Pitot Tube Insertion Meters Engineering and Technical Data

## F-300 <br> U-300 D-300

## Clamp-on Insertion Mount




## Features:

- 1 " through 8 " pipe sizes.
- Flow rates from 4 to 1900 GPM.
- Resistant PVDF internal float materials.
- One piece machined acrylic body.
- Mounts to existing pipe. No unions or adapters required.
- Models for mounting on horizontal or vertical pipe.
- Mounting clamps and gasket included.
- NSF Listed


## Specifications:

| Pipe Requirements | IPS inch pipe size (ASTM-D-1785) |
| :--- | :--- |
| Max PSI (bar) $75 \mathrm{PSI}\left(5.2\right.$ bar) at $70^{\circ} \mathrm{F}\left(21^{\circ} \mathrm{C}\right)$ |  |
| Fluid Temp Range | $0^{\circ}$ to $190^{\circ} \mathrm{F} /-18$ to $88^{\circ} \mathrm{C} @ 0$ PSI |
| Ambient Temp Range | $0^{\circ}$ TO $110^{\circ} \mathrm{F} /-18$ TO $43^{\circ} \mathrm{C}$ | | Note: Temperature and Pressure ratings for meter only. Actual pipe rating |
| :--- |
| may vary. |

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\begin{array}{ll}\text { Accuracy } & \begin{array}{l}1^{\prime \prime}, 1.25^{\prime \prime}, 1.5^{\prime \prime} \text { and } 2^{\prime \prime} \text { pipe size: } 5 \% \text { of rate } \\
2.5^{\prime \prime}, 3^{\prime \prime}, 4^{\prime \prime}, 6^{\prime \prime}, \text { and } 8^{\prime \prime} \text { pipe size: } 10 \% \text { of rate }\end{array}
$$ <br>
Power Requirement \& No Power Required <br>

Enclosure \& NEMA 4 \mathrm{X}(IP56)\end{array}\right\}\)| Approximate Ship Wt$1^{\prime \prime}-4 "$ units: $1 \mathrm{lb}(.45 \mathrm{~kg})$ <br> $6^{\prime \prime}-8^{\prime \prime}$ units: $2 \mathrm{lb}(.91 \mathrm{~kg})$ |
| :--- |

Materials of Construction:

| Meter Body | Cast Acrylic |
| :--- | :--- |
| Float | PVDF |

Gasket
Pipe Clamp

Neoprene
316 Series Stainless Steel

## Installation Requirements:

Minimum Straight Pipe Length Requirements
The meter's accuracy is affected by disturbances such as pumps, elbows, tees, valves, etc., in the flow stream. Install the meter in a straight run of pipe as far as possible from any disturbances.

## EXAMPLE OF MINIMUM STRAIGHT PIPE LENGTH

| Nominal Pipe Diameter | Minimum Inlet Pipe Length | Minimum Outlet Pipe Length |
| :---: | :---: | :---: |
| 4 inch | 20 inch $\left(5^{\prime \prime} \times 4\right.$ ") | 8 inch $\left(2^{\prime \prime} \times 4\right.$ ") |
| 6 inch | 30 inch $\left(5^{\prime \prime} \times 6 "\right)$ | 12 inch $\left(2^{\prime \prime} \times 6\right.$ ") |

## Mounting location

- The meter is designed to withstand outdoor conditions.
- F series meters must be mounted at the vertical (twelve o'clock) position on horizontal pipe only.
- $\quad U \& D$ series meters must be mounted on vertical pipe only.
- The pipe must be completely full of water at all times.

- See the minimum straight length of pipe requirement chart above.
- The meter can accurately measure flow from one direction only.
- U-series meters measure upward flows only.
- D-series meters measure downward flows only.


## Dimensions:



| F-300 Series |  |  |
| :---: | :---: | :---: |
| Pipe Size | A | B |
| $1^{\prime \prime}$ | $6^{\prime \prime}$ | $2-7 / 16^{\prime \prime}$ |
| $1-1 / 4^{\prime \prime}$ | $6^{\prime \prime}$ | $2-7 / 16^{\prime \prime}$ |
| $1-1 / 2^{\prime \prime}$ | $6^{\prime \prime}$ | $2-7 / 16^{\prime \prime}$ |
| $2^{\prime \prime}$ | $6^{\prime \prime}$ | $2-7 / 16^{\prime \prime}$ |
| $2-1 / 2^{\prime \prime}$ | $6^{\prime \prime}$ | $2-7 / 16^{\prime \prime}$ |
| $3^{\prime \prime}$ | $6^{\prime \prime}$ | $2-7 / 16^{\prime \prime}$ |
| $4^{\prime \prime}$ | $6^{\prime \prime}$ | $2-7 / 16^{\prime \prime}$ |
| $6^{\prime \prime}$ | $7-1 / 2^{\prime \prime}$ | $2-7 / 16^{\prime \prime}$ |
| $8^{\prime \prime}$ | $7-1 / 2^{\prime \prime}$ | $2-7 / 16^{\prime \prime}$ |



## Flow Stream Requirements:

Low viscosity fluids with a specific gravity of 1.0.
Model Number Matrix:

| Meter Series |  |
| :--- | :--- |
| F Horizontal Pipe Mount <br> $U=$ Vertical Pipe with Upward Flow <br> $\mathrm{D}=$ Vertical Pipe with Downward Flow |  |
| $\qquad$Meter Series <br> $30=300$ series meter |  |



## Pipe Size, Flow Range and Display Model Options:

Models for Mounting on Horizontal Pipe
Models for U.S. IPS Sch40 \& 80 Pipe (ASTM 1785)
Display in U.S. Gallons per Minute

| Pipe Size | Sch40 | Sch80 | Model Number |
| :---: | :---: | :---: | :---: |
| $1^{\prime \prime}$ | 5 to 35 | 4 to 26 | F-30100P |
| $1-1 / 4^{\prime \prime}$ | 9 to 50 | 8 to 40 | F-30125P |
| $1-1 / 2^{\prime \prime}$ | 10 to 70 | 10 to 60 | F-30150P |
| $2^{\prime \prime}$ | 20 to 120 | 18 to 100 | F-30200P |
| $2-1 / 2^{\prime \prime}$ | 29 to 150 | 25 to 130 | F-30250P |
| $3^{\prime \prime}$ | 45 to 240 | 40 to 215 | F-30300P |
| $4^{\prime \prime}$ | 75 to 420 | 70 to 400 | F-30400P |
| $6^{\prime \prime}$ | 170 to 1100 | 160 to 1000 | F-30600P |
| $8^{\prime \prime}$ | 300 to 2200 | 275 to 1950 | F-30800P |

Models for Mounting on Vertical Pipe
Models for U.S. IPS Sch40 \& 80 Pipe (ASTM 1785)
Display in U.S. Gallons per Minute

| Pipe Size | Sch40 | Sch80 | Flow Direction | Model Number |
| :---: | :---: | :---: | :---: | :---: |
| $1-1 / 2^{\prime \prime}$ | 10 to 60 | 10 to 50 | UP | U-30150P |
| $1-1 / 2^{\prime \prime}$ | 10 to 60 | 10 to 50 | DOWN | D-30150P |
| $2^{\prime \prime}$ | 20 to 110 | 20 to 100 | UP | U-30200P |
| $2^{\prime \prime}$ | 20 to 110 | 20 to 100 | DOWN | D-30200P |

