

# FLS F6.61

## HOT TAP MAGMETER FLOW SENSOR



The new FLS F6.61 Hot Tap Insertion Magmeter Flow Sensor is a flowmeter without moving mechanical parts which can be applied for the measurement of dirty liquids so long as they are conductive and homogeneous. The sensor can provide three different options: frequency output to be connected to FLS flow monitors, 4-20 mA output for long distance transmission and PLC connection and the new volume pulse output freely settable. FLS F6.61 Insertion Magmeter is provided with an USB interface and a dedicated software (freely downloadable from FLS web site) which allows to easily set by a PC all parameters according to specific installation requirements.

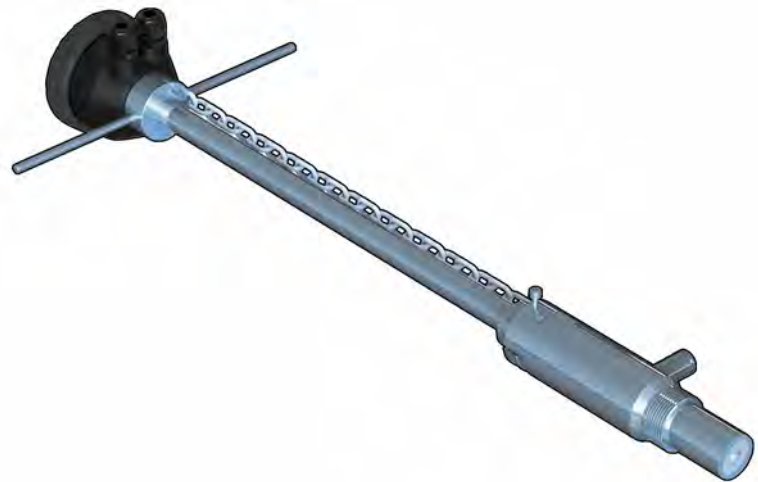
The sensor can be assembled in a wide dynamic range of pressurized pipe sizes from DN50 (2") to DN900 (36") using a standard clamp saddle and an isolation ball valve.

### APPLICATIONS

- Water distribution
- Leak Detection or Monitoring
- Raw water intake
- Water and waste water treatment
- Ground water remediation
- Irrigation

### MAIN FEATURES

- Adjustable sensor position
- Hot-Tap installation
- Operating parameters settable by PC interface
- Pressure intake
- Standard 1 1/4" BSP process connection
- No moving parts, no wear, maintenance free
- Flow Rate Range settable from 0.05 to 8 m/s (0.15 to 25 ft/s)
- Accurate measurement of dirty liquids
- 4-20 mA, frequency or volume pulse outputs
- Bi-directional flow measurement selectable



## TECHNICAL DATA

### General

- Pipe Size Range: DN50 to DN900 (2" to 36"). Special version on request for other sizes. Please refer to Installation Fitting section for more details
- Max Flow Rate Range: from 0.05 to 8 m/s (0.15 to 26.24 ft/s)
- Full Scale: 8 m/s (26.24 ft/s)
- Linearity:  $\pm 1\%$  of reading + 1,0 cm/s
- Repeatability:  $\pm 0.5\%$  of reading
- Enclosure: IP65
- Materials:
  - case: ABS
  - Wetted Materials:
    - sensor body: 304 SS/PVDF
    - o-rings: EPDM or FPM
    - electrodes: 316L SS

### Electrical

- Power Supply:
  - 12 to 24 VDC  $\pm 10\%$  regulated (reverse polarity and short circuit protected)
- Max Current Consumption: 250 mA
- protective earth:  $< 10 \Omega$
- Current output:
  - 4-20 mA, isolated
  - max. loop impedance:  $800 \Omega @ 24 \text{ VDC} - 250 \Omega @ 12 \text{ VDC}$
  - positive or negative flow indication
- Solid State Relay output:
  - user selectable as MIN alarm, MAX alarm, Volumetric, Pulse Out, Window alarm, Off
  - optically isolated, 50 mA MAX sink, 24 VDC MAX pull-up voltage
  - max pulse/min: 300
  - hysteresis: User selectable
- Open Collector output (Frequency):
  - type: Open Collector NPN
  - frequency: 0 – 800 Hz
  - max. pull-up voltage: 24 VDC

- max. current: 50 mA, current limited
- compatible with M9.02, M9.50 and M9.07
- Open Collector output (Direction):
  - type: Open Collector NPN
  - max. Pull-up Voltage: 24 VDC
  - max. Current: 50mA, current limited
  - flow direction:
    - 0 VDC arrow-wise
    - + VDC anti arrow-wise

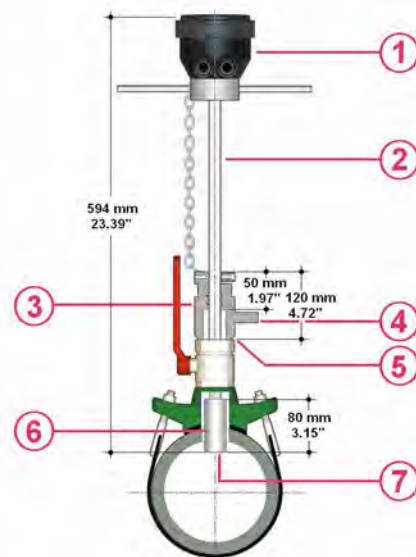
### Environmental

- Storage Temperature:  $-30^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$  ( $-22^{\circ}\text{F}$  to  $176^{\circ}\text{F}$ )
- Ambient Temperature:  $-20^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$  to  $158^{\circ}\text{F}$ )
- Relative Humidity: 0 to 95% (non-condensing)
- Fluid conditions:
  - homogeneous liquids, pastes or slurries, also with solid content
  - Min Electrical Conductivity:  $20 \mu\text{S/cm}$
  - Temperature:
    - PVDF bottom version:  $-10^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  ( $14^{\circ}\text{F}$  to  $140^{\circ}\text{F}$ )
    - PEEK bottom version:  $-10^{\circ}\text{C}$  to  $+150^{\circ}\text{C}$  ( $14^{\circ}\text{F}$  to  $302^{\circ}\text{F}$ )
- Max. operating pressure:
  - 16 bar @  $25^{\circ}\text{C}$  (232 psi @  $77^{\circ}\text{F}$ )
  - 8.6 bar @  $60^{\circ}\text{C}$  (124 psi @  $140^{\circ}\text{F}$ )

### Standards & Approvals

- Manufactured under ISO 9001
- Manufactured under ISO 14001
- CE
- RoHS Compliant
- EAC

## DIMENSIONS

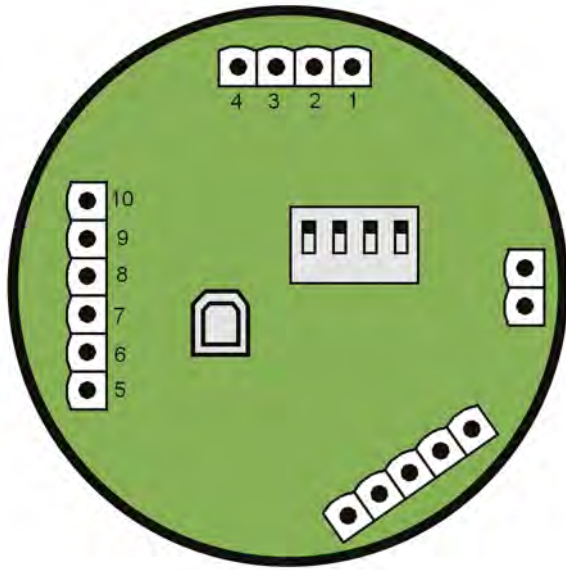


- 1 Magmeter electronic device
- 2 Sliding rod
- 3 304 SS joint for sensor installation
- 4 Pressure intake

- 5 Process connection  $1 \frac{1}{4}$ " gas threaded
- 6 304 SS adjustable sensor body
- 7 316 L electrodes and PVDF bottom

# WIRING CONNECTIONS

Rear Terminal View



1	+VDC
2	+LOOP
3	-LOOP
4	-VDC

Power supply

5	NO
6	COM
7	+DIR
8	-DIR
9	+FREQ
10	-FREQ

Digital Output

## ORDERING DATA

F6.61.XX Hot Tap Magmeter Flow Sensor							
Part No.	Version	Power supply	Length	Main wetted materials	Enclosure	Flow Rate Range	Weight (gr.)
F6.61.01	Hot-tap	12-24 VDC	615mm	304 SS/ PVDF/316L SS	IP65	0,05 – 8 m/s bi-directional	6000