

UltraFlo® UF-500 Series Operating Manual







Read the user's manual carefully before starting to use the unit. Producer reserves the right to implement changes without prior notice.



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Safety Information

Please always observe the following safety instructions!

Please pay attention to the safety instructions with the following pictograms and signal words in these operating instructions:



Warning | Caution | Danger

Indicates a potential hazard. Failure to follow all warnings may lead to equipment damage, injury, or death.



Do Not Use Tools

Use of tool(s) may damage produced beyond repair and potentially void product warranty.

Notice: Is used to lead users to helpful information not related to personal injury.

Intended Use

- O The Flow Meter UltraFlo® should only be used for measuring the flow of pure, homogeneous liquids.
- The volume flow meter UltraFlo® is built in accordance with industry standard EN 61010 regulations (corresponds to VDE 0411 "Safety specifications for electrical measurement, control and laboratory devices").
- The manufacturer is not liable for any injury, damage or harm due to inappropriate or unintended use or modifications of the flow meter. Conversions and/or changes to the flow meter may only be made, if they are expressly performed in accordance with the operating instructions in this operating manual.

Personnel for Installation, Commissioning and Operation



- Assembly, electrical installation, commissioning and maintenance of the flow meter must be carried out by qualified, trained personnel. The qualified personnel must have read and understood the operating instructions in this operating manual and must follow the operating instructions in this manual.
- The installer has to ensure that the flow meter is correctly connected according to the electrical connection diagrams in this operating manual.
- Serious injury or death from electric shock may occur if wiring, installation, disassembly or removal of wires is performed while electrical power is energized

Technological Progress

The manufacturer reserves the right to revise, alter, or modify the flow meter to the most current technology without special prior notice. Further information about the latest updates and potential additions to these operating instructions are available from Truflo.

Product Description

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.

- ✓ Wide Dynamic Flow Range 0.3 to 15 ft/s | 0.1 to 5 m/s
- Light weight
- Excellent External Corrosion Resistance

Clamp-On Ultrasonic Flow Meter Sensor



Features

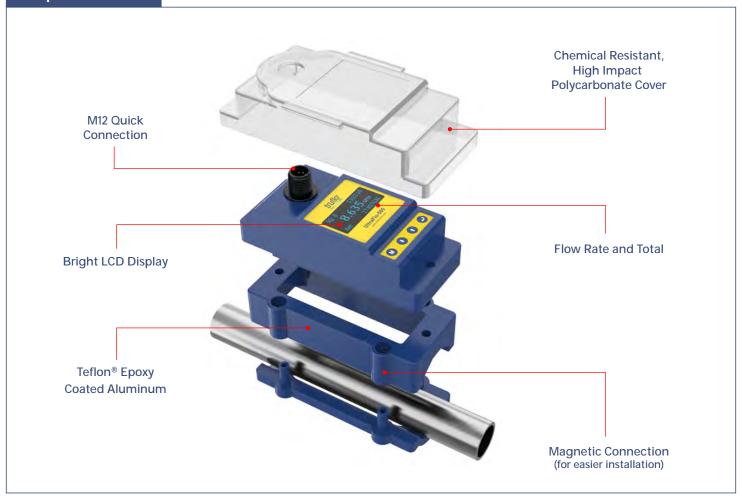
- O Under 2 Minute Installation Time
- No Contact with Liquid
- No Moving Parts
- Simple to Install-No Cutting of Pipe

- Simple Programming

- Suitable for RO Systems
- O Data Logging

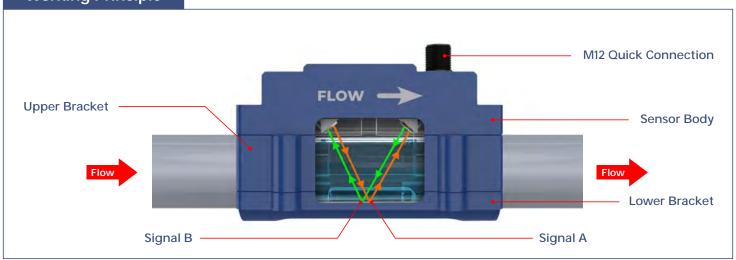


Exploded View





Working Principle



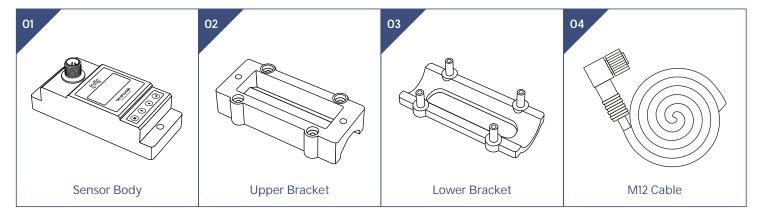
Technical Specifications

General	
Accuracy	2.0%
Repeatability	0.8%
Data Storage	Day, Month and Year Flow Totalizer
Response Time	2s
Analog Output	4 ~20mA
Alarm Output	OCT, High and Low Flow Alarm Function (option)
Communication	RS485, Power Waste: 3W
Power Supply	24 VDC
Cable Length	2m
Keypad	Four Light Touch Buttons
Screen	OLED 128* 64 Display Screen
Units	Metric and Imperial units are available. Cubic Meters(m³), Liters(L), US Gallons(GAL), /hour, / min Default Unit Setting: GPM
Totalizer	Six Bit Digit
Liquid	Water, Sea water, Oil
Pipe Material	Carbon Steel Stainless Steel PVC Copper PVDF PFA PTFE PU Aluminum
Case Material	Teflon® Epoxy Coated Aluminum Aluminum
Environment Temp.	0°C - 50°C
Liquid Temp.	0°C - 50° C
Environment Humidity	0-95% Relative Humidity Without Condensation
IP Grade	IP54

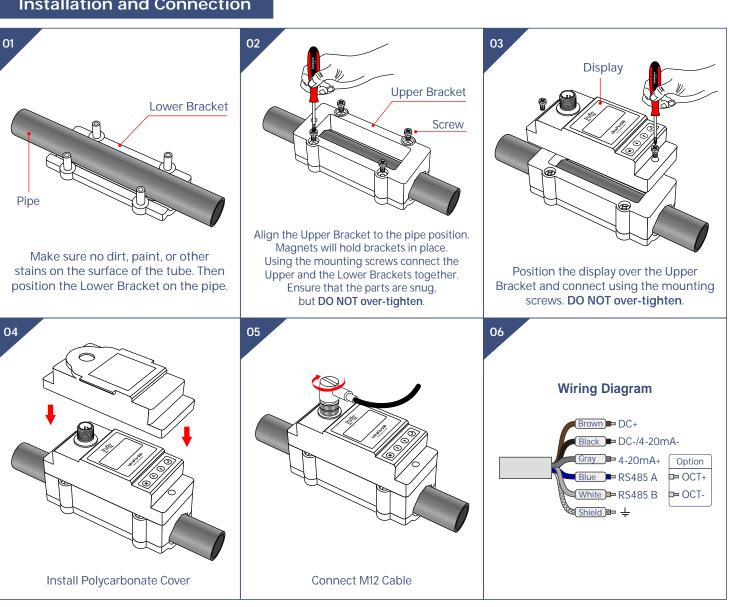
Clamp-On Ultrasonic Flow Meter Sensor



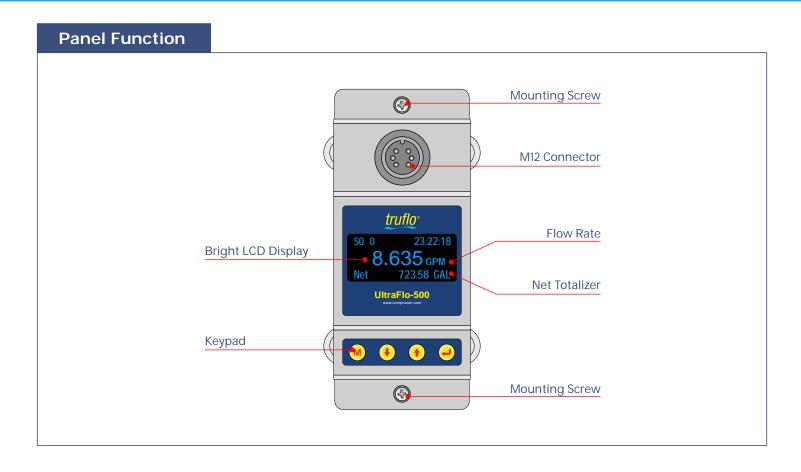
Components



Installation and Connection

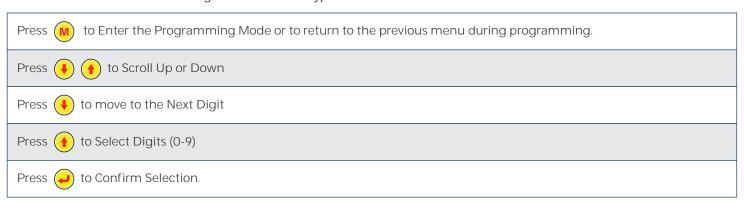






Keypad Functions

Follow these Guide Lines when using the Flow Meter Keypad:



Powering ON

When connected to a VDC Power Supply the Ultrapro 500 will begin to run self-diagnosis program

Signal Quality (SQ value)

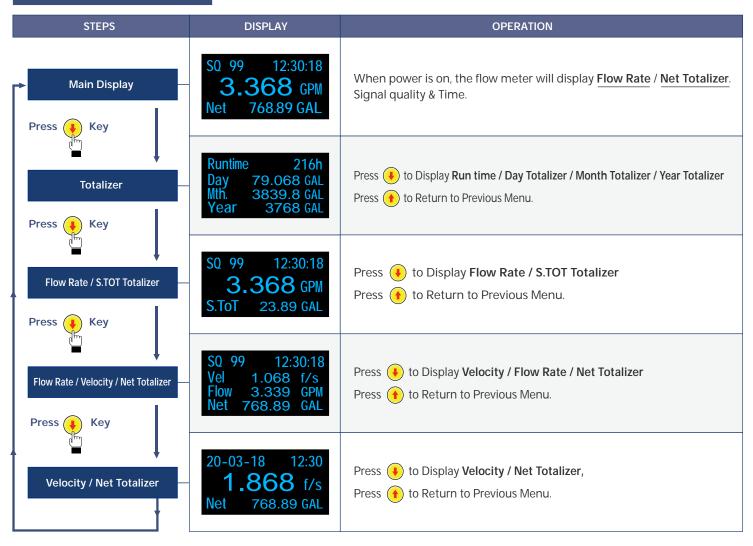
SQ value is short for Signal Quality. It indicates the level of the signal detected. SQ value is indicated by numbers from 0~99. 00 is the minimum signal could be detected and 99 represents the maximum. Normally, the transducer position should be adjusted repeatedly and coupling compound should be checked frequently until the signal quality detected is as strong as possible.



Clamp-On Ultrasonic Flow Meter Sensor



Display Description

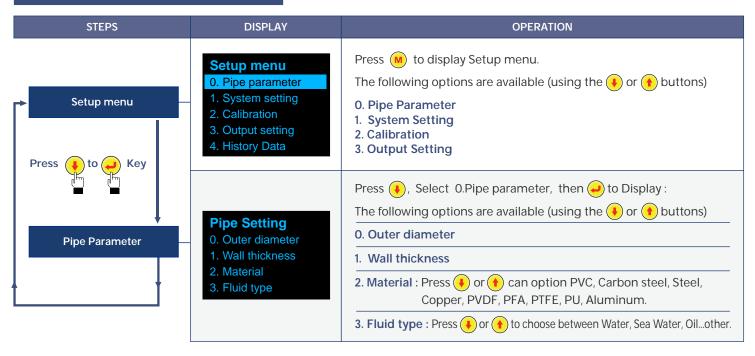


Setup Menu

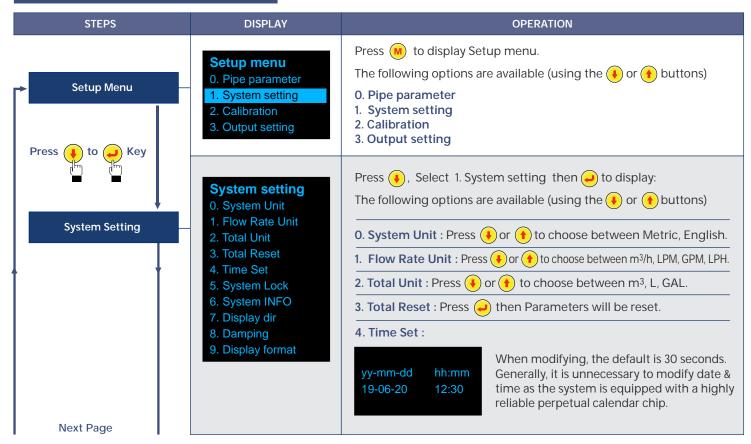
STEPS	DISPLAY	OPERATION		
Press M Key Setup Menu	SQ 99 12:30:18 3.368 GPM Net 768.89 GAL	Power on Main Display shows Flow Rate & Net Totalizer		
	Setup menu 0. Pipe parameter	Press M to Display Setup Menu. The following options are available (using the 4 or 4 Buttons)		
	 System setting Calibration Output setting History data 	0. Pipe parameter1. System setting2. Calibration3. Output setting4. History data		



Pipe Parameter Setup Menu

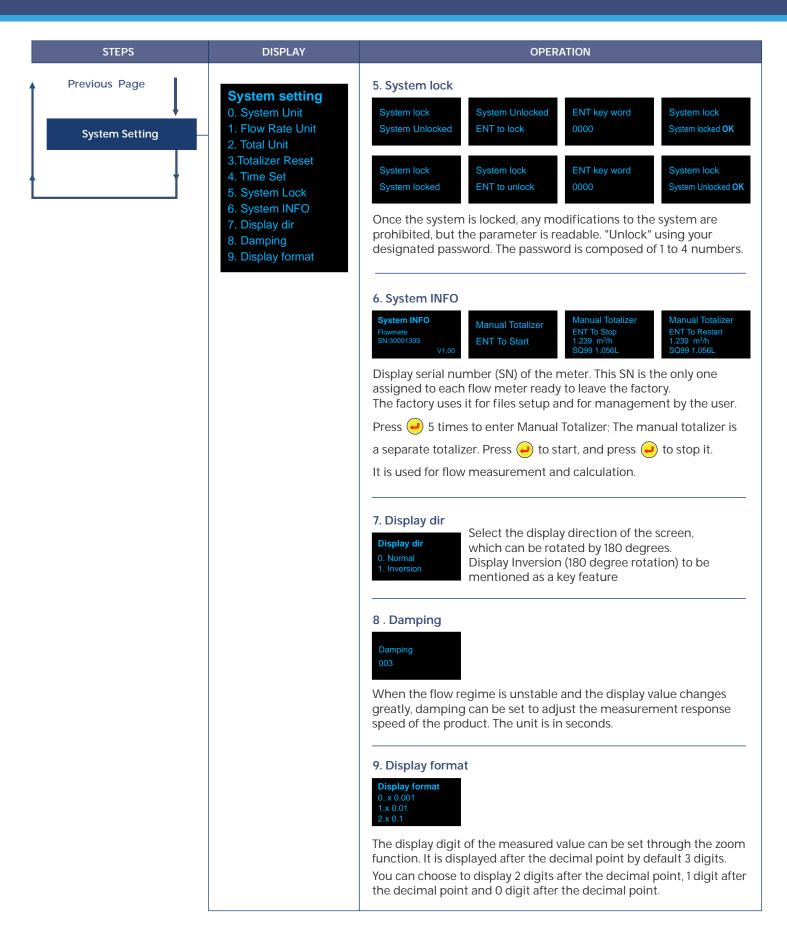


System Setting Setup Menu



Clamp-On Ultrasonic Flow Meter Sensor

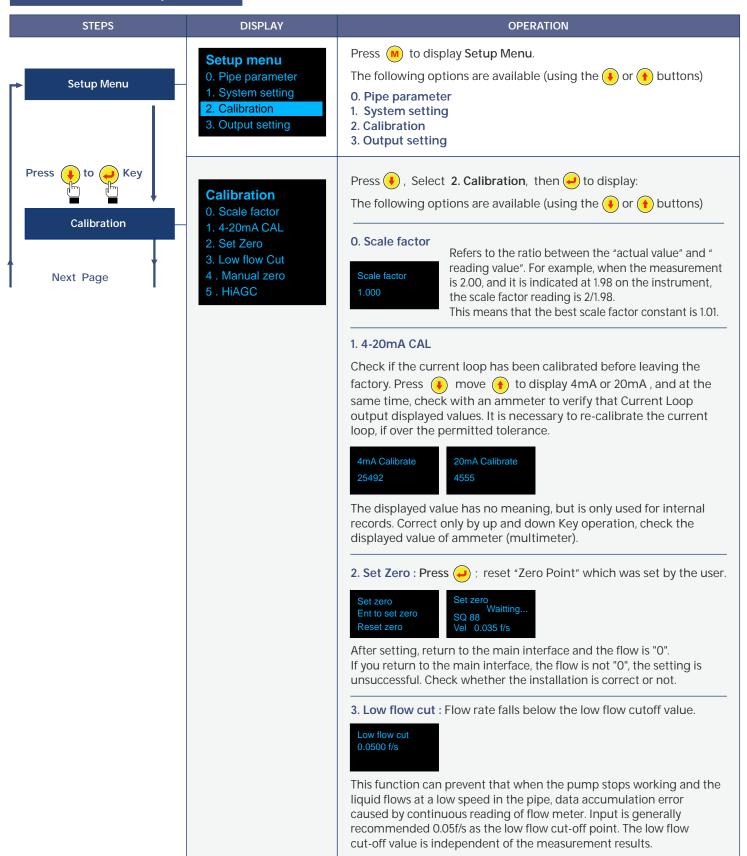




Clamp-On Ultrasonic Flow Meter Sensor

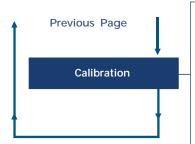


Calibration Setup Menu



Clamp-On Ultrasonic Flow Meter Sensor





Calibration

- 0. Scale factor
- 1. 4 & 20mA CAL
- 2. Set Zero
- 3. Low flow Cut
- 4. Manual zero
- 5. HiAGC
- 6. Negative Flow

Generally, pipes made of SS304 or SS316 are with wall thickness of more than 2mm. In practical use, it will receive false signals due to the interference of pipe wall signals, It is recommended that the low flow rate should be cut off at 0.08m/s or above.

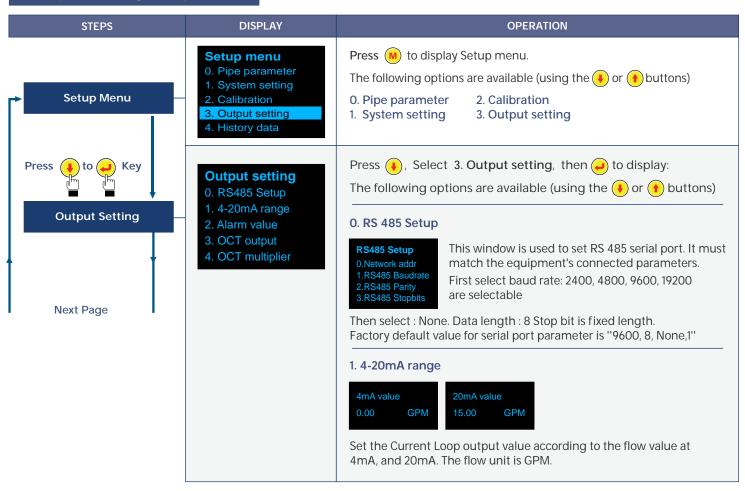
4. Manual zero

Manual zero 0.0000 m³/h This method is not commonly used and is only suitable for experienced operators. It is not suitable for other parties. Manually input the value and add it to the measured value to obtain the actual value.

5. Hi AGC

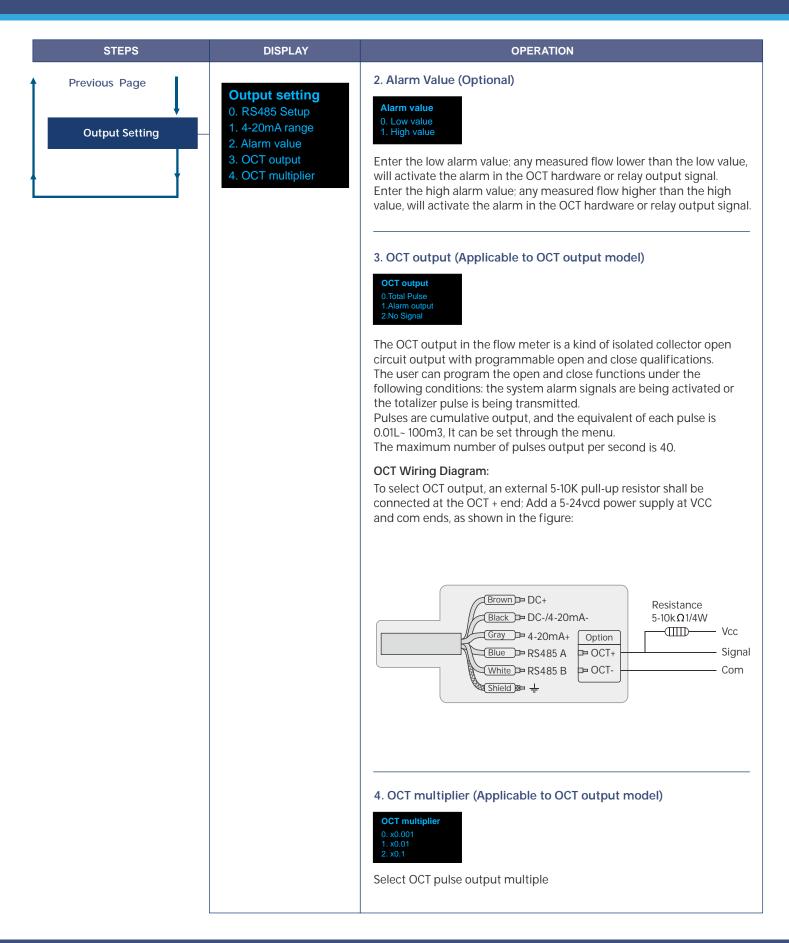
Hi AGC 0. OFF High gain switch do not needs to be set generally, could try to switch on for special pipes with weak signal detected.

Output Setting Setup Menu



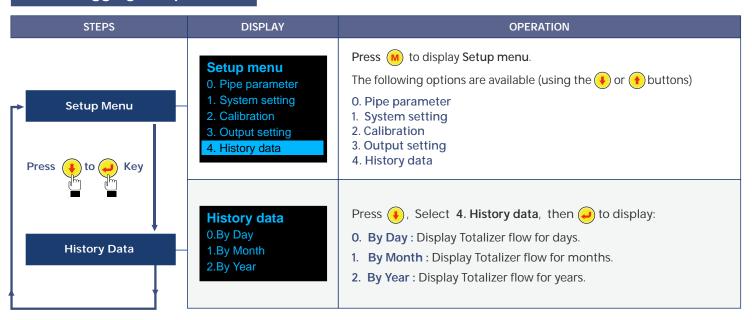
Clamp-On Ultrasonic Flow Meter Sensor



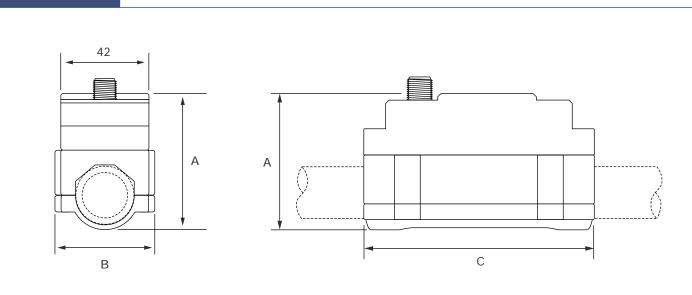




Data Logging Setup Menu

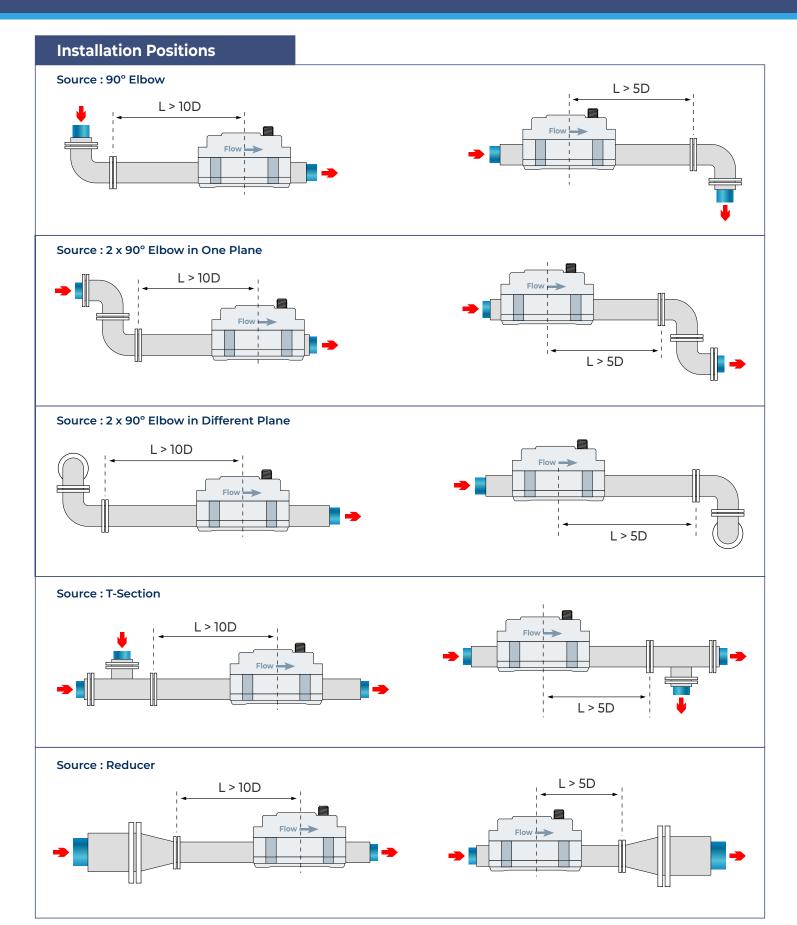


Dimensions

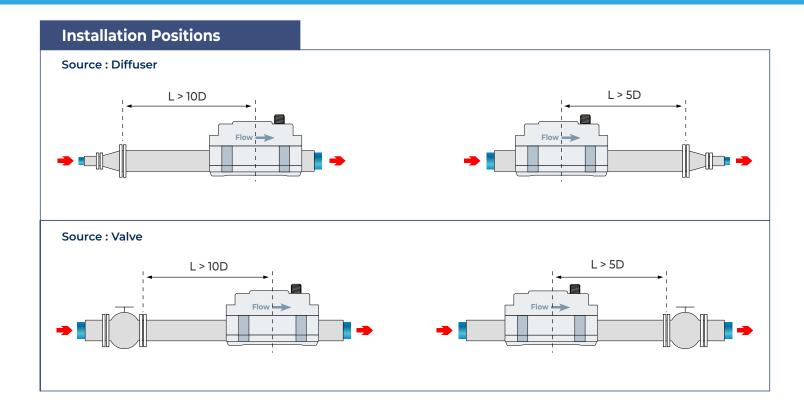


Model	Pipe OD	OD Range	A (mm) Max	B(mm)	C(mm)
UF500-15	1/2"	16.5 - 23	86	52	106
UF500-25	1"	30-35	91	58	106
UF500-40	1-1⁄2"	48-54	110	78	106
UF500-50	2"	58-68	126	91	130
UF500-50	3"	88-96	154	119	150
UF500-100	4"	108-116	177	143	174











Warranty, Returns & Limitations

Warranty

Icon Process Controls warrants to the original purchaser of its products that such products will be free from defects in materials and workmanship under normal use and service in accordance with instructions furnished by Icon Process Controls for a period of one years from the date of sale of such products. Icon Process Controls obligation under this warranty is solely and exclusively limited to the repair or replacement, at Icon's option, of the products or components, which Icon examination determines to its satisfaction to be defective in material or workmanship within the warranty period. Icon Process Controls must be notified within thirty (30) days pursuant to the instructions below of any claims of lack of conformity under this warranty. Any product repaired under this warranty will be warranted only for the remainder of the original warranty period. Any product provided as a replacement under this warranty will be warranted for the full 1 year from the data of sale.

Returns

Products cannot be returned to Icon Process Controls without Icon's prior authorization. To return a product that is thought to be defective please submit a customer return (MRA) request form and follow the instructions therein. All warranty and non-warranty product returns to Icon Process Controls must be shipped prepaid and insured. Icon will not be responsible for any products lost or damaged in shipment.

Limitations

This warranty does not apply to products which:

- 1) Are beyond the warranty period or are products for which the original purchaser does not follow the warranty procedures outlined above;
- 2) Have been subjected to electrical, mechanical or chemical damage due to improper, accidental or negligent use;
- 3) Have been modified or altered;
- 4) Anyone other than service personnel authorized by Icon have attempted to repair;
- 5) have been involved in accidents or natural disasters;
- 6) Are damaged during return shipment to Icon Process Controls.

Icon Process Controls reserves the right to unilaterally waive this warranty and dispose of any product returned to Icon where:

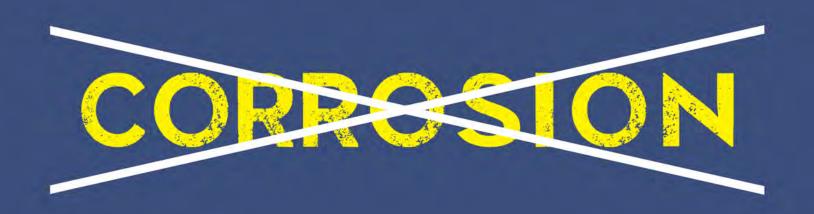
- 1) There is evidence of a potentially hazardous material present with the product;
- 2) The product has remained unclaimed at Truflo for more than 30 days after Icon Process Controls has dutifully requested disposition.

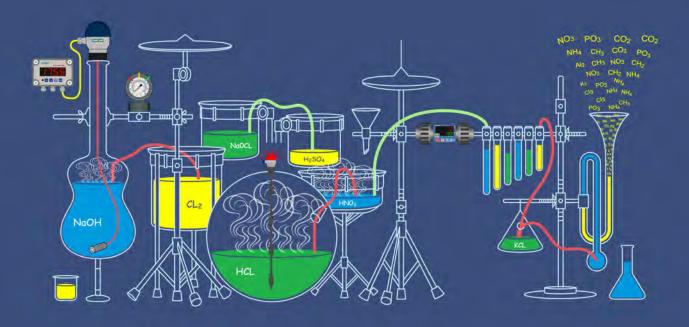
This warranty contains the sole express warranty made by Truflo in connection with its products. ALL IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION, THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULARPURPOSE, ARE EXPRESSLY DISCLAIMED. The remedies of repair or replacement as stated above are the exclusive remedies forthe breach of this warranty. IN NO EVENT SHALL LEVELPRO BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGESOF ANY KIND INCLUDING PERSONAL OR REAL PROPERTY OF FOR INJURY TO ANY PERSON. THIS WARRANTYCONSTITURES THE FINAL, COMPLETE AND EXCLUSIVE STATEMENT OFWARRANTY TERMS AND NO PERSON IS AUTHORIZED TO MAKE ANY OTHER WARRANTIES OR REPRESENTATIONS ONBEHALF OF Icon Process Controls.

If any portion of this warranty is held to be invalid or unenforceable for any reason, such finding will not invalidate any other provision of this warranty

For additional product documentation and technical support visit www.iconprocon.com | e-mail: sales@iconprocon.com support@iconprocon.com | Ph: 905.469.9283







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