

F3.80

Oval gear flow sensor



F3.80

The FLS F3.80 oval gear flow sensors have been designed according to the main industrial requirements, providing particularly high mechanical resistance and performance reliability. These sensors are suitable for measuring a wide range of solid-free liquids of different viscosities with great precision and repeatability. The sensors can be mounted on flexible or rigid pipes using connections with 1/4" GAS female thread. ECTFE (Halar®), PP or stainless steel construction materials guarantee particularly high solidity and chemical resistance.

OVAL GEAR FLOW SENSOR

APPLICATIONS

- Chemical industry
- Laboratory systems
- Batching systems
- Pulsating flow measurement
- Measurement of high viscosity and non-conductive fluids
- Measurement of oils

MAIN CHARACTERISTICS

- Compact size
- Easy installation
- High chemical resistance
- Measurement of high viscosity fluids
- Extremely limited pressure drops

TECHNICAL DATA

General information

Flow rate range:

- F3.81.H: 10 to 100 l/h (0.044-0.44 gpm)
- F3.82.H: from 25 to 150 l/h (0.11-0.66 gpm)

Linearity: ±1% of full scale

Repeatability: ±0,3% of full scale

Operating temperature: from -10°C to 60°C (from 14°F to 140°F)

Max Fluid viscosity: from 1 to 10 cST

Operating pressure (PP-H body):

- 6 bar (87 psi) at 25°C (77°F)
- 3 bar (44 psi) at 60°C (140°F)

Operating pressure (ECTFE body):

- 8 bar (116 psi) at 25°C (77°F)
- 5 bar (73 psi) at 60°C (140°F)

Operating pressure (STAINLESS steel body):

- 8 bar (116 psi) at 60°C (140°F)

Protection class: IP65

Materials in contact with liquids (PP-H model):

- Sensor body: PP-H
- O-ring: FKM
- Gear: ECTFE (Halar®)
- Shaft: zircon

Materials in contact with liquids (ECTFE model):

- Sensor body: ECTFE (Halar®)
- O-ring: FKM
- Gear: ECTFE (Halar®)
- Shaft: zircon

Materials in contact with liquids (STAINLESS STEEL model):

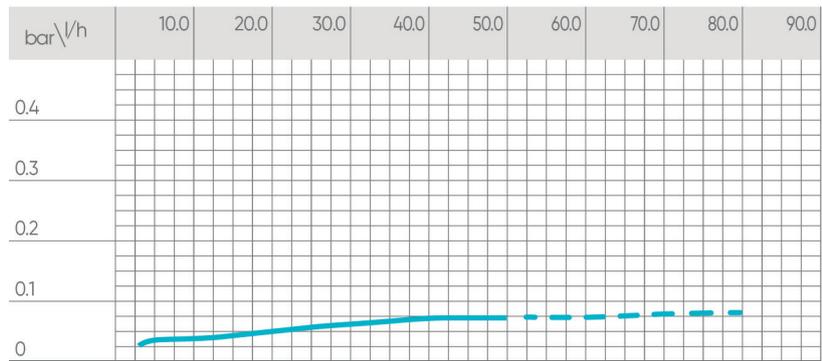
- Sensor body: AISI316L stainless steel
- O-ring: FKM
- Gear: ECTFE (Halar®)
- Stainless steel

Connections: 1/4"GAS female

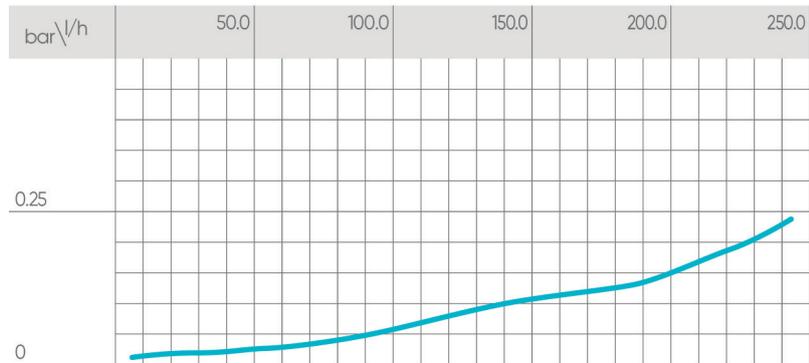
Cable length: standard 2m (6.5ft)

Specific data for F3.81.H	Supply voltage: from 5 to 24 VDC ±10% regulated
	Supply current: < 15 mA at 24 VDC
	Output signal: CMOS square wave (NPN / PNP)
	Signal type: push-pull (for connection to NPN and PNP inputs)
Specific data for F3.82.H	K-Factor: = 5950 pulses/litre (22521 pulses/US gallon)
	Supply voltage: from 5 to 24 VDC ±10% regulated
	Supply current: < 15 mA at 24 VDC
	Output signal: CMOS square wave (NPN / PNP)
Standards and Approvals	Signal type: push-pull (for connection to NPN and PNP inputs)
	K-Factor: = 3400 pulses/litre (12869 pulses/US gallon)
	Manufactured under ISO 9001
	Manufactured under ISO 14001
	CE
	RoHS Compliance
	EAC

F3.81.H.OX PRESSURE DROPS

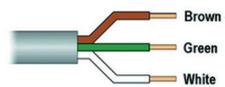
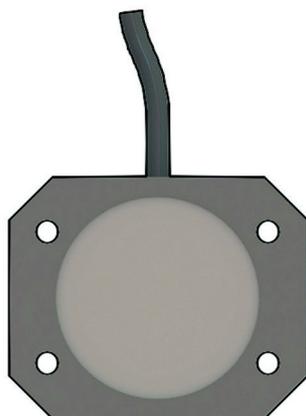


F3.82.H.OX PRESSURE DROPS



F3.8X.H SENSOR CONNECTION

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



Brown

Green

White

M9.02

SENSOR	
5	GND
6	IN
7	V+

PRODUCT CODES

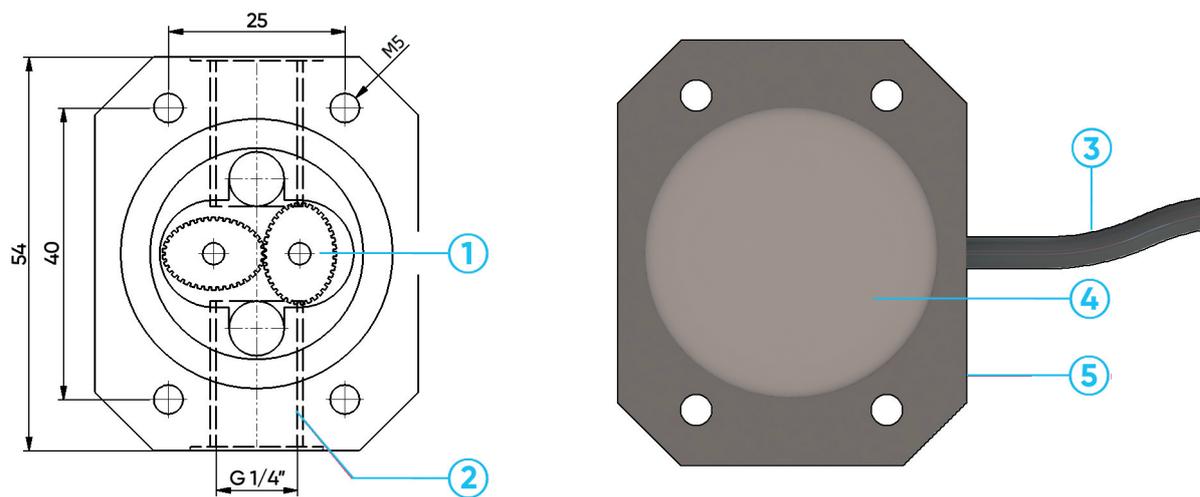


F3.8X.H.XX
Oval Gear Flow Sensors

Code	Version	Power supply	Length	Main Wetted Materials	Enclosure	Flow Rate Range	Weight (gr.)
F3.81.H.01	Push-Pull	5 - 24 VDC	54 mm	PP ECTFE FKM	IP65	From 10 to 100 l/h*	200
F3.81.H.02	Push-Pull	5 - 24 VDC	54 mm	ECTFE FKM	IP65	From 10 to 100 l/h*	300
F3.81.H.03	Push-Pull	5 - 24 VDC	54 mm	316L SS FKM	IP65	From 10 to 100 l/h*	800
F3.82.H.01	Push-Pull	5 - 24 VDC	54 mm	PP ECTFE FKM	IP65	From 25 to 150 l/h**	200
F3.82.H.02	Push-Pull	5 - 24 VDC	54 mm	ECTFE FKM	IP65	From 25 to 150 l/h**	300
F3.82.H.03	Push-Pull	5 - 24 VDC	54 mm	316L SS FKM	IP65	From 25 to 150 l/h**	800

* (0,044-0,44 gpm)
** (0,11-0,66 gpm)

TECHNICAL DRAWINGS



F3.80

- | | | | | | |
|----------|----------------------------------------|----------|--------------------------------|----------|------------------------------------------------------------------------------------------------|
| 1 | ECTFE Halar® oval gears | 3 | Electrical cable: 2m. (6.5 ft) | 5 | Sensor body in PP-H, ECTFE Halar® (registered trademark of Ausimont-Solvay) or stainless steel |
| 2 | Pipe connection with 1/4" GAS threaded | 4 | Fully encapsulated electronics | | |