

UltraFlo® UF-500 Series Operating Manual




ICON™ PROCESS CONTROLS Corrosion-Free
Instrumentation Equipment

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

Table of Contents

Safety Information	03
Product Description	03
Features	04
Exploded View	04
Working Principle	05
Technical Specifications	05
Components	06
Installation and Connection	06
Panel Function	07
Keypad Functions	07
Powering ON	07
Display Description	08
Setup Menu	08
Pipe Parameter Setup Menu	09
System Setting Setup Menu	09
Calibration Setup Menu	11
Output Setting Setup Menu	12
Data Logging Setup Menu	14
Dimensions	14
Installation Positions	15



**Corrosion-Free
Instrumentation Equipment**

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

- ✓ The Flow Meter **UltraFlo**® should only be used for measuring the flow of pure, homogeneous liquids.
- ✓ The **UltraFlo**® is not intended for use in medical applications.
- ✓ 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**

UltraFlo® UF-500

Clamp-On Ultrasonic Flow Meter Sensor

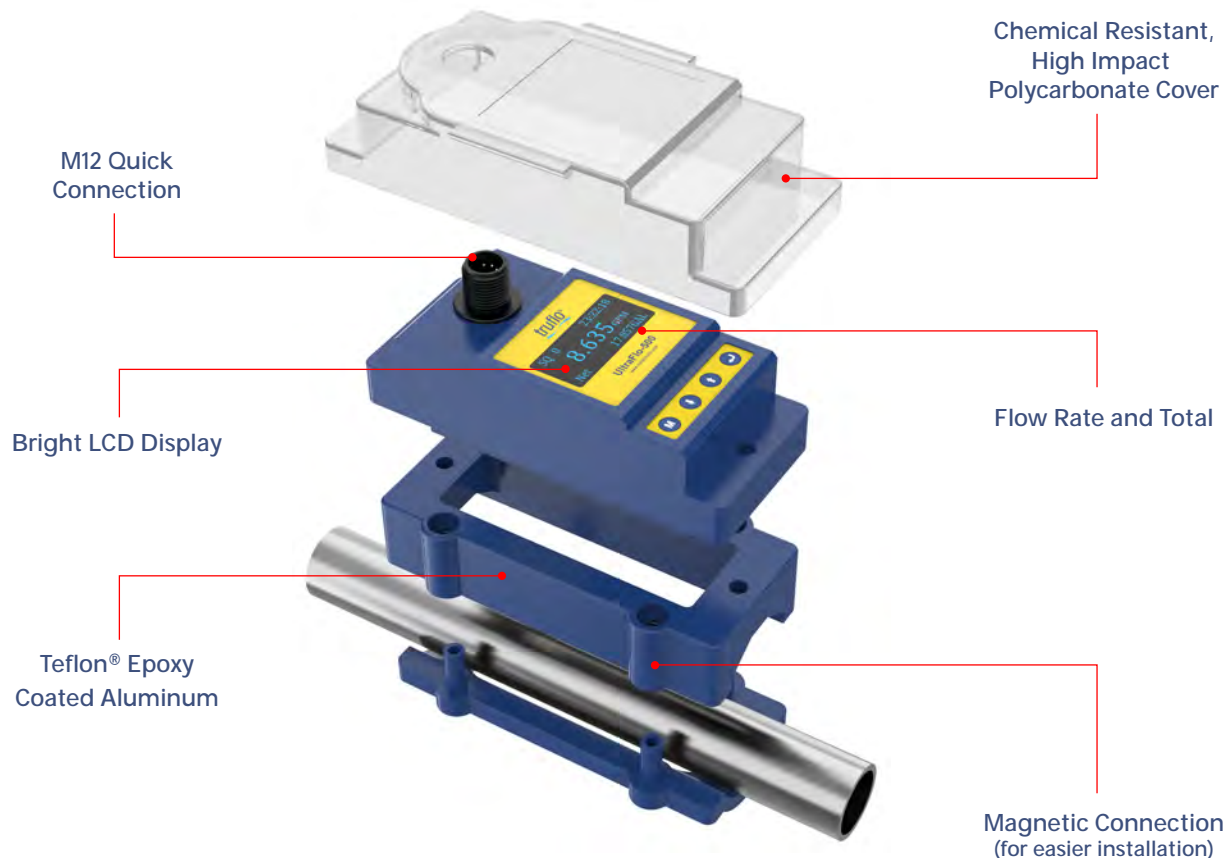


Features

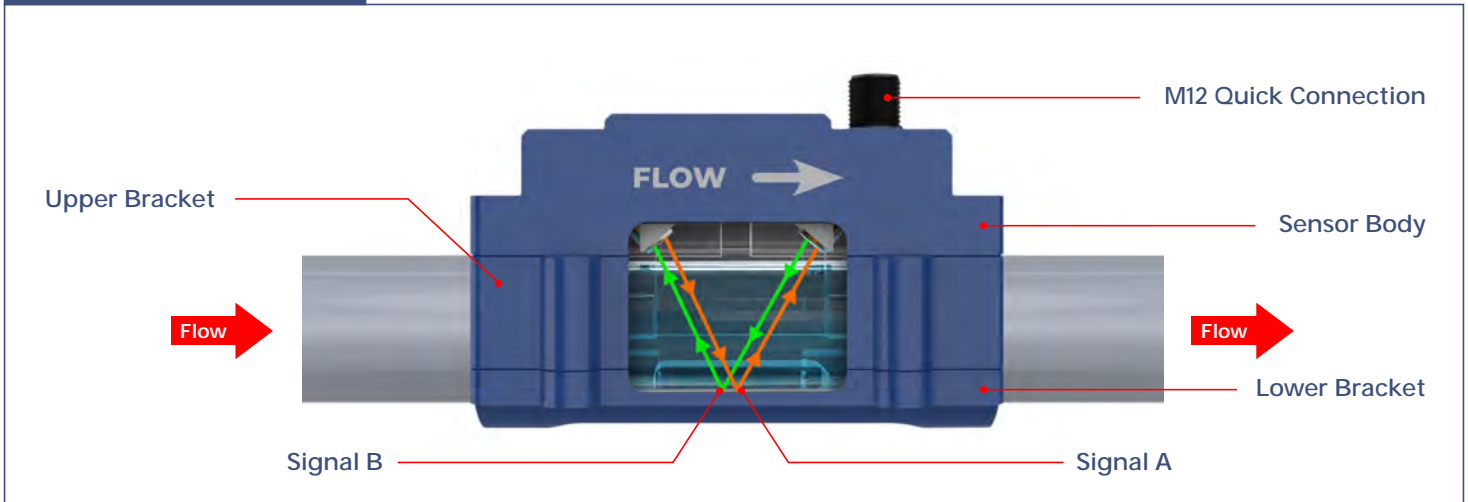
- ⊗ Under 2 Minute Installation Time
- ⊗ No Contact with Liquid
- ⊗ No Moving Parts
- ⊗ Simple to Install-No Cutting of Pipe
- ⊗ 4-20mA | RS485 Output
- ⊗ Flow Rate + Totalizer | Resettable
- ⊗ Simple Programming
- ⊗ Large Blue OLED Low Light Display
- ⊗ Wide Dynamic Flow Range of 0.3 to 15 ft/s | 0.1 to 5 m/s
- ⊗ High Accuracy | ± 2.0% of Full Scale
- ⊗ Pipe Sizes ½ - 4"
- ⊗ Suitable for RO Systems
- ⊗ Excellent External Corrosion Resistance
- ⊗ Data Logging



Exploded View



Working Principle



Technical Specifications

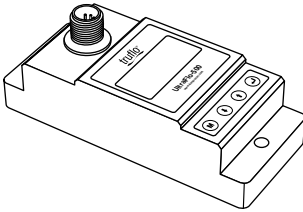
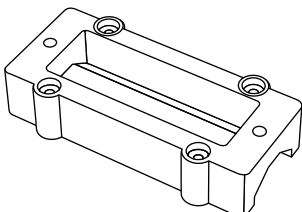
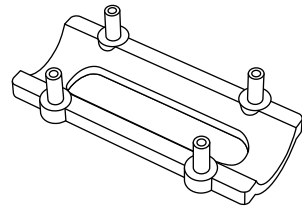
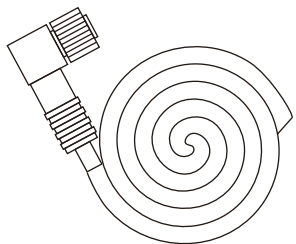
General	
Accuracy	2.0%
Repeatability	0.8%
Data Storage	Day, Month and Year Flow Totalizer
Response Time	2s
Analog Output	4 ~20mA
Alarm Output	OCT, High and Low Flow Alarm Function (option)
Communication	RS485, Power Waste: 3W
Power Supply	24 VDC
Cable Length	2m
Keypad	Four Light Touch Buttons
Screen	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

UltraFlo® UF-500

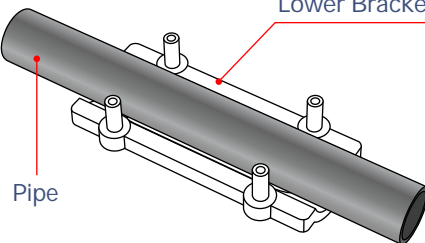
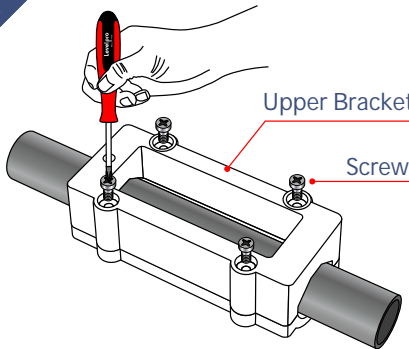
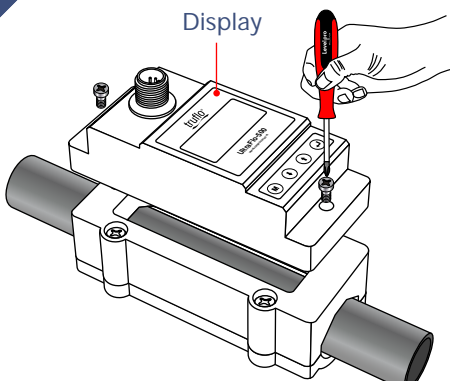
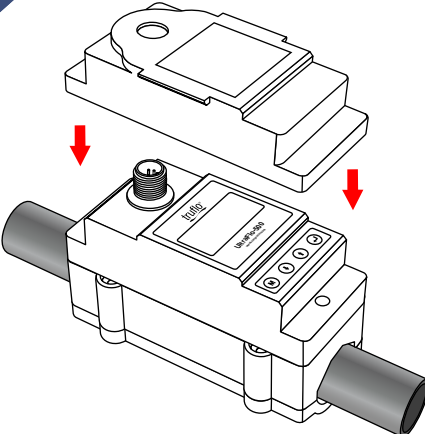
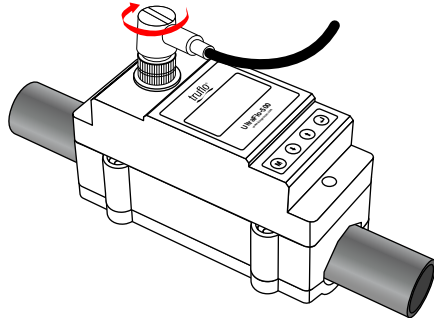
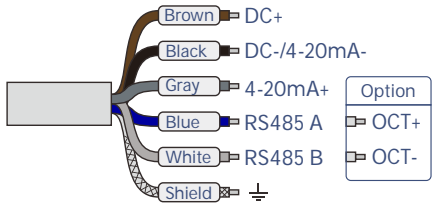
Clamp-On Ultrasonic Flow Meter Sensor



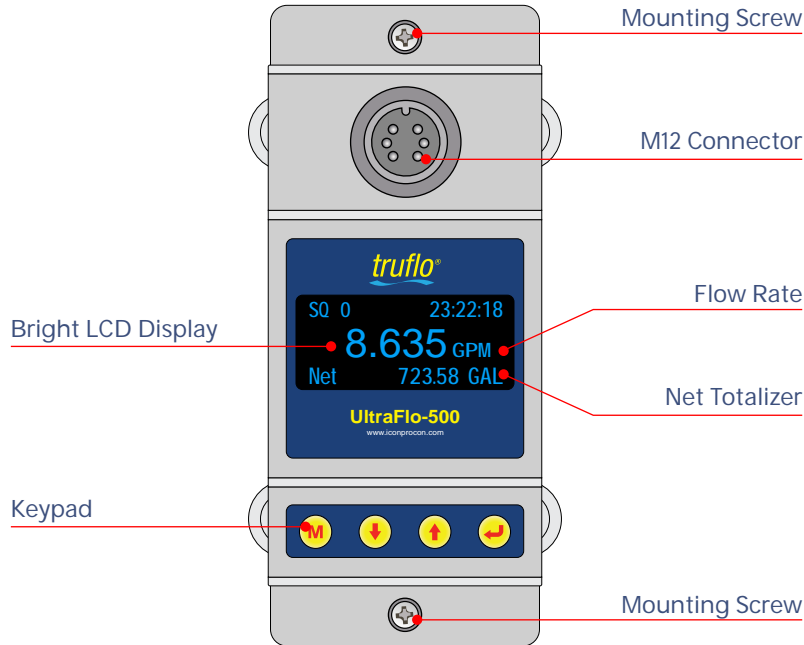
Components

<p>01</p>  <p>Sensor Body</p>	<p>02</p>  <p>Upper Bracket</p>	<p>03</p>  <p>Lower Bracket</p>	<p>04</p>  <p>M12 Cable</p>
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Installation and Connection

<p>01</p>  <p>Lower Bracket</p> <p>Pipe</p> <p>Make sure no dirt, paint, or other stains on the surface of the tube. Then position the Lower Bracket on the pipe.</p>	<p>02</p>  <p>Upper Bracket</p> <p>Screw</p> <p>Align the Upper Bracket to the pipe position. Magnets will hold brackets in place. Using the mounting screws connect the Upper and the Lower Brackets together. Ensure that the parts are snug, but DO NOT over-tighten.</p>	<p>03</p>  <p>Display</p> <p>Position the display over the Upper Bracket and connect using the mounting screws. DO NOT over-tighten.</p>																		
<p>04</p>  <p>Install Polycarbonate Cover</p>	<p>05</p>  <p>Connect M12 Cable</p>	<p>06</p> <p>Wiring Diagram</p>  <table border="1"> <tr> <td>Brown</td> <td>DC+</td> <td></td> </tr> <tr> <td>Black</td> <td>DC-/4-20mA-</td> <td></td> </tr> <tr> <td>Gray</td> <td>4-20mA+</td> <td></td> </tr> <tr> <td>Blue</td> <td>RS485 A</td> <td>Option</td> </tr> <tr> <td>White</td> <td>RS485 B</td> <td>OCT+</td> </tr> <tr> <td>Shield</td> <td>⊥</td> <td>OCT-</td> </tr> </table>	Brown	DC+		Black	DC-/4-20mA-		Gray	4-20mA+		Blue	RS485 A	Option	White	RS485 B	OCT+	Shield	⊥	OCT-
Brown	DC+																			
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Gray	4-20mA+																			
Blue	RS485 A	Option																		
White	RS485 B	OCT+																		
Shield	⊥	OCT-																		

Panel Function



Keypad Functions

Follow these Guide Lines when using the Flow Meter Keypad:

Press to Enter the Programming Mode or to return to the previous menu during programming.

Press to Scroll Up or Down

Press to move to the Next Digit

Press to Select Digits (0-9)

Press to Confirm Selection.

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.



Display Description

STEPS	DISPLAY	OPERATION
<p>Main Display</p> <p>Press Key</p>		When power is on, the flow meter will display <u>Flow Rate</u> / <u>Net Totalizer</u> . Signal quality & Time.
<p>Totalizer</p> <p>Press Key</p>		Press to Display Run time / Day Totalizer / Month Totalizer / Year Totalizer Press to Return to Previous Menu.
<p>Flow Rate / S.TOT Totalizer</p> <p>Press Key</p>		Press to Display Flow Rate / S.TOT Totalizer Press to Return to Previous Menu.
<p>Flow Rate / Velocity / Net Totalizer</p> <p>Press Key</p>		Press to Display Velocity / Flow Rate / Net Totalizer Press to Return to Previous Menu.
<p>Velocity / Net Totalizer</p> <p>Press Key</p>		Press to Display Velocity / Net Totalizer, Press to Return to Previous Menu.

Setup Menu

STEPS	DISPLAY	OPERATION
<p>Main Display</p> <p>Press Key</p>		Power on Main Display shows <u>Flow Rate</u> & <u>Net Totalizer</u>
<p>Setup Menu</p>		Press to Display Setup Menu. The following options are available (using the or Buttons) 0. Pipe parameter 1. System setting 2. Calibration 3. Output setting 4. History data

Pipe Parameter Setup Menu

STEPS	DISPLAY	OPERATION
<p>Press to Key</p>	<p>Setup menu</p> <ul style="list-style-type: none"> 0. Pipe parameter 1. System setting 2. Calibration 3. Output setting 4. History Data 	<p>Press to display Setup menu.</p> <p>The following options are available (using the or buttons)</p> <ul style="list-style-type: none"> 0. Pipe Parameter 1. System Setting 2. Calibration 3. Output Setting
	<p>Pipe Setting</p> <ul style="list-style-type: none"> 0. Outer diameter 1. Wall thickness 2. Material 3. Fluid type 	<p>Press , Select 0.Pipe parameter, then to Display :</p> <p>The following options are available (using the or buttons)</p> <ul style="list-style-type: none"> 0. Outer diameter 1. Wall thickness 2. Material : Press or can option PVC, Carbon steel, Steel, Copper, PVDF, PFA, PTFE, PU, Aluminum. 3. Fluid type : Press or to choose between Water, Sea Water, Oil...other.

System Setting Setup Menu

STEPS	DISPLAY	OPERATION
<p>Press to Key</p>	<p>Setup menu</p> <ul style="list-style-type: none"> 0. Pipe parameter 1. System setting 2. Calibration 3. Output setting 	<p>Press to display Setup menu.</p> <p>The following options are available (using the or buttons)</p> <ul style="list-style-type: none"> 0. Pipe parameter 1. System setting 2. Calibration 3. Output setting
	<p>System setting</p> <ul style="list-style-type: none"> 0. System Unit 1. Flow Rate Unit 2. Total Unit 3. Total Reset 4. Time Set 5. System Lock 6. System INFO 7. Display dir 8. Damping 9. Display format 	<p>Press , Select 1. System setting then to display:</p> <p>The following options are available (using the or buttons)</p> <ul style="list-style-type: none"> 0. System Unit : Press or to choose between Metric, English. 1. Flow Rate Unit : Press or to choose between m³/h, LPM, GPM, LPH. 2. Total Unit : Press or to choose between m³, L, GAL. 3. Total Reset : Press then Parameters will be reset. 4. Time Set : <ul style="list-style-type: none"> yy-mm-dd hh:mm 19-06-20 12:30 <p>When modifying, the default is 30 seconds. Generally, it is unnecessary to modify date & time as the system is equipped with a highly reliable perpetual calendar chip.</p>

Next Page

STEPS	DISPLAY	OPERATION																		
	<p>System setting</p> <ul style="list-style-type: none"> 0. System Unit 1. Flow Rate Unit 2. Total Unit 3. Totalizer Reset 4. Time Set 5. System Lock 6. System INFO 7. Display dir 8. Damping 9. Display format 	<p>5. System lock</p> <table border="1"> <tr> <td>System lock System Unlocked</td> <td>System Unlocked ENT to lock</td> <td>ENT key word 0000</td> <td>System lock System locked OK</td> </tr> <tr> <td>System lock System locked</td> <td>System lock ENT to unlock</td> <td>ENT key word 0000</td> <td>System lock System Unlocked OK</td> </tr> </table> <p>Once the system is locked, any modifications to the system are prohibited, but the parameter is readable. "Unlock" using your designated password. The password is composed of 1 to 4 numbers.</p> <hr/> <p>6. System INFO</p> <table border="1"> <tr> <td>System INFO Flowmete SN:30001399 V1.00</td> <td>Manual Totalizer ENT To Start</td> <td>Manual Totalizer ENT To Stop 1.239 m³/h SQ99 1.056L</td> <td>Manual Totalizer ENT To Restart 1.239 m³/h SQ99 1.056L</td> </tr> </table> <p>Display serial number (SN) of the meter. This SN is the only one assigned to each flow meter ready to leave the factory. The factory uses it for files setup and for management by the user.</p> <p>Press 5 times to enter Manual Totalizer; The manual totalizer is a separate totalizer. Press to start, and press to stop it. It is used for flow measurement and calculation.</p> <hr/> <p>7. Display dir</p> <table border="1"> <tr> <td>Display dir 0. Normal 1. Inversion</td> <td>Select the display direction of the screen, which can be rotated by 180 degrees. Display Inversion (180 degree rotation) to be mentioned as a key feature</td> </tr> </table> <hr/> <p>8. Damping</p> <table border="1"> <tr> <td>Damping 003</td> <td>When the flow regime is unstable and the display value changes greatly, damping can be set to adjust the measurement response speed of the product. The unit is in seconds.</td> </tr> </table> <hr/> <p>9. Display format</p> <table border="1"> <tr> <td>Display format 0. x 0.001 1. x 0.01 2. x 0.1</td> <td>The display digit of the measured value can be set through the zoom function. It is displayed after the decimal point by default 3 digits. You can choose to display 2 digits after the decimal point, 1 digit after the decimal point and 0 digit after the decimal point.</td> </tr> </table>	System lock System Unlocked	System Unlocked ENT to lock	ENT key word 0000	System lock System locked OK	System lock System locked	System lock ENT to unlock	ENT key word 0000	System lock System Unlocked OK	System INFO Flowmete SN:30001399 V1.00	Manual Totalizer ENT To Start	Manual Totalizer ENT To Stop 1.239 m³/h SQ99 1.056L	Manual Totalizer ENT To Restart 1.239 m³/h SQ99 1.056L	Display dir 0. Normal 1. Inversion	Select the display direction of the screen, which can be rotated by 180 degrees. Display Inversion (180 degree rotation) to be mentioned as a key feature	Damping 003	When the flow regime is unstable and the display value changes greatly, damping can be set to adjust the measurement response speed of the product. The unit is in seconds.	Display format 0. x 0.001 1. x 0.01 2. x 0.1	The display digit of the measured value can be set through the zoom function. It is displayed after the decimal point by default 3 digits. You can choose to display 2 digits after the decimal point, 1 digit after the decimal point and 0 digit after the decimal point.
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Calibration Setup Menu

STEPS	DISPLAY	OPERATION
	<p>Setup menu</p> <ul style="list-style-type: none"> 0. Pipe parameter 1. System setting 2. Calibration 3. Output setting 	<p>Press M to display Setup Menu.</p> <p>The following options are available (using the ↓ or ↑ buttons)</p> <ul style="list-style-type: none"> 0. Pipe parameter 1. System setting 2. Calibration 3. Output setting
	<p>Calibration</p> <ul style="list-style-type: none"> 0. Scale factor 1. 4-20mA CAL 2. Set Zero 3. Low flow Cut 4. Manual zero 5. HiAGC 	<p>Press ↓, Select 2. Calibration, then ↓ to display:</p> <p>The following options are available (using the ↓ or ↑ buttons)</p> <hr/> <p>0. Scale factor</p> <p>Refers to the ratio between the “actual value” and “reading value”. For example, when the measurement is 2.00, and it is indicated at 1.98 on the instrument, the scale factor reading is 2/1.98. This means that the best scale factor constant is 1.01.</p> <div data-bbox="760 808 938 903" style="background-color: black; color: white; padding: 5px;"> <p>Scale factor 1.000</p> </div> <hr/> <p>1. 4-20mA CAL</p> <p>Check if the current loop has been calibrated before leaving the factory. Press ↓ move ↑ to display 4mA or 20mA, and at the same time, check with an ammeter to verify that Current Loop output displayed values. It is necessary to re-calibrate the current loop, if over the permitted tolerance.</p> <div data-bbox="760 1176 938 1270" style="background-color: black; color: white; padding: 5px;"> <p>4mA Calibrate 25492</p> </div> <div data-bbox="954 1176 1133 1270" style="background-color: black; color: white; padding: 5px;"> <p>20mA Calibrate 4555</p> </div> <p>The displayed value has no meaning, but is only used for internal records. Correct only by up and down Key operation, check the displayed value of ammeter (multimeter).</p> <hr/> <p>2. Set Zero : Press ↵; reset “Zero Point” which was set by the user.</p> <div data-bbox="760 1459 938 1554" style="background-color: black; color: white; padding: 5px;"> <p>Set zero Ent to set zero Reset zero</p> </div> <div data-bbox="954 1459 1133 1554" style="background-color: black; color: white; padding: 5px;"> <p>Set zero Waiting... SQ 88 Vel 0.035 f/s</p> </div> <p>After setting, return to the main interface and the flow is “0”. If you return to the main interface, the flow is not “0”, the setting is unsuccessful. Check whether the installation is correct or not.</p> <hr/> <p>3. Low flow cut : Flow rate falls below the low flow cutoff value.</p> <div data-bbox="760 1732 938 1827" style="background-color: black; color: white; padding: 5px;"> <p>Low flow cut 0.0500 f/s</p> </div> <p>This function can prevent that when the pump stops working and the liquid flows at a low speed in the pipe, data accumulation error caused by continuous reading of flow meter. Input is generally recommended 0.05f/s as the low flow cut-off point. The low flow cut-off value is independent of the measurement results.</p>

Previous Page

Calibration

Next Page

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

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

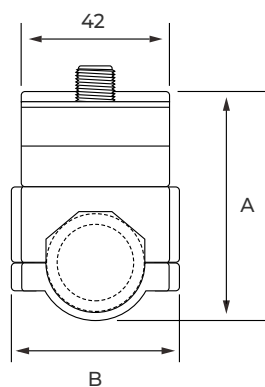
STEPS	DISPLAY	OPERATION						
<div style="background-color: #334d5d; color: white; padding: 10px; text-align: center; margin-bottom: 10px;">Setup Menu</div> <p style="text-align: center;">Press to Key</p> <div style="background-color: #334d5d; color: white; padding: 10px; text-align: center; margin-bottom: 10px;">Output Setting</div> <p style="text-align: center;">Next Page</p>	<div style="background-color: #334d5d; color: white; padding: 5px; margin-bottom: 10px;"> Setup menu 0. Pipe parameter 1. System setting 2. Calibration 3. Output setting 4. History data </div> <div style="background-color: #334d5d; color: white; padding: 5px;"> Output setting 0. RS485 Setup 1. 4-20mA range 2. Alarm value 3. OCT output 4. OCT multiplier </div>	<p>Press to display Setup menu.</p> <p>The following options are available (using the or buttons)</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">0. Pipe parameter</td> <td style="width: 50%;">2. Calibration</td> </tr> <tr> <td>1. System setting</td> <td>3. Output setting</td> </tr> </table> <p>Press , Select 3. Output setting, then to display:</p> <p>The following options are available (using the or buttons)</p> <p>0. RS 485 Setup</p> <div style="background-color: #334d5d; color: white; padding: 5px; margin-bottom: 10px;"> RS485 Setup 0. Network addr 1. RS485 Baudrate 2. RS485 Parity 3. RS485 Stopbits </div> <p>This window is used to set RS 485 serial port. It must match the equipment's connected parameters. First select baud rate: 2400, 4800, 9600, 19200 are selectable</p> <p>Then select : None. Data length : 8 Stop bit is fixed length. Factory default value for serial port parameter is "9600, 8, None,1"</p> <p>1. 4-20mA range</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: 1px solid black; padding: 5px;"> 4mA value 0.00 GPM </td> <td style="width: 50%; border: 1px solid black; padding: 5px;"> 20mA value 15.00 GPM </td> </tr> </table> <p>Set the Current Loop output value according to the flow value at 4mA, and 20mA. The flow unit is GPM.</p>	0. Pipe parameter	2. Calibration	1. System setting	3. Output setting	4mA value 0.00 GPM	20mA value 15.00 GPM
0. Pipe parameter	2. Calibration							
1. System setting	3. Output setting							
4mA value 0.00 GPM	20mA value 15.00 GPM							

STEPS	DISPLAY	OPERATION
	<p>Output setting</p> <ul style="list-style-type: none"> 0. RS485 Setup 1. 4-20mA range 2. Alarm value 3. OCT output 4. OCT multiplier 	<p>2. Alarm Value (Optional)</p> <p>Alarm value</p> <ul style="list-style-type: none"> 0. Low value 1. High value <p>Enter the low alarm value; any measured flow lower than the low value, will activate the alarm in the OCT hardware or relay output signal. Enter the high alarm value; any measured flow higher than the high value, will activate the alarm in the OCT hardware or relay output signal.</p> <hr/> <p>3. OCT output (Applicable to OCT output model)</p> <p>OCT output</p> <ul style="list-style-type: none"> 0.Total Pulse 1.Alarm output 2.No Signal <p>The OCT output in the flow meter is a kind of isolated collector open circuit output with programmable open and close qualifications. The user can program the open and close functions under the following conditions: the system alarm signals are being activated or the totalizer pulse is being transmitted. Pulses are cumulative output, and the equivalent of each pulse is 0.01L~ 100m3, It can be set through the menu. The maximum number of pulses output per second is 40.</p> <p>OCT Wiring Diagram:</p> <p>To select OCT output, an external 5-10K pull-up resistor shall be connected at the OCT + end; Add a 5-24vcd power supply at VCC and com ends, as shown in the figure:</p> <hr/> <p>4. OCT multiplier (Applicable to OCT output model)</p> <p>OCT multiplier</p> <ul style="list-style-type: none"> 0. x0.001 1. x0.01 2. x0.1 <p>Select OCT pulse output multiple</p>

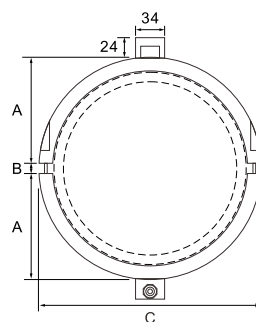
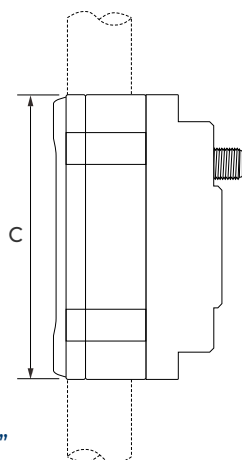
Data Logging Setup Menu

STEPS	DISPLAY	OPERATION
<p>Press to Key</p>	<p>Setup menu</p> <ul style="list-style-type: none"> 0. Pipe parameter 1. System setting 2. Calibration 3. Output setting 4. History data 	<p>Press to display Setup menu.</p> <p>The following options are available (using the or buttons)</p> <ul style="list-style-type: none"> 0. Pipe parameter 1. System setting 2. Calibration 3. Output setting 4. History data
	<p>History data</p> <ul style="list-style-type: none"> 0. By Day 1. By Month 2. By Year 	<p>Press , Select 4. History data, then to display:</p> <ul style="list-style-type: none"> 0. By Day : Display Totalizer flow for days. 1. By Month : Display Totalizer flow for months. 2. By Year : Display Totalizer flow for years.

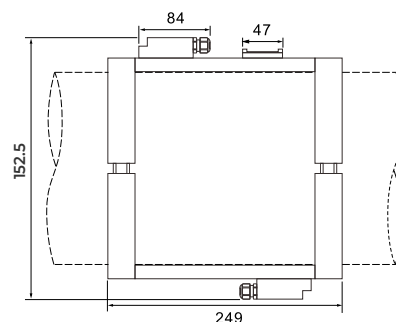
Dimensions



Pipe OD : 1/2" - 4"



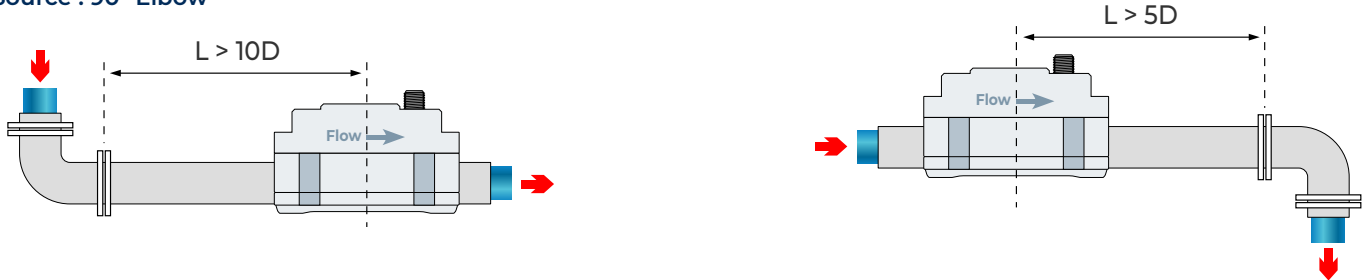
Pipe OD : 6"



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
UF500-80	3"	88-96	154	119	150
UF500-100	4"	108-116	177	143	174
UF500-150	6"	158-168	96.5	12 (Max)	205

Installation Positions

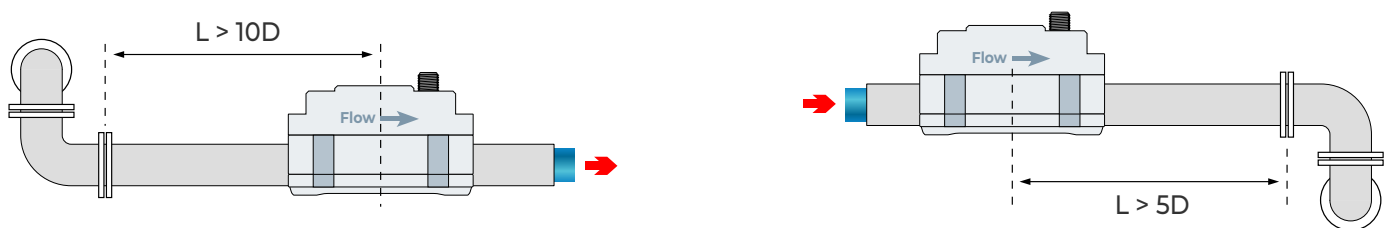
Source : 90° Elbow



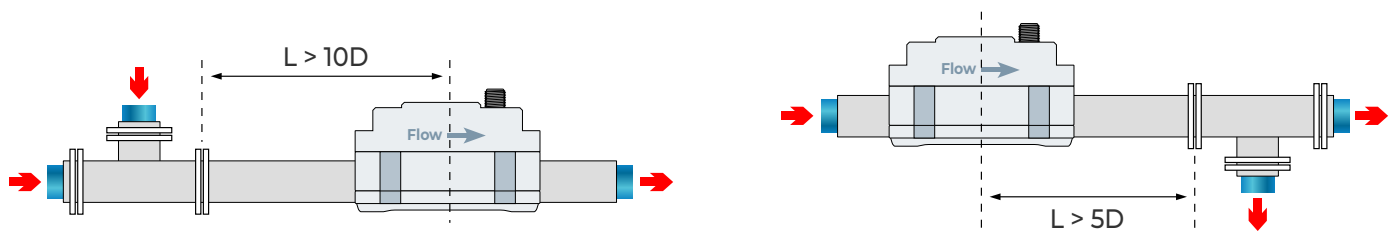
Source : 2 x 90° Elbow in One Plane



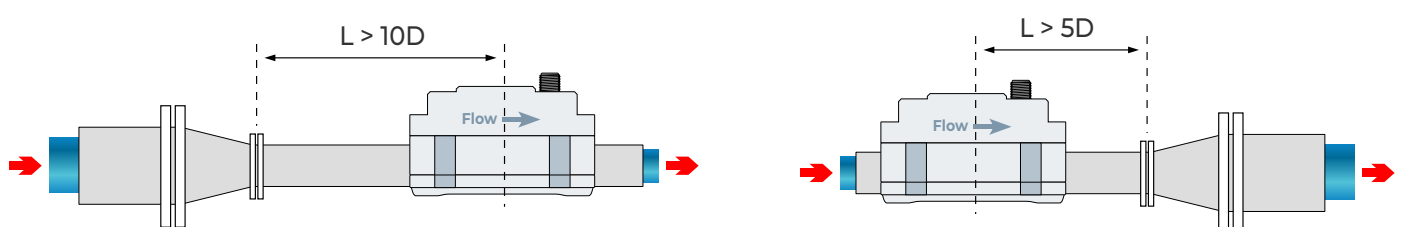
Source : 2 x 90° Elbow in Different Plane



Source : T-Section

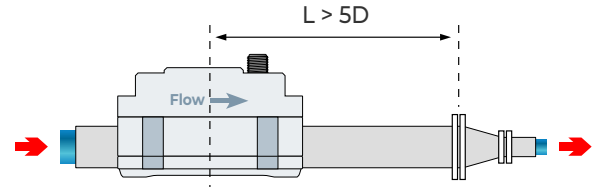
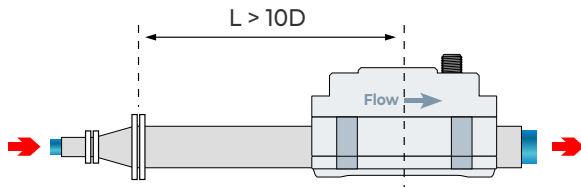


Source : Reducer

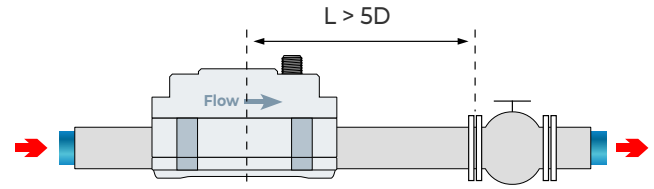
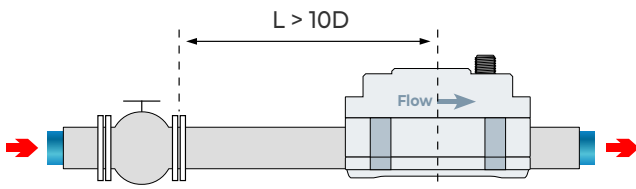


Installation Positions

Source : Diffuser



Source : Valve



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 year 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 date 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 PARTICULAR PURPOSE, ARE EXPRESSLY DISCLAIMED. The remedies of repair or replacement as stated above are the exclusive remedies for the breach of this warranty. IN NO EVENT SHALL LEVELPRO BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND INCLUDING PERSONAL OR REAL PROPERTY OF OR INJURY TO ANY PERSON. THIS WARRANTY CONSTITUTES THE FINAL, COMPLETE AND EXCLUSIVE STATEMENT OF WARRANTY TERMS AND NO PERSON IS AUTHORIZED TO MAKE ANY OTHER WARRANTIES OR REPRESENTATIONS ON BEHALF OF Icon Process Controls.

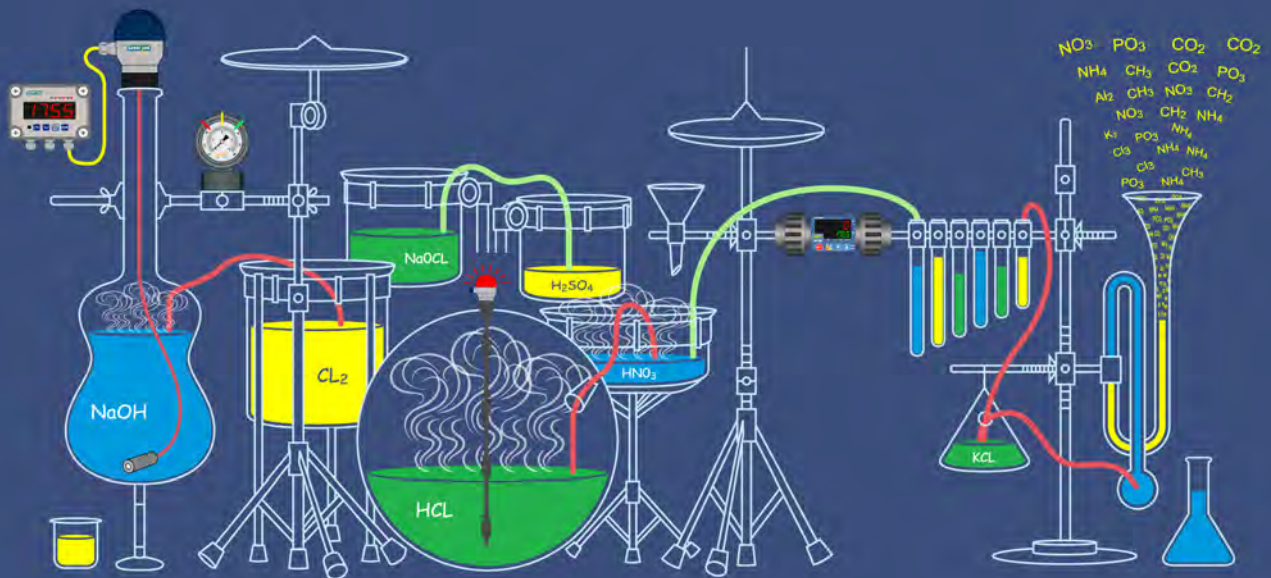
If any portion of this warranty is held to be invalid or unenforceable for any reason, such finding will not invalidate any other provision of this warranty.

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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