

Truflo® — ProPulse® 2 Series

Mini Turbine Flow Meter Sensor

ICON™ Corrosion-Free
PROCESS CONTROLS Instrumentation Equipment™

IO-Link

truflo®



Small in size

REALLY BIG ON VALUE

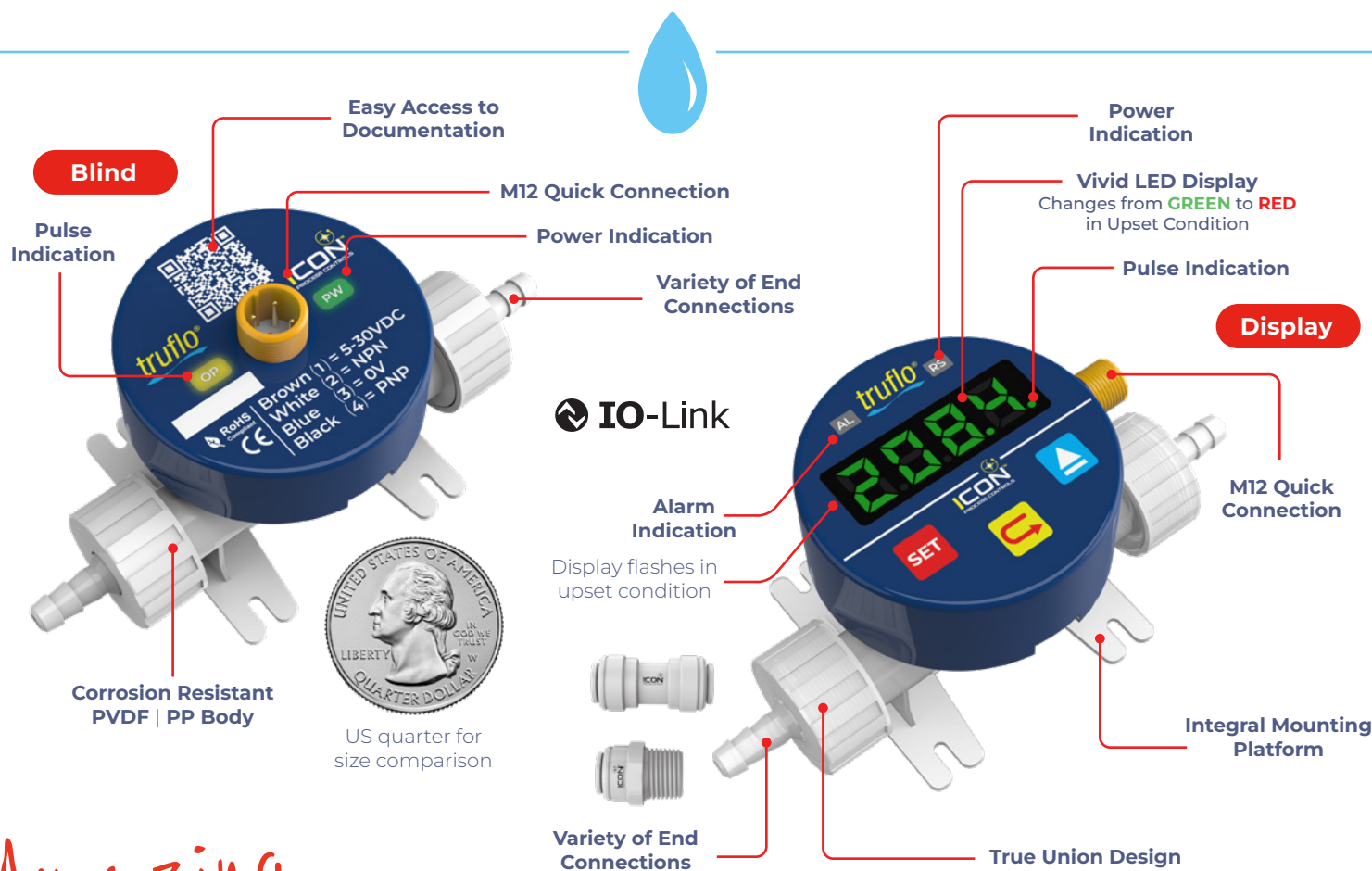
Monitoring Low Dosing Flows With Precision

TruFlo® — ProPulse® 2 Series

Mini Turbine Flow Meter Sensor

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PROCESS CONTROLS Instrumentation Equipment™

Precision in Every Drop: Monitoring Low Dosing Flows



Amazing

~~Good~~ things come in small packages

Features

- ✓ Excellent Chemical Resistance
- ✓ Perfect for Metering or Dosing Applications
- ✓ Ultra Low Flow Ranges | 40 ml/min | 0.01 GPM
- ✓ Variety of End Connections:
Hose Barb | Threaded | Flared | Straight Pipe
- ✓ Pulse | 4 – 20mA | RS485 | IO-Link
- ✓ Compact Lightweight Design
- ✓ 1/8" to 1/2" Sizes

PFA

PVC

PP

PVDF

FPM



Small but mighty

The ProPulse® 2 provides superior performance and delivers accurate ultra-low flow measurement that is highly repeatable under the most demanding of industrial environments.

The ProPulse® 2 operates using a PVDF rotor with encapsulated magnetic inserts, which rotate on a long-wearing set of zirconium ceramic bushings, designed to provide years of reliability. As the rotor spins, the magnetic field produced by the magnets is picked up via a Hall Effect Sensor, which converts the rotation into a square wave NPN pulse, 4-20mA, or RS485 output that can be sent directly to a metering pump or local display.

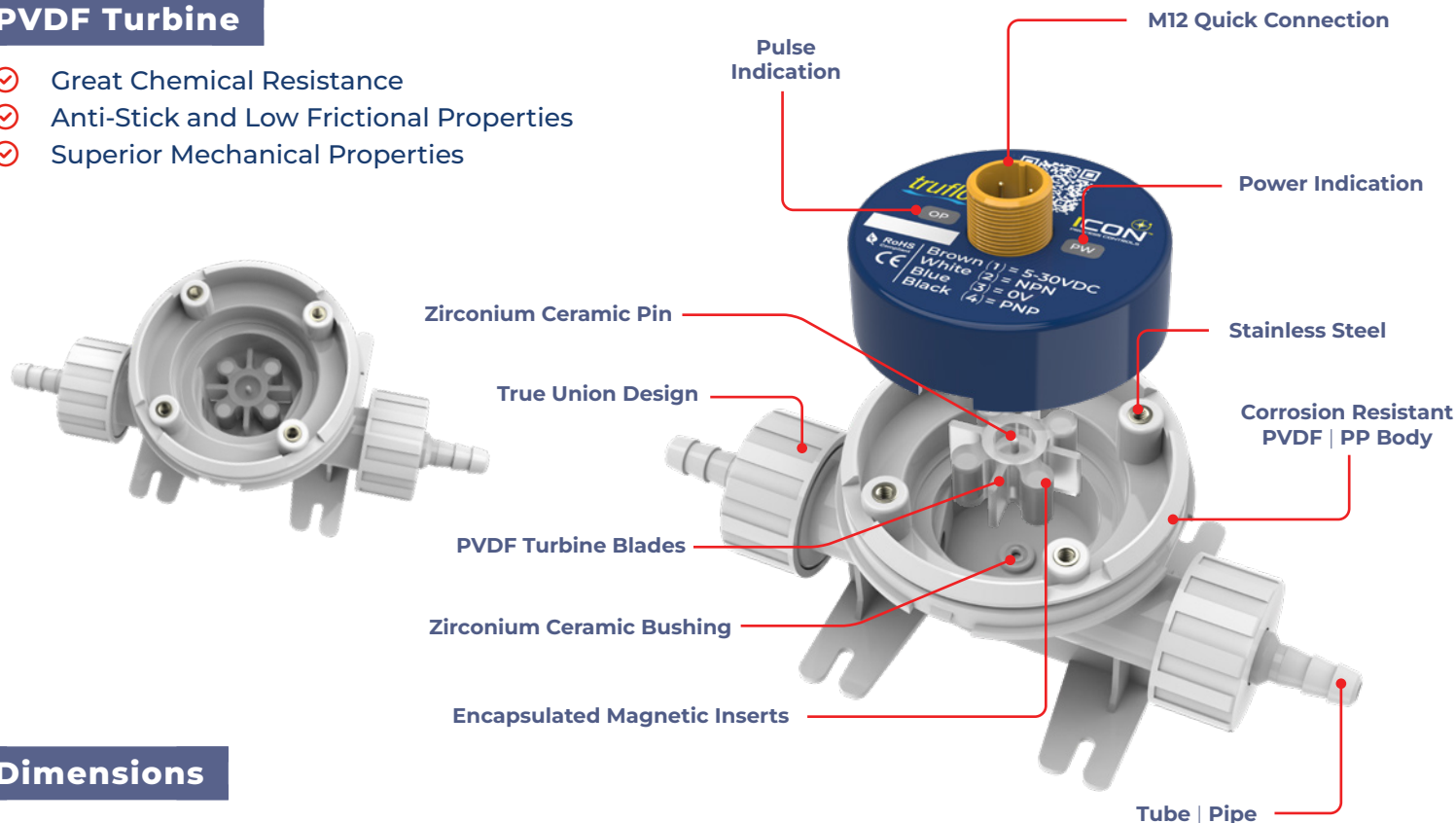
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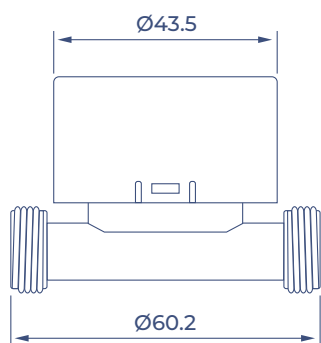
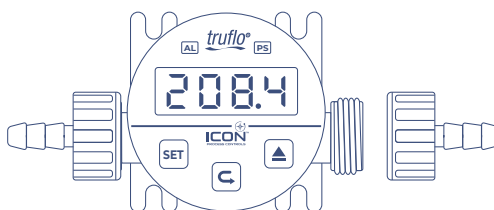
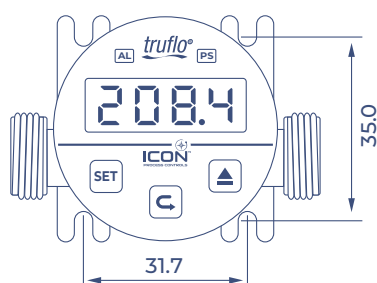
Small in size — **REALLY BIG ON VALUE**

PVDF Turbine

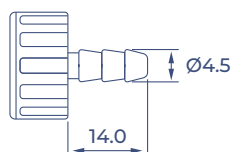
- ✓ Great Chemical Resistance
- ✓ Anti-Stick and Low Frictional Properties
- ✓ Superior Mechanical Properties



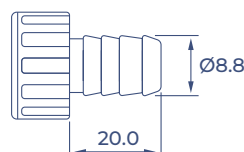
Dimensions



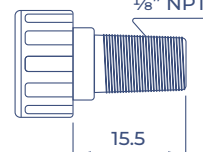
Hose Barb : 03H



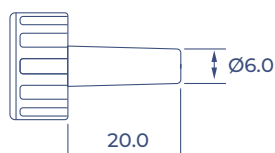
Hose Barb : 06H



Threaded : 02N
1/8" NPT



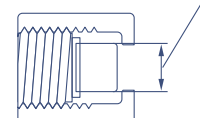
Straight Tube : 04T



Straight Tube : 06T



Flared : 04F & 06F
Tube Size: 1/4" or 3/8"



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Mini Turbine Flow Meter Sensor

Technical Specifications

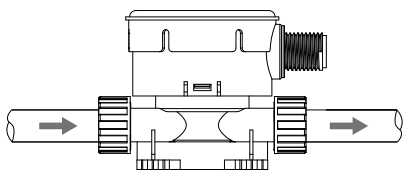
Models	PPM	PPR	PPW
Outputs	4-20mA NPN	RS485	NPN PNP
Output Current	150mA Max.	Non	50mA Max.
Current Consumption	60mA Max.		10mA Max.
Display	4 digits: 0.0 – 9999		Blind
Protection Class	IP65		IP67
Operating Voltage	10 – 30 VDC		5 – 30 VDC
Accuracy	± 1.0% of F.S. @ 25°C		
Body Material	PP PVDF PFA		
O-Ring	Viton®		
Environmental Conditions	32°F to 176°F 0°C to 80°C (35% – 85% RH)		
Max. Operating Temperature	PP : 203°F 95°C	PVDF : 250°F 120°C	PFA : 356°F 180°C
Operating Pressure Non-Shock	80 psi 5.5 bar		
Approvals	CE RoHS		

Flow Characteristics

Model	Connection Size	Flow Rate (Max.)		Flow Rate (Min.) (LPM GPM)				K Factor
		LPM	GPM	Front	Side	Vertical	Vertical	
02N	1/8" NPT	1.50	0.40	0.04 0.010	0.12 0.031	0.06 0.016	0.08 0.021	5,350
03H	3/16" Hose Barb	1.80	0.48	0.04 0.010	0.06 0.016	0.06 0.016	0.08 0.021	5,350
04T	1/4" Straight Tube	8.20	2.17	0.02 0.005	0.04 0.010	0.08 0.021	0.10 0.026	1,700
04F	1/4" Flared	2.50	0.66	0.02 0.005	0.04 0.010	0.06 0.016	0.08 0.021	1,700
06T	3/8" Straight Tube	17.20	4.54	0.04 0.010	0.12 0.031	0.06 0.016	0.08 0.021	875
06H	3/8" Hose Barb	17.20	4.54	0.04 0.010	0.12 0.031	0.06 0.016	0.08 0.021	875
06F	3/8" Flared	9.80	2.59	0.04 0.010	0.08 0.021	0.10 0.026	0.12 0.031	875

Mounting Method

Front Mounted



Side Mounted



Vertical Mounted
(Upward Flow)



Vertical Mounted
(Downward Flow)



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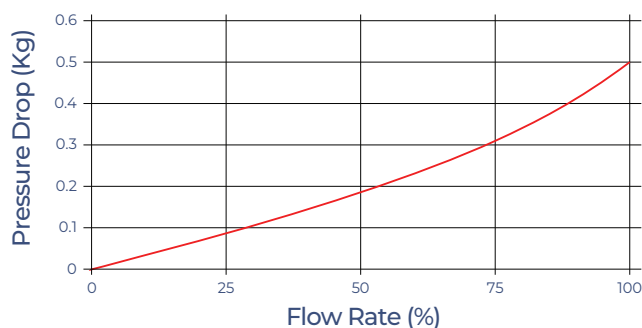
Pressure Drop Test

Flow Rate Control by Input Valve

Flow rate is controlled through adjustments to the input valve, regulating the system's fluid intake.

Pressure Drop Chart

Based on the test result



Flow Rate (%)	Flow Rate (LPM)	Flow Rate (GPM)	Pressure (Kg) Input	Pressure (Kg) Output	Pressure (Kg) Drop
0%	0.00	0.00	0.00	0.00	0.00
25%	2.48	0.65	0.07	0.00	0.07
50%	5.06	1.33	0.44	0.27	0.17
75%	7.48	1.97	0.99	0.68	0.31
100%	9.83	2.59	1.77	1.27	0.50

Wiring

PPW – Blind (Pulse)		
Pin	Color	Function
1	Brown	+ 5-30 VDC
2	White	NPN Output
3	Blue	0V
4	Black	PNP Output

PPR – Display (RS485)		
Pin	Color	Function
1	Brown	+ 10-30 VDC
2	White	RS+
3	Blue	0V
4	Black	RS-

PPM – Display (4-20mA + Pulse)		
Pin	Color	Function
1	Brown	+ 10-30 VDC
2	White	NPN Alarm Output
3	Blue	0V
4	Black	V+ or +mA Output

Model Selection

ProPulse® 2 — Turbine Flow Meter					
Size	Display Version	Material: PP Part Number	Material: PVDF Part Number	Material: PFA Part Number	
1/8" NPT	Blind: NPN PNP	PP-W-02N-PP	PP-W-02N-PF	PP-W-04F-PT	
3/16" Hose Barb	Blind: NPN PNP	PP-W-03H-PP	PP-W-03H-PF		
1/4" Straight Tube	Blind: NPN PNP	PP-W-04T-PP	PP-W-04T-PF		
1/4" Flared	Blind: NPN PNP				
3/8" Straight Tube	Blind: NPN PNP	PP-W-06T-PP	PP-W-06T-PF	PP-W-06F-PT	
3/8" Hose Barb	Blind: NPN PNP	PP-W-06H-PP	PP-W-06H-PF		
3/8" Flared	Blind: NPN PNP				
1/8" NPT	LED: RS485	PP-R-02N-PP	PP-R-02N-PF	PP-R-04F-PT	
3/16" Hose Barb	LED: RS485	PP-R-03H-PP	PP-R-03H-PF		
1/4" Straight Tube	LED: RS485	PP-R-04T-PP	PP-R-04T-PF		
1/4" Flared	LED: RS485				
3/8" Straight Tube	LED: RS485	PP-R-06T-PP	PP-R-06T-PF	PP-R-06F-PT	
3/8" Hose Barb	LED: RS485	PP-R-06H-PP	PP-R-06H-PF		
3/8" Flared	LED: RS485				
1/8" NPT	LED: 4-20mA + Pulse	PP-M-02N-PP	PP-M-02N-PF	PP-M-04F-PT	
3/16" Hose Barb	LED: 4-20mA + Pulse	PP-M-03H-PP	PP-M-03H-PF		
1/4" Straight Tube	LED: 4-20mA + Pulse	PP-M-04T-PP	PP-M-04T-PF		
1/4" Flared	LED: 4-20mA + Pulse				
3/8" Straight Tube	LED: 4-20mA + Pulse	PP-M-06T-PP	PP-M-06T-PF	PP-M-06F-PT	
3/8" Hose Barb	LED: 4-20mA + Pulse	PP-M-06H-PP	PP-M-06H-PF		
3/8" Flared	LED: 4-20mA + Pulse				

ProPulse® 2 — Transition Fittings		
Version	Part Number	Material
1/4" Tube x Tube	PP2-T14T14-PP	PP
3/8" Tube x Tube	PP2-T38T38-PP	PP
1/4" Tube x 3/8" NPT	PP2-T14N38-PP	PP
3/8" Tube x NPT	PP2-T38N38-PP	PP
3/8" Tube x 1/2" NPT	PP2-T38N12-PP	PP
1/4" Tube x Tube	PP2-T14T14-PF	PVDF
3/8" Tube x Tube	PP2-T38T38-PF	PVDF
1/4" Tube x 3/8" NPT	PP2-T14N38-PF	PVDF
3/8" Tube x 3/8" NPT	PP2-T38N38-PF	PVDF
3/8" Tube x 1/2" NPT	PP2-T38N12-PF	PVDF

