ICON PROCESS CONTROLS™ Corrosion-Free Instrumentation Equipment™

Specification Guide

Corrosion-Free Process Instrumentation Equipment

Flow | Level | Analytical | Pressure | Leak Detection | Wireless | Chemical Feed

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truflo® LevelPro® LeakPro® SENTINEL RotoFlo® NEXUS VaporBloc® SimplConnect ProScan® PulsePro® IZON® ProAlert® ProCon® LinkPro® Leak Freak

TKB | TK3B SERIES (BATTERY POWERED)

IN-LINE PADDLE WHEEL FLOW METER SENSOR

1.0 SCOPE

1.1 This specification outlines the technical and performance requirements for the Truflo® TKB | TK3B Series In-Line Paddle Wheel Flow Meter Sensor, designed for high-accuracy liquid flow measurement in industrial applications.

1.2 All paddle wheel flow meters shall be Truflo® TKB (or TK3B) Series or equal with all plastic NEMA 4X Enclosure.

1.3 The sensor shall provide exceptional chemical resistance, rugged construction, and reliable long-term performance for process control applications.

1.4 The flow meter shall be available in multiple materials to ensure compatibility with various process media and installation conditions.

2.0 MATERIALS & CONSTRUCTION

2.1 The sensor body shall be available in the following materials:

- PVC (Polyvinyl Chloride) - ASTM D-1784, Cell Classification 12454-A
- PP (Polypropylene) - ASTM D-4101, PP 0211B67272
- PVDF (Polyvinylidene Fluoride) - ASTM D-3222, Type 2 Suspension Resin, USDA Title 21, Chapter I, Part 177.2510
- 316 Stainless Steel

2.2 The paddle wheel assembly shall be manufactured from ETFE (Tefzel®) for superior chemical and wear resistance.

2.3 The rotor pin and bushings shall be Zirconium Ceramic (ZrO_2), providing up to 15 times the wear resistance of standard ceramic materials.

2.4 The sealing O-rings shall be available in FKM (Viton®), EPDM, or FFKM (Kalrez®) for maximum chemical compatibility.

2.5 The flow meter shall feature a high-impact, NEMA 4X (IP66) enclosure for protection against dust, water ingress, and corrosive environments.

3.0 FLOW METER DESIGN & FUNCTION

3.1 The TKB | TK3B Series In-Line Paddle Wheel Flow Meter shall incorporate a Revolutionary ShearPro® Paddle Wheel Design, providing:

- Contoured flow profiling to minimize turbulence
- Up to 78% reduced drag compared to traditional flat paddle designs
- Enhanced longevity and precision measurement

3.2 The paddle wheel assembly shall include a 360° shielded rotor design, eliminating finger spread and preventing paddle loss.

3.3 The meter shall be pre-programmed and require no user setup, allowing for plug-and-play installation.

3.4 The flow meter shall accommodate pipe sizes from ¼" to 4" (DN08 to DN100), supporting both true-union (up to 2") and flanged (3" - 4") connections.

3.5 The meter shall include a bright LCD Display with 360° rotation, showing real-time flow rate and totalized flow.

4.0 PERFORMANCE REQUIREMENTS

4.1 Operating Flow Range: 0.3 to 33 ft/s (0.1 to 10 m/s)

4.2 Linearity: ±0.5% of Full Scale @ 25°C (77°F)

4.3 Repeatability: ±0.5% of Full Scale @ 25°C (77°F)

4.4 Power Supply: 3V Lithium Battery (CR2477T)

4.5 Ingress Protection: NEMA 4X (IP66) Enclosure

4.6 Compliance Standards: UL | CE | RoHS Compliant

5.0 OPERATING CONDITIONS

5.1 Maximum Temperature/Pressure Ratings:

Material	Pressure (Psi) @ 68°F (20°C)	Pressure (Psi) @ Max Temperature	Max Temperature (°F / °C)
PVC	180 Psi	40 Psi @ 140°F	140°F | 60°C
PP	180 Psi	40 Psi @ 190°F	190°F | 88°C
PVDF	200 Psi	40 Psi @ 240°F	240°F | 115°C
316 SS	200 Psi	40 Psi @ 300°F	300°F | 148°C

6.0 INSTALLATION & MOUNTING REQUIREMENTS

6.1 The sensor shall be installed using True-Union fittings (up to 2") or flanged connections (3" - 4").

6.2 The device shall be mounted in a fully developed flow profile to minimize turbulence and ensure measurement accuracy.

6.3 The sensor shall be oriented perpendicular to the flow stream for optimal performance.

7.0 MODEL SELECTION GUIDE

Size	Material	Part Number
¼" - ½"	316 SS	TK3B-08-SS to TK3B-15-SS
½" - 2"	PVC	TKB-15-P to TKB-50-P
½" - 2"	PP	TKB-15-PP to TKB-50-PP
½" - 2"	PVDF	TKB-15-PF to TKB-50-PF
3" - 4"	PVC	TKB-80-P to TKB-100-P (Flanged)
3" - 4"	PP	TKB-80-PP to TKB-100-PP (Flanged)

8.0 APPLICATIONS

8.1 Suitable for use in the following industrial applications:

- Industrial Water Treatment Systems
- Chemical Processing
- Cooling Tower Flow Monitoring
- Process Water Flow Control
- Pump Flow Verification
- High-Purity and Aggressive Chemical Applications

9.0 COMPLIANCE & CERTIFICATIONS

9.1 UL | CE | RoHS Compliant

9.2 Manufactured under ISO 9001 Quality Standards

10.0 PROCUREMENT & TECHNICAL SUPPORT

Manufacturer: Icon Process Controls

Website: https://iconprocon.com/product/tkb-in-line-paddle-wheel-flow-meter/

Email: support@iconprocon.com

Phone: 1-800-676-4131

The Truflo® TKB | TK3B Series Flow Meter is engineered for precision measurement and long-lasting durability in industrial flow applications.

316SS PC PVC PP PVDF RoHS Compliant CE UL

TKS | TK3S SERIES

IN-LINE PADDLE WHEEL FLOW METER SENSOR

1.0 SCOPE

1.1 This specification outlines the technical and performance requirements for the Truflo® TKS | TK3S Series In-Line Paddle Wheel Flow Meter Sensor, designed for high-accuracy liquid flow measurement in industrial applications.

1.2 All paddle wheel flow meters shall be Truflo® TKS (or TK3S) Series or equal with all plastic NEMA 4X Enclosure.

1.3 The sensor shall provide exceptional chemical resistance, rugged construction, and reliable long-term performance for process control applications.

1.4 The flow meter shall be available in multiple materials to ensure compatibility with various process media and installation conditions.

2.0 MATERIALS & CONSTRUCTION

2.1 The sensor body shall be available in the following materials:

- PVC (Polyvinyl Chloride) - ASTM D-1784, Cell Classification 12454-A
- PP (Polypropylene) - ASTM D-4101, PP 0211B67272
- PVDF (Polyvinylidene Fluoride) - ASTM D-3222, Type 2 Suspension Resin, USDA Title 21, Chapter I, Part 177.2510
- 316 Stainless Steel

2.2 The paddle wheel assembly shall be manufactured from ETFE (Tefzel®) for superior chemical and wear resistance.

2.3 The rotor pin and bushings shall be Zirconium Ceramic (ZrO_2), providing up to 15 times the wear resistance of standard ceramic materials.

2.4 The sealing O-rings shall be available in FKM (Viton®), EPDM, or FFKM (Kalrez®) for maximum chemical compatibility.

2.5 The flow meter shall feature a high-impact, NEMA 4X (IP66) enclosure for protection against dust, water ingress, and corrosive environments.

3.0 FLOW METER DESIGN & FUNCTION

3.1 The TKS | TK3S Series In-Line Paddle Wheel Flow Meter shall incorporate a Revolutionary ShearPro® Paddle Wheel Design, providing:

- Contoured flow profiling to minimize turbulence
- Up to 78% reduced drag compared to traditional flat paddle designs
- Enhanced longevity and precision measurement

3.2 The paddle wheel assembly shall include a 360° shielded rotor design, eliminating finger spread and preventing paddle loss.

3.3 The device shall feature an M12 Quick Connection for simplified wiring and installation.

3.4 The meter shall be pre-programmed and require no user setup, allowing for plug-and-play installation.

3.5 The flow meter shall accommodate pipe sizes from ¼" to 4" (DN08 to DN100), supporting both true-union (up to 2") and flanged (3" - 4") connections.

3.6 The meter shall include a bright LED Display with 360° rotation, showing real-time flow rate and totalized flow.

4.0 PERFORMANCE REQUIREMENTS

4.1 Operating Flow Range: 0.3 to 33 ft/s (0.1 to 10 m/s)

4.2 Linearity: ±0.5% of Full Scale @ 25°C (77°F)

4.3 Repeatability: ±0.5% of Full Scale @ 25°C (77°F)

4.4 Power Supply: 9 to 30 VDC ±10% regulated

4.5 Power Consumption: <1.5 mA @ 3.3 - 6 VDC; <20 mA @ 6 - 24 VDC

4.6 Output Signal Options: NPN Pulse | 1 Amp Relay

4.7 Ingress Protection: NEMA 4X (IP66) Enclosure

4.8 Compliance Standards: UL | CE | RoHS Compliant

5.0 OPERATING CONDITIONS

5.1 Maximum Temperature/Pressure Ratings:

Material	Pressure (Psi) @ 68°F (20°C)	Pressure (Psi) @ Max Temperature	Max Temperature (°F / °C)
PVC	180 Psi	40 Psi @ 140°F	140°F | 60°C
PP	180 Psi	40 Psi @ 190°F	190°F | 88°C
PVDF	200 Psi	40 Psi @ 240°F	240°F | 115°C
316 SS	200 Psi	40 Psi @ 300°F	300°F | 148°C

6.0 INSTALLATION & MOUNTING REQUIREMENTS

6.1 The sensor shall be installed using True-Union fittings (up to 2") or flanged connections (3" - 4").

6.2 The device shall be mounted in a fully developed flow profile to minimize turbulence and ensure measurement accuracy.

6.3 The sensor shall be oriented perpendicular to the flow stream for optimal performance.

7.0 MODEL SELECTION GUIDE

Size	Material	Part Number
¼" - ½"	316 SS	TK3S-08-SS to TK3S-15-SS
½" - 2"	PVC	TKS-15-P to TKS-50-P
½" - 2"	PP	TKS-15-PP to TKS-50-PP
½" - 2"	PVDF	TKS-15-PF to TKS-50-PF
3" - 4"	PVC	TKS-80-P to TKS-100-P (Flanged)
3" - 4"	PP	TKS-80-PP to TKS-100-PP (Flanged)

8.0 APPLICATIONS

8.1 Suitable for use in the following industrial applications:

- Industrial Water Treatment Systems
- Chemical Processing
- Cooling Tower Flow Monitoring
- Process Water Flow Control
- Pump Flow Verification
- High-Purity and Aggressive Chemical Applications

9.0 COMPLIANCE & CERTIFICATIONS

9.1 UL | CE | RoHS Compliant

9.2 Manufactured under ISO 9001 Quality Standards

10.0 PROCUREMENT & TECHNICAL SUPPORT

Manufacturer: Icon Process Controls

Website: https://iconprocon.com/product/tks-in-line-paddle-wheel-flow-meter/

Email: support@iconprocon.com

Phone: 1-800-676-4131

The Truflo® TKS | TK3S Series Flow Meter is engineered for precision measurement and long-lasting durability in industrial flow applications.

316SS PC PVC PP PVDF RoHS Compliant CE UL

TKP | TK3P SERIES

IN-LINE PADDLE WHEEL FLOW METER SENSOR

1.0 SCOPE

1.1 This specification outlines the technical and performance requirements for the Truflo® TKP | TK3P Series In-Line Paddle Wheel Flow Meter Sensor, designed for high-accuracy liquid flow measurement in industrial applications.

1.2 All paddle wheel flow meters shall be Truflo® TKP (or TK3P) Series or equal with all plastic NEMA 4X Enclosure.

1.3 The sensor shall provide exceptional chemical resistance, rugged construction, and reliable long-term performance for process control applications.

1.4 The flow meter shall be available in multiple materials to ensure compatibility with various process media and installation conditions.

2.0 MATERIALS & CONSTRUCTION

2.1 The sensor body shall be available in the following materials:

- PVC (Polyvinyl Chloride) - ASTM D-1784, Cell Classification 12454-A
- PP (Polypropylene) - ASTM D-4101, PP 0211B67272
- PVDF (Polyvinylidene Fluoride) - ASTM D-3222, Type 2 Suspension Resin, USDA Title 21, Chapter I, Part 177.2510
- 316 Stainless Steel

2.2 The paddle wheel assembly shall be manufactured from ETFE (Tefzel®) for superior chemical and wear resistance.

2.3 The rotor pin and bushings shall be Zirconium Ceramic (ZrO_2), providing up to 15 times the wear resistance of standard ceramic materials.

2.4 The sealing O-rings shall be available in FKM (Viton®), EPDM, or FFKM (Kalrez®) for maximum chemical compatibility.

2.5 The flow meter shall feature a high-impact, NEMA 4X (IP66) enclosure for protection against dust, water ingress, and corrosive environments.

3.0 FLOW METER DESIGN & FUNCTION

3.1 The TKP | TK3P Series In-Line Paddle Wheel Flow Meter shall incorporate a Revolutionary ShearPro® Paddle Wheel Design, providing:

- Contoured flow profiling to minimize turbulence
- Up to 78% reduced drag compared to traditional flat paddle designs
- Enhanced longevity and precision measurement

3.2 The paddle wheel assembly shall include a 360° shielded rotor design, eliminating finger spread and preventing paddle loss.

3.3 The device shall feature an M12 Quick Connection for simplified wiring and installation.

3.4 The meter shall be pre-programmed and require no user setup, allowing for plug-and-play installation.

3.5 The flow meter shall accommodate pipe sizes from ¼" to 4" (DN08 to DN100), supporting both true-union (up to 2") and flanged (3" - 4") connections.

3.6 The meter shall include a bright LED Display with 360° rotation, showing real-time flow rate and totalized flow.

4.0 PERFORMANCE REQUIREMENTS

4.1 Operating Flow Range: 0.3 to 33 ft/s (0.1 to 10 m/s)

4.2 Linearity: ±0.5% of Full Scale @ 25°C (77°F)

4.3 Repeatability: ±0.5% of Full Scale @ 25°C (77°F)

4.4 Power Supply: 9 to 30 VDC ±10% regulated

4.5 Power Consumption: <1.5 mA @ 3.3 - 6 VDC; <20 mA @ 6 - 24 VDC

4.6 Output Signal Options: NPN Pulse | RS485

4.7 Ingress Protection: NEMA 4X (IP66) Enclosure

4.8 Compliance Standards: UL | CE | RoHS Compliant

5.0 OPERATING CONDITIONS

5.1 Maximum Temperature/Pressure Ratings:

Material	Pressure (Psi) @ 68°F (20°C)	Pressure (Psi) @ Max Temperature	Max Temperature (°F / °C)
PVC	180 Psi	40 Psi @ 140°F	140°F | 60°C
PP	180 Psi	40 Psi @ 190°F	190°F | 88°C
PVDF	200 Psi	40 Psi @ 240°F	240°F | 115°C
316 SS	200 Psi	40 Psi @ 300°F	300°F | 148°C

6.0 INSTALLATION & MOUNTING REQUIREMENTS

6.1 The sensor shall be installed using True-Union fittings (up to 2") or flanged connections (3" - 4").

6.2 The device shall be mounted in a fully developed flow profile to minimize turbulence and ensure measurement accuracy.

6.3 The sensor shall be oriented perpendicular to the flow stream for optimal performance.

7.0 MODEL SELECTION GUIDE

Size	Material	Part Number
¼" - ½"	316 SS	TK3P-08-SS to TK3P-15-SS
½" - 2"	PVC	TKP-15-P to TKP-50-P
½" - 2"	PP	TKP-15-PP to TKP-50-PP
½" - 2"	PVDF	TKP-15-PF to TKP-50-PF
3" - 4"	PVC	TKP-80-P to TKP-100-P (Flanged)
3" - 4"	PP	TKP-80-PP to TKP-100-PP (Flanged)

8.0 APPLICATIONS

8.1 Suitable for use in the following industrial applications:

- Industrial Water Treatment Systems
- Chemical Processing
- Cooling Tower Flow Monitoring
- Process Water Flow Control
- Pump Flow Verification
- High-Purity and Aggressive Chemical Applications

9.0 COMPLIANCE & CERTIFICATIONS

9.1 UL | CE | RoHS Compliant

9.2 Manufactured under ISO 9001 Quality Standards

10.0 PROCUREMENT & TECHNICAL SUPPORT

Manufacturer: Icon Process Controls

Website: https://iconprocon.com/product/tks-in-line-paddle-wheel-flow-meter/

Email: support@iconprocon.com

Phone: 1-800-676-4131

The Truflo® TKP | TK3P Series Flow Meter is engineered for precision measurement and long-lasting durability in industrial flow applications.

316SS PC PVC PP PVDF RoHS Compliant CE UL

TKM | TK3M SERIES

IN-LINE PADDLE WHEEL FLOW METER SENSOR

1.0 SCOPE

1.1 This specification outlines the technical and performance requirements for the Truflo® TKM | TK3M Series In-Line Paddle Wheel Flow Meter Sensor, designed for high-accuracy liquid flow measurement in industrial applications.

1.2 All paddle wheel flow meters shall be Truflo® TKM (or TK3M) Series or equal with all plastic NEMA 4X Enclosure.

1.3 The sensor shall provide exceptional chemical resistance, rugged construction, and reliable long-term performance for process control applications.

1.4 The flow meter shall be available in multiple materials to ensure compatibility with various process media and installation conditions.

2.0 MATERIALS & CONSTRUCTION

2.1 The sensor body shall be available in the following materials:

- PVC (Polyvinyl Chloride) - ASTM D-1784, Cell Classification 12454-A
- PP (Polypropylene) - ASTM D-4101, PP 0211B67272
- PVDF (Polyvinylidene Fluoride) - ASTM D-3222, Type 2 Suspension Resin, USDA Title 21, Chapter I, Part 177.2510
- 316 Stainless Steel

2.2 The paddle wheel assembly shall be manufactured from ETFE (Tefzel®) for superior chemical and wear resistance.

2.3 The rotor pin and bushings shall be Zirconium Ceramic (ZrO_2), providing up to 15 times the wear resistance of standard ceramic materials.

2.4 The sealing O-rings shall be available in FKM (Viton®), EPDM, or FFKM (Kalrez®) for maximum chemical compatibility.

2.5 The flow meter shall feature a high-impact, NEMA 4X (IP66) enclosure for protection against dust, water ingress, and corrosive environments.

3.0 FLOW METER DESIGN & FUNCTION

3.1 The TKM | TK3M Series In-Line Paddle Wheel Flow Meter shall incorporate a Revolutionary ShearPro® Paddle Wheel Design, providing:

- Contoured flow profiling to minimize turbulence
- Up to 78% reduced drag compared to traditional flat paddle designs
- Enhanced longevity and precision measurement

3.2 The paddle wheel assembly shall include a 360° shielded rotor design, eliminating finger spread and preventing paddle loss.

3.3 The device shall feature an M12 Quick Connection for simplified wiring and installation.

3.4 The meter shall be pre-programmed and require no user setup, allowing for plug-and-play installation.

3.5 The flow meter shall accommodate pipe sizes from ¼" to 4" (DN08 to DN100), supporting both true-union (up to 2") and flanged (3" - 4") connections.

3.6 The meter shall include a bright LED Display with 360° rotation, showing real-time flow rate and totalized flow.

4.0 PERFORMANCE REQUIREMENTS

4.1 Operating Flow Range: 0.3 to 33 ft/s (0.1 to 10 m/s)

4.2 Linearity: ±0.5% of Full Scale @ 25°C (77°F)

4.3 Repeatability: ±0.5% of Full Scale @ 25°C (77°F)

4.4 Power Supply: 9 to 30 VDC ±10% regulated

4.5 Power Consumption: <1.5 mA @ 3.3 - 6 VDC; <20 mA @ 6 - 24 VDC

4.6 Output Signal Options: Flow | Total | Pulse | 4-20mA | Volatge (Opt.)

4.7 Ingress Protection: NEMA 4X (IP66) Enclosure

4.8 Compliance Standards: UL | CE | RoHS Compliant

5.0 OPERATING CONDITIONS

5.1 Maximum Temperature/Pressure Ratings:

Material	Pressure (Psi) @ 68°F (20°C)	Pressure (Psi) @ Max Temperature	Max Temperature (°F / °C)
PVC	180 Psi	40 Psi @ 140°F	140°F | 60°C
PP	180 Psi	40 Psi @ 190°F	190°F | 88°C
PVDF	200 Psi	40 Psi @ 240°F	240°F | 115°C
316 SS	200 Psi	40 Psi @ 300°F	300°F | 148°C

6.0 INSTALLATION & MOUNTING REQUIREMENTS

6.1 The sensor shall be installed using True-Union fittings (up to 2") or flanged connections (3" - 4").

6.2 The device shall be mounted in a fully developed flow profile to minimize turbulence and ensure measurement accuracy.

6.3 The sensor shall be oriented perpendicular to the flow stream for optimal performance.

7.0 MODEL SELECTION GUIDE

Size	Material	Part Number
¼" - ½"	316 SS	TK3M-08-SS to TK3M-15-SS
½" - 2"	PVC	TKM-15-P to TKM-50-P
½" - 2"	PP	TKM-15-PP to TKM-50-PP
½" - 2"	PVDF	TKM-15-PF to TKM-50-PF
3" - 4"	PVC	TKM-80-P to TKM-100-P (Flanged)
3" - 4"	PP	TKM-80-PP to TKM-100-PP (Flanged)

8.0 APPLICATIONS

8.1 Suitable for use in the following industrial applications:

- Industrial Water Treatment Systems
- Chemical Processing
- Cooling Tower Flow Monitoring
- Process Water Flow Control
- Pump Flow Verification
- High-Purity and Aggressive Chemical Applications

9.0 COMPLIANCE & CERTIFICATIONS

9.1 UL | CE | RoHS Compliant

9.2 Manufactured under ISO 9001 Quality Standards

10.0 PROCUREMENT & TECHNICAL SUPPORT

Manufacturer: Icon Process Controls

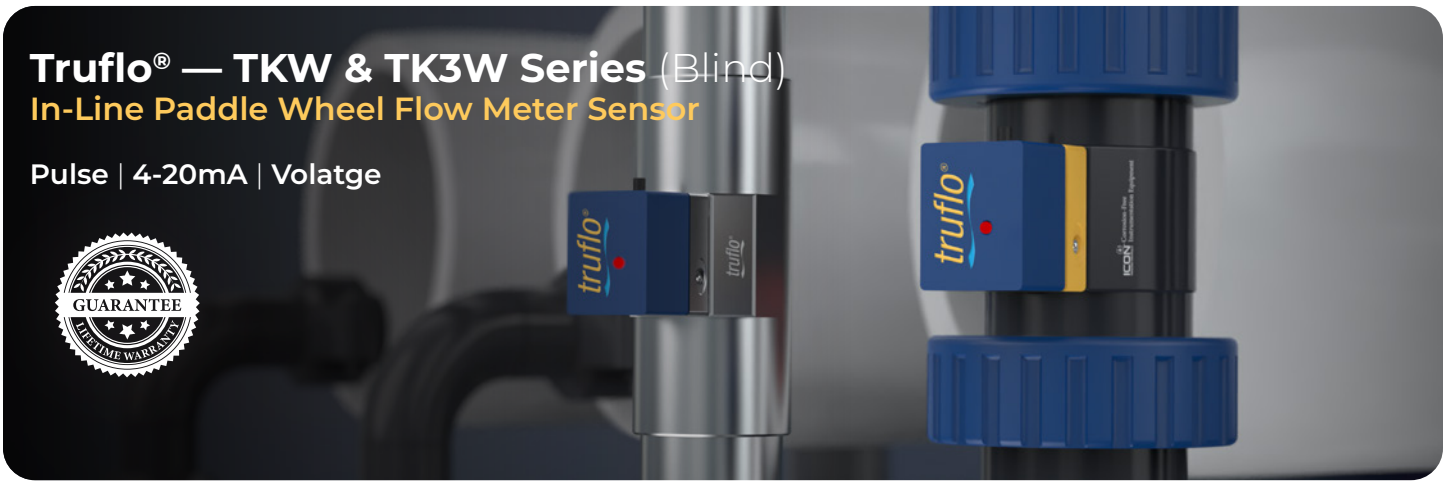
Website: https://iconprocon.com/product/tks-in-line-paddle-wheel-flow-meter/

Email: support@iconprocon.com

Phone: 1-800-676-4131

The Truflo® TKM | TK3M Series Flow Meter is engineered for precision measurement and long-lasting durability in industrial flow applications.

316SS PC PVC PP PVDF RoHS Compliant CE UL



TKW | TK3W SERIES (BLIND)

IN-LINE PADDLE WHEEL FLOW METER SENSOR

1.0 SCOPE

1.1 This specification outlines the technical and performance requirements for the Truflo® TKW | TK3W Series In-Line Paddle Wheel Flow Meter Sensor, designed for high-accuracy liquid flow measurement in industrial applications.

1.2 All paddle wheel flow meters shall be Truflo® TKW (or TK3W) Series or equal with all plastic NEMA 4X Enclosure.

1.3 The sensor shall provide exceptional chemical resistance, rugged construction, and reliable long-term performance for process control applications.

1.4 The flow meter shall be available in multiple materials to ensure compatibility with various process media and installation conditions.

2.0 MATERIALS & CONSTRUCTION

2.1 The sensor body shall be available in the following materials:

- PVC (Polyvinyl Chloride) - ASTM D-1784, Cell Classification 12454-A
- PP (Polypropylene) - ASTM D-4101, PP 0211B67272
- PVDF (Polyvinylidene Fluoride) - ASTM D-3222, Type 2 Suspension Resin, USDA Title 21, Chapter I, Part 177.2510
- 316 Stainless Steel

2.2 The paddle wheel assembly shall be manufactured from ETFE (Tefzel®) for superior chemical and wear resistance.

2.3 The rotor pin and bushings shall be Zirconium Ceramic (ZrO_2), providing up to 15 times the wear resistance of standard ceramic materials.

2.4 The sealing O-rings shal be available in FKM (Viton®), EPDM, or FFKM (Kalrez®) for maximum chemical compatibility.

2.5 The flow meter shall feature a high-impact, NEMA 4X (IP66) enclosure for protection against dust, water ingress, and corrosive environments.

3.0 FLOW METER DESIGN & FUNCTION

3.1 The TKW | TK3W Series In-Line Paddle Wheel Flow Meter shall incorporate a Revolutionary ShearPro® Paddle Wheel Design, providing:

- Contoured flow profiling to minimize turbulence
- Up to 78% reduced drag compared to traditional flat paddle designs
- Enhanced longevity and precision measurement

3.2 The paddle wheel assembly shall include a 360° shielded rotor design, eliminating finger spread and preventing paddle loss.

3.3 The device shall feature a flying lead connection for simplified wiring and installation.

3.4 The meter shall be pre-programmed and require no user setup, allowing for plug-and-play installation.

3.5 The flow meter shall accommodate pipe sizes from ¼” to 4” (DN08 to DN100), supporting both true-union (up to 2”) and flanged (3” - 4”) connections.

4.0 PERFORMANCE REQUIREMENTS

4.1 Operating Flow Range: 0.3 to 33 ft/s (0.1 to 10 m/s)

4.2 Linearity: ±0.5% of Full Scale @ 25°C (77°F)

4.3 Repeatability: ±0.5% of Full Scale @ 25°C (77°F)

4.4 Power Supply: 9 to 30 VDC ±10% regulated

4.5 Power Consumption: <1.5 mA @ 3.3 - 6 VDC; <20 mA @ 6 - 24 VDC

4.6 Output Signal Options: Pulse | 4-20mA | Volatge

4.7 Ingress Protection: NEMA 4X (IP66) Enclosure

4.8 Compliance Standards: UL | CE | RoHS Compliant

5.0 OPERATING CONDITIONS

5.1 Maximum Temperature/Pressure Ratings:

Material	Pressure (Psi) @ 68°F (20°C)	Pressure (Psi) @ Max Temperature	Max Temperature (°F / °C)
PVC	180 Psi	40 Psi @ 140°F	140°F | 60°C
PP	180 Psi	40 Psi @ 190°F	190°F | 88°C
PVDF	200 Psi	40 Psi @ 240°F	240°F | 115°C
316 SS	200 Psi	40 Psi @ 300°F	300°F | 148°C

6.0 INSTALLATION & MOUNTING REQUIREMENTS

6.1 The sensor shall be installed using True-Union fittings (up to 2") or flanged connections (3" - 4").

6.2 The device shall be mounted in a fully developed flow profile to minimize turbulence and ensure measurement accuracy.

6.3 The sensor shall be oriented perpendicular to the flow stream for optimal performance.

7.0 MODEL SELECTION GUIDE

Size	Material	Part Number
¼" - ½"	316 SS	TK3W-08-SS to TK3W-15-SS
½" - 2"	PVC	TKW-15-P to TKW-50-P
½" - 2"	PP	TKW-15-PP to TKW-50-PP
½" - 2"	PVDF	TKW-15-PF to TKW-50-PF
3" - 4"	PVC	TKW-80-P to TKW-100-P (Flanged)
3" - 4"	PP	TKW-80-PP to TKW-100-PP (Flanged)

8.0 APPLICATIONS

8.1 Suitable for use in the following industrial applications:

- Industrial Water Treatment Systems
- Chemical Processing
- Cooling Tower Flow Monitoring
- Process Water Flow Control
- Pump Flow Verification
- High-Purity and Aggressive Chemical Applications

9.0 COMPLIANCE & CERTIFICATIONS

9.1 UL | CE | RoHS Compliant

9.2 Manufactured under ISO 9001 Quality Standards

10.0 PROCUREMENT & TECHNICAL SUPPORT

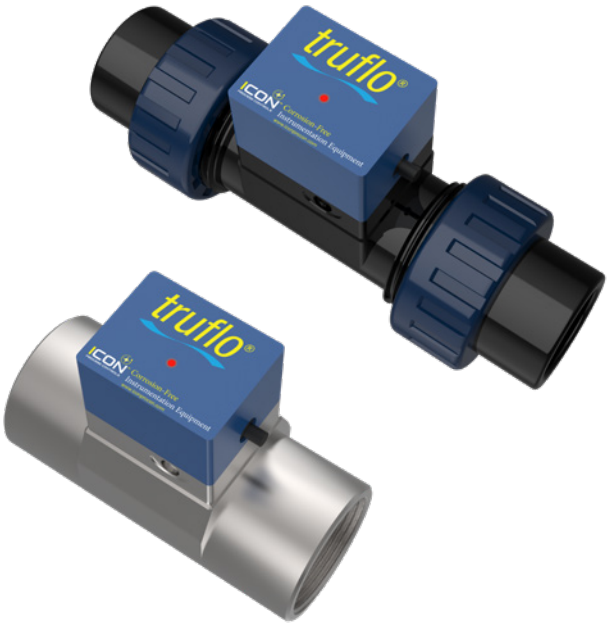
Manufacturer: Icon Process Controls

Website: https://iconprocon.com/product/tks-in-line-paddle-wheel-flow-meter/

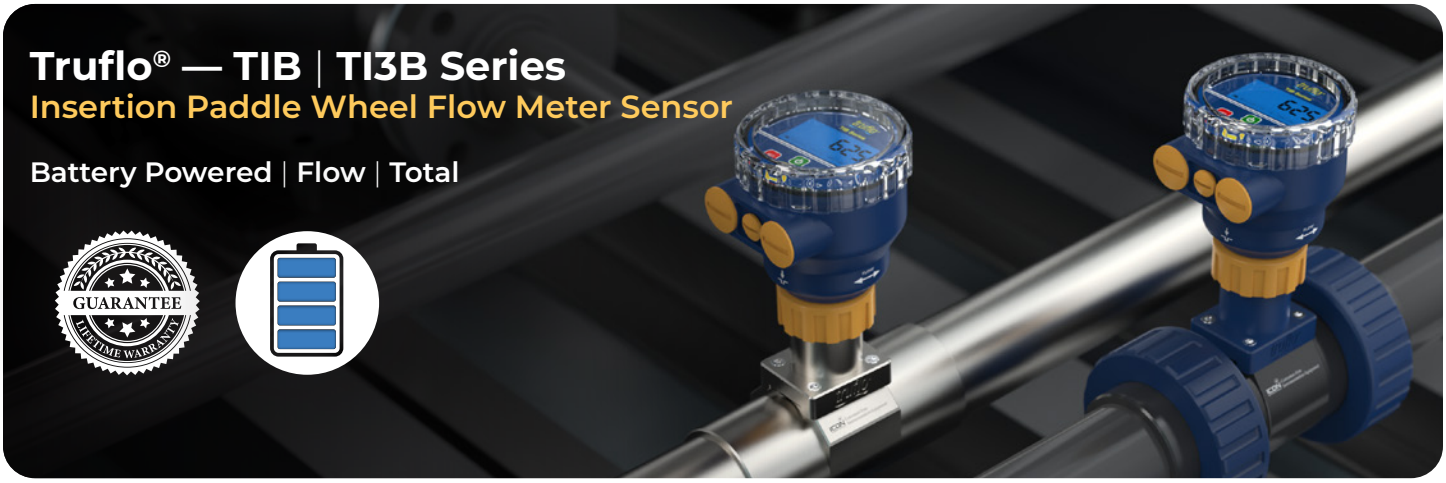
Email: support@iconprocon.com

Phone: 1-800-676-4131

The Truflo® TKW | TK3W Series Flow Meter is engineered for precision measurement and long-lasting durability in industrial flow applications.



316SS PC PVC PP PVDF RoHS Compliant CE UL



TIB | TI3B SERIES

INSERTION PADDLE WHEEL FLOW METER SENSOR

1.0 SCOPE

1.1 This specification outlines the technical and performance requirements for the Truflo® TIB | TI3B Series Insertion Paddle Wheel Flow Meter Sensor, designed for accurate and reliable liquid flow measurement in industrial applications.

1.2 All paddle wheel flow meters shall be Truflo® TIB (or TI3B) Series or equal with all plastic NEMA 4X Enclosure.

1.3 The sensor shall offer superior chemical resistance, robust construction, and reliable long-term performance for industrial process control applications.

1.4 The flow meter shall be available in multiple materials to ensure compatibility with various process media and installation environments.

2.0 MATERIALS & CONSTRUCTION

2.1 Sensor Body Materials:

- PVC (Polyvinyl Chloride) - ASTM D-1784
- PP (Polypropylene) - ASTM D-4101
- PVDF (Polyvinylidene Fluoride) - ASTM D-3222
- 316 Stainless Steel

2.2 Paddle Wheel Assembly:

Manufactured from ETFE (Tefzel®) for excellent chemical and wear resistance.

2.3 Rotor Pin and Bushings:

Zirconium Ceramic (ZrO_2), providing up to 15 times greater wear resistance compared to standard ceramic materials.

2.4 Sealing O-rings:

Available in FKM (Viton®), EPDM, or FFKM (Kalrez®) for maximum chemical compatibility.

2.5 Enclosure:

High-impact, NEMA 4X (IP66) rated for protection against dust, water ingress, and corrosive environments.

3.0 FLOW METER DESIGN & FUNCTION

3.1 Revolutionary ShearPro® Paddle Wheel Design:

- Contoured flow profiling to minimize turbulence
- 78% reduced drag compared to traditional flat paddle designs
- Enhanced longevity and precise measurement

3.2 Paddle Wheel Assembly:

360° shielded rotor design to eliminate finger spread and prevent paddle loss.

3.3 Connectivity:

M12 Quick Connection for simplified wiring and installation.

3.4 Display and Operation:

Vivid LCD Display (rotatable 330°) showing real-time flow rate and totalized flow.

Battery-powered operation (long-lasting battery life up to 7 years).

3.5 Pipe Size Accommodation:

Suitable for pipe sizes ranging from ½" to 24" (DN15 to DN600).

4.0 PERFORMANCE REQUIREMENTS

4.1 Operating Flow Range: 0.3 to 33 ft/s (0.1 to 10 m/s)

4.2 Linearity: ±0.5% of Full Scale @ 25°C (77°F)

4.3 Repeatability: ±0.5% of Full Scale @ 25°C (77°F)

4.4 Battery Options: 5000 mAh or 9000 mAh

4.5 Ingress Protection: NEMA 4X (IP66) Enclosure

4.6 Compliance Standards: UL | CE | RoHS Compliant

5.0 OPERATING CONDITIONS

5.1 Maximum Temperature/Pressure Ratings (Non-Shock):

Material	Pressure (Psi) @ 68°F (20°C)	Pressure (Psi) @ Max Temperature	Max Temperature (°F / °C)
PVC	180 Psi	40 Psi @ 140°F	140°F | 60°C
PP	180 Psi	40 Psi @ 190°F	190°F | 88°C
PVDF	200 Psi	40 Psi @ 240°F	240°F | 115°C
316 SS	200 Psi	40 Psi @ 300°F	300°F | 148°C

5.2 Operating Temperature:

- PVC: 32°F to 140°F
- PP: -4°F to 190°F
- PVDF: -40°F to 240°F
- 316SS: -40°F to 300°F

6.0 INSTALLATION & MOUNTING REQUIREMENTS

6.1 The sensor shall be installed using True-Union, ANSI, DIN fittings, or flanged connections suitable for pipe sizes.

6.2 The sensor shall be installed in a fully developed flow profile to minimize turbulence and ensure measurement accuracy.

6.3 Orientation shall be perpendicular to the flow stream for optimal performance.

7.0 MODEL SELECTION GUIDE

Size	Material	Part Number
½" - 4"	PVC	TIB-P-S
6" - 24"	PVC	TIB-P-L
½" - 4"	PP	TIB-PP-S
6" - 24"	PP	TIB-PP-L
½" - 4"	PVDF	TIB-PF-S
6" - 24"	PVDF	TIB-PF-L
½" - 4"	316 SS	TI3B-SS-S
6" - 24"	316 SS	TI3B-SS-L

Optional O-ring materials: FKM, EPDM, FFKM

8.0 APPLICATIONS

8.1 Industrial Applications:

- Industrial Water Treatment
- Chemical Processing
- Cooling Tower Flow Monitoring
- Process Water Flow Control
- Pump Flow Verification
- High-Purity and Aggressive Chemical Applications

9.0 COMPLIANCE & CERTIFICATIONS

9.1 CE | FCC | RoHS Compliant

9.2 Manufactured under ISO 9001 Quality Standards

10.0 PROCUREMENT & TECHNICAL SUPPORT

Manufacturer: Icon Process Controls

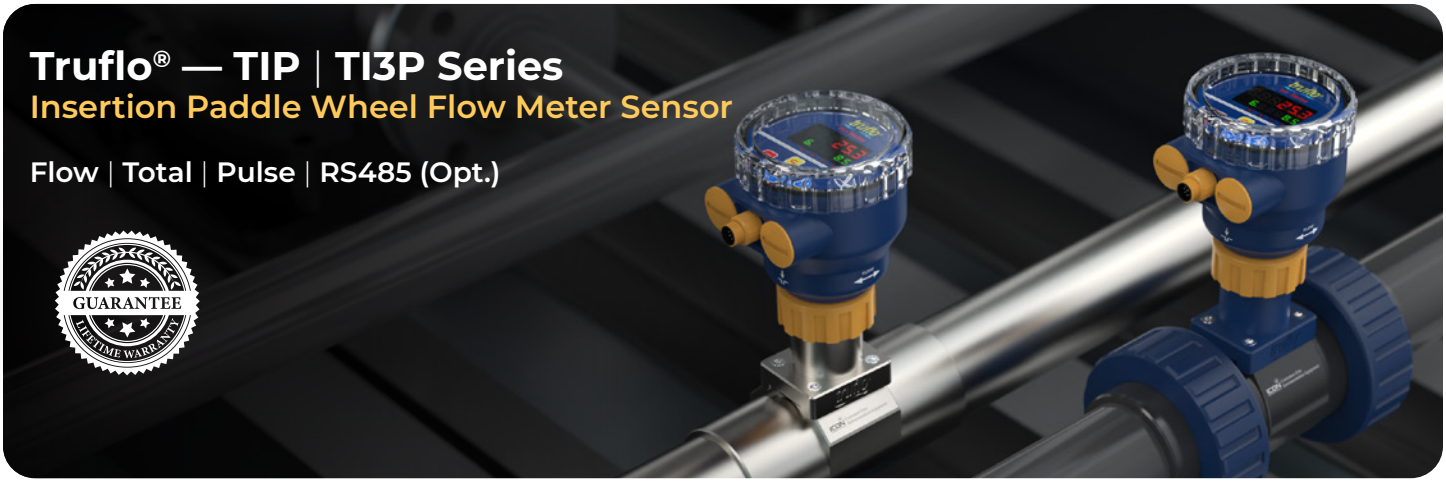
Website: https://iconprocon.com/product/tib-paddle-wheel-flow-meter/

Email: support@iconprocon.com

Phone: 1-800-676-4131

The Truflo® TIB | TI3B Series Flow Meter is engineered for precision measurement and exceptional durability in industrial flow applications.

316SS PC PVC PP PVDF RoHS Compliant CE UL



TIP | TI3P SERIES

INSERTION PADDLE WHEEL FLOW METER SENSOR

1.0 SCOPE

1.1 This specification outlines the technical and performance requirements for the Truflo® TIP | TI3P Series Insertion Paddle Wheel Flow Meter Sensor, designed for accurate and reliable liquid flow measurement in industrial applications.

1.2 All paddle wheel flow meters shall be Truflo® TIP (or TI3P) Series or equal with all plastic NEMA 4X Enclosure.

1.3 The sensor shall offer superior chemical resistance, robust construction, and reliable long-term performance for industrial process control applications.

1.4 The flow meter shall be available in multiple materials to ensure compatibility with various process media and installation environments.

2.0 MATERIALS & CONSTRUCTION

2.1 Sensor Body Materials:

- PVC (Polyvinyl Chloride) - ASTM D-1784
- PP (Polypropylene) - ASTM D-4101
- PVDF (Polyvinylidene Fluoride) - ASTM D-3222
- 316 Stainless Steel

2.2 Paddle Wheel Assembly:

Manufactured from ETFE (Tefzel®) for excellent chemical and wear resistance.

2.3 Rotor Pin and Bushings:

Zirconium Ceramic (ZrO_2), providing up to 15 times greater wear resistance compared to standard ceramic materials.

2.4 Sealing O-rings:

Available in FKM (Viton®), EPDM, or FFKM (Kalrez®) for maximum chemical compatibility.

2.5 Enclosure:

High-impact, NEMA 4X (IP66) rated for protection against dust, water ingress, and corrosive environments.

3.0 FLOW METER DESIGN & FUNCTION

3.1 Revolutionary ShearPro® Paddle Wheel Design:

- Contoured flow profiling to minimize turbulence
- 78% reduced drag compared to traditional flat paddle designs
- Enhanced longevity and precise measurement

3.2 Paddle Wheel Assembly:

360° shielded rotor design to eliminate finger spread and prevent paddle loss.

3.3 Connectivity:

M12 Quick Connection for simplified wiring and installation.

3.4 Display and Operation:

Vivid LED Display (rotatable 330°) showing real-time flow rate and totalized flow.

3.5 Pipe Size Accommodation:

Suitable for pipe sizes ranging from ½" to 24" (DN15 to DN600).

4.0 PERFORMANCE REQUIREMENTS

4.1 Operating Flow Range: 0.3 to 33 ft/s (0.1 to 10 m/s)

4.2 Linearity: ±0.5% of Full Scale @ 25°C (77°F)

4.3 Repeatability: ±0.5% of Full Scale @ 25°C (77°F)

4.4 Power Supply: 9 to 30 VDC ±10% regulated

4.5 Output Signal Options:
Flow | Total | Pulse | RS485 (Opt.)

4.6 Ingress Protection: NEMA 4X (IP66) Enclosure

4.7 Compliance Standards: UL | CE | RoHS Compliant

5.0 OPERATING CONDITIONS

5.1 Maximum Temperature/Pressure Ratings (Non-Shock):

Material	Pressure (Psi) @ 68°F (20°C)	Pressure (Psi) @ Max Temperature	Max Temperature (°F / °C)
PVC	180 Psi	40 Psi @ 140°F	140°F | 60°C
PP	180 Psi	40 Psi @ 190°F	190°F | 88°C
PVDF	200 Psi	40 Psi @ 240°F	240°F | 115°C
316 SS	200 Psi	40 Psi @ 300°F	300°F | 148°C

5.2 Operating Temperature:
- PVC: 32°F to 140°F
- PP: -4°F to 190°F
- PVDF: -40°F to 240°F
- 316SS: -40°F to 300°F

6.0 INSTALLATION & MOUNTING REQUIREMENTS

6.1 The sensor shall be installed using True-Union, ANSI, DIN fittings, or flanged connections suitable for pipe sizes.

6.2 The sensor shall be installed in a fully developed flow profile to minimize turbulence and ensure measurement accuracy.

6.3 Orientation shall be perpendicular to the flow stream for optimal performance.

7.0 MODEL SELECTION GUIDE

Size	Material	Part Number
½" - 4"	PVC	TIP-P-S
6" - 24"	PVC	TIP-P-L
½" - 4"	PP	TIP-PP-S
6" - 24"	PP	TIP-PP-L
½" - 4"	PVDF	TIP-PF-S
6" - 24"	PVDF	TIP-PF-L
½" - 4"	316 SS	TI3P-SS-S
6" - 24"	316 SS	TI3P-SS-L

Optional O-ring materials: FKM, EPDM, FFKM

8.0 APPLICATIONS

8.1 Industrial Applications:
- Industrial Water Treatment
- Chemical Processing
- Cooling Tower Flow Monitoring
- Process Water Flow Control
- Pump Flow Verification
- High-Purity and Aggressive Chemical Applications

9.0 COMPLIANCE & CERTIFICATIONS

9.1 CE | FCC | RoHS Compliant

9.2 Manufactured under ISO 9001 Quality Standards

10.0 PROCUREMENT & TECHNICAL SUPPORT

Manufacturer: Icon Process Controls

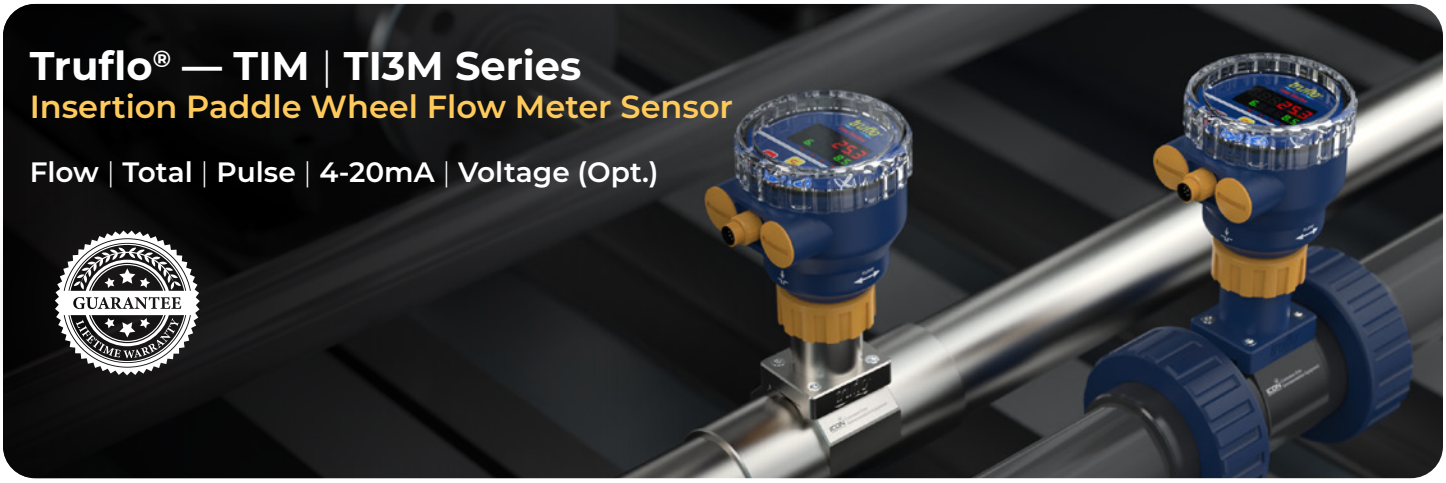
Website: https://iconprocon.com/product/tip-paddle-wheel-flow-meter/

Email: support@iconprocon.com

Phone: 1-800-676-4131

The Truflo® TIP | TI3P Series Flow Meter is engineered for precision measurement and exceptional durability in industrial flow applications.

316SS PC PVC PP PVDF RoHS Compliant CE UL



TIM | TI3M SERIES

INSERTION PADDLE WHEEL FLOW METER SENSOR

1.0 SCOPE

1.1 This specification outlines the technical and performance requirements for the Truflo® TIM | TI3M Series Insertion Paddle Wheel Flow Meter Sensor, designed for accurate and reliable liquid flow measurement in industrial applications.

1.2 All paddle wheel flow meters shall be Truflo® TIM (or TI3M) Series or equal with all plastic NEMA 4X Enclosure.

1.3 The sensor shall offer superior chemical resistance, robust construction, and reliable long-term performance for industrial process control applications.

1.4 The flow meter shall be available in multiple materials to ensure compatibility with various process media and installation environments.

2.0 MATERIALS & CONSTRUCTION

2.1 Sensor Body Materials:

- PVC (Polyvinyl Chloride) - ASTM D-1784
- PP (Polypropylene) - ASTM D-4101
- PVDF (Polyvinylidene Fluoride) - ASTM D-3222
- 316 Stainless Steel

2.2 Paddle Wheel Assembly:

Manufactured from ETFE (Tefzel®) for excellent chemical and wear resistance.

2.3 Rotor Pin and Bushings:

Zirconium Ceramic (ZrO_2), providing up to 15 times greater wear resistance compared to standard ceramic materials.

2.4 Sealing O-rings:

Available in FKM (Viton®), EPDM, or FFKM (Kalrez®) for maximum chemical compatibility.

2.5 Enclosure:

High-impact, NEMA 4X (IP66) rated for protection against dust, water ingress, and corrosive environments.

3.0 FLOW METER DESIGN & FUNCTION

3.1 Revolutionary ShearPro® Paddle Wheel Design:

- Contoured flow profiling to minimize turbulence
- 78% reduced drag compared to traditional flat paddle designs
- Enhanced longevity and precise measurement

3.2 Paddle Wheel Assembly:

360° shielded rotor design to eliminate finger spread and prevent paddle loss.

3.3 Connectivity:

M12 Quick Connection for simplified wiring and installation.

3.4 Display and Operation:

Vivid LED Display (rotatable 330°) showing real-time flow rate and totalized flow.

3.5 Pipe Size Accommodation:

Suitable for pipe sizes ranging from ½" to 24" (DN15 to DN600).

4.0 PERFORMANCE REQUIREMENTS

4.1 Operating Flow Range: 0.3 to 33 ft/s (0.1 to 10 m/s)

4.2 Linearity: ±0.5% of Full Scale @ 25°C (77°F)

4.3 Repeatability: ±0.5% of Full Scale @ 25°C (77°F)

4.4 Power Supply: 9 to 30 VDC ±10% regulated

4.5 Output Signal Options:
Flow | Total | Pulse | 4-20mA | Voltage (Opt.)

4.6 Ingress Protection: NEMA 4X (IP66) Enclosure

4.7 Compliance Standards: UL | CE | RoHS Compliant

5.0 OPERATING CONDITIONS

5.1 Maximum Temperature/Pressure Ratings (Non-Shock):

Material	Pressure (Psi) @ 68°F (20°C)	Pressure (Psi) @ Max Temperature	Max Temperature (°F / °C)
PVC	180 Psi	40 Psi @ 140°F	140°F | 60°C
PP	180 Psi	40 Psi @ 190°F	190°F | 88°C
PVDF	200 Psi	40 Psi @ 240°F	240°F | 115°C
316 SS	200 Psi	40 Psi @ 300°F	300°F | 148°C

5.2 Operating Temperature:
- PVC: 32°F to 140°F
- PP: -4°F to 190°F
- PVDF: -40°F to 240°F
- 316SS: -40°F to 300°F

6.0 INSTALLATION & MOUNTING REQUIREMENTS

6.1 The sensor shall be installed using True-Union, ANSI, DIN fittings, or flanged connections suitable for pipe sizes.

6.2 The sensor shall be installed in a fully developed flow profile to minimize turbulence and ensure measurement accuracy.

6.3 Orientation shall be perpendicular to the flow stream for optimal performance.

7.0 MODEL SELECTION GUIDE

Size	Material	Part Number
½" - 4"	PVC	TIM-P-S
6" - 24"	PVC	TIM-P-L
½" - 4"	PP	TIM-PP-S
6" - 24"	PP	TIM-PP-L
½" - 4"	PVDF	TIM-PF-S
6" - 24"	PVDF	TIM-PF-L
½" - 4"	316 SS	TI3M-SS-S
6" - 24"	316 SS	TI3M-SS-L

Optional O-ring materials: FKM, EPDM, FFKM

8.0 APPLICATIONS

8.1 Industrial Applications:
- Industrial Water Treatment
- Chemical Processing
- Cooling Tower Flow Monitoring
- Process Water Flow Control
- Pump Flow Verification
- High-Purity and Aggressive Chemical Applications

9.0 COMPLIANCE & CERTIFICATIONS

9.1 CE | FCC | RoHS Compliant

9.2 Manufactured under ISO 9001 Quality Standards

10.0 PROCUREMENT & TECHNICAL SUPPORT

Manufacturer: Icon Process Controls

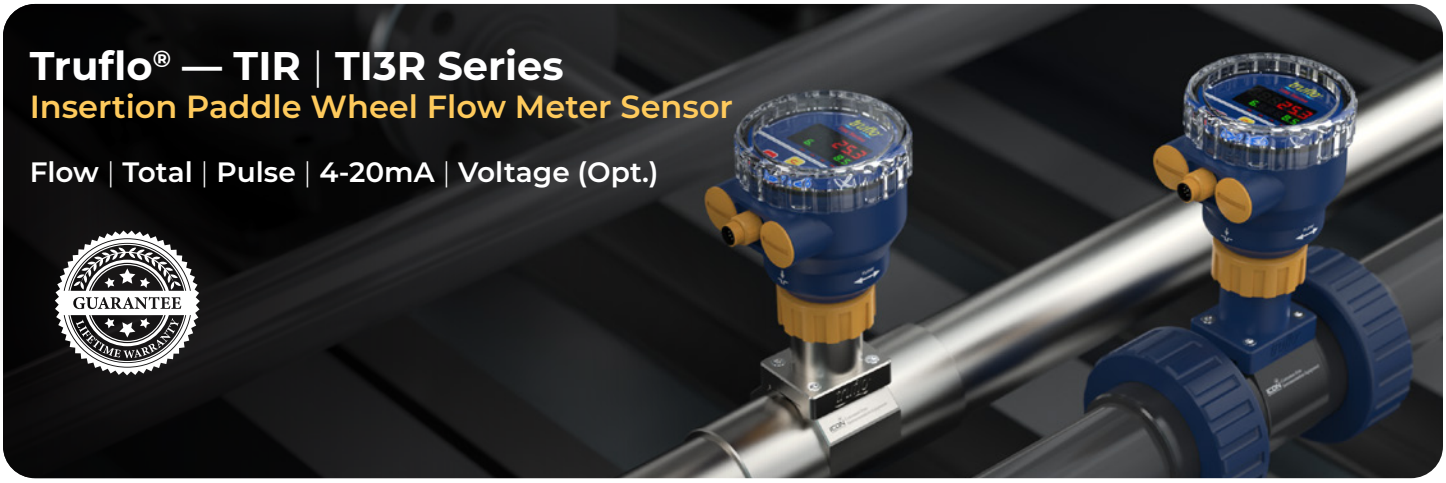
Website: https://iconprocon.com/product/tim-paddle-wheel-flow-meter/

Email: support@iconprocon.com

Phone: 1-800-676-4131

The Truflo® TIM | TI3M Series Flow Meter is engineered for precision measurement and exceptional durability in industrial flow applications.

316SS PC PVC PP PVDF RoHS Compliant CE UL



TIR | TI3R SERIES

INSERTION PADDLE WHEEL FLOW METER SENSOR

1.0 SCOPE

1.1 This specification outlines the technical and performance requirements for the Truflo® TIR | TI3R Series Insertion Paddle Wheel Flow Meter Sensor, designed for accurate and reliable liquid flow measurement in industrial applications.

1.2 All paddle wheel flow meters shall be Truflo® TIR (or TI3R) Series or equal with all plastic NEMA 4X Enclosure.

1.3 The sensor shall offer superior chemical resistance, robust construction, and reliable long-term performance for industrial process control applications.

1.4 The flow meter shall be available in multiple materials to ensure compatibility with various process media and installation environments.

2.0 MATERIALS & CONSTRUCTION

2.1 Sensor Body Materials:

- PVC (Polyvinyl Chloride) - ASTM D-1784
- PP (Polypropylene) - ASTM D-4101
- PVDF (Polyvinylidene Fluoride) - ASTM D-3222
- 316 Stainless Steel

2.2 Paddle Wheel Assembly:

Manufactured from ETFE (Tefzel®) for excellent chemical and wear resistance.

2.3 Rotor Pin and Bushings:

Zirconium Ceramic (ZrO_2), providing up to 15 times greater wear resistance compared to standard ceramic materials.

2.4 Sealing O-rings:

Available in FKM (Viton®), EPDM, or FFKM (Kalrez®) for maximum chemical compatibility.

2.5 Enclosure:

High-impact, NEMA 4X (IP66) rated for protection against dust, water ingress, and corrosive environments.

3.0 FLOW METER DESIGN & FUNCTION

3.1 Revolutionary ShearPro® Paddle Wheel Design:

- Contoured flow profiling to minimize turbulence
- 78% reduced drag compared to traditional flat paddle designs
- Enhanced longevity and precise measurement

3.2 Paddle Wheel Assembly:

360° shielded rotor design to eliminate finger spread and prevent paddle loss.

3.3 Connectivity:

M12 Quick Connection for simplified wiring and installation.

3.4 Display and Operation:

Vivid LED Display (rotatable 330°) showing real-time flow rate and totalized flow.

3.5 Pipe Size Accommodation:

Suitable for pipe sizes ranging from ½" to 24" (DN15 to DN600).

4.0 PERFORMANCE REQUIREMENTS

4.1 Operating Flow Range: 0.3 to 33 ft/s (0.1 to 10 m/s)

4.2 Linearity: ±0.5% of Full Scale @ 25°C (77°F)

4.3 Repeatability: ±0.5% of Full Scale @ 25°C (77°F)

4.4 Power Supply: 9 to 30 VDC ±10% regulated

4.5 Output Signal Options:
Flow | Total | Pulse | 4-20mA | Voltage (Opt.)

4.6 Ingress Protection: NEMA 4X (IP66) Enclosure

4.7 Compliance Standards: UL | CE | RoHS Compliant

5.0 OPERATING CONDITIONS

5.1 Maximum Temperature/Pressure Ratings (Non-Shock):

Material	Pressure (Psi) @ 68°F (20°C)	Pressure (Psi) @ Max Temperature	Max Temperature (°F / °C)
PVC	180 Psi	40 Psi @ 140°F	140°F | 60°C
PP	180 Psi	40 Psi @ 190°F	190°F | 88°C
PVDF	200 Psi	40 Psi @ 240°F	240°F | 115°C
316 SS	200 Psi	40 Psi @ 300°F	300°F | 148°C

5.2 Operating Temperature:
- PVC: 32°F to 140°F
- PP: -4°F to 190°F
- PVDF: -40°F to 240°F
- 316SS: -40°F to 300°F

6.0 INSTALLATION & MOUNTING REQUIREMENTS

6.1 The sensor shall be installed using True-Union, ANSI, DIN fittings, or flanged connections suitable for pipe sizes.

6.2 The sensor shall be installed in a fully developed flow profile to minimize turbulence and ensure measurement accuracy.

6.3 Orientation shall be perpendicular to the flow stream for optimal performance.

7.0 MODEL SELECTION GUIDE

Size	Material	Part Number
½" - 4"	PVC	TIR-P-S
6" - 24"	PVC	TIR-P-L
½" - 4"	PP	TIR-PP-S
6" - 24"	PP	TIR-PP-L
½" - 4"	PVDF	TIR-PF-S
6" - 24"	PVDF	TIR-PF-L
½" - 4"	316 SS	TI3R-SS-S
6" - 24"	316 SS	TI3R-SS-L

Optional O-ring materials: FKM, EPDM, FFKM

8.0 APPLICATIONS

8.1 Industrial Applications:
- Industrial Water Treatment
- Chemical Processing
- Cooling Tower Flow Monitoring
- Process Water Flow Control
- Pump Flow Verification
- High-Purity and Aggressive Chemical Applications

9.0 COMPLIANCE & CERTIFICATIONS

9.1 CE | FCC | RoHS Compliant

9.2 Manufactured under ISO 9001 Quality Standards

10.0 PROCUREMENT & TECHNICAL SUPPORT

Manufacturer: Icon Process Controls

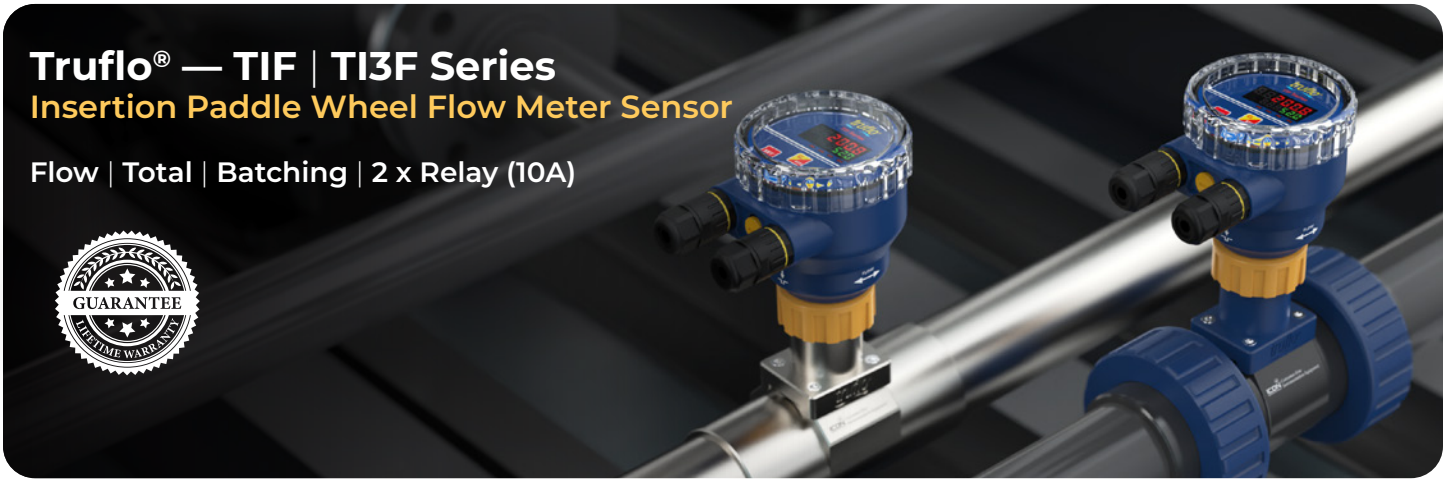
Website: https://iconprocon.com/product/tir-paddle-wheel-flow-meter/

Email: support@iconprocon.com

Phone: 1-800-676-4131

The Truflo® TIR | TI3R Series Flow Meter is engineered for precision measurement and exceptional durability in industrial flow applications.

316SS PC PVC PP PVDF RoHS Compliant CE UL



TIF | TI3F SERIES

INSERTION PADDLE WHEEL FLOW METER SENSOR

1.0 SCOPE

1.1 This specification outlines the technical and performance requirements for the Truflo® TIF | TI3F Series Insertion Paddle Wheel Flow Meter Sensor, designed for accurate and reliable liquid flow measurement in industrial applications.

1.2 All paddle wheel flow meters shall be Truflo® TIF (or TI3F) Series or equal with all plastic NEMA 4X Enclosure.

1.3 The sensor shall offer superior chemical resistance, robust construction, and reliable long-term performance for industrial process control applications.

1.4 The flow meter shall be available in multiple materials to ensure compatibility with various process media and installation environments.

2.0 MATERIALS & CONSTRUCTION

2.1 Sensor Body Materials:

- PVC (Polyvinyl Chloride) - ASTM D-1784
- PP (Polypropylene) - ASTM D-4101
- PVDF (Polyvinylidene Fluoride) - ASTM D-3222
- 316 Stainless Steel

2.2 Paddle Wheel Assembly:

Manufactured from ETFE (Tefzel®) for excellent chemical and wear resistance.

2.3 Rotor Pin and Bushings:

Zirconium Ceramic (ZrO_2), providing up to 15 times greater wear resistance compared to standard ceramic materials.

2.4 Sealing O-rings:

Available in FKM (Viton®), EPDM, or FFKM (Kalrez®) for maximum chemical compatibility.

2.5 Enclosure:

High-impact, NEMA 4X (IP66) rated for protection against dust, water ingress, and corrosive environments.

3.0 FLOW METER DESIGN & FUNCTION

3.1 Revolutionary ShearPro® Paddle Wheel Design:

- Contoured flow profiling to minimize turbulence
- 78% reduced drag compared to traditional flat paddle designs
- Enhanced longevity and precise measurement

3.2 Paddle Wheel Assembly:

360° shielded rotor design to eliminate finger spread and prevent paddle loss.

3.3 Connectivity:

M12 Quick Connection for simplified wiring and installation.

3.4 Display and Operation:

Vivid LED Display (rotatable 330°) showing real-time flow rate and totalized flow.

3.5 Pipe Size Accommodation:

Suitable for pipe sizes ranging from ½" to 24" (DN15 to DN600).

4.0 PERFORMANCE REQUIREMENTS

4.1 Operating Flow Range: 0.3 to 33 ft/s (0.1 to 10 m/s)

4.2 Linearity: ±0.5% of Full Scale @ 25°C (77°F)

4.3 Repeatability: ±0.5% of Full Scale @ 25°C (77°F)

4.4 Power Supply: 9 to 30 VDC ±10% regulated

4.5 Output Signal Options:
Flow | Total | Batching | 2 x Relay (10A)

4.6 Ingress Protection: NEMA 4X (IP66) Enclosure

4.7 Compliance Standards: UL | CE | RoHS Compliant

5.0 OPERATING CONDITIONS

5.1 Maximum Temperature/Pressure Ratings (Non-Shock):

Material	Pressure (Psi) @ 68°F (20°C)	Pressure (Psi) @ Max Temperature	Max Temperature (°F / °C)
PVC	180 Psi	40 Psi @ 140°F	140°F | 60°C
PP	180 Psi	40 Psi @ 190°F	190°F | 88°C
PVDF	200 Psi	40 Psi @ 240°F	240°F | 115°C
316 SS	200 Psi	40 Psi @ 300°F	300°F | 148°C

5.2 Operating Temperature:
- PVC: 32°F to 140°F
- PP: -4°F to 190°F
- PVDF: -40°F to 240°F
- 316SS: -40°F to 300°F

6.0 INSTALLATION & MOUNTING REQUIREMENTS

6.1 The sensor shall be installed using True-Union, ANSI, DIN fittings, or flanged connections suitable for pipe sizes.

6.2 The sensor shall be installed in a fully developed flow profile to minimize turbulence and ensure measurement accuracy.

6.3 Orientation shall be perpendicular to the flow stream for optimal performance.

7.0 MODEL SELECTION GUIDE

Size	Material	Part Number
½" - 4"	PVC	TIF-P-S
6" - 24"	PVC	TIF-P-L
½" - 4"	PP	TIF-PP-S
6" - 24"	PP	TIF-PP-L
½" - 4"	PVDF	TIF-PF-S
6" - 24"	PVDF	TIF-PF-L
½" - 4"	316 SS	TI3F-SS-S
6" - 24"	316 SS	TI3F-SS-L

Optional O-ring materials: FKM, EPDM, FFKM

8.0 APPLICATIONS

8.1 Industrial Applications:
- Industrial Water Treatment
- Chemical Processing
- Cooling Tower Flow Monitoring
- Process Water Flow Control
- Pump Flow Verification
- High-Purity and Aggressive Chemical Applications

9.0 COMPLIANCE & CERTIFICATIONS

9.1 CE | FCC | RoHS Compliant

9.2 Manufactured under ISO 9001 Quality Standards

10.0 PROCUREMENT & TECHNICAL SUPPORT

Manufacturer: Icon Process Controls

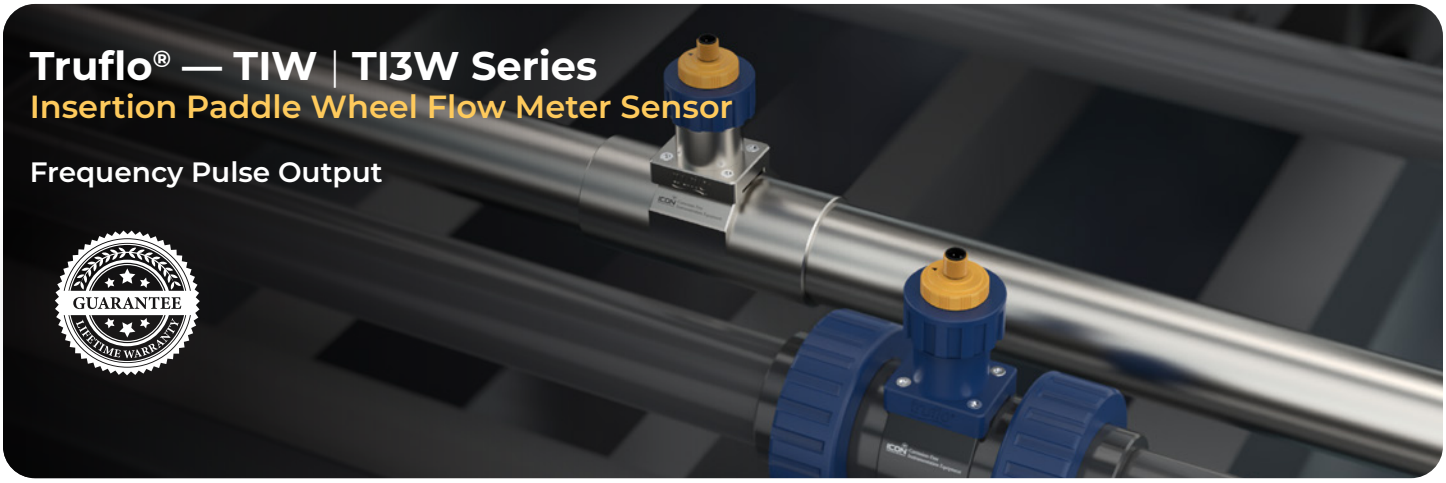
Website: https://iconprocon.com/product/tif-paddle-wheel-flow-meter/

Email: support@iconprocon.com

Phone: 1-800-676-4131

The Truflo® TIF | TI3F Series Flow Meter is engineered for precision measurement and exceptional durability in industrial flow applications.

316SS PC PVC PP PVDF RoHS Compliant CE UL



TIW | TI3W SERIES (BLIND)

INSERTION PADDLE WHEEL FLOW METER SENSOR

1.0 SCOPE

1.1 This specification outlines the technical and performance requirements for the Truflo® TIW | TI3W Series Insertion Paddle Wheel Flow Meter Sensor, designed for accurate and reliable liquid flow measurement in industrial applications.

1.2 All paddle wheel flow meters shall be Truflo® TIW (or TI3W) Series or equal with M12 connection.

1.3 The sensor shall offer superior chemical resistance, robust construction, and reliable long-term performance for industrial process control applications.

1.4 The flow meter shall be available in multiple materials to ensure compatibility with various process media and installation environments.

2.0 MATERIALS & CONSTRUCTION

2.1 Sensor Body Materials:

- PVC (Polyvinyl Chloride) - ASTM D-1784
- PP (Polypropylene) - ASTM D-4101
- PVDF (Polyvinylidene Fluoride) - ASTM D-3222
- 316 Stainless Steel

2.2 Paddle Wheel Assembly:

Manufactured from ETFE (Tefzel®) for excellent chemical and wear resistance.

2.3 Rotor Pin and Bushings:

Zirconium Ceramic (ZrO_2), providing up to 15 times greater wear resistance compared to standard ceramic materials.

2.4 Sealing O-rings:

Available in FKM (Viton®), EPDM, or FFKM (Kalrez®) for maximum chemical compatibility.

2.5 Enclosure:

High-impact, NEMA 4X (IP66) rated for protection against dust, water ingress, and corrosive environments.

3.0 FLOW METER DESIGN & FUNCTION

3.1 Revolutionary ShearPro® Paddle Wheel Design:

- Contoured flow profiling to minimize turbulence
- 78% reduced drag compared to traditional flat paddle designs
- Enhanced longevity and precise measurement

3.2 Paddle Wheel Assembly:

360° shielded rotor design to eliminate finger spread and prevent paddle loss.

3.3 Connectivity:

M12 Quick Connection for simplified wiring and installation.

3.4 Pipe Size Accommodation:

Suitable for pipe sizes ranging from ½" to 24" (DN15 to DN600).

4.0 PERFORMANCE REQUIREMENTS

4.1 Operating Flow Range: 0.3 to 33 ft/s (0.1 to 10 m/s)

4.2 Linearity: ±0.5% of Full Scale @ 25°C (77°F)

4.3 Repeatability: ±0.5% of Full Scale @ 25°C (77°F)

4.4 Power Supply: 9 to 30 VDC ±10% regulated

4.5 Output Signal Options: Frequency Pulse Output

4.6 Ingress Protection: NEMA 4X (IP66) Enclosure

4.7 Compliance Standards: UL | CE | RoHS Compliant

5.0 OPERATING CONDITIONS

5.1 Maximum Temperature/Pressure Ratings (Non-Shock):

Material	Pressure (Psi) @ 68°F (20°C)	Pressure (Psi) @ Max Temperature	Max Temperature (°F / °C)
PVC	180 Psi	40 Psi @ 140°F	140°F | 60°C
PP	180 Psi	40 Psi @ 190°F	190°F | 88°C
PVDF	200 Psi	40 Psi @ 240°F	240°F | 115°C
316 SS	200 Psi	40 Psi @ 300°F	300°F | 148°C

5.2 Operating Temperature:

- PVC: 32°F to 140°F
- PP: -4°F to 190°F
- PVDF: -40°F to 240°F
- 316SS: -40°F to 300°F

6.0 INSTALLATION & MOUNTING REQUIREMENTS

6.1 The sensor shall be installed using True-Union, ANSI, DIN fittings, or flanged connections suitable for pipe sizes.

6.2 The sensor shall be installed in a fully developed flow profile to minimize turbulence and ensure measurement accuracy.

6.3 Orientation shall be perpendicular to the flow stream for optimal performance.

7.0 MODEL SELECTION GUIDE

Size	Material	Part Number
½" - 4"	PVC	TIW-P-S
6" - 24"	PVC	TIW-P-L
½" - 4"	PP	TIW-PP-S
6" - 24"	PP	TIW-PP-L
½" - 4"	PVDF	TIW-PF-S
6" - 24"	PVDF	TIW-PF-L
½" - 4"	316 SS	TI3W-SS-S
6" - 24"	316 SS	TI3W-SS-L

Optional O-ring materials: FKM, EPDM, FFKM

8.0 APPLICATIONS

8.1 Industrial Applications:

- Industrial Water Treatment
- Chemical Processing
- Cooling Tower Flow Monitoring
- Process Water Flow Control
- Pump Flow Verification
- High-Purity and Aggressive Chemical Applications

9.0 COMPLIANCE & CERTIFICATIONS

9.1 CE | FCC | RoHS Compliant

9.2 Manufactured under ISO 9001 Quality Standards

10.0 PROCUREMENT & TECHNICAL SUPPORT

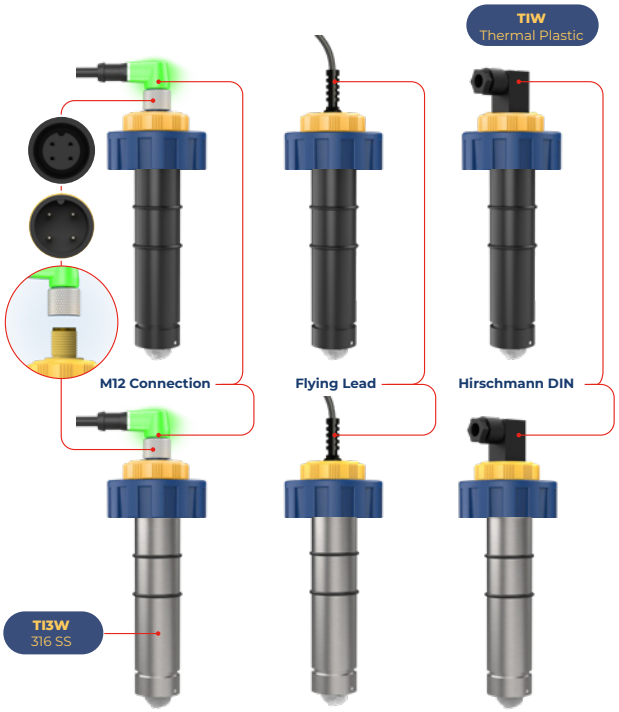
Manufacturer: Icon Process Controls

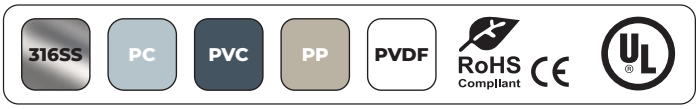
Website: https://iconprocon.com/product/tiw-paddle-wheel-flow-meter/

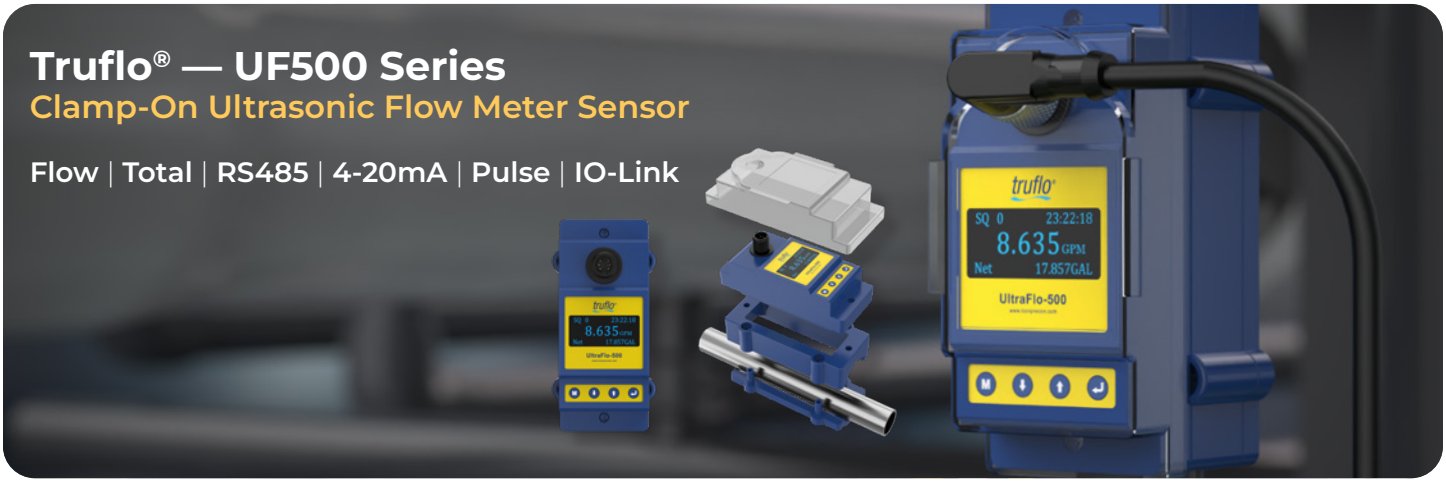
Email: support@iconprocon.com

Phone: 1-800-676-4131

The Truflo® TIW | TI3W Series Flow Meter is engineered for precision measurement and exceptional durability in industrial flow applications.







TRUFLO ULTRAFLO UF-500

CLAMP-ON ULTRASONIC FLOW METER

1.0 SCOPE

1.1 This specification defines the technical and performance requirements for the Truflo® UltraFlo UF-500 Clamp-On Ultrasonic Flow Meter, designed for non-invasive flow measurement in industrial, chemical, and water treatment applications

1.2 All ultrasonic flow meters shall be Truflo® UF500 Series or equal with all plastic NEMA 4X Enclosure.

1.3 The UF-500 shall provide accurate and reliable flow measurement without pipe modifications, making it ideal for applications where intrusive flow meters are not practical.

1.4 The sensor shall be corrosion-resistant, suitable for use in harsh environments, and capable of measuring flow in various pipe materials.

2.0 MATERIALS & CONSTRUCTION

2.1 The flow meter shall be constructed from durable, corrosion-resistant materials:

- Sensor Housing: Teflon® Epoxy Coated Aluminum (chemical-resistant)
- Enclosure Cover: High-Impact Chemical-Resistant Polycarbonate
- Clamp Material: Heavy-Duty Aluminum (for secure attachment)
- Transducers: Ultrasonic Piezoelectric Elements

2.2 The device shall feature an IP-rated enclosure, providing protection against environmental factors (consult the manufacturer for exact rating).

2.3 The UF-500 shall incorporate a magnetic mounting bracket for quick and secure installation.

2.4 The unit shall be designed for indoor and outdoor installations in various environmental conditions.

3.0 FLOW METER DESIGN & FUNCTION

3.1 The UltraFlo UF-500 shall use Transit-Time Ultrasonic Technology, ensuring precise flow measurement by detecting the difference in travel time between ultrasonic pulses moving with and against the flow.

3.2 The sensor shall operate as a clamp-on device, eliminating the need for pipe modifications or process interruptions.

3.3 The meter shall be compatible with a wide range of pipe materials, including:

- Carbon Steel
- Stainless Steel
- PVC
- PFA
- PTFE
- PU
- Copper
- PVDF
- Aluminum

3.4 The device shall be capable of measuring flow in pipes ranging from ½" to 10" (DN15 – DN250).

3.5 The UF-500 shall include a non-intrusive, maintenance-free design with no moving parts, preventing wear and reducing service requirements.

4.0 PERFORMANCE REQUIREMENTS

4.1 Flow Measurement Range: 0.3 to 15 ft/s (0.1 to 5 m/s)

4.2 Accuracy: ±2.0% of full-scale range

4.3 Repeatability: ±0.8% of measured value @ 25°C (77°F)

4.4 Linearity: ±2.0% of full-scale range @ 25°C (77°F)

4.5 Operating Pressure: 0 - 145 psi (0 - 10 bar)

4.6 Temperature Range:
- Standard Model: 32 to 122°F (0 to 50°C)
- High-Temperature Model (HT): 32 to 302°F (0 to 150°C)

4.7 Power Supply Requirements: 24 VDC ±10%

4.8 Response Time: <1 second for real-time flow rate updates

4.9 Data Logging: Daily, monthly, and yearly logs with resettable totalizer

4.10 Display: High-contrast OLED screen with real-time flow data

5.0 SIGNAL OUTPUTS & COMMUNICATION

5.1 The UF-500 shall support multiple output and communication options:
- 4-20mA Analog Output (Programmable, max load 750Ω)
- RS485 Modbus RTU (Real-time data transmission)
- Pulse Output (0-1000Hz, optional feature)

5.2 The unit shall use an M12 Quick Connection for secure, rapid electrical integration.

5.3 The UF-500 shall be configurable for various engineering units including:
- GPM (Gallons Per Minute)
- LPM (Liters Per Minute)
- m^3/h, m^3/d (Cubic Meters Per Hour/Day)
- cfs, ft^3/h, ft^3/d (Cubic Feet Per Second/Hour/Day)

6.0 INSTALLATION & MOUNTING REQUIREMENTS

6.1 Installation Time: Under 2 minutes (No pipe cutting required)

6.2 Minimum Straight Pipe Requirements:
- Upstream: 10D (10x Pipe Diameter)
- Downstream: 5D (5x Pipe Diameter)

6.3 The device shall be mounted using a magnetic connection bracket for easy installation and secure fitment.

6.4 The flow meter shall be installed in a horizontal plane to ensure optimal measurement accuracy.

6.5 Avoid placing the sensor near:
- Elbows
- Reducers
- Valves
- Other flow disturbances

7.0 INDUSTRIAL APPLICATIONS

7.1 The UltraFlo UF-500 shall be suitable for use in:
- Water & Wastewater Treatment
- Reverse Osmosis (RO) & Deionized Water (DI) Systems
- Chemical Processing & Manufacturing
- HVAC & Cooling Systems
- Food & Beverage Processing
- Industrial Flow Monitoring

8.0 COMPLIANCE & CERTIFICATIONS

8.1 Certifications:
- CE (Conformité Européenne)
- RoHS (Restriction of Hazardous Substances) Compliant

8.2 Environmental Protection:
- IP-rated enclosure
  (Consult Manufacturer for exact rating)

8.3 Electromagnetic Compliance:
- Meets EN 61326 Standards for industrial applications

9.0 ORDERING INFORMATION

9.1 Available Models:
- UF500-A-15 (½" Pipe)
- UF500-A-20 (¾" Pipe)
- UF500-A-25 (1" Pipe)
- UF500-A-40 (1½" Pipe)
- UF500-A-50 (2" Pipe)
- UF500-A-80 (3" Pipe)
- UF500-A-100 (4" Pipe)
- UF500-A-150 (6" Pipe)
- UF500-A-200 (8" Pipe)
- UF500-A-250 (10" Pipe)

9.2 Optional Configurations:

- HT: High-Temperature Version (302°F / 150°C)
- P: Pulse Output Option

10.0 PROCUREMENT & TECHNICAL SUPPORT

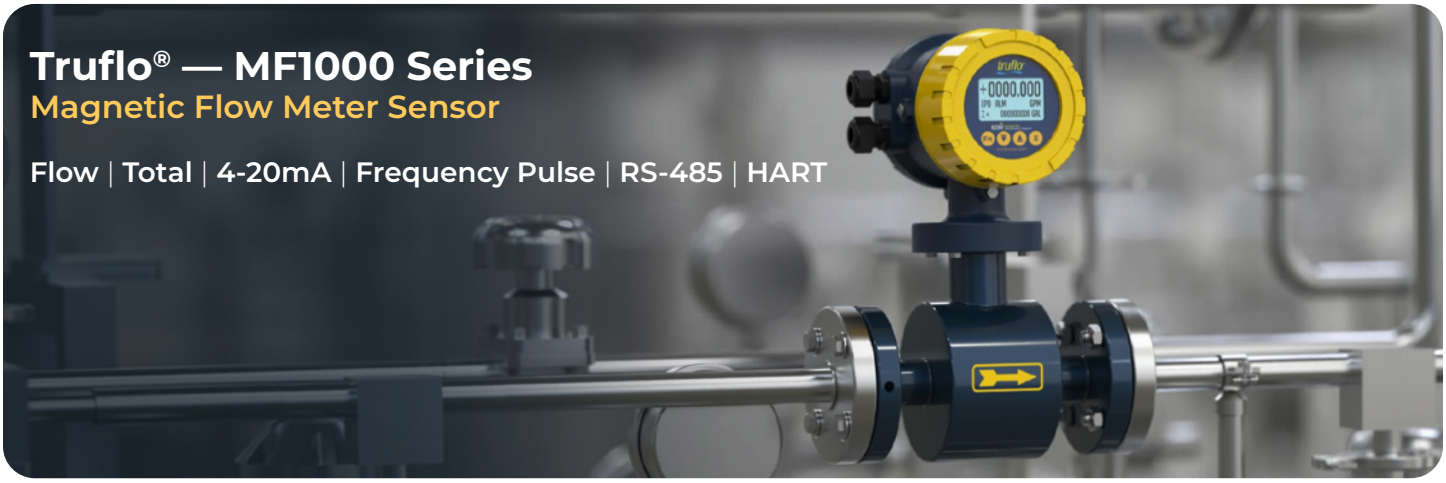
Manufacturer: Icon Process Controls

Website: https://iconprocon.com/product/uf-500-clamp-on-ultrasonic-flow-meter/

Email: support@iconprocon.com

Phone: 1-800-676-4131

For technical assistance, installation support, or ordering inquiries, contact Icon Process Controls Customer Service.



TRUFLO MF1000 SERIES

FLANGED MAGNETIC FLOW METER SENSOR (ELECTROMAGNETIC FLOW METER, MAG METER)

1.0 SCOPE

1.1 This specification defines the technical and performance requirements for the Truflo® MF1000 Flanged Magnetic Flow Meter Sensor (Electromagnetic Flow Meter, Mag Meter), designed provide long-lasting, reliable performance in even the most challenging industrial, chemical, and water treatment applications.

1.2 All magnetic flow meters shall be Truflo® MF1000 Series or equal, with PTFE Teflon® liner, Carbon Steel body, Hastelloy C Electrodes, and NEMA 4X (IP68) Enclosure.

1.3 The Truflo® MF1000 shall provide long-lasting, accurate, and reliable flow measurementn in even the most challenging industrial applications.

1.4 The sensor shall be corrosion-resistant, suitable for use in harsh environments, and capable of measuring flow in various pipe materials.

2.0 MATERIALS & CONSTRUCTION

2.1 The flow meter shall be constructed from durable, corrosion-resistant materials:

- Carbon Steel+PU Coated | SS304/SS316
- PTFE Teflon® liner (Neoprene, Polyurethane, and FEP Teflon® options available)
- Enclosure Cover: High-Impact Chemical-Resistant Polycarbonate
- Hastelloy C Electrodes (Hastelloy Hc, Hastelloy Hb, Tantalum, Titanium, 316 SS, and Tungsten Carbide options available)
- Grounding Rings/Electrodes: Same Material as Measuring Electrodes

2.2 The device shall feature a NEMA 4X enclosure (IP68) rated, providing protection against environmental factors.

2.3 The MF1000 shall have flanged ends for mounting for quick and secure installation.

2.4 The unit shall be designed for indoor and outdoor installations in various environmental conditions.

2.5 The MF1000 shall include two (2) SimplConnect Polypropylene cable grips.

2.6 The MF1000 display shall rodate 90° from center (default position).

3.0 FLOW METER DESIGN & FUNCTION

3.1 The Truflo MF1000 Series Magnetic Flow Meter Sensor consists of sensor & converter. The measuring tube is equipped magnet exciting coil. The converter provides current to the magnet exciting coil and generate a magnetic field which filled measuring tube, one or more pairs of electrode which are fixed in inner-wall of the measuring tube (vertical to field direction) detect and lead to induced electromotive force after contact liquid, then delivery to converter through cable and do signal processing. Insulation lining is fixed in inner-wall of the measuring tube, and make the measuring tube high resistant and nonmagnetic. Lining contacts with the measuring fluid, different causticity, abrasiveness and temperature of fluid choose different types of lining.

3.2 The device shall be capable of measuring flow in pipes ranging from ½" to 20" (DN15 – DN500).

3.3 The MF1000 shall include a maintenance-free design with no moving parts, preventing wear and reducing service requirements.

4.0 PERFORMANCE REQUIREMENTS

4.1 Flow Measurement Range: 0.98 - 33 ft/s | 0.3 – 10 m/s

4.2 Accuracy: ±0.5%

4.3 Repeatability: ±0.1%

4.4 Range Ratio: 20:1

4.5 Temperature Range: 32 to 302°F (0 to 150°C)

Material	Temperature Range	
PTFE Teflon®	-40°F to 170°F	-40°C to 76°C
Neoprene	23°F to 194°F	-5°C to 90°C
Polyurethane	23°F to 194°F	-5°C to 90°C
FEP Teflon®	-40°F to 250°F	-40°C to 120°C

4.6 Ambient Temperature: -4 - 140 °F | -20 - 60 °C

4.7 Storage Temperature: -4 - 158 °F | -20 - 70 °C

4.8 Permissible Gas Content (Volume): ≤ 5%

4.9 Permissible Solid Content (Volume): ≤ 30%

4.10 Flow Direction: Forward and Reverse
(Arrow on flow sensor indicates positive flow direction)

4.11 Inlet Run: ≥ 10 Pipe Diameter

4.12 Outlet Run: ≥ 2 Pipe Diameter

4.13 Power Supply Requirements:
18 - 36VDC | 85 - 240VAC | Battery Powered

4.14 Electrical Conductivity: ≥ 20 µS/cm

4.15 Pressure:
1/2" - 2": 580 Psi | 21/2" - 6": 232 Psi | 8' - 12": 145 Psi

4.9 Display: High-contrast LCD screen with real-time flow data

5.0 SIGNAL OUTPUTS & COMMUNICATION

5.1 The MF1000 shall support multiple output and communication options:

- 4-20mA Analog
- Frequency Pulse
- RS485 Modbus RTU
- HART

5.2 The unit shall include two (2) SimplConnect wiring cable glands.

5.3 The MF1000 shall be configurable for various engineering units including:

- GPM, GPH, GPS (Gallons Per Minute/Hour/Second)
- LPM, LPH, LPS (Liters Per Minute/Hour/Second)
- m^3/m, m^3/h, m^3/s (Cubic Meters Per Minute/Hour/Sec)
- ft^3/m, ft^3/h, ft^3/s, CF/m, CF/h, CF/s (Cubic Feet Per Minute/Hour/Second)
- t/s, t/m, t/h (Tons Per Minute/Hour/Second)
- Kg/m, Kg/h, Kg/s (Kilograms Per Minute/Hour/Second)
- AF/h, AF/m (Acre-feet Per Hour/Minute)
- BBL/h, BBL/m (Barrels Per Hour/Minute)

6.0 INDUSTRIAL APPLICATIONS

6.1 The UltraFlo MF1000 shall be suitable for use in:

- Water & Wastewater Treatment
- Reverse Osmosis (RO) & Deionized Water (DI) Systems
- Chemical Processing & Manufacturing
- HVAC & Cooling Systems
- Food & Beverage Processing
- Industrial Flow Monitoring

7.0 COMPLIANCE & CERTIFICATIONS

7.1 Certifications:

- CE (Conformité Européenne)
  LVD(2014/35/EU), EMC(2014/30/EU), Ex(2014/34/EU)
  Pressure Equipment (2014/68/EU)
- RoHS (Restriction of Hazardous Substances) Compliant
- ATEX Rated (xi model)

7.2 Environmental Protection:

- IP68-rated enclosure
- CE - **8.0 ORDERING INFORMATION**

8.1 Available Models:

- MF1000B-A-15-X-X-X-A-X-X (½" Pipe)
- MF1000B-A-20-X-X-X-A-X-X (¾" Pipe)
- MF1000B-A-25-X-X-X-A-X-X (1" Pipe)
- MF1000B-A-40-X-X-X-A-X-X (1 ½" Pipe)
- MF1000B-A-50-X-X-X-A-X-X (2" Pipe)
- MF1000B-A-80-X-X-X-A-X-X (3" Pipe)
- MF1000B-A-100-X-X-X-A-X-X (4" Pipe)
- MF1000B-A-150-X-X-X-A-X-X (6" Pipe)
- MF1000B-A-200-X-X-X-A-X-X (8" Pipe)
- MF1000B-A-250-X-X-X-A-X-X (10" Pipe)
- MF1000B-A-300-X-X-X-A-X-X (12" Pipe)
- MF1000B-A-350-X-X-X-A-X-X (14" Pipe)
- MF1000B-A-400-X-X-X-A-X-X (16" Pipe)
- MF1000B-A-450-X-X-X-A-X-X (18" Pipe)
- MF1000B-A-500-X-X-X-A-X-X (20" Pipe)

8.2 Optional Configurations:

"X" denotes variables for:

- Electrode Type: **A** - Hastelloy Hc, **B** - Hastelloy Hb, **C** - Tantalum, **D** - Titanium, **E** - 316 SS, **F** - Tungsten Carbide, **G** - Platinum
- Inner Lining Material: **A** - PTFE Teflon®, **B** - Neoprene, **C** - Polyurethane, **D** - FEP Teflon®
- External Flange & Housing Material: **A** - Carbon Steel, **B** - Stainless Steel
- Converter Type: **A** - Integrate Type, **B** - Remote
- Voltage Supply: **A** - 24VDC, **B** - Battery, **C** - 120VAC
- Add suffix "-xi" for ATEX Rated Explosion Proof Version

10.0 PROCUREMENT & TECHNICAL SUPPORT

Manufacturer: Icon Process Controls

Website: https://iconprocon.com/product/mf1000-magnetic-flow-meter/

Email: support@iconprocon.com

Phone: 1-800-676-4131

For technical assistance, installation support, or ordering inquiries, contact Icon Process Controls Customer Service.

MF1000B-15-**A**-**A**-**A**-**A**-**A**-**A** (MF1000B**xi**-15-**A**-**A**-**A**-**A**-**A**-**A**)
xi = Explosion Proof ▸ Consult Factory for Pricing

Electrode Type
A: Hastelloy Hc
B: Hastelloy Hb
C: Tantalum
D: Titanium
E: 316 SS
F: Tungsten Carbide
G: Platinum

Inner Lining Material
A: PTFE Teflon®
B: Neoprene
C: Polyurethane
D: FEP Teflon®

External Flange & Housing Material
A: Carbon Steel
B: Stainless Steel

Rating Pressure Level
A: 4.0 MPa

Controller/Display
A: Integrated
B: Remote (+$499)

Voltage Supply
A: 24VDC
B: Battery
C: 120VAC

LevelPro® — 100 Series

Submersible Liquid Level Sensor Transmitter

4-20mA | Ratiometric | Voltage | RS485

100 SERIES

SUBMERSIBLE LEVEL SENSOR TRANSMITTER

1.0 SCOPE

1.1 his specification outlines the technical and performance requirements for the LevelPro® 100 Series Submersible Level Sensor Transmitter, designed for continuous liquid level measurement in industrial, chemical, and wastewater applications.

1.2 All submersible liquid level sensors shall be LevelPro® 100 Series or equal with integral weight.

1.3 The sensor shall provide reliable operation in environments where ultrasonic sensors fail due to foam, vapor, turbulence, or condensation.

1.4 The sensor shall be fully submersible and constructed to withstand harsh industrial environments, ensuring long-term accuracy and reliability.

2.0 MATERIALS & CONSTRUCTION

2.1 The sensor body shall be constructed from chemically resistant materials, including:

- PVC (Polyvinyl Chloride) - ASTM D-1784, Cell Classification 12454-A
- PP (Polypropylene) - ASTM D-4101, PP 0211B67272
- PVDF (Polyvinylidene Fluoride) - ASTM D-3222, Type 2 Suspension Resin, USDA Title 21, Chapter I, Part 177.2510
- PTFE (Polytetrafluoroethylene, Teflon®)
- 316 Stainless Steel

2.2 The sensing diaphragm shall be 96% Pure Ceramic Al_2O_3 or 316 Stainless Steel, ensuring high accuracy and resistance to process media.

2.3 The sealing O-ring shall be Kalrez® (FFKM), including an FFKM Kalrez diaphragm face O-ring seal, providing superior resistance to aggressive chemicals.

2.4 The electrical cable shall be Teflon® Jacketed with an integrated Gortex® breather tube to provide atmospheric compensation and prevent moisture ingress.

2.5 The sensor shall feature an integrally molded weight to ensure it remains stable in liquid environments, preventing buoyancy-related errors.

3.0 LEVEL SENSOR DESIGN & FUNCTION

3.1 The LevelPro® 100 Series Submersible Level Sensor shall be a fully submersible hydrostatic pressure transmitter with a hermetically sealed design, suitable for continuous liquid level monitoring.

3.2 The sensor shall incorporate a ceramic sensing diaphragm designed for enhanced measurement accuracy and long-term reliability in harsh environments.

3.3 The sensor body shall be available in multiple corrosion-resistant materials to ensure compatibility with various industrial liquids, including acids, bases, and hydrocarbons.

3.4 The Teflon® jacketed cable shall include an integrated capillary tube to compensate for atmospheric pressure fluctuations.

3.5 The sensor shall be equipped with an FFKM Kalrez diaphragm face O-ring seal to provide enhanced resistance against aggressive chemical environments.

3.6 The integrally molded weight shall prevent the sensor from floating and ensure accurate level measurement.

4.0 PERFORMANCE REQUIREMENTS

4.1 Measurement Accuracy: ±0.5% Full Scale

4.2 Pressure Ranges Available:
- 14 ft H_2O
- 20 ft H_2O
- 34 ft H_2O
- 54 ft H_2O

(Consult factory for higher range requirements)

4.3 Overpressure Rating: Up to 380 psi, depending on selected model

4.4 Power Supply Requirements:
- 9-36VDC (Standard for 4-20mA, HART, RS-485)
- 0.5-4.5VDC (Requires 5VDC Supply)

4.5 Output Signals:
- 4-20mA (Standard, 2-wire loop-powered)
- 4-20mA + HART (2-wire loop-powered)
- 0.5-4.5VDC (Ratiometric, 3-wire)
- 0-5VDC (3-wire output)
- RS-485 (Modbus, 3-wire)

4.6 Response Time: <10 milliseconds

4.7 Long-Term Stability: <±0.1% Full Scale per year

4.8 Thermal Drift: <±0.02% Full Scale Output per K

4.9 Ingress Protection: IP68 / NEMA 4X4.10
Electromagnetic Compliance: EN 61326 / CE Approved

5.0 OPERATING CONDITIONS

5.1 Operating & Storage Temperature Ranges:

Material	Temperature Range	
PVC	32°F to 140°F	0°C to 60°C
PP	-20°F to 170°F	-29°C to 76°C
PVDF	-40°F to 170°F	-40°C to 76°C
PTFE	-40°F to 170°F	-40°C to 76°C
316 SS	-40°F to 170°F	-40°C to 76°C

6.0 WIRING & ELECTRICAL CONNECTIONS

6.1 The sensor shall be supplied with a double-shielded PTFE jacketed cable, incorporating a capillary tube for atmospheric compensation.

6.2 Wiring configuration for 24VDC operation:
- Red → Supply (+)
- Black → Supply (-)

7.0 INSTALLATION & MOUNTING REQUIREMENTS

7.1 The sensor shall be installed vertically at the bottom of the tank or well for optimal performance.

7.2 The integral weight shall ensure that the sensor remains submerged without requiring additional mounting.

7.3 The cable must be secured properly to prevent kinking and ensure unobstructed atmospheric pressure reference.

8.0 ACCESSORIES

8.1 LP100 Junction Box (Optional, sold separately)
- Material: Polypropylene (PP)
- Viton VaporBloc® Seal: Protects against corrosive vapors
- NEMA 4X Rated: Waterproof and dustproof
- 2" NPT Connection

8.2 ShoPro® SP100 Level Display (Optional, sold separately)
- 4-20mA Input: Displays sensor output
- Power Supply Output: 24VDC
- Wall-Mountable: NEMA 4X enclosure
- Optional Audio & Visual Alarms

9.0 APPLICATIONS

9.1 Suitable for use in the following industrial applications:
- Chemical Storage Tanks
- Wastewater Treatment Plants
- Industrial Process Tanks
- Corrosive & High-Temperature Liquids
- Cooling Towers & Boiler Systems
- Oil & Fuel Storage

10.0 MODEL SELECTION GUIDE

Size	Material	Part Number
0-34ft | 11m	PVC	191-1001-A113311
0-34ft | 11m	PP	191-1001-B113311
0-34ft | 11m	PVDF	191-1001-E113311
0-34ft | 11m	PTFE	191-1001-T113311
0-34ft | 11m	316 SS	191-1001-SS113311

Part Above for 34ft Range-11m Cable. Other Ranges Available — Consult Factory

191-**1001**-**A1**13**3**1**5**

Range (ft)
1401 : 14.0
1201 : 20.0
1001 : 34.0
4001 : 54.0

Housing
A : PVC
B : PP
E : PVDF
T : PTFE
SS : SS

Output
1 : 4-20mA
2 : Ratiometric
3 : Voltage
4 : RS485

Cable Length
05 : 5m
11 : 11m
15 : 15m
20 : 20m

11.0 COMPLIANCE & CERTIFICATIONS

11.1 IP68 / NEMA 4X Environmental Protection

11.2 CE Marked – EMC Directive 2004/108/EC

11.3 EN 61326 Electromagnetic Compatibility Standard

11.4 ATEX / Hazardous Location Compliance Available (Consult Factory)

12.0 PROCUREMENT & TECHNICAL SUPPORT

Manufacturer: Icon Process Controls

Website: https://iconprocon.com/product/100-series-submersible-level-sensor/

Email: support@iconprocon.com

Phone: 1-800-676-4131

LevelPro® — 300S Series

Submersible Liquid Level Sensor Transmitter

4-20mA | Ratiometric | Voltage | RS485

300S SERIES

SUBMERSIBLE LEVEL SENSOR TRANSMITTER

1.0 SCOPE

1.1 This specification outlines the technical and performance requirements for the LevelPro® 300S Series Submersible Level Sensor Transmitter, designed for continuous liquid level measurement in industrial, chemical, and wastewater applications.

1.2 All submersible liquid level sensors shall be LevelPro® 300S Series or equal.

1.3 The sensor shall provide reliable operation in environments where ultrasonic sensors fail due to foam, vapor, turbulence, or condensation.

1.4 The sensor shall be fully submersible and constructed to withstand harsh industrial environments, ensuring long-term accuracy and reliability.

2.0 MATERIALS & CONSTRUCTION

2.1 The sensor body shall be constructed from chemically resistant 316 Stainless Steel.

2.2 The sensing diaphragm shall be 316 Stainless Steel, ensuring high accuracy and resistance to process media.

2.3 The sealing O-ring shall be Kalrez® (FFKM), including an FFKM Kalrez diaphragm face O-ring seal, providing superior resistance to aggressive chemicals.

2.4 The electrical cable shall be Teflon® Jacketed with an integrated Gortex® breather tube to provide atmospheric compensation and prevent moisture ingress.

2.5 The sensor shall be weighted to ensure it remains stable in liquid environments, preventing buoyancy-related errors.

3.0 LEVEL SENSOR DESIGN & FUNCTION

3.1 The LevelPro® 300S Series Submersible Level Sensor shall be a fully submersible hydrostatic pressure transmitter with a hermetically sealed design, suitable for continuous liquid level monitoring.

3.2 The sensor shall incorporate a ceramic sensing diaphragm designed for enhanced measurement accuracy and long-term reliability in harsh environments.

3.3 The sensor body shall be available in multiple corrosion-resistant materials to ensure compatibility with various industrial liquids, including acids, bases, and hydrocarbons.

3.4 The Teflon® jacketed cable shall include an integrated capillary tube to compensate for atmospheric pressure fluctuations.

3.5 The sensor shall be equipped with an FFKM Kalrez diaphragm face O-ring seal to provide enhanced resistance against aggressive chemical environments.

4.0 PERFORMANCE REQUIREMENTS

4.1 Measurement Accuracy: ±0.5% Full Scale

4.2 Pressure Ranges Available:

- 14 ft H_2O
- 20 ft H_2O
- 34 ft H_2O
- 35 ft H_2O

(Consult factory for higher range requirements)

4.3 Overpressure Rating: Up to 380 psi, depending on selected model

4.4 Power Supply Requirements:
- 9-36VDC (Standard for 4-20mA, HART, RS-485)
- 0.5-4.5VDC (Requires 5VDC Supply)

4.5 Output Signals:
- 4-20mA (Standard, 2-wire loop-powered)
- 4-20mA + HART (2-wire loop-powered)
- 0.5-4.5VDC (Ratiometric, 3-wire)
- 0-5VDC (3-wire output)
- RS-485 (Modbus, 3-wire)

4.6 Response Time: <10 milliseconds

4.7 Long-Term Stability: <±0.1% Full Scale per year

4.8 Thermal Drift: <± 0.02% FSO/K in Compensated Range | -13°F – 178°F | -25°C – 85°C

4.9 Ingress Protection: IP68 / NEMA 4X4.10
Electromagnetic Compliance: EN 61326 / CE Approved

5.0 OPERATING CONDITIONS

5.1 Operating & Storage Temperature Ranges:
- -13°F to 185°F
- -25°C to 85°C

6.0 WIRING & ELECTRICAL CONNECTIONS

6.1 The sensor shall be supplied with a double-shielded PTFE jacketed cable, incorporating a capillary tube for atmospheric compensation.

6.2 Wiring configuration for 24VDC operation:
- Red → Supply (+)
- Black → Supply (-)
- Black → Supply (-)

7.0 INSTALLATION & MOUNTING REQUIREMENTS

7.1 The sensor shall be installed vertically at the bottom of the tank or well for optimal performance.

7.2 The integral weight shall ensure that the sensor remains submerged without requiring additional mounting.

7.3 The cable must be secured properly to prevent kinking and ensure unobstructed atmospheric pressure reference.

8.0 ACCESSORIES

8.1 LP100 Junction Box (Optional, sold separately)
- Material: Polypropylene (PP)
- Viton VaporBloc® Seal: Protects against corrosive vapors
- NEMA 4X Rated: Waterproof and dustproof
- 2" NPT Connection

8.2 ShoPro® SP100 Level Display (Optional, sold separately)
- 4-20mA Input: Displays sensor output
- Power Supply Output: 24VDC
- Wall-Mountable: NEMA 4X enclosure
- Optional Audio & Visual Alarms

9.0 APPLICATIONS

9.1 Suitable for use in the following industrial applications:
- Chemical Storage Tanks
- Wastewater Treatment Plants
- Industrial Process Tanks
- Corrosive & High-Temperature Liquids
- Cooling Towers & Boiler Systems
- Oil & Fuel Storage

10.0 MODEL SELECTION GUIDE

Size	Output	Part Number
0-34ft | 11m	4-20mA	300S-1001-A-11
0-34ft | 11m	Ratiometric	300S-1001-R-11
0-34ft | 11m	Voltage	300S-1001-V-11
0-34ft | 11m	RS485	300S-1001-RS-11

300S-**1001**-**A**-**11**

300S**xi**-1001-A-11

Range (ft)
1401 : 14.0
1201 : 20.0
1001 : 34.0
4001 : 54.0

Output
A : 4-20mA
R : Ratiometric
V : Voltage
RS : RS485 (+$249)

Cable Length
05 : 5m
11 : 11m
15 : 15m
20 : 20m

11.0 COMPLIANCE & CERTIFICATIONS

11.1 IP68 / NEMA 4X Environmental Protection

11.2 CE Marked – EMC Directive 2004/108/EC

11.3 EN 61326 Electromagnetic Compatibility Standard

11.4 ATEX / Hazardous Location Compliance Available (Consult Factory)

12.0 PROCUREMENT & TECHNICAL SUPPORT

Manufacturer: Icon Process Controls

Website: https://iconprocon.com/product/300s-series-submersible-level-sensor/

Email: support@iconprocon.com

Phone: 1-800-676-4131

LevelPro® — LP100 Series

Tank Level Installation Fitting | Junction Box

LP100 SERIES

TANK LEVEL INSTALLATION FITTING, JUNCTION BOX AND TERMINAL HOUSING

1.0 SCOPE

1.1 This specification outlines the technical and performance requirements for the LevelPro® LP100 Series Tank Level Installation Fitting, Junction Box, and Terminal Housing, designed for continuous liquid level measurement in industrial, chemical, and wastewater applications.

1.2 All level installation fittings shall be LevelPro® LP100 Series or equal with with VaporBloc® technology, and all plastic NEMA 4X Enclosure.

2.0 MATERIALS & CONSTRUCTION

2.1 All level installation fittings shall have a Polypropylene (PP) casing for high impact, as well as 2” threaded Polypropylene connections.

2.2 All level installation fittings shall be equipped with (1) one Gortex Air Filter and (3) three wiring cable glands.

2.3 All level installation fittings shall have the option of upgrade to PVDF from Nylon cable glands

2.4 All PVDF material shall be unpigmented conforming to ASTM D-3222 Type 2 suspension resin material requirements and also with USDA Title 21, Chapter I, Part 177.2510 requirements for contact with food.

2.5 All level installation fittings shall be equipped with a cable tie, heavy duty terminal strip and a tethered lid to ensure that the lid does not fall off.

2.6 All level installation fittings shall be equipped with VaporBloc® Technology effectively preventing fumes for enhanced safety.

2.6 All level fittings will be NEMA 4X rated, with a tethered and self draining lid.

3.0 MODEL SELECTION GUIDE

Size	Material	Part Number
2”	PP Cable Grips	LP100-PP
2”	Nylon Cable Grips	LP100-PP-SRP
2”	PVDF Cable Grips	LP100-PP-SRF

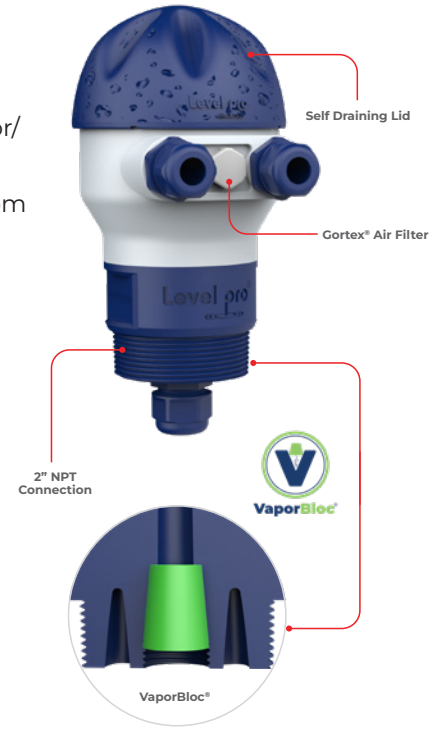
4.0 PROCUREMENT & TECHNICAL SUPPORT

Manufacturer: Icon Process Controls

Website: https://iconprocon.com/product/300s-series-submersible-level-sensor/

Email: support@iconprocon.com

Phone: 1-800-676-4131



LevelPro® — LP75 Series
Through-Point Connector

LP75 SERIES

THROUGH-POINT CONNECTOR

1.0 SCOPE

1.1 This specification outlines the technical and performance requirements for the LevelPro® LP75 Series through-point connector fitting, designed for continuous liquid level measurement in industrial, chemical, and wastewater applications.

1.2 All level installation fittings shall be LevelPro® LP75 Series or equal with VaporBloc® technology.

2.0 MATERIALS & CONSTRUCTION

2.1 All level through-point installation fittings shall have a Polypropylene (PP) casing for high impact, as well as 2” threaded Polypropylene connections.

2.2 All level through-point installation fittings shall be equipped with (1) one Gortex Air Filter and (2) two wiring cable glands.

2.3 All level installation fittings shall have the option of upgrade to PVDF from Nylon cable glands

2.4 All PVDF material shall be unpigmented conforming to ASTM D-3222 Type 2 suspension resin material requirements and also with USDA Title 21, Chapter I, Part 177.2510 requirements for contact with food.

2.5 All level installation fittings shall be equipped with a cable tie, heavy duty terminal strip and a tethered lid to ensure that the lid does not fall off.

2.6 All level through-point installation fittings shall be equipped with VaporBloc® Technology effectively preventing fumes for enhanced safety.

3.0 MODEL SELECTION GUIDE

Size	Material	Part Number
2”	PP Cable Grips	LP75-PP

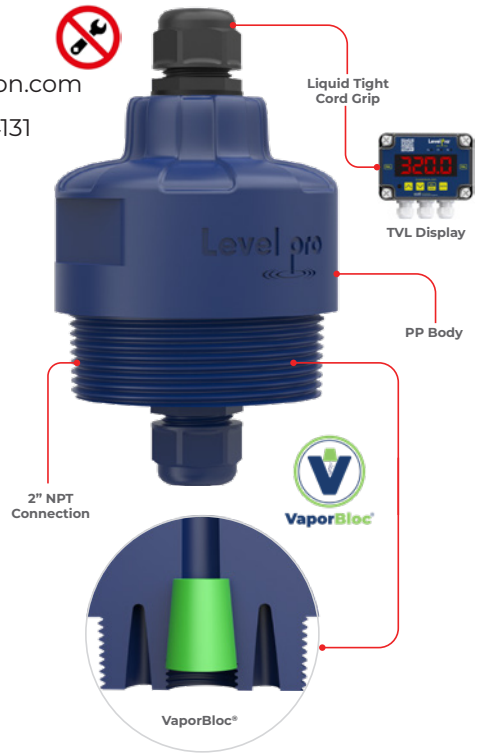
4.0 PROCUREMENT & TECHNICAL SUPPORT

Manufacturer: Icon Process Controls

Website: https://iconprocon.com/product/300s-series-submersible-level-sensor/

Email: support@iconprocon.com

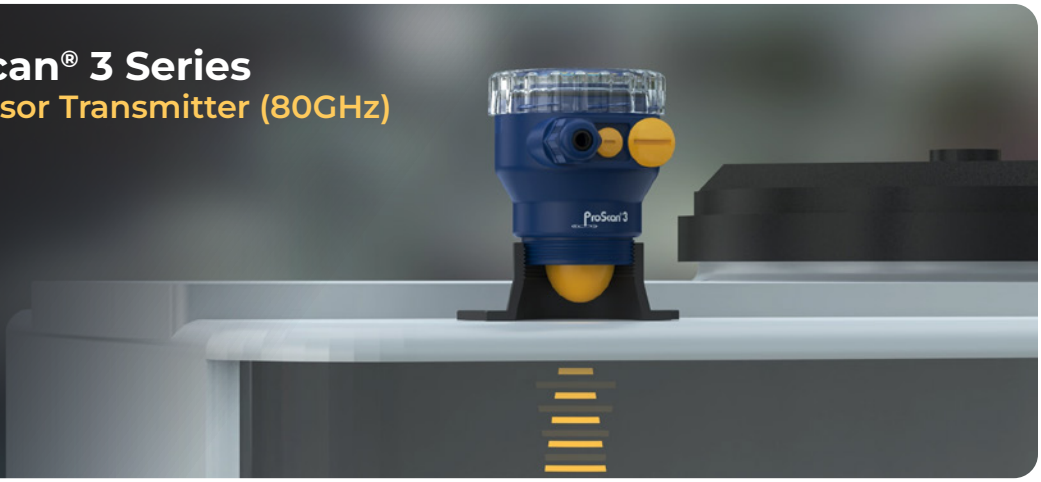
Phone: 1-800-676-4131



LevelPro® — ProScan® 3 Series

Radar Liquid Level Sensor Transmitter (80GHz)

4-20mA | RS485



PROSCAN 3 SERIES

RADAR LIQUID LEVEL SENSOR TRANSMITTER (80GHZ)

1.0 SCOPE

1.1 This specification outlines the technical and performance requirements for the LevelPro® ProScan® 3 Series 80GHz Radar Liquid Level Sensor Transmitter, designed for continuous liquid level measurement in industrial, chemical, agricultural, and wastewater applications.

1.2 All submersible liquid level sensors shall be LevelPro® ProScan® 3 Series or equal.

1.3 The sensor shall provide reliable operation in environments where ultrasonic sensors fail due to foam, vapor, turbulence, or condensation.

1.4 The sensor shall be constructed to withstand harsh industrial environments, ensuring long-term accuracy and reliability.

2.0 MATERIALS & CONSTRUCTION

2.1 The sensor body shall be constructed from chemically resistant Polypropylene (PP), or 316 Stainless Steel.

2.2 The transducer shall be Polypropylene (PP), ensuring resistance to process media.

2.3 ProScan 3 units with displays shall have a clear polycarbonate NEMA 4X cover to protect the LCD display while allowing an unobstructed view.

2.4 The sensor shall have a 2" NPT connection for mounting, and be compatible with the LB75, LB50, or LB80S (SS) mounting brackets, and the SBF-20 self-aligning bulkhead, or BHF-20 bulkhead fittings.

2.5 The sensors operating frequency band shall be 76-81 GHz

2.5 The sensor shall be powered with 18 -24VDC

2.6 The sensor shall incorporate an integrated spirit bubble for easy leveling.

3.0 LEVEL SENSOR DESIGN & FUNCTION

3.1 The LevelPro® ProScan® 3 Series 80GHz Radar Liquid Level Sensor Transmitter shall Bluetooth Enabled, and feature a free app for Apple/Android devices, for device programming and liquid level monitoring.

3.2 The sensor shall have a beam angle of 3°

3.3 The sensor communication interface shall be 4-20mA and RS-485.

3.4 The sensor shall have an operating temperature of 49°F – +185°F (-45°C – +85°C)

3.5 The sensor shall have a range of 34' with a resolution of 1mm, measurement accuracy of ±2mm, and a dead band of 50mm (2") or less.

3.5 The sensor shall be unaffected by temperature fluctuations, vapor, outgassing, or measurement unter vacuum/high pressure.

Bluetooth®

PP PC 316SS RoHS Compliant CE

4.0 MODEL SELECTION GUIDE

ProScan® 3 — Radar Level Transmitter			
Connection	**Part Number**	**Model Feature**	**Material**
2" NPT	PS38000	LCD Display	PP
2" NPT	PS38000P	Blind	PP
2" NPT	PS38000S	Blind	316 SS
2" NPT	PS38000RT	Blind, Rapid Telemetry	PP
2" NPT	SBF-20	Self-Aligning Fitting	PVC
2" NPT	BHF-20	Bulkhead Fitting	PVC
2" NPT	LB75	Tank Top Mount	PVC
Bracket	LB80S	SS Wall Mount (S & P)	316 SS
2" NPT Bracket	LB50	Wall/Junction Box Mount	GFPP

10m range is standard. Add "-20" suffix for 20m range

5.0 ACCESSORIES

LB50
2" Wall Mounting Bracket

SBF-20
2" Self-Aligning Fitting

LB80S
SS Wall Mounting Bracket

BHF-20
2" Bulkhead Fitting

SBF-20
2" Self-Aligning Fitting

Monitor Your ProScan® 3 with the Free App

App Store Google play

Scan the above QR codes to download the app

ShoPro® SP100
Level Display | Controller

TVL
Level Display | Controller

6.0 PROCUREMENT & TECHNICAL SUPPORT

Manufacturer: Icon Process Controls

Website: https://iconprocon.com/product/proscan-3-radar-level-transmitter/

Email: support@iconprocon.com

Phone: 1-800-676-4131

For technical assistance, installation support, or ordering inquiries, contact Icon Process Controls Customer Service.

Truflo® — OBS Series

Pressure Gauge with Integral Gauge Guard

OBS SERIES

PRESSURE GAUGE WITH INTEGRAL GAUGE GUARD (ISOLATOR)

1.0 SCOPE

1.1 This specification outlines the technical and performance requirements for the Truflo® OBS Series Pressure Gauges with Integral Gauge Guard (Isolator), designed for continuous pressure measurement in corrosive industrial, chemical, and wastewater applications.

1.2 All pressure gauges shall be Truflo® OBS Series or equal with integral gauge guard (isolator).

1.3 The OBS Series includes the following models:

- OBS
- OBS-R
- OBS-2VU
- OBS-B
- OBS-BAG
- OBS-A.

2.0 MATERIALS & CONSTRUCTION

2.1 The pressure gauge body shall be constructed from chemically resistant materials, including:

- PVC (Polyvinyl Chloride) - ASTM D-1784, Cell Classification 12454-A
- PP (Polypropylene) - ASTM D-4101, PP 0211B67272
- PVDF (Polyvinylidene Fluoride) - ASTM D-3222, Type 2 Suspension Resin, USDA Title 21, Chapter I, Part 177.2510
- PTFE (Polytetrafluoroethylene, Teflon®)

2.2 All pressure gauges shall have integrally molded gauge isolators with chemically inert diaphragm.

2.3 All pressure gauges shall have ranges tabs, in red, yellow, and green to indicate the optimum operating ranges.

2.4 All pressure gauges shall be liquid filled and vacuum sealed

2.5 All pressure gauges shall have dual scale, 2 ½" dials

2.6 All pressure gauges shall provide 1.5% accuracy of full scale

2.7 All pressure gauges shall be one-piece design to prevent any leakage from shock and vibration

2.8 All pressure gauges shall have a high impact polycarbonate lens

2.9 All pressure gauges shall have 316SS non-wetted internals

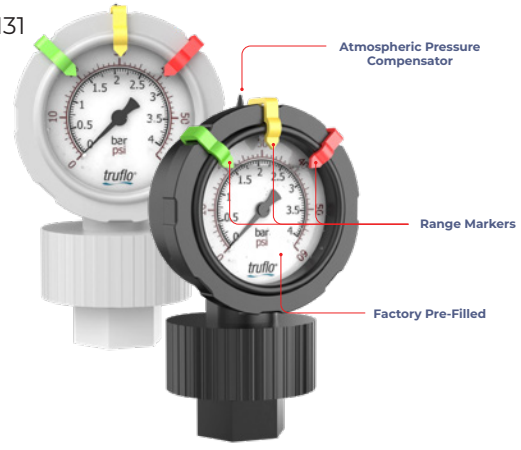
3.0 PROCUREMENT & TECHNICAL SUPPORT

Manufacturer: Icon Process Controls

Website: https://iconprocon.com/product/300s-series-submersible-level-sensor/

Email: support@iconprocon.com

Phone: 1-800-676-4131



OBS SERIES — GAUGE + GUARD COMBO

PRESSURE GAUGE WITH INTEGRAL GAUGE GUARD (ISOLATOR)

4.0 MODEL SELECTION GUIDE

OBS — Gauge + Guard Combo

Size	Material	Part Number
½"	PVC	OBS-P-0-X
½"	PP	OBS-PP-0-X
½"	PVDF	OBS-PF-0-X

X = Max Pressure

15 ▸ 0-15 Psi **100** ▸ 0-100 Psi
30 ▸ 0-30 Psi **160** ▸ 0-160 Psi
60 ▸ 0-60 Psi **200** ▸ 0-200 Psi

End Connection Options

Socket PVC
Flanged PP | PVDF
Butt Fused PP | PVDF

½" FNPT is standard
Add Suffix -
'M' - Male ½" NPT **'F'** - ½" Flanged **'S'** - ½" Socket **'B'** - ½" Butt Fused
Consult Factory for Alternative Pressure Ratings

OBS-A — Gauge + Guard Combo

Size	Material	Part Number
½"	PVC	OBS-A-P-0-X
½"	PP	OBS-A-PP-0-X
½"	PVDF	OBS-A-PF-0-X

X = Max Pressure

15 ▸ 0-15 Psi **100** ▸ 0-100 Psi
30 ▸ 0-30 Psi **160** ▸ 0-160 Psi
60 ▸ 0-60 Psi **200** ▸ 0-200 Psi

End Connection Options

Socket PVC
Flanged PP | PVDF
Butt Fused PP | PVDF

½" FNPT is standard
Add Suffix -
'M' - Male ½" NPT **'F'** - ½" Flanged **'S'** - ½" Socket **'B'** - ½" Butt Fused
Consult Factory for Alternative Pressure Ratings

2VU — Double Sided Gauge + Guard Combo

Size	Material	Part Number
½"	PVC	2VU-P-0-X
½"	PP	2VU-PP-0-X
½"	PVDF	2VU-PF-0-X

X = Max Pressure

15 ▸ 0-15 Psi **100** ▸ 0-100 Psi
30 ▸ 0-30 Psi **160** ▸ 0-160 Psi
60 ▸ 0-60 Psi **200** ▸ 0-200 Psi

End Connection Options

Socket PVC
Flanged PP | PVDF
Butt Fused PP | PVDF

½" FNPT is standard
Add Suffix -
'M' - Male ½" NPT **'F'** - ½" Flanged **'S'** - ½" Socket **'B'** - ½" Butt Fused
Consult Factory for Alternative Pressure Ratings

OBS-B — Gauge + Guard Combo

Size	Material	Part Number
½"	PVC	OBS-B-P-0-X
½"	PP	OBS-B-PP-0-X
½"	PVDF	OBS-B-PF-0-X

X = Max Pressure

15 ▸ 0-15 Psi **100** ▸ 0-100 Psi
30 ▸ 0-30 Psi **160** ▸ 0-160 Psi
60 ▸ 0-60 Psi **200** ▸ 0-200 Psi

End Connection Options

Socket PVC
Flanged PP | PVDF
Butt Fused PP | PVDF

½" FNPT is standard
Add Suffix -
'M' - Male ½" NPT **'F'** - ½" Flanged **'S'** - ½" Socket **'B'** - ½" Butt Fused
Consult Factory for Alternative Pressure Ratings

OBS-BAG (Big Ass Gauge) — Gauge + Guard Combo

Size	Material	Part Number
½"	PVC	BAG-P-0-X
½"	PP	BAG-PP-0-X

X = Max Pressure

30 ▸ 0-30 Psi **100** ▸ 0-100 Psi
60 ▸ 0-60 Psi **160** ▸ 0-160 Psi

End Connection Options

Socket PVC
Flanged PP | PVDF
Butt Fused PP | PVDF

½" FNPT is standard
Add Suffix -
'M' - Male ½" NPT **'F'** - ½" Flanged **'S'** - ½" Socket **'B'** - ½" Butt Fused
Consult Factory for Alternative Pressure Ratings

OBS-R — 360° Rotating Gauge + Guard Combo

Size	Material	Part Number
½"	PP | 316SS | PVC	OBS-R-PP-0-30 (30Psi)
½"	PP | 316SS | PVC	OBS-R-PP-0-30 (30Psi)

½" FNPT is standard
Add Suffix -
'M' - Male ½" NPT **'F'** - ½" Flanged **'S'** - ½" Socket
Consult Factory for Alternative Pressure Ratings

Truflo® — OBS-GO Series
Pressure Gauge

Truflo® — GI Series
All Plastic Gauge Guard

OBS-GO SERIES

PRESSURE GAUGE WITH INTEGRAL GAUGE GUARD (ISOLATOR)

1.0 SCOPE

1.1 This specification outlines the technical and performance requirements for the Truflo® OBS-GO Series Pressure Gauges, designed for continuous pressure measurement in corrosive industrial, chemical, and wastewater applications.

1.2 All pressure gauges shall be Truflo® OBS-GO Series or equal.

1.3 The OBS Series includes the following models:

- OBS-GO
- OBS-V
- OBS-DGO
- OBS-GO-C
- OBS-TT
- OBS-GO4

2.0 MATERIALS & CONSTRUCTION

2.1 The pressure gauge body shall be constructed from chemically resistant materials, including:

- PP (Polypropylene) - ASTM D-4101, PP 0211B67272
- 316 Stainless Steel

2.3 All pressure gauges shall have ranges tabs, in red, yellow, and green to indicate the optimum operating ranges.

2.4 All pressure gauges shall be liquid filled and vacuum sealed

2.5 All pressure gauges shall have dual scale, 2 1⁄2” dials

2.6 All pressure gauges shall provide 0.75% accuracy of full scale

2.7 All pressure gauges shall be one-piece design to prevent any leakage from shock and vibration

2.8 All pressure gauges shall have a high impact polycarbonate lens

2.9 All pressure gauges shall have 316SS non-wetted internals

2.10 All pressure gauges shall pair with the GI Series All Plastic Gauge Guard

3.0 PROCUREMENT & TECHNICAL SUPPORT

Manufacturer: Icon Process Controls

Website: https://iconprocon.com/product/300s-series-submersible-level-sensor/

Email: support@iconprocon.com

Phone: 1-800-676-4131

OBS-GO SERIES

PRESSURE GAUGE

4.0 MODEL SELECTION GUIDE

OBS-GO Pressure Gauge

Size	Material	Part Number
¼"	PP | 316SS	OBS-GO-0-X

X = Max Pressure

15 ▸ 0-15 Psi **100** ▸ 0-100 Psi
30 ▸ 0-30 Psi **160** ▸ 0-160 Psi
60 ▸ 0-60 Psi **200** ▸ 0-200 Psi

Consult Factory for Alternative Pressure Ratings

OBS-DGO — Dual Face Pressure Gauge

Size	Material	Part Number
¼"	PP | 316SS	OBS-DGO-0-X

X = Max Pressure

15 ▸ 0-15 Psi **100** ▸ 0-100 Psi
30 ▸ 0-30 Psi **160** ▸ 0-160 Psi
60 ▸ 0-60 Psi **200** ▸ 0-200 Psi

Consult Factory for Alternative Pressure Ratings

OBS-TT — Tell-Tale Pressure Gauge

Size	Material	Part Number
¼"	PP | 316SS	OBS-TT-PP-0-X

X = Max Pressure

60 ▸ 0-60 Psi
100 ▸ 0-100 Psi
160 ▸ 0-160 Psi

Consult Factory for Alternative Pressure Ratings

OBS-V Pressure Gauge

Size	Material	Part Number
¼"	PP | 316SS	OBS-V-PP-0-X

OBS-GO-C Pressure Gauge

Size	Material	Part Number
¼"	PP | 316SS	OBS-GO-0-X-C

X = Max Pressure

15 ▸ 0-15 Psi **100** ▸ 0-100 Psi
30 ▸ 0-30 Psi **160** ▸ 0-160 Psi
60 ▸ 0-60 Psi **200** ▸ 0-200 Psi

Consult Factory for Alternative Pressure Ratings

OBS-GO4 Pressure Gauge

Size	Material	Part Number
¼"	PP | 316SS	OBS-GO4-0-X

X = Max Pressure

60 ▸ 0-60 Psi
100 ▸ 0-100 Psi
160 ▸ 0-160 Psi

Consult Factory for Alternative Pressure Ratings

GI Series — All Plastic Gauge Guard

Material	Part Number
PVC-Teflon® Bonded EPDM	GI-P
PP-Teflon® Bonded EPDM	GI-PP
PVDF-Teflon® Bonded EPDM	GI-PF