

Detailed Specification

Enquiry:MM/172/G30556

Contact Details

Name: Binduja Menon
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Please submit your offer for supply of the following items as per the instructions, technical specifications and other terms and conditions specified herein/ attached.

Note:

1. The delivery period mentioned in the BoQ is our indicative requirement. You may offer your earliest delivery period.

Please refer our above referred enquiry number in all correspondence.

SL No.	Material Code	Detailed Specification/s	Quantity	Unit of Measure
1	664460000	FRONT END WHEEL LOADER AS PER THE EQUIPMENT DATA SHEET No. FACT-CD-MECH-HE-PAYLOADER-2024.	1	Number



THE FERTILISERS AND CHEMICALS TRAVANCORE LIMITED.

A GOVERNMENT OF INDIA ENTERPRISE COCHIN DIVISION, AMBALAMEDU – 682 303, COCHIN, INDIA.

TECHNICAL CHECKLIST FOR PROCUREMENT			
Vendor has to fill all the rows against each serial number failing which will be considered as regretted.			
Sl. No.	Item Description	Bidder Confirmation	Deviations if any
1	Bucket Capacity : 1.7 to 2 m3	<input type="checkbox"/> Agreed <input type="checkbox"/> Disagreed	
2	Duty: Continuous Charging of End Product (NP20: 20), Charging / Scooping of Sulphur,Rock Phosphate etc. {Bulk density of the material to be handled: NP 20:20 (FACTAMFOS : 0.9 gm/cc, Sulphur:1.35 to 1.44 gm/cc Rock phosphate:1.55gm/cc).	<input type="checkbox"/> Agreed <input type="checkbox"/> Disagreed	
3	Overall length : Approximately 6700 MM Dump height : Not less than 3600 MM Bucket width / Equipment width : Not more than 2400 MM	<input type="checkbox"/> Agreed <input type="checkbox"/> Disagreed	
4	Engine: Suitable Indigenous Diesel Engine of required HP. Engine shall be fitted with Water cooled radiator and the radiator shall be of suitable material of construction to effectively withstand corrosion due to Sulphur / Rock Phosphate / NP 20:20.	<input type="checkbox"/> Agreed <input type="checkbox"/> Disagreed	
5	Cabin: Ergonomically designed cabin and control layout for easy operation and To reduce operator fatigue. Adjustable cushion seat is to be provided All meters, gauges, warning lamps are to be provided in the cabin. Cabin shall be provided with adequate protection to protect the operator from falling material. The cabin should be mounted on the rear frame of the Equipment.	<input type="checkbox"/> Agreed <input type="checkbox"/> Disagreed	
6	Power Train: Equipment shall be fitted with Power Shift Transmission (preferably indigenous) with Planetary Gearbox and mechanical lever control for selecting speed range and four wheel drive	<input type="checkbox"/> Agreed <input type="checkbox"/> Disagreed	

7	Rear frame: The rear frame shall be mounted so as to oscillate sufficiently on either side of the longitudinal axis, enabling the loader to be used on rough terrain and on unprepared ground	<input type="checkbox"/> Agreed <input type="checkbox"/> Disagreed	
8	Tool kit containing all the special tools required for maintenance should be supplied along with the equipment, free of cost (list of tools shall be indicated in the offer).	<input type="checkbox"/> Agreed <input type="checkbox"/> Disagreed	
9	Normal working conditions may be taken as dusty and all the electrical gadgets to be suitably covered and protected.	<input type="checkbox"/> Agreed <input type="checkbox"/> Disagreed	
10	Tyres: Should be of standard size (Preferably 14.00 x 25, 24 Ply Rating) and should be available indigenously.	<input type="checkbox"/> Agreed <input type="checkbox"/> Disagreed	
11	Brake System: The equipment should preferably have an internal wet-type brake system, and a caliper-type brake system is not required.	<input type="checkbox"/> Agreed <input type="checkbox"/> Disagreed	
12	Steering System: Center point frame articulation steering system. Preferably Orbitrol Control Hydraulic system.	<input type="checkbox"/> Agreed <input type="checkbox"/> Disagreed	
13	The spares required for normal trouble free operation of two years (as per the Annexure A are to be quoted along with the Equipment.	<input type="checkbox"/> Agreed <input type="checkbox"/> Disagreed	
14	All lubrication points shall be provided with nipples / cups complying with the relevant standards.	<input type="checkbox"/> Agreed <input type="checkbox"/> Disagreed	
15	The equipment shall be painted with anti-corrosive primer and epoxy	<input type="checkbox"/> Agreed <input type="checkbox"/> Disagreed	
16	The equipment with all accessories shall be guaranteed for trouble free operation for a minimum of eighteen months or 3500 hours of operation from the date of commissioning.	<input type="checkbox"/> Agreed <input type="checkbox"/> Disagreed	

17	Guarantee offered should be for the whole equipment and separate guarantees offered by the manufacturer of individual components not acceptable	<input type="checkbox"/> Agreed <input type="checkbox"/> Disagreed	
18	The equipment should be commissioned at FACT Cochin Division Site free of cost.	<input type="checkbox"/> Agreed <input type="checkbox"/> Disagreed	
19	Our representative or authorized third party should have access to the manufacturer's works, during execution of the order, for inspection purposes and all necessary assistance shall be extended to him. The equipment shall be shipped only after pre-despatch inspection by FACT(CD) / authorized representative of FACT(CD).	<input type="checkbox"/> Agreed <input type="checkbox"/> Disagreed	
<div style="text-align: right;">Name,Signature & Stamp of Vendor</div>			



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PRE-QUALIFICATION CRITERIA (PQC) FOR BIDDERS OF FRONT END WHEEL LOADER			
Sl.No.	Criteria	Documents to be uploaded along with the quotations to prove the criteria in the column at left	Particulars of documents uploaded (to be filled by the bidder)
1	The bidder should be the OEM / Authorized Supplier / Distributor of Front End Wheel Loader. The OEM, directly or through their Authorized Supplier / Distributor should have manufactured/supplied and commissioned at least 3 Nos. Front End Wheel Loaders, powered by indigenous water cooled diesel engine and fitted power shift transmission with mechanical gear selection control, during last 5 years ending 31.03.2024. (Transmission fitted with Electrical / Electronic / Microprocessor gear selection controls are not acceptable and will not be considered for evaluation).	Self-attested copies of Purchase Orders, Invoices and dispatch details. If the bidder is a supplier / distributor, Self-attested copy of Authorization letter from the OEM & copy of purchase orders, Invoices and dispatch details.	
2	At least one number of the offered Model supplied as per Sl. No (1) above should be in operation rendering satisfactory performance in India for at least 2 years in the above period of 5 years.	Certificate(s) for satisfactory performance of the offered Model from the end users including State / Central Govt. Undertakings, if any, shall be submitted	
3	Bidder should give assurance on local service support and spares parts availability at least for 10 years.	Self-declaration.	
4	The Bidder should have adequate in-house testing facilities for conducting performance/ acceptance test in accordance with the relevant specifications. In case of Authorised Supplier/ Distributor, their OEM should possess the in-house testing facility.	Self-declaration.	
	a) Average annual turnover of the bidder for the last three financial years ending on 31- 03-2024 shall be at least Rs. 120/- Lakhs or above and b) Annual turnover for each year shall be at least Rs. 18 /- lakhs or above during the last three financial years ending on 31-03-2024	Self-attested copies of audited financial statements (Profit & Loss Account and Balance Sheet) for the last three financial years ending on 31-03-2024	
	NOTE:		
	1. All relevant documents for satisfying the pre-qualification criteria shall be enclosed in the techno-commercial bid, without which the offer is liable to be rejected without seeking further clarifications. FACT shall have the liberty to verify the documents/data submitted by the vendor as proof for meeting the pre-qualification		
	2. Copies of the documents submitted in proof of meeting PQ criteria shall be duly attested by the Bidder. The vendor has to submit the documents in proper order like Purchase Orders, Invoices / dispatch documents, Performance certificate.		

COMPLIANCE STATEMENT

Sl. No.	Terms	Bidder confirmation
1	Offers shall be as per the TPS provided.	
2	GUARANTEE: The material under order shall be guaranteed for a minimum period of 18 months or 3000 hrs of operation from the date of commissioning whichever is earlier.	
3	Pre-despatch Inspection Certificate, Performance Test certificate of major components & Guarantee Certificate etc. are to be furnished along with the supply.	
4	Three hard copies of the Care and Operation Manual, Service Manual, Shop Manual, and Spare Parts Catalogue should be supplied free of charge along with one soft copy in PDF format.	
5	Vendor shall quote for the mandatory spares mentioned in the Annexure-A as per TPS.	
6	Vendor shall submit separate pricelist for the essential spares mentioned in the Annexure-A as per TPS, along with the offer.	
7	Please mention shortest possible delivery period.	
8	Please confirm : Price Basis – FOR FACT Stores (as per Gem T & C)	
9	Please confirm : Taxes and Duties - The Price offered in GEM is all inclusive of TAX. (as per Gem T & C)	
10	Please confirm : Payment Terms : 100% payment will be released within 10 days of the issue of consignee receipt-cum-acceptance certificate (CRAC) and on-line submission of bills as per GEM terms and conditions. (as per Gem T & C)	
11	Please confirm : Liquidated Damages: As per GeM – “@ 0.5% of the contract value of delayed quantity per week or part of the week of delayed period as pre-estimated damages not exceeding 10% of the contract value of delayed quantity without any controversy/dispute of any sort whatsoever”(as per GeM T & C)	

Note : All the above columns shall be filled properly, without leaving blanks. Please upload / return this document duly filled-in, along with your bid.

PRE DESPATCH INSPECTION (PDI) FOR PAY LOADER

The equipment shall be shipped only after pre-dispatch inspection (PDI) by FACT (CD) / authorized representative of FACT (CD). The Scope of pre- despatch inspection includes, but not limited to

1. VISUAL INSPECTION AND DIMENSIONAL VERIFICATION

- a) Inspect the machine for any physical damage, dents, scratches, or missing components.
- b) Inspect the loader arms, bucket, and hydraulic cylinders for cracks, wear, or damage.
- c) Check paintwork, decals, and branding for proper application and quality.
- d) Verify that all safety labels and warning stickers are in place and legible.
- e) Check all the dimensions according to the TPS.

2. ENGINE AND POWERTRAIN

- a) Inspect the engine for oil leaks, coolant leaks, and proper fluid levels.
- b) Verify the air filter is clean and properly installed.
- c) Test the functionality of the transmission, including gear shifting and smooth operation.
- d) Check the cooling system, including radiator and fan, for proper operation.

3. HYDRAULIC SYSTEM

- a) Inspect hoses, connections, and cylinders for leaks, damage, or wear.
- b) Test hydraulic pressure and ensure smooth operation of loader arms and bucket.
- c) Verify proper fluid levels in the hydraulic reservoir.

4. ELECTRICAL SYSTEM

- a) Inspect wiring harnesses for damage, loose connections, or exposed wires.
- b) Verify the operation of lights, indicators, and warning alarms.
- c) Test the battery and charging system for proper voltage.

5. OPERATOR'S CABIN AND CONTROLS

- a) Ensure the seat, seatbelt, and controls are in good condition and properly secured.
- b) Test all switches, levers, and controls for proper functionality.
- c) Check visibility through windows and mirrors; clean if necessary.

6. TIRES AND UNDERCARRIAGES

- a) Inspect tires for wear, damage, and proper inflation.
- b) Check the undercarriage for debris, damage, or loose components.
- c) Verify wheel alignment and torque on lug nuts.

7. OPERATIONAL TESTS

- a) Start the machine and let it run to operating temperature.
- b) Test the steering, brakes, and parking brake for responsiveness.
- c) Operate the loader arms and bucket with and without load to ensure smooth, precise movement.
- d) Check for unusual noises or vibrations during operation.

8. DOCUMENTATION AND ACCESSORIES

- a) Verify the presence of all required manuals, warranty cards, and documentation.
- b) Ensure all tools, spare parts, and accessories are included.
- c) Record serial numbers and inspection results for tracking purposes.

9. SAFETY AND COMPLIANCE

- a) Confirm the machine meets relevant regulatory and safety standards.
- b) Perform a final review to ensure no hazards or issues are overlooked.



**SPECIAL CONDITIONS FOR TENDER MM/172/G30556 FOR FRONT END WHEEL
LOADER**

- 1] GUARANTEE: The material under order shall be guaranteed for a minimum period of 18 months or 3500 hrs of operation from the date of commissioning whichever is earlier.
- 2] Pre-despatch Inspection Certificate, Performance Test certificate of major components & Guarantee Certificate etc. are to be furnished along with the supply.
- 3] Three hard copies of the Care and Operation Manual, Service Manual, Shop Manual, and Spare Parts Catalogue should be supplied free of charge along with one soft copy in PDF format.
- 4] Vendor shall quote for the mandatory spares mentioned in the Annexure-A as per TPS.
- 5] Vendor shall submit separate pricelist for the essential spares mentioned in the Annexure-A as per TPS, along with the offer.



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EQUIPMENT DATA SHEET

TPS No. FACT-CD-MECH-HE-PAYLOADER-2024.

A) Equipment : FRONT END WHEEL LOADER

B) General Specifications of Equipment :

1. Bucket Capacity : 1.7 to 2 m³
2. Duty : Handling of End Product (NP20: 20), Charging / Scooping of Sulphur, Rock Phosphate etc.
{ Bulk density of the material to be handled:
NP 20:20 (FACTAMFOS: 0.9 gm/cc, Sulphur:1.35 to 1.44 gm/cc Rock phosphate:1.55gm/cc}.
3. Overall length : Not more than 6900 MM
4. Dump height : Not less than 3600 MM
5. Overall width : Not more than 2600 MM

9. Engine:

Suitable Indigenous Diesel Engine of required HP conforming to latest pollution standards. Engine shall be fitted with Water cooled radiator and the radiator shall be of suitable material of construction to effectively withstand corrosion due to hygroscopic material such as NP 20:20/ Sulphur / Rock Phosphate, GYPSUM Etc.

10. Cabin:

Ergonomically designed cabin and control layout for easy operation and To reduce operator fatigue. Adjustable cushion seat is to be provided All meters, gauges, warning lamps are to be provided in the cabin. Cabin shall be provided with adequate protection to protect the operator from falling material. The cabin should be mounted on the rear frame of the Equipment.

11. Tyres:

The equipment shall be fitted with standard size and should be available indigenously.

12. Brake System:

The equipment should preferably have an internal wet-type brake system and independent mechanical parking brakes. A caliper-type brake system is not required.

13. Power Train:

Equipment shall be fitted with Power Shift Transmission (preferably indigenous) with Planetary Gearbox and mechanical lever control for selecting speed range and four wheels Drive.

14. Steering System :

Center point frame articulation steering system. Preferably Orbitrol Control Hydraulic system.

15. Rear frame:

The rear frame shall be mounted so as to oscillate sufficiently on either side of the longitudinal axis, enabling the loader to be used on rough terrain and on unprepared ground.

GENERAL CONDITIONS (I)

I. The following data should be forwarded along with the quotation.

1. Engine: Details of engine shall be furnished as given below.

Make of engine	:
Type of Engine	:
Gross HP	:
No. of cylinders	:
Bore and stroke	:
Piston displacement	:
Maximum torque	:
Lube oil data	:
Fuel specification	:
Maximum RPM	:
Governor type	:
Engine cooling	:

2. Radiator details for water cooled engine:

Specify the type of radiator, construction details, and any special features designed to withstand the corrosive atmosphere caused by NP 20:20, Sulphur, or Rock Phosphate.

3. Tyres: Specification of the Tyres used, Ply Rating etc. are to be provided along with the offer.

4. Service capacities: Fuel tank capacity, oil pump capacity, hydraulic tank capacity etc., to be furnished.

5. Accessories: Tool box, battery and other accessories required for (Standard & optional) the efficient operation and maintenance of the Loader to be included. A list of such items to be furnished.

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|--|---|
| 6. Fuel consumption / hour for normal operation | : |
| 7. Hydraulic oil capacity | : |
| 8. Quantity for one change of hydraulic oil | : |
| 9. Periodicity of replacement of hydraulic oil | : |
| 10. Lube Oil capacity and Periodically of change of Lube oil | : |
| 11. Recommended hours of operation per day of the equipment | : |

12. Estimated operating cost of the Equipment per hour :

13. The following operating data to be furnished

- a. Bucket capacity :
- b. Dump height :
- c. Dump reach :
- d. Operation weight :
- e. Length of the equipment :
- f. Height of the equipment :
- g. Bucket width :
- h. Equipment width :
- i. Ground clearance :

14. Complete technical details and features of the following main/ sub-assemblies Should be furnished.

- i. Transmission :
- ii. Axles :
- iii. Steering :
- iv. Brake system :
- v. Tyre and rims :
- vi. Electrics :
- vii. Bucket :

GENERAL CONDITIONS (II):

1. The equipment shall be complete with all the necessary auxiliaries / safety provisions required for efficient and trouble free operations.
 2. Necessary drawings / technical brochures of equipment / sub assemblies shall be sent along with the quotation.
 3. Normal working conditions may be taken as dusty and all the electrical gadgets to be suitably covered and protected.
 4. The spares required for normal trouble free operation of two years (as per the Annexure A are to be quoted along with the Equipment.
 5. All lubrication points shall be provided with nipples / cups complying with the relevant standards.
 6. The equipment shall be painted with anti-corrosive primer and epoxy, and the details of the paint used shall be provided.
 7. The equipment with all accessories shall be guaranteed for trouble free operation for a minimum of eighteen months or 3500 hours of operation from the date of commissioning.
 8. Three hard copies of the Care and Operation Manual, Shop Manual, and Spare Parts Catalogue should be supplied free of charge along with one soft copy in PDF format.
 9. Guarantee offered should be for the whole equipment and separate guarantees offered by the manufacturer of individual components not acceptable.
 10. The equipment should be commissioned at FACT Cochin Division Site and technical training has to be arranged for operation/maintenance crews, free of cost.
 11. Equipment shall be supplied with the required oil except diesel. Only topping up of oil shall be arranged at our end. The vendor shall state the recommended grades of lubricants / oils, frequency of lubricant changes and the quantity of initial fill.
 12. Tool kit containing all the special tools required for maintenance should be supplied along with the equipment, free of cost (list of tools shall be indicated in the offer).
 13. Our representative or authorized third party should have access to the manufacturer's works, during execution of the order, for inspection purposes and all necessary assistance shall be extended to him. The equipment shall be shipped only after pre-dispatch inspection by FACT (CD) / authorized representative of FACT (CD).
 14. Performance test certificates of major components like engine, pumps, motors etc. are to be submitted along with the supply.
 15. Particulars of service centers for supply of spares and service assistance (for the equipment / sub assemblies) to be indicated.
 16. Vendor shall indicate details of the population of similar machines presently in operation including name of organization, contact person etc.
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A hand-drawn diagram of a cell. It consists of a large, irregular oval outline representing the cell membrane. Inside this oval, there is a smaller, roughly circular structure representing the nucleus. Within the nucleus, there is a small, dense, dark dot representing the nucleolus. A few small dots are scattered in the cytoplasm area between the nucleus and the cell membrane.

Mandatory Spares:

- ### Essential Spares:

- $\frac{m \sin \theta}{m \cos \theta} = \tan \theta$