



An ISO 9001
Company

Bharat Heavy Electricals Limited

(High Pressure Boiler Plant)

Tiruchirappalli – 620014, TAMIL NADU, INDIA

CAPITAL EQUIPMENT / MATERIALS MANAGEMENT

ENQUIRY	Phone: +91 431 257 76 53 Fax : +91 431 252 00 31 Email : skaruna@bheltry.co.in Web : www.bhel.com
NOTICE INVITING TENDER	

TWO PART BID	Enquiry Number:	Enquiry Date:	Due date for submission of quotation:
Tender to be submitted in two Parts	2631600004	29.01.2016	01.03.2016

You are requested to quote the Enquiry number date and due date in all your correspondence. This is only a request for quotation and not an order.

Please note that under any circumstances both delayed offer and late offers will not be considered. Hence vendors are requested to ensure that the offer is reaching physically our office before 14.00 hrs on the Date of tender opening.

Item	Description	Quantity
10	LATHE as per the technical specification & commercial conditions applicable (to be downloaded from web site www.bhel.com or http://tenders.gov.in)	01 No.

Important points to be taken care during submission of offer

1. The Checklist for Acceptance of Commercial Terms & Conditions to be filled and enclosed along with the offer failing which, the offer will not be considered for evaluation.
2. All updates, amendments, corrigenda, etc., (if any), for each tender will be posted only on the above websites from time to time, as and when required, until each tender is opened. There will be no publication of such updates, amendments, corrigenda, etc., through newspapers or any other media.

BHEL's General guidelines / instructions (refer MM/CE/GENL/001/EMD) including bank guarantee formats and list of consortium banks, commercial terms check-list can be downloaded from BHEL web site <http://www.bhel.com> or from the Government tender website <http://tenders.gov.in> (public sector units > Bharat Heavy Electricals Limited page) under above Enquiry reference

Tenders should reach us before 14:00 hours on the due date.
Tenders will be opened at 14:30 hours on the due date.
Tenders would be opened in presence of the tenderers who have submitted their offers and who may like to be present.

Yours faithfully,
For **BHARAT HEAVY ELECTRICALS LIMITED**

Saranyal
Sr. Engineer / MM / Capital Equipment

C. SARANYAL
Senior Engineer
MM / Capital Equipment
BHEL / Tiruchirappalli - 620 014.

Lathe PART – A

SECTION- 1: Qualifying Criteria

The BIDDER has to compulsorily meet the Qualifying Criteria indicated in **Section 1** to get qualified. Otherwise the technical offer will not be considered.

S NO.	REQUIREMENTS	VENDOR'S RESPONSE
1.1	The BIDDER / VENDOR (OEM) shall have a minimum TEN Years of Continuous Experience in Design, Manufacture & Supply of “Lathe”. Vendor shall indicate the actual number of years of experience in the field.	
1.2	<p>Only those vendors (OEMs) should quote, who have commissioned in the last FIVE years (as on the original date of tender opening) at least ONE “Lathe” having all the following features:</p> <ol style="list-style-type: none"> 1. Swing over Bed 500 mm or more, 2. Centre distance 1500 mm or more 3. Spindle Power 7.5 Kw or more <p>EITHER (i) In at least one country other than the country of origin to establish vendor's global business activity.</p> <p>OR (ii) In India; and the referred machines are presently working satisfactorily for more than one year from the date of commissioning (as on the original date of tender opening). The name and contact addresses of the customers to whom the Lathe were supplied to be furnished with details.</p>	
1.3	<p>Vendor has to submit at least ONE PERFORMANCE CERTIFICATE for satisfactory performance of Lathe as referred under clause 1.2 above, for a minimum period of one year from the date of commissioning (as on the original date of tender opening) from their customers in India or in any other country outside the country of origin, supplied and commissioned in the last 05 years.</p> <p>Performance certificate as Original Certificate or E-mail directly from the customer may be submitted. The original certificate may be returned after verification by BHEL, if required.</p> <p>For obtaining the Performance certificate, a suggestive format is provided at the end of Part A.</p>	
1.4	<p>BHEL reserves the right to verify the information provided by the Vendor for the referred Lathe at their referred customer's works. It shall be the responsibility of the vendor to facilitate the visit of BHEL's team at their referred customer works. The Travel, Board and Lodging expenses for BHEL Personnel shall be borne by BHEL. In case the information provided by vendor is found to be false/ incorrect, the offer shall be rejected.</p> <p>BHEL reserves the right to accept or reject the OEMs based on the assessment of their technical and financial capability.</p>	

SECTION - 2:

The BIDDER / VENDOR are requested to provide the following information:-

S NO.	REQUIREMENTS	VENDOR'S RESPONSE
2.1	The BIDDER / VENDOR to furnish Reference List of Customers, with complete address, details of contact person, where Gap Bed Lathe has been supplied in the past.	
2.2	Specify details of Gap Bed Lathe supplied to other units of BHEL, if any (Year of commissioning with details etc.)	
2.3	Details on SERVICE-AFTER-SALES Set-up in India including the Address of Agents / Service Centres in India.	
2.4	Any Additional data to supplement the manufacturing capability of the BIDDER for the subject equipment.	

SECTION – 3:

The BIDDER to note:

S NO.	REQUIREMENTS	VENDOR'S RESPONSE
3.1	The BIDDER / VENDOR shall submit the offer in TWO parts. 1. Technical Offer [with PART A & PART B] 2. Commercial Offer and Price bid.	
3.2	The Technical Offer shall contain complete details against all clauses of Technical Specifications given by BHEL.	
3.3	The Technical Offer shall be supported by copies of product Catalogues, Data Sheets and technical details of Bought- Out-Items.	
3.4	The Commercial Offer (given with the Technical Offer) shall contain the Scope of Supply and the Un-Priced Part of the Price-Bid, for confirmation.	

Suggestive Format of Performance Certificate:

The Performance should be certified by the customer on **Customer's Letter Head** and submitted along with the offer.

PERFORMANCE CERTIFICATE

1.0	Machine Supplied by : (Manufacturer’s name)	
2.0	Make & Model number of the Machine	
3.0	Month & Year of Commissioning	
4.0	Application for which The Machine is used	
5.0	Machine Details	
5.1	<ul style="list-style-type: none"> a) Swing Over Bed b) Centre Distance c) Speed range(RPM) d) Feed range (mm/min) e) Details of Gap bed (if supplied) f) Spindle Power in Kw (Cont. rating) 	
6.0	Performance of the Machine (Please tick the appropriate option)	Satisfactory
		Not Satisfactory
7.0	Service after sales (Please tick the appropriate option)	Satisfactory
		Not Satisfactory
8.0	Other remarks (if any)	
Date:		Signature & Seal of the Authority Issuing the Performance Certificate

PART – B**TECHNICAL SPECIFICATION FOR LATHE****NOTE:**

1. The "Offered" Column of this format shall be filled in by the Vendor and submitted along with the offer. Inadequate / incomplete, ambiguous, or unsustainable information against any of the clauses of the specifications/requirements shall be treated as non-compliance.
2. The offer and all documents enclosed with offer should be in **English language** only.

Clause No	PARTICULARS AND BHEL SPECIFICATION	Vendor's offer With Technical Details
1.0	Purpose: The Lathe is required for preparing test samples from tubes, pipes and Plates. These test samples require internal & external turning, facing, grooving, threading operations & drilling at center.	Vendor to Confirm
2.0	<u>Scope of Supply: Supply, Erection and Commissioning of Lathe which includes:</u> <ol style="list-style-type: none"> a. Detailed Design, Manufacture and supply as per BHEL specifications b. Assembly and Testing before Dispatch c. Supply of Electric & Mechanical Spares d. All anchoring & foundation bolts, levelling plates for the complete machine e. Erection , Assembly, Commissioning and Performance Prove-Out at BHEL f. Training on Operation / Maintenance for BHEL personnel g. O & M Manuals and related documents 	Vendor to Confirm

Clause No	PARTICULARS AND BHEL SPECIFICATION	Vendor's offer With Technical Details																						
3.0	<p>WORK PIECE MATERIAL DETAILS:</p> <table border="1" data-bbox="651 352 1120 799"> <thead> <tr> <th>Specification</th> <th>Hardness</th> </tr> </thead> <tbody> <tr> <td>SA 105</td> <td>150 -170 BHN</td> </tr> <tr> <td>SA 106 Gr B</td> <td>180 –200 BHN</td> </tr> <tr> <td>SA 210 Gr A1</td> <td>150 – 200 BHN</td> </tr> <tr> <td>Other Alloy steel</td> <td>260 – 300 BHN</td> </tr> <tr> <td>Inconel 617</td> <td>190 - 200 BHN</td> </tr> <tr> <td>Super 304H</td> <td>200 – 220 BHN</td> </tr> <tr> <td>Armour Steel</td> <td>320 - 400 BHN</td> </tr> <tr> <td>Titanium</td> <td>300 – 380 BHN</td> </tr> <tr> <td>Copper</td> <td>80 -85 BHN</td> </tr> <tr> <td>P91 & P92</td> <td>300 – 350 BHN</td> </tr> </tbody> </table>	Specification	Hardness	SA 105	150 -170 BHN	SA 106 Gr B	180 –200 BHN	SA 210 Gr A1	150 – 200 BHN	Other Alloy steel	260 – 300 BHN	Inconel 617	190 - 200 BHN	Super 304H	200 – 220 BHN	Armour Steel	320 - 400 BHN	Titanium	300 – 380 BHN	Copper	80 -85 BHN	P91 & P92	300 – 350 BHN	Vendor to note and confirm for machining of all material
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4.0	MACHINE CONSTRUCTION:																							
4.1	Vendor to furnish constructional details of the machine including explanatory drawings of various components/ assemblies like Head stock, carriage, Turret, Tailstock, Machine Bed, Feed Transmission System, Feed back System etc. of the machine with details of material & their hardness.	Vendor to Specify																						
4.2	Video images on CD / Hard copy of literature with photographs & drawings explaining the technical features shall be enclosed with the offer	Vendor to Confirm																						
4.3	Machine should be metric execution.	Vendor to Confirm																						
4.4	The machine should be a conventional one and not a computer numerical controlled machine.	Vendor to Confirm																						

Clause No	PARTICULARS AND BHEL SPECIFICATION	Vendor's offer With Technical Details
5.0	CAPACITY & SIZE:	
5.1	Heights of centres (Nominal)	260 mm (min.)
5.2	Swing Over Bed (SOB)	575 mm (min.)
5.3	Swing over carriage wings	545 mm (min.)
5.4	Swings over cross slide	350 mm (min.)
5.5	Swing in gap	800 mm (min.)
5.6	Width of gap in front of face plate shall be around 175 mm	Vendor to specify
5.7	Max. Turning Length (Admit between centres)	2000 mm (min.)
5.8	Max. Weight of Work-piece between centers without steady	Vendor to Specify
5.9	Max. Weight of Work-piece:	
5.9.1	In head stock with one steady rest	Vendor to Specify
5.9.2	Only in Chuck	Vendor to Specify
6.0	HEADSTOCK:	
6.1	The headstock shall be of box type construction with heavy front wall to ensure stability and precision and to resist heavy cutting forces. The headstock shall be made from High quality cast Iron.	Vendor to confirm & specify
6.2	Spindle nose / bore	A2-8/80 mm
6.3	Spindle socket taper	ASA 350 /80mm bore
6.4	Speed Range	16 from 20 -1020 forward And 8 from 30-1185 reverse
6.5	Spindle motor rating shall be min. 7.5 Kw , AC, S1 continuous duty	Vendor to Specify
6.6	Spindle motor make shall be ABB/Siemens/CGL/Bharat Bijle OR any other make acceptable to BHEL	Vendor to confirm and specify

Clause No	PARTICULARS AND BHEL SPECIFICATION	Vendor's offer	With Technical Details
6.7	Torque/Power/Speed diagram of spindle motor	Vendor to Specify	
6.8	All main drive gears of the head stock shall be of alloy steel hardened and profile ground.	Vendor to confirm	
7.0	MACHINE BED		
7.1	Type of bed : Straight (gap with removable bridge piece) The machine bed shall be a casting of robust construction heavily ribbed for stability, rigidity and vibration free operation.	Vendor to confirm & Specify	
7.2	No. of Guide ways	Vendor to Specify	
7.3	Distance between Guide ways	Vendor to Specify	
7.4	Type of Guide ways	Vendor to Specify	
7.5	Hardness of guide ways	Vendor to Specify	
7.6	Machine with unhardened guide ways is not acceptable.	Vendor to note & confirm	
8.0	FEEDS AND DRIVE SYSTEM		
8.1	Feed range Longitudinal mm/rev	0.04-2.24 mm/rev	
8.2	Number of feeds for longitudinal	60	
8.3	Feed range Cross mm/rev	0.02-1.12 mm/rev	
8.4	Number of feeds cross	60	
8.5	Lead screw pitch	6 mm	
8.6	Metric threads pitch range	0.5-28mm	
8.7	Number of metric threads	48	
8.8	Threads per inch	56 - 1 TPI	
8.9	Number of inch threads	60	
8.10	Module threads	0.25 - 14mm	
8.11	Number of module threads	40	
8.12	Module threads range	0.25 – 14 mm	
8.13	Number of Diametric pitch	43	

Clause No	PARTICULARS AND BHEL SPECIFICATION		Vendor's offer With Technical Details
8.14	Range of Diametric pitch	112 – 2	
9.0	TAIL STOCK :		
9.1	Sleeve Diameter	90 mm	
9.2	Sleeve taper	MT5	
9.3	Sleeve Travel	200 mm	
9.4	Tail Stock Clamping	Vendor to specify	
9.5	Sleeve clamping	Vendor to specify	
9.6	Tailstock shall be movable easily on the bed in de-clamped condition by manually	Vendor to confirm	
10.0	CARRIAGE/ CROSS SLIDE :		
10.1	Cross slide travel	300mm	
10.2	Top slide travel	150mm	
10.3	Tool holder to accommodate tool shank size of 25 X 25 mm	Vendor to confirm	
10.4	Carriage guide ways shall be precision machined and hand scrapped to suit the hardness of hardened bed guide ways.	Vendor to confirm	
11.0	ACCESSORIES:		
11.1	STANDARD ACCESSORIES : Detailed list of items covered under standard accessories to be supplied with the offer.	Vendor to confirm	

Clause No	PARTICULARS AND BHEL SPECIFICATION			Vendor's offer With Technical Details	
11.2	SPECIAL ACCESSORIES: The following Accessories should be quoted, if it is not a part of standard accessories			Vendor to confirm	
	Item Description	Unit	Qty		
	3 Jaw Self Centering chuck diameter 250 mm	No.	02	Vendor to quote	
	Universal face Plate diameter 550 mm	No.	02	Vendor to quote	
	Collet chuck set & collet	Set	01	Vendor to specify & quote	
	Follow rest 8-80 mm				
	Roller steady rest 8 -145 mm	No.	01	Vendor to quote	
	Taper turning attachment	No.	01	Vendor to quote	
	Rear Tool Post	No.	01	Vendor to quote	
	Longitudinal Stop	No.	01	Vendor to quote	
	Roller stop	No.	01	Vendor to quote	
	A set of change for DP threads	Set	01	Vendor to quote	
	Rotating centres with MT5 Chuck	Set	01	Vendor to quote	
	Quick change tool post with 5 tool holder	set	01	Vendor to quote	
	Allen key & Spanners (tools for Operation & maintenance)	Set	01	Vendor to quote	
11.3	Any other special accessories, necessary for effective utilisation of machine shall be specified by vendor and to quote. List to be provided.			Vendor to confirm & quote	
12.0	MACHINE LIGHTS:				
12.1	Machine Lights for sufficient illumination of complete working area for clear visibility.			Vendor to confirm & specify	

Clause No	PARTICULARS AND BHEL SPECIFICATION	Vendor's offer With Technical Details
13.0	Recirculating Type Flood Coolant System	
13.1	Coolant collection and recirculation system should be leak proof & perfect to avoid any spillage on shop floor, trenches for cables & foundation pit of the machine etc.	Vendor to specify
13.2	Coolant tank capacity	Vendor to specify
13.3	Coolant Pump motor rating in kw	Vendor to specify
14.0	ELECTRICAL :	
14.1	415V + 10% / -10%, 50HZ +/-3 Hz, 3 Phase AC (3 wire system with out neutral) Power Supply will be provided by BHEL at a single point near the machine, as per layout recommended by Vendor. All types of cables, connections, circuit breakers etc. required for connecting BHEL's power supply point to different parts of the machine/control cabinets, shall be the responsibility of vendor. Requirement of grounding / earthing with required material details should be informed by vendor well in advance so that same could be incorporated during construction of foundation.	Vendor to confirm
14.2	Tropicalisation The entire equipment shall be Tropicalized in Design and Construction	Vendor to confirm
14.3	Total machine and all supplied items should work trouble free and efficiently under following operating conditions and should give specified accuracies. Ambient Conditions: Temperature: +5 to +45 Degree Celsius and Relative Humidity: 90% maximum, both do not occur simultaneously.	
14.4	All electrical & electronic control cabinets & panels should be dust and vermin proof	Vendor to confirm
14.5	Motors shall conform to IEC or Indian Standards	Vendor to confirm
14.6	Vendor should ensure the proper earthing for the machine and its peripherals.	Vendor to confirm

Clause No	PARTICULARS AND BHEL SPECIFICATION	Vendor's offer With Technical Details
15.0	<p>SAFETY ARRANGEMENTS: Following safety features in addition to other standard safety features should be provided on the machine: 1. Machine should have adequate and reliable safety interlocks / devices to avoid damage to the machine, workpiece and the operator due to the malfunctioning or mistakes. 2. All the pipes, cables etc. on the machine should be well supported and protected. These should not create any hinderance to machine operator's movement for effective use of machine. 3. All the rotating parts used on machine should be statically & dyanamically balanced to avoid undue vibrations. 4. Emergency Switches at suitable locations as per Norms should be provided. 5. Oil & water pipe lines should not run with electrical cable in the same tray / trench.</p>	Vendor to confirm & specify
15.1	<p>ENVIRONMENTAL PERFORMANCE OF THE MACHINE : The Machine should conform to following factors related to environment : (a) Maximum noise level shall be 80 dB(A) at normal load condition, 1 meter away from the machine with correction factor for back ground noise, if necessary. (b) There shall not be any emissions from the machine except fumes of cutting fluid during machining. (c) There should not be any effluent from the machine. In case there are any effluents from the machine, requisite effluent treatment plant or pollution control device should be built into the machine by the supplier. (d) No hazardous chemicals shall be required to be used in the machine. (e) If any safety / environmental protection enclosure is required it should be built in the machine by the vendor. (f) Paint of the machine should be oil / coolant resistant and should not peel off and mix up with coolant.</p>	Vendor to confirm

Clause No	PARTICULARS AND BHEL SPECIFICATION	Vendor's offer With Technical Details
16.0	<p>LEVELING & ANCHORING SYSTEM Complete anchoring system including foundation bolts, anchoring materials, fixtures, leveling shoes etc should be supplied</p>	Vendor to confirm
17.0	<p>TOOLS FOR ERECTION, OPERATION & MAINTENANCE : Special tools and equipment required for erection of the machine shall be brought by the vendor. Necessary tools like Torque Wrench, Spanners, Keys, grease guns etc. for operation and maintenance of the machine should be supplied. List of such tools should be submitted with offer Test mandrel for checking spindle run-out & alignment of headstock/tailstock etc. should be supplied.</p>	Vendor to confirm
18.0	<p>DOCUMENTATION: THREE sets of following documents (Hard copies) in English language should be supplied along with the machine</p> <ol style="list-style-type: none"> 1. Operating manuals of Machine 2. Detailed Maintenance manual of machine with all drawings of machine assemblies/sub-assemblies/parts including Electrical / Pneumatic/ Coolant / Hydraulic circuit diagrams. All Assembly/ Sub Assembly Drawings shall be supplied with the part list also 3. Manufacturing drawings for all supplied tool holders, coolant connections, tailstock center, adapters, sleeves, fixtures etc. 4. Catalogues, O&M Manuals of all bought out items including drawings, wherever applicable. 5. Complete Master List of parts used in the machine shall be submitted by the vendor. 6. One additional set of all the above documentation on CD ROM, wherever possible. 	Vendor to confirm

Clause No	PARTICULARS AND BHEL SPECIFICATION	Vendor's offer With Technical Details
19.0	<p>FOUNDATION :</p> <p>Vendor shall submit the preliminary layout drawing for getting BHEL's approval within one month from the date of Letter of Intent (LOI) / P.O. whichever is earlier. Complete Foundation Design including details viz. static / dynamic load details etc. and Final Layout drawings shall be submitted by the supplier within TWO months after getting BHEL's approval.</p> <p>The layout should consist of all requirements pertaining to complete machine including space requirement for any other accessories. BHEL shall construct complete foundation for the machine under supervision of supplier and at supplier's responsibility.</p> <p>Vendor should arrange equipments required for the testing of foundation, if required by the vendor.</p> <p>The vendor shall also indicate detailed specifications of grouting compound and Grouting procedure etc. for foundation bolts of the machine.</p>	Vendor to Confirm
20.0	<p>ERECTION & COMMISSIONING</p> <p>Supplier to take full responsibility for carrying out the erection, start up, testing of machine, it's control & all types of other supplied equipment, machining of test pieces etc.</p> <p>Service requirement like power, air & water shall be provided by BHEL at only one point to be indicated by supplier in their foundation/layout drawings. Other requirements like crane and helping personnel shall also be provided by BHEL. Details of these requirements should be informed by vendor in advance.</p>	Vendor to Confirm

Clause No	PARTICULARS AND BHEL SPECIFICATION	Vendor's offer With Technical Details
20.1	Successful proving of BHEL components by the Vendor shall be considered as part of commissioning. All tests, as mentioned at Specification <u>Clause No. 22</u> (Machine Acceptance) shall form part of the commissioning activity.	Vendor to Confirm
20.2	Tools, Tackles, Test Mandrels, instruments and other necessary equipment required to carry out all above activities should be brought by the supplier.	Vendor to Confirm
20.3	Commissioning spares, required for commissioning of the machine within stipulated time, shall be brought by the supplier on returnable basis.	Vendor to Confirm
20.4	Portion, if any, of the machine, accessories and other supplied items where paint has rubbed off or peeled during transit or erection should be repainted and merged with the original surrounding paint by the vendor. For this purpose, the vendor should supply sufficient quantity of touch-up paint of various colours of paint used.	Vendor to Confirm
20.5	Schedule of Erection and Commissioning shall be submitted with the offer.	Vendor to Confirm
20.6	Charges, duration, terms & conditions for E&C should be furnished in detail separately by vendor along with offer.	Vendor to Confirm
21.0	Training:	
21.1	The supplier shall impart training to BHEL's Machine Operators and Maintenance crew in Operation and Maintenance (Mechanical, Hydraulics, Electrical/ Electronics) during commissioning of the Machine at BHEL works for not less than ONE working day.	Vendor to Confirm
22.0	MACHINE ACCEPTANCE TEST:	
22.1	GEOMETRICAL ACCURACIES :	
22.1.1	Geometrical Accuracy Tests shall be in accordance with IS:1878 (part-1) standard or equivalent applicable standard. Detailed Test Charts for the same, clearly showing the accuracies to be achieved on the machine, shall also be submitted with the offer.	Vendor to confirm & specify

Clause No	PARTICULARS AND BHEL SPECIFICATION		Vendor's offer With Technical Details
22.1.1.1	The vendor shall have full test facilities for conducting evaluation as per IS:11118-1997 at the time inspection at their works.	Vendor to confirm	
22.2	Hardness of bed	Vendor to confirm	
22.3	Hardness of Guideways	Vendor to confirm	
22.4	Positional Accuracy test (Back lash test of driving screw)	Vendor to confirm	
22.5	Geometrical accuracy test	Vendor to confirm	
22.6	All the above accuracies should be demonstrated to BHEL engineers during pre-acceptance at Suppliers works and during Erection & Commissioning at BHEL Works.	Vendor to confirm	
23.0	PACKING: Sea worthy & rigid packing for all items of complete machine, all Accessories and other supplied items to avoid any damage/loss in transit. When machine is dispatched in containers, all small loose items shall be suitably packed in boxes.	Vendor to confirm	
24.0	GENERAL :		
24.1	Machine Model No.	Vendor to specify	
24.2	Total connected load (KVA):	Vendor to specify	
24.3	Floor area required (Length, Width, Height) for complete machine & accessories	Vendor to specify	
24.4	"Painting of Machine / Electrical Panels : RAL 6011 Apple Green (Polyurethane Paint)"	Vendor to confirm	
24.5	Total weight of the machine	Vendor to specify	
24.6	Weight of heaviest part of machine	Vendor to specify	
25.7	Weight of the heaviest assembly / sub-assembly of the Machine	Vendor to specify	
24.8	Dimensions of largest part/ sub-assembly/ assembly of the machine	Vendor to specify	