TIR SERIES
Paddle Wheel Flow Meter

- Pipe Sizes 2 - 24”
- Lifetime Warranty
- Industry’s Highest Accuracy: ±0.5%

ETFE Tefzel® Paddle

- Chemically Inert to Virtually All Chemicals
- Superior Anti-Stick and Low Frictional Properties
- Excellent Mechanical Properties
- Exceptional Impact Strength
- Superior Chemical and Wear Resistance vs PVDF

The TIR Digital Flow Meters are easy to install with exceptional guaranteed long-life performance. The TIR Series Paddle Wheel Flow Meters are highly repeatable, exceptionally accurate, extremely rugged and offer outstanding value and require no maintenance.

TIR Series has a process-ready output signal with a wide dynamic flow range of 0.3 to 33 ft/s | 0.1 to 10 m/s.

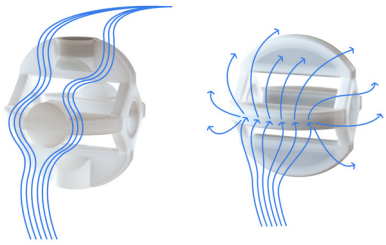
TIR Series sensors are offered in various materials and are available to measure 2 - 24” pipe sizes.

The many material choices, including PVC, PP and PVDF make this model highly adaptable and chemically resistant to many corrosive liquid process applications.

The TIR Flow Meters can be installed using Truflo's® extensive line of ANSI and DIN fittings. Truflo® offers SDR Pipe Saddles from DN50-DN600 in GFPP material.

New ShearPro® Design

- Superhydrophobic Design
- Contoured Flow Profile
- Reduced Friction
- Reduced Turbulence
- 78% Less Drag than Old Flat Paddle Design*



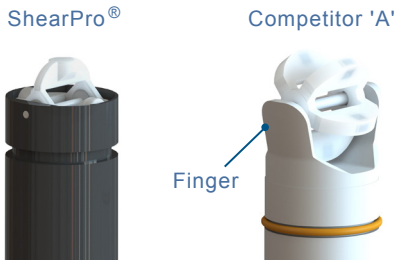
*Ref: NASA "Shape Effects on Drag" **

Zirconium Ceramic Rotor | Bushings

- Industry’s Highest Impact and Chemical Resistant Properties
- Up to 15x the Wear Resistance vs. Regular Ceramic
- Nano-Polished Mirror Finished vs. Regular Ceramic - Less Friction
- Integral Rotor Bushings, Reduce Wear & Fatigue Stress

Through-Pin Design

- Eliminates Finger Spread
- No Lost Paddles
- Increased Temp. Rating
- 360° Housing | Protects Paddle from Particulate, Reducing Wear



Features

- 4-20mA + 1 Amp Relay Output
- Flow Range | 0.3 to 33 ft/s
- NEMA 4X | IP66 Protection
- Double O-Ring Seal
- Retrofits into Signet® Type Fitting
- PP Cord Grip Included

PVC | PP | PVDF | RoHS Compliant | CE

**https://www.grc.nasa.gov/www/k-12/airplane/shaped.html

TIR SERIES
Paddle Wheel Flow Meter

truflo®

General

Operating Range	0.3 to 33 ft/s	0.1 to 10 m/s
Pipe Size Range	2 to 24"	DN50 to DN600
Linearity	±0.5% of F.S @ 25°C | 77°F	
Repeatability	±0.5% of F.S @ 25°C | 77°F	

Wetted Materials

Sensor Body	PVC (Dark) | PP (Pigmented) | PVDF (Natural)
O-Rings	FKM | EPDM* | FFKM*
Rotor Pin | Bushings	Zirconium Ceramic | ZrO2
Paddle | Rotor	ETFE Tefzel®

Optional*

Electrical

Frequency	49 Hz per m/s nominal	15 Hz per ft/s nominal
Supply Voltage	5 to 24 VDC ±10% regulated	
Supply Current	<1.5 mA @ 3.3 to 6 VDC	<20 mA @ 6 to 24 VDC

Max. Temperature/Pressure Rating - Standard and Integral Sensor | Non-Shock

PVC	180 psi @ 68°F	12.5 bar @ 20°C
	40 psi @ 140°F	2.7 bar @ 60°C
PP	180 psi @ 68°F	12.5 bar @ 20°C
	40 psi @ 190°F	2.7 bar @ 88°C
PVDF	200 psi @ 68°F	14 bar @ 20°C
	40 psi @ 240°F	2.7 bar @ 115°C

Operating Temperature

PVC	32°F to 140°F	0°C to 60°C
PP	-4°F to 190°F	-20°C to 88°C
PVDF	-40°F to 240°F	-40°C to 115°C

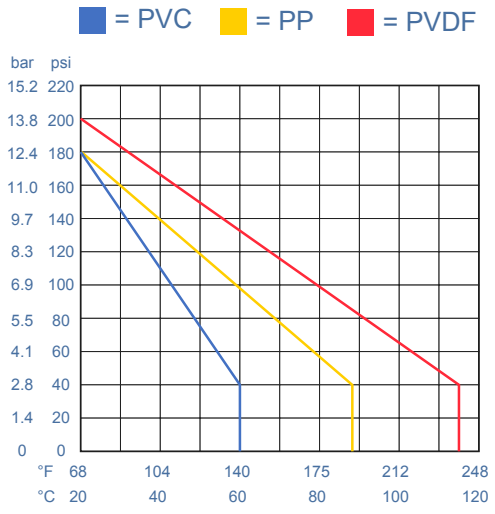
Standards and Approvals

CE | FCC
RoHS Compliant

See Temperature and Pressure Graphs for more information

Temperature | Pressure Graphs | Non-Shock

Note: The Pressure/Temperature graphs are specifically for the Truflo® Flow Sensors. During system design the specifications of all components must be considered.



Model Selection

TIR – PF – S

Body Material	Signal Output Option	Body Length	Seals
P - PVC **PP** - PP **PF** - PVDF	4-20mA Output	**S** - 2"- 4" Pipe **L** - 6"- 24" Pipe	FKM (Std) Suffix 'E' For EPDM