

### REQUEST FOR QUOTATION

WTP/WS/272/2025

Date :- 28/04/2025

Vendors/Agencies are requested to give their best possible rate quotes for the following jobs to be performed within the limits of Pimpri Chinchwad Municipal Corporation at various locations. The quoted rates should be exclusive of GST and applicable HSN code as well as the GST rates should be mentioned separately in the prescribed format as given below. The rate should be inclusive of the loading, unloading and transportation charges with delivery at the site that will be required during the execution of following items as and when required as per the site requirements. The quote should be submitted in sealed envelope or online through email at [r.morankar@pccmcindia.gov.in](mailto:r.morankar@pccmcindia.gov.in) on or before 05/05/2025 and addressed to

The Executive Engineer  
Water Treatment Plant, Sec 23  
Near Appughar  
Pradhikaran, Nigdi  
Pune 411044

Sr. No	Item Description	Qty	Unit	Quoted Rate (In Rs)	Appli cable HSN Code	Appli cable GST (%)
	Supply, delivery, installation, testing, training and commissioning of Battery Powered Reduced Bore Electromagnetic flow meter (EMF) with accuracy 0.5% of measured value and protection as per given specifications for following sizes, including sensor, transmitter, surge arrester, sensor/ transmitter cable, flow meter including pipe cutting, levelling and installation of flow meter in pipe lines with necessary tool tackles cranes etc. as may be required at site and based on technical specification etc. as specified (Make-Siemens, ABB, E & H, Forbes Marshall)					
	Excavation for fixing Flow meters in all types of soils & surfaces in all types of site conditions including drainage, dewatering, pipe cutting, loading, transportation etc.. Providing installing Battery Powered Reduced Bore Electromagnetic Flow Meters with cost of accessories required Flowmeters shall be Battery Powered Reduced Bore.					
	The size of pipe is indicative. The actual size, O.D.I.D., thickness shall be measured by the Manufacture before supply of meter, any deviation and delay or damage cost due to non-fitting of meter shall be borne by Manufacture. The liquidity damage due to delay in fitting for wrong selection of fittings and accessories lies with contractor/Manufacture.					
	If there is any problem with ovality of pipes after the pipes are cut, the contractor as per the relevant standards shall jack up the pipes and the jointing work shall be carried out. For installations of Flow meters JCB/ Cranes shall be used by the Contractor.					

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	The Manufacture should have a full system of local offices in India and full service capability in the Metrocities throughout the country. Full contact details for key personnel, both national and local shall be furnished on request. The supplier shall provide evidence of at least five years involvement in the manufacturing of meters worldwide.					
	The sensor / transmitter cables shall be capable of withstanding the climatic condition as applicable at site and should be weatherproof. The cable shall be installed in a suitable uPVC/ HDPE duct to minimize the risk of damage during excavations for other works. All the cable shall be laid at a minimum depth of 0.5 mtr below the ground. Maximum length between the sensor & the transmitter shall not be more than that recommended by the meter Manufacture.					
	There shall be separate Control Panel Unit to accommodate flow transmitter, Data logger / GPRS modem and all other accessories. Thickness of control panel shall not be less than 2 mm.					
	All safety precautions with lightening protection shall be provided to all the flow meters, the failure / damage to flow meter for any reason for the warranty and period of annual maintenance contract shall be with Manufacture. Hence, cost of insurance against all failures / damages (if any) shall be borne by Manufacture, no additional payment will be made.					
	<b><u>SPECIFICATION OF BATTERY POWERED REDUCD BORE ELECTROMAGNETIC FLOWMETER</u></b>					
	1)The Flow meter should work on faradays law of electromagnetic induction and should be having two parts the flow sensor (primary head) and Flow transmitter / converter.					
	2)The Flow sensor shall have 2 built in sensing electrodes of HC 22/SS 316.					
	3)The liner material shall be strictly Rilsan. It should meet potable water standards in accordance with ACS, DVGW, NSF and WRAS. The liner approval should be submitted while bidding the tender.					
	4)The Flow meter flanges shall be welded to the meter tube and the tube should be rectangular type (reduced bore).					
	5)The flow meters will be installed in chambers or buried underground; therefore, the coil housing of the flow sensor shall be fully welded. Bolted coil housings will not be accepted					
	6)The flowmeter installation should be such that there is no requirement of upstream & downstream straight length. (Inlet flow: 0 DN; Outlet flow: 0 DN)					
	7)The coil housing material should be minimum Sheet Steel. Coil housing in MS, CS or SS316 will also be acceptable.					
	8) The Flow sensor should be fully painted (Housing, flange & tube).					
	9)Grounding by HC 22/SS 316 electrode only. Grounding Rings in HC22 will also be accepted.					
	10)The flow sensor Junction box should be of Stainless-Steel material only.					
	11)The Flow sensor shall have IP68 protection class. Junction Box should be pre-wired with at least 10 meters coil and electrode cable and IP68 assembly / IP68 potting to be done at the flow meter manufacturer's factory itself.					



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	12)The Flow sensor and Flow Converter/Transmitter should be fully compliant to ingress protection IP68 and supplier should provide type test IP68 certificate of the offered model along with the tender.					
	13)The transmitter shall be microprocessor based, wall mounted type with Polycarbonate housing.					
	14)The Flow transmitter should be freely programmable from the front facia without opening the transmitter housing via Keypad or Magnetic pin or Optical keys.					
	15)The Flow transmitter shall provide pulse Output.					
	16)The Flow transmitter must display Sum counter (default), forward counter, reverse counter or flow rate, Flow direction (forward or reverse), counter settings, Battery lifetime indicator.					
	17)The measurement interval should be programmable from 5 seconds to 20 seconds.					
	18)The Flowmeter should work on internal lithium batteries with a battery life of five years and the flow transmitter should be interchangeable.					
	19)The flow meters should be calibrated at 3 points with water as medium at the manufacturer in house NABL accredited volume flow calibration facility in India. In case the flow meter manufacturer facility is not NABL accredited then flow meter calibration should be compulsory done at FCRI Palakkad only.					
	20)The manufacturers NABL accredited in-house flow calibration lab in India should be able to calibrate all flow meter sizes as mentioned in the tender. In case the flow meter manufacturer, NABL accredited calibration facility does not cover the entire size range then flow meter calibration for those sizes not covered should be compulsory done at FCRI Palakkad only.					
	21)The accuracy of manufacturers in house volume flow calibration lab should be mentioned in NABL accreditation and should be better than +/- 0.1%.					
	22)The manufacturers in-house flow calibration lab should be based on volumetric calibration method (Direct Volume Comparison) and not on Gravimetric method which is dependent on mass & density.					
	23)The NABL lab accreditation certificate of magnetic flow meter manufacturer should be submitted with the technical bid. Bids without this document will be rejected.					
<b>Testing of meters</b>						
	Magnetic flow meter manufacturer should carry out the following test on every single flow meter during the manufacturing process and below test certificates should be provided for review during inspection and finally all certificates supplied along with the material:					
	1. Three Point Water calibration certificate.					
	2. Test and Guarantee Certificate.					

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<b>Inspection should be carried out before material shipment strictly at the manufacturer's factory only. Following test need to be witnessed by End user &amp;/or TPI at manufacturer facility:</b>						
<b>Inspection Type</b>						
1	Visual Inspection for Finish and Quantity					Percentage of Order quantity
2	Review of all Calibration test certificates					100%
3	Three points water calibration					100%
<b>TECHNICAL SPECIFICATIONS FOR BATTERY POWERED FLOWMETERS</b>						
1	Operating pressure:- Max pressure 10 Kg/cm <sup>2</sup>					
2	Operating temperature :- 0 °C to 50 °C max					
3	Flow meter Size :- As per BOQ and flow ranges					
A	<b>Flow Sensor (Primary head)</b>					
	Flow meter Measuring Principle:- Faraday's law of magnetic induction					
	Flow meter Type :-Electromagnetic flow meter with internal battery of Lithium					
	Type:- Pulsed DC excitation					
	MOC of Flow tube /sensor :- Metallic Alloy or Stainless Steel					
	Construction of Flow Tube :-Flow tube should be reduced bore rectangular type for measuring low flows accurately & conditioning the flow along with improved signal to noise ratio					
	Power supply :- Battery powered for battery lifetime up to 5 years					
	End connections:- EN 1092-1 Carbon Steel with PU coating/paint					
	Flange Pressure Rating :-EN 1092-1 PN10					
	Flow sensor Pressure Rating:- 10 Bar					
	Measuring Electrode material:- HC-22 or SS 316					
	Empty Pipe detection:- Required & Achieved through smart Transmitter.					
	Earthing:-By Grounding Electrode of HC-22 or SS 316					
	Lining material :-Rilsan					
	Sensor / Coil housing (shell):-Fully Welded Steel Construction with anticorrosive PU paint. (IP 68)					
	Straight run requirement:-Flow sensor design should be such that there is no requirement of upstream & downstream straight. (Inlet flow: 0 DN; Outlet flow: 0 DN) For installation directly behind an elbow or reducer					



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B	<b>Flow Transmitter cum converter</b>					
	Type:-Microprocessor based, Battery powered with 5 years life, remote mounted type with display					
	Type of display:-LCD display, 8 digit					
	Display parameter:- Instantaneous Flow, Totalizer Flow with sum, forward and reverse total counters. Battery Life.					
	Measuring accuracy:- DN 25...300 / 1...12"; down to 0.25% of the measured value $\pm 1$ mm/s DN350...600 / 14...24"; down to 0.5% of the measured value $\pm 1$ mm/s					
	Repeatability:- DN 25 to 600 $\pm 0.2\%$					
	Input:- From flow Sensor					
	Output:- RS 485 MODBUS for seamless data transfer.					
	Enclosure MOC Enclosure protection class :- Polycarbonate IP 68					
	Output Signal Cable:-5 Meters with Military grade connectors					
	Programming:- Through optical keypad from front fascia without opening the housing cover					
	Cable entry:-M20/NPT/BSP or as per manufacturers standard					
	Wet calibration:- Every flow meter shall be wet calibrated at manufacturer's facility using water as medium. Calibration certificate Must be supplied along with each flow meter. Flowmeter Calibration laboratory accuracy must be better than 0.1%. The ISO 17025 certificate of manufacturer shall also be submitted for reference purpose.					
	<b>Sizes</b>					
1	100 mm	1	Set			
2	150 mm	1	Set			
3	200 mm	1	Set			
4	250 mm	1	Set			
5	300 mm	1	Set			
6	400 mm	1	Set			
7	500 mm	1	Set			
8	600 mm	1	Set			

Executive Engineer-WTP