

## 1. Item Description & Technical Details :

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Equipment : Material handling  
Spec NO : 10549  
Item No : MH-3/40/9610  
Quantity : 1 No  
Title : Diesel Hydraulic Mobile Crane 15 Ton

### General

Diesel operated hydraulic mobile crane of lifting capacity 15.00 tons at 3.5 mtrs. radius in blocked condition consist of 3 section hydraulic fully powered, fully synchronized telescopic boom extending from 8.80 M to 21.2 mtr.,

Road travel speed : 30 Km/hr

The crane: should incorporate hydraulic out riggers self re-setting limit switches to hoist and derrick motions, automatic electro-mechanical brakes on hoist. It should have derrick and slewing motions, automatic safe load indicator, it should have overload warning system with positive cut outs,

**Steering** – Steering axle should be mounted solidly on the steel beam to the chassis frame it should have automatic type steering wheel and hydraulic powered.

**Operator's cab** – It should be totally enclosed steel construction with glass windows lockable sliding door, electric fan & electric horn etc. it should incorporate of the crane controls for derricking motions, slewing motions and housing motions it should have foot paddle brake control & all other travel controls. 360 degree revolving operator cabin should be provided It should incorporate all the required instrumentations like gauges for air, pressure load etc.

Following detail to be provided in technical offer.

1. Chassis along with tyre, size, nos. & make etc.
2. Slewing arrangement detail electrical /hydraulic/ mechanical.
3. Hoisting and lowering arrangement elect./hydraulic/mechanical.
4. Hoisting/lowering slewing brake arrangement.
5. Hoisting speeds, lowering speeds & slewing speeds.
6. Maximum & Minimum speed of crane (A) Without load  
(B) With full load
7. Details of prime mover engine
8. Details of hyd.circuit diagram and hydraulic items fitted on crane
9. Detail of out rigger arrangement
10. Details of operator cabin and operator control panel

## MISCELLANEOUS:

1. The offer should be complete with dimensioned outline general arrangement **DRAWING WITH** complete details of power transmission system, hydraulic system with circuit diagram and write up explaining special features.
2. List of standard accessories supplied.
3. List of optional accessories offered with item wise prices.
4. Recommended spares for 2 year normal working to be quoted with item wise prices
5. Optional equipment to be quoted extra for environmental protection.
6. A list of customers to whom similar/identical equipments have been supplied in last 3 year with their names and addresses.

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The equipment shall be tested/inspected by BHEL engineers at supplier's works as per test chart in accordance to IS for all accuracies & performance before dispatch. Equipment shall be guaranteed for its satisfactory performance for a period of 12 months from the date of commissioning along with guarantee certificate four copies of test & maintenance manuals, foundation/general arrangement & other drawing. Schematic circuit diagram, spares parts catalogues with make must be supplied before dispatch of the equipment.

Notwithstanding anything, the detail this specification, if anything else is required for its functioning, the same shall be specifically brought out & indicated. The tenderer is to submit complete details of the equipment in the first instance. Offers without complete details are liable to be rejected.

## QUALIFYING CONDITIONS

Only those vendor, who have supplied and commissioned at least two hydraulics mobile crane for similar application in the past ten year and such crane is presently working satisfactorily for more than one year (more than six month if supplied to BHEL ), after commissioning should quote. The following information is to be submitted by the vendor about the companies where similar crane have been supplied. This is required from all vendors for qualifications of their offers.

1. Name of the customer/company where similar crane installed
2. Complete postal address of the customer
3. Year of commissioning
4. Name and designation of the contact person of the customer
5. Phone, Fax No. and e. mail address of the contact person of the customer
6. Performance certificate from the customer regarding satisfactory performance of the crane supplied to them

**For general requirement: Refer annexure I & II**

## ANNEXURE- I

### General Conditions for Machines/Equipments:

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#### ELECTRIC SUPPLY & CONTROL :

All electricals to be suitably tropicalised and designed to work on 415 volts, 3 Phase, 4 Wires, 50 Cycles A.C. supply provided in the circuit. Suitable step down transformers must be included in the offer to provide low voltage system. All switches, relays, controls etc. are to be grouped conveniently. Electric Motors to conform to BSS:2613/ relevant Indian Standards and shall have 'B' class insulation and of a reputable make like M/S SIEMENS, CROMPTON, KIRLOSKAR, AEI, GEC, NGEF etc. Starters to be incorporated.

#### SPARES :

Recommended spares are to be quoted for two years normal working with item wise price, details and relevant catalogues should be supplied, wherever applicable.

#### LUBRICATION :

Automatic centralized Lubrication system with suitable lubricating points should be provided. Details with type and quantities of lubricants are to be furnished including their source of supply. Lubrication points are to be displayed on the body of machine / equipment.

#### PAINTING :

Machine / Equipment is to be painted with two coats of primer and two coats of finished paint. Colour of the finished coat shall be Verdigris green paint confirm to relevant I.S. . All bright steel components to be coated with rust preventive easily removable chemical before dispatch.

#### DETAILS TO BE INCLUDED IN THE OFFER :

1. General arrangement drawing., foundation drawing., weight etc.
2. Technical details , relevant catalogues, circuit diagram etc.
3. Details of motor, starter , pump, hydraulics, pneumatics, controls etc. like type, make, model, rating etc.
4. Types and details of various parts subject to wear & tear, such as bearings, gears etc., should be indicated together.
5. Requirement of power water, air steam etc. with details like quantity and pressure.
6. List of standard accessories to be supplied with the equipment / machine.
7. List of optional accessories with item wise price and details.
8. List of customers to whom similar / identical equipments have been supplied. Size / capacity of equipment, date of supply and customers full address are also to be indicated.

#### MISCELLANEOUS :

1. Entire machine / equipment to be completely tested and inspected and four copies of the test / inspection & guarantee certificates to be supplied with the equipment / machine. BHEL reserves the right to inspect and witnessed all tests. In the event of inspection / test not witnessed by BHE, a written approval should be obtained before commencement of dispatch.
2. It is to be guaranteed for 24 months from date of commissioning. Any parts of unit of the machine / equipment as a whole found damaged or defective during this period have to be replaced free of cost. Free after sales services is to be provided during guarantee period.

3. Four copies of technical / descriptive catalogues, operating and service manuals, diagrams etc. have to be supplied with the machine / equipment.
4. Notwithstanding anything the details in this specification if any thing else is required for its efficient functioning, the same shall be specially brought out and included in the offer.

IMPORTANT NOTE :

1. Complete unit including motors etc. shall be of adequate capacity for the duties, it is required to perform.
2. All components / materials / controls used shall be in metric system confirming to relevant Indian / International standard.
3. Installation & commissioning charges with duration , wherever applicable, shall be quoted separately.

ANNEXURE - II

General condition of supply of spares & maintenance manual.

Following details are required along with offer:

1. Complete spare parts list of the machine. This list must include all manufactured as well as bought out items of suppliers. For bought out items complete purchase specification and full address of supplier must be given.
2. Cross sectional drawing for all sub assemblies to be submitted.
3. Hydraulic / Pneumatic circuit diagram along with sequence of function to be described.
4. Electrical circuit diagram to be supplied along with its working description in relation with hydraulic / pneumatic circuit.
5. Details along with purchase specifications of all rubber 'O' rings, oil seals, wiper seals, hoses, solenoid valve etc. to be given. Dimensional details of all rubber parts and hoses with material specification to be given.
6. Party to ensure that spares for the offered machine shall be available with them for another next ten years.
7. All contactors and relays shall be of Siemens / L&T make.
8. Main isolator shall be G.E. power control make with GE power control make HRC fuses.
9. All hydraulics shall be of Vickers sperry / Rexroth make only.
10. Pneumatic timer shall be of BCH make .
11. All bearing should be of SKF /NBC / Fag make only.
12. All fastener shall be of Unbrako /GKW / TVS amake high tensile steel.
13. All pneumatics shall be of Festo / Nucon / Dancal make only.
14. All gear boxes shall be of Elicon / Redicon / Shanti make only.