



Turbo-Flo™ probes offer the precision of turbine technology with rugged construction. The practical design of the probe includes a bluff bar which protects the turbine from foreign materials in the stream as well as from over insertion. Installation is simple and does not require special fittings. The Turbo-Flo™ probe may be installed in standard pipe tees, through pipe saddles, welding spuds and 1½" full opening ball or gate valves.

Features

- PVC non-metallic construction is ideal for installation in PVC or other non-metallic piping.
- PVC connector fittings.
- Excellent chemical resistance.
- Adjustable insertion length for 1½ to 10 inch pipe.
- Rugged construction for industrial environments.
- No external power required.
- Wide measuring range with 30:1 turndown.
- Low mass turbines offer improved sensitivity and long life.
- Use standard pipe fittings for installation.

Principle of Operation

The turbine is positioned in the mid-section of the pipe with its axis of rotation parallel with the flow stream. Fluid velocity causes the turbine, which has a ring magnet inside of its hub, to rotate in proportion to flow rate. As the turbine rotates, the magnetic field passes through a coil in the probe body, generating a pulse output in proportion to the turbine rotation speed. Flow volume is then determined from fluid velocity measurement and pipe diameter information.

Applications

- Water and other aqueous solutions
- Ideal for PVC piping systems
- Water treatment systems
- Groundwater monitoring
- Irrigation systems

Options

Probe with 15 feet or more of PVC jacketed, metal braided, shielded cable for connection to Wall Mounted display or transmitter. Cable lengths other than 15ft to be specified at time of order.



LCD rate/total display only Does not require external power. Probe Mount option: 15900 Wall Mount: TF-15900



The ERDCO 15895 is a highly configurable field display that includes:

- Flow Rate and Total
- Definable units of measure
- External power not required for display (SP version)
- 4-20 mA loop powered Output (LP version)
- Through-window button programming
- Backlit display
- Data logging function
- UV resistant heavy duty polycarbonate NEMA-4X, IP-65 compliant Enclosure with screw-on gasketed cover.



Probe Mount: 15895-SP
15895-LP
Wall Mount: TF-15895-SP
TF-15895-LP



Two wire 4-20 mA transmitter. Corrosion resistant die cast aluminum NEMA-4X, IP-65 enclosure. Probe Mount: 15325
Wall Mount: TF-15385

PVC Non-Metallic Probes

Sizing Data

Pipe Size		GPM Range		Ft/Gallon	Pulse/Gallon
(inch)	ID (inch)	Threshold	Max		
1.5	1.610	4	120	9.454	21.46
2	2.067	6	180	5.736	13.08
2.5	2.469	8	240	4.020	9.648
3	3.068	12	360	2.593	7.131
3.5	3.548	16	500	1.947	5.160
4	4.026	20	600	1.512	3.840
5	5.047	32	1000	0.962	2.60
6	6.065	46	1400	0.666	1.88
8	7.981	80	2400	0.384	1.00
10	10.020	125	3800	0.244	0.625

Specifications

Accuracy: ±1.0%
Repeatability: ±0.5%
Linearity: ±0.5%
Turndown: 30:1

Insertion Length: 02 = 2 inches
 06 = 6 inches
 12 = 12 inches

Threshold: 0.5 ft/s or
 $1.22 \times \text{ID}^2 = \text{GPM}$

Liquid Velocity: $\text{ft/s} = \frac{0.408 \times \text{GPM}}{\text{pipe ID}^2}$

Point Velocity = 2.625 pulses/ft/s

Pulse/gallon correction for uncharted pipe diameters =
 $\frac{\text{ID}^2 \text{ charted pipe}}{\text{ID}^2 \text{ uncharted pipe}} \times \text{Pulse/gallon charted pipe}$

Materials of Construction:

Probe: PVC
Connector: PVC
Turbine: Delrin® or Polypropylene
O-rings: Buna-n or Viton®
Temperature Limits: 140°F(60°C)
Pressure Limits: 145 psig(10bar)@ 75°F(24°C)

Turbo-Flo™ part number construction

<u>25</u> Series	<u>4</u> Body Mat'l	<u>06</u> Size	<u>G</u> Connector	<u>3</u> Turbine	<u>2</u> Shaft	<u>7</u> O-ring	-	<u>1</u> Option	<u>5</u>	<u>3</u>	<u>2</u>	<u>5</u>
25-Non-Metallic	4-PVC	02-2" 06-6"	G-PVC 1 1/4"	3-Delrin® 5-Polypro	2-316ss 4-PVC	7-Buna 8-Viton®						

When probe mountable electronics are to be factory installed on the probe, a dash is added to the probe model number followed by five numeric digits for the accessory to be added.
 The example depicts an 18" 304ss probe with 303SS 1 1/2" recessed connector, Delrin turbine, 316ss shaft, buna o-rings including a probe mounted 15325 4-20 mA transmitter.

Electronics available for probe mounting:
 15325 4-20 mA Transmitter
 15895-SP Self Powered Rate/Total Display
 Does not require external power.

15895-LP Loop Powered 4-20mA output.
 Requires 24 VDC.

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