

# 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.

### *Features*

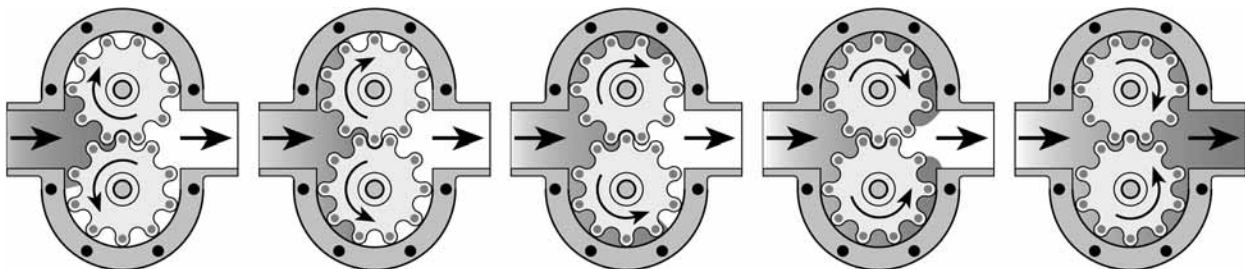
- 1/8" to 1-1/2" line sizes
- Reference accuracy  $\pm 0.1\%$  of rate
- Stainless steel construction
- Only two moving parts
- Bearingless design
- Easy to install and maintain
- Handles viscosities up to 1,000,000 cP
- Operating temperatures up to 250° F (121° C)
- Wide range of applications
- Non-intrusive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



*Economical Series*  
Industrial Flowmeters

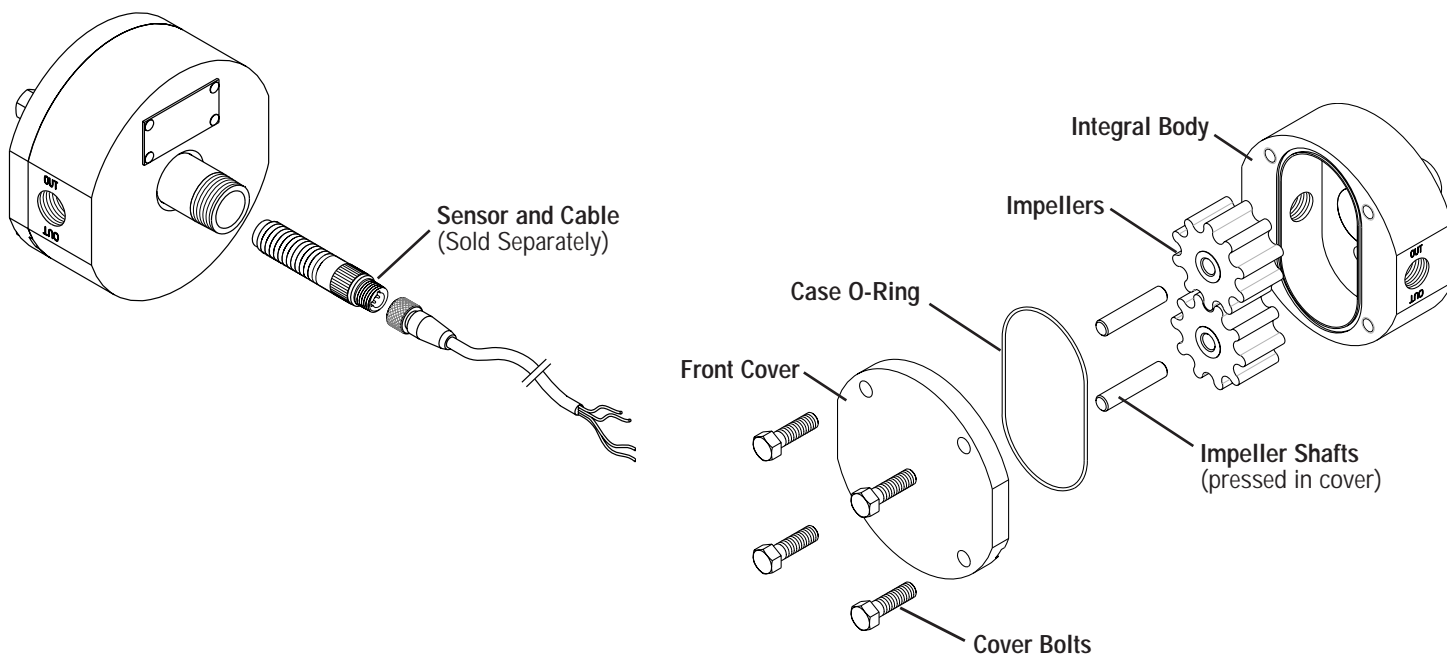
Protected by one or more U.S. Patents:  
4641522, 4815318, 4911010, 4996888, 5027653, 5325715

### *Principle of Operation*

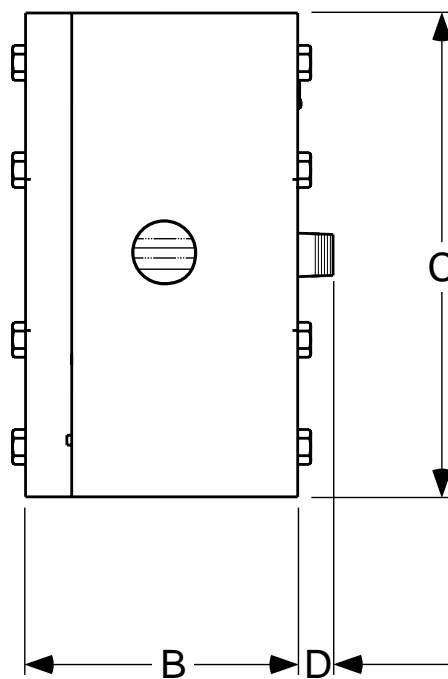
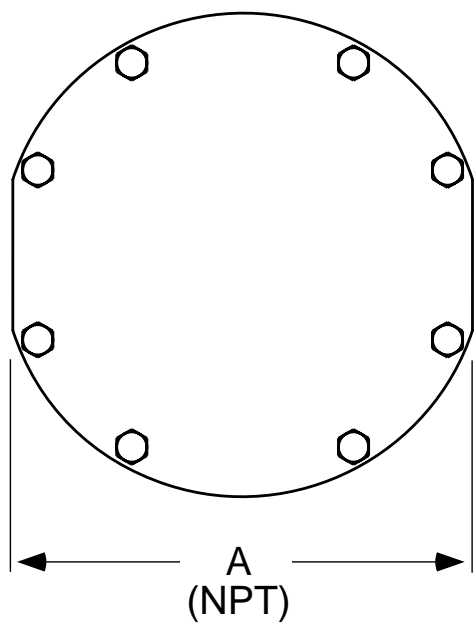


Flow Technology positive displacement flowmeters use two rotating impellers driven by the flowing liquid. Magnets imbedded in the impellers activate a non-intrusive sensor which generates a pulsed output signal. Each pulse represents a known volume of liquid that is captured between the lobes of the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

## Flowmeter Assembly Diagrams



## Dimensions



## Specifications

<b>Process Temperature</b>	Up to 250° F (121° C) based on impeller materials	<b>Output</b>	(Refer to individual product sheets for complete specifications)
<b>Operating Pressure</b>	Standard 250 psig (1724 kPa)	Sensors	
<b>Turndown Ratio</b> (Based on maximum rated flow)	Low viscosity fluids 10:1 standard Medium viscosity fluids 100:1 High viscosity fluids 1000:1	<i>Hall Effect Sensor:</i>	5–24 VDC square-wave pulse depending on supply, 3-wire FM Approved, intrinsically safe
<b>Calibration</b>	Note: Each flowmeter is calibrated with either a 1cP or 100cP liquid at 50% of its maximum rated flow.	<i>Magnetic Pick-up Sensor:</i>	10 mV to 10 V sine-wave pulse depending on flow rate, 2-wire Explosion-proof optional
<b>Reference Accuracy</b>	±0.1% of rate (repeatability)	Signal Conditioners and Transmitters:	Refer to individual product sheets, available from Flow Technology
<b>Linearity</b>	±2% on 1cP liquids ±1% to 2% on 100cP and higher liquids	<b>Materials of Construction</b>	
		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
<b>DC01E</b>	1/8" NPT		1	3.79	100	[0.006"]	2.1	1.0
<b>DC02E</b>	1/4" NPT		3	11.4	100	[0.006"]	3.4	1.5
<b>DC05E</b>	1/2" NPT		12	45.4	80	[0.007"]	9.5	4.3
<b>DC10E</b>	1" NPT		25	94.6	60	[0.009"]	15	6.7
<b>DC15E</b>	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
<b>DC01E</b>	2.9	74	1.1	28	3.0	76	1.1	28
<b>DC02E</b>	3.3	84	1.4	36	3.5	89	1.1	28
<b>DC05E</b>	4.8	121	2.2	56	5.0	127	1.4	36
<b>DC10E</b>	5.5	140	2.7	69	6.0	152	1.4	36
<b>DC15E</b>	7.0	178	3.4	86	7.5	191	1.3	33

## 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
<b>UHMWPE</b>	-20° F to + 150° F (-29° C to + 66° C)	185° F (85° C)
<b>PTFE</b>	-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
<b>300 series SS</b>	Any industrial grade stainless steel, typically 303 or 304
<b>316 SS</b>	316 Stainless Steel
<b>Viton®</b>	Fluorocarbon, by DuPont
<b>PTFE</b>	Carbon Filled Polytetrafluoroethylene, Teflon® by DuPont (Impeller Material)
<b>Teflon®</b>	Polytetrafluoroethylene, by DuPont
<b>UHMWPE</b>	Ultra High Molecular Weight Polyethylene

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

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

Local Representative:



8930 S. Beck Avenue, Ste 107, Tempe, Arizona 85284 USA  
Tel: (480) 240-3400 • Fax: (480) 240-3401 • Toll Free: 1-800-528-4225  
E-mail: ftmarket@ftimeters.com • Web: www.ftimeters.com