

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

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 www.calcert.com

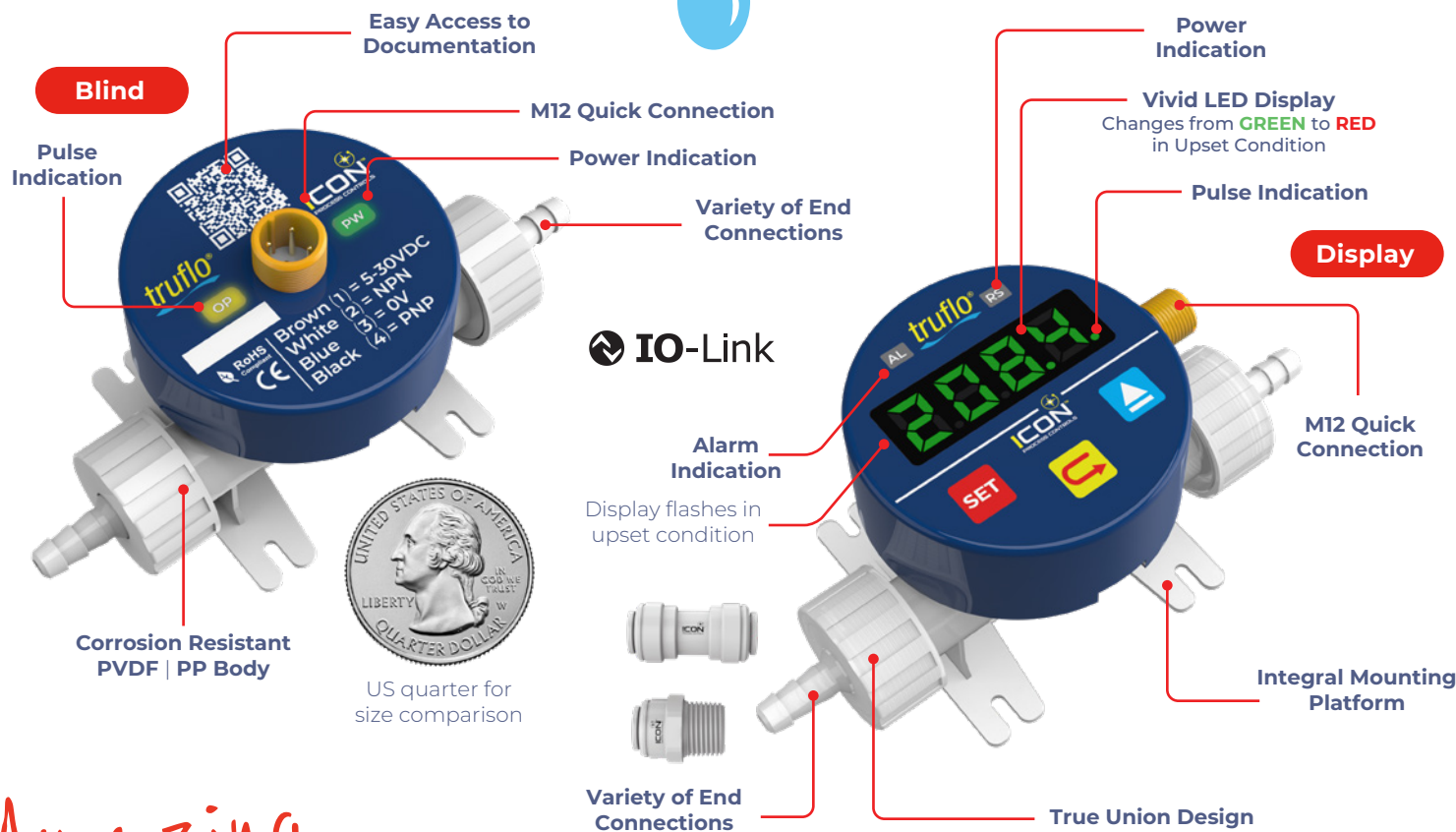
sales@calcert.com

TruFlo® — ProPulse® 2 Series

Mini Turbine Flow Meter Sensor

ICON™ Corrosion-Free
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.

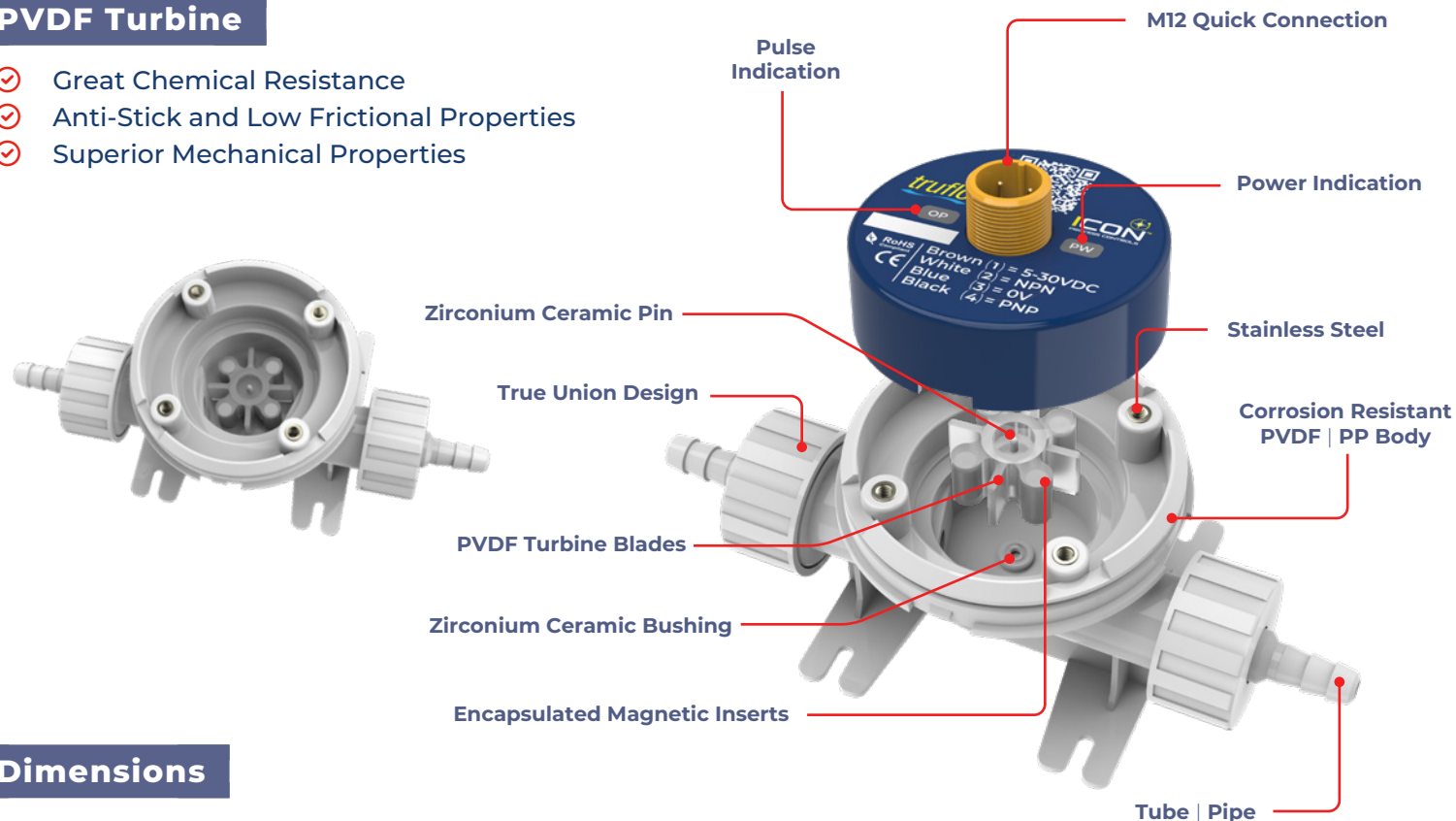
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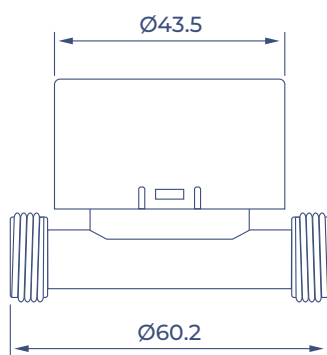
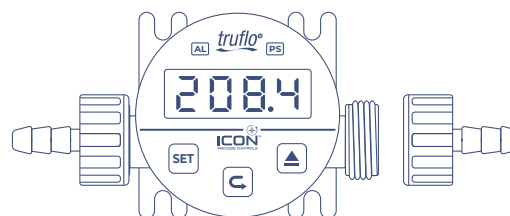
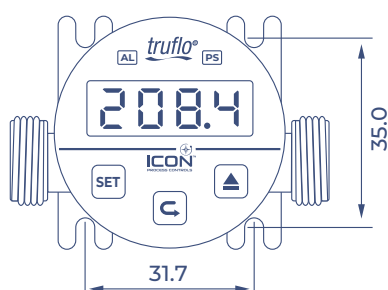
Small in size — **REALLY BIG ON VALUE**

PVDF Turbine

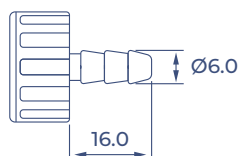
- ✓ Great Chemical Resistance
- ✓ Anti-Stick and Low Frictional Properties
- ✓ Superior Mechanical Properties



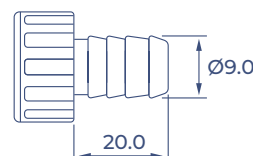
Dimensions



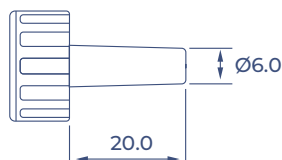
Hose Barb : 03H



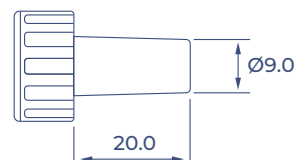
Hose Barb : 06H



Straight Tube : 04T



Straight Tube : 06T



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Mini Turbine Flow Meter Sensor

Technical Specifications

Body Material	PP PVDF	
O-Ring	Viton®	
Environmental Conditions	-4°F to 176°F -20°C to 80°C (35% – 85% RH)	
Operating Temperature	PP : -4°F to 203°F -20°C to 95°C	PVDF : -40°F to 250°F -40°C to 120°C
Max. Working Pressure Non-Shock	PP: 145 Psi 10 Bar	PVDF: 217 Psi 15 Bar
Accuracy	± 1.0% of F.S. @ 25°C (PPW model)	± 0.5% of F.S. @ 25°C (PPM & PPR models)
Output Current	PPW (Blind) 50mA max	PPM & PPR (Display) 150mA max
Operating Voltage	10 – 30 VDC (PPM & PPR models)	5 – 30 VDC (PPW model)
Protection Class	NEMA 4X, IP65	
Display	4 digits: 0.0 – 9999 (PPM & PPR models)	

Flow Characteristics

	Connection	Flow Range (LPM)	Flow Range (GPM)	K Factor (LPM/GPM)
02N	1/8" NPT	0.12 – 16.20	0.032 – 4.280	5,350
03H	3/16" Hose Barb	0.04 – 2.20	0.010 – 0.581	5,350
04T	1/4" Straight Tube	0.12 – 8.20	0.032 – 2.166	1,700
04F	1/4" Flared	0.40 – 2.80	0.106 – 0.740	1,700
06T	3/8" Straight Tube	0.12 – 16.20	0.032 – 4.280	875
06H	3/8" Hose Barb	0.12 – 16.20	0.032 – 4.280	875
06F	3/8" Flared	0.40 – 9.80	0.106 – 2.589	875

Pressure Drop Test

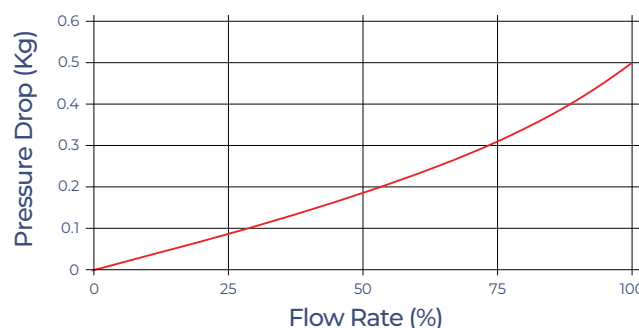
Flow Rate Control by Input Valve

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

Flow Rate (%)	Flow Rate		Pressure (Kg)		
	(LPM)	(GPM)	Input	Output	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

Pressure Drop Chart

Based on the test result



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Electrical Connections

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

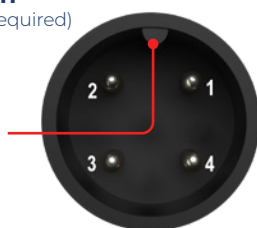
PPM – Display (4-20mA + Pulse)		
Pin	Color	Function
1	Brown	+ 10-30 VDC
2	White	NPN Alarm Output
3	Blue	0V
4	Black	V+ or +mA Output

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

M12 Connection

(no Internal wiring required)

Keyed to
ensure correct
connection



Model Selection

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

ProPulse® 2 — Turbine Flow Meter (Blind)			
Size	Display Version	Material: PP Part Number	Material: PVDF Part Number
1/8" NPT	Blind: NPN PNP	PP-W-02N-PP	PP-W-02N-PF
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	PP-W-04F-PP	PP-W-04F-PF
3/8" Straight Tube	Blind: NPN PNP	PP-W-06T-PP	PP-W-06T-PF
3/8" Hose Barb	Blind: NPN PNP	PP-W-06H-PP	PP-W-06H-PF
3/8" Flared	Blind: NPN PNP	PP-W-06F-PP	

ProPulse® 2 — Transition Fittings	
Version	Part Number
1/4" Tube x Tube	PP2-TT14
3/8" Tube x Tube	PP2-TT38
1/4" Tube x NPT	PP2-TN14
3/8" Tube x NPT	PP2-TN38

