



التاريخ: 2020 / 09 / 09

الرقم:

توبه صادر عن اللوازم العامة بخصوص مناقصة رقم (PWA-WD-GSD/ MOF /2020/ 100)

شراء وتوريد الإحتياج من العدادات الإلكترونية وقطع الغيار اللازمة لها

لصالح سلطة المياه الفلسطينية - دائرة مياه الضفة الغربية

إشارة إلى الموضوع المذكور أعلاه، مرفق طيه توضيحات لمناقصة العدادات الإلكترونية وقطع الغيار اللازمة لها.

Flow Instruments:

• Electromagnetic Flow Meters:

A. Magnetic flow meter systems shall be the low frequency electromagnetic induction type which produces a DC pulsed signal directly proportional to and linear with the liquid flow rate. Complete zero stability shall be an inherent characteristic of the flow meter system. Each magnetic flow metering system shall include furnishing a metering tube, signal cable, transmitter, flow meter grounding rings, transmitter enclosures, antennas, external batteries and all related items.

1. The metering tube shall have:

- Pressure ratings as indicated and in accordance with the requirements of piping specifications.
- EPDM or Butyl Rubber Liner, conforming to the manufacturer's recommendation for the intended service.
- Electrodes shall be Hastelloyor Higher grade
- Metering tube housing rated for IP68, suitable for continuous submergence in up to 3 meters of water, if installed in a below grade vault or any other area with reasonable potential for submergence.
- Epoxy protective coating.
- Grounding rings shall be 316 stainless steel. Grounding rings shall be designed to protect and shield the liner's edge interface from abrasion at the meter end.

2. The microprocessor-based signal converter/ transmitter shall have:

- DC pulse technique to drive flux-producing coils.
- Six-digit LCD displays for flow rate, percent of span, and tantalization.
- An operator interface with keypad which responds to English text entry.
- Automatic range change.
- Capable of measuring flow in both directions.
- 3 totalizer: Configurable to Forward, Reverse and Bidirectional net flow.
- Programmable parameters including meter size, full scale Q, magnetic field frequency, primary constant, time constant.
- Data retention for a minimum of 5 years without auxiliary power from main source or battery.
- Self-diagnostics and automatic data checking.
- Ambient temperature operating limits of -20 to +60 degrees C.
- Remote transmitter enclosure rated for IP68.
- Data transmitter and flow meter shall be provided from the same manufacture.
- Transmitter for flow meter with 2 input 1st for flow sensor & 2nd for pressure sensor.

B. Calibration

Calibration: Each flow metering system shall be hydraulically calibrated at a facility that is traceable to the ISO 4185-1980.

C. The flow metering system shall conform to the following:

- Accuracy: $\pm 0.2\%$ of flow rate from full scale.
- Environmental Limits: - 20 to +60° C.
- Power requirements: AC+ external battery with minimum 7 years life.

D. The flow meter shall be furnished with the following accessories:

- Furnish remote mount flow transmitter with a sufficient cable.
- Provide stainless steel stanchions for mounting of remote transmitter no less than 4 feet above grade.
- Provide manufacturer digital calibration verification unit with necessary accessories to interface with the

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furnished magnetic flow meter.

E. GSM/GPRS/3G Communications:

1. The magnetic flow meter shall be a battery operated, stand-alone water meter capable of GSM/GPRS/3G communications using commercially available cellular data service. An external battery shall be supplied with the meter to extend service life to at least 7 years.
2. The magnetic flow meter shall also be capable of operating on 230 or 24 volts ac, 50 Hz. The meter shall be equipped with EEPROM memory to prevent data loss.
3. GSM/GPRS/3G communications hardware shall allow the meter to transmit flow rate, totalized flow, alarms and time-stamped stored process data over a third-party cellular network to the WBWD. The communications hardware shall be integral to either the flow meter or signal converter.
4. A high gain remote antenna shall be supplied with the meter that will allow data to be transmitted via GSM/GPRS/3G technology.
5. GSM/GPRS/3G modem must support Remotely commands for on demand data, on demand device health (Battery status, Battery Health, Flow rate, totalizer, etc...) and on demand actions by mean of SMS or by Email.

F. PRODUCTS:

GENERAL: The following paragraphs provide minimum device requirements.

I. Interconnecting Cable.

1. Interconnecting cable from the sensor to the transmitter shall be provided.
2. The cable shall be the type approved by the instrument manufacturer for the intended purpose of interfacing the element to the transmitter.
3. Length of cable shall be a minimum of 5 meters.

G. Integration with SCADA system.

- 1.1. The flow meters shall be capable to send data to the control room at WBWD office, Ramallah.
- 1.2. Flow meters shall be capable to be integrated with WBWD SCADA software and reporting system.
- 1.3. Must include lifetime software or tools to be integrated with SCADA and reporting system.

مع العلم أن هذا التنويه جزء لا يتجزء من وثائق المناقصة.

وتفضلوا بقبول فائق الاحترام



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