Decathlon Series

Economical Industrial Flowmeters

Description

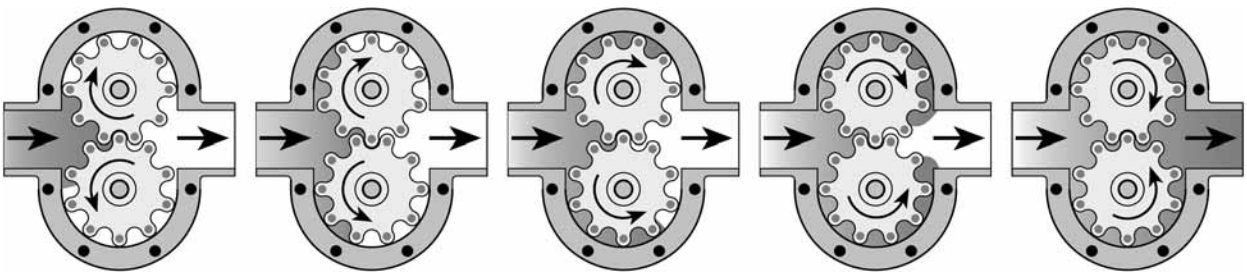
Economical, easy-to-use flow measurement is provided by the Decathlon Series flowmeter. Flow Technology has taken its patented flowmeter design and made it simpler. Many customers do not need the wide array of options that the Decathlon Industrial Series offers. Therefore, Flow Technology has removed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

Economical Series
Industrial Flowmeters

Features

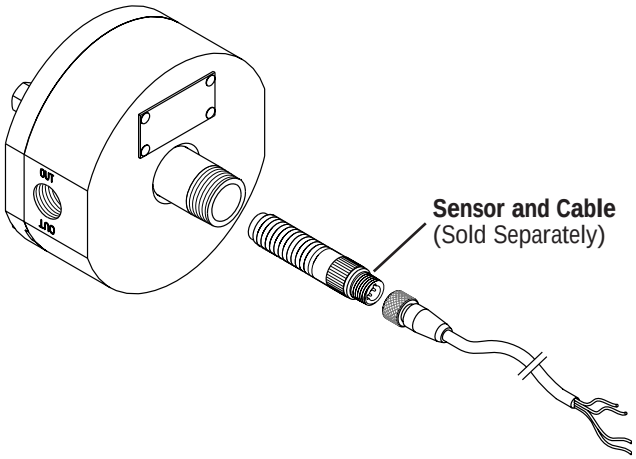
- 1/8" to 1-1/2" line sizes
- Reference accuracy ±0.1% of rate
- Stainless steel construction
- Only two moving parts
- Bearingless design
- Easy to install and maintain
- Handles viscosities up to 1,000,000 cP
- Operating temperatures up to 250° F (121° C)
- Wide range of applications
- Non-intrusive sensor
- 100:1 turndown on medium to high viscosity fluids

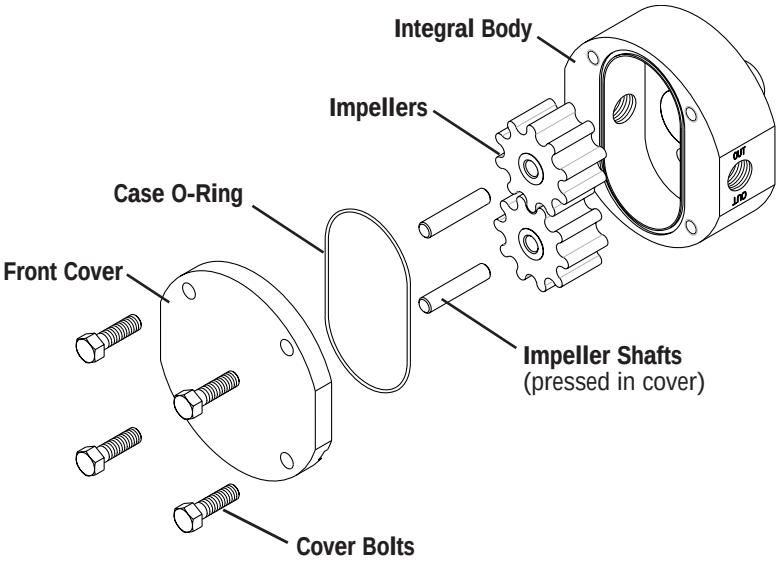
Principle of Operation



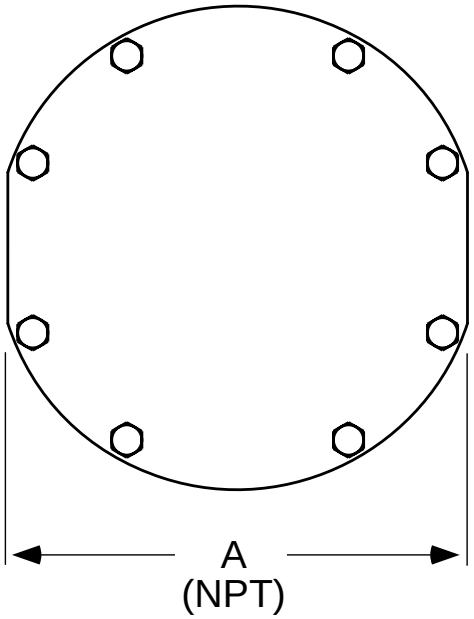
Flow Technology positive displacement flowmeters use two rotating impellers driven by the flowing liquid. Magnets imbedded in the impellers activate a non-intrusive sensor which generates a pulsed output signal. Each pulse represents a known volume of liquid that is captured between the lobes of the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

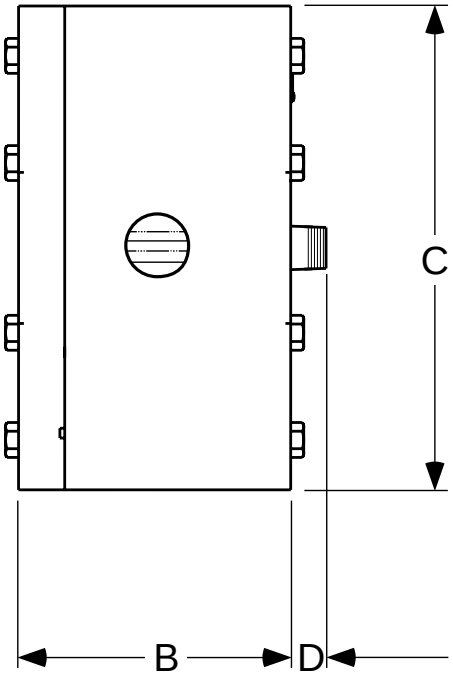
Flowmeter Assembly Diagrams





Dimensions





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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 flowmeter is calibrated with either a 1cP or 100cP liquid at 50% of its maximum rated flow.

Reference Accuracy — ±0.1% of rate (repeatability)

Linearity — ±2% on 1cP liquids

±1% to 2% on 100cP and higher liquids

Output

(Refer to individual product sheets for complete specifications)

Sensors

Hall Effect Sensor:	5–24 VDC square-wave pulse depending on supply, 3-wire FM Approved, intrinsically safe
Magnetic Pick-up Sensor:	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 Flowmeter 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 NPT	
	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) inches	A (NPT) mm	B inches	B mm	C inches	C mm	D inches	D 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

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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)

Special Designator
000 = Standard Meter

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

Connection Type
1 = NPT (female)

Impeller Temperature (See Chart)
5 = Normal Temperature

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)

Material Guide

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

Key

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

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

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

Local Representative:

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ISO 9001 REGISTERED

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