



FLO-CORP.com

CALFLO™ CFHM

Inline Liquid Flow Meter

OPERATING INSTRUCTIONS

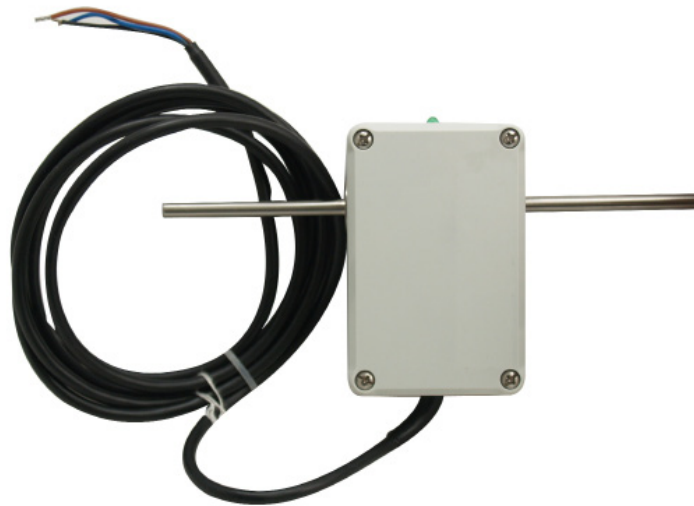


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Introduction

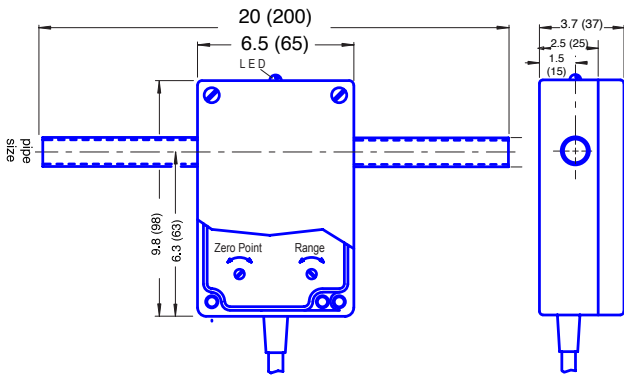
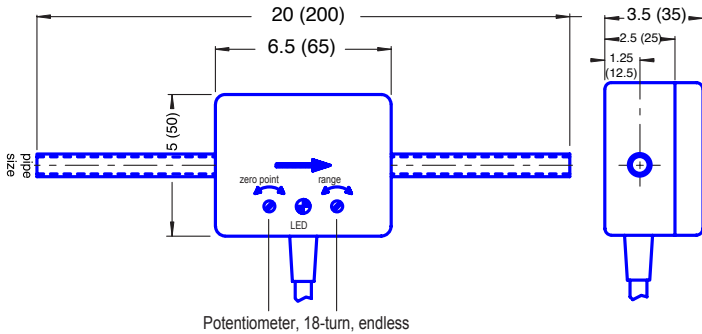
Please read carefully! No liability can be accepted for damage caused by improper use or installation of the HydroMeter™ Inline Liquid Flow Meter

Ideal for monitoring low flow rates, HydroMeter is a self-contained, inline flow meter that is ideal for measurement and control applications. HydroMeter is field adjustable and provides a 4-20 mA output for flow rate. The hollow stainless steel tube acts as the sensing device and provides intrusion-free flow monitoring. Typical applications include chemical dosing, oil lubrication monitoring, food and beverage processing, light to medium viscosity fluids and a variety of other industrial applications. Select the appropriate configurations based on your application or contact our Application Specialist for additional assistance.

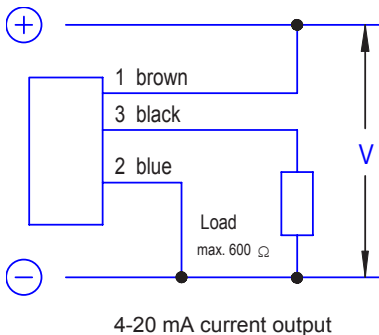
Safety Precautions

If you are unsure of the suitability of the HydroMeter™ Inline Liquid Flow Meter for your installation, please consult your FLO-Corp representative for further information.

Dimensions cm (mm)



Connection Diagram



Specifications



Sensor	
Service	Compatible liquids
Measuring Range	Continuously adjustable from 0-0.65 fps to 0-3.3 fps
Response Time	2-10 seconds
Repeatability	± 2% full scale
Temperature Drift	± 1.37°F (± 18.53°C)
Protection Rating	NEMA 4 (IP65)
Mechanical	
Sensor Material	Stainless steel (Std.) or Hastelloy®
Connection Size	1/8", 1/4", 1/2" 3/4"
Connection Type	Female NPT (Std.); Special Connection (Optional)
Enclosure Material	Makrolon®
Process Temperature	F: 14° to 176° C: -10° to 80°
Ambient Temperature	F: 14° to 140° C: -10° to 60°
Pressure	435 psi (30 bar)
Electrical	
Supply Voltage	24 VDC ±10%
Consumption	100 mA maximum
Output Current	4-20 mA
Loop Resistance	0-600 Ohms
Measuring Range Adjustment	The two potentiometers can be adjusted to set the measuring range and zero point. Operation within the measuring range is indicated by a green LED (within the range: ON; beyond the range: OFF)
Cable	
Cable Jacket Material	Oilflex
Cable Length	6.5 ft, 3-conductor 18 AWG

Note: Please Consult Factory for Special Requirements



Items Delivered

1. HydroMeter (CFHM) - Each unit will differ based on user- specified configurations
2. Screwdriver for adjustment
3. Cable and manual

Installation Instruction

Depending on the pipe system a variety of connectors can be used. (i.e. screw fittings, hose clamps, etc.)

CAUTION: The inline pipe element must not be subjected to any kind of force (i.e. twisting) or high temperatures (i.e. in welding processes). Torsion: $10 \leq \text{Nm}$ up to $\leq 104^\circ \text{F}$ (40°C)

Installation Site: Preferably in horizontal pipes or vertical pipes with ascending flow.

Initial Operation

Connect unit to 24 VDC as in connection diagram and wait approx. 2 minutes before adjusting.

Adjustments are possible from 0-0.65 fps up to 0-3.3 fps (related to water).

Zero point potentiometer is factory set. Range potentiometer is adjusted at the max. measuring range ≥ 3.3 fps.

Adjustment Procedure

1. Zero point adjustment in stationary medium (roughly)
2. Adjust the potentiometer P2 after 2 minutes so that $I_a = 4 \text{ mA}$.
i.e. if $I_a > 4 \text{ mA}$ turn potentiometer to the **left**
if $I_a < 4 \text{ mA}$ turn potentiometer to the **right**
3. Adjustment of measuring range in max. flow rate of medium:
Accelerate flow of the medium to a point, where the unit should give an output signal of 20 mA and wait approx. 2 minutes. Turn range potentiometer until $I_a = 20 \text{ mA}$ (to the left I_a will be greater, to the right I_a will be smaller).
LED 'ON' : Flow rate is within the measuring range
LED 'OFF': Flow rate exceeds measuring range
4. Fine adjustment of zero point: After waiting at least 2 minutes standstill of flow turn zero point slightly so that I_a is just 4 mA (turning direction as in step 1).
5. Repeat adjustment according to step 3 and 4 until the zero point (4 mA) or max. range setting (20 mA) remains constant.

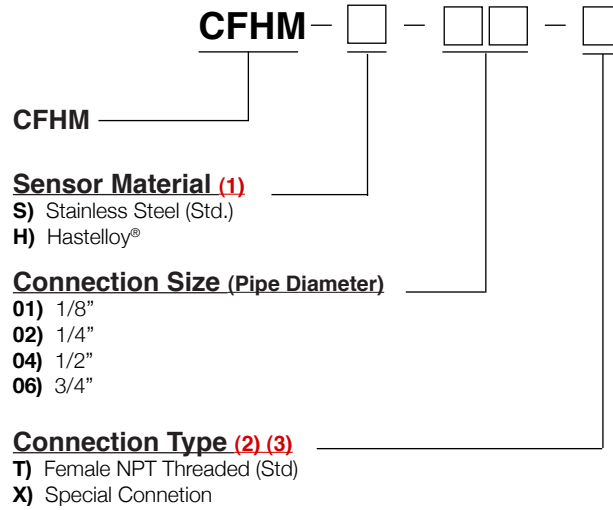
Ordering Information

FLO-CORP MODEL NUMBER BUILDER

For Assistance Call **877.356.5463**

Use the diagram below, working from left to right to construct your Flo-Corp Model Number.
Simply match the category number to the corresponding box number.

Example: CFHM-S-02-T *HydroMeter™, Stainless Steel Sensor Material, 1/4" Connection Size, Female NPT Connection*



Ordering Notes:

- (1) Select the best configuration based on your requirements
- (2) If you require a Special Connection (X), please consult factory with your requirements
- (3) Comes complete with 6.5' (2m) pre-wired cable and manual

Specifications are subject to change without notice.

