

# FLS F3.80

## OVAL GEAR FLOW SENSOR



The FLS Oval Gear Flow sensors F3.80 have been designed following the main industrial application requirements: high mechanical resistance and reliable performances. These sensors are suitable to measure a wide range of viscous solid-free liquids with a very high accuracy and repeatability.

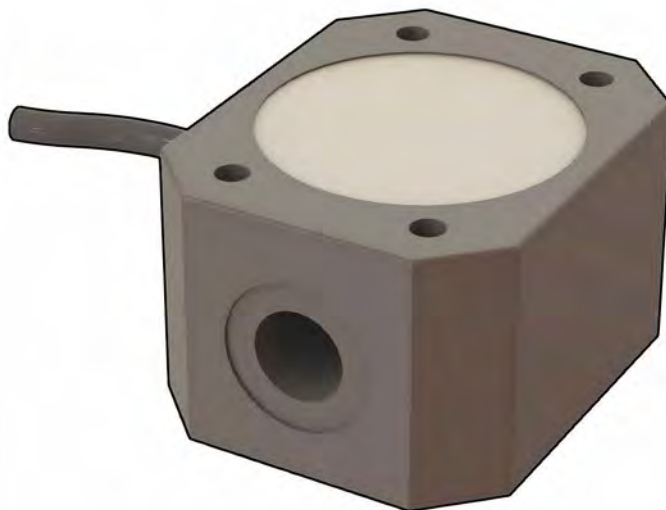
The sensors can be fixed to flexible or rigid pipes via 1/4" GAS threaded process connections. The construction materials, ECTFE (Halar®) or PP or Stainless steel, provide high strength and chemical resistance.

### APPLICATIONS

- Chemical industry
- Laboratory plants
- Dosing systems
- Pulsating flows measurement
- High viscosity and not conductive fluid measurement
- Oil measurement

### MAIN FEATURES

- Compact dimensions
- Easy installation
- High chemical resistance
- High viscosity fluids measurement
- Low pressure loss



# TECHNICAL DATA

## General

- Flow Rate Range:
  - F3.81.H: 10 to 100 l/h (0.044 up to 0.44 gpm)
  - F3.82.H: 25 to 150 l/h (0.11 up to 0.66 gpm)
- Linearity: 1 % of full scale
- Repeatability: < 0,3% of full scale
- Working Temperature: -10°C to 60°C (14°F to 140°F)
- Max. Fluid Viscosity : 1000 cP (mPas)
- Working Pressure:
  - PP body:
    - 6 bar (87 psi) @ 25°C (77°F)
    - 3 bar (44 psi) @ 60°C (140°F)
  - ECTFE body:
    - 8 bar (116 psi) @ 25°C (77°F)
    - 5 bar (73 psi) @ 60°C (140°F)
  - SS body:
    - 8 bar (116 psi) @ 60°C (140°F)
- Enclosure: IP65
- Wetted Materials:
  - PP version:
    - sensor body: PP
    - o-ring: FPM
    - gear: ECTFE (Halar)
    - shaft: zircone
  - ECTFE version:
    - sensor body: ECTFE (Halar)
    - o-ring: FPM
    - gear: ECTFE (Halar)
    - shaft: zircone
  - Stainless Steel:
    - sensor body: SS AISI 316L
    - o-ring: FPM
    - gear: ECTFE (Halar)

- shaft: Stainless Steel
- Connections: 1/4" GAS female
- Cable length: 2 m (6.5 ft) standard

## Specific for F3.81.H

- Supply voltage: 5 to 24 VDC ±10%, regulated
- Supply current: < 15 mA @ 24 VDC
- Output signal: square wave Cmos (NPN / PNP)
- Signal type: Push-Pull (for connection to NPN and PNP inputs)
- K-factor = 5950 Pulses/Liter (22521 Pulses/U.S. Gallon)

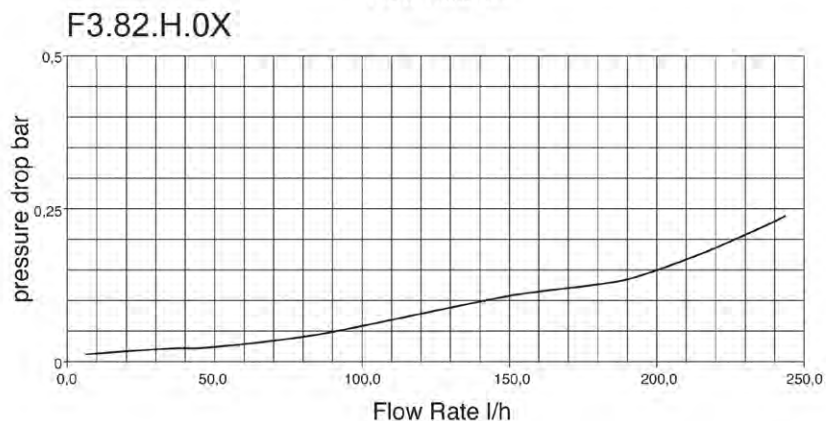
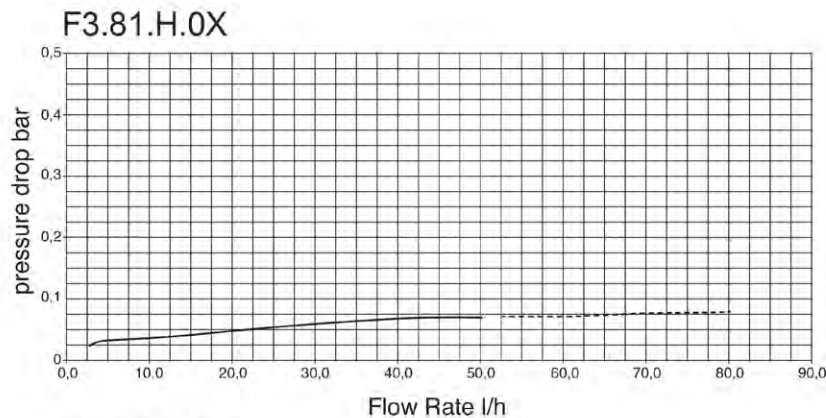
## Specific for F3.82.H

- Supply voltage: 5 to 24 VDC ±10%, regulated
- Supply current: < 15 mA @ 24 VDC
- Output signal: square wave Cmos (NPN / PNP)
- Signal type: Push-Pull (for connection to NPN and PNP inputs)
- K-factor = 3400 Pulses/Liter (12869 Pulses/U.S. Gallon)

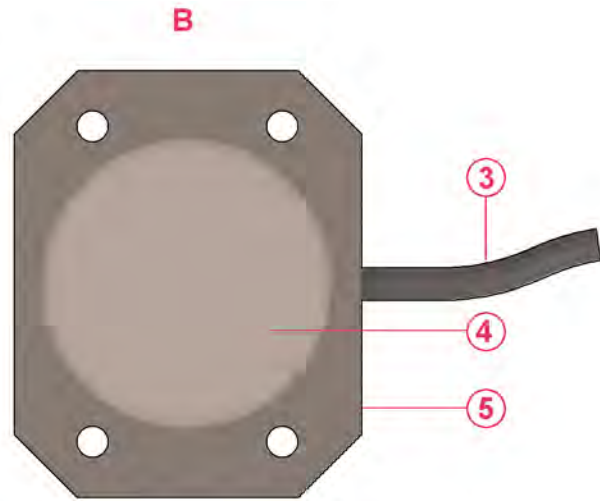
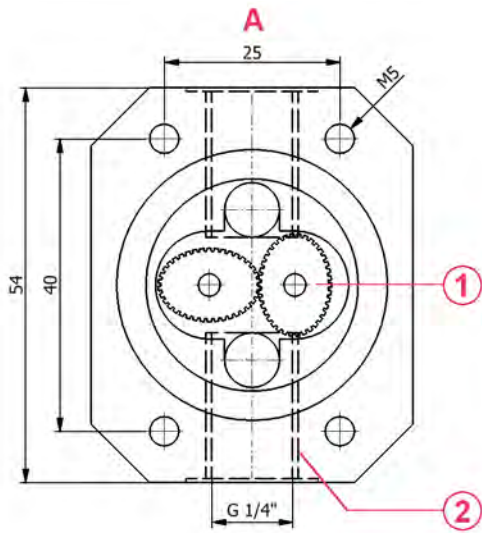
## Standards & Approvals

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

## Pressure Drop



## DIMENSIONS

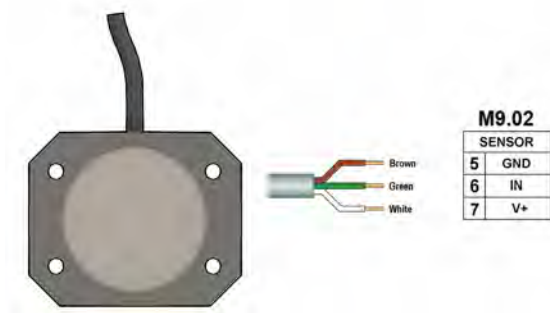


- 1 ECTFE Halar® oval gears
- 2 1/4" GAS threaded pipe connection
- 3 Electrical cable: 2m. (6.5 ft) standard
- 4 Completely encapsulated electronics

- 5 PP or ECTFE Halar® (registered trademark of Ausimont-Solvay) or SS sensor body

## WIRING CONNECTIONS

### F3.8X.H Sensor Connection



### Wiring connections to the other monitors

	M9.50	M9.03	M9.07	M9.08	M9.10
GND	30	30	16	16	37
IN	28	28	14	14	36
V+	27	27	13	13	35

## ORDERING DATA

F3.8X.H.XX Oval Gear Flow Sensors							
Part No.	Version	Power supply	Length	Main wetted materials	Enclosure	Flow Rate Range	Weight (gr.)
F3.81.H.01	Hall	5 - 24 VDC	54 mm	PP/ ECTFE/ FPM	IP65	10 to 100 l/h (0.044 to 0.44 gpm)	200
F3.81.H.02	Hall	5 - 24 VDC	54 mm	ECTFE/ ECTFE/ FPM	IP65	10 to 100 l/h (0.044 to 0.44 gpm)	300
F3.81.H.03	Hall	5 - 24 VDC	54 mm	316L SS/ ECTFE/ FPM	IP65	10 to 100 l/h (0.044 to 0.44 gpm)	800
F3.82.H.01	Hall	5 - 24 VDC	54 mm	PP/ ECTFE/ FPM	IP65	25 to 150 l/h (0.11 to 0.66 gpm)	200
F3.82.H.02	Hall	5 - 24 VDC	54 mm	ECTFE/ ECTFE/ FPM	IP65	25 to 150 l/h (0.11 to 0.66 gpm)	300
F3.82.H.03	Hall	5 - 24 VDC	54 mm	316L SS/ ECTFE/ FPM	IP65	25 to 150 l/h (0.11 to 0.66 gpm)	800