**FC200 OPEN CHANNEL FLOW MONITOR**

Take Open Channel Flow Measurement and Meter Total Flows

**FEATURES:**
- Digital LCD screen
- Easy-to-use interface with user selectable flow tables
- Highly accurate depth probe
- Output signal for recorders or displays
- Sampler triggering output
- Water resistant enclosure

**Product Description**

Global Water's Open Channel Flow Monitor is reliable and accurate for measuring and totalizing open channel flows from all flumes and weirs, as well as for any gravity-type open-channel flow application. The flow meter measures water depth with Global Water's highly accurate pressure transducer (WL400), and the unit's electronic circuitry instantly calculates and displays water flow and totalizer values for any depth-to-flow relationship in any engineering units. The Open Channel Flow Monitor is easy to set up in the field using a unique four-button programming system.

**Open Channel Flows**

For any open channel that is free flowing, there is a specific relationship between depth of water and flow rate. Whenever a given depth occurs, there will always be the same flow. Therefore, if the flow rate is known for each depth, a depth-to-flow relationship can be constructed. The Open Channel Flow Monitor is pre-programmed with depth-to-flow relationship tables. When the user digitally selects the correct depth-to-flow relationship for an application, the Open Channel Flow Monitor's LCD screen automatically displays accurate flow rate measurements for any depth that is reached. This water flow is averaged over time to display total flow.

When using a primary device to measure flow, such as a measuring flume or weir, there is a mathematical relationship between depth and flow. When measuring flow in a channel that does not have a primary device, the depth-to-flow table can be constructed by measuring the flow at several different depths, using Global Water's Flo-Probe details available on request.

**Depth Measurement**

Global Water's Open Channel Flow Monitor measures flow depth with the highly-accurate WL400 Water Level Sensor, which is a fully submersible water level sensor constructed of stainless steel. The standard level range is from 0 to 3 feet water, which provides for accurate flow measurements even with depth change as small as a fraction of an inch. The pressure transducer is mounted slightly below the "zero" flow depth of the channel, upstream from the throat of the flume or weir. For open channels with no primary device, the sensor is mounted below the lowest expected water depth. The water level sensor has a 2-wire 4-20 mA signal, so the flow computer can be mounted several hundred feet away, if required. The sensor and computer can be connected with standard, twisted-pair signal wire.

Global Water also offers an ultrasonic water level sensor that allows the Open Channel Flow Monitor to measure semi...
solid flows or flows that are not suitable for a standard submersible pressure transducer. Global Water recommends that the ultrasonic sensor option only be used in areas where AC power is available. You should strongly consider using a submersible pressure transducer for applications that are in areas without AC power.

Display and Outputs
The Open Channel Flow Monitor displays flow rate on a large 6-digit LCD screen. The totalized output is shown on a second LCD display. The display reads in user-defined units of flow, including mgd, csf, gpm, m$^3$s.

The Flow Monitor also produces an analog 4-20 mA output signal that is proportional to flow. This can be used for chart recorders, dataloggers, or as an input to telemetry or process control systems. In addition, the meter has a flow-proportional output signal for triggering water samplers.

Digital Flow Computer
The Global Water Open Channel Flow Monitor has powerful internal electronic circuitry that calculates and totalizes flow. Desired engineering units and depth-flow relationships (from over 20 pre-defined tables) can easily be selected using the unit's four front panel push buttons. User programming does not require the unit's enclosure to be opened. The unit's manual includes programming information, including depth-to-flow tables for all standard flumes and weirs.

Enclosure
The enclosure is made of weatherproof injection molded plastic. It is suitable for use in a wide variety of environments. The enclosure can be wall-mounted and fitted with conduit for sensor and power connections, if required.

Specifications
- **Rate Display:** 6 digit + decimal place, LCD
- **Totalizer Display:** 6 digit + decimal place, LCD
- **Accuracy:** Pressure transducer: ±0.2% FS, Flow Monitor: ±0.01% + the depth-flow-table error
- **Flow Units:** CFS, GPM, m3s, MGD
- **Totalizer:** Related to Flow Units
- **Enclosure:** 115 (W) x 200 (H) x 75 (D) NEMA 4X (IP67)
- **Power:** 120 VAC to 240 VAC, optional: Battery powered (Must be specified at time of ordering)
- **Current Draw:** 50mA Typical, 16mA in sleep mode, and 120mA when the output relays are on

Pre-defined Tables
- **Parshall:** 1", 2", 3", 6", 9", 12"
- **Palmer-Bowlus (4D):** 4", 6", 8", 10", 12", 15"
- **Weir:** 45° V notch, 90° V notch, 1' rectangular, 2' rectangular
- **H:** 0.4HS, 0.6HS, 0.5H, 0.75H, 1.0H, 1.5H, 2.0H
- **Trapezoidal:** 60°

Custom Table
You must provide Global Water with a depth to flow equation or look up table at time of order. Please allow for longer lead times.

Options

**Basic FC200 Open Channel Flow Monitor**
0-0.91m Depth Sensor on 7m of cable included. Please specify flume/weir type when placing order. (220v power)

**FC200-U Open Channel Flow Monitor**
Ultrasonic flow monitoring (for use with AC power only). Please specify flume/weir type when placing order.

**Battery Option**
Includes Heavy-Duty Weather Resistant Environmental Enclosure and 12V, 4.5Ah rechargeable battery.

**GL-400-1-1 Datalogger**
Two-channel datalogger.

**FSS Flow Sampling System**
A unique combination of products that makes monitoring, sampling, and recording stormwater or industrial discharges easy.
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