

# **IR-Opflow PVDF Precision Flowmeters**

#### Corrosion resistant flow sensor

Manufactured in PVDF (polyvinylidene fluoride) the IR-Opflow Sensor is a precise volumetric flow meter.

Incoming liquid is forced into a twisting motion by spiral surfaces molded into the inflow section. This causes a miniature rotor to turn, virtually friction free. Each time the rotor spins, the blade interrupts a beam of infrared light generating a series of pulses that can be measured.

The precision of the IR-Opflow is not influenced by either the pressure or volume variations. The patented rotor design prevents air or gas bubbles from becoming trapped in the flowtube, making the IR-Opflow flowsensor not only rugged but extremely accurate.



### **Typical features:**

- Manufactured in PVDF (polyvinylidene fluoride)
- Measuring range: 0.1-120 l/min. through six sizes
- Threaded or Hose Barb connections
- Accuracy: ±1% or ±3% of measured value
- Repeatability: ±0.1% of measured value
- Square wave Vdc frequency output
- Patented design and lightweight rotor minimizes wear, provides friction free rotational movement
- Mountable in any position

# Process connection: NPT, BSP or flexible hose

**Technical Specifications:** 

Accuracy:

Repeatability

Signal source:

Temperature range:

Maximum pressure:

Flow range:

150 psi

fitting, see table 1 and 2

Materials: All wetted parts PVDF

### **Specifications:**

e Flow	range	K-factor<5cSt	Output
lpm	(gpm)	pulses/l	Hz
0.1-2.0	(0.03-0.53)	36,000	60-1200
0.3-9.0	(0.08-2.38)	8,000	40-1200
0.5-15.0	(0.13-3.96)	3,200	26.66-800
1.0-30.0	(0.26-7.93)	1,200	20-600
2.5-75.0	(0.66-19.8)	450	18.75-562
4.0-120.0	(1.06-32.0)	225	15-450
	lpm 0.1-2.0 0.3-9.0 0.5-15.0 1.0-30.0 2.5-75.0	lpm         (gpm)           0.1-2.0         (0.03-0.53)           0.3-9.0         (0.08-2.38)           0.5-15.0         (0.13-3.96)           1.0-30.0         (0.26-7.93)	lpm         (gpm)         pulses/l           0.1-2.0         (0.03-0.53)         36,000           0.3-9.0         (0.08-2.38)         8,000           0.5-15.0         (0.13-3.96)         3,200           1.0-30.0         (0.26-7.93)         1,200           2.5-75.0         (0.66-19.8)         450

### **Electrical Specifications:**

Power supply:	5 - 12 Vdc, 6 - 24 mA
	8 - 24 Vdc, 18 - 30 mA
Pulse output:	Push-Pull
Max. load:	2k2 Ohm
Frequency:	15-1,200 Hz , see specifications
Signal cable:	3 feet, other lengths on request

JLC International

948 Lenape Drive Town Center New Britain, PA 18901

Phone: 800 599 4732

215 340 2650 215 340 3670 Fax:

www.jlcinternational.com

Opto-electronic (infrared)

10 Series ±1% of meas. value

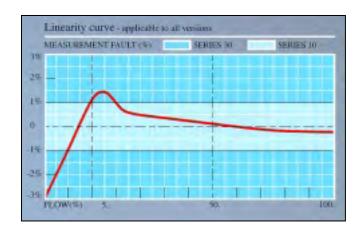
30 Series ±3% of meas. value

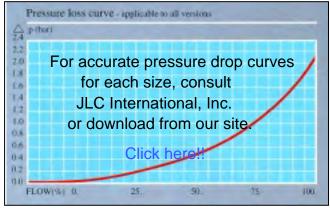
±0.1% of measured value

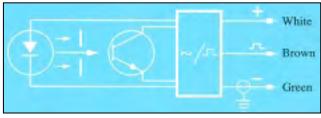
-40 to 85°C (-40° to 185° F)

See specifications

jlcusa@jlcinternational.com







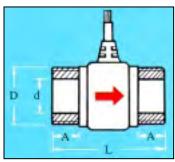


Table 1

NPT o	r BSP	Dimensions (mm)				
Туре	Α	D	d	L		
1	9.5	1/4"	6.5	39		
2	12.7	1/2"	13.0	47		
3	12.7	1/2"	13.0	47		
4	18.5	3/4"	17.0	63		
5	24.5	1 1/4"	29.0	80		
6	24.5	1 1/4"	29.0	80		

### Optional cartridge model features

- Turbine meter accuracy with convenience of nonintrusive unit for cleaning
- Rotor assembly removable for cleaning or replacement of flow tube
- Patented design with ±1% or ±3% accuracy
- Accuracy guaranteed when replacing cartridge
- Electronics unaffected by replacement

### **Cartridge specifications:**

Accuracy: 10 Series ±1% of meas. value

30 Series ±3% of meas. value

Repeatability: ±0.1% of measured value

Flow range: Type 1, 2 and 3

Temperature range: -40 to 85°C (-40 to 185°F)

Maximum pressure: 150 psi

Process connection: Flexible hose fitting, (o.d. 9mm)

Materials: All wetted parts are PVDF

### **Electrical specifications:**

Power supply: 5 - 12 Vdc, 6 - 24 mA

Pulse output: Push-Pull Max. load: 2k2 ohms

Frequency: 26.66 - 1,200 Hz, see specifications

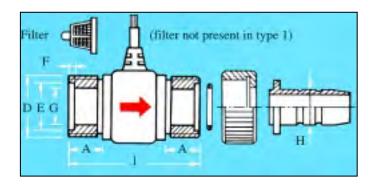


Table 2

Flexible hose fittings				Dimensions (mm)				
Ty	уре А	D	Е	F	G	Н	I	Tot L.
1	9.0	M12x1.5	8.7	1.5	6.5	6.9	39	96
2	12.0	M20x2	16.0	1.8	12.0	9.0	43	112
3	12.0	M20x2	16.0	1.8	12.0	12.0	43	116
4	16.0	M27x2	21.0	2.3	16.0	16.0	57	136
5	16.5	BSP 1"pl.	29.4	1.6	24.5	19.5	80	182
6	16.5	BSP 1"pl.	29.4	1.6	24.5	24.5	80	183

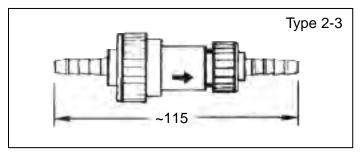
Phone: 800 599 4732

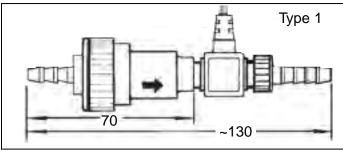
Fax:

215 340 2650 215 340 3670 www.jlcinternational.com

jlcusa@jlcinternational.com

#### **IR-Opflow Filters**





### **Technical specifications:**

Connections: Filter 1 (A) M12 x 1.5 F (fits

flowmeter type 1) and flexible hose fitting;

(B) Flexible hose fitting

on both sides

Filter 2/3 Flexible hose fitting on

both sides

Mesh width:

Pressure drop filter:

Filter housing material:

PVDF

Title PVDF

Filter material: PFA 'O'- ring material: Viton

#### **Ordering information**

**IR-Opflow** 

## $XX \quad X \quad X \quad X$

#### Accuracy

 $10 = \pm 1\%$  of measured value

 $30 = \pm 3\%$  of measured value

#### Output signa

0 = square wave pulse

5 = sinusoidal pulse

#### Type

1 = 0.1 - 2.0 lpm (0.03 - 0.53 gpm) \*)

 $2 = 0.3 - 9.0 \text{ lpm} (0.08 - 2.38 \text{ gpm})^*)$ 

 $3 = 0.5 - 15.0 \text{ lpm} (0.13 - 3.96 \text{ gpm})^*$ 

 $4 = 1.0 - 30.0 \text{ lpm} \quad (0.26 - 7.93 \text{ gpm})$ 

 $5 = 2.5 - 75.0 \, \text{lpm} (0.66 - 19.8 \, \text{gpm})$ 

 $6 = 4.0 - 120.0 \text{ lpm} \quad (1.06 - 32.0 \text{ gpm})$ 

#### Supply voltage

0 = 5 - 12 Vdc, 6 - 24 mA

1 = 8 - 24 Vdc, 18 - 30 mA

#### **Process connection**

N = NPT

H = Flexible hose fitting

B = BSP

S = Metric Thread

\*) Available in cartridge design, "H" only

#### **Examples:**

100.10H

±1%, square wave, type 1, 5 - 12 Vdc, Hose barbs

300.41N

±3%, square wave, type 4, 8 - 24 Vdc, NPT

Phone: 800 599 4732

215 340 2650 Fax: 215 340 3670