

# Truflo® — TKB | TK3B Series In-Line Paddle Wheel Flow Meter Sensor

**ICON**<sup>TM</sup> Corrosion-Free  
PROCESS CONTROLS Instrumentation Equipment<sup>TM</sup>

Battery Powered | Flow | Total



**truflo**<sup>®</sup>

## Industry's Longest Lasting Paddle Wheel Flow Meter

# Truflo® — TKB | TK3B Series

## In-Line Paddle Wheel Flow Meter Sensor

- ✓ 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 | IP66 Protection
- ✓ Password Protected Security
- ✓ True Union Design 1/2" - 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 1 to 33 ft/s | 0.3 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 1/4" - 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<sup>‡</sup>

<sup>‡</sup>Ref: NASA "Shape Effects on Drag"

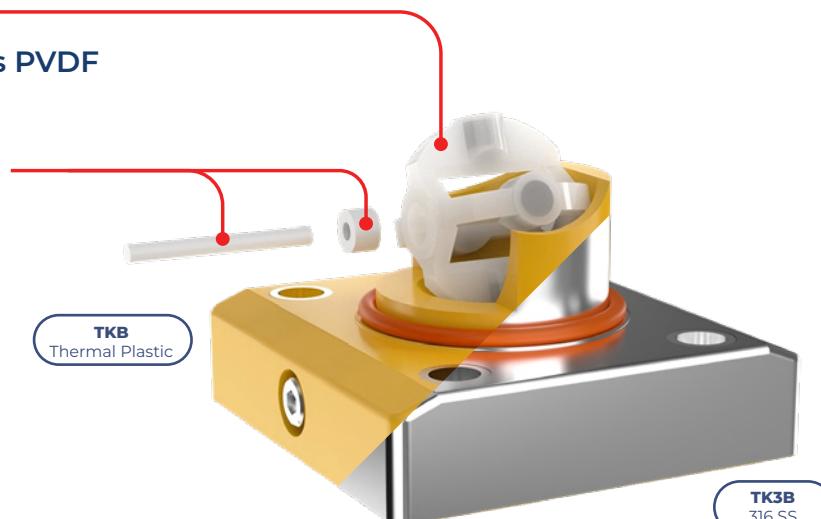


## Tefzel® Paddle Wheel

- ✓ 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



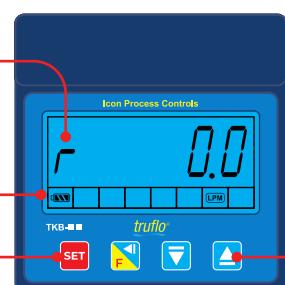
## ShearPro® Through-Pin Design

- ✓ 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®**

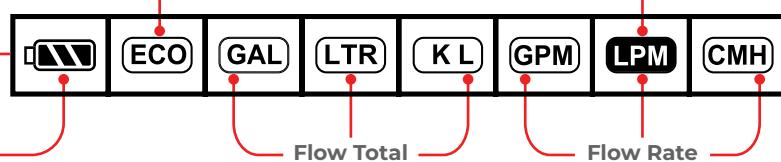
vs. Competitor 'A'

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

Battery Life



Flow Total

Flow Rate

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## In-Line Paddle Wheel Flow Meter Sensor

### Technical Specifications

General		
Operating Range	1 to 33 ft/s	0.3 to 10 m/s
Pipe Size Range	1/4" to 4" **	DN8 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 <sub>2</sub>	
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	300 Psi @ 180°F   40 Psi @ 300°F	21 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   NSF   CE   RoHS Compliant		

See Temperature and Pressure Graphs for more information

\*Optional  
\*\* 1/4" - 3/8" SS Only

### K-Factors for TK Series

Size	K-Factor
1/4"	547
3/8"	300
1/2"	124
3/4"	72
1"	54
1 1/2"	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 (1/4")	0.6   0.16	12   3
DN10 (3/8")	1.8   0.48	50   13
DN15 (1/2")	3.5   1.0	120   32
DN20 (3/4")	5.0   1.5	170   45
DN25 (1")	9.0   2.5	300   79
DN40 (1 1/2")	25.0   6.5	850   225
DN50 (2")	40.0   10.5	1350   357
DN65 (2 1/2")	60.0   16.0	1850   357
DN80 (3")	90.0   24.0	2800   739
DN100 (4")	125.0   33.0	4350   1149

◀ SS Only  
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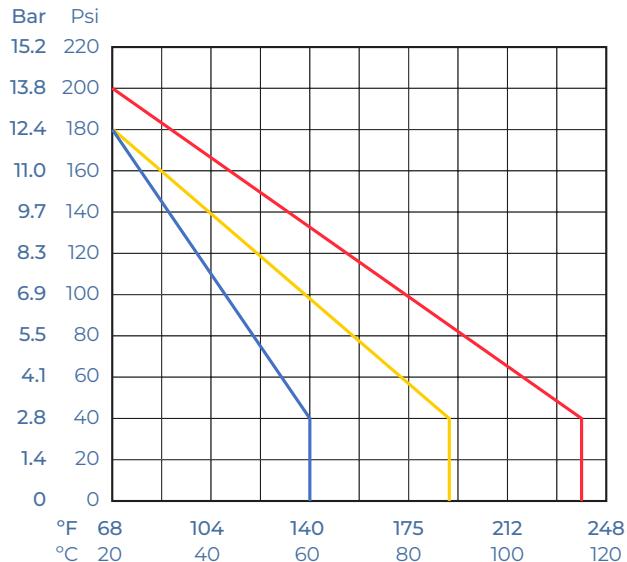
## In-Line Paddle Wheel Flow Meter Sensor

### 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
1/2"	Sch 80 Soc	TKB-15-P
3/4"	Sch 80 Soc	TKB-20-P
1"	Sch 80 Soc	TKB-25-P
1 1/2"	Sch 80 Soc	TKB-40-P
2"	Sch 80 Soc	TKB-50-P
3"	Flanged	TKB-80-P
4"	Flanged	TKB-100-P

**Add 1<sup>st</sup> 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
1/2"	NPT	TKB-15-PP
3/4"	NPT	TKB-20-PP
1"	NPT	TKB-25-PP
1 1/2"	NPT	TKB-40-PP
2"	NPT	TKB-50-PP
3"	Flanged	TKB-80-PP
4"	Flanged	TKB-100-PP

**Add 2<sup>nd</sup> Suffix (seals):**

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

PVDF		
Size	End Connections	Part Number
1/2"	NPT	TKB-15-PF
3/4"	NPT	TKB-20-PF
1"	NPT	TKB-25-PF
1 1/2"	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
1/4"	NPT	TK3B-08-SS
3/8"	NPT	TK3B-10-SS
1/2"	NPT	TK3B-15-SS
3/4"	NPT	TK3B-20-SS
1"	NPT	TK3B-25-SS
1 1/2"	NPT	TK3B-40-SS
2"	NPT	TK3B-50-SS
3"	NPT	TK3B-80-SS
4"	NPT	TK3B-100-SS

**Add 1<sup>st</sup> Suffix (end connection):**

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

**Add 2<sup>nd</sup> 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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