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BHEL	<u>TECHNICAL PURCHASE SPECIFICATION</u>	<u>EMT-6785</u>
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TECHNICAL PURCHASE SPECIFICATION OF
"HORIZONTAL MULTISTAGE CENTRIFUGAL PUMP SET"

1.0 PURPOSE :

“Horizontal Multistage Centrifugal Pump Set” is required for hydraulic testing of Stators and End Shields of Turbogenerators .

2.0 SCOPE :

Scope of order covers design and manufacturing to BHEL's specifications , supply and erection / commissioning at BHEL , by the supplier .

3.0 CONSTRUCTION:

“Horizontal Multistage Centrifugal Pump Set” is foot mounted pump as per the following specifications, coupled to electric drive motor of suitable capacity, mounted on a common Base Plate and shall consist of following items:-


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| 3.1. Pump | Qty 1 No. | Vendor to indicate make & model. |
| 3.2. Drive Motor | Qty 1 No. | Vendor to indicate make & model. |
| 3.3. Starter of Motor | Qty 1 No. | Vendor to indicate make & model. |
| 3.4. Pressure Gauge (0-40 Kg/sq cm and dial size 160 mm or more) (Least count 1 Kg/sq.cm or better) | Qty 1 No. | Make WIKA/HYDROTECHNIK/FIEBIG |
| 3.5. Accessories | Qty 1 Set | |

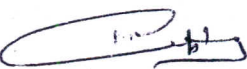
4.0 SPECIFICATIONS OF "HORIZONTAL MULTISTAGE CENTRIFUGAL PUMP SET" :


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|---|---|
| 4.1 Discharge pressure | : 15 Kg/Sq. Cm (or more) |
| 4.2 Discharge | : 12 Cu. Meter /Hour (or more) |
| 4.3 Medium of operation | : Water (Inlet available at 2Kg/sq.cm approx. online) |
| 4.4 Electric Drive Motor | : Suitable capacity, 3 Phase, 415 Volt |
| 4.5 Starter of Motor | : Suitable capacity Starter to operate Drive motor. |
| 4.6 Set to be supplied with Pump and Drive Motor coupled together and mounted on a common fabricated Base Plate. Foundation Bolts for fixing the Base Plate with Pump and Drive Motor assembled on it, should also be supplied with it. | |
| 4.7 Drive Motor and Starter should be of reputed make like Siemens / Bharat Bijlee / Crompton Greaves etc. | |
| 4.8 Pump shall be fitted with pressure gauge (refer sl. No. 3.4) to measure pressure at outlet. | |


5.0 FOUNDATION DRAWING:

In case of order foundation layout drawing will have to be supplied by the supplier , within one month after receipt of order from BHEL .


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6.0 SOURCE OF ELECTRIC SUPPLY :

The equipment shall be suitable to operate at 415+/-10% V, 50+/-3% Hz, 3 phase, 3 wire system. BHEL will provide this power supply to incoming of control panel. All other cablings are in the supplier's scope of supply.

7.0 ENVIRONMENTAL CONDITION :

The pump set shall be suitable to operate at ambient temperature from 0° C to 45° C and relative humidity up to 95%.

8.0 SPARES :

Following spares required for 2 years trouble free operation are to be quoted separately, giving description, quantity and price of each item separately.

8.1	Set of impellers fitted in the pump	01 Set.
8.2	Set of bearing fitted in the pump	01 Set.
8.3	Pump Motor coupling set	01 Set.
8.4	Set of seals, glands and gaskets etc. fitted in the pump	01 Set
8.5	Water inlet casing of the pump	01 No.
8.6	Water outlet casing of the pump	01 No.
8.7	Pressure gauge (as in point no 3.4)	01 No.

9.0 PAINTING :

The Pump set shall be painted to shade apple green as per IS:5.

10.0 ERECTION & COMMISSIONING

Successful Erection and commissioning of the equipment at BHEL Hardwar, will be in the scope of the supplier.

11.0 GUARANTEE :

Guarantee period of the complete equipment including bought out items is to be 24 Months after successful commissioning.

12.0 O & M MANUALS :

In case of order, three copies of O & M manuals (having complete detailed drawing and spare parts list with cross reference to the drawings) will have to be supplied along with the equipment.

13.0 PACKING :

Various assemblies shall be suitably packed to prevent damage during transit and storage. All the surfaces shall be properly conserved before despatch.


14.0 OTHER REQUIREMENTS :


14.1 Complete specifications along with layout drawing of the offered equipment should be sent with the offer.

14.2 Delivery period of the equipment should be mentioned in the quotation .

14.3 All bought out items should be of reputed make.

14.4 Vendor to furnish clause wise information, confirming to this specification in their offer.


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15.0 QUALIFYING CONDITIONS :

DESCRIPTION OF BHEL REQUIREMENT	TO BE SUPPLIED/ CONFIRMED/ SUBMITTED BY	OFFERED	DEVIATIONS	REMARKS
<p>Only those vendors will be qualified who have commissioned at least one number Horizontal Multistage Centrifugal Pumpset of capacity (Discharge pressure : 12 Kg/Sq. Cm, Discharge : 10 Cu. Meter /Hour with suitable 3 phase drive motor and starter) or Higher size in last 15 years (from the date of opening of tender) and the referred Pumpset is presently working satisfactorily for more than one year after commissioning (on the date of opening of tender).</p> <p>The following information should be submitted by the vendor about the companies where referred pumpset (s) have been supplied. This is required from all the vendors for qualification of their offer.</p>	Vendor			
15.1 Name of the company / customer, where referred pumpset is installed.	Vendor			
15.2 Complete postal address of the customer.	Vendor			
15.3 Month & Year of commissioning	Vendor			
15.4 Parameters of pumpset (s) supplied (Discharge pressure : 12 Kg/Sq. Cm, Discharge : 10 Cu. Meter /Hour or higher size with suitable 3 phase drive motor and starter) and application for which pumpset is supplied.	Vendor			
15.5 Name and designation of the contact person of the customer.	Vendor			
15.6 Phone, FAX no. and email address of the contact person of the customer.	Vendor			
15.7 Performance certificate from the customers regarding satisfactory performance of pumpset supplied to them (Original Certificate or Through E-mail directly from the customer). The original performance certificate may be returned after verification by BHEL, if required.	Vendor			
15.8 BHEL reserves the right to verify information submitted by vendor. In case the information is found to be false / incorrect, the offer shall be rejected.	Vendor			

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03/25/05/13
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(Bk-1 Assly. Area)

03/25/05/13
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Neeraj Kumar

P. S. (Bk-1 Elec. Maint.)
C. P. K. Gupta/A

03/06/13
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