Truflo® — UltraFlo® UF-500

Clamp-On Ultrasonic Flow Meter Sensor

Flow | Total | RS485 | 4-20mA | Pulse | IO-Link

ICON PROCESS CONTROLS™ Corrosion-Free Instrumentation Equipment™

madshean

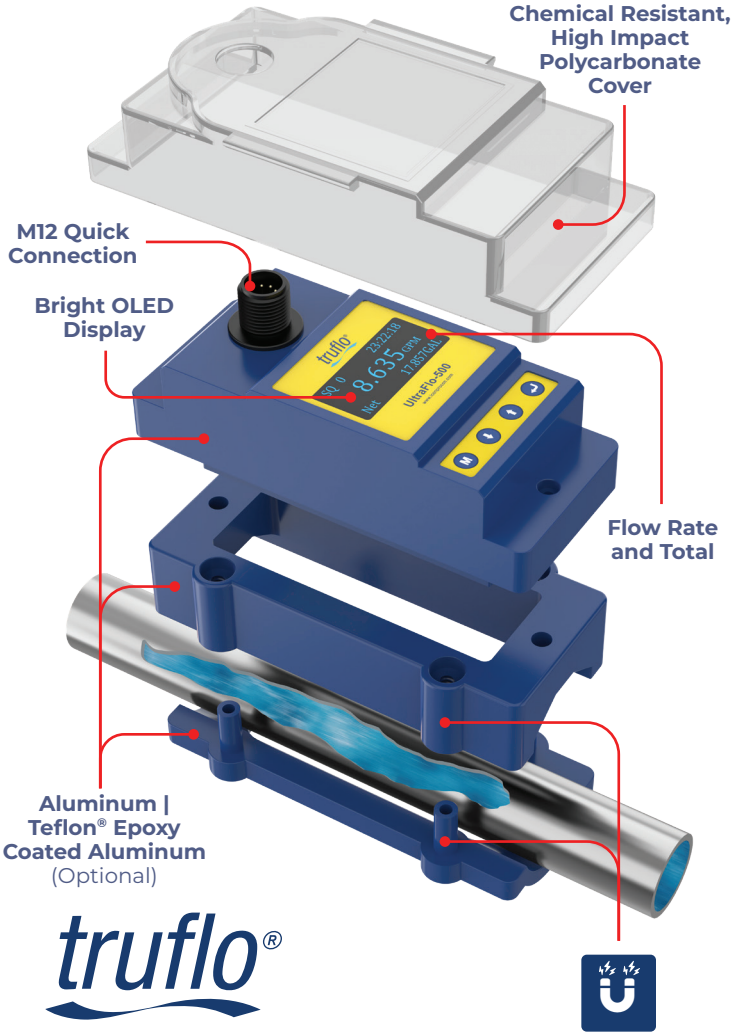
Ultra-Convenient, Ultra-Simple, Ultra-Versatile — UltraFlo®

truflo®

Convenience, Accuracy and Value in an Ultrasonic Flow Meter

Ultra-Convenient, Ultra-Simple, Ultra-Versatile — UltraFlo®

- Wide Dynamic Flow Range of 0.3 to 15 ft/s | 0.1 to 5 m/s
- High Accuracy | ± 2.0%
- Pipe Sizes ¼" – 10"
- Under 2 Minute Installation Time
- No Contact with Liquid
- No Moving Parts
- Simple to Install — No Cutting of Pipe
- Output: 4-20mA | RS485 | Pulse (Optional)
- Flow Rate + Totalizer | Resettable
- Large Blue OLED Low Light Display
- Data Logging (Day | Month | Year)
- Suitable for RO | DI Systems



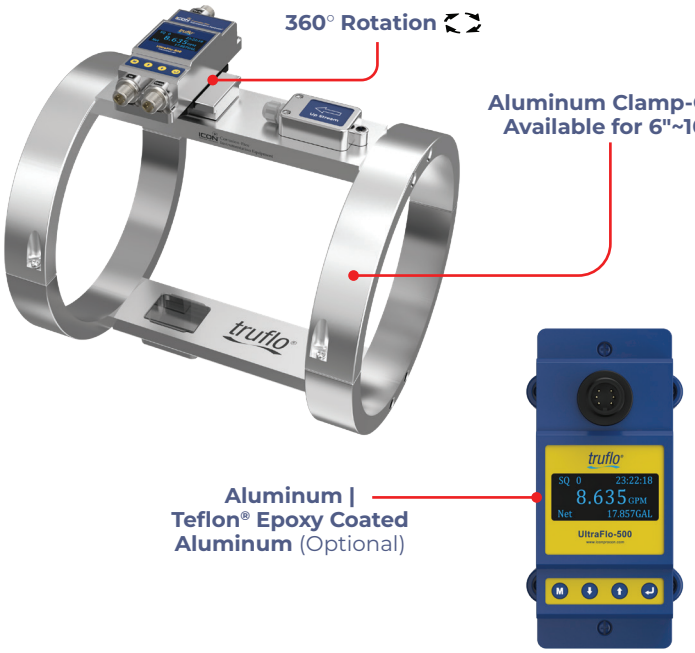
truflo®

Works on a variety of materials such as; Carbon Steel, Stainless Steel, PVC, Copper, PVDF, PFA, PTFE, PU, and Aluminum

Convenience, Accuracy and Value in an Ultrasonic Flow Meter

The Truflo® UF-500 series clamp-on ultrasonic flow meters are easy to install with exceptional long life performance and they require no alteration to current piping configurations.

The sensor sends over 50 pulses/sec in order to provide accurate measurement of liquid flow rates in full pipes and can be used in low pressure systems.



PTFE | AL | PC | RoHS Compliant | CE

Technical Specifications

General		
Operating Range	0.3 – 15 ft/s	0.1 – 5 m/s
Pipe Size Range	¼" – 10"	DN8 – DN250
Temperature Range	14 to 122°F	-10 to 50°C
	14 to 302°F *(HT model)*	-10 to 150°C *(HT model)*
Repeatability	±0.8%	
Accuracy	±2.0% (0.5m/s ~ 5.0m/s)	
Output	4-20mA | Pulse | RS485	
Viscosity Range	<300 cSt (mm²/s)	

Materials	
Sensor Body	Aluminum | Teflon® Epoxy Coated Aluminum

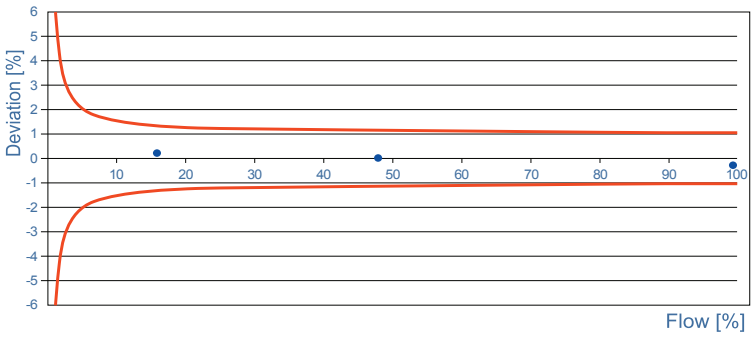
Electrical	
Power Supply	24VDC@3W
Connection	M12

Display
OLED 128 * 64 Dot Matrix

Totalizer Units
6-Digit Accumulator

Standards & Approvals
CE | RoHS Compliant

Measuring Points



Other Considerations

Ensure Proper Installation

Proper installation plays a crucial role in ensuring the accuracy of the UF-500 flow meter. Any errors or misalignments during installation can lead to inaccurate measurements. The UF-500 is designed with ease of installation in mind. Installation time is typically less than two minutes.

Installation Location

Selecting an appropriate location away from disturbances such as bends, valves, or pipe irregularities is essential as it will effect the flow profile (see Page 6).

Flow Profile

The flow profile refers to the velocity distribution across the pipe's cross-section. If the flow profile is not uniform, the accuracy of the ultrasonic flow meter can be compromised. Factors such as bends, valves, or obstructions in the pipe can cause variations in the flow profile. The flow meter's accuracy can be improved by ensuring a smooth and fully developed flow profile (see Page 6).

Transducer Care

The transducers are the key components of an ultrasonic flow meter that emit and receive ultrasonic signals. The transducer surface should be free from air bubbles, dirt, or deposits which can interfere with the ultrasonic signal. Ensure that the pipe surface is clean and smooth.

Signal Interference

External factors can introduce signal interference, affecting the flow meter's accuracy. Electrical equipment, nearby machinery, or electromagnetic fields can disrupt the ultrasonic signals. Shielding the flow meter from these interferences or relocating it to a less disruptive environment can help mitigate inaccuracies caused by signal interference.

Pipe Conditions and Material

The condition and material of the pipe through which the liquid flows can impact the accuracy of the ultrasonic flow meter. Irregularities in the pipe, such as corrosion, scaling, or rough surfaces, can cause signal reflections or attenuations, leading to inaccuracies. It is important to regularly inspect the pipe and address any issues promptly to maintain accurate measurements.

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Clamp-On Ultrasonic Flow Meter Sensor

ICON PROCESS CONTROLS™ Corrosion-Free Instrumentation Equipment™

Outside Diameter Range

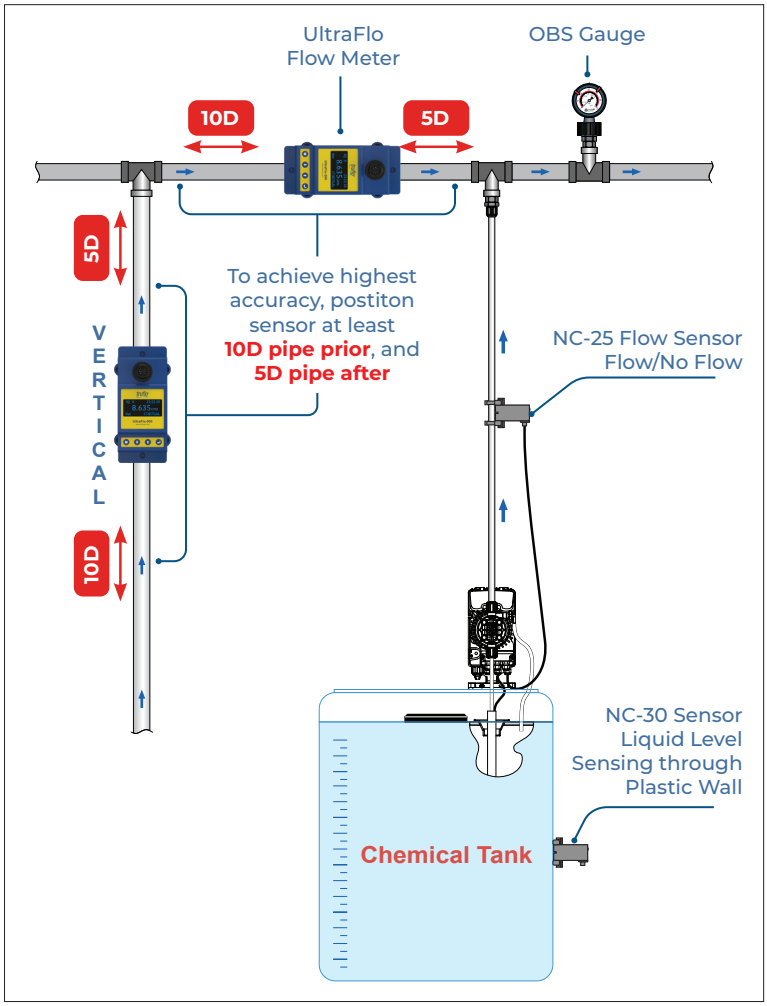
Size		¼"	⅜"	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	4"	6"	8"	10"
OD Range (mm)	OD min.	9	15	15	21	28	36	44	52	66	80	100	142	196	250
	OD	12.7	15	20	25	32	40	50	63	75	90	110	150	200	250
	OD max.	15	21	21	28	36	44	52	66	80	95	115	169	223	277

Rated Flow Range

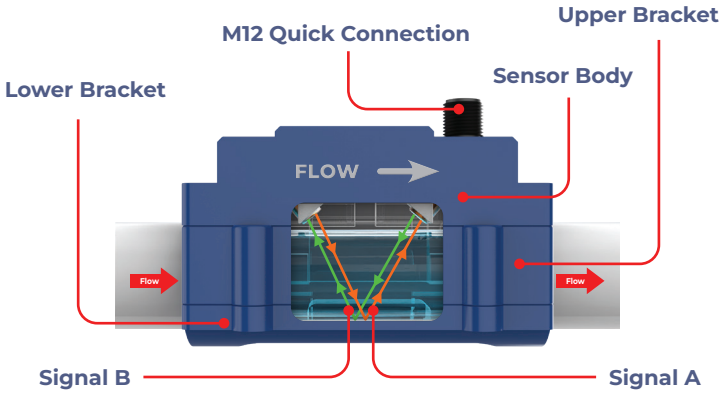
Operating Velocity Range: 0.1 to 5.0 m/s (accuracy rated from 0.5 to 5.0 m/s)

Size		¼"	⅜"	½"	¾"	1"	1¼"	1½"	2"	2½"	3"	4"	6"	8"	10"
Flow Range (L/min)	Min.	0.44	0.57	0.92	1.36	2.71	4.24	6.8	9.54	14.8	21.8	36.5	246	479	801
	Max.	30	50	70	150	200	330	460	700	1030	1360	2170	5957	10490	16546
Flow Range (Gal/min)	Min.	0.13	0.13	0.26	0.35	0.70	1.10	1.81	2.51	3.92	5.77	9.64	65.16	126.36	211.34
	Max.	8.81	13.21	17.61	44.03	66.04	88.06	132.09	176.11	264.17	352.23	572.37	1571.82	2769.41	4372.05

Application Example



Working Principle



Model Selection

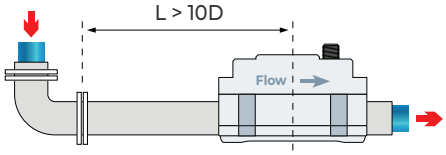
UltraFlo® 500 — Clamp-On Ultrasonic Flow Meter		
Size	**Part Number**	**Material**
¼"	UF500-A-08	Aluminum
⅜"	UF500-A-10	Aluminum
½"	UF500-A-15	Aluminum
¾"	UF500-A-20	Aluminum
1"	UF500-A-25	Aluminum
1¼"	UF500-A-32	Aluminum
1½"	UF500-A-40	Aluminum
2"	UF500-A-50	Aluminum
2½"	UF500-A-65	Aluminum
3"	UF500-A-80	Aluminum
4"	UF500-A-100	Aluminum
6"	UF500-A-150	Aluminum
8"	UF500-A-200	Aluminum
10"	UF500-A-250	Aluminum

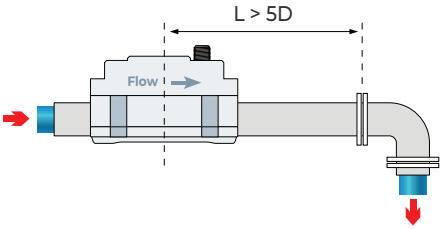
Add Suffix -
'P' - Pulse Output
'HT' - High Temperature
'EC' - Epoxy Coated Aluminum

Main Display Layout

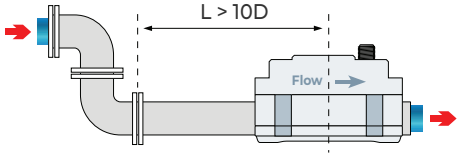
Installation Positions

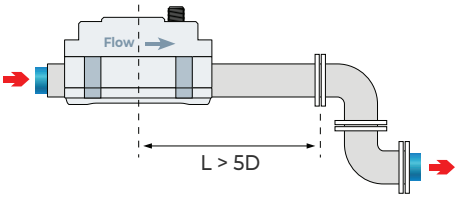
Source : 90° Elbow



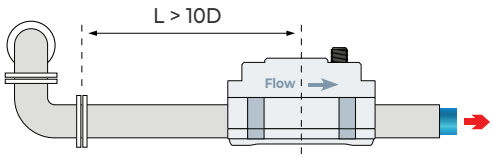


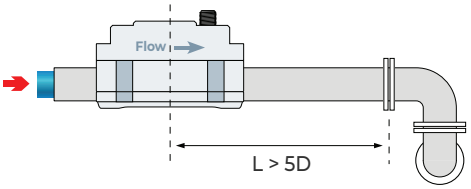
Source : 2 x 90° Elbow in One Plane



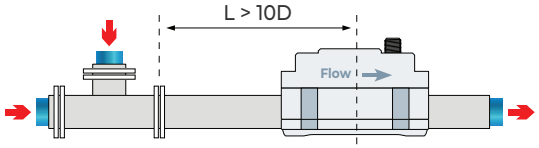


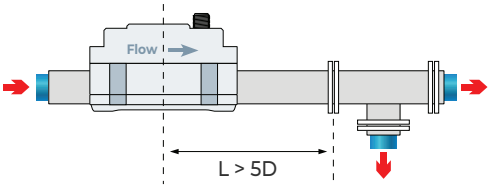
Source : 2 x 90° Elbow in Different Plane



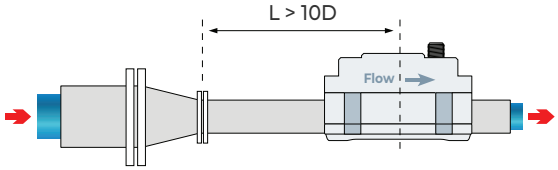


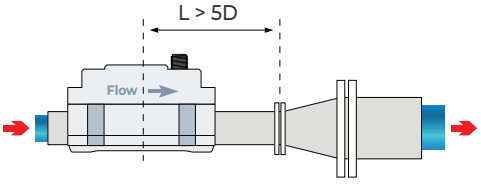
Source : T-Section



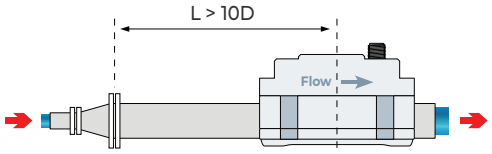


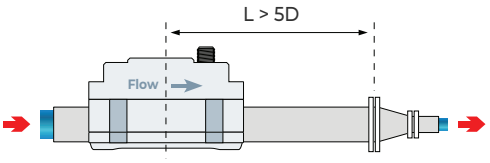
Source : Reducer





Source : Diffuser





Source : Valve