. of the drawings are to be strictly followed.
- c) Vendor scope includes material procurement, any cutting involved including gas cutting and machining of job as per drg..

- d) Cleaning of parts, removal of mill scale from components prior to assembly will be in scope of vendor.
- e) Component to be properly preserved before dispatch.
- f) Inspection by BHEL/BHEL nominated inspection agency as per drawing /Standard and quality plan requirements.
- g) All party material to be procured from BHEL, Haridwar approved sources only.
- h) Sub-contractor to provide a summary sheet of documents/TCs provided for correlation.
- i) Sub-contractor to mention relevant QP clauses on all TCs/ reports for every lot.
- j) Quality Plan No. QP/QA/ST/Machining/01 rev 02 dated 18.03.2025 is attached, which is to be followed.
- k) Vendor to submit completely filled log sheets wherever applicable.
- l) Offers that are found suitable techno-commercially will be considered for further process.

Remarks-

- 2. Delivery mentioned above is indicative, bidders to quote their best possible delivery schedule.
- 3. Payment terms shall be as follows:

The payment shall be made within no. of days as defined in the below table from appointed day

Type of Bidder	Payment Terms (Number of days)
Micro & Small Enterprises (MSEs)	45 days
Medium Enterprises	60 days
Non MSME	90 days

Appointed day means

- The day of material entry in HEEP (i.e. CISF Stamp date), subject to submission of non-discrepant documents by vendor as per Purchase Order.
- Or
- Where there is any objection regarding acceptance of goods, the same shall be informed to supplier within fifteen days from the day of the delivery of good. Appointed day will be the day on which such objection is removed by the supplier.
- For BOIs, the appointed day means the date of receipt of material at respective project Site (i.e. MRC date).

Note: Benefits of MSE (Price preference, Payment preference etc.) will be given only to those MSE Vendors who are manufacturers of offered items against the NIT. No MSE benefits shall be provided to Agents / Stuckists / Dealers / Traders etc. for the items offered but not manufactured by themselves

4. Breach of Contract

In case of breach of contract, wherever the value of security instruments like performance bank guarantee available with BHEL against the said contract is at least 10% of the contract value, the same be encashed. In case the value of the security instruments available is less than 10% of the contract value, the balance amount be recovered from other financial remedies (i.e. available bills of the contractor, retention amount, etc. with BHEL) or legal remedies be pursued. The balance scope shall be got done independently without Risk & Cost of the failed supplier/ contractor. Further, levy of liquidated damages, debarment, termination, de-scoping, short-closure, etc., shall be applied as per provisions of the contract. Accordingly, recovery of an amount equivalent to 10% of the contract value shall be made in case of breach of contract.

- 5. Rest terms and conditions shall be as per latest GeM GTC and buyer added bid ATC document.

6. Vendor should go through (read carefully) all attached documents (NIT, PQR, QP, Drawings & Specification, Term and Conditions etc.) and fill/stamp/sign/put remarks wherever required before submitting bid.
7. Vendor should raise inspection call for BHEL / TPI inspection at least 4 days in advance to the planned date of inspection. If customer inspection is envisaged at vendor's works, vendor should give inspection call at least 7 days in advance to the planned date of inspection.

If a re-visit of BHEL appointed TPIA is required at vendor's works due to:

- (a) Complete material not being offered during inspection (whilst physical visit of Inspection Engineer at Supplier's work) with respect to offered quantity mentioned in raised inspection call.
- (b) Lapses on account of supplier has led to rejection of offered material (as per approved QAP/Technical specification/other pertinent requirement while carrying out inspection)

Additional visit charges to be paid by BHEL to TPIAs shall be deducted from supplier's bills as penalty.

8. For this procurement, the local content to categorize a supplier as a Class I local supplier/ Class II local Supplier/ Non local supplier and purchase preference to Class I local supplier, is as defined in Public Procurement (Preference to Make in India), Order 2017 dated 19.07.2024 issued by DPIIT. In case of subsequent orders issued by the nodal ministry, changing the definition of local content for the items of the NIT, the same shall be applicable even if issued after issue of this NIT, but before opening of Part-II bids against this NIT.
9. The bids received from same IP address shall be outrightly rejected and shall not be considered for further evaluation

10. Item is to be supplied as per NIT document and specification only.

11. **For goods / works / services on Indian Suppliers / Contractors:** Irrespective of the value of the invoice amount, the supplier/ contractor should necessarily upload the invoice details on BHEL SUVIDHA portal at <https://suvidha.bhel.in/suvidha/> , prior to despatch/raising invoice. All documents as per contract checklist, along with additional documents (if any), must be uploaded on the portal. It is mandatory that tax invoices with a net amount (including taxes) exceeding Rs five lakhs uploaded on the portal are digitally signed using a Class 3 Digital Signature Certificate (DSC) issued by a licensed Certifying Authority. Submission of invoice document in hard copy is allowed for invoices with a net amount (including taxes) equal to and upto Rs five lakhs in case the requirement for digitally signed invoice is not explicitly mentioned in the contract checklist.

The Invoice will not be accepted in absence of the above.

12. Declaration by bidder regarding Conflict of interest

The bidder notes that a conflict of interest would said to have occurred in the tender process and execution of the resultant contract, in case of any of the following situations:

- i) If its personnel have a close personal, financial, or business relationship with any personnel of BHEL who are directly or indirectly related to the procurement or execution process of the contract, which can affect the decision of BHEL directly or indirectly;
- ii) The bidder (or his allied firm) provided services for the need assessment/ procurement planning of the Tender process in which it is participating;
- iii) Procurement of goods directly from the manufacturers/ suppliers shall be preferred. However, if the OEM/ Principal insists on engaging the services of an agent, such agent shall not be allowed to represent more than one manufacturer/ supplier in the same tender. Moreover, either the agent could bid on behalf of the manufacturer/ supplier or the manufacturer/ supplier could bid directly but not both. In case bids are received from both the manufacturer/ supplier and the agent, bid received from the agent shall be ignored. However, this shall not debar more than one Authorized distributor (with/ or

without the OEM) from quoting equipment manufactured by an Original Equipment Manufacturer (OEM) in procurements under a Proprietary Article Certificate.

- iv) A bidder participates in more than one bid in this tender process. Participation in any capacity by a Bidder (including the participation of a Bidder as a partner/ JV member or sub-contractor in another bid or vice-versa) in more than one bid shall result in the disqualification of all bids in which he is a party. However, this does not limit the participation of an entity as a sub-contractor in more than one bid if he is not bidding independently in his own name or as a member of a JV.

The Bidder declares that they have read and understood the above aspects, and the bidder confirms that such conflict of interest does not exist and undertakes that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s), in this regard. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process. In case, the Bidder is found having indulged in above activities, the same will be considered as a violation of the tender conditions, and suitable action shall be taken by BHEL as per extant policies/ guidelines.

Signature with stamp

Name:

Name of Firm:

Designation:

Date:

CERTIFICATE OF NO DEVIATION

(To be Typed & submitted in the Letter Head of the Company/Firm of Bidder)

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

Subject: **No Deviation Certificate**

Ref: 1) GeM Bid No:,
2) All other pertinent issues till date

We hereby confirm that we have not changed/ modified/materially altered any of the tender documents as downloaded from the website/ issued by BHEL and in case of such observance at any stage, it shall be treated as null and void.

We also hereby confirm that we have neither set any Terms and Conditions and nor have we taken any deviation from the Tender conditions together with other references applicable for the above referred GeM Bid.

We further confirm our unqualified acceptance to all Terms and Conditions, unqualified compliance to Tender Conditions.

We confirm to have submitted offer in accordance with tender instructions and as per aforesaid references.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorized representative of the bidder)

Date:
Place:

PQR

Pre Qualification Requirement/Technical Requirement

- i. Remarks column to be filled**
- ii. This Document to be stamped and signed.**

PQR at Vendor works for Indent no.: 20250834

01.00	TECHNICAL REQUIREMENT	Required	Vendor's Offer
01.01	Vendors should have experience of cutting & machining (facing, drilling, thread cutting etc.) and supplying of following items in last 10 years from the date of enquiry: (i) Plate flange or equivalent having size dia. 300mm and above in thickness 20mm and above. (ii) Socket/Boss/Pipe etc. made up of Round diameter 40mm and above.	Vendor to Comply & submit suitable evidence	
01.02	Facilities Required: (i) Lifting facility and capacity at vendor works should EOT crane 2 Tons and above. (ii) Vendor must have cutting facility to cut plate of thickness 32 mm and above and round diameter of 80mm and above. (iii) Vendor must have suitable machining (facing, drilling, thread cutting etc.) facility to accomodate diameters of 300mm and above in plate and diameter of 80mm and above in round. (iv) Vendor must have drilling facility to drill holes of diameter 22mm and above in plate thickness of 100mm and above.	Vendor to Comply & submit suitable evidence including technical specifications, technical brochure, photographs etc. of the facilities.	
01.03	Vendor to furnish certificate against clause 01.01 from the customer / company or end user duly confirming that plate flange/socket/boss or equivalent was supplied and used for Hydro Pump or turbine/power plant/capital goods/infrastructure application OR Vendor to submit documentary evidence as per clause 1.04.	Vendor to Comply & submit suitable documents	
01.04	Vendor to furnish name of customer/company with complete contact details and month /year of previous supply along with copy of PO, type of manufacturing facility used for fabrication (assembly/welding/pre-fabrication machining), supply documents, Payment details(invoice copy) and inspection documents of supplied plate flange/socket/boss or equivalent .	Vendor to Comply & submit suitable documents	
01.05	All PQR documents are to be stamped and signed in original by Vendor. In case documents and official stamp is in language other than English, documents and details of official stamp are to be translated in English and duly certified by Government agency/approved agency of Government/Embassy.	Vendor to Comply & submit suitable documents	
01.06	BHEL reserves the right to verify the information provided by vendor. In case the information provided by vendor is found to be false/ incorrect, their offers shall be rejected.	Vendor to agree	
NOTE: PQR is not restricitve			

19/12/2025
Gaurav Sharma
Sr. Engineer (FT)

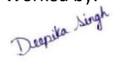
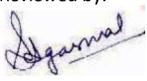
19/12/2025
Ravi Deshpande
Manager (FT)

20/12/2025
VIVEK SRIVASTAVA
SDGM (BL-2025)

QUALITY PLAN
(To be stamped and signed)

Manufacturer Name and Address	MANUFACTURING QUALITY PLAN				APPLICABILITIES TO	
	BHEL Haridwar accepted sub contractors	ITEM/EQUIPMEN	As per indent	Q.P. NO	QP/QA/ST/Machining/01	PROJECT
W.O. NO.		As per indent	DATE	18.03.2025	CONTRACTOR	BHEL (HEEP) HWR
			REV. NO.	02	Indent	As per indent
			PAGE NO.	Page 1 of 2		

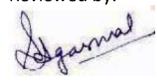
S. No.	COMPONENT OPERATION	CHARACTERISTIC CHECKED	CATE-GORY	TYPE/ METHOD OF CHECKED	QUANT-UM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE DOCUMENT	FORMAT OF RECORD	AGENCY				REMARK
									D	M	B	C	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.1	Material Receiving Inspection at sub-contractor's work (in case of BHEL material)	Verification of identification of material	Major	Visual inspection	100 %	As per Drg./ Standard	As per Drg./ Standard	PPMIV/ Q.no.	✓	P	V	-	Material will be supplied by BHEL. Transfer of identification to be ensured.
		Verification of dimensions and visual Inspection as per control marking	Major	Measurement	100 %	As per drg./ Standard	As per drg./ Standard	Obs. Sheet	-	P	-	-	
1.2	Material Receiving Inspection (in case of party material)	Review of Supplier Test Certificate of Material for all the party materials	Major	Visual inspection	100 %	As per drg./ standard	As per drg./ Standard	SMIV/ Q.No./ TC	✓	P	V	-	All party material to be procured from BHEL,Haridwar approved sources with following conditions -In all the cases a mill test certificate correlateable with the component for verification of conformance of the material as per the requirement is essential.
1.3	Material Receiving Inspection (in case of combined material)	Review of Supplier Test Certificate of Material for all the party materials	Major	Visual inspection	100 %	As per drg./ Standard	As per drg./ Standard	TC	✓	P	V	-	(a) For BHEL material, transfer of identification to be ensured (b)All party material to be procured with following conditions - In all the cases a mill test certificate correlateable with the component for verification of conformance of the material as per the requirement is essential.
2.0	INPROCESS-INSPECTION												
2.1	After machining	Visual & dimensional check of components/ sub-components	Major	Visual & Measurement	100%	As per Drg./ Standard/ TDC	As per Drg./ Standard/ TDC	Obs. Sheet/ Log sheet	✓	P	W / V	-	1. W: Random witness by BHEL in case material wt. > 15 kg V for rest. 2. Dimensions, which are not covered in logsheet (if applicable) shall be recorded

Manufacturer/Su bcontractor	Legends: P Perform by; W Witness by; V Record review; C Customer; B BHEL/BHEL Representative; M Manufacturer/ sub-contractor; D: documents with tick mark shall be submitted by vendor to BHEL.	For BHEL Use		
		Worked by:  Deepika Singh, (QAX)	Reviewed by:  Sugandh Agarwal, (QAX)	Approved by:  Sunil Panday, (QAX)

Manufacturer Name and Address	MANUFACTURING QUALITY PLAN				APPLICABILITIES TO	
	BHEL Haridwar accepted sub contractors	ITEM/EQUIPMEN	As per indent	Q.P. NO	QP/QA/ST/Machining/01	PROJECT
W.O. NO.		As per indent	DATE	18.03.2025	CONTRACTOR	BHEL (HEEP) HWR
			REV. NO.	02	Indent	As per indent
			PAGE NO.	Page 2 of 2		

													in observation sheet.
2.2	For assembly checks (wherever applicable)	Visual & dimensional check of assembly	Major	Visual and measurement	100%	As per Drg./ Standard/ TDC	As per Drg./ Standard/ TDC	Obs. Sheet/ Logsheet	✓	P	W	-	1. W: Random witness by BHEL 2. Dimensions, which are not covered in logsheet (if applicable) shall be recorded in observation sheet.
2.3	Coating/ preservation	Coating/ preservation	Major	Visual & measurement	100%	As per Drg./ Standard/ TDC	As per Drg./ Standard/ TDC	Obs. Sheet	✓	P	V	-	
3.0	FINAL-INSPECTION												
3.1		Completeness of Job, Documentation	Major	Visual	100%	As per Drg./ Standard/ TDC	As per Drg./ Standard/ TDC	Record	✓	P	V	-	Item shall be dispatched to BHEL after acceptance by BHEL/ BHEL nominated agency after duly identifying by P.O. No., drg no. Plant Order No. and I.R.No

1. All requirements of P.O., standard and drawing shall be fulfilled.
2. BHEL reserves the right for conducting repeat test, if required.
3. Job to be packed properly. Packing should be suitable to protect any damage to job (special care to be taken to protect finished machined surfaces) during handling and transportation.

Manufacturer/Su bcontractor	Legends: P Perform by; W Witness by; V Record review; C Customer; B BHEL/BHEL Representative; M Manufacturer/ sub-contractor; D: documents with tick mark shall be submitted by vendor to BHEL.	For BHEL Use		
		Worked by:  Deepika Singh, (QAX)	Reviewed by:  Sugandh Agarwal, (QAX)	Approved by:  Sunil Panday, (QAX)

(Make In India)
(to be filled stamped and signed)

**DECLARATION REGARDING MINIMUM LOCAL CONTENT IN LINE WITH
REVISED PUBLIC PROCUREMENT (PREFERENCE TO MAKE IN INDIA), ORDER 2017 DATED 04TH
JUNE, 2020 AND SUBSEQUENT ORDER(S)**

(To be typed and submitted in the Letter Head of the Entity/Firm providing certificate as applicable)

To,

(BHEL HEEP Haridwar)

Dear Sir,

Sub: Declaration reg. minimum local content in line with Public Procurement (Preference to Make in India), Order 2017-Revision, dated 04th June, 2020 and subsequent order(s).

Ref: 1) GeM Bid Specification No:

2) All other pertinent issues till date

We hereby certify that the items/works/services offered by..... *(specify the name of the organization here)* has a local content of _____ % and this meets the local content requirement for **'Class-I local supplier' / 'Class II local supplier'** ** as defined in Public Procurement (Preference to Make in India), Order 2017-Revision dated 04.06.2020 issued by DPIIT and subsequent order(s).

The details of the location(s) at which the local value addition is made are as follows:

1. _____ 2. _____

3. _____ 4. _____

...

Thanking you,

Yours faithfully,

**(Signature, Date & Seal of
Authorized Signatory of the Bidder)**

**** - Strike out whichever is not applicable.**

Note:

1. Bidders to note that above format, duly filled & signed by authorized signatory, shall be submitted along with the techno-commercial offer.
2. In case the bidder's quoted value is in excess of Rs. 10 crores, the authorized signatory for this declaration shall necessarily be the statutory auditor or cost auditor of the company (in the case of companies) or a practising cost accountant or practicing chartered accountant (in respect of suppliers other than companies).
3. In the event of false declaration, actions as per the above order and as per BHEL Guidelines shall be initiated against the bidder.

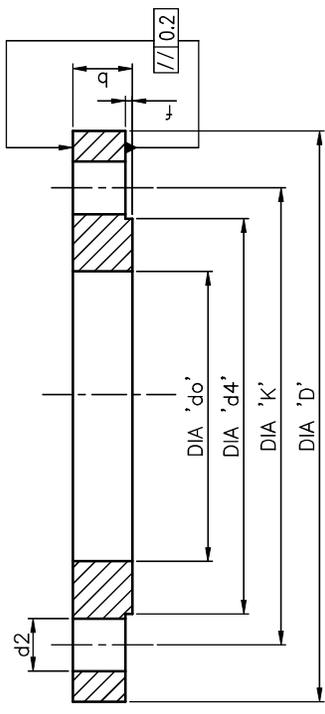
Specification/Drawings
(to be referred/followed)

(ALL DIMENSIONS ARE IN mm)

FIRST ANGLE PROJECTION

DRAWING NO. **31607270025**

12.5/  ALL OVER



VAR	NOM SIZE	FLANGED DIMENSIONS				BOLTING DETAILS				CODE NO./SPCN.	VT.	REMARKS	
		d0	D	b	RAISED FACE	BOLT SIZE	HOLE NO.	P.C.D	K				
00	50	60.8	150	18	d4 NOM TOL	2	M16	4	18	120.7	AA1011819155/AA10119	1.95	2*RF150#

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 OR INDIRECTLY IN ANY WAY DETRIMENTAL TO THE INTEREST OF THE COMPANY.

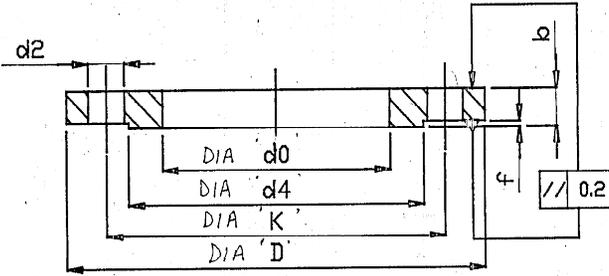
INVENTORY NO.	SIGN & DATE	REF. DRG NO.
---------------	-------------	--------------

CBOM NO. 81607270003	STATUS OF DRG.	TYPE OF PRODUCT OR NAME OF CUSTOMER/ PROJECT	500 MW
AGREED DEPT. W.T. I:RAM	SIGN DATE SD/-/26.2.94	BHARAT HEAVY ELECTRICALS LTD. HARDWAR	
GRADE OF UNTOL. DIM.:- M/CG- V/C /M/K AA 0230208		DRN INDR CHD P.K.GUPTA	NO.OF VAR. 20.11.07
WELDING- A/B/C/D - AA621104		APD S.BARAI	20.11.07
GAS CUTTING- T3/AA0621101		SCALE WEIGHT(Kg.) NTS 1.95	REF. TO ASSY. DRG. 81607270003
REV. DATE ALTERED CHECKED	REV. DATE ALTERED CHECKED	DEPT. HXE CODE 4222	ITEM NO.OF NO. ITEMS 73, 74 07
TITLE PLATE FLANGE		DRAWING NO. 31607270025	75, 77
SHEET NO. 01		NO.OF SHEETS 01	NO. OF ITEMS 07

SIZE A3

3-165-01-70182
DRAWING NO

12.5
ALL OVER



VAR	NOM SIZE	FLANGED DIMENSIONS								BOLTING DETAILS				CODE NO/SPCN.	WT.	
		d0		D ₁		b		RAISED FACE		BOLT SIZE	HOLES		P.C.D K			
		NOM	TOL.	NOM	TOL.	NOM	TOL.	d ₁	TOL.		f	NO.				d2
01	10	17.7		90		14		40		2	M12	4	14	60	AA1011819155/AA10119	0.53
02	15	21.8		95		14		45		2	M12	4	14	65	AA1011819155/AA10119	0.59
03	20	27.4		105		16		58		2	M12	4	14	75	AA1011819155/AA10119	0.85
04	25	34.2		115		16		68		2	M12	4	14	85	AA1011819155/AA10119	1.01
05	32	42.9	+0.5	140	±1	16		78	-1.0	2	M16	4	18	100	AA1011819155/AA10119	1.47
06	40	48.8	-0.0	150		16		88		3	M16	4	18	110	AA1011819155/AA10119	1.61
07	50	60.8		165		18		102		3	M16	4	18	125	AA1011819163/AA10119	2.18
08	65	76.6		185		18		122		3	M16	4	18	145	AA1011819163/AA10119	2.67
09	80	89.9		200		20		138		3	M16	8	18	160	AA1011819163/AA10119	3.28
10	100	115.3		220		22		158		3	M16	8	18	180	AA1011819163/AA10119	3.62
11	125	140.7		230	±1.5	22		138		3	M16	8	18	210	AA1011819171/AA10119	4.99
12	150	169.3		235		22		212		3	M20	8	22	240	AA1011819171/AA10119	6.00
13	175	194.7	+1.0	315		24	+3	242	-2.0	3	M20	8	22	270	AA1011819171/AA10119	7.82
14	200	221.1	-0.0	340		24	-0	268		3	M20	8	22	295	AA1011819171/AA10119	8.56
15	250	273.0		395		26		320		3	M20	12	22	350	AA1011819180/AA10119	11.10
16	300	325.9		445		26		370		4	M20	12	22	400	AA1011819180/AA10119	12.30
17	350	357.8		505		28		430		4	M20	16	22	460	AA1011819180/AA10119	15.00
18	400	408.4	+1.5	565	±2	32		482	+0.0	4	M24	16	26	515	AA1011819198/AA10119	26.10
19	500	510.0	-0.0	670		38	+5	585	-3.0	4	M24	20	26	620	AA1011819201/AA10119	38.80
20	600	612.6		780		42	-0	685		5	M27	20	30	725	AA1011819228/AA10119	52.00

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.

VAR. 00	REMARKS	ITEM NO.	DESCRIPTION	DRAWING NO.	MATERIAL CODE	UNIT WEIGHT
59	64-65	75-78	27-29	53-59	60	77
CARD TYPE 3			CARD TYPE-1		CARD TYPE-2	

GMS NO./GR. SP. NO. 8-165-01-70016
 STATUS OF DRG. TYPE OF PRODUCT OR NAME OF CUSTOMER / PROJECT

AGREED DEPT. NAME SIGN DATE
 WT I. Ram 26.2.99

GRADE OF UNTOOL DIM. ---

M/CG-C/M/F AA 0230208
 WELDING-A/B/C/D AA0621104
 GAS CUTTING T3 AA0621101

REV DATE ALTERED CHECKED

DEPT. HXE CODE 4222

SCALE NTS

WEIGHT (kg) SEE BOM

TITLE PLT FLANGE PNOM 10 KG./cm²

DRAWING NO. 3-165-01-70182
 SHEET NO. 01 | NO. OF SHEETS 01

DRN GARG RK
 CHD SK B
 APD K N M

DATE 16.2.99
 DATE 12.3.99

NO. OF VAR. 73/74
 NO. OF ITEMS 75/77

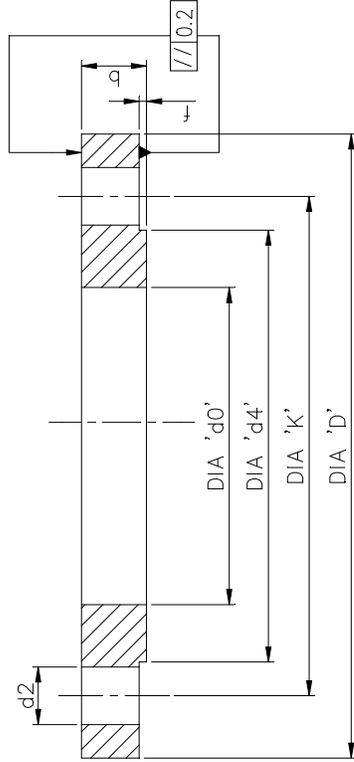
SIZE A3

REF. DRG. NO. INVENTORY NO. SIGN & DATE

DRAWING NO. 31650170184

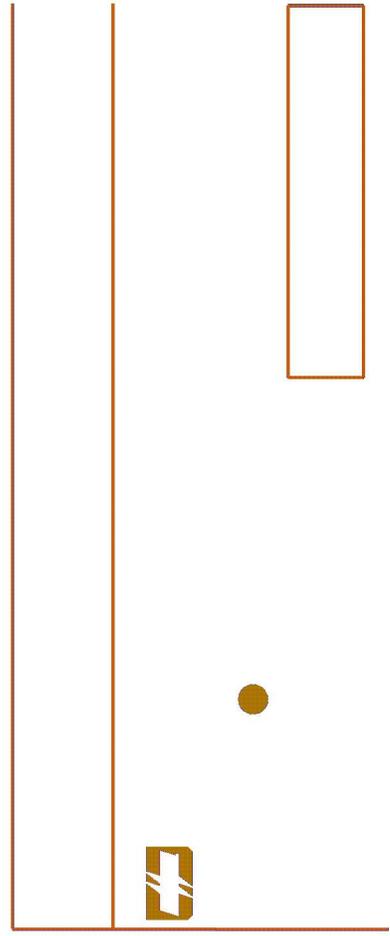
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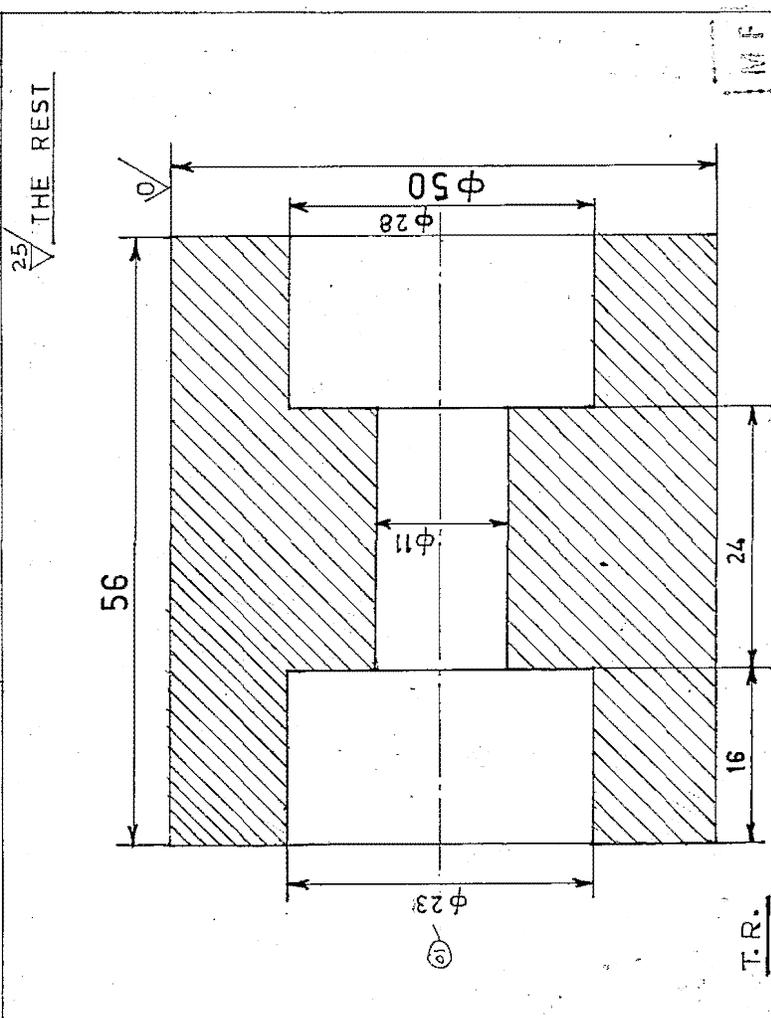
VAR	NDM SIZE	FLANGED DIMENSIONS						BOLTING DETAILS				CODE NO./SPCN.	WT.			
		d0		D		b		RAISED FACE	BOLT SIZE	HOLES				P.C.D K		
		NDM	TOL	NDM	TOL	NDM	TOL			d4/NDM	TDL				f	ND.
01	10	17.7		75		12		35		2	M10	4	11	50	AA1011819139	0.31
02	15	21.8		80		12		40		2	M10	4	11	55	AA1011819139	0.35
03	20	27.4		90		14		50		2	M10	4	11	65	AA1011819155	0.53
04	25	34.2	+0.5 +0.0	100		14	±1	60		2	M10	4	11	75	AA1011819155	0.65
05	32	42.9		120		16		70		2	M12	4	14	90	AA1011819155	1.05
06	40	48.8		130		16		80			M12	4	14	100	AA1011819155	1.18
07	50	60.8		140		16		90		3	M12	4	14	110	AA1011819155	1.25
08	65	76.6		160		16		110			M12	4	14	130	AA1011819155	1.63
09	80	89.9		190		18		120		3	M16	4	18	150	AA1011819163	2.63
10	100	115.3		210		18		148			M16	4	18	170	AA1011819163	2.93
11	125	140.7		240	±1.5	20		178		3	M16	8	18	200	AA1011819163	3.91
12	150	169.3		265		20		202		3	M16	8	18	225	AA1011819163	4.31
13	200	221.1	+1.0 +0.0	320		22	+3 -0	258		3	M16	8	18	280	AA1011819171	6.29
14	250	275		375		24		312		3	M16	12	18	335	AA1011819171	8.31
15	300	325.9		440		24		365		4	M20	12	22	395	AA1011819171	10.7
16	350	357.6		493		26	±2	415		4	M20	12	22	445	AA1011819180	15.9
17	400	408.4		540		28		465		4	M20	16	22	495	AA1011819180	25.0
18	500	510.0	+1.5 +0.0	645		30		570		4	M20	20	22	600	AA1011819198	32.4
19	600	612.6		755		32		670		5	M24	20	26	705	AA1011819198	40.9

GRADE OF UNTOL. DIM.: -	AGREED DEPT. W.T.	NAME I.RAM	SIGN SD.	DATE 26.2.94	STATUS OF DRG. ---	CBOM NO. 11621870090	TYPE OF PRODUCT OR NAME OF CUSTOMER/ PROJECT
M/CG- V/C/M/F AA 0230208							
WELDING-A/B/C/D-AA621104							
GAS CUTTING-T3'AA0621101							
REV/ DATE 02 28.05.24 CHECKED DEEPAK KR. HXE-24-F0044	REV. DATE 01 22.09.11 CHECKED SAUMYA HXE-11-F0179	ALTERED AJAY KR.	ALTERED ANIL				
CHANGE AS MARKED 02	NEW ACAD DRG. SUPERSEDES OLD TRACING DRG.						
INVENTORY NO.	SIGN & DATE	REF. DRG NO.	DEPT. HXE CODE 4222 TITLE PLT FLANGE WEIGHT(Kg.) SEE CBOM SCALE NTS REF. TO ASSY. DRG. 41621870334 DRAWING NO. 31650170184 SHEET NO. 01 NO.OF SHEETS 01 SIZE A3				



FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN mm)

REV	DATE	ALTERED	REV	DATE	ALTERED	GMS. NO./REV. NO.	STATUS OF DRG.
01	13-5-83	CHECKED	01	13-5-83	CHECKED	8-160-51-7000	0
HXE-85-78		HXE-85-78		HXE-85-78		AGREED DEPT. NAME SIGN DATE	
DIM 2,3 WAS 28.		DIM 2,3 WAS 28.		DIM 2,3 WAS 28.		WT. NAME SIGN DATE	



SHARP EDGES TO BE GROUND SMOOTH.

PAINTING:- ALL EXTERNAL & INTERNAL SURFACES (AS FAR AS POSSIBLE) SHOULD BE PAINTED WITH 2 COATS OF STEAM WASHABLE PAINT (AA 55151) HE 1612 (BHEL BHOPAL) CODE NO. HW 551000900.

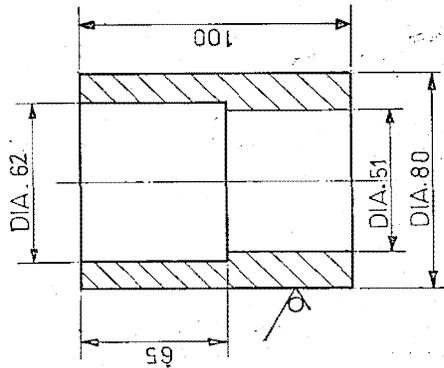
AA1010208187	AA10108	UNIT WEIGHT
29 31	MATERIAL CODE	45 A C
VAR. 34	MATERIAL SPECN	54 55 56 57 66
58 59 32 33 46	CARD TYPE-1	20
71	CARD TYPE-2	28

		BHARAT HEAVY ELECTRICALS LTD. HARDWARE	NAME SIGN A.R.D. <i>A.R.D.</i> P. SARAN. <i>P. Saran</i> A. SINGH. <i>A. Singh</i>	DATE NO. OF VAR. 24-10-83 15-12-83 21-1-84 73 74
DEPT. CODE HXE 4222	GRADE OF UNTO DIM C/M/F	SCALE 2:1	WEIGHT (KG) 0.720	REF. TO ASSY DRG. O-160-51-70004
TITLE SOCKET COUPLING		CARD CODE XB2	DRAWING NO. 4-160-51-70031	REV. 00
Inventory No. HXG2-2100		SHEET NO. 1		NO. OF SHEETS. 1

FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN MM)

REV DATE	ALTERED CHECKED	REV DATE	ALTERED CHECKED	GMS NO./SR-SP-NO.	STATUS OF DRG
		5.2.84		1-160-72-70013	
		HXE-86-10		AGREED DEPT.	SIGN DATE
		NEW DRG. ADDED.		W.T. GARG.	17.2.86

25 THE REST



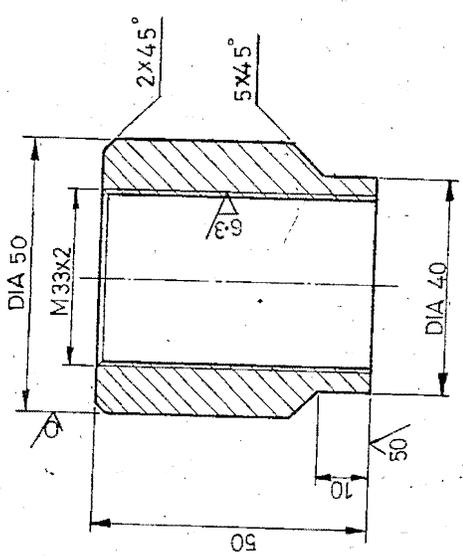
1 1/2

DEPT. H.X.E. CODE 4222	GRADE OF UNTO-DIM. C/M/F	SCALE 1:2	WEIGHT (KGT) 1.50	REF. TO ASSY DRG. 1-160-72-70013 014	ITEM NO. OF ITEMS 28 77
BHRAT HEAVY ELECTRICALS LTD. HARDWAR		DRN. M. SINGH. N.P.M. V.K.S.		DATE 6-2-86 18.1.86	
SIGNATURE		SIGNATURE		NO. OF VAR. 73 74	
SIGN & DATE		SIGNATURE		NO. OF REV. 28 77	
Inventory No. HXE-2-3208		DRAWING NO. 4-160-72-70015		NO. OF SHEETS 28 77	
Ref. Drg. No.		CARD TYPE-1		NO. OF SHEETS 28 77	
SOCKET		CARD TYPE-2		NO. OF SHEETS 28 77	
ITEM NO. 75 25 27 29		MATERIAL SPECN 50 50 32 33 46		NO. OF SHEETS 28 77	
DESCRIPTION		MATERIAL CODE 45 A C		NO. OF SHEETS 28 77	
REMARKS		UNIT WEIGHT		NO. OF SHEETS 28 77	
CARD TYPE-3 28		AA 1010208241		NO. OF SHEETS 28 77	
		AA 10108		NO. OF SHEETS 28 77	

FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN mm) Form DG-39

REV	DATE	ALTERED	DATE	ALTERED	GMS NO./GR. SP. NO.	STATUS OF DRG
1		CHECKED		CHECKED	0-162-18-70008	
AGREED DEPT.			NAME			SIGN
607			G.M.A.			25.7.86
GRADE OF UNTOL DIM				WELDING T.0610.003		GAS CUTTING T.062110

25/ THE REST



MF

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REMARKS	ITEM NO.	DESCRIPTION	UNIT WEIGHT
	75 25	0	
CARD TYPE-3	28	CARD TYPE-1	71
AA1010208187	00	AA10108	040
DRN.	GARG R K	SIGN	DATE
CHD.	SKB/I RAM		17-4-86
APPD.	SAXENA V.K.		11-8-86
REF. TO ASSY DRG.	2-162-18-70020	ITEM NO.	08
	1-162-18-70004	NO. OF ITEMS	0.9
DRAWING NO.	4-162-18-70005		
CARD CODE	NO. OF SHEETS: 1		
BHARAT HEAVY ELECTRICALS LTD.			
HARDWAR			
DEPT.	H/E	SCALE	WEIGHT (KG)
CODE	4222	1:1	0.40
TITLE	BOSS M33x2		
Inventory No.	H.E.-3329		
Sign & Date	Ref. Drg. No.		

FIRST ANGLE PROJECTION (ALL DIMENSIONS ARE IN mm) Form DG-39

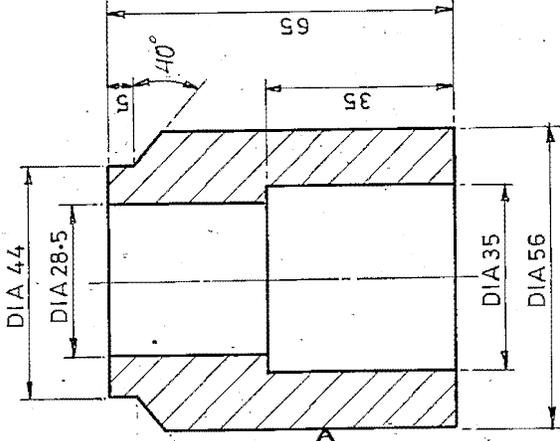
REV	DATE	ALTERED	CHECKED

GMS NO./GR-SP. NO. **0-162-22-70016** STATUS OF DRG.

AGREED DEPT. **WT** NAME **I. Ram** SIGN **[Signature]** DATE **22/1/88**

GRADE OF UNTOL. DIM. **M/Cg-C/M/F** AAD230208 WELDING-TI 0610. 003 GAS CUTTING-T3 AA 0621101

25 THE REST



REMARKS	ITEM NO	DESCRIPTION	UNIT WEIGHT
65	75	25 27 29	71
CARD TYPE-3		28	CARD TYPE-1
VAR.		34	MATERIAL SPECN
29	31	MATERIAL CODE	45 A
0	0	AA1010208195	0.700
CARD TYPE-2		28	CARD TYPE-2
54	58	5657	56
SIGN & DATE		NAME	DATE
DRN. VASDEV		DRN.	23.8.88
CHD. S. S. A.		CHD.	[Signature]
APPD. L. K. SRIVASTAVA		APPD.	22/1/88
REF. TO ASSY DRG.		REF. TO ASSY DRG.	ITEM NO. OF
1-162-22-70011		1-162-22-70011	NO. OF
SCALE 1:1		SCALE	REV.
GRADE OF UNTOL. DIM. C/M/F		GRADE OF UNTOL. DIM.	75 77
DEPT. HXE		DEPT.	75 77
CODE 4222		CODE	75 77
TITLE SOCKET 1" PIPE		TITLE	75 77
DRAWING NO. 4-162-22-70039		DRAWING NO.	75 77
SHEET NO. 1		SHEET NO.	75 77
NO. OF SHEETS. 1		NO. OF SHEETS.	75 77
SIZE A4		SIZE	75 77

[Show](#)**LIST OF BHEL APPROVED VENDOR.****PLATE 25MM(AA1011819155),32MM(AA1011819171)**

SL.NO.	Mvenmat catn	Ventype	Vencd	Vnm1	Apprvd
1	SL024	S	2851	SHAH BROTHERS ISPAT PVT. LTD.	APPROVED
2	SL024	M	6244	ARCELORMITTAL NIPPON STEEL	APPROVED
3	SL024	M	8166	STEEL AUTHORITY OF INDIA LTD	APPROVED
4	SL024	M	41307	JINDAL STEEL & POWER LTD.	APPROVED
5	SL024	M	41575	WELSPUN CORP LTD	APPROVED
6	SL024	M	70089	SUNLION PIPING ENGINEERING CO.	APPROVED
7	SL024	M	72167	SALZGITTER MANNESMANN INTERNAT	APPROVED
8	SL024	M	77007	DILLINGER INTERNATIONAL	APPROVED
9	SL024	M	78004	STEEL FORCE ASIA NV- BEIGIUM	APPROVED
10	SL024	M	78021	NLMK PLATES SALES SA	APPROVED
11	SL024	S	90016	BURWILL RESOURCES LTD.	APPROVED
12	SL024	S	91021	DAEWOO INTERNATIONAL CORPORATI	APPROVED
13	SL024	M	96026	SIJ ACRONI D.O.O.	APPROVED