

TECHNICAL SPECIFICATION



Heavy Power Equipment Plant,
Bharat Heavy Electricals Limited,
Ramachandrapuram -502032, Andhra Pradesh, INDIA.

Enquiry No. :

Due Date :

Supplier Qtn. No.:

E-MAIL (FROM PURCHASE DEPTT.)

SPECIFICATION FOR MOBILE STORAGE SYSTEM

NOTE:- 1. Vendor must submit complete information against clause no. 13.0 The offer meeting this clause would only be processed.

2. The "Offered" Column and where applicable, the "Deviations" & "Remarks" 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.

3. The offer and all documents enclosed with offer should be in English language only.

ADDRESS OF THE SUPPLIER :

ADDRESS OF THE INDIAN AGENTS :

TELEPHONE NOS.:

TELEPHONE NOS.:

FAX NOS.:

FAX NOS.:

E-MAIL ADDRESS :

E-MAIL ADDRESS :

SCOPE: SUPPLY, ERECTION & COMMISSIONING OF MOBILE STORAGE SYSTEM COMPLYING WITH SPECIFICATION AS BELOW

SL. NO	DESCRIPTION FOR BHEL REQUIREMENT	SPECIFIED / TO BE CONFIRMED BY	OFFERED	DEVIATIONS	REMARKS
1.0	PURPOSE & WORKPIECE MATERIAL				
1.1	Purpose: (Operations/Jobs involved):-	Required for storing the Tools as per the drawing number			
2.0	Technical Data:				
2.1	Type of Racks	As per drg.no. IE/12/201/610			
2.2	Pigeon hole loads	As per drg.no. IE/12/201/610			
2.3	Type A				
2.3.1	No of Single Face Fixed (SFF) units	one			
2.3.2	No of levels/body in each SFF unit	11			
2.3.3	No of Double Face Movable (DFM) Units	3 nos			
2.3.4	No of levels/body in each DFM units	22			
2.3.5	No of Single face Movable (SFM) unit	one			
2.3.6	No of levels/body in SFM unit	11			
2.3.7	Dimensions of SFF, SFM & DFM	Refer Drg NO:IE/12/201/610			
2.4	Type B				
2.4.1	No of Single Face Fixed (SFF) units	one			

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2.4.2	No of levels/body in SFF unit	6			
2.4.3	No of Double Face Movable (DFM) Units	5 nos			
2.4.4	No of Levels/body in each DFM units	12			
2.4.5	No of Single face Movable (SFM) unit	one			
2.4.6	No of levels/body in each SFM unit	6			
2.4.7	Dimensions of SFF, SFM & DFM	Refer Drg NO: IE/12/201/610			
2.5	No. of bodies in each unit shall be 3 Nos in single faced units & 6 Nos. in double faced units.	Vendor to Confirm			
2.6	Single face mobile rack as per design SFM I & SFM II	Vendor to Confirm			
2.7	Single face fixed rack as per design SFF I & SFF II	Vendor to Confirm			
2.8	Double face mobile rack as per design DFM I TO VIII	Vendor to Confirm			
2.9	1 No. suitable card holder for A4 size paper for each compactor and fixed block shall be provided.	Vendor to Confirm			
2.10	Provision for identification of the tools shall be provided on each pigeon hole.	Vendor to Confirm			
2.11	All pigeon holes should have rubber lining (4 faces) to prevent damage of sharp edges of tools / Gauges.	Vendor to Confirm			
2.12	The system should have Anti- Toppling or Anti Tilt Devices as per International Safety Norms.	Vendor to confirm and submit details			
3.0	CONSTRUCTION:				
3.1	a) Size of all vertical angles / Vertical supports as per multiflex design code IS 800 / 801 with a factor of safety 1.67 with respect to yield stress.	Vendor to Specify the size			
	b) Material should conform to IS 10748 should be roll-formed. Tolerance in the design of the angles should be as per IS 8081.	Vendor to Confirm			
3.2	All load bearing compartments / panels are made out of 18 swg Cold Rolled Close Annealed (CRCA) steel sheet conforming to IS 513 std.	Vendor to Confirm			
3.3	Inside back cladding sheets are 22 Standard Wire Gauge(SWG) Cold Rolled Close Annealed (CRCA) steel sheet conforming to IS 513 std.	Vendor to Confirm			

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3.4	Side closed with cladding sheets are 20 SWG Cold Rolled Close Annealed (CRCA) steel sheet conforming to IS 513 std.	Vendor to Confirm			
3.5	All partition plates are made out of 20SWG Cold Rolled Close Annealed (CRCA) steel sheets conforming to IS 513 std.	Vendor to Confirm			
3.6	Front, back cover & mechanism box also made out of 18swg CRCA steel sheets conforming to IS 513 std.	Vendor to Confirm			
3.7	All doors are made out of 18 SWG Cold Rolled Close Annealed (CRCA) steel sheets conforming to IS 513 std.	Vendor to Confirm			
3.8	No central partitions for fixed / static racks SFF I & II as these will be closed from the back side with 22swg CRCA steel sheet conforming to IS 513 std.	Vendor to Confirm			
3.9	Drive in Mechanism design (Sprockets, Chain, Bearings & Hub etc)	Vendor to Specify details			
3.10	Moving of each rack will be with the help of rotation of handle (manual)	Vendor to Confirm			
3.11	Bolted construction for super structure with steel slotted / rolled / formed angles.	Vendor to Confirm			
3.12	Corner plates & Galvanized Nuts & bolts to be provided for assembly.	Vendor to Confirm			
	a) All fasteners like nuts, bolts, etc., are supplied in parkarised condition conforming to IS 3655 - 1985 for necessary protection against industrial atmospheres.				
3.13	Under carriage structure :				
	a) Height of the carriage including guide rail : 2600 mm	Vendor to Confirm			
	b) Dimensions of guide rail	Vendor to Specify Details			
	c) Speed of loaded system (m/min)	Vendor to Specify Details			
	d) Factor of safety with respect to yield stress	1.67			
	e) Carriage Frame : Solid one piece frame, a welded construction of heavy steel cold formed section, capable of taking designed load and easily movable when carrying loads.	Vendor to Confirm			
	f) Guide wheel & Traveling wheel : Each wheel is provided with high quality heavy duty pair of sealed antifricition self aligning type pillow ball bearings with in built grease nipple for lubrication of pillow block.	Vendor to Confirm			

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	g) Guide Rails : Rails are ensured to be perfectly straight and are provided with leveling adjustment. Rail joints should ensure smooth, effortless movement of the system. The projections of the rails are tapered off to ensure that the user should not fall and Racks can be moved easily.	Vendor to Confirm			
3.14	Chassis made with reinforced structure to carry load.	Specify the size of material used.			
3.15	Chassis will be mounted on four wheel (made out of cast iron) with bearing housing.	Vendor to Confirm			
3.16	Rail size	Vendor to Specify Details			
3.17	Expansion bolt size	Vendor to Specify Details			
3.18	Make & Model No. of sprockets & Chains etc.	Vendor to Specify Details			
3.19	All sprockets & Chains shall confirm to IS Standard	Vendor to Confirm			
3.20	The compactor shall be clad with sheet metal / decorative laminated panels.	Vendor to Confirm			
3.21	The system should be clean, neat, decent, safe & secured storage with locking as one unit.	Vendor to Confirm			
3.22	1 No. acrylic card holder suitable for A4 size paper for each fixed & mobile racks.	Vendor to Confirm			
3.23	All the components like Panels, Angles, Cladding sheets etc. shall be processed before use for pickling (Acid cleaning for removal of rust & scales), Degreasing (Alkaline cleaning for removal of oils & semi solids from the surface) & Phosphating (Protecting steel from any type of corrosive action).	Vendor to Confirm			
4.0	Painting:				
4.1	Finish with High grade epoxy powder coated (with air-drying synthetic enamel paint).	Vendor to confirm & submit details.			
4.2	Colour	Siemens Grey colour.			
5.0	SAFETY ARRANGEMENTS:				
5.1	Equipment should have adequate and reliable safety interlocks / devices to avoid damage to the equipment, work piece and the persons in moving aisles is assured by safety stopper.	Details to be furnished			
5.2	Locking System :				
	a) Temporary locking system to ensure that a particular rack under operation is locked, because of any accidental jamming, when working inside the aisle is to be prevented.	Vendor to Confirm			

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	b) Central locking device for locking of entire system, which ensures locking of entire system and access to only authorised persons.	Vendor to Confirm			
5.3	A well proven driving system shall be ensured for ease movement of racks by a person even handling with full load.	Vendor to Confirm			
5.4	If any safety / environmental protection enclosure is required it should be built in the equipment by the vendor.	Vendor to Confirm			
6.0	SPARES:				
6.1	Itemized breakup of spares used on the equipment in sufficient quantity as per recommendation of Vendor for 2 years of trouble free operation should be offered by vendor. The vendor shall furnish the list of such items. The supplied spares shall include i) 10 Nos of bearings used for wheels ii) 5 Nos. of bearings (if used) for turnstile rotary movement.	Vendor to Confirm			
6.2	All types of spares of the equipment should be available for at least ten years after supply of the machine. If equipment is likely to become obsolete in this period, the vendor should inform BHEL sufficiently in advance and provide drawings of parts / details of spares & suppliers to enable BHEL to procure these in advance, if required	Vendor to Confirm			
7.0	DOCUMENTATION :				
7.1	Five sets of following documents (Hard copies) in English language should be supplied along with the machine	Vendor to Confirm			
7.2	Operating manuals of Equipment	Vendor to Confirm			
7.3	Detailed Maintenance manual of the equipment with all drawings of assemblies/sub-assemblies/parts.	Vendor to Confirm			
7.4	Catalogues, O&M Manuals of all bought out items including drawings, wherever applicable.	Vendor to Confirm			

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8.0	ERECTION & COMMISSIONING				
8.1	Supplier to take full responsibility for carrying out the erection, start up, testing of the equipment etc.	Vendor to Confirm			
8.2	Charges, duration, terms & conditions for E&C should be furnished in details separately by vendor along with offer.	Vendor to Confirm			
9.0	PROVE OUT OF THE EQUIPMENT :				
9.1	Prove out of the equipment shall be done at BHEL works as per the specified parameters. Vendor shall be fully responsible for prove out the equipment as specified by BHEL to the full satisfaction of BHEL. Clarifications, if any required by vendor, regarding requirements of the prove out, whether specified or not, should be discussed and cleared by vendor during initial technical discussions.	Vendor to Confirm			
10.0	EQUIPMENT ACCEPTANCE: (Tests/Activities should be Performed by Vendor)				
10.1	Tests/Activities should be carried out at supplier's works before dispatch & at BHEL works while commissioning the equipment :	Confirm & Vendor to specify the applicable standard (IS / ISO / Any other)			
10.2	Demonstration of all features of the equipment, control system & accessories for efficient and effective use of the equipment	Vendor to Confirm			
10.3	Full load test to demonstrate the maximum capacity of the equipment.	Vendor to Confirm			
11.0	Packing	Vendor to Specify Details			
12.0	GUARANTEE :				
12.1	24 Months satisfactory operation from the date of acceptance of the equipment.	Vendor to Confirm			
12.2	Service beyond guarantee period	Vendor to Specify Details			
12.3	Supplier shall be responsible for after sales service of the equipment.	Vendor to Confirm			

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13.0	GENERAL :				
13.1	Equipment Model No.	Vendor to Specify Details			
13.2	Painting of Equipment	Vendor to Specify Details			
13.3	Total weight of the equipment	Vendor to Specify Details			
13.4	Vendor to submit , along with offer, reference list of customers along with details of contact person, where similar or higher capacity Racks have been supplied.	Vendor to Confirm			
13.5	Detailed catalogues, sketch/ photographs of the equipment and accessories should be submitted with the offer.	Vendor to Confirm			
13.6	Vendor shall submit his latest design. In case of any variance with the present Spec., BHEL reserves the right to study & make minor changes.	Vendor to Confirm			
14.0	Delivery Time	14-16 Weeks			