



FUNCTIONAL SPECIFICATION FOR FLOW TOTALIZER

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Offshore Design Section
Engineering Services
ISO – 9001:2008


**FUNCTIONAL
SPECIFICATION FOR
FLOW TOTALIZER**

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1.0 SCOPE OF THIS DOCUMENT:

- 1.1 This functional specification describes the essential design considerations for the selection of Flow Totalizer for the intended service.

2.0 Reference Documents and Specifications:

- a) Basic Bid Work
- b) Design Criteria - Process & Instrumentation
- c) Project P & IDs
- d) Process Data Sheets for Instruments

3.0 SCOPE OF SUPPLY:

- 3.1 The quantity to be supplied and installed shall be as per the requirements indicated in the Basic Bid Work, Design Criteria and the P & IDs.
- 3.2 The vendor shall be responsible for the selection of the Flow Totalizer suitable for its intended application, its procurement, tagging, packing, testing & calibration, preparation for shipment, along with accessories, spares, and assistance where required for its installation & commissioning at site.


4.0 FLOW TOTALIZER:

4.1 General:

The Flow totalizer shall be microprocessor based and shall have user-friendly interface for easy programming with Passwords for configuration. The totalizer shall be capable of displaying the readings when requested. The totalizer may either be field mounted or control room mounted as per process requirement. It shall have flow display using square root or linear signal processing.

- 4.1.1 The Flow totalizer shall have 2-line display. The top line shall display the instantaneous flow rate while the second line shall display the totalized flow. LCD type display shall be provided in the Flow totalizer. Display range for rate shall be 6 digit display or better and for cumulative flow (Total) shall be 8 –digit display or better. Rate / total display decimal point shall be selectable.
- 4.1.2 The input power supply to the Flow totalizer shall be 24 V DC. The device shall have two analogue output for alarms. It shall have capability of processing analogue mA & VDC signal as its input.
- 4.1.3 It shall have Keypad for process programming and calibration. All programming and total values are stored in non-volatile memory and can be retrieved even if the power is removed from the unit. The totalizer shall have provision to save accumulated total flow even if the power is lost.
- 4.1.4 When Flow totalizer and other devices are grouped and mounted on a gauge board or instrument stand it should be in such a manner that removal of each instrument shall be possible without the need to

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disconnect, dismantle or remove any other instruments or tubing. Mountings accessories required for Flow totalizer shall be 316SS or better.

4.2 **Accuracy:** The accuracy shall be $\pm 0.25\%$. Repeatability shall be $\pm 0.25\%$

4.3 **Reading Scales:** Units for Flow in totalizer shall be set in M3/HR for liquids and SM3 /HR for gases. In addition, other selectable engineering units (m3/sec, m3/day, etc) shall be available in the device.

4.4 **Enclosure Class:** Where specified for field mounting, the flow totalizer enclosure shall be Weather proof to IP 65 and shall conform to Area Classification. In control room, it shall be housed in general purpose enclosure to IP 42.

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