# Blue-White®

**Industries, Ltd.**

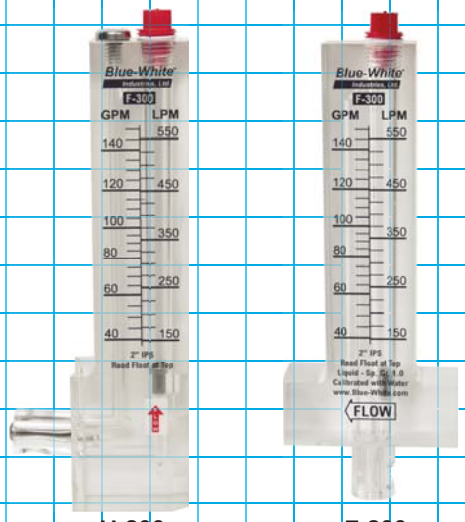
Pitot Tube Insertion Meters

Engineering and Technical Data

# F-300
# U-300
# D-300

Clamp-on Insertion Mount

Dual GPM / LPM scale




U-300 F-300

## Features:

- **Dual GPM/LPM scale printed on both sides of the meter.**
- **1” through 8” pipe sizes.**
- **Flow rates from 2 to 1900 GPM (8 to 7200 LPM).**
- **Corrosion resistant 316SS or PTFE 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.**

## Specifications:

**Pipe Requirements:** ..... IPS inch pipe size (ASTM-D-1785)
**Max. Psi (bar):** ..... 150 PSI (10.3 bar) @ 70° F (21° C)
**Fluid temp. range:** ..... 32° to 110° F/ 190° F (88° C) @ 0 PSI
**Ambient temp. range:** ...32° to 110° F/ -10° to 43° C
***Note**: Temperature & Pressure ratings of meter only. Actual pipe rating may vary.*

**Full scale accuracy:** ..... +/- 10%
**Power requirement:** ..... No power required
**Enclosure:** ..... NEMA 4X (IP56)
**Approximate shipping wt:** ... 1”-4” units: 1 lb. (.45 kg)
6”-8”units: 2 lb. (.91 kg)

## Materials of Construction:

**Meter Body:** .....Cast Acrylic
**Float:** .....Standard range models = 316SS
Low range models = PTFE

**Gasket:** ..... Neoprene
**Pipe Clamp:** .....300 series Stainless Steel
**Pitot screw:** .....1” thru 2” models only. 300 series stainless Steel

## Installation Requirements:

### Minimum Straight Pipe Length Requirements

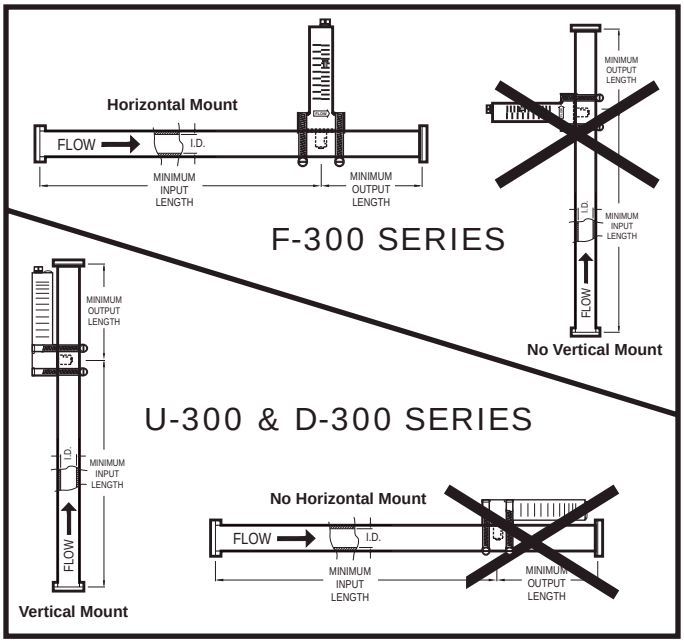
The meter’s accuracy is affected by disturbances such as pumps, elbows, tees, valves, etc., in the flow stream. Install the meter in a straight run of pipe **as far as possible** from any disturbances. The distance required for accuracy is 10 times the nominal pipe diameter before the meter and 4 times the nominal pipe diameter after the meter.

**Example of Minimum Straight Pipe Length Requirements**

| Nominal Pipe Diameter | Minimum Inlet Pipe Length | Minimum Outlet Pipe Length |
|---|---|---|
| 3 inch | 30 inch (10 X 3”) | 12 inch (4 X 3”) |
| 1-1/2 inch | 15 inch (10 x 1.5”) | 6 inch (4 x 1.5”) |
| 6 inch | 60 inch (10 x 6”) | 24 inch (4 x 6”) |

### 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.
- 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.

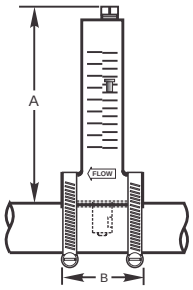


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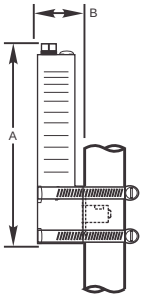
## Pitot Tube Insertion Meters

## Dimensions:

**F-300 Series**



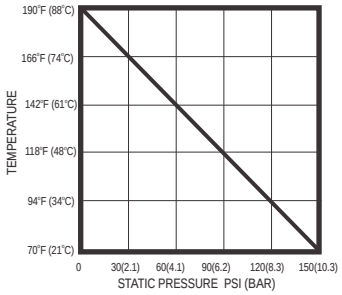

| Pipe Size | A | B |
|---|---|---|
| 1” | 6” | 2-7/16” |
| 1-1/4” | 6” | 2-7/16” |
| 1-1/2” | 6” | 2-7/16” |
| 2” | 6” | 2-7/16” |
| 2-1/2” | 6” | 2-7/16” |
| 3” | 6” | 2-7/16” |
| 4” | 6” | 2-7/16” |
| 6” | 7-1/2” | 2-7/16” |
| 8” | 7-1/2” | 2-7/16” |




**U/D-300 Series**

| Pipe Size | A | B |
|---|---|---|
| 1-1/2” | 6” | 1-9/16” |
| 2” | 6” | 1-9/16” |

**Maximum Temperature vs. Pressure**




## Flow Stream Requirements:

Low viscosity fluids with a specific gravity of 1.0.

## Model Number Matrix:

**F - 30 150 P R**

**Meter Series**
**F** = Horizontal Pipe Mount
**U** = Vertical Pipe with Upward Flow
**D** = Vertical Pipe with Downward Flow

**Meter Series**
**30** = 300 series meter

**Pipe Size**
**100 =** 1”
**125 =** 1-1/4”
**150** = 1-1/2”
**200** = 2”
**250** = 2-1/2”
**300** = 3”
**400** = 4”
**600** = 6”
**800** = 8”

**Pipe size, type and saddle material**
**P** = Sch 40 IPS Pipe (ASTM-D-1785)
**T** = Copper Tubing type K or type L

**Calibration Flow Range**
**NONE** = Standard Range
**R** = Reduced flow range

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

### Models for Mounting on Horizontal Pipe

#### Models for U.S. IPS Sch40 Pipe (ASTM 1785)

Display in U.S. Gallons and Liters per Minute

| Pipe Size | GPM Flow Range | LPM Flow Range | Model Number |
|---|---|---|---|
| 1” | 5 to 35 | 20 to 140 | **F-30100P** |
| 1” | 2 to 10 | 8 to 38 | **F-30100PR** |
| 1-1/4” | 15 to 75 | 60 to 280 | **F-30125P** |
| 1-1/4” | 5 to 35 | 30 to 130 | **F-30125PR** |
| 1-1/2” | 20 to 100 | 75 to 375 | **F-30150P** |
| 1-1/2” | 9 to 30 | 30 to 110 | **F-30150PR** |
| 2” | 40 to 150 | 150 to 550 | **F-30200P** |
| 2” | 15 to 70 | 60 to 260 | **F-30200PR** |
| 2-1/2” | 60 to 240 | 225 to 900 | **F-30250P** |
| 3” | 80 to 300 | 300 to 1125 | **F-30300P** |
| 3” | 40 to 140 | 160 to 520 | **F-30300PR** |
| 4” | 125 to 500 | 550 to 2000 | **F-30400P** |
| 6” | 250 to 1050 | 900 to 3900 | **F-30600P** |
| 8” | 500 to 1900 | 2000 to 7200 | **F-30800P** |

#### Models for Copper Tubing types K & L

Display in U.S. Gallons and Liters per Minute

| Pipe Size | GPM Flow Range | LPM Flow Range | Model Number |
|---|---|---|---|
| 1” | 5 to 35 | 20 to 140 | **F-30100T** |
| 1” | 2 to 10 | 8 to 38 | **F-30100TR** |
| 1-1/4” | 15 to 75 | 60 to 280 | **F-30125T** |
| 1-1/4” | 5 to 35 | 30 to 130 | **F-30125TR** |
| 1-1/2” | 20 to 100 | 75 to 375 | **F-30150T** |
| 1-1/2” | 9 to 30 | 30 to 110 | **F-30150TR** |
| 2” | 40 to 150 | 150 to 550 | **F-30200T** |
| 2” | 15 to 70 | 60 to 260 | **F-30200TR** |
| 2-1/2” | 60 to 240 | 225 to 900 | **F-30250T** |
| 3” | 80 to 300 | 300 to 1125 | **F-30300T** |
| 3” | 40 to 140 | 160 to 520 | **F-30300TR** |
| 4” | 125 to 500 | 550 to 2000 | **F-30400T** |
| 6” | 250 to 1050 | 900 to 3900 | **F-30600T** |
| 8” | 500 to 1900 | 2000 to 7200 | **F-30800T** |

### Models for Mounting on Vertical Pipe

#### Models for U.S. IPS Sch40 Pipe (ASTM 1785)

Display in U.S. Gallons and Liters per Minute

| Pipe Size | GPM Flow Range | LPM Flow Range | Flow Direction | Model Number |
|---|---|---|---|---|
| 1-1/2” | 20 to 100 | 75 to 375 | UP | **U-30150P** |
| 1-1/2” | 20 to 100 | 75 to 375 | DOWN | **D-30150P** |
| 1-1/2” | 9 to 30 | 30 to 120 | UP | **U-30150PR** |
| 1-1/2” | 9 to 30 | 30 to 120 | DOWN | **D-30150PR** |
| 2” | 40 to 150 | 150 to 550 | UP | **U-30200P** |
| 2” | 40 to 150 | 150 to 550 | DOWN | **D-30200P** |
| 2” | 18 to 70 | 70 to 280 | UP | **U-30200PR** |
| 2” | 18 to 70 | 70 to 280 | DOWN | **D-30200PR** |

#### Models for Copper Tubing types K & L

Display in U.S. Gallons and Liters per Minute

| Pipe Size | GPM Flow Range | LPM Flow Range | Flow Direction | Model Number |
|---|---|---|---|---|
| 1-1/2” | 20 to 100 | 75 to 375 | UP | **U-30150T** |
| 1-1/2” | 20 to 100 | 75 to 375 | DOWN | **D-30150T** |
| 1-1/2” | 9 to 30 | 30 to 120 | UP | **U-30150TR** |
| 1-1/2” | 9 to 30 | 30 to 120 | DOWN | **D-30150TR** |
| 2” | 40 to 150 | 150 to 550 | UP | **U-30200T** |
| 2” | 40 to 150 | 150 to 550 | DOWN | **D-30200T** |
| 2” | 18 to 70 | 70 to 280 | UP | **U-30200TR** |
| 2” | 18 to 70 | 70 to 280 | DOWN | **D-30200TR** |


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