

SemperSonic™ Compact Transit Time Flow Meter, Integral and Remote Models

Features & Benefits

- Series UFTL provides easy and low cost installation by clamping on the outside of existing piping systems.
- Non-invasive system allows solids to pass through the pipe with no effect on meter. Y-strainers or filtering devices are not needed.
- Greater accuracy can be attained in applications consisting of entrained gases. The Series UFTL will automatically correct displayed flow rates and electronic outputs.
- Direct interface is provided to data collection systems via 4-20mA output and either - pulse or simulated turbine meter outputs that are proportional to fluid flow rate.
- UltraLink™ software utility allows configuration, calibration and troubleshooting of each meter.
- Series UFTL is a bi-directional flow measurement system. Multiple totalizers simultaneously operate to measure forward total, reverse total and net total.
- Designed to replace mechanical flowmeters in applications where liquid conditions tend to damage or impede mechanical flow meter operation. No maintenance is required.
- Series UFTL can be used on applications such as well water and other liquids with moderate amounts of suspended solids or aeration.

Description

Series UFTL UltraFlo flow meters clamp onto the outside of existing pipe and do not contact the internal liquid. This advanced product provides instantaneous rate and accumulated flows along with 4-20mA and pulse outputs. Inherent advantages over competitive technologies include ease of installation, fluid compatibility, immunity to suspended solids and gas pockets and a large, bi-directional measuring range. UFTL is housed in an enclosure suitable for outdoor mounting and is available with and without a local display. Integral mount transducers are available for pipes 2 inches [50 mm] and smaller. Pipe sizes from 1/2- inch [12 mm] through 100-inches [2540 mm] can be accommodated with remote mount transducers. A software utility is available for customer configuration and in-field calibration.

Specifications

Liquid Types: Most clean liquids or liquids containing moderate amounts of suspended solids or aeration.	selectable; Type- Non-ground referenced square wave; Amplitude- 100mVpp minimum/5VDC; Frequency range- 0-1,000Hz; Duty Cycle- 50% ± 10%.
Power Requirements: 11-30 VDC @ 0.25A	
Velocity: 0.1 to 40 FPS [0.03 to 12.4 MPS]	
Inputs/Outputs: 4-20 mA Output (standard output): Resolution of 12-bit for all outputs; Power-source; Insertion loss- 5V max; Loop impedance- 900 Ohms max.; Isolation- Can share ground common with power supply-isolated for piping system.	Display: Type 2 line x 8 character LCD; top row: 0.7" [18mm] tall, 7-segment; Bottom row: 0.35" [9mm] tall, 14-segment none; Rate 8 maximum rate digits, lead zero blanking; Total 8 maximum totalizer digits, exponential multipliers from -1 to +6
Turbine Frequency Output/TTL-Pulse Output: Switch	Units: Engineering Units: Feet, gallons, ft ³ , million-gal, barrels (liquors & oil), acre-feet, lbs., meters, m ³ , liters, million-liters, kg; Rate

Specifications Cont.

Units: sec, min, hr, day

Ambient Temperature:

General Purpose: 0 to +185°F [-20 to 85°C];
Hazardous Locations: 0 to 105°F [-20 to 40°C]

Liquid Temperature: 0 to 185° [-20 to 85°C]

Enclosure: NEMA 3 [Type 3] ABS or polycarbonate, CPVC, Ultem, brass or SS hardware, 3W x 6L x 2.5H inches [75W x 150L x 63Lmm], pipe mount

Transducer Type:

Clamp-on, uses time of flight ultrasonic

Pipe Sizes: 1/2" to 100" [12mm to 2540mm]

Pipe materials: Carbon steel, stainless steel, copper, and plastic

Accuracy: ±1% of reading

at rates above FPS [0.3 MPS]; ±0.01 FPS [0.003 MPS] of reading at rates lower than 1 FPS [0.3 MPS]

Response Time: 0.3 to 30 seconds, adjustable

Protection: Reverse-polarity, surge suppression

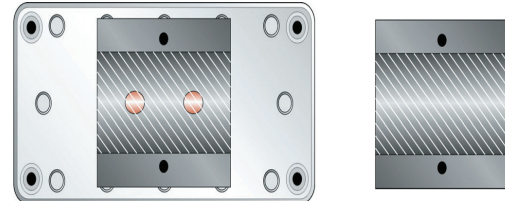
Approvals: General Requirements: ANSI/ISA 582.01; Hazardous Locations: ANSI/ISA 12.12.01; Class 1 Div 2, Groups C & D; CSA C22.2 No. 213, E79-15-95

UltraLink™ Utility:

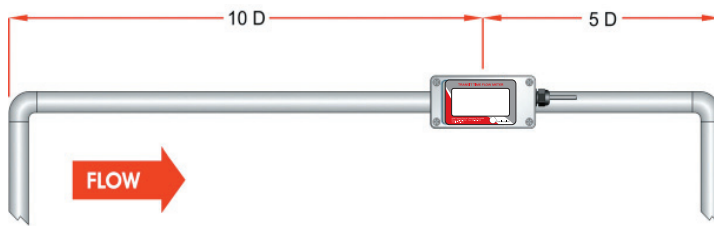
Windows® based software utility, requires serial communication cable Windows® 95, 98, 2000, and XP compatible

Product Installation

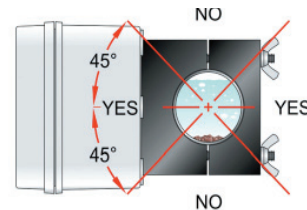
- 1) Apply couplant grease to the transducer surfaces that contact the pipe.
- 2) Mount the flowmeter onto the pipe and secure with two wing nuts or clamps
- 3) Connect and apply DC power.
- 4) Connect the 4-20mA, frequency or both outputs to the monitoring system.



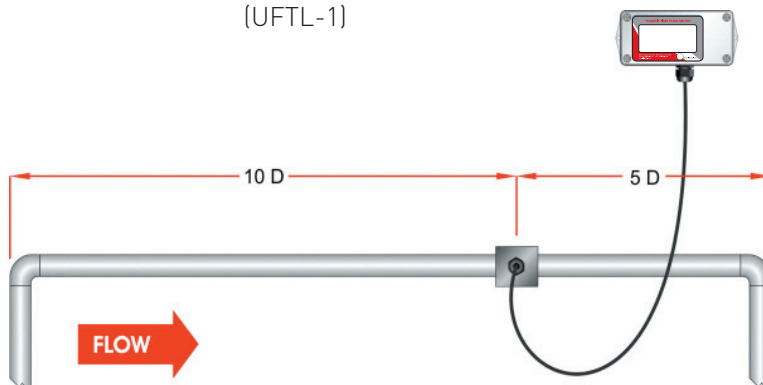
Acoustic Couplant Application



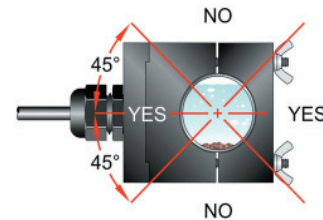
Integral Mounting
(UFTL-1)



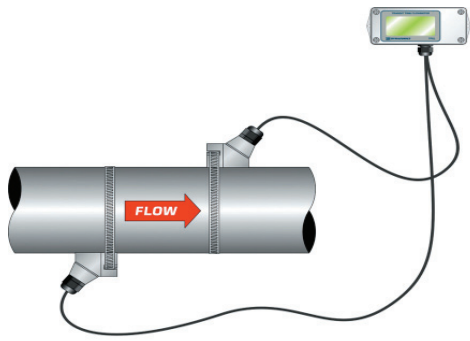
Integral Mounting Orientation
(UFTL-1)



Remote Mounting-Small Pipe
(UFTL- R2)

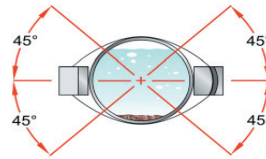


Remote Small Pipe Transducer
Mounting Orientation
(UFTL- R2)



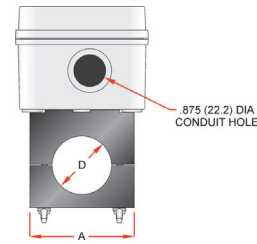
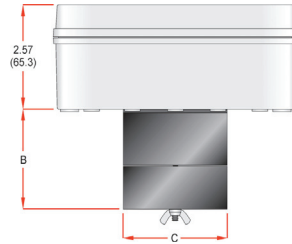
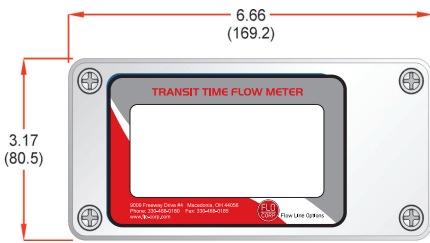
Remote Mounting-Large Pipe
(UFTL- R1)

Remote Large Pipe Transducer
Mounting Orientation (UFTL-R1)

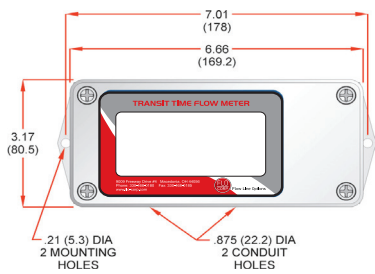


Dimensions

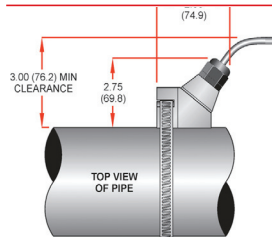
INTEGRAL UFTL-1 (Pipe Sizes 1/2" - 2")



REMOTE



UFTL-R1 (Pipe Sizes 2" & Up)



UFTL-R2 (Pipe Sizes 1/2"-2")



Pipe Size	Pipe material	A	B	C	D	Measuring Range
1/2"	ANSI	2.46 (62.5)	1.86 (47.2)	2.50 (63.5)	.840 (21.3)	.5-25 GPM; 2-100 LPM
	Copper	2.46 (62.5)	2.13 (54.1)	3.33 (84.6)	.625 (15.9)	.5-25 GPM; 2-100 LPM
	Tubing	2.46 (62.5)	1.99 (50.5)	3.33 (84.6)	.500 (12.7)	.5-25 GPM; 2-100 LPM
3/4"	ANSI	2.46 (62.5)	2.07 (52.6)	2.66(67.6)	1.050 (26.7)	1-55 GPM; 4-200 LPM
	Copper	2.46 (62.5)	2.25 (57.2)	3.56 (90.4)	.875 (22.2)	1-55 GPM; 4-200 LPM
	Tubing	2.46 (62.5)	2.12 (53.8)	3.56 (90.4)	.750 (19.0)	1-55 GPM; 4-200 LPM
1"	ANSI	2.46 (62.5)	2.42 (61.5)	2.86 (72.6)	1.315 (33.4)	2-100 GPM; 8-375 LPM
	Copper	2.46 (62.5)	2.37 (60.2)	3.80 (96.5)	1.125 (28.6)	2-100 GPM; 8-375 LPM
	Tubing	2.46 (62.5)	2.25 (57.2)	3.80 (96.5)	1.000 (25.4)	2-100 GPM; 8-375 LPM
1-1/4"	ANSI	2.79 (70.9)	2.68 (68.0)	3.14 (79.8)	1.660 (42.2)	4-150 GPM; 15-570 LPM
	Copper	2.46 (62.5)	2.50 (63.5)	4.04 (102.6)	1.375 (34.9)	4-150 GPM; 15-570 LPM
	Tubing	2.46 (62.5)	2.37 (60.2)	4.04 (102.6)	1.250 (31.8)	4-150 GPM; 15-570 LPM
1-1/2"	ANSI	3.02 (76.7)	2.92 (74.2)	3.33 (84.6)	1.900 (48.3)	5-220 GPM; 18-830 LPM
	Copper	2.71(68.8)	2.63 (66.8)	4.28 (108.7)	1.625 (41.3)	5-220 GPM; 18-830 LPM
	Tubing	2.71 (68.8)	2.49 (63.2)	4.28 (108.7)	1.500 (38.1)	5-220 GPM; 18-830 LPM
2"	ANSI	3.50 (88.9)	3.42 (86.9)	3.69 (93.7)	2.375 (60.3)	8-400 GPM; 30-1500 LPM
	Copper	3.21 (81.5)	3.38 (85.9)	4.75 (120.7)	2.125 (54.0)	8-400 GPM; 30-1500 LPM
	Tubing	3.21 (81.5)	3.24 (82.3)	4.75 (120.7)	2.000 (50.8)	8-400 GPM; 30-1500 LPM

* Mechanical Dimensions: Inches (mm)

Ordering Information

FLO-CORP MODEL NUMBER BUILDER

For Assistance Call **330.468.0180**

Use the diagram below, working from left to right to construct your Flo-Corp Model Number.
Simply match the category number to the corresponding box number.

SemperSonic™ Compact Transit Time Flow Meter with Integral System (Pipe Sizes 1/2" - 2")

Model Number Builder

UFTL - 1 - **-**

UFTL-1 _____

Pipe Size (1) _____

04) 1/2"
06) 3/4"
08) 1"
10) 1 1/4"
12) 1 1/2"
16) 2"

Pipe Type _____

A) ANSI Pipe
C) Copper Pipe
T) Std. Tubing

Connector Options _____

N) 1/2 Inch Conduit Hole
A) Water-tight Cable Clamp

The diagram shows a model number builder for the SemperSonic flow meter. At the top, the model number format is shown as 'UFTL - 1 - [] [] [] - []'. Below this, the components are listed with lines connecting them to the corresponding boxes in the model number format. 'UFTL-1' is connected to the first box. 'Pipe Size (1)' is connected to the second box. 'Pipe Type' is connected to the third box. 'Connector Options' is connected to the fourth box. The 'Pipe Size (1)' and 'Pipe Type' sections include a list of options with their corresponding numbers.

Ordering Notes
1) Select the best configuration based on your requirements.

SemperSonic™ Compact Transit Time Flow Meter with Remote System (Pipe Sizes 2" & Up)

Model Number Builder

UFTL - R1 - - -

UFTL-R1

Cable Length (1)(2)

- 020)** 20 feet (6.1 m)
- 050)** 50 feet (15 m)
- 100)** 100 feet (30 m)

Connector Options

- N)** 1/2 Inch Conduit Hole
- A)** Water-tight Cable Clamp

Additional Options

- N)** No Additional Options
- F)** CSA Class I Div 1, Groups C & D (I.S. Barrier)
- P)** Portable (I.S.)

Ordering Notes

- 1) Select the best configuration based on your requirements.
- 2) For additional cable, add \$2/ft in 10 ft. increments (Max. Length: 990 feet).

SemperSonic™ Compact Transit Time Flow Meter with Remote System (Pipe Sizes 1/2" - 2")

Model Number Builder

UFTL - R2 - - -

UFTL-R2

Pipe Size (1)

- 04) 1/2"
- 06) 3/4"
- 08) 1"
- 10) 1 1/4"
- 12) 1 1/2"
- 16) 2"

Pipe Type

- A) ANSI Pipe
- C) Copper Pipe
- T) Std. Tubing

Cable Length (2)

- 020) 20 feet (6.1 m)
- 050) 50 feet (15 m)
- 100) 100 feet (30 m)

Connector Options

- N) 1/2 Inch Conduit Hole
- A) Water-tight Cable Clamp

Ordering Notes

1) Select the best configuration based on your requirements.
 2) For additional cable, add \$2/ft in 10 ft. increments (Max. Length: 990 feet).