

Truflo® — TKB | TK3B Series

In-Line Paddle Wheel Flow Meter Sensor

ICON™ Corrosion-Free
PROCESS CONTROLS Instrumentation Equipment™

Battery Powered | Flow | Total



truflo®

Industry's **Longest Lasting** Paddle Wheel Flow Meter

1.800.561.8187

www.**itm**.com

information@itm.com

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In-Line Paddle Wheel Flow Meter Sensor

ICON™ Corrosion-Free
PROCESS CONTROLS Instrumentation Equipment™

- ✓ No Programming | Quick Installation
- ✓ Industry's Highest Accuracy: $\pm 0.5\%$
- ✓ Lifetime Warranty*



- ✓ Battery Powered
- ✓ Flow | Total
- ✓ Revolutionary ShearPro® Paddle Wheel Design
- ✓ Low Pressure Drop
- ✓ NEMA 4X | IP 66 Protection
- ✓ Password Protected Security
- ✓ True Union Design ½" - 2"
- ✓ Flange Connection 3" - 4"

Engineered for accuracy, ruggedness, longevity, and battery powered convenience

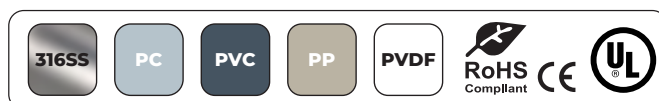
The Truflo® TKB Series digital in-line flow meter sensors are easy to install with exceptional guaranteed long-life performance. They are highly repeatable, extremely rugged sensors that offer outstanding value and require no scheduled maintenance.

The TKB 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. The sensor measures liquid flow rates in full pipes.

TKB Series flow meters are offered in a variety of materials and are available from ¼" - 4" pipe sizes. The many material choices, including PVC, PP, PVDF and 316 SS make this model highly adaptable and chemically resistant to many corrosive liquid process applications.

The TKB Series flow meter bodies (PVC, PP, PVDF) are true-union designed up to 2" just as any true-union ball valve is designed. 3" - 4" versions are flanged. They come completely pre-programmed with a bright LCD Display that rotates 360°.

* The Truflo® TKB Series also comes equipped with a lifetime warranty on the paddle wheel assembly.



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New ShearPro® Design

- ✓ Contoured Flow Profile
- ✓ Reduced Turbulence = Increased Longevity
- ✓ 78% Less Drag than Old Flat Paddle Design*

*Ref: NASA "Shape Effects on Drag"

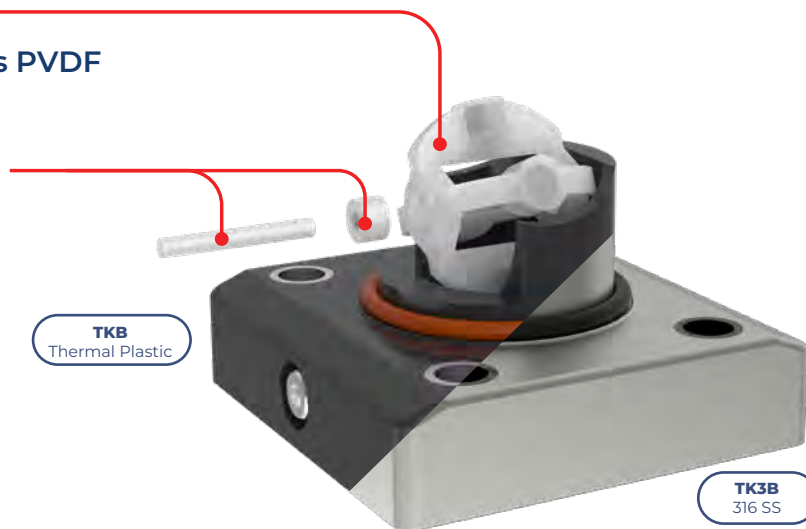


Tefzel® Paddle Wheel

- ✓ Superior Chemical And Wear Resistance vs PVDF

Zirconium Ceramic Rotor | Bushings

- ✓ Up to 15x the Wear Resistance vs. Regular Ceramic
- ✓ Integral Rotor Bushings Reduce Wear and Fatigue Stress



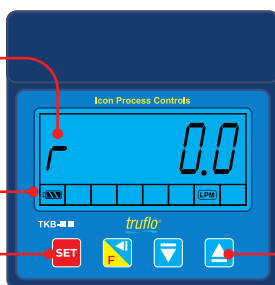
ShearPro® Through-Pin Design

- ✓ Eliminates Finger Spread
- ✓ No Lost Paddles
- ✓ Increased Temp. Rating
- ✓ 360° Housing Protects Rotor

Displaying Flow Rate | Flow Totalizer

"r" indicates Default Flow Rate Mode

Press and hold **SET** for 3 sec to change unit of measure

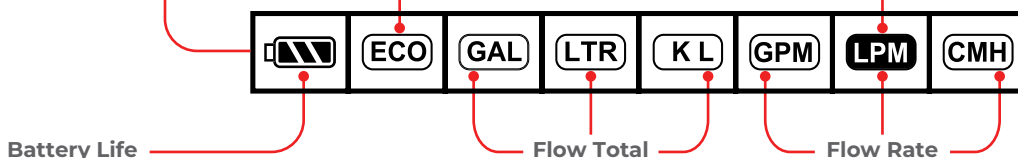


ShearPro® vs. Competitor 'A'

Press and hold **▲** for 3 sec to view 7 + 8 digits while in Totalizer Screen

Display Mode (Eco) = Extended Battery Life

Highlighted to Indicate Programmed Unit of Measurement



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In-Line Paddle Wheel Flow Meter Sensor

Technical Specifications

General		
Operating Range	0.3 to 33 ft/s	0.1 to 10 m/s
Pipe Size Range	¼" to 4" **	DN08 to DN100
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) 316SS	
O-Rings	FKM EPDM* FFKM*	
Rotor Pin Bushings	Zirconium Ceramic ZrO ₂	
Paddle Rotor	ETFE Tefzel®	
Electrical		
Operating Voltage Battery	3.0 VDC	
Battery	Lithium Battery (CR2477T)	
Life of Battery	> 1 Year Normal > 2 Years Eco Mode	
Max. Temperature/Pressure Rating – Standard and Integral Sensor Non-Shock		
PVC	180 Psi @ 68°F 40 Psi @ 140°F	12.5 Bar @ 20°C 2.7 Bar @ 60°C
PP	180 Psi @ 68°F 40 Psi @ 190°F	12.5 Bar @ 20°C 2.7 Bar @ 88°C
PVDF	200 Psi @ 68°F 40 Psi @ 240°F	14 Bar @ 20°C 2.7 Bar @ 115°C
316 SS	200 Psi @ 180°F 40 Psi @ 300°F	14 Bar @ 82°C 2.7 Bar @ 148°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
316 SS	-40°F to 300°F	-40°C to 148°C
Display		
LCD Flow Rate + Flow Totalizer		
Standards and Approvals		
UL CE FCC RoHS Compliant		

See Temperature and Pressure Graphs for more information

*Optional
** ¼" - ¾" SS Only

K-Factors for TK Series

Size	K-Factor
¼"	547
⅜"	300
½"	124
¾"	72
1"	54
1½"	19
2"	10.3
3"	4.7
4"	2.1
⚠ K-Factor is Pre-Programmed	

Min/Max Flow Rates

Pipe Size (O.D.)	LPM GPM	LPM GPM	
	0.3m/s min.	10m/s max.	
DN08 (¼")	0.6 0.16	12 3	◀ SS Only
DN10 (⅜")	1.8 0.48	50 13	◀ SS Only
DN15 (½")	3.5 1.0	120 32	
DN20 (¾")	5.0 1.5	170 45	
DN25 (1")	9.0 2.5	300 79	
DN40 (1½")	25.0 6.5	850 225	
DN50 (2")	40.0 10.5	1350 357	
DN65 (2½")	60.0 16.0	1850 357	
DN80 (3")	90.0 24.0	2800 739	
DN100 (4")	125.0 33.0	4350 1149	

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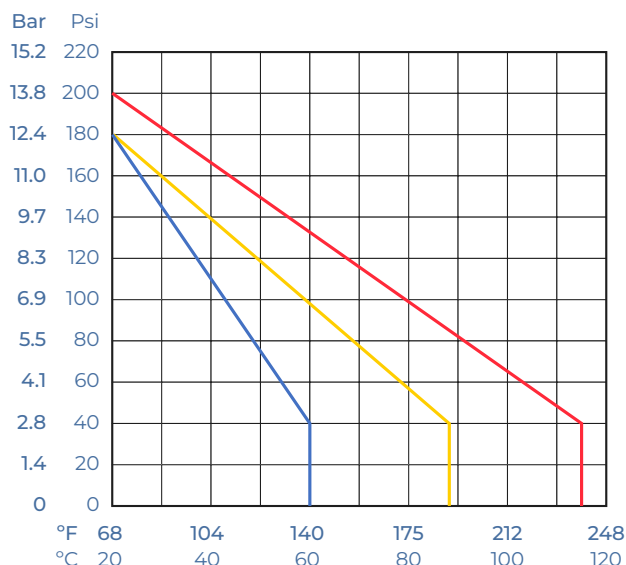
In-Line Paddle Wheel Flow Meter Sensor

Temperature | Pressure Graphs | Non-Shock

Note: The Pressure/Temperature graphs are specifically for the Truflo® Flow Meter Sensors.

During system design the specifications of all components must be considered.

■ = PVC ■ = PP ■ = PVDF



Model Selection

PVC		
Size	End Connections	Part Number
½"	Sch 80 Soc	TKB-15-P
¾"	Sch 80 Soc	TKB-20-P
1"	Sch 80 Soc	TKB-25-P
1 ½"	Sch 80 Soc	TKB-40-P
2"	Sch 80 Soc	TKB-50-P
3"	Flanged	TKB-80-P
4"	Flanged	TKB-100-P

Add 1st Suffix (end connection):

- T ▶ NPT End Connectors (on PVC)
- B ▶ Butt Fused End Connections for PP or PVDF
- F ▶ Flange ANSI 150lb - Consult Factory

PP		
Size	End Connections	Part Number
½"	NPT	TKB-15-PP
¾"	NPT	TKB-20-PP
1"	NPT	TKB-25-PP
1 ½"	NPT	TKB-40-PP
2"	NPT	TKB-50-PP
3"	Flanged	TKB-80-PP
4"	Flanged	TKB-100-PP

Add 2nd Suffix (seals):

- FKM (std, no suffix required)
- E ▶ EPDM Seals
- K ▶ FFKM | Kalrez® Seals

PVDF		
Size	End Connections	Part Number
½"	NPT	TKB-15-PF
¾"	NPT	TKB-20-PF
1"	NPT	TKB-25-PF
1 ½"	NPT	TKB-40-PF
2"	NPT	TKB-50-PF

Note: PVC Socket Ends (Std)
PP/PVDF NPT Ends (Std)

316 SS		
Size	End Connections	Part Number
¼"	NPT	TK3B-08-SS
⅜"	NPT	TK3B-10-SS
½"	NPT	TK3B-15-SS
¾"	NPT	TK3B-20-SS
1"	NPT	TK3B-25-SS
1 ½"	NPT	TK3B-40-SS
2"	NPT	TK3B-50-SS
3"	NPT	TK3B-80-SS
4"	NPT	TK3B-100-SS

Add 1st Suffix (end connection):

- T ▶ NPT End Connectors
- SE ▶ Sanitary - Consult Factory for Pricing
- F ▶ Flange ANSI 150lb - Consult Factory

Add 2nd Suffix (seals):

- FKM (std, no suffix required)
- E ▶ EPDM Seals
- K ▶ FFKM | Kalrez® Seals

truflo®

by

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PROCESS CONTROLS

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