

Marsh-McBirney Flo-Station™ Flow Monitor

FLOW



The Marsh-McBirney Flo-Station provides an ideal solution for permanent sewer flow monitoring when combined with either the Flo-Dar or Flo-Tote 3 open channel flow meter sensors.

WW

Features and Benefits

When combined with the Flo-Dar Radar Velocity/Area Sensor or the Flo-Tote 3 Sensor, the Flo-Station Monitor provides users with a permanent solution for their long-term flow measurement needs. (See Flo-Dar Sensor Lit No. 2708 / Flo-Tote 3 Sensor Lit No. 2712.)

Flo-Station with Display

For applications requiring a display, the Flo-Station with display includes (4) 4-20 mA outputs and Flo-Ware® Software with Communications Cable. Choose from 12VDC powered or 120/240 AC powered unit. Flo-Station displays flow rate, velocity, and level.

Flo-Station without Display

For application where a display is not needed, the Flo-Station without Display includes (4) 4-20 mA outputs. Flo-Ware software is required and sold separately. Choose 12 VDC Powered or 120/240 AC Powered unit.

Multiple Uses

Receive accurate flow measurement for billing purposes, EPA permitting requirements, inflow/infiltration studies, combined sewer overflow monitoring, process control, sampling pacing, modeling/sewer system evaluations, and wastewater treatment plant balancing.

Intrinsically Safe Models Available

Hazardous locations can be accommodated with the I.S. model.

Applications

Municipal

- Sanitary Sewer Evaluation Studies
- Collection Systems
- Capacity Studies
- Combined Sewer Overflows
- Inflow and Infiltration (I&I) Studies
- Billing / Custody Transfer
- Plant Influent and Effluent

Industrial

- Process Waste
- Plant Influent
- Plant Effluent
- Non-contact Cooling Water
- Stormwater Monitoring and Compliance

IW

C

DW = drinking water WW = wastewater municipal PW = pure water / power
IW = industrial water E = environmental C = collections FB = food and beverage



Be Right™

Specifications*

Data Storage

64K (16K cycles of velocity/depth data)

Local Terminal

RS232C at 19.2K baud

Optional Display

Dimensions: 1 in. x 3 in. Four lines of text display, FLOW, LEVEL, VELOCITY, FLOW TOTAL or any combination of any four channels containing data. Screens may be programmed to alternate values displayed.

Time-Based Accuracy

1 second per day

Outputs

Four 4-20 mA outputs: system-isolated, up to 600 ohm load. Outputs are flow, level, velocity or surcharge level.

Contact Closure

Dry contact closure with adjustable duration selectable for flow-proportional or alarm based on: FLOW, LEVEL, VELOCITY, SURCHARGE LEVEL, TEMPERATURE, BATTERY VOLTAGE, EACH SAMPLE, BAD SAMPLE OR ANALOG INPUT.

Rating: 1A @ 30 Vdc (resistive) 0.5A @ 125 Vac (resistive)

Power Requirements

AC: 85-264 Vac, 47-63 Hz, 32 watts

DC: 12 Vdc for Flo-Station without display or Flo-Station with display (backlight off) 180 mA (2.1 watts) with (1) 4-20 mA utilized.

Housing

Material: ABS plastic, NEMA 4
Dimensions: 257.8 W x 236.7 H x 95.3 D mm
(10.15 W x 9.32 H x 3.75 D in.)
Weight: 2.3 kg (5 lbs)

Operating Temperature

Operating Range: -10 to 50°C (14 to 122°F)
-20 to 50°C (-4 to 122°F) without display

Storage Temperature

Without Display: -40 to 60°C (-40 to 140°F)
With Display: -20 to 60°C (4 to 140°F)

Set-up/Data Retrieval

Flo-Ware for Windows software is the user on-site set-up, data management, and report generation software. It is compatible with desktop/portable computers utilizing Windows 95/98/2000/Me/NT/XP.



Flo-Station meets CE requirements.

**Specifications subject to change without notice.*

Engineering Specifications

1. Exterior dimensions of the monitor shall be 257.8 mm W x 236.7 mm L x 95.3 mm D (10.15 in. x 9.2 in. x 3.75 in.)
2. The enclosure material shall be ABS Plastic, NEMA 4
3. The operating temperature of the monitor shall be -10°C to 50°C (14°F to 122°F), -20°C to 50°C (-4°F to 122°F) without display.
4. The units shall operate as an AC unit (85-264 Vac, 47-63 Hz, 32 watts) or as a DC unit (12 Vdc) for Flo-Station without display or Flo-Station with display (Backlight off) 180 mA (2.1watts) with (1) 4-20 mA utilized.
5. The monitor shall have the ability to store 64 k of flow data including 16 k cycles of velocity/level data.
6. The unit shall have four 4-20 mA outputs; system isolated, up to 600 ohm load. The 4-20 mA outputs are flow, level, velocity or surcharge level.
7. The monitor shall have a Dry contact closure with adjustable duration selectable (2 seconds maximum) for flow-proportional or alarm based on flow, level, velocity or surcharge level, temperature, battery voltage, each sample, bad sample or analog input with a rating of 1 A at 30 Vdc (resistive); 0.5 A at 125 Vac (resistive).
8. The monitor shall utilize Flo-Ware for Windows software for user on-site setup, data management, and report generation software. It is compatible with desktop/portable computers using Windows 95/98/2000/Me/NT/XP. Flo-Ware for windows software can retrieve data from both Flo-Tote and Flo-Dar flow meters.
9. The flow meter monitor shall be the Marsh-McBirney Flo-Station.

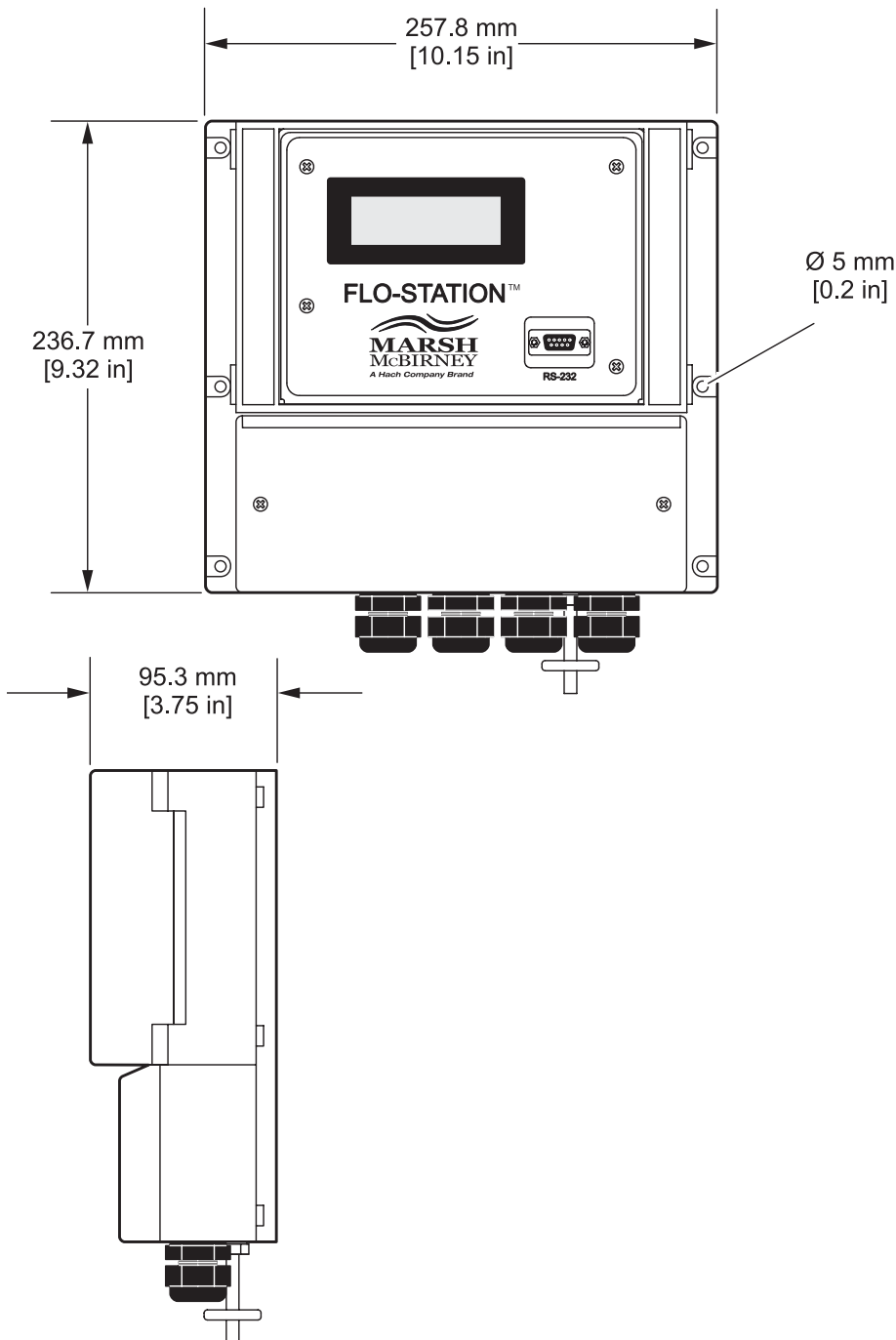
Ordering Information

| Flo-Station w/o Display for Flo-Tote 3 Sensor | Model 1103- | ___ | ___ |
|---|--------------------|------------|------------|
| Flo- Station, W/O display Includes (4)-4to20mA outputs - 12VDC power (Requires Flo-Ware Software listed below) | 1 | X | X |
| Flo-Ware Software, not included (customer should already have Flo-Ware to choose this option) | 1 | 0 | 0 |
| Flo-Ware Software, required to operate Flo-Station models 1103 w/o display, includes communication cable | 1 | 2 | 2 |
| Flo- Station, W/O display Includes (4)-4to20mA outputs - 120/240 AC power (Requires Flo-Ware Software listed below) | 2 | X | X |
| Flo-Ware Software, not included (customer should already have Flo-Ware to choose this option) | 2 | 0 | 0 |
| Flo-Ware Software, required to operate Flo-Station models 1103 w/o display, includes communication cable | 2 | 2 | 2 |
| Flo-Station With Display for Flo-Tote 3 Sensor | Model 1203- | ___ | ___ |
| Flo- Station, With display Includes (4)-4to20mA outputs-12VDC power, includes Flo-Ware software and communication cable | 1 | 0 | 0 |
| Flo- Station, With display Includes (4)-4to20mA outputs-120/240 AC power, includes Flo-Ware software and communication cable | 2 | 0 | 0 |
| Flo-Station Without Display for Flo-Dar Sensor 12VDC Power | Model 1104- | 1 | ___ |
| Flo- Station, W/O display Includes (4)-4to20mA outputs - 12VDC power (Requires Flo-Ware listed below) (Formerly Model 464) | 1 | X | X |
| Flo-Ware Software, not included (customer should already have Flo-Ware to choose this option), Flo-Dar without SVS | 1 | 0 | 0 |
| Flo-Ware Software, not included (customer should already have Flo-Ware to choose this option), Flo-Dar with SVS | 1 | 0 | 1 |
| Flo-Ware Software, includes communication cable, for Flo-Dar without SVS | 1 | 1 | 0 |
| Flo-Ware Software, includes communication cable, for Flo-Dar with SV | 1 | 1 | 1 |
| Flo-Station Without Display for Flo-Dar Sensor 120/240 AC Power | Model 1104- | 2 | ___ |
| Flo- Station, W/O display Includes (4)-4to20mA outputs - 120/240 AC power (Requires Flo-Ware listed below) (Formerly Model 450) | 2 | X | X |
| Flo-Ware Software, not included (customer should already have Flo-Ware to choose this option), Flo-Dar without SVS | 2 | 0 | 0 |
| Flo-Ware Software, not included (customer should already have Flo-Ware to choose this option), Flo-Dar with SVS | 2 | 0 | 1 |
| Flo-Ware Software, includes communication cable, for Flo-Dar without SVS | 2 | 1 | 0 |
| Flo-Ware Software, includes communication cable, for Flo-Dar with SVS | 2 | 1 | 1 |
| Flo-Station WITH Display for Flo-Dar Sensor 12VDC Power | Model 1204- | 1 | ___ |
| Flo- Station, W/O display Includes (4)-4to20mA outputs - 12VDC power (Requires Flo-Ware listed below) (Formerly Model 464) | 1 | X | X |
| Flo-Ware Software, includes communication cable, for Flo-Dar without SVS | 1 | 0 | 0 |
| Flo-Ware Software, includes communication cable, for Flo-Dar with SVS | 1 | 0 | 1 |
| Flo-Station WITH Display for Flo-Dar Sensor 120/240 AC Power | Model 1204- | 2 | ___ |
| Flo- Station, W/O display Includes (4)-4to20mA outputs - 120/240 AC power (Requires Flo-Ware listed below) (Formerly Model 450) | 2 | X | X |
| Flo-Ware Software, includes communication cable, for Flo-Dar without SVS | 2 | 0 | 0 |
| Flo-Ware Software, includes communication cable, for Flo-Dar with SVS | 2 | 0 | 1 |

Accessories & Spares

| | |
|------------------------|---|
| 151000201 | Moisture Block Replacement Cartridge for air tube (APR) |
| 170007101 | Stainless Steel ID Tag |
| 245000501 | Sensor Retrieval Pole - used to place & retrieve sensor from mounting bracket. Pole extends to 21 ft.(7.3m) |
| 510012701 | Sensor Retrieval Hook - used with pole above |
| 570007301 | Flo-Station to Laptop Interface Cable-Spare |
| 750000201 | Q-Stick Insertion Tool - Allows street level installation in pipe sizes 6" to 18" |
| 55031 SS | Profiling Adapter - Allows sensor to be mounted on pole for profiling flow channel |
| Odd Shape CHANN | Odd Shaped Table - Configures software for user's specified conduit |
| 55032 | Desiccant Replacement Cartridge (must be used when Flo-Station is in a moist environment) |

Dimensions



At Hach, it's about learning from our customers and providing the right answers. It's more than ensuring the quality of water—it's about ensuring the quality of life. When it comes to the things that touch our lives...

Keep it pure.

Make it simple.

Be right.

For current price information, technical support, and ordering assistance, contact the Hach office or distributor serving your area.

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Lit. No. 2616 Rev 1
 L10 Printed in U.S.A.

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