

# RAJKOT MUNICIPAL CORPORATION

Central Workshop, Opp. Sitaram Weigh Bridge,  
Bhavnagar Road, Rajkot-360003



E-TENDER No. RMC/FIRE & EMERGENCY/01/2024-25

## E-TENDER TECHNICAL BID FOR

TO DESIGN, MANUFACTURE, SUPPLY AND DELIVERY OF WATER BOWSER ON SUITABLE CHASSIS AS PER TECHNICAL SPECIFICATION.

### MILESTONE DATES

Tender available on web site	26/11/2024 To 10/12/2024 up to 18.00 Hours
Last Date & Time for a Query (submitted by E- mail )	03/12/2024 up to 18.00 Hours Send Query on Mail id:- jlshingal@rmc.gov.in
Last Date & Time for downloading the Tender Document	10/12/2024 Upto 18.00 Hours IST
Last date & Time for Online submission of tender	10/12/2024 Upto 18.00 Hours IST
Physical submission of EMD, Tender Fee etc.	Upto 17/12/2024 during office hours. (Through Reg. AD or Speed Post only)
Online Opening of Technical Bid	18/12/2024 at 12.00 Hours IST onwards (If Possible)
Online Opening of Price Bid of the Evaluated Tender	23/12/2024 at 12.00 Hours IST onwards (If Possible)

**2024-25**

**Deputy Commissioner (East Zone)  
RAJKOT MUNICIPAL CORPORATION  
RAJKOT - (Gujarat)**

# I N D E X

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RAJKOT MUNICIPAL CORPORATION

CHAPTER – 1

Tender Notice

Online e-tenders with two bid system are invited for **To Design, Manufacture, Supply and Delivery of Water Bowser on suitable chassis as per Technical specification.** " from reputed qualified manufacturers only who have qualifications –

**Eligibility criteria:**

1. Registration with SSI or Director of Industries.
2. Bidder must have valid GST registration.
3. The bidder must have achieved a minimum Annual Turnover in one year of last seven year Amount of Rs 450 Lac Separate Chartered Accountant's certificate shall be attached along with the Bid.
4. Experience as a manufacturer of this kind of Fire Water Tender /Water/foam Browser of with CE certified / UL Listed / BIS marked pump, minimum value of 180 Lacs in any one work of last seven years in single contract for Govt. or Semi Govt. Organization. Performance certificates along with its PO/WO from competitive authorities.
5. OEM authorization certificate of chassis, pumps, Pto, water/foam monitor for this tender.
6. Working Capital must not be less than Rs.112.5 Lacs. submit Separate Chartered Accountant's certificate.

**Note:**

Enhancement factor at 10 % per year for last seven years will be applicable to arrive finalize the magnitude of work done in last seven years.

7. The Bidder must have to submit affidavit over Non judicial stamp paper of Rs.300 for

A) I/We here by Declare that I/We am/are not partner(s) Black Listed /Terminated/Debarred or Concerned with Firm Black listed in any States, CPWD/MES/Railways or any Government ,Semi Government, Autonomous body or Private Body. Also no Complaint is lodged against the Firm Company

B) We, The Partners /Owners of this firm, Hereby give an undertaking that we are jointly and severally responsible to meet all the liabilities ever and above the business of this firm and make good the above financial loss sustained by the Rajkot Municipal Corporation as a result of our abandoning the Works entrusted to us.

C) Documents submitted by us are correct and genuine in every manner.

e-Tender No	Item	Qty. in Nos.	Est. cost in Rs. (Inclusive all taxes)	EMD at in Rs.	Tender Fee in Rs. (Non refundable)
RMC/FIRE & EMERGENCY/01/2024-25	To Design, Manufacture, Supply and Delivery of Water Bowser on suitable chassis as per Technical specification	5 Nos.	4,50,00,000/-	4,50,000/-	7500/-

An Earnest Money Deposit of Rs. 4,50,000/- in form of Demand draft/NEFT/RTGS/on line transfer /Bank Guarantee (ICICI)

Signature valid

Signed by: Swapnil Khare  
Dy Municipal Commissioner  
Date: 2024-11-18 19:46:16  
+05:30

File No: RMC/MIS/e-file/344/2024/2534/Workshop

Approved By: Dy Municipal Commissioner, General Admin, RMC

Open the document in Adobe Acrobat DC to verify the E-sign



Letter No: RMC/0446/11/2024 Approved Date: 18-11-2024

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Bank A/c No-015305010638,IFSC Code-ICIC0000153, Branch -Jai hind press) and Tender fee of Rs.7,500/- (Non-refundable) in form of Demand Draft in favour of Commissioner, RAJKOT MUNICIPAL CORPORATION, Rajkot, of any Nationalized or Schedule Bank located at Rajkot shall accompany on AS per milestone date during office hours at Central Workshop, Rajkot Municipal Corporation, Bhavnagar Road, Rajkot-360003.All qualification's documents with sign and stamp must be upload online.

Tender will be submitted online through e-tendering up to 18.00 hours IST on dateXX-XX-XXXX and e-tendered Technical Bid will be opened on Date XX-XX-XXXX at 12.00 Hours IST on web site<http://www.nprocure.com>

Municipal Commissioner, Rajkot Municipal Corporation, Rajkot, reserves the right to accept or reject any or all tender(s) without assigning any reason thereof.

**Deputy Commissioner  
(East Zone)  
RAJKOT MUNICIPAL CORPORATION**

**Signature valid**

Signed by: Swapnil Khare  
Dy Municipal Commissioner  
Date: 2024-11-18 19:46:16  
+05:30

File No: RMC/MIS/e-file/344/2024/2534/Workshop

Approved By: Dy Municipal Commissioner,General Admin,RMC

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**EMD SCHEDULE**

Earnest Money Deposit :- Rs. 4,50,000/-/-

An Earnest Money Deposit of Rs. 4,50,000/- in form of Demand draft/NEFT/RTGS/on line transfer /Bank Guarantee (ICICI Bank A/c No-015305010638, IFSC Code-ICIC0000153, Branch -Jai hind press) and Tender fee of Rs.7,500/- (Non-refundable) in form of Demand Draft in favour of Commissioner, RAJKOT MUNICIPAL CORPORATION, Rajkot, of any Nationalized or Schedule Bank located at Rajkot shall accompany on AS per milestone date during office hours at Central Workshop, Rajkot Municipal Corporation, Bhavnagar Road, Rajkot-360003.

Tender Fee :- 7500/- (Non-refundable)

**:: DETAILS TO BE FILLED BY TENDERER ::**

Name of e-Tenderer : \_\_\_\_\_

Address of e-Tenderer : \_\_\_\_\_  
\_\_\_\_\_

Nature of Business : \_\_\_\_\_

**:: DETAILS OF E.M.D.::**

Name of Bank & Branch : \_\_\_\_\_

D.D. No. & Date : \_\_\_\_\_

Amount in Rupees : \_\_\_\_\_

**Sign of e-Tenderer.**

**TENDER SCHEDULE**

e-Tender No	Item	Qty. in Nos.	Est. cost in Rs.	EMD at in Rs.	Tender Fee in Rs. (Non refundable)
RMC/FIRE & EMERGENCY /01/2024-25	To Design, Manufacture, Supply and Delivery of Water Bowser on suitable chassis as per Technical specification	5 Nos.	4,50,00,000/-	4,50,000/-	7500/-

## **:: General Terms And Conditions For Contract ::**

### **1. 1. Definitions**

Unless repugnant to the subject or context thereof, the following expressions herein used shall carry the meaning hereunder respectively assigned to each, namely:

- a. **Approved / Approval** means approved in writing.
- b. **Contract** means the contract entered between RMC and Supplier and as derived from tender documents, agreed variations to the tender documents, supplier's Price Bid and the Purchase Order.
- c. **Contract Document(s)** means individually and collectively the documents constituting the contract.
- d. **Contract Price** means the price payable to the Supplier as specified in the Contract, subject to such additions and adjustments thereto or deductions there from, as may be made pursuant to the Contract
- e. **Day** means calendar day
- f. **Indenter / Employer / Owner / Purchaser** means Rajkot Municipal Corporation / RMC and includes its legal successor.
- g. **Inspectors** means Inspectors nominated, appointed, approved or deputed by RMC for inspection of the goods / stores / material(s)
- h. **IS** means Indian Standards, prescribed by the Bureau of Indian Standards(BIS)
- i. **UL** means Underwriter Laboratories, UL provides safety-related certification, validation, testing, inspection, auditing, advising and training services to a wide range of clients, including manufacturers, retailers, policymakers, regulators, service companies, and consumers.
- j. **CE** means European Conformity, The CE marking is the manufacturer's declaration that the product meets the requirements of the applicable EC Directives.
- k. **Goods / Stores / Material(s)** means any and all raw materials, manufactured articles, equipment, spares and other goods and supplies whatsoever and includes wherever applicable drawings, data, specifications and intellectual property rights and all services (including but not limited to design, fabrication, inspection, delivery and testing) required to be supplied, done, performed, prepared or undertaken to meet the requirements of the Contract.
- l. **Project Management Consultants** means the representative or agency appointed by RMC for managing, coordinating the supply of goods / stores / expediting and / or material(s).
- k. **Purchase Order** means RMC's acceptance of the Supplier's offer / bid and includes any formal or detailed Purchase Order issued by RMC pursuant to the acceptance of the tender.
- l. **Delivery Period** means the date(s) for delivery of the goods / stores / material(s) as stipulated in the Contract and failing such stipulation, shall mean the date(s) for such delivery(ies) as agreed between the Supplier and RMC
- m. **Tender Documents** with reference to the Purchase Order means the instruction & information, general rules and direction for bidders, general terms and conditions of purchase, specification, drawings , the schedules of quantities and tender prices, the formal agreement, special conditions of purchase and all addenda (including corrigendum if any) and attachments related to the above

- n. **Services** means services ancillary to the supply of the material(s), such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training and other obligations of the Supplier covered under the Contract
- o. **Supplier** means the particular person, firm or Company or Group of firms or Companies or his designated representative to whom the Purchase Order is placed for supplying the goods / stores / material(s) and services under this Contract and includes his legal successors.
- p. **Contract Value** means total value of the goods / stores / material(s) & services to be supplied as specified in the Purchase Order.
2. Prices should be written clearly in Figure and in Words proper space in "Price Schedule" of e-tender Price Bid of the online only.
3. Quoted price should be inclusive of all duties like, royalties, octroi, costs, fees, To & Fro, Transportation charges, Transits Insurance, One year full comprehensive insurance, Entry Taxes, other applicable levies, TPI charges RTO passing charges and F.O.R. at RAJKOT MUNICIPAL CORPORATION, RAJKOT-360 003 and exclusive of GST.
4. An Earnest Money Deposit of Rs.4,50,000/- and Tender fee of Rs.7500/- (Non-refundable) in form of Demand Draft and as per tender notice in favour of " Commissioner, RAJKOT MUNICIPAL CORPORATION", RAJKOT, of any Nationalized or Schedule Bank located at RAJKOT shall accompany on **XX-XX-XXXX** to **XX-XX-XXXX** during office hours. Without E.M.D. and tender fee, e-tender will be rejected.
5. The award of contract will normally be made within 120 days after the date of opening e-Tender Price Bid.
6. e-Tender will be submitted online through e-tendering upto 18.00 hours IST on date **XX-XX-XXXX** and e-tendered Technical Bid will be opened on Date:**XX-XX-XXXX** at 12.00 Hours IST on web site <http://www.rmc.nprocure.com>
7. e-Tenderer should have to offer the firm prices in e-tender Price Bid (online) for the prescribed item as per given in Technical Specification. Offer for the other item will not be considered and tender will be rejected.
8. **e-Tenderer shall have to submit the qualification document with sign and stamp online as per milestone date.**
1. Registration with SSI or Director of Industries.
  2. Bidder must have valid GST registration.
  3. The bidder must have submit Separate Chartered Accountant's certificate of turnover last seven year.
  4. Performance certificates for experience along with its PO/WO from competitive authorities.
  5. The bidder must have submit Separate Chartered Accountant's certificate of Working Capital.
  6. OEM authorization certificate of chassis, pumps, Pto, water/foam monitor.
  7. The Bidder must have to submit affidavit over Non judicial stamp paper of Rs.300 for Non blacklisted.
  8. Tender Bond Letter fill up and sign and stamp (Here given as per format in pricebid)
  9. Back-up Guarantee of Manufacturer for Parts and service of pump and PTO.
  10. Fill up properly Technical data sheet with sign and stamp.
- If any document not submit online above list then bidder will be disqualify.**
9. Successful e-tenderer shall have to pay the Security Deposit @ 5% of Contract Value in form of Fixed Deposit Receipt or Bank Guarantee of any Nationalized or as per Bank list of Finance department GR given here with last page in technical bid, for a period of 22(Twenty Two) months in the name of "**Municipal Commissioner, Rajkot Municipal Corporation,**" Rajkot, and shall have to enter into an agreement on a stamp paper as per rules security deposit amount must be submitted, and if the contractor fails to submit the agreement deed with appropriate stamp paper in the stipulated time



limit, the E.M.D. for this contract will be forfeited and the contractor will be black listed for this work of RMC. This will be returned only after successful completion of warranty period.

If the contract price offered by the selected bidder is lower than 10% but up to 20% of the estimated project cost then the additional performance security shall be calculated @20% of the difference in the estimated project cost - 10% of the estimated project cost and contract price offered by the selected bidder.

If the contract price offered by the selected bidder is lower than 20% of the estimated project cost then the additional performance security shall be calculated @30% of the difference in the estimated project cost - 10% of the estimated project cost and contract price offered by the selected bidder.

10. E-Tenderer shall have to complete contract within 210 days after getting work order, otherwise penalty will be charged as per norms of Rajkot Municipal Corporation

### **11. Terms of Payment**

The payment shall be made to the Supplier as under:

100% of the invoice amount will be paid within approx 60 days of the delivery of the goods at the destination in good condition (after due testing and acceptance by RMC or third party inspection agency assigned by RMC) and submission of the necessary documents. The payment of the bill shall be made after deducting RMC/Government dues, if any Payment shall be made in Indian Rupees

- 12 Insurance shall be the responsibility of e-Tenderer. E-Tenderer shall provide coverage for all items against transits risk, Accident to acquisition, Transport delivery upto destination and accident in trial and testing.

### **13 Inspection will be carried out by Third Party Inspecting Agency.**

a) Preliminary inspection will be carried out by TPI Agency in presence of RMC Engineer at works or factory site before dispatching the machine/vehicle and required stage as per instruction of in-charge engineer. Pump inspection carried out at pump manufacturer site.

b) Final inspection will be carried out at Rajkot Municipal Corporation by TPI Agency in presence of RMC Engineer after reaching the equipment/machine at Rajkot Municipal Corporation during testing and trial period.

c) For pre Inspection of the equipment / machinery/ vehicle the party should give an official call / offer letter / intimation in writing to the RMC before 10 days.

d) Price quoted should be inclusive of TPI charges(0.45% +Applicable Taxes approx or whatever charge by TPI). To & Fro. Travelling with stay charges for two persons. Inspection charges will be borne by the contractor. Third Party inspection agency nominated by RMC.

- 14 Any modification or any changes in work or technical specifications done by RMC's Engineer-In-Charge or Third Party Inspecting Agency and e-tenderer have to follow these changes without any dispute and argument. (No extra cost will be given for the modifications or changes).
15. E-Tenderer have to furnish all Drawings and Authorised Certificates of dealership and Xerox copies of bills of materials those are required and demanded by Engineer-in-charge of RAJKOT MUNICIPAL CORPORATION or Third Party Inspecting Agency.
16. e-Tenderer should have to fill up price of whole equipment with clearly in e-Price Bid (online) of e-tender (Exclusive of GST, GST will paid extra as per actual apply).

**17. Taxes:**

Successful bidder has to submit Invoice for payment and The Invoice should compliance with GST ACT -2017. If the firm is exempted from the payment of GST the certificate for the same should be attached. All the transit losses and breakage shall be suppliers risk and cost. Rajkot Municipal Corporations GST No. is 24AAALR0138G1ZD.

**18. Unit of rate:**

The unit of rate shall be on number basis.

**19. Tender offer validity period**

The Tender offer for the work shall be valid for a period not less than One Hundred and Twenty (120) days from the date of opening of the Price Bid. The same may be extended by the Bidder for a further period of One Hundred and Twenty, if required by RMC. The bidder shall not be allowed to withdraw or modify the offer on his own during this period. If any bidder withdraws or make any modification or additions in the terms and conditions and tender validity period of his tender offer is not acceptable to the RMC, then the RMC shall without prejudice to any right or remedy, be at liberty to forfeit in full, the said EMD absolutely.

The request and response shall be made in writing or by tele-fax and email. If a Bidder accepts to extend the period of validity, the validity of EMD shall also be extended accordingly. In case of refusal by Bidder for extension of validity period his EMD shall be returned. Any Bidder granting the request of extension of offer validity period will not be permitted to modify his / their Bid.

**20. Price Prefence:**

No price preference will be given to SSI units or Khadi Gramudhyog Units.

**21. Jurisdiction:**

In the event of any dispute or difference arising out of this e-tender / contract, the jurisdiction of the Court shall be RAJKOT (Gujarat) only. While executing the agreement, the supplier shall be governed at all times by all laws, regulations etc., in force in Gujarat State.

**22. Dispute:**

In the event of any problem, dispute or difference arising out of or under this contract, the decision of the Municipal Commissioner, RAJKOT MUNICIPAL CORPORATION, RAJKOT, will be final and binding to the parties to this contract.

**23. Non-Blacklisting Bond:**

The manufacturer has to furnish the undertaking on the non-judicial stamp paper of Rs.300/- duly Notarized regarding his firm is not black listed in anywhere in India at the time of e-tendering. This undertaking should be submitted online submission of Qualification documents.

**24.** Conditional offer will not be accepted and same will be treated as non-responsive.

**25. Liquidated Damages:**

In the event of the failure of the supplier to offer the machines for inspection under the supply order in the stipulated time limit and also in case of the said material not reaching at the destination in the time limit as stipulated in clause 10 above. RAJKOT MUNICIPAL CORPORATION will charge liquidated damages Rs.3000 per vehicle per day subject to maximum of 10% of the total order value shall be charged. The Rajkot municipal corporation also reserves right to cancel the order in such case. The part shall supplied on as and when requirement basic within the specified period mentioned failing which a penalty up to maximum 10% of the order value will be charged and deducted from the pending bills/deposits of the tenderer.

**26. E-TENDER AGREEMENT:**

The e-tenderer shall be required to enter into an agreement for due performance of the contract. The stamp duty on all documents to be executed in connection with this contract to be entered into shall be borne by supplier. The security deposit (SD) in form of FDR / Bank Guarantee shall be deposited for

required value. The contract agreement will have to be executed on a stamp paper of appropriate value as per value orders in force for the time being.

- i. EMD of the first lowest firm/company will be forfeited if they fail to enter into agreement within prescribed time limit for entering into agreement.

#### 27. Guarantee/Warranty:

The supplier at the time of entering into contract shall give a guarantee/Warranty against technical and manufacturing defects in materials supplied and free replacement of defective materials at his own cost up to a period of 12 months from the date of receipt of material.

#### 28. Extension for delay:-

If the supply is delayed by (1) Force Majeure, (2) Serious loss or damage by fire, (3) Strike, Bandh, Curfew, Rally, Heavy rains, Flood, Cyclone, Earthquake or Natural Calamities occurs, (4) Electricity staggering, (5) Any other case, which is beyond the control of contractor. Municipal Commissioner will decide period of delay extension.

#### 29. Acceptance of Tender

The tender is liable for rejection due to any of the reasons mentioned below:

1. Non-Submission of tender within stipulated time.
2. Non submission of any qualification document and not qualify pre qualification criteria.
3. The envelopes are not superscripted with details of the tender enquiry and part enclosed.
4. Non-payment of Earnest Money Deposit and tender fee.
5. Non-submission of required documents.
6. Conditional and / or vague offers
7. Unsatisfactory past performance of the bidder.
8. Rates have been shown elsewhere than **ONLINE Price Bid**
9. Items with major changes / deviations in the specifications / standard / grade / packing /quality are offered in **Technical Bid**.
10. Offering a cheaper accessory not approved / recommended by the manufacturer.
11. Offering an accessory as optional even though it is required to operate the instrument.
12. Submission of misleading / contradictory / false statement or information and fabricated / invalid documents.
13. Tenders not filled up properly
14. Non-submission of Charter Accountant Certificates.

#### 30 Future Requirement:-

As of now we have requirement of afore said quantity, but if we have further requirement of this equipment/machine in next 12 month, agency has to supply the same at the approved rate, if there are any changes in taxation same will be paid extra to agency, agency has to provide necessary supporting documents for the same.

#### 31 Clarification of bidding document:

A prospective bidder requiring any clarification of the bidding documents may notify the RMC in writing at [jshingala@rmc.gov.in](mailto:jshingala@rmc.gov.in) As per Milestone date. Any Query or Demands after that date will not be considered.

Municipal Commissioner, RAJKOT MUNICIPAL CORPORATION, RAJKOT, reserves the right to accept or reject any or all the e-tender(s) without assigning any reasons thereof.

32. E-Technical Bid will be opened online on Date As per Milestone date And after evaluation of e-Technical Bid, e-Price Bid will be opened only of those e-tenderers who will be qualified in e-Technical Bid evaluation. Date of opening of e-Price bid will be As per milestone date, only of those e-tenderers who will be qualified in e-technical bid evaluation.

#### 33. Training:

Post-delivery, supplier shall have to train personnel nominated by purchaser for on free of cost basis. Training held at manufacturing site or at Rajkot Municipal corporation site,

**Deputy Commissioner**

**(East Zone)**

**RAJKOT MUNICIPAL CORPORATION**

Signature valid

Signed by: Swapnil Khare  
Dy Municipal Commissioner  
Date: 2024-11-18 19:46:17  
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File No: RMC/MIS/e-file/344/2024/2534/Workshop

Approved By: Dy Municipal Commissioner, General Admin, RMC

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### **SPECIAL CONDITIONS OF CONTRACT**

1. It will be the responsibility of the tenderer to order, payment and collect the chassis from the regional sales office of the manufacturer or their authorized dealer and transport the same to their workshop. Any charges applicable for the same shall be included in the quoted price of tender.
2. It will be the responsibility of the tenderer to deliver the vehicle after the completion of the fabrication of the equipment to RMC, RAJKOT.
3. The prices for the equipment shall be inclusive of all duties mainly, Entry tax, Transit insurance, Transportation charges, One year full comprehensive Insurance, R.T.O. registration charges, TPI charges, incidental and other expenses, extra fitment, etc,.
4. After satisfactory inspection & testing of water Tender, done by RMC's Engineers or third party inspection agency at your works, successful tenderer should be responsible for supply & delivery of water Tender from works to Rajkot Municipal Corporation, Rajkot, Gujarat at his risk and expenses like e.g. temporary R.T.O. passing, transportation, drivers, diesel, Road insurance for R.T.O. Registration etc.
5. R.T.O. registration of vehicle will be done by tenderer. Successful bidder must provide body builder certificate, Form No.-22, 22-A and all other necessary documents required for R.T.O. registration at Rajkot. All the procedure for the registration with the RTO, RAJKOT should be done by tenderer, whenever & wherever sign & seal required of Municipal Corporation of Rajkot will be done by authorized person of R.M.C.

**Sign of e-Tenderer.**

**CHAPTER - 6**  
**TECHNICAL SPECIFICATIONS AND TERMS**

**Name of work:-** To Design, Manufacture, Supply and Delivery of Water Bowser on suitable chassis as per Technical specification

**Tender No:-** RMC/FIRE & EMERGENCY/01/2024-25

**1. CHASSIS**

The Water Bouser shall be fabricated on a suitable Min. 18,500 kg GVW – BS-VI brand new CABIN CHASSIS with Min. 145 KW Engine having Max Torque 700 Nm @ 1200-1900 rpm of reputed manufacturer. Drag hook or eye of adequate strength and design shall be provided at the rear & front of chassis by the vendor. The chassis shall be as per the latest CMVR prevailing norms. The bidder should offer a complete package including the cost of the chassis.

Wheel Base	: 4300 mm to 4700mm
Engine Power(Min.)	: 145 kW @ rpm
Maximum Torque, Nm	: 700 Nm @ 1200 - 1900 rpm
Gross Vehicle Weight GVW	: 18500

**The Bidder must submit OEM Authority Letter mentioning the tender reference number confirming the above specifications as mentioned above.**

**2. GENERAL**

The WATER BOUSER including all its accessories & equipment's is required for the Department. It shall be designed & manufactured in strict compliance with the specifications given below, as well as other relevant Indian/International standards where applicable & as per sound engineering practices. The WATER BOUSER shall be designed to effectively & efficiently carry 9000 Liters of Water a Godiva/ Rosenbauer/ Firefly/ Sides/ Oshkosh or equivalent (CE certified/UL listed) pump with a discharge capacity of 3000 LPM at 10 kg/cm<sup>2</sup> and 250 LPM at 40 kg/cm<sup>2</sup> driven through heavy duty Power Take Off (PTO) units, a Water Monitor of approximately 1000 GPM (3800 LPM) equipment, etc. All the equipment's & accessories shall be fixed on the appliance in a compact, neat & ergonomic manner & shall be easily & readily accessible for immediate use during emergencies.

**3. DESIGN & CONSTRUCTION**

The WATER BOUSER shall be designed to be as compact as possible with ease of accessibility to all the service parts. The pump & other equipment controls shall be so arranged that user can operate them easily & conveniently. Lever type valves shall be preferred unless impractical in any way. The WATER BOUSER shall be supplied complete with all the equipment's & accessories mentioned in these specifications. The material for construction shall be used with a view to combine lightness with strength & durability. No form of wood, (timber or ply) shall be used anywhere in the body construction. All parts which form water ways, come in contact with water or are made from materials that are prone to corrosion, shall be treated with a good quality anti-corrosion system/ treatment/ paint (epoxy coats)/ zinc coating etc.

**4. PUMPING SYSTEM**

The pump shall be a CE & UL certified and shall be made up of GM with SS pump shaft having output capacity of 3000 LPM at 10 kg/cm<sup>2</sup> and 250 LPM at 40 kg/cm<sup>2</sup> at 3 meters suction lift at NTP condition. Pump shall be rear mounted pump with automatic reciprocating piston primer as per specifications. The low-pressure side will be of single stage and the high-pressure

side also with single stage having regenerative type impeller. The pump shall be Godiva/ Rosenbauer/ Firefly/ Sides/ Oshkosh.

4.1 The overall pump shall be constructed from Gunmetal.

4.2 The normal (low) pressure impeller shall be made from gun metal confirming to Gr.II of IS: 318/1981 and the regenerative type high pressure impeller shall be of Stainless Steel.

4.3 The pump shaft shall be made from stainless steel.

4.4 The bearing housing will be made of CI and all the stud and bolt coming in contact with water shall be of stainless steel.

4.5 The bearing used in the pump shall be reputed make.

4.6 The normal and high-pressure impeller shall be mounted on a single shaft and normal (low) pressure impeller shall be dynamically balanced.

4.7 The pump shall be provided with self adjusting mechanical carbon seal assembly. The mechanical seal shall be capable to withstand dry running of the pump for **minimum 15 minutes**. After 15 min test the mechanical seal shall remain intact and there shall be no impact of the dry run.

4.8 The pump shall be provided with an inbuilt filter of easily removable type, which shall filter the water before entering into the high-pressure stage impeller.

Operation of low pressure to high pressure or Vice-a-versa shall be possible by actuation of single lever.

4.9 The pump shall have facility to operate low-pressure and high-pressure mode simultaneously or individually. While high-pressure mode is in operation and delivering 300 LPM at 30 Bar, the pressure in low pressure side shall not fall below 9 Bar.

4.10 The pump shall be provided inbuilt (integrated in the pump outlet manifold) pressure relief valve (PRV) which shall operate automatically and shall not allowed the highpressure to increase beyond 45 Bar.

4.11 The size of high-pressure outlets shall be 32 mm connected to high pressure hose reel. The thermal relief valve (TRV) shall be provided and fitted in the pump housing, which will open when both deliveries (HP & LP) are shut off for long time to control the temperature of the pump water.

4.12 The thermal relief valve (TRV) should open at 60° C and set shall reset automatically when the temperature of water within limit.

4.13 The pump design shall be modular type and shall not have gasket / packing. The arrangement shall be such that the mechanical carbon seal can be attended / removed without removing the pump body. The suction tube shall be directly connected to the pump casing without any interfacing flanged pieces to avoid chances of leakages and the same shall be single cast unit with a 140mm suction hose connection with internal removable strainer and a blank cap chained with the pump body. There shall be two delivery outlets with 63mm quick release GM couplings as per IS.

4.14 The pump shall be provided with one suction inlet of 140 mm dia. Having round threads confirming to IS:902 Of 1974 and two number of 63 mm delivery outlets having GM screw down type valve fitted with GM instantaneous couplings as per IS:903 of 1993.

The pump shall be provided with two GM delivery valves for the 3000 litre/min pump having 63 mm GM standard hose couplings (IS 903) with screwed wheel type quick closing clack valve (IS 4928).

4.15 Blank caps fastened with chains and incorporating means to relieve pressure between the valve and the cap shall be provided one for each delivery valve.

4.16 The efficiency of the pump shall be such that the power required shall not be more than available with chassis at max 3200 safe RPM for continuous operation.

4.17 Pump shall be Red in color with special GOCORO coating

The pump shall be mounted at the rear of the vehicle connected to PTO by propeller shaft and universal and slip joints with sufficient number of bearing supports.

Table: 1: The pump shall comply to the following performance parameters-

Normal Pressure output	about 3,000 LPM at <b>10</b> kg/cm <sup>2</sup>
High pressure output	about 250 LPM at 40 kg/cm <sup>2</sup>
Maximum pressure in	54 Bar (high pressure mode) 17 Bar (low pressure mode)
Deep lifting capacity of Pump	30 cm/sec max. up to 7 meters in 30 sec at NTP Condition

### **Pump Test**

The pump fitted on the fire engine is subjected to endurance test as detailed Below: The pump shall be run for a period of four hours, non-stop.

The first three hours pump shall be delivering the rated output of i.e. 3000 LPM at 7 kg/cm<sup>2</sup> (Normal Pressure) and next 1 hr. will be 300 LPM at 35 kg/cm<sup>2</sup> (High Pressure) with a lift of 3 meters.

The pump shall be subject to dry running for 15 minutes. After the dry run test the pump seal shall be tested for leakages or visual damages. There shall be no signs of leakages or visual damages.

During the test the water shall not be replenished for the cooling system and the temperature of the cooling water and engine oil should not exceed the manufacturer's recommended standards for the continuous operation and engine should not show sign of stresses.

The pump casing and impeller subjected to a hydraulic pressure of 21kgs/cm<sup>2</sup> to detect, Leakage, perforation, etc

The pump shall give performance as given in table 1 as above.

### **Pump's Primer**

The pump should prime from rear side of low-pressure impeller by utilizing internal passages within the high-pressure pump body and without using any external pipe work from suction side.

The priming system shall be fully automatic Reciprocating type which shall not require any operation whatever from the pump operator other than throttling the engine to the required RPM. The primer shall get automatically disengaged once the pump is registered the pressure. The primer shall be capable of lifting the water in 30 second from the depth of 7 mtrs. (up to pump inlet) at NTP condition. The reciprocating pistons shall be made up of stainless steel / Gun Metal. The cylinder and priming valve housing shall be made from gunmetal.

The complete manufacturing and test facility shall be ISO or OHSAS certified.

The pump manufacturer / its parent company / sister concern shall have at least 15 years' experience in manufacturing of vehicle mounted fire pumps.

(Proof of Establishment to be submitted)

The pump dry run test will be conducted confirming to above specification. Failing to which the Pump & OEM shall be rejected.

**The Bidder must submit OEM Authority Letter mentioning the tender reference number confirming the above specifications as mentioned above.**

## **5. POWER TAKE OFF**

The PTO for the pump shall be of VAS/ Prabhat Engineering & Co./ webstar/ Kozmaskan of suitable ratio for the rated output of the pump & the torque of the vehicle. The lever/switch for engaging the P.T.O. shall be provided in Driver's cabin. Inspection/maintenance hatch of removable type shall be provided at suitable places for gaining access to gear box/PTO. Necessary modifications, to the standard drive system as available on the chassis, shall be done by the vendor so as to adopt the PTO Units in the system. Necessary supports for PTO Units, propeller shafts coupling, universal joints etc. for power input to and output from PTO Units shall have to be provided by vendor. The drive assembly components (shafts, coupling etc.) shall be dynamically balanced and the vibration at any of the rotary parts shall be minimized.

**The Bidder must submit OEM Authority Letter mentioning the tender reference number confirming the above specifications as mentioned above.**

## **6. COOLING SYSTEM**

In addition to the radiator cooling, an indirect cooling system of the open circuit type shall be provided if required to keep the engine from overheating during extended use in tropical climates & when the ambient temperature is over 40° C. The cooling system shall be so designed that the full power output of the engine can be maintained during continuous stationary running without overheating. The operating temperature of the engine cooling water shall be thermostatically controlled. The oil in the sump shall be prevented from overheating & the pump characteristic shall be chosen in a manner so that the engine does not run at its maximum speed for the required output. The cooling water outlet pipe from

P.T.O. & additional cooling tank/heat exchanger shall be connected through a suitable diameter pipe. The end of the pipe shall terminate in a threaded Connector.

## **7. HIGH PRESSURE HOSE REEL:**

A High pressure hose reel of 60mtr shall be provided for the operation of the HP pump. The hose used would be R1 type rated for at least 100 bar working pressure. Standard Make supplied 01 nos. jet or Fog patterns will be provided at the end of the reel. The range will not be less than 20 Mtrs. In jet mode. The plumbing between the pump & the reel will have a clean & unobstructed water way of not less than 20mm throughout without any restriction.

## **8. WATER TANK**

The Water tank shall be of min. 9000 Ltrs. Capacity & shall be suitably mounted on the chassis in such a way that the weight distribution is optimized. In addition a 2% expansion space shall be made in the tank over & above the water capacity. The tank shall be fabricated out of MS plates of min. 6 mm thick for the bottom & 5 mm for the sides. The top & baffle plates shall be Of 4 mm. The tank shall be of welded construction & shall be die-pressed on all sides to prevent distortion & to ensure torsional rigidity. Due care shall be taken to ensure that butt- weld joints are minimized. All tank joints shall be DP tested for soundness of welding

### **Baffles**

The tank shall be suitably baffled longitudinally and transversally to prevent surge when the vehicle is cornering or braking. The baffle plates shall be of minimum 4 mm MS plate thickness bolted type. The fasteners used shall be SS material only so that they do not freeze due to rusting. The must shall be tack welded to the baffle plates. The baffles shall be so designed that they do not



buckle under any circumstances during braking cornering or accelerating. The baffles shall be arranged in a manner to facilitate easy cleaning of the tanks.

### **Tank Mounting**

A tank shall be provided at each mounting support i.e. 100x50x6 mm MS channel. A mounting support shall be bolted properly with sandwich pad i.e. 10 mm & 12 mm thick M.S. plate. Upper & Lower respectively in middle of that Rubber a packing 25 mm thick shall be provided. Tank bottom should vertically supported by 10 mm thick gusset plate. Tanker mountings should be fabricated as per our instructions. The bottom of the tank shall be sloped towards rear. Suitable hooks/lifting eyes shall be provided on top of the tank to enable it to be lifted off the vehicle for maintenance/repairs. The bottom of the hooks shall be suitably reinforced with pads to avoid stress on the tank top plate. Sides of tank shall be die-pressed to give additional strength & stiffness so that it does not distort due to chassis flexion.

### **Connection for filling**

The tank shall have a filling orifice of approximate 250 mm and an inspection & maintenance manhole of 450 mm (Approximate) at the top. The cover for this port shall be of hinged or threaded type as per the manufacturer's standard design & shall be clearly marked with the words (either etched or raised) "WATER". This port shall be used for filling the water tank from overhead storage tanks. Apart from the above, two more filling connections shall be provided on the sides of the tank terminating in filling connection of 63mm male instantaneous couplings made of GM or SS material incorporated with a strainer. The header & the line shall be suitable designed to ensure that the inflow of the water into the tank is sufficient to maintain the output of the pump while the tank is being replenished from other vehicles or from hydrant lines. These connections shall be fitted with a valve to prevent water leaking through the filling pipe & shall be provided as close to the pump as possible. Valve may be of NRV/Ball/butterfly type. One connection shall also be provided for filling tank from pump itself. Connection shall be taken from pump manifold & shall be controlled by a shut-off valve.

### **Draining Cleaning & Repairs**

A 50mm diameter drain line with a ball/butterfly valve shall also be provided to drain the tank for maintenance/cleaning/repairs etc. A cleaning hole of 150mm shall be provided at the bottom of the tank & shall be taken down to a point below the chassis without reducing the effective ground clearance. The connection shall ensure that the water is discharged as far away from the wheels of the vehicle as possible, to reduce the chances of tyre slippage. Suitable lifting lugs shall be provided on the shell of the tank to enable it to be lifted off vehicle for repairs/replacement as necessary.

### **Overflow**

One overflow pipe of suitable diameter shall be fitted to the tank. The diameter of the overflow pipe shall be determined as per the filling connections provided. However it shall not be less than 60 mm diameter in any case. In case the inlets provided at the sides are more, the overflow pipe diameter shall be suitable changed to accept the additional flow. The overflow pipe shall be taken up to 2 inches higher than the top of the vehicle from the inside of the tank & shall be cut at an angle of approx...45 degrees.

### **Water Level Indicator**

Water level indicator made of thick acrylic tube shall be provided for water tank and calibrated as empty  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$ , and full. A three way drain cock shall be fitted at low end of the tube.

## 9. PIPING & VALVES

Complete pipeline circuit on the vehicle including water lines & fittings shall be of SS 304 materials only, including all water lines. All valves (AUDCO/L&T) up to 2" size shall be lever operated SS 316/304 ball valves & all valves above 2" size shall be normal ball/butterfly valves but made of SS316/304. Seats of the valves shall be easily replaceable, readily available & at least 2 sets of spare seals shall be provided for each size of valves. All the lines shall be tested hydraulically for at least 3 times the working pressure or 1.5 times the working pressure of the pump. A flow chart and schematic diagram shall be made and submitted.

## 10. WATER MONITOR

- Should be made of Pyrolite® high Strength material protected against corrosion
- Should have T-handle for vertical and horizontal movement.
- Should be capable for delivering up to 1000 GPM (3800 LPM)
- Horizontal movement adjustment lockable by knob.
- Vertical movement adjustment lockable by knob.
- It should be capable for +90 degree to -45 degree vertical movement.
- It should be capable 360 degree horizontal movement.
- Inlet should be 3" inch Flanged & outlet shall be 2.5" NH.
- Capable to be mounted on the suitable place at rooftop of the vehicle.
- Monitor dimensions shall not exceed depth 250 mm x width 280 mm x height 338 mm without the T-Handle.
- Weight shall not exceed 7 kgs.
- The monitor shall have built in pressure gauge
- The monitor shall have cast in turning vanes & integrated removable stream shaper for maximum reach and stream performance
- Nozzles shall have wide, dense, fully adjustable fog pattern.
- Nozzle shall be constructed of lightweight Pyrolite Material & shall have spinning teeth.
- Nozzle shall have Manual Pattern fixed gallon age setting of 500 GPM (1900 LPM) at 7 Bar.
- Nozzle dimensions shall not exceed 180mm x 130mm x 130mm (LxWxH)
- Nozzle shall have 2.5" NH inlet matching to monitor outlet & weight shall not exceed 2.5kg.
- It shall have reach of not less than 60-65 meters at 7 bars is provided at nozzle inlet.
- Monitor & Nozzle should have special anti-corrosion GOCORO coating
- Monitor and Nozzle should be CE certified.

**Acceptable makes – Akron/AAG/ Alco only**

**The Bidder must Submit OEM Authorization certificate.**

## 11. BODY WORK

The Water Bouser shall be supplied with original Slipper Cabin (OEM) with seating arrangement and doors for Driver and Officer. The glasses on crew cabin windows and doors shall be fixed in aluminum sections. The cabin doors shall be hinged type opening out wards & hung forward with catch latches. The cab and lockers shall be of composite construction with sufficient rigidity and reinforcement and shall be kept as light as possible. Pressed sections/hollow pipe of 40 mm x 40 mm x 2 mm thick corrosion free galvanized square tubes of sufficient strength shall be used for the cabin construction as far as possible. The rear equipment lockers superstructure (after the OEM cabin) shall be fabricated in corrosion free MS/Galvanized section or square hollow pipe constructed with welding work and paneled with aluminum plate by means of

glue without any welding work.. Roof panels shall be made of aluminum padded plates. The roof shall be strong enough for being walked on and must be sufficiently supported. The intermediate walls and shelves shall be constructed from aluminum sheets paneled to the Corrosion. The outer and inner paneling of the superstructure shall be done from 1.6 mm aluminum sheets. The complete top of the rearsuperstructure would be covered with 2 mm aluminum chequered plates/suitable anti-skid material. The sheets of the outer paneling shall be bonded/glued to the skeleton framework. The area over the tank shall be suitably treated for slippage by chequered plates or anti-skid material.

#### **a. Lockers**

Suitable lockers shall be provided for storage of equipment's & accessories wherever required. Size and number of locker shall be decided at the time of stage inspections. The lockers shall be constructed in a modular way so that in case if the configuration needs to be changed, it can be achieved without major modifications. All equipment stored in lockers shall be strapped /clamped in neat & convenient manner so that it has an identified place. All lockers shall be suitably labeled so that each item shall have identification when it is required to be accessed. For all water fittings like branch pipes etc. quick release type couplings (GM/SS) shall be provided, which shall enable the operator to locate the desired equipment instantly & save valuable time. Inner paneling of locker shall be 1 to 1.5 mm SS sheet.

#### **b. Roller Shutters**

For the easy operation of the water bowser roller-shutters covering the equipment lockers shall be installed on both sides of the appliance. These shutters shall be rolled inwards underneath the roof giving unobstructed access to the equipment lockers & the equipment/accessories fitted in the vehicle. Roller shutters shall be made of hollow rectangular shaped aluminum links which shall be inter connected with the help of plastic/rubber profiles, sealing the roller shutter watertight when closed. They would be durable, maintenance free, weather & corrosion resistant & capable of opening in every position of the vehicle even in rough terrain & on slopes. A spring mechanism shall be fitted so that the shutters are not held up at any point of opening. It would be easy to operate & shall ensure that the shutters can be easily pulled down. The sections of the shutter shall be powder coated to a smooth finish & aesthetic look. Guide rails shall support the shutters over the entire length on both sides & make them corrosion free. The rain protection slat shall be equipped with LED Lighting (to be provided by Roller Shutter OEM only) which will ensure that the area near the locker is enlightened. The shutters shall have a sturdy locking mechanism which shall prevent accidental opening during movement of the vehicle. A master switch for isolating locker lighting circuit shall also be fitted in the driver's cabin. The shutters shall be of MCD France/ Fireco /Firescape make only

### **12. Ladder with Beam Gantry**

The vehicle shall be fitted with a single tier ladder beam Gantry fitted on the vehicle roof. The ladder beam gantry shall be suitable for fixing 10.5 m aluminum double extension trussed type ladder. Ladder shall be provided with gantries and ladder lowering mechanism. The design shall be such that the ladder can be released from the ground without difficulty & will embody rollers to permit easy withdrawal by one man. The system shall be easy to operate & shall permit a person standing on the ground to bring the ladder down. Means will be provided for locking the ladder when stowed. Desired makes for the gantry system are Iveco Magirus / Rosenbauer / Ziegler/Firescape makes.

### **13. ELECTRICAL EQUIPMENT**

Adequate lighting arrangement (approved make only) shall be made in all compartments. All equipment lockers shall have internal lighting arrangement automatically/ push pull switched on and off by opening/closing of doors/shutters. All the wiring shall be properly fixed in position & shall be protected against heat, oil & physical injury. To the extent possible all wiring shall pass through conduits. All wires used in the vehicle shall be stranded copper alloy conductors of a gauge rated to carry at least 125 percent of the maximum current for which the circuit is protected & shall be uniquely identified by color coding or permanent marking. Voltage drops in all wiring from the power source to the using device shall not exceed 10 percent. The use of star washers for circuit ground connections shall not be permitted. All the electrical circuits shall have their own separate fuses, suitably marked & grouped in a common fuse box, located in an easily accessible position. Provision shall be made for minimum 4 spare fuses in the box which shall be provided in driver's cabin. All the controls for electrical system shall be provided near the driver's seat. The battery shall be placed in a totally enclosed box.

#### 14. FITTINGS & ACCESSORIES

Following accessories shall be provided on the appliance

1. Tow Spot lights in front
2. Tow Fog lamps
3. Four Blinker type traffic indicators
4. One Removable type search light with 30 Mtrs. Cable & tripod stand.
5. LED Light bar with Blue and Red lighting shall be provided on top of the fire vehicle.
6. PA System & Hooter shall be provided.
7. Blue & Red strobe lights shall be provided on both sides of the vehicle

#### 15. Accessories to be supply with Water tender

Sr.No	Description	Quantity
1.	Aluminum Extension Ladder Trussed type 10.5 m Iveco Magirus /Rosenbauer / Ziegler/Firescape makes	1 no.
2.	PVC Suction Hose with Light GM round Threaded Couplings to suit the Pump Inlet - 2.5 mtr.	4 nos.
3.	Delivery Hose IS : 636 (Type B) rubberized, ISI Marked, 63 mm x 15meters with GM couplings ISI Marked.	10 nos.
4.	Suction Strainer for item 2	1 nos.
5.	Basket Strainer for item 2	1 nos.
6.	Dividing Breaching controlled type (GM)	2 nos.
7.	Collected breaching (GM)	2 nos.
8.	Pair of Suction Wrench universal type	1 nos.
9.	Long line (poly propylene) 50 mm circumference, 30 m long	5 nos.
10.	Short line (poly propylene) 50 mm circumference, 15 m long	5 nos.
11.	Hose Bandages Rubberized	12 nos.
12.	Hose Clamps	6 nos.
13.	Short branch	2 nos.

**15 PAINTING AND MARKING:**

The basic structure material should be zinc plated and thereafter it should be prepared by grinding the welded surfaces, priming the finished material with a zinc rich primer and then finally coated with a two pack epoxy based paint. Once the panelling is completed, all the outside surfaces should be painted with a good quality paint system. This should be poly- urethane (PU) based paint with a life of minimum 10 years. The whole of the chassis and the body shall be coated from under with 2 coats of anticorrosive paint.

**16 ACCEPTANCE TESTS:**

The following acceptance test will be given to the complete satisfaction of the owner. All the testing parameters should be carried out at the manufacturer's premises and the details of the testing infrastructure shall be provided. The Bidder will offer proof of having these facilities at his workshop failing which the tender is liable for rejection.

**17. LONG RUNNING TEST:**

The rating of pump would be min. 4 hrs. The pump will be tested for a continuous period of four hours and the water will not be replenished in the radiator during this test. The engine will not show signs of overheating during this test. Deep lift test of 7 metres within 30 seconds.

**18. SHOWER TEST:**

After completion of the fabrication, the vehicle will be subjected to shower test as per the norms laid down under BIS. The appliance will not show any signs of leakages during this test.

**19. GUARANTEE PERIOD:**

The vehicles shall be guaranteed for a period of minimum 1 year for all manufacturing defects. During this period if any defects are found in the vehicle the same will be repaired or replaced free of charge.

**: TECHNICAL DATA SHEET ::**

The following technical details shall be furnished in the e-Technical Bid:

**To Design, Manufacture, Supply and Delivery of Fire Water Tender on suitable chassis as per Technical specification**

<b>(A)chassis</b>	
Make & Model	
GVW	
Engine HP & No. of Cylinder	
Max Torque @ RPM	
Emission norms	
<b>(B) Split Shaft P.T.O.:</b>	
Name of manufacturer	
Gear Ratio	
H.P. Available at end of P.T.O. at R.P.M.	
<b>(C)Tank: water</b>	
Capacity in Liters	
Thickness of wall in mm	
Material of Tank	
Level indicator size	
<b>(D)High/Low Pressure Pump</b>	
Make and Model (Back-up Guarantee of Manufacturer to be furnished)	
Normal pressure output(LPM@kg/cm <sup>2</sup> )	
High pressure output((LPM@kg/cm <sup>2</sup> )	
Deep lifting capacity of Pump(in meter & time in second)	
Pump Material	
Dry run without damage in minute	
<b>(E) Water/Foam Monitor</b>	
Make	
Discharge capacity @ pressure	
Reach in meter	
Weight in kg.	

**Sign of e-Tenderer.**