## F-2000 / F-1000 PIPE FITTING MANUAL



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Note: Installation information contained herein applies to both F-1000 and F-2000 flow meters.

### 1.0 Temperature vs. Pressure



Note: Pressure and temperature limits are inversely proportional.

### 2.0 Calibration Constants

Note: The values in the following tables are based on laboratory testing of nominal pipe dimensions. The F-2000 sensor is factory calibrated to $\pm 1 \%$ of full scale linearity. Your actual accuracy will vary based on your pipe I.D. And other installation factors.

Note: Certain Molded Inline bodies are no longer available, but are shown here for reference only.

## METRIC PIPE PN10 \& PN16 (Meets DIN 8062) Saddle Mount Models (Pipe Insertion connection)

Standard Flow Range - LPM

| Pipe Size <br> $(\mathrm{MM})$ | PN <br> Rating | Pipe I.D. <br> $(\mathrm{MM})$ | Flow Range <br> $(\mathrm{LPM})$ | K-Factor <br> $($ Pulse/L) | Rate Scale Factor <br> $(\mathrm{Sr})(\mathrm{LPM} / \mathrm{Hz})$ | Rate Display <br> Decimal Point (Dr) | Total Scale Factor <br> $(\mathrm{St})(\mathrm{LLPulse})$ | Total Display <br> Decimal Point (Dt) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 50 | 10 | 45.2 | $70.0-700.0$ | 16.561 | 36.2297 | 0000.0 | 00.0604 | 00000 |
| 50 | 16 | 42.6 | $70.0-700.0$ | 20.719 | 28.9588 | 0000.0 | 00.0483 | 00000 |
| 63 | 10 | 57.0 | $110-1100$ | 10.522 | 05.7023 | 00000 | 00.0950 | 00000 |
| 63 | 16 | 53.6 | $110-1100$ | 11.830 | 05.0720 | 00000 | 00.0845 | 00000 |
| 90 | 10 | 81.4 | $230-2300$ | 5.294 | 11.3335 | 00000 | 00.1889 | 00000 |
| 90 | 16 | 76.6 | $230-2300$ | 5.944 | 10.0944 | 00000 | 00.1682 | 00000 |
| 110 | 10 | 99.4 | $350-3500$ | 2.942 | 20.3969 | 00000 | 00.3399 | 00000 |
| 110 | 16 | 93.6 | $350-3500$ | 3.107 | 19.3133 | 00000 | 00.3219 | 00000 |
| 160 | 10 | 144.6 | $720-7200$ | 1.386 | 43.2782 | 00000 | 00.7213 | 00000 |
| 160 | 16 | 136.2 | $720-7200$ | 1.574 | 38.1081 | 00000 | 00.6351 | 00000 |
| 200 | 10 | 180.8 | $1150-11500$ | 0.927 | 64.7077 | 00000 | 01.0785 | 00000 |
| 200 | 16 | 170.2 | $1150-11500$ | 1.008 | 59.5501 | 00000 | 00.9925 | 00000 |
| 250 | 10 | 226.2 | $1700-17000$ | 0.565 | 106.232 | 00000 | 01.7705 | 00000 |
| 315 | 10 | 285.0 | $2700-27000$ | 0.353 | 170.003 | 00000 | 02.8334 | 00000 |

## I.P.S. PIPE (Meets ASTM-D-1785)

Molded Inline Bodies (Male NPT connection)
3/8" - 1" pipe sizes - Standard Range \#1 - GPM

| 3/8-1 | pipe siz | - Sta | Range | - GPM | RATE 1 | RATE 2 | TOTAL 1 | TOTAL 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pipe Size (in.) | Pipe Sch. | Body I.D. <br> (In.) | Flow Range (GAL/Min) | K-Factor (Pulse/GAL) | Rate Scale Factor <br> ( Sr ) (GPM/Hz) | Rate Display Decimal Point (Dr) | Total Scale Facto (St) (GAL/Pulse) | Total Display Decimal Point (Dt |
| 3/8 | Inline | 0.375 | . $800-8.000$ | 1456.31 | 41.2000 | 00.000 | 00.0069 | 0000.0 |
| $1 / 2$ | Inline | 0.500 | 2.00-20.00 | 1034.48 | 05.8000 | 000.00 | 00.0097 | 0000.0 |
| 3/4 | Inline | 0.660 | 3.00-30.00 | 612.25 | 09.8000 | 000.00 | 00.0163 | 0000.0 |
| 1.0 | Inline | 0.840 | 5.00-50.00 | 338.60 | 17.7200 | 000.00 | 00.0295 | 0000.0 |

3/8" - 1" pipe sizes - Low Range \#2 - GPM RATE 1 RATE 2 TOTAL 1 TOTAL 2

| Pipe Size (in.) | Pipe Sch. | Body I.D. <br> (In.) | Flow Range (GAL/Min) | K-Factor (Pulse/GAL) | Rate Scale Factor ( Sr ) (GPM/Hz) | $\begin{array}{\|} \text { Rate Display } \\ \text { Decimal Point (Dr) } \end{array}$ | Total Scale Factor (St) (GAL/Pulse) | Total Display Decimal Point (Dt |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 3/8 | Inline | 0.218 | . $400-4.000$ | 2926.83 | 20.5000 | 00.000 | 00.0034 | 0000.0 |
| 1/2 | Inline | 0.250 | . $500-5.000$ | 2419.35 | 24.8000 | 00.000 | 00.0041 | 0000.0 |
| 3/4 | Inline | 0.375 | . $800-8.000$ | 1518.99 | 39.5000 | 00.000 | 00.0066 | 0000.0 |
| 1.0 | Inline | 0.500 | 2.00-20.00 | 1034.48 | 05.8000 | 000.00 | 00.0097 | 0000.0 |

## Molded Inline Bodies (Male NPT connection) - continued

1-1/2" - 2" pipe sizes - GPM
RATE 1 RATE 2 TOTAL 1 TOTAL 2

| Pipe Size (in.) | Pipe Sch. | Flow Range \# | Flow Range (GAL/Min) | K-Factor (Pulse/GAL) | Rate Scale Factor (Sr) (GPM/Hz) | Rate Display Decimal Point (Dr) | Total Scale Factor (St) (GAL/Pulse) | Total Display Decimal Point (Dt |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1-1/2 | Inline | 1 | 4.00-40.00 | 466.20 | 12.8700 | 000.00 | 00.0215 | 0000.0 |
| 1-1/2 | Inline | 2 | 6.00-60.00 | 192.93 | 31.0994 | 000.00 | 00.0518 | 0000.0 |
| 1-1/2 | Inline | 3 | 10.0-100.0 | 156.94 | 3.8231 | 0000.0 | 00.0637 | 0000.0 |
| 2 | Inline | 1 | 4.00-40.00 | 468.75 | 12.8000 | 000.00 | 00.0213 | 0000.0 |
| 2 | Inline | 2 | 6.00-60.00 | 196.40 | 30.5499 | 000.00 | 00.0509 | 0000.0 |
| 2 | Inline | 3 | 10.0-100.0 | 162.16 | 3.7000 | 0000.0 | 00.0617 | 0000.0 |
| 2 | Inline | 4 | 20.0-200.0 | 67.416 | 8.9000 | 0000.0 | 00.1483 | 0000.0 |

## Saddle Models (Pipe insertion connection)

| Stanc | low | e - GP |  |  | RATE 1 | RATE 2 | TOTAL 1 | TOTAL 2 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Pipe Size (in.) | Pipe Sch. | Pipe I.D. (In.) | Flow Range (GAL/Min) | K-Factor (Pulse/GAL) | Rate Scale Factor (Sr) (GPM/Hz) | Rate Display Decimal Point (Dr | Total Scale Factor (St) (GAL/Pulse) | Total Display Decimal Point (Dt |
| 1.5 | 40 | 1.610 | 15.0-150.0 | 86.580 | 06.9300 | 0000.0 | 00.0116 | 00000 |
| 1.5 | 80 | 1.500 | 15.0-150.0 | 102.04 | 05.8800 | 0000.0 | 00.0098 | 00000 |
| 2.0 | 40 | 2.067 | 30.0-300.0 | 50.850 | 11.7994 | 0000.0 | 00.0197 | 00000 |
| 2.0 | 80 | 1.939 | 30.0-300.0 | 58.820 | 10.2006 | 0000.0 | 00.0170 | 00000 |
| 2.5 | 40 | 2.469 | 40.0-400.0 | 34.8635 | 17.2010 | 0000.0 | 00.0287 | 00000 |
| 2.5 | 80 | 2.323 | 40.0-400.0 | 39.200 | 15.3061 | 0000.0 | 00.0255 | 00000 |
| 3.0 | 40 | 3.068 | 60.0-600.0 | 21.820 | 27.4977 | 0000.0 | 00.0458 | 00000 |
| 3.0 | 80 | 2.900 | 60.0-600.0 | 24.000 | 25.0000 | 0000.0 | 00.0417 | 00000 |
| 4.0 | 40 | 4.026 | 100-1000 | 11.8577 | 05.0600 | 00000 | 00.0843 | 00000 |
| 4.0 | 80 | 3.826 | 100-1000 | 12.7659 | 04.7000 | 00000 | 00.0783 | 00000 |
| 6.0 | 40 | 6.065 | 250-2500 | 5.3507 | 11.2135 | 00000 | 00.1869 | 00000 |
| 6.0 | 80 | 5.761 | 250-2500 | 5.5738 | 10.7647 | 00000 | 00.1794 | 00000 |
| 8.0 | 40 | 7.981 | 400-4000 | 2.985 | 20.1000 | 00000 | 00.3350 | 00000 |
| 8.0 | 80 | 7.625 | 400-4000 | 2.940 | 20.4082 | 00000 | 00.3401 | 00000 |
| 10.0 | 40 | 10.020 | 600-6000 | 1.594 | 37.6412 | 00000 | 00.6274 | 00000 |
| 10.0 | 80 | 9.564 | 600-6000 | 1.845 | 32.5203 | 00000 | 00.5420 | 00000 |
| 12.0 | 40 | 11.938 | 800-8000 | 1.116 | 53.7634 | 00000 | 00.8961 | 00000 |
| 12.0 | 80 | 11.376 | 800-8000 | 1.296 | 46.2963 | 00000 | 00.7716 | 00000 |

### 3.0 PIPE INSTALLATION REQUIREMENTS

### 3.1 Flow Stream Requirements

- The F-2000 accuracy is based on steady, undisturbed flow with a fully developed turbulent flow profile. Pulsating, swirling and other disruptions in the flow stream will effect the meters accuracy.
- There are two basic types of flow profiles; turbulent and laminar (see figure 2).

Turbulent flow exists when the speed of the fluid flowing in the pipe is nearly constant across the entire width of the pipe. This is typical of low viscosity fluids like water, flowing at high velocity.

Laminar flow exists when the speed of the fluid flowing in the center of the pipe is greater than the speed of the fluid at the outer edge near the pipe wall. This is typical of high viscosity fluids flowing at low velocity. Because the F-2000 is measuring the fluid near the pipe wall only (especially in larger pipe sizes), a constant flow velocity across the flow stream is required.
The F-2000 accuracy is affected by disturbances such as pumps, elbows, tees, valves 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 will depend on the type of disturbance. (see figure 3 and 4).

To determine which type of flow exists in your installation, the following is required:

Flow rate of the fluid in GPM = Q
Specific gravity of the fluid $=G$
Pipe inside diameter in inches = D
Fluid viscocity in centepoise $=V$
Use the following equation to determine the REYNOLDS NUMBER:
REYNOLDS NUMBER $\quad=3160 \times \mathrm{Q} \times \mathrm{G}$
D x V
Flow conditions with a Reynolds Number greater than 4000 is fully developed turbulent flow.

A Reynolds Number less than 2000 is laminar flow. The F-2000 requires a Reynolds number greater than 4000 to maintain accuracy.


### 3.1 Minimum Pipe Length Requirements

| Type Of Disturbance | Minimum Inlet Pipe Length | Minimum Outlet Pipe Length |
| :---: | :---: | :---: |
| Flange | $10 \times$ Pipe Inside Diameter | $5 \times$ Pipe Inside Diameter |
| Reducer | $15 \times$ Pipe Inside Diameter | $5 \times$ Pipe Inside Diameter |
| $90^{\circ}$ Elbow | $20 \times$ Pipe Inside Diameter | $5 \times$ Pipe Inside Diameter |
| Two $90^{\circ}$ Elbows -1 Direction | $25 \times$ Pipe Inside Diameter | $5 \times$ Pipe Inside Diameter |
| Two $90^{\circ}$ Elbows -2 Directions | $40 \times$ Pipe Inside Diameter | $5 \times$ Pipe Inside Diameter |
| Pump Or Gate Valves | $50 \times$ Pipe Inside Diameter | $5 \times$ Pipe Inside Diameter |

### 4.0 HOW TO INSTALL THE F-2000

- The F-2000 was designed to be installed and operated by qualified personnel only. Do not attempt to install or operate the F-2000 if you are unsure. Seek qualified assistance. Please note that warranty coverage does not include damage due to misuse or improper installation.


### 4.1 Mounting Location

- The F-2000 is designed to withstand outdoor conditions. A cool, dry location, where the unit can be easily serviced is recommended.
- The F-2000 can be mounted on horizontal or vertical runs of pipe (see figure 4 and 5). Mounting at the vertical (twelve o'clock) position on horizontal pipe is recommended (see figure 3). Mounting anywhere around the diameter of vertical pipe is acceptable, however, the pipe must be completely full of water at all times. Back pressure is essential on downward flows.
t
- The F-2000 can accurately measure flow from either direction provided the minimum inlet and outlet conditions are met.


## Angle Mount on Horizontal Pipe

Fig. 3


Recommended



## Vertical Mount

Fig. 5

*Reference Minimum Pipe
Lengths table on page 6.

### 5.0 How To Install Your F-2000 Saddle Fitting

The F-2000 saddle is designed to mount on smooth schedule 40 IPS pipe, schedule 80 IPS pipe(ASTM-D-1785), PN10 metric pipe or PN16 metric pipe (DIN 8062). The outside of the pipe must be clean, smooth and free of surface imperfections. The outside diameter must be as specified to ensure a leak free installation. The inside diameter must be as specified to ensure meter accuracy.


Fig. 6
(ASTM-D-1785)

| I.P.S. Pipe Sizes (in inches) |  |  | Schedule 40 |  | Schedule 80 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Nominal Pipe Size | Length (L) | Height (H) | Outside Diameter | Inside Diameter | Outside Diameter | Inside Diameter |
| 1-1/2" | 3-3/16" | 4-1/2" | 1.900 | 1.610 | 1.900 | 1.500 |
| $2 "$ | 3-3/16" | 4-1/2" | 2.375 | 2.067 | 2.375 | 1.939 |
| 3" | 3-3/16" | 4-1/2" | 3.500 | 3.068 | 3.500 | 2.900 |
| 4" | 3-3/16" | 4-1/2" | 4.500 | 4.026 | 4.500 | 3.826 |
| $6 "$ | 3-3/16" | 4-3/8" | 6.625 | 6.065 | 6.625 | 5.761 |
| $8 "$ | 3-3/16" | 4-3/8" | 8.625 | 7.981 | 8.625 | 7.625 |
| 10" | 4-1/2" | 4-1/2" | 10.750 | 10.020 | 10.750 | 9.564 |
| 12 " | 4-1/2" | 4-1/2" | 12.750 | 11.938 | 12.750 | 11.376 |

(DIN 8062)

| Metric Pipe Sizes (in millimeters) |  |  | Pn10 |  | Pn16 |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Nominal Pipe Size | Length (L) | Height (H) | Outside Diameter | Inside Diameter | Outside Diameter | Inside Diameter |
| 50mm | 81 | 114 | 50.0 | 45.2 | 50.0 | 42.6 |
| 63 mm | 81 | 114 | 63.0 | 57.0 | 63.0 | 53.6 |
| 90 mm | 81 | 114 | 90.0 | 81.4 | 90.0 | 76.6 |
| 110 mm | 81 | 114 | 110.0 | 99.4 | 110.0 | 93.6 |
| 160 mm | 81 | 110 | 160.0 | 144.6 | 160.0 | 136.2 |
| 200 mm | 81 | 110 | 200.0 | 180.8 | 200.0 | 170.2 |
| 250 mm | 114 | 114 | 250.0 | 226.2 | N/A | N/A |
| 315 mm | 114 | 114 | 315.0 | 285.0 | N/A | N/A |

## Step 1 Drill The Mounting Hole

- Select an area on the pipe. Be sure the surface area of the pipe is clean and smooth.
- F-2000 can accurately measure flow either direction provided the minimum inlet and outlet conditions are met.
- Drill a 1-1/8" diameter hole through the center of the pipe wall. On horizontal installations, drill the hole as close to the vertical ( 12 O'clock) position as possible. Do not exceed $45^{\circ}$ from vertical. See figure 5. A hole saw kit is available from the factory, order part number 20000-062.
- Clean all burrs from inside and outside the hole. Use fine sandpaper (440 grit) if necessary.


## Step 2 Install The Saddle

- Insert the alignment tool through the top of the saddle. Slide the large O-ring over the bottom of the alignment tool and into the groove on the underside of the saddle.
- With the alignment tool and O-ring in place, position the saddle over the drilled hole. Insert the alignment tool into the hole seating the saddle. Be sure the O-ring is properly seated in the O-ring groove.
- Place the pipe clamps around the pipe and into the slots on the saddle. Tighten the clamps in an alternating method.


## Step $3 \quad$ Check The Saddle Alignment

- Pull the alignment tool out of the saddle. If the tool is not easily removed, the alignment is not correct. Slightly loosen the clamps and insert the tool. The saddle must be mounted directly over the hole. Adjust the saddle alignment until the alignment tool slides freely in and out of the saddle.
- Be certain the O-ring is properly seated and visible in the groove around the hole.
- Tighten the clamps.


## Step 4 Install The F-2000 Sensor

- Be sure two O-rings are located on the sensor body (see figure 7). The O-rings have been lubricated at the factory with silicone oil.
- Push the sensor assembly into the saddle with a twisting motion. The notch on the sensor body must fit into the slot on the saddle. Be sure the sensor is fully inserted into the saddle.
- HAND TIGHTEN the black union nut. Do not tighten the nut with a tool.



### 7.0 Installing The Molded In-Line Fitting (MI)

All molded in-line (MI) fittings have male American National Standard Taper Pipe Threads (MPT).

- Select an area on the pipe as outlined in section 4.1.
- The F-2000 can accurately measure flow from either direction provided the minimum inlet and outlet conditions are met. Section 3.1
- Install the F-2000 as you would any other plastic pipe fitting. Be sure the inlet and outlet fittings are aligned properly. Improper alignment of the fittings will put stress on the adapter connections and may cause leaking or fitting damage. Do not over tighten the fittings. Use PTFE tape sealant only on the adapter threads.
- The F-2000 can be mounted on horizontal or vertical runs of pipe. Mounting at the twelve o'clock position on horizontal pipe is recommended. Mounting anywhere around the diameter of vertical pipe is acceptable, however, the pipe must be completely full of water at all times. See figure 3, 4 and 5.
- Be sure the inlet and outlet plumbing is properly secured. The F-1000 is not designed to support the weight of related piping. Improperly supported pipes will put stress on the adapter connections and may cause leaking or fitting damage.


| Nominal Pipe Size | Body Description | Length | Height |
| :---: | :---: | :---: | :---: |
| 3/8" | 3/8" MPT-low flow | 4.73" | 5.70" |
| $3 / 8$ " | 3/8" MPT-std flow | 4.73" | 5.79 " |
| 1/2" | 1/2" MPT-low flow | 5.09" | 5.70 " |
| 1/2" | 1/2" MPT-std flow | 5.09" | 5.79" |
| $3 / 4$ " | 3/4" MPT-low flow | 5.25" | 5.79" |
| $3 / 4$ " | 3/4" MPT-std flow | 5.25" | 5.97" |
| 1.0" | 1.0" MPT-Iow flow | 5.65" | 5.97" |
| 1.0" | 1.0" MPT-std flow | 5.65 " | 5.97" |
| 1.5" | 1.5" MPT-all flow ranges | 7.00" | 6.50" |
| 2.0" | 2.0" MPT-all flow ranges | 7.00" | 6.75 " |

### 8.0 How To Install Your F-2000 Molded PVC Fitting (AT)

Note: Tee fittings are I.P.S. Pipe, Slip glue joints.

Step $1 \quad$ Select an area on the pipe as outlined in section 4.1.
Step 2 Remove the F-2000 sensor from the tee fitting. Do not glue the Tee while the sensor is installed.

Step 3

Step 4 The F-2000 can be mounted on horizontal or vertical runs of pipe. Mounting at the vertical (twelve o'clock) position on horizontal pipe is recommended (see figure 5). Mounting anywhere around the diameter of vertical pipe is acceptable, however, the pipe must be completely full of water at all times. See figure 3, 4 and 5.

Step 5 Install the F-2000 sensor. Be sure two O-rings are located on the sensor body. The O-rings have been lubricated at the factory with silicone oil. Push the sensor assembly into the saddle with a twisting motion. The notch on the sensor body must fit into the slot on the saddle. Be sure the sensor is fully inserted into the saddle. HAND TIGHTEN the black union nut.


| Nominal Pipe Size | Height (H) | Length (L) | Replacement Tee |
| :---: | :---: | :---: | :---: |
| 1" IPS | $6 "$ | 4 " | $76000-978$ |
| $1-1 / 2^{\prime \prime}$ IPS | $6-5 / 8^{\prime \prime}$ | $4-1 / 2^{\prime \prime}$ | $76000-975$ |
| 2 " IPS | $7-1 / 8^{\prime \prime}$ | $4-3 / 4^{\prime \prime}$ | $76000-976$ |

[^0]
### 8.0 Replacement Parts \& Kits

### 8.1 Molded In-Line Body Parts List

Complete kits include:

1) Molded inline body fitting
2) Instruction manual

Note: Certain Molded Inline bodies are no longer available, but are shown here for reference only.

Complete Kit Ordering Numbers

| Molded In-Line Pipe Fittings - U.S. (IPS) M/NPT |  |
| :---: | :---: |
| Kit No | Description |
| 38M1 | 3/8" MPT . $800-8.000$ GPM - PP |
| 38M2 | 3/8" MPT . $400-4.000$ GPM - PP |
| 38F1 | 3/8" MPT . 800 - 8.000 GPM - PVDF |
| 38F2 | 3/8" MPT . $400-4.000$ GPM - PVDF |
| 50M1 | 1/2" MPT 2.00-20.00 GPM - PP |
| 50M2 | 1/2" MPT . $500-5.000$ GPM - PP |
| 50F1 | 1/2" MPT 2.00-20.00 GPM - PVDF |
| 50F2 | 1/2" MPT . $500-5.000$ GPM - PVDF |
| 75M1 | 3/4" MPT 3.00-30.00 GPM - PP |
| 75M2 | 3/4" MPT . $800-8.000$ GPM - PP |
| 75F1 | 3/4" MPT 3.00-30.00 GPM - PVDF |
| 75F2 | 3/4" MPT . $800-8.000$ GPM - PVDF |
| 10M1 | 1" MPT 5.00-50.00 GPM - PP |
| 10M2 | 1" MPT 2.00-20.00 GPM - PP |
| 10F1 | 1" MPT 5.00-50.00 GPM - PVDF |
| 10F2 | 1" MPT 2.00-20.00 GPM - PVDF |
| 15M1 | 1-1/2" MPT 4.00-40.00 GPM - PP |
| 15M2 | 1-1/2" MPT 6.00-60.00 GPM - PP |
| 15M3 | 1-1/2" MPT 10.0-100.0 GPM - PP |
| 15F1 | 1-1/2" MPT 4.00-40.00 GPM - PVDF |
| 15F2 | 1-1/2" MPT 6.00-60.00 GPM - PVDF |
| 15F3 | 1-1/2" MPT 10.0-100.0 GPM - PVDF |
| 20M1 | 2" MPT 4.00-40.00 GPM - PP |
| 20M2 | 2" MPT 6.00-60.00 GPM - PP |
| 20M3 | 2" MPT 10.0-100.0 GPM - PP |
| 20M4 | 2" MPT 20.0-200.0 GPM - PP |
| 20F1 | 2" MPT 4.00-40.00 GPM - PVDF |
| 20F2 | 2" MPT 6.00-60.00 GPM - PVDF |
| 20F3 | 2" MPT 10.0-100.0 GPM - PVDF |
| 20F4 | 2" MPT 20.0-200.0 GPM - PVDF |

### 8.2 Saddle Parts List

Replacement Part Numbers

| Item | Part No . | Description |
| :---: | :---: | :---: |
| 1 | $76000-830$ | Alignment tool |
| 2 | $91001-115$ | Saddle, 1-1/2" pipe (50mm) |
|  | $91001-114$ | Saddle, 2" pipe (63mm) |
|  | $91001-116$ | Saddle, 3" pipe (90mm) |
|  | $76100-087$ | Saddle, 4" pipe (110mm) |
|  | $76100-088$ | Saddle, 6" pipe (160mm) |
|  | $76100-089$ | Saddle, 8" pipe (200mm) |
|  | $76100-139$ | Saddle, 10" \& 12" pipe |
| 3 | $90008-010$ | Hose-Clamp \#28 for 1-1/2" pipe |
|  | $90008-137$ | Hose-Clamp \#40 for 2" pipe |
|  | $90008-015$ | Hose-Clamp \#52 for 3" pipe |
|  | $90008-018$ | Hose-Clamp \#72 for 4" pipe |
|  | $90008-019$ | Hose-Clamp \#116 for 6" pipe |
|  | $90008-020$ | Hose-Clamp \#152 for 8" pipe |
|  | $90008-348$ | Hose-Clamp \#188 for 10" pipe |
| 4 | $90008-349$ | Hose-Clamp \#224 for 12" pipe |
|  | $90003-108$ | O-ring / Viton ${ }^{\circledR}$ for 1-1/2", 2", 3" |
|  | 9 O-ring / Viton ${ }^{\circledR}$ for 4", 6", 8", 10", 12" |  |



Complete Metric Kit Ordering Numbers

| Metric (DIN 8062) Pipe Saddle Fittings |  |
| :---: | :---: |
| Kit No | Description |
| $05 \mathrm{K0}$ | 50 mm Metric pipe, Pn10, PVDF |
| 05 K 6 | 50 mm Metric pipe, Pn16, PVDF |
| $06 \mathrm{K0}$ | 63 mm Metric pipe, Pn10, PVDF |
| 06 K 6 | 63 mm Metric pipe, Pn16, PVDF |
| $09 \mathrm{K0}$ | 90 mm Metric pipe, Pn10, PVDF |
| 09 K 6 | 90 mm Metric pipe, Pn16, PVDF |
| $11 \mathrm{A0}$ | 110 mm Metric pipe, Pn10, PVC |
| 11 A 6 | 110 mm Metric pipe, Pn16, PVC |
| $16 A 0$ | 160 mm Metric pipe, Pn10, PVC |
| 16 A 6 | 160 mm Metric pipe, Pn16, PVC |
| $20 \mathrm{A0}$ | 200 mm Metric pipe, Pn10, PVC |

## Complete kits include:

1) Saddle fitting
2) Pipe clamps
3) O-ring seal
4) Installation alignment tool

Complete Standard Kit Ordering Numbers

| U.S. (IPS) Pipe Saddle Fittings |  |
| :---: | :---: |
| Kit No | Description |
| 15K4 | 1-1/2" IPS pipe, schedule 40, PVDF |
| 15K8 | 1-1/2" IPS pipe, schedule 80, PVDF |
| 20K4 | 2" IPS pipe, schedule 40, PVDF |
| 20K8 | 2" IPS pipe, schedule 80, PVDF |
| 30K4 | 3" IPS pipe, schedule 40, PVDF |
| 30K8 | 3" IPS pipe, schedule 80, PVDF |
| 40A4 | 4" IPS pipe, schedule 40, PVC |
| 40A8 | 4" IPS pipe, schedule 80, PVC |
| 60A4 | 6 " IPS pipe, schedule 40, PVC |
| 60A8 | 6" IPS pipe, schedule 80, PVC |
| 80A4 | 8" IPS pipe, schedule 40, PVC |
| 80A8 | 8" IPS pipe, schedule 80, PVC |
| 100A4 | 10" IPS pipe, schedule 40, PVC |
| 100A8 | 10" IPS pipe, schedule 80, PVC |
| 120A4 | 12" IPS pipe, schedule 40, PVC |
| 120A8 | 12" IPS pipe, schedule 80, PVC |

## ISO 9001:2015 CERTIFIED

## MADE IN THE <br> $\square \triangle \Delta$

80000-389 Rev. 420231016


[^0]:    IPS: International Pipe Standard

