Series 4000 Flow Sensors

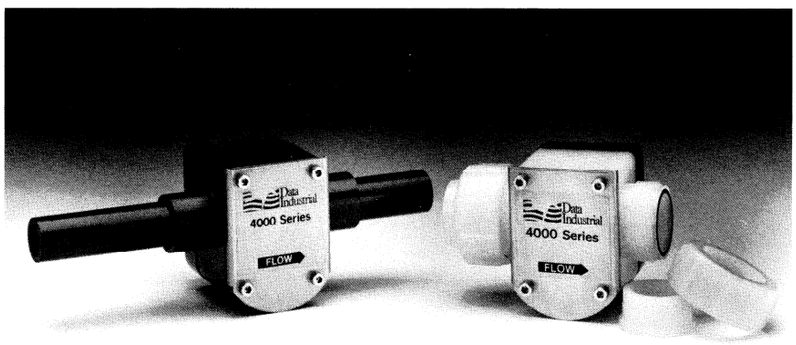
The 4000 series flow sensor is an in-line, flow-through design using a tangential six bladed impeller.

The 4000 series is available in ½", ¾", 1" pipe sizes and is molded of PVC or PVDF materials. The compact molded design allows the 4000 series to replace old style magnetic sensors with little or no piping changes.

The proprietary non-magnetic detection circuit is available with two outputs: a low impedance 3-wire 5 volt DC square wave signal (that can be pulled up to 20 volts) capable of traveling up to 2000 feet without amplification, or a 2-wire loop powered 4-20 mA current analog signal. These two signal formats are compatible with most data acquisition or PLC equipment.

Data Industrial also manufactures digital displays, scalers, transmitters and control relays for use with the 4000 series.

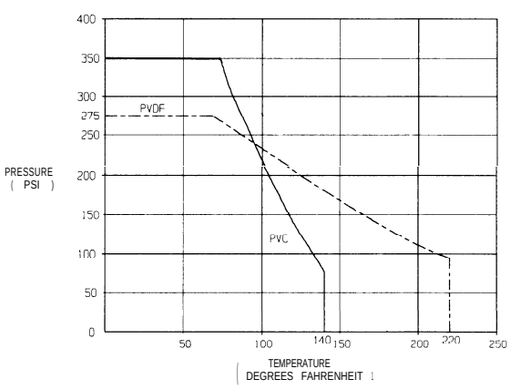
PVDF versions are compatible with all PVDF piping systems including SYGEF, KYNAR, SUPER PRO-LINE and SANITECH. Adapters are available for use with other plastic or metallic piping systems.



Product Features

1. Low flow capabilities: Enhanced versions can accurately measure flow rates as low as 0.25 FPS.
2. Flow detection electronics can be serviced or replaced without opening the pipe. No exposure of wetted parts.
3. Impeller bearings and shaft can be easily replaced without removing the sensor from the pipe.
4. PVDF units are exact physical replacement for old style magnetic impeller sensors.
5. Superior pressure/temperature performance range and minimal head loss across sensor.
6. Zirconia ceramic shaft and Tefzel® impeller are standard (options are available).

Specifications - Mechanical



	PVC	PVDF
Nominal Pipe Size	½" ¾", 1"	½", ¾", 1"
	20,25,32mm	20, 25, 32mm
End Connections	Plain end pipe	Socket weld/union
STD Flow Range	1 - 20 FPS	1 - 20 FPS
Low Flow Range	¼ - 8 FPS	¼ - 8 FPS
Accuracy	Better than 1%	
Repeatability	+/- 0.5%	+/- 0.5%
Max Temp Rating	140° F (60°C)	220° F (104°C)
Max Pressure Rating	350 PSI @ 73°F	275 PSI @ 65°F

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Specifications - Electrical

Digital Output
4XXX00-XXXX

Cable	**3** wire
Signal	Output is 5 volt CMOS and LSTTL compatible.
Logic High	4.5 volts min (38k source impedence typical) Can be forced to any logic level up to 20 VDC by an external pull up resistor.
Logic Low	0.8 volts @ 26 mA
Power	Supply voltage 9 to 20 VDC Supply current 2 mA maximum

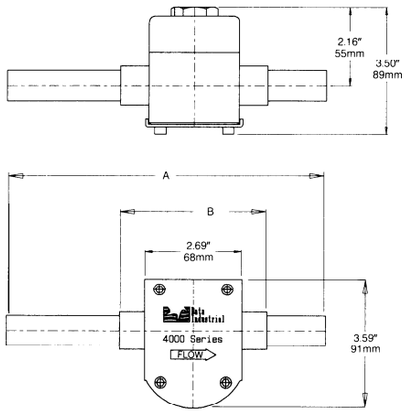
Analog Output
4XXX10-XXXX

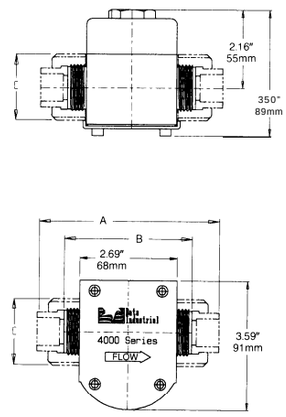
Cable 2 wire*

* Two additional connections present for calibration purposes only

Signal	4-20 mA current analog with offset compensation output for ripple less than 0.25% of full scale
Power	10 VDC minimum to 35 VDC maximum. The combination of loop power supply voltage and total loop series resistance must insure that the device voltage remains within these limits over the 4 to 20 mA output span.

Dimensions





PVC

MODEL	A	B
½"	8.83"/224mm	4.08"/104mm
¾"	10.69"/272mm	4.69"/119mm
1"	13.15"/334mm	5.40"/137mm

PVDF

MODEL	A	B	C
½"	5.58"/142mm	3.54"/ 90mm	1.85"/47mm
¾"	6.12"/155mm	3.92"/1 OOmm	2.24"/57mm
1"	6.68"/170mm	4.32"11 Omm	2.52"/64mm

Ordering Information

4 X X X XX X X X X

DESIGN	STYLE	SIZE	MATERIAL	ELECTRONICS	O-RING	SHAFT-	IMPELLER	BEARING
Series	0 = Standard 1 = Enhanced	0 = ½" 1 = ¾" 2 = 1"	2 = PVC Furnished With Sch. 80 Tail Pieces 3 = PVDF Socket 4 = PVDF Union Thd. 5 = PVDF W/Union 7 = PVDF w/SS Union X FTHD Adapter 8 = PVDF Flanges 9 = PVDF w/CPVC Socket Adapter	00 = Pulse Output 01 = Pulse w/Foil Shld IO = 4-20 mA Analog	0 = Viton 1 = EPDM 2 = Calrez 3 = Food Grade Silicon 4 = Neoprene 5 = Chemraz	0 = ZIR Ceramic 1 = Hastelloy 2 = Tung Carbide 3 = Titanium 4 = AL Ceramic 5 = Monel 6 = Stainless Steel 7 = Tantalum	1 = Nylon 2 = Tefzel	1 = Pennlon 2 = Tefzel

Calibration

Analog models are factory calibrated as follows:

Sensor Size	4 to 20 mA Scale
½" standard range	0 to 20 GPM
½" low flow range	Oto 8GPM
¾" standard range	0 to 30 GPM
¾" low flow range	O to12GPM
1" standard range	0 to 40 GPM

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