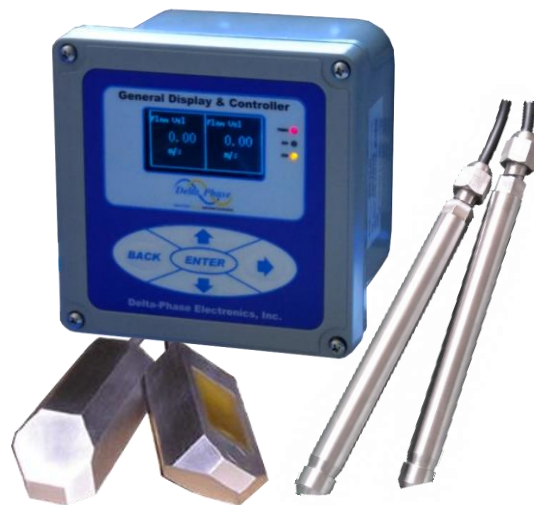# ULTRASONIC FLOW

Alpha3000: Ultrasonic Transit-Time Flowmeter

Digital technology for optimized measures

TYPICAL APPLICATIONS

➢ Water, sea water, river water.
➢ Industry process water
➢ Outlet of WWTP

The Alpha 3000 Transit-Time flowmeter combines digital signal processing (DSP) with correlation detection methods. The Alpha 3000 is designed to work on clean and dirty fluids ranging from distilled products to multi-phase crude oil and water mixtures. Difficult applications include oil production, cryogenic and custody transfer. Available in single channel or multi-channel, this Transit-Time flow measurement instrument is configurable as a clamp-on or insertion model. When combined with Mass Flow Computer temperature or density compensations with RS485 communications can be realized.

Other Features Include:

❖ No moving parts to wear out.

❖ The non-intrusive clamp-on transducer can be installed without flow interruption to insure leak free measurements with zero pressure drop.

❖ Insertion transducer can be installed with hot-tap alignment or spool piece for custody transfer applications.

❖ High accuracy

❖ Optional:

  ■ Dual Channel measuring system;

  ■ Spool Piece or flow tube fabrication.

  ■ Insertion sensor.

SPECIFICATIONS

Performance Specification

Flow Range:	Up to ±0.1 to 50 FPS (±0.03 to 15m/s) Consult factory for higher range.
Accuracy:	To ±0.5% of velocity or ±0.05 FPS (0.0152MPS), typical on a calibrated system/digital output. (Depending on fluid conditions)
Sensitivity:	0.001 FPS (0.3 mm per sec) at any flow rate including zero.
Linearity:	To +/-.25 % of scale, digital output.
Fluid:	From clean liquids to multiphase liquids with gases. (Consult factory for multi- phase liquids with gases applications.)

Functional Specification

Power Supply:	90 to 240 VAC, 50/60 Hz, 18 to 36 VDC (Optional)
Keypad:	5-key with tactile action.
Display:	OLED screen, include present and total flow, velocity, signal strength, and ΔT.
Outputs:	Analog 4 to 20MA (Max. 600Ω) Isolated Pulse Two SPDT Relays for limit or system alarm, 5A@250VAC / 5A@30VDC
Digital Interface	RS485 Modbus RTU

Physical Specification

Transmitter:	IP66, Polycarbonate material
Temperature:	-40 to 158 °F (-40 to 70 °C), electronic unit.
Humidity:	0 to 100% R.H.

Transducer Specification

Temperature:	-40 to 158°F (-40 to 70°C)
Wetted Materials:	316 SS and plastic

π style Spool piece

Pipe size:	1/2 to 3 inch (15mm to 80mm)
Materials:	Stainless Steel
Encloser Sealing IP68	

Tilted Diameter Spool piece

Pipe size:	4 to 12 inch (100mm to 300mm)
Materials:	316SS
Encloser Sealing IP68	

Clamp-On Sensor

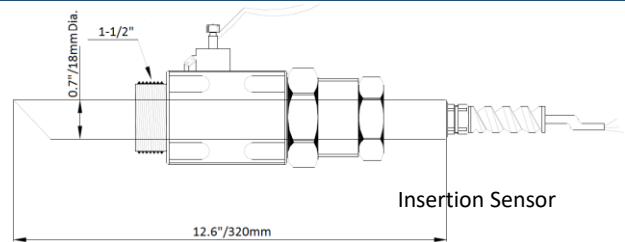|	
Pipe size:	2 to 80 inch (50mm to 2000mm)
Materials:	316SS
Encloser Sealing IP68	

Insertion Sensor

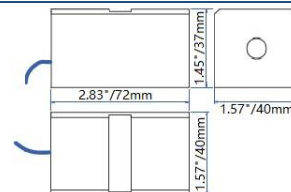|	
Pipe size:	3 to 160 inch (80mm to 4000mm)
Materials:	316SS
Encloser Sealing IP68	

DIMENSION
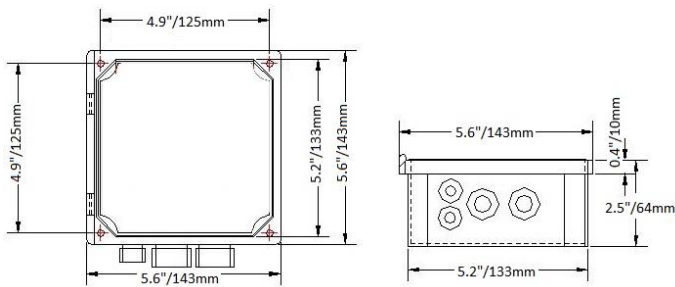
Transmitter

Insertion Sensor

Clamp-On Sensor

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