

### General Description

Smartflow® mechanical flowmeters are durable, vane-operated devices that provide visual indication of flow rate in many different styles and sizes. Rugged wetted parts are compatible with many process liquids.

Optional temperature and pressure gauges add functionality and flexibility to Smartflow® flowmeters. Brass quick-connect fittings are available on the smaller flowmeters to create an excellent, portable tool for determining flow and locating clogged lines.

### Features and Benefits

- ◆ **Compact size** works well in restricted-space locations.
- ◆ **Rugged construction** gives years of dependable service.
- ◆ **Variety of inlet sizes** provides exactly the right connection.
- ◆ **210°F (99°C) Temperature Rating** allows installation into a wide range of applications.
- ◆ **Optional Temperature and Pressure Gauges** give instant access to pressure and temperature information in addition to flow in one unit.
- ◆ **Common Flowmeter Configurations Stocked** to provide same-day delivery in most cases.
- ◆ **No Mounting Restrictions** ease installation in any position without extra brackets or hardware.

### Turbulent Flow

Injection molders know that a certain rate of flow is needed to achieve turbulent flow in cooling lines. This concept applies to most cooling applications using a water-based coolant mixture\*. This chart is provided for reference only.

Cooling Line Inside Diameter			Turbulent Flow Rate*	
pipe size	drill size (dia.) inches	mm	gpm	lpm
1/16"	1/4	6.6	.33	1.3
1/8"	R	8.73	.44	1.7
1/4"	7/16	11.8	.55	2.1
3/8"	19/32	15.25	.74	2.8
1/2"	23/32	19.05	.90	3.4
3/4"	15/16	24.5	1.17	4.5
1"	1-5/32	30.75	1.44	5.5

\* Approximate minimum flow rate at 70°F based on Reynolds Number of 4000

*Design and specifications are subject to change without notice.*

### Model Number

**F 3 - D - 25**

Inlet Size		Flow Rate (maximum) (gallons per minute)
1/4"NPT(F)	2	15 1.5 gpm
1/4"BSPP(F)	2B	(gallons per minute)
3/8"NPT(F)	3	25 2.5 gpm
3/8"BSPP(F)	3B	80 8.0 gpm
1/2"NPT(F)	4	100 10 lpm (liters per minute)
3/4"NPT(F)	6	300 30 lpm

### Accessories

- A** Flowmeter only
- B** Thermometer
- C** Thermometer and pressure gauge
- CL** Thermometer and liquid-filled pressure gauge
- D** Thermometer, pressure gauge, quick change socket and plug\*
- DL** Thermometer, liquid-filled pressure gauge, quick change socket and plug
- E** Thermometer and quick change socket and plug\*
- F** Pressure gauge
- FL** Liquid-filled pressure gauge

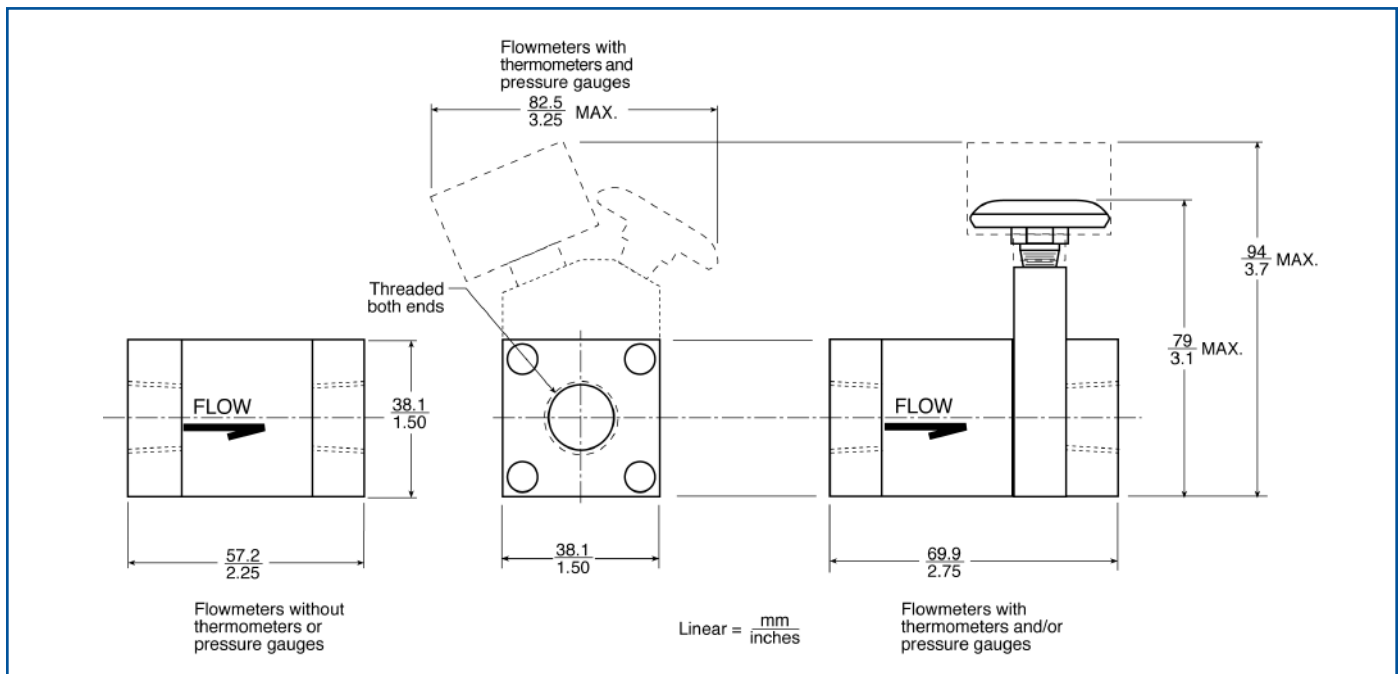
\* Not available with 3/4" inlet

### Wetted Parts and Materials

End Caps .....	Brass
Body .....	Polysulfone
Vane .....	Glass-Filled Nylon
Spring .....	302 Stainless Steel
O-Rings .....	EPDM
Cap Screws .....	Stainless Steel
Optional Gauge Block .....	Brass
Optional Quick-Connect Fittings .....	Brass

### Specifications

Flow Accuracy .....	±10% full scale
Operating Temperature .....	210°F max. (99°C max.)
Operating Pressure .....	100 psi max. (6.9 bar max.)
Dial Thermometer .....	0° to 250°F (-20° to 120°C) ±2% accuracy (full scale)
Pressure Gauge .....	0 to 100 psi (0 to 700 Kpa) ±3% accuracy (full scale)





# SMALL MECHANICAL FLOWMETERS with Nylon End Caps

## Model Number

FP 3 - D - 25		
<b>Inlet Size</b>		<b>Flow Rate</b> (maximum)
1/4"NPT(F)	2	1.5 gpm
1/4"BSPP(F)	2B	(gallons per minute)
3/8"NPT(F)	3	2.5 gpm
3/8"BSPP(F)	3B	8.0 gpm
1/2"NPT(F)	4	10 lpm (liters per minute)
		30 lpm

### Accessories

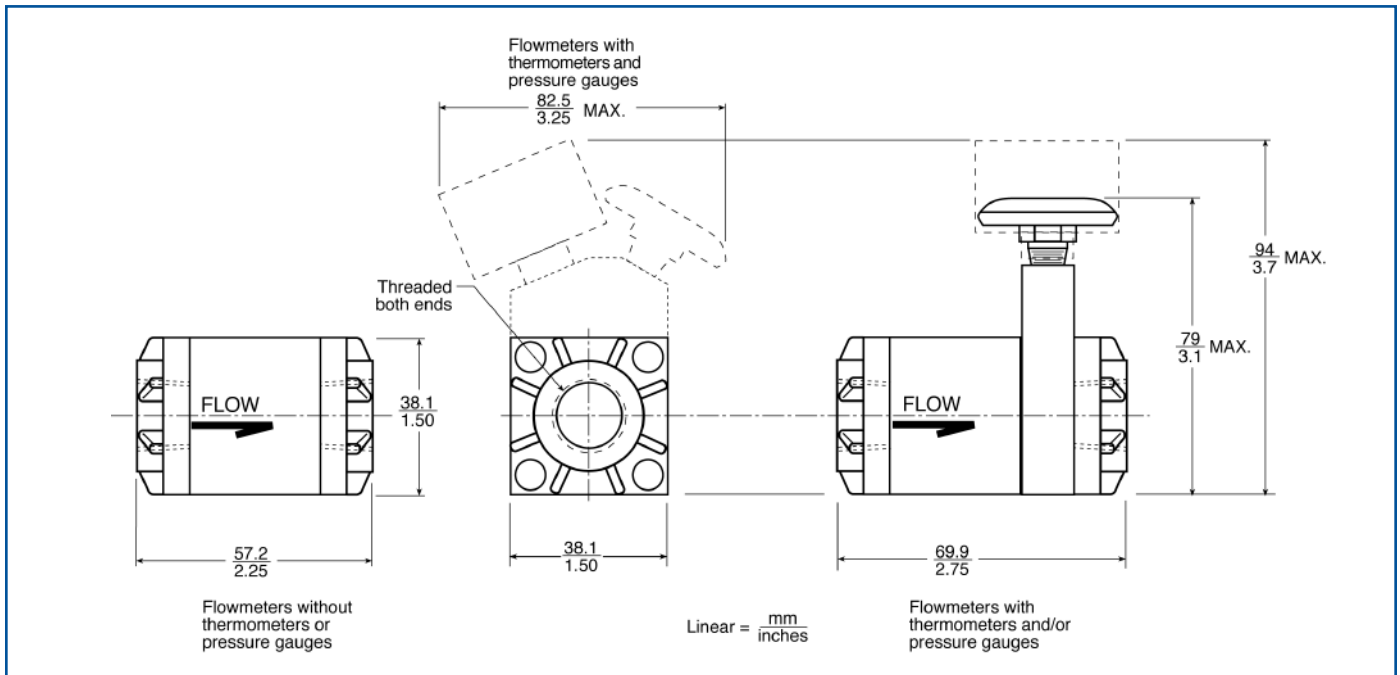
- A Flowmeter only
- B Thermometer
- C Thermometer and pressure gauge
- CL Thermometer and liquid-filled pressure gauge
- D Thermometer, pressure gauge, quick change socket and plug
- DL Thermometer, liquid-filled pressure gauge, quick change socket and plug
- E Thermometer and quick change socket and plug\*
- F Pressure gauge
- FL Liquid-filled pressure gauge

### Wetted Parts and Materials

End Caps .....	Glass-Filled Nylon
Body .....	Polysulfone
Vane .....	Glass-Filled Nylon
Spring .....	302 Stainless Steel
O-Rings .....	EPDM
Screws .....	Zinc-Plated Steel
Optional Gauge Block .....	Brass
Optional Quick-Connect Fittings .....	Brass

### Specifications

Flow Accuracy .....	±10% full scale
Operating Temperature .....	210°F max. (99°C max.)
Operating Pressure .....	100 psi max. (6.9 bar max.)
Dial Thermometer .....	0° to 250°F (-20° to 120°C) ±2% accuracy (full scale)
Pressure Gauge .....	0 to 100 psi (0 to 700 Kpa) ±3% accuracy (full scale)





# MEDIUM MECHANICAL FLOWMETERS

## Model Number

F 6 - B - 20

Inlet Size	
3/4"NPT(F)	6
3/4"BSPP(F)	6B
1"NPT(F)	8
1"BSPP(F)	8B

Flow Rate (maximum)	
20 gpm (gallons per minute)	20
75 lpm (liters per minute)	75

### Accessories

- A Flowmeter only
- B Thermometer
- C Thermometer and pressure gauge
- CL Thermometer and liquid-filled pressure gauge
- F Pressure gauge
- FL Liquid-filled pressure gauge

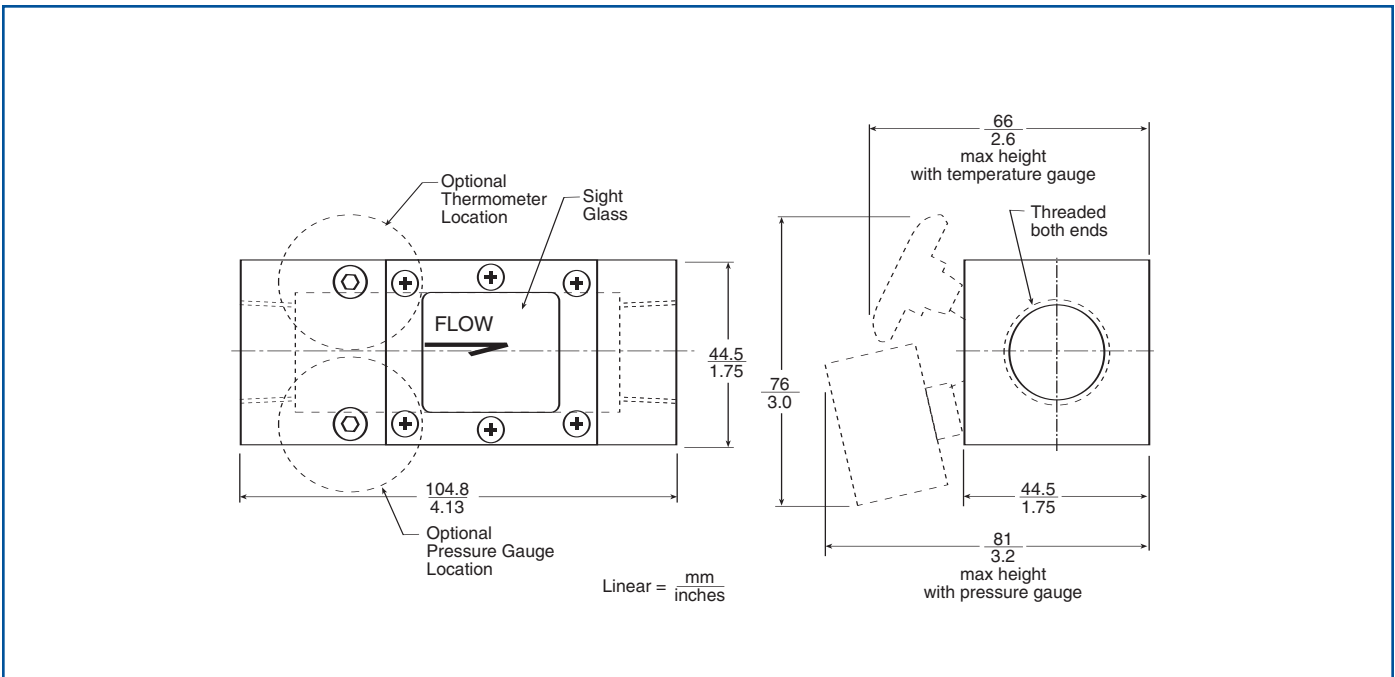
### Wetted Parts and Materials

Body	Anodized Aluminum
Sight Glass	Polysulfone
Vane	Stainless Steel
Spring	Stainless Steel
Pin	Stainless Steel
Gasket	Neoprene

### Specifications

Operating Temperature	.....210°F max. (99°C max.)
Pressure	.....100 psi max. (6.9 bar max.)
Accuracy	.....±10%
Thermometer	.....0° to 250°F (-20° to 120°C)
Pressure Gauge	.....0 to 100 PSI (0 to 700 Kpa)

**Contact the factory for other thread styles and sizes.**



## Model Number

**F 8 - B - 40**

Inlet Size		Flow Rate (maximum)
1"NPT(F)	8	40 gpm
1"BSPP(F)	8B	100 gpm (only available with 12 or 16 inlet size)
1-1/4"NPT(F)	10	150 gpm (only available with 16 & 24 inlet size)
1-1/2"NPT(F)	12	
1-1/2BSPP(F)	12B	
2"NPT(F)	16	19 to 150 lpm (only available with 8 or 10 inlet size)
2"BSPP(F)	16B	
3"NPT(F)	24	38 to 375 lpm (only available with 12 or 16 inlet size)

### Accessories

Flowmeter only	A
Thermometer	B
Thermometer and pressure gauge	C
Thermometer and liquid-filled pressure gauge	CL
Pressure gauge	F
Liquid-filled pressure gauge	FL

**Contact the factory for other thread styles and sizes.**

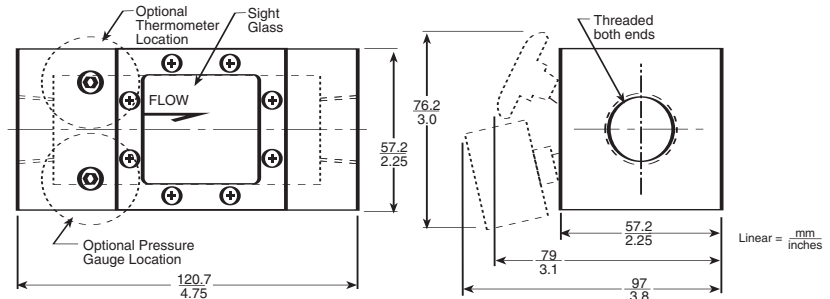
### Wetted Parts and Materials

Body	Anodized Aluminum
Sight Glass	Polysulfone
Vane	Stainless Steel
Spring	Stainless Steel
Pin	Stainless Steel
Gasket	Neoprene
Thermometer	0° to 250°F (-20° to 120°C)
Pressure Gauge	0 to 100 PSI (0 to 700 kg/cm²)

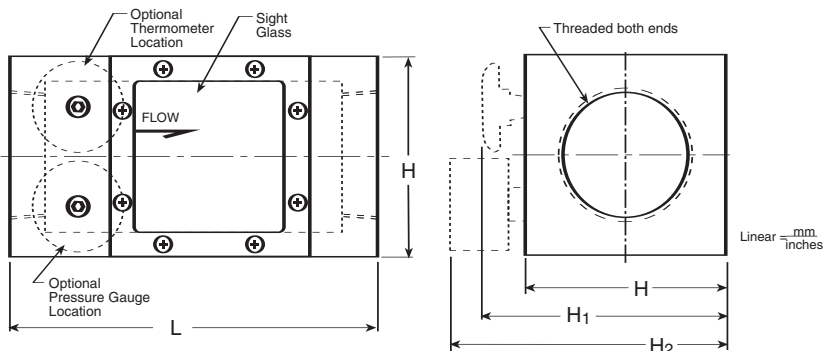
### Specifications

Operating Temperature	.....210°F max. (99°C max.)
Pressure	.....100 psi max. (6.9 bar max.)
Accuracy	.....±10%
Thermometer	.....0° to 250°F (-20° to 120°C)
Pressure Gauge	.....0 to 100 PSI (0 to 700 Kpa)

### 1" and 1-1/4" Flowmeters 40 gpm & 150 lpm



### 1-1/2", 2" & 3" Flowmeters 40, 100, & 150 gpm, 150, 375 lpm



Dim	Body Size	
	1-1/2 or 2"	3"
L	139.7 5.5	165.1 6.5
H	76.2 3.0	101.6 4.0
H <sub>1</sub>	99 3.9	124.5 4.9
H <sub>2</sub>	114 4.5	139.7 5.5