

DVZ - Vortex Flowmeter and Switch

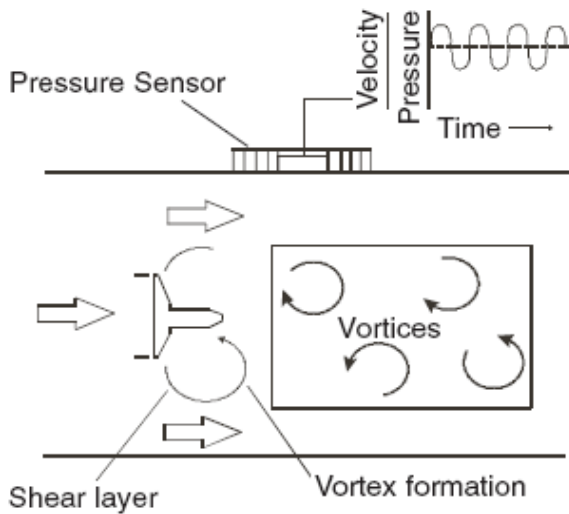
Benefits and Features



- Flow Ranges from 0.13-1.2 GPM to 2.6-26.5 GPM
- Accuracy 2.5% of Full Scale
- Vortex Shedding Technology with No Moving Parts
- Ryton Body with Nickel Plated Brass or 316 SS Fittings
- Frequency, Current or Switch Outputs Available
- Economically Priced

General Description

The DVZ series vortex flowmeters are the perfect solution for applications where reliability and low cost are desired. The DVZ senses the flowrate of low viscosity liquids using the vortex shedding principle. A small obstruction called a bluff body is placed in the flowpath. As fluid flows across the bluff body, small low-pressure areas called vortices are created just behind the bluff body. The position of the vortices alternates to either side of the bluff body in a uniform pattern. The frequency of the vortices shift is directly proportional to flowrate. This shift in the vortices is detected by a very sensitive pressure sensor and processed as a flowrate signal.



The vortex flowmeter has no moving parts and thus is very reliable. The DVZ series is available with a Ryton body and a choice of either nickel plated brass or 316 stainless steel fittings. The bluff body is available in either ryton or ceramic, which has excellent long term wear characteristics.

The available outputs are frequency, 4-20 mA, adjustable relay, and compact electronics with digital flowrate display, 4-20 mA output and adjustable transistor switch options.

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⚙ Specifications

Specifications

Available Ranges: 0.13-1.2 through
1.1-8.5 GPM water

Max. Liquid Viscosity: 3 Centistoke

Accuracy: ± 2.5% of full scale

Repeatability: ± 1% of full scale

Straight Pipe Requirement: 10 X Diameter upstream and downstream

Oper. Temp. Range: 32-176°F

Maximum Pressure: 145 PSIG

Max. Pressure Drop: 3.6 PSI @ 100% rated flow

Wetted Parts

Sensor Housing: Ryton®

Sensing Diaphragm: PVDF

Bluff Body: Ryton® or ceramic depending on model code

Seals: Buna-N, EPDM or Viton® depending on model code

Fittings: Nickel plated brass or 316 SS depending on model code

Output C30M, C30R Compact Electronics (Dual Switches)

Power Supply: 24 VDC ± 20%

Output

C30M: 2-NPN open collector switches

C30R: 2-PNP open collector switches

Switch Ratings: 300 mA Max.

Programming: Switch setpoint, reset point, switching logic, dampening, lock out code via 2-button keypad

Electronic Connection: Micro-DC, 5-pin, male

Electronic Protection: NEMA 4X/IP 65

Note: One of the two switches can be field programmed as a pulse frequency transmitter.

Electrical Specifications

Output S300, Adjustable Relay

Power Supply: 24 VDC ± 20%

Relay Rating: SPDT, Max. 1amp @ 30 VDC

Electrical Connection: Micro-DC, 5-pin male

Electrical Protection: NEMA 4X/IP 65

Output F300, PNP Frequency

Power Supply: 24 VDC ± 20%

Output: PNP open collector, 200 mA Max.

Electrical Connection: Micro-DC, 4-pin male

Electrical Protection: NEMA 4X/IP 65

Output L343, L443, Analog

Power Supply: 24 VDC ± 20%

Output: 4-20 mA, 3-wire

Max. Load: 500Ω

Electrical Connection:

L343: Micro-DC, 4-pin male

L443: DIN 43650 Plug

Electrical Protection: NEMA 4X/IP 65

Output C34N, C34P Compact Electronics (Switch & 4-20 mA)

Power Supply: 24 VDC ± 20%

Output

C34N: 4-20mA, 3-wire and 1-NPN open collector

C30P: 4-20mA, 3-wire and 1-PNP open collector

Max. Loop Load: 500Ω

Switch Rating: 300 mA Max.

Programming: Switch setpoint, reset point, switching logic, 4-20 mA span and zero, dampening and lockout code via 2 button keypad

Electronic Connection: Micro-DC, 5-pin, male

Electronic Protection: NEMA 4X/IP 65

Note: The switch can be field programmed as a pulse frequency transmitter.

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Ordering Information

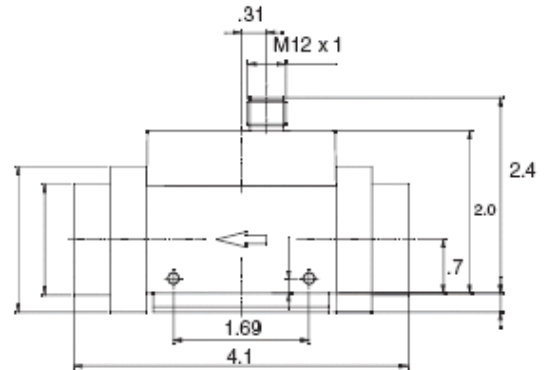
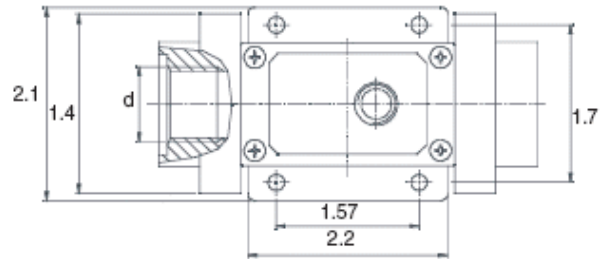
Housing/Bluff Body	Fitting/Seals	Flow Ranges	Connections		Output
			Fixed	Rotatable	
DVZ-1... = Ryton/Ryton DVZ-2... = Ryton/Ceramic	...1... = Brass/Buna-N ...2... = Stainless/Buna-N	...04... = 0.5-4.5 LPM ...07... = 0.8-7.0 LPM ...10... = 1.3-10.0 LPM ...U1... = 0.13-1.2 GPM ...U2... = 0.2-1.9 GPM ...U3... = 0.4-2.6 GPM	...G2... = 1/4" BSP ...G3... = 3/8" BSP ...G4... = 1/2" BSP ...N2... = 1/4" NPT ...N3... = 3/8" NPT ...N4... = 1/2" NPT	...B2... = 1/4" BSP ...B3... = 3/8" BSP ...B4... = 1/2" BSP ...P2... = 1/4" NPT ...P3... = 3/8" NPT ...P4... = 1/2" NPT	C30M = Compact electronics w/ 2 NPN switches C30R = Compact electronics w/ 2 PNP switches C34N = Compact electronics w/ 4-20 mA + 1 NPN switch C34P = Compact electronics w/ 4-20 mA + 1 PNP switch F300 = Frequency w/ Micro-DC plug L343 = 4-20 mA, 3-wire w/Micro-DC plug L443 = 4-20 mA, 3-wire w/ DIN 43650 plug S300 = Adjustable SPDT switch w/ Micro-DC plug
	...4... = Brass/EPDM	...16... = 2.0-16.0 LPM ...U4... = 0.6-4.2 GPM	...G3... = 3/8" BSP ...G4... = 1/2" BSP ...G5... = 3/4" BSP ...N3... = 3/8" NPT ...N4... = 1/2" NPT ...N5... = 3/4" NPT	...B3... = 3/8" BSP ...B4... = 1/2" BSP ...B5... = 3/4" BSP ...P3... = 3/8" NPT ...P4... = 1/2" NPT ...P5... = 3/4" NPT	
	...5... = Stainless/EPDM	...22... = 3.2-22.0 LPM ...32... = 4.0-32.0 LPM ...U5... = 0.9-5.8 GPM ...U6... = 1.1-8.5 GPM	...G4... = 1/2" BSP ...G5... = 3/4" BSP ...G6... = 1" BSP ...N4... = 1/2" NPT ...N5... = 3/4" NPT ...N6... = 1" NPT	...B4... = 1/2" BSP ...B5... = 3/4" BSP ...B6... = 1" BSP ...P4... = 1/2" NPT ...P5... = 3/4" NPT ...P6... = 1" NPT	
	...7... = Brass/Viton®	...63* = 5-63 LPM ...99* = 10-100 LPM ...U7* = 1.3-16.6 GPM ...U8* = 2.6-26.5 GPM	...G5... = 3/4" BSP ...G6... = 1" BSP ...N5... = 3/4" NPT ...N6... = 1" NPT	...B5... = 3/4" BSP ...B6... = 1" BSP ...P5... = 3/4" BSP ...P6... = 1" BSP	
	...8... = Stainless/Viton®				
Accessories					
Part Number 807.037 = Mating 4-Pin Micro-DC plug with 6 Ft. cable for output F300 & L343 807.007 = Mating 5-pin Micro-DC plug with 6 Ft. cable for output C30M, C30R, C34N, C34P & S300					
* Ranges currently in development.					Sample Ordering Code: DVZ-1107N2C34P

Model	Weight	
	Fixed Connections	Rotatable Connections
DVZ...S300 DVZ...F300 DVZ...L343/L443	1.1 LBS/0.50 KG	2.0 LBS/0.90 KG
DVZ...C34P, C34N, C30M, C30R	1.5 LBS/0.65 KG	2.5 LBS/1.10 KG

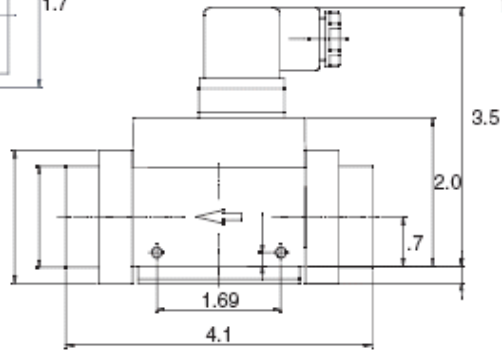
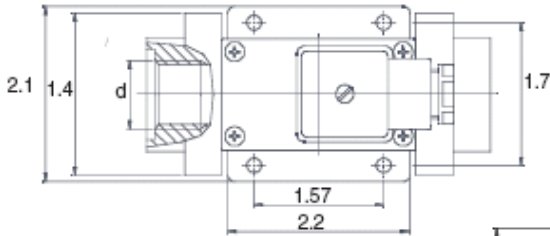
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↩ Dimensions

DVZ-...S300, DVZ-...F300, DVZ-L343
 with fixed connections



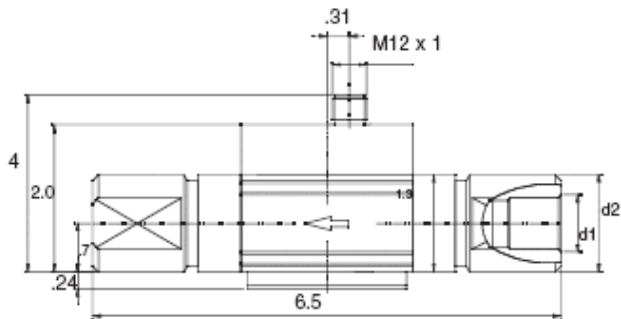
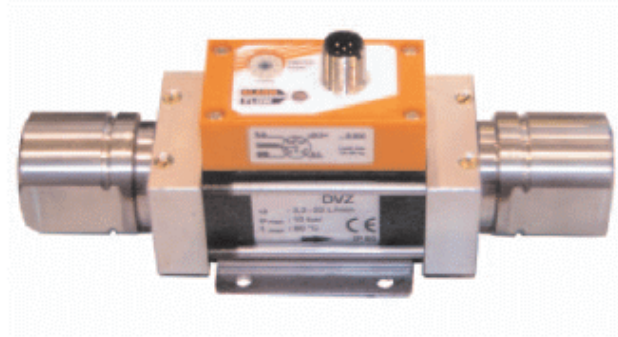
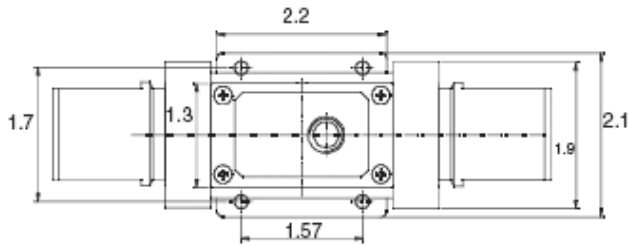
DVZ-...L443
 with fixed connections



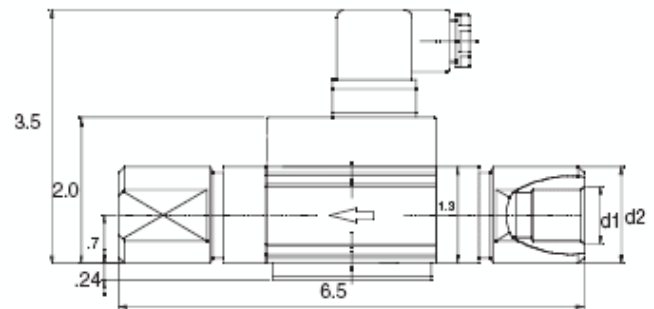
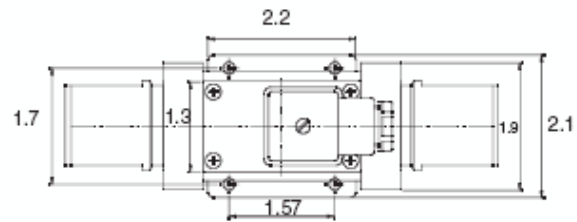
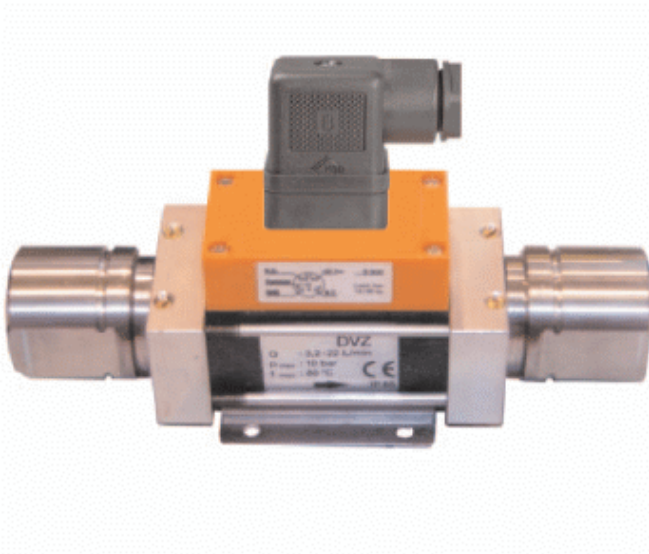
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↩ Dimensions

DVZ-...S300, DVZ-...F300, DVZ-L343
with rotatable connections



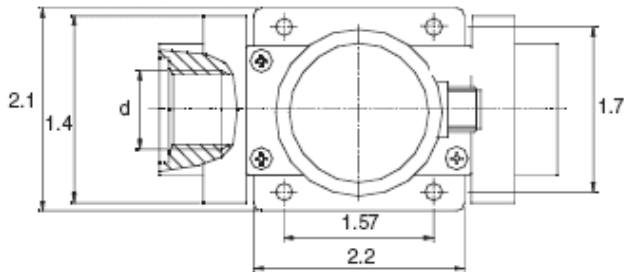
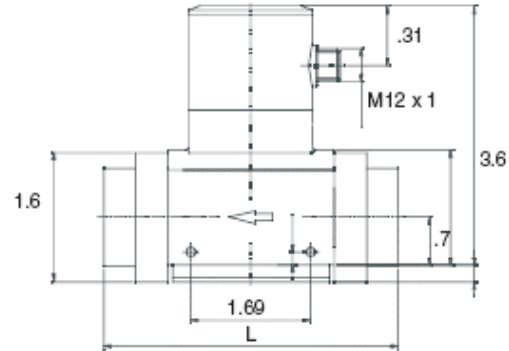
DVZ-...L443
with rotatable connections



DVZ - Vortex Flowmeter and Switch

↩ Dimensions

DVZ-...C3xx
with fixed connections



DVZ-...C3xx
with rotatable connections

