Decathlon Series

Economical PD Flow Meters

Description

Economical, easy-to-use flow measurement is provided by the Decathlon Series flow meter. Flow Technology has taken its patented flow meter design and made it simpler. Many customers do not need the wide array of options that the Decathlon Industrial Series offers. Therefore, Flow Technology has removed all but the most commonly used features and streamlined the manufacturing process to deliver an economical, industrial flow meter that is accurate and reliable.

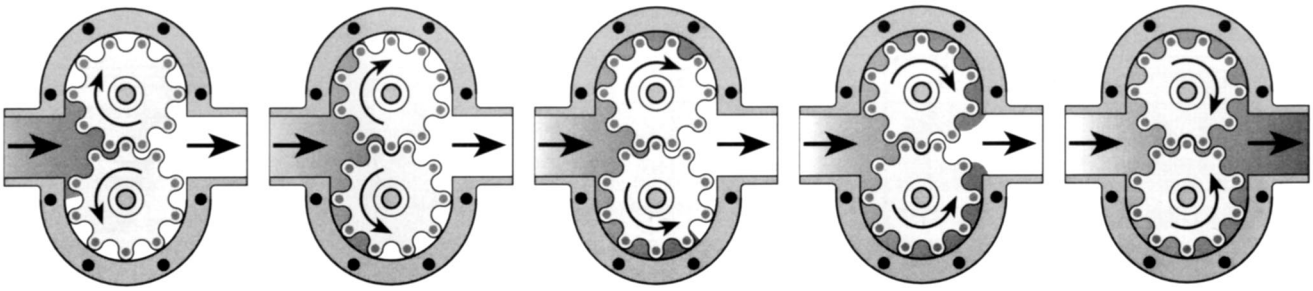
Features

- 1/8" to 1-1/2" line sizes
- Handles viscosities up to 1,000,000 cP+
- Stainless steel construction
- Only two moving parts
- Bearingless design
- Easy to install and maintain
- Reference accuracy ±0.1% of rate
- Up to 1000 psig operating pressure
- Operating temperatures up to 250° F (121° C)
- Wide range of applications
- Non-intrusive sensor
- Up to 1000:1 turndown

Economical Series

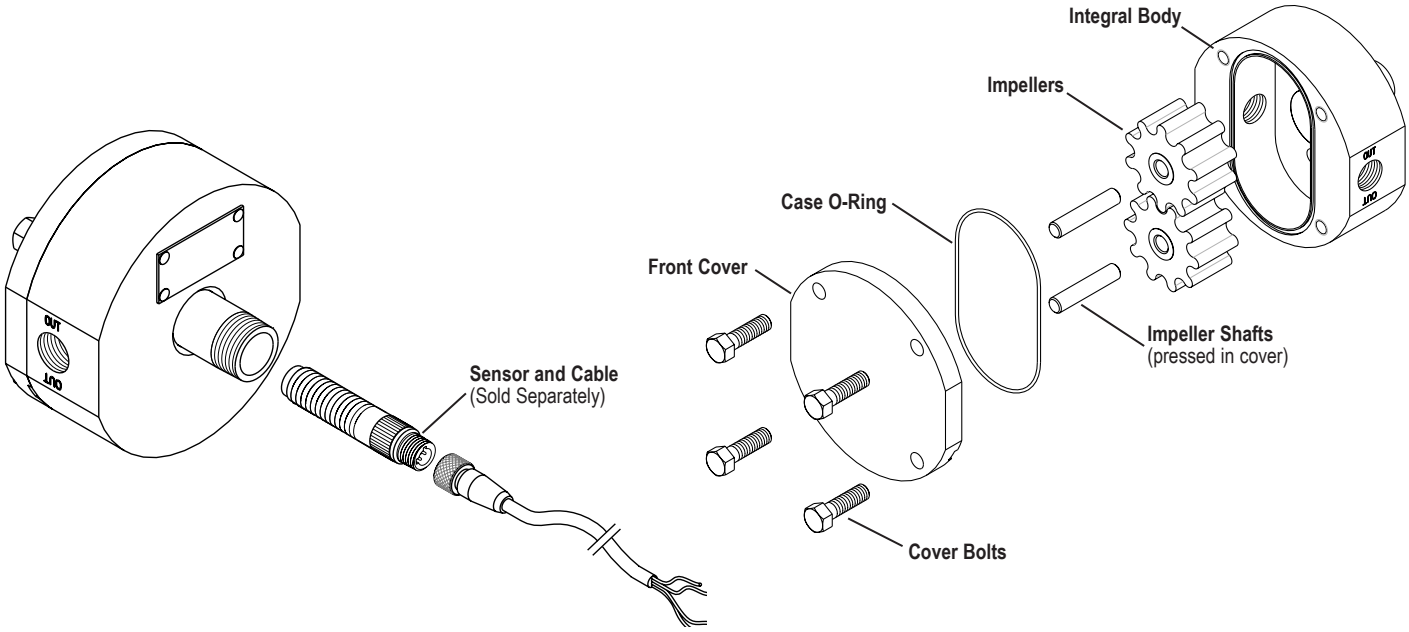
Industrial Flow Meters

Principle of Operation

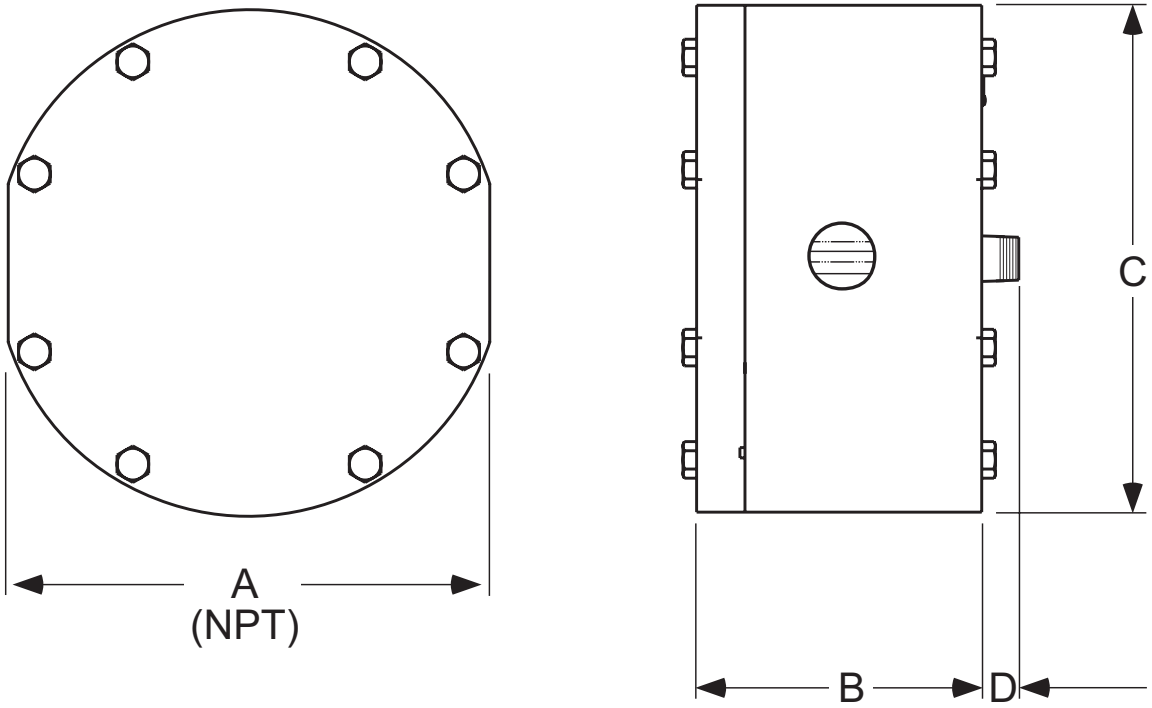


Flow Technology positive displacement flow meters use two rotating impellers driven by the flowing liquid. Magnets imbedded in the impellers activate a non-intrusive sensor which generates a pulsed output signal. Each pulse represents a known volume of liquid that is captured between the lobes of the impellers. A K-factor converts the pulses into engineering units for remote data collection and digital display.

Flow Meter Assembly Diagrams



Dimensions



Decathalon Series Economical Flow Meters

Specifications

Process Temperature Up to 250° F (121° C) based on impeller materials

Operating Pressure

Standard 250 psig (1724 kPa)

Turndown Ratio

(Based on maximum rated flow)

Low viscosity fluids	10:1 standard
Medium viscosity fluids	100:1
High viscosity fluids	1000:1

Calibration

Note: Each flow meter is calibrated with either a 1cP or at an FTI selected viscosity that is greater than the threshold viscosity for the meter size at 50% of its maximum rated flow.

Reference Accuracy ±0.1% of rate (repeatability)

Linearity, Typical ±2% on 1cP liquids

±1% to 2% on 100cP and higher liquids

Output

(Refer to individual product sheets for complete specifications)

Sensors

Hall Effect Pickoff:	5–24 VDC square-wave pulse depending on supply, 3-wire FM Approved, intrinsically safe
Magnetic Pickoff:	10 mV to 10 V sine-wave pulse depending on flow rate, 2-wire Explosion-proof optional
Signal Conditioners and Transmitters	Refer to individual product sheets, available from Flow Technology

Materials of Construction

Body (Case) and Cover	300 Series stainless steel, standard
Shafts	316 stainless steel, standard
Impellers	UHMWPE, PTFE, standard (See Flow Meter Ordering on last page)
O-Rings	Viton™ or Teflon™ standard
Bolts	Zinc-plated Grade 8 alloy steel

Model Specifications

Basic Model No.	Nominal Size	Maximum Flow Rate		Recommended Mesh Size		Weight	
	Standard Connection	*GPM*	*L/min*	*Mesh*	*[Particle Dia.]*	*lbs*	*kg*
DC01E	1/8" NPT	1	3.79	100	[0.006"]	2.1	1.0
DC02E	1/4" NPT	3	11.4	100	[0.006"]	3.4	1.5
DC05E	1/2" NPT	12	45.4	80	[0.007"]	9.5	4.3
DC10E	1" NPT	25	94.6	60	[0.009"]	15	6.7
DC15E	1-1/2" NPT	50	189	60	[0.009"]	29	13

Dimensions

Basic Model No.	A (NPT)		B		C		D	
	inches	mm	inches	mm	inches	mm	inches	mm
DC01E	2.9	74	1.1	28	3.0	76	1.1	28
DC02E	3.3	84	1.4	36	3.5	89	1.1	28
DC05E	4.8	121	2.2	56	5.0	127	1.4	36
DC10E	5.5	140	2.7	69	6.0	152	1.4	36
DC15E	7.0	178	3.4	86	7.5	191	1.3	33

Decathalon Series Economical Flow Meters

Model Numbering System

D C ☐ ☐ E – ☐ ☐ ☐ ☐ – ☐ ☐ ☐ ☐ ☐ ☐ ☐

Basic Model No.

Nominal Size
01 = 1/8"
02 = 1/4"
05 = 1/2"
10 = 1"
15 = 1-1/2"

Case Material
4 = 300 Series SS

Shaft Material
1 = 316 SS

O-Ring Material
1 = Viton™ *
9 = Teflon™

Impeller Material
3 = UHMWPE (-20 to 150° F)+
9 = PTFE (-20 to 250° F)

Impeller Temperature (See Chart)
5 = Normal Temperature

Connection Type
1 = NPT (Female)

Connection Size Nominal Size
01 = 1/8"
02 = 1/4"
05 = 1/2"
10 = 1"
15 = 1-1/2"

Special Designator
000 = Standard Meter

Impeller Normal Temperature Chart

Impeller Material	Operating Temperature	CIP Temperature
UHMWPE	-20° F to +150° F (-29° C to +66° C)	185° F (85° C)
PTFE	-20° F to +250° F (-29° C to +121° C)	250° F (121° C)

Key

*	Standard Configuration
✓	FDA Compliant
CIP	"Clean in Place," a brief cleaning cycle
+	Not available in size 01 and 02 meters

Material Guide

Name	Description
300 Series SS	Any industrial grade stainless steel, typically 303 or 304
316 SS	316 Stainless Steel
Viton™	Fluorocarbon, by Chemours™
PTFE	Carbon Filled Polytetrafluoroethylene, Teflon™by Chemours™ (Impeller Material)
Teflon™	Polytetrafluoroethylene, by Chemours™
UHMWPE	Ultra High Molecular Weight Polyethylene

OEM Versions – On approved projects, the Flow Technology flow meters can be modified to meet the specific needs of an OEM application.

Specifications are for reference only and are subject to change without notice.

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