

TERMS OF REFERENCE

SUPPLY AND INSTALLATION OF 7 UNITS OF ELECTROMAGNETIC FLOWMETER SENSOR (AC POWERED) COMPLETE WITH ACCESSORIES

1. The equipment offered shall be compatible with MCWD's existing ABB electromagnetic flowmeter transmitter;
2. The bidders shall submit brochure of the brand and the website link of the brochure offered for evaluation purposes of end-user; failure to submit shall automatically disqualify the bidder;
3. The bidders must submit certificate of after – sales – support which includes availability of genuine instrument spare parts for five (5) years from the date of delivery and certified service technician based in Cebu or in Metro Manila;
4. The bidders must show proof of experience not less than 50% of the total ABC in the supply and installation of the same or similar type of equipment subject of this bid in previously completed projects with other water districts or companies involve in water supply and distribution;
5. The winning bidder must certify that the unit should be brand new with manufacturing year not earlier than 2023;
6. The bidders must submit standard certificate of warranty against hidden factory defects covered for one (1) year;
7. The winning bidder shall install the equipment with proper grounding to ensure reliability of operation. MCWD will issue a certificate of satisfactory testing and completion of the equipment;
8. The winning bidder shall conduct seminar / training to at least (10) MCWD technical staff together with a manual in the proper operation and maintenance of equipment purchased, free of charge;
9. The winning bidder shall deliver the equipment/instruments with complete accessories set within 90 calendar days from the receipt of Notice to Proceed to Talamban Warehouse, Nasipit Talamban, Cebu City for inspection and possible testing.
10. The winning supplier shall provide in-plant product verification for three (3) MCWD personnel to ensure that the manufactured electro-magnetic flowmeter meet the required MCWD's specifications and quality standards.
11. The winning supplier shall submit an undertaking that all the requirements in the TOR shall be complied with accordingly.

ELECTROMAGNETIC FLOWMETER SENSOR (AC SUPPLY) COMPLETE WITH ACCESSORIES

TECHNICAL SPECIFICATIONS

A. SENSOR

Bore Size	400mm to 700mm (16in. – 28in.)
Linear Material	Hard Rubber
Electrode Material	Standard
Measuring Electrodes Material	Hastelloy C-4 (2.4610)
Grounding Accessories	2x Potential Equalizing Rings (Stainless Steel)
Process Connection Type	ISO 7005 PN 16 EN 1092-1
Process Connection Material	Carbon Steel
Usage Certifications	Standard (without PED)
Calibration Type	Standard factory calibration
Temperature Range of Installation/Ambient Temperature Range	Standard design / -20...60°C(-4....140°F)
Name Plate	Adhesive label
Signal Cable Length and Type	30m (approx. 100ft) cable
Protection Class Transmitter/ Protection Class Sensor:	IP 67 (NEMA 4X)/ IP 68 (NEMA 6P), cable not fitted and not potted, sensor is IP67 with PTFE liner
Cable Conduits	M20 x 1.5
Power Supply Line Frequency	60 Hz
Technical Parameters	4-20mA = 0-16000 m3/h

B. Other Requirements

Warranty Certification: All Sensors shall be guaranteed against defects in workmanship and materials for a period of one (1) year from the date of acceptance.
Certificate of Origin.
Manufacturer and supplier must be ISO 9001:2015 certified
Complete Grounding Accessories (Grounding Rod, Cable, Breakers, Relays and etc.) for Whole System
Supplier must have a Manufacturer Authorization Certificate specific for this project.
Supplier must have Qualified Technical Support Personnel to provide after sales service. To submit Certificate of Trainings from the Manufacturer.

**ELECTROMAGNETIC FLOWMETER (SENSOR) LIST -RESERVOIR with
COMPLETE ACCESSORIES**

No	Reservoir Name	Flowmeter Diameter (mm)	Tag No.	Status
1	LAGTANG	500	LAG-01_FT001	Defective
2	TISA	700	TIS-01_FT001	Defective
		400	TIS-01-DMA_FT001	Defective
3	TALAMBAN	500	TAL-01_FT001	Defective
4	CASILI	400	CAS-01_FT001	Defective
		500	CAS-01_FT002	Defective
5	HLR LILO-AN	500	LIL-01_FT001	Defective

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