



Instrument Manifolds

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instrument manifolds



CRANE Instrumentation & Sampling, HOKE®
PO Box 4866 • Spartanburg, SC 29305-4866
(864) 574-7966 • www.hoke.com

For Your Safety

It is solely the responsibility of the system designer and user to select products suitable for their specific application requirements and to ensure proper installation, operation, and maintenance of these products. When selecting products, the total system design must be considered to ensure safe, trouble-free performance. Material compatibility, product ratings and application details should be considered in the selection. Improper selection or use of products described herein can cause personal injury or property damage.

Contact your authorized HOKE® sales and service representative for information about additional sizes and special alloys.

SAFETY WARNING:

HOKE® products are designed for installation only by professional suitably qualified licensed system installers experienced in the applications and environments for which the products are intended. These products are intended for integration into a system. Where these products are to be used with flammable or hazardous media, precautions must be taken by the system designer and installer to ensure the safety of persons and property. Flammable or hazardous media pose risks associated with fire or explosion, as well as burning, poisoning or other injury or death to persons and/or destruction of property. The system designer and installer must provide for the capture and control of such substances from any vents in the product(s). The system installer must not permit any leakage or uncontrolled escape of hazardous or flammable substances. The system operator must be trained to follow appropriate precautions and must inspect and maintain the system and its components including the product(s) and at regular intervals in accordance with timescales recommended by the supplier to prevent unacceptable wear or failure.

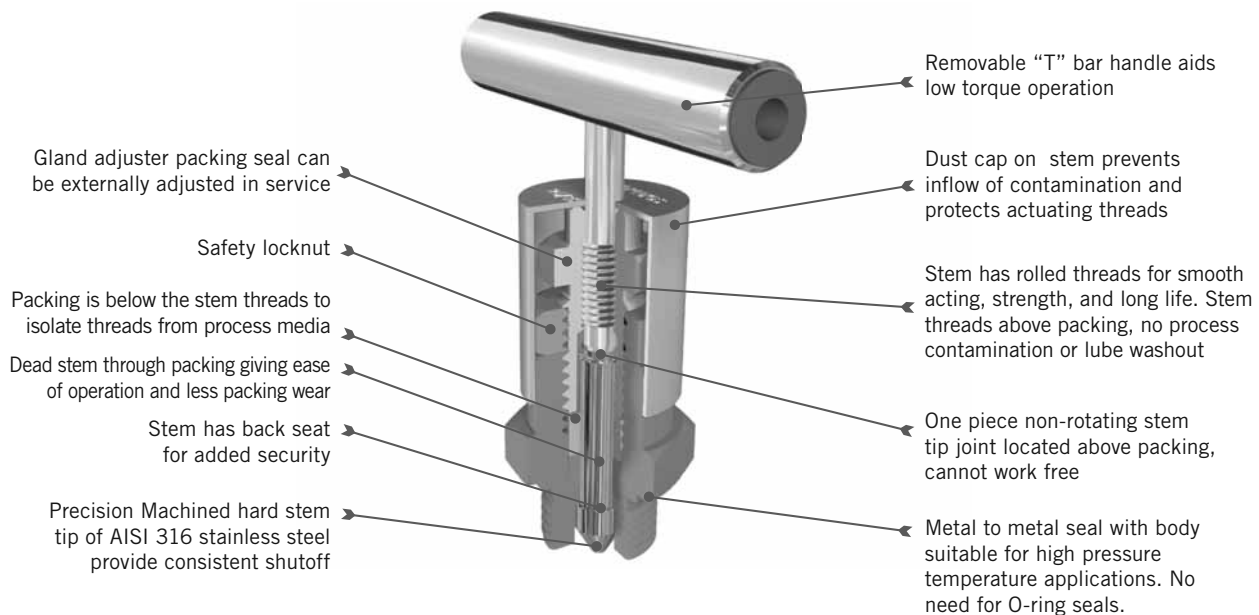


General Purpose Instrument Manifolds at a Glance

HOKE® offers a variety of 2-,3-, and 5-valve instrument manifolds in direct and remote mount styles with vent configurations to meet most flow, pressure, and level measurement application requirements. HOKE® 2-valve manifolds are designed for static pressure and liquid level applications; the 3- and 5-valve manifolds are well suited for use with most differential pressure transmitters and can accept both female and flange process impulse line connections.

Valve Features

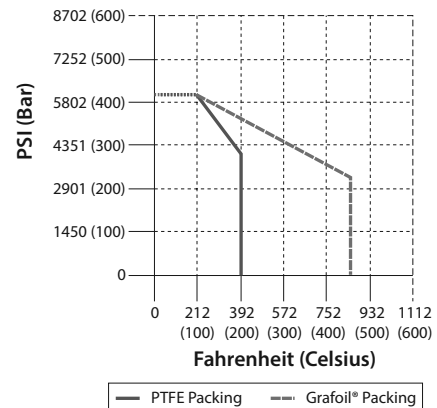
All valves are hydrostatically tested at 1.5X maximum working pressure to assure leak tight performance. Stem packing is available in PTFE or GRAFOIL® materials with the metal non-rotating stem tip offered as standard.



Pressure vs. Temperature Curves

| | |
|-------------------------|--|
| PTFE PACKING* | Maximum pressure 6000 psi (413 bar) at 212° F (100° C) Maximum pressure 4000 psi (275 bar) at 392° F (200° C) |
| GRAFOIL® PACKING | Maximum pressure 6000 psi (413 bar) at 212° F (100° C) Maximum pressure 3300 psi (230 bar) at 842° F (450° C) |

* PTFE packing rated to maximum temperature of 392° F (200° C)

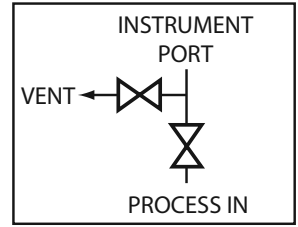


instrument manifolds

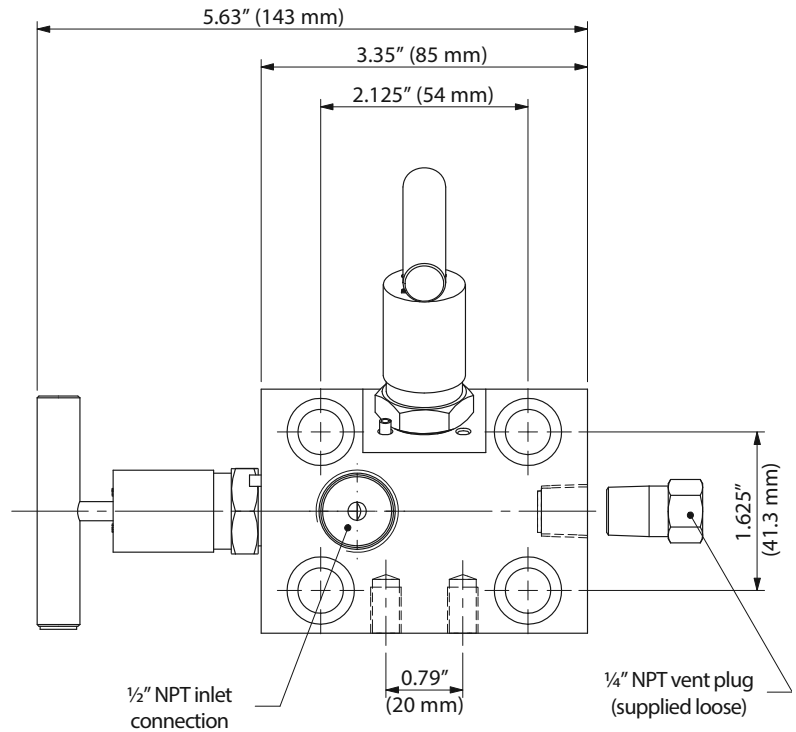
2-Valve General Purpose Manifold-Direct Mount

Dimensions

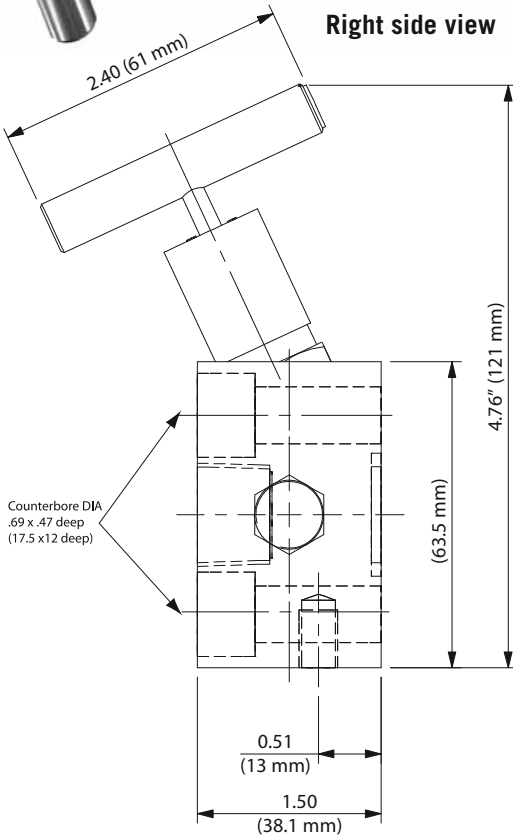
Dimensions in inches (millimeters) are for reference only and are subject to change.



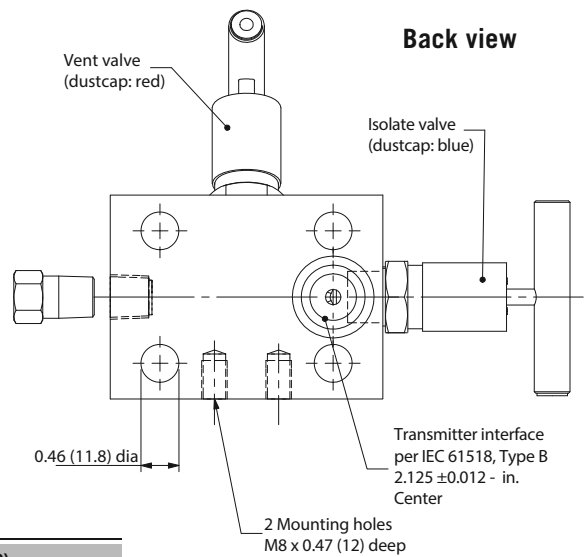
Front view



Right side view



Back view



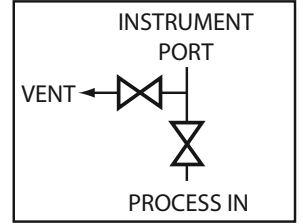
How to Order

| PART NUMBER | PACKING | ACCESSORIES (NOT INCLUDED) |
|--------------|----------|--|
| GP82121F8YL | PTFE | Mounting kit-Part # 800000K1 (page 8) |
| GP821212F8YL | GRAFOIL® | 1.5" mounting bolts for Honeywell transmitter (4 required) - Order Part # 095-0411-100 |

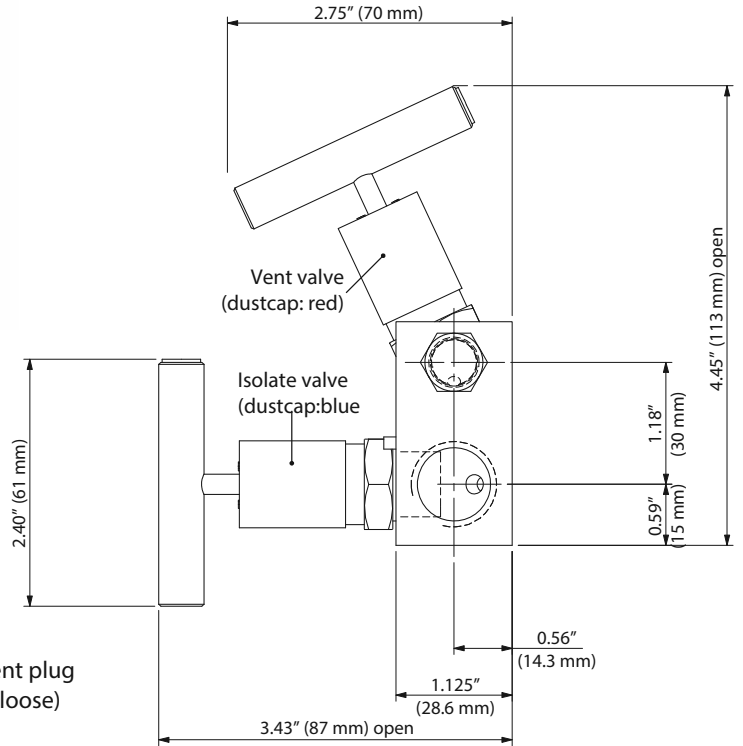
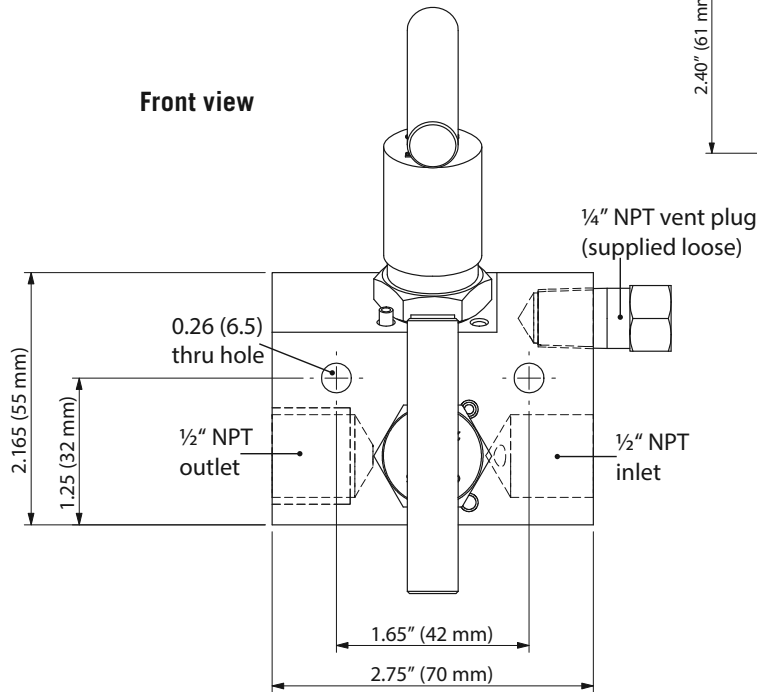
2-Valve General Purpose Manifold-Remote Mount

Dimensions

Dimensions in inches (millimeters) are for reference only and are subject to change.



Front view



Right side view

How to Order

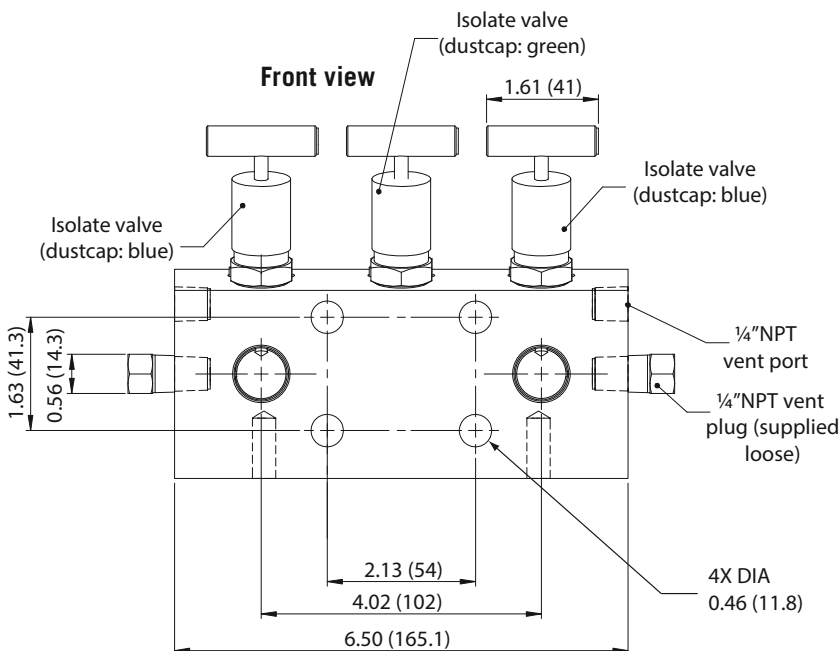
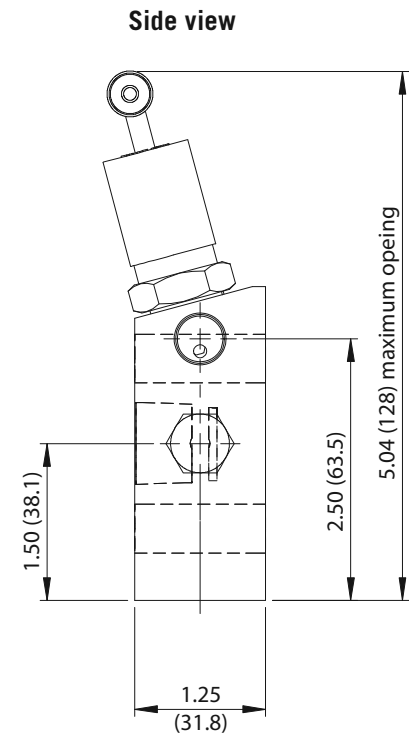
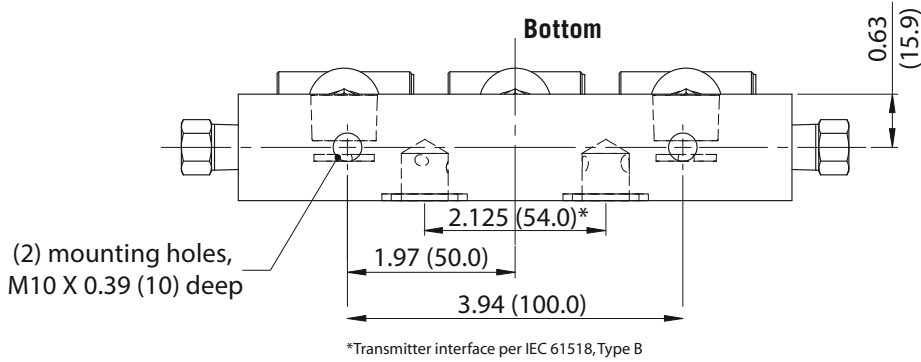
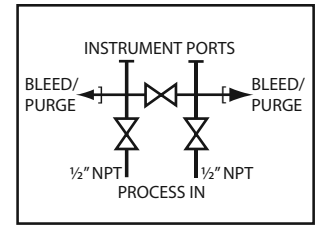
| PART NUMBER | PACKING |
|--------------|----------|
| GP823211F8YL | PTFE |
| GP823212F8YL | GRAFOIL® |

Mounting kit-Order Part # 800000K2 (page 8)

3-Valve General Purpose Manifold-Direct Mount

Dimensions

Dimensions in inches (millimeters) are for reference only and are subject to change.



How to Order

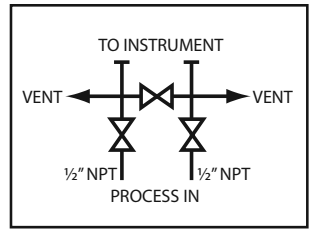
| PART NUMBER | PACKING |
|--------------|----------|
| GP831211F8YL | PTFE |
| GP831212F8YL | GRAFOIL® |

Mounting kit-Order Part # **800000K1** (page 8)
 1.5" mounting bolts for Honeywell transmitter
 (4 required) - Order Part # 095-0411-100

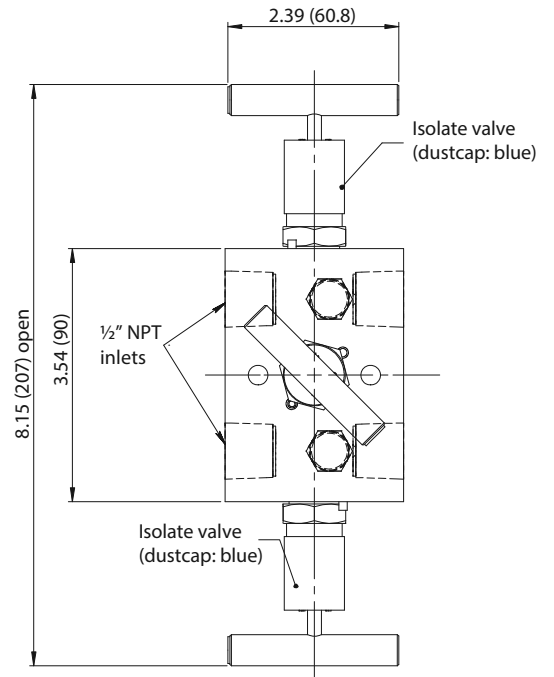
3-Valve General Purpose Manifold-Remote Mount

Dimensions

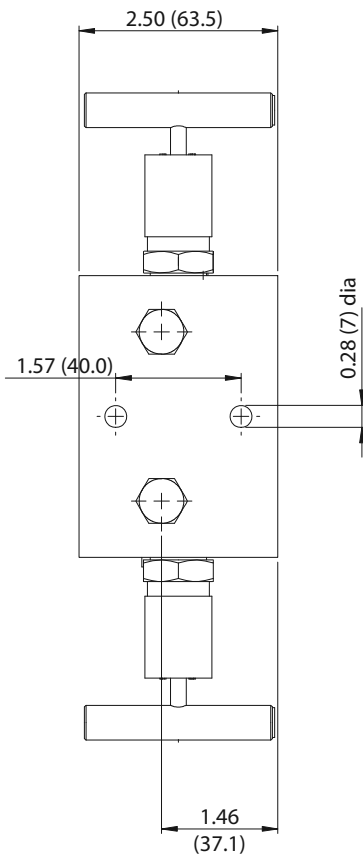
Dimensions in inches (millimeters) are for reference only and are subject to change.



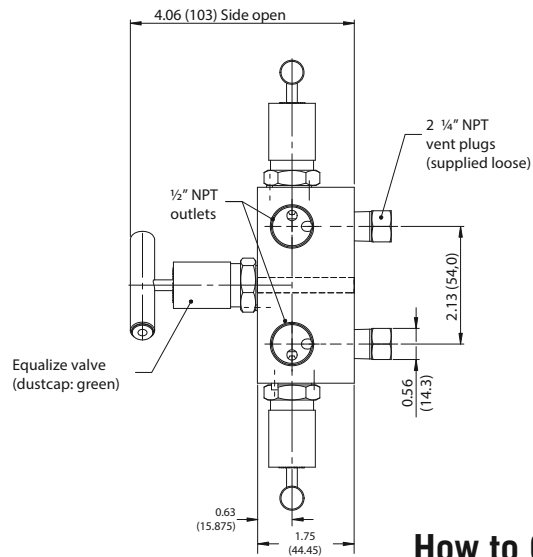
Top view



Bottom



Side view



How to Order

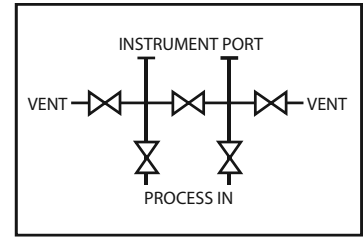
| PART NUMBER | PACKING |
|--------------|----------|
| GP833211F8YL | PTFE |
| GP833212F8YL | GRAFOIL® |

Mounting kit-Order Part # 800000K2 (page 8)

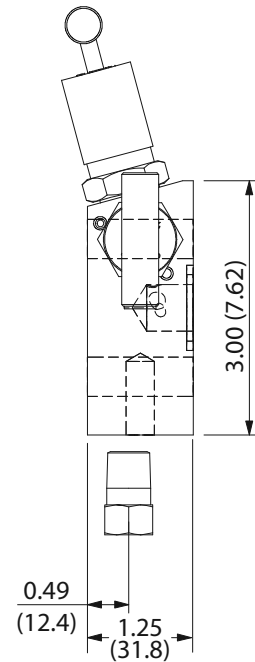
5-Valve General Purpose Manifold-Direct Mount

Dimensions

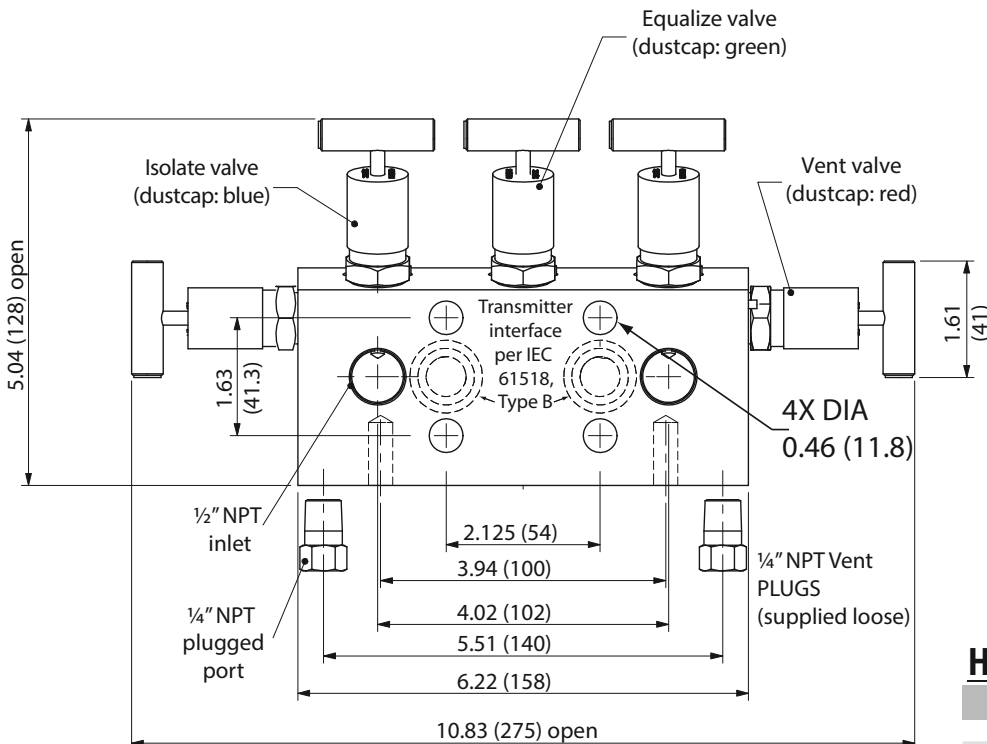
Dimensions in inches (millimeters) are for reference only and are subject to change.



Side view



Front view



How to Order

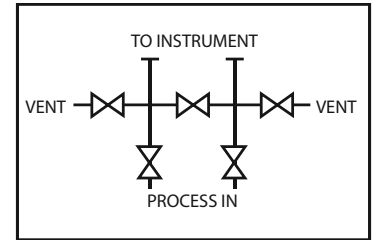
| PART NUMBER | PACKING |
|--------------|----------|
| GP851211F8YL | PTFE |
| GP851212F8YL | GRAFOIL® |

Mounting kit-Order Part # **800000K1** (page 8)
 1.5" mounting bolts for Honeywell transmitter
 (4 required) - Order Part # **095-0411-100**

5-Valve General Purpose Manifold-Remote Mount

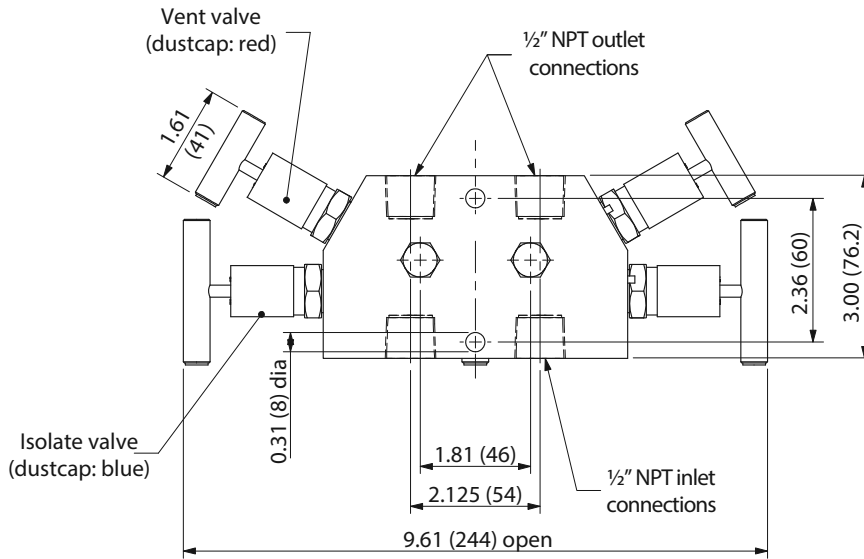
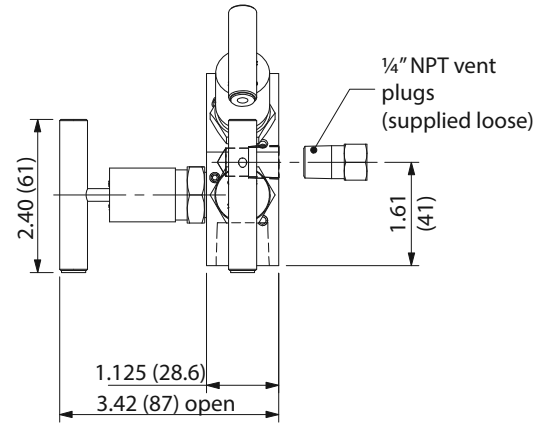
Dimensions

Dimensions in inches (millimeters) are for reference only and are subject to change.

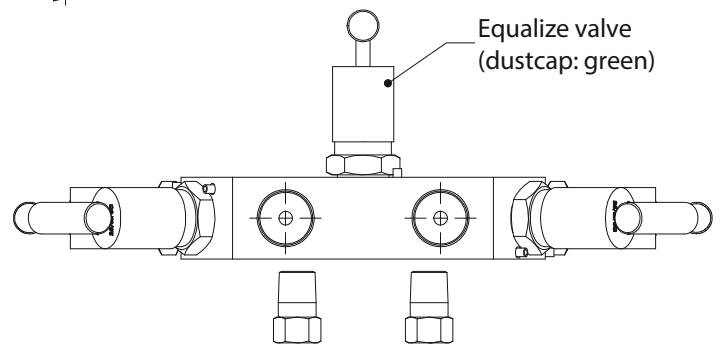


Back view

Right side view



Top view



How to Order

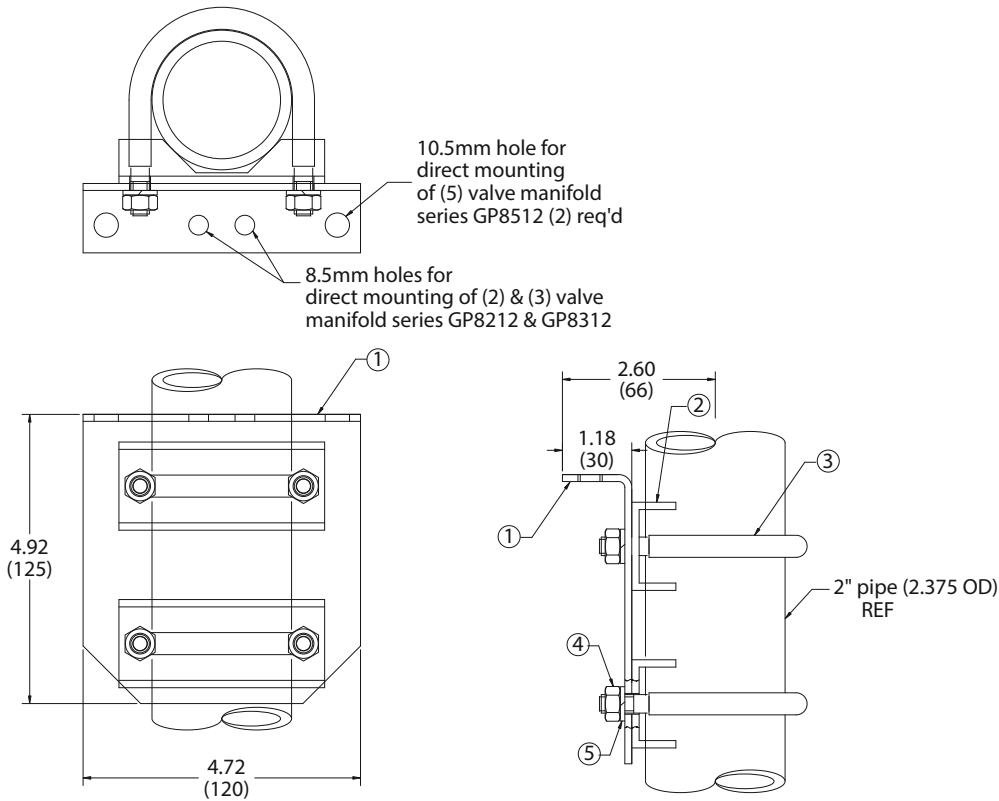
| PART NUMBER | PACKING |
|--------------|----------|
| GP853211F8YL | PTFE |
| GP853212F8YL | GRAFOIL® |

Mounting kit—Order Part # 800000K2 (page 8)

General Purpose Manifold Mounting Kits

800000K1 – For Direct Mount Models

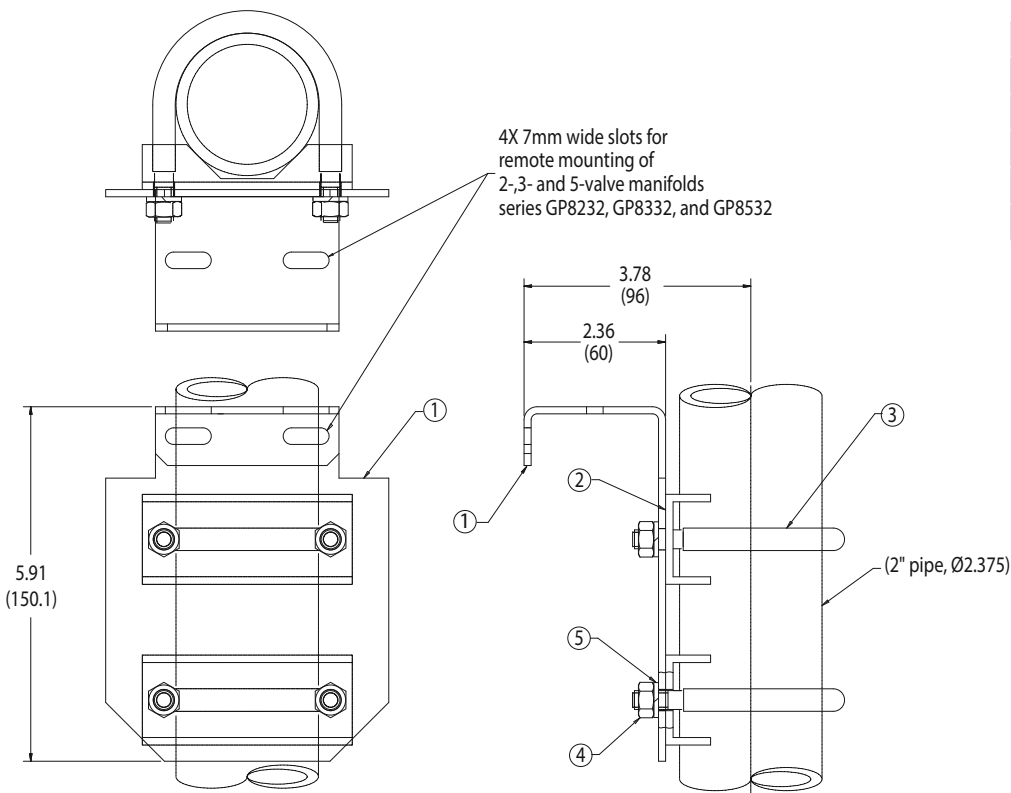
Dimensions are in inches (millimeters) are for reference only and are subject to change.



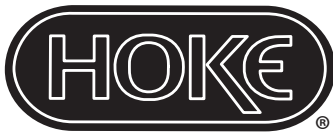
| ITEM | TITLE | MATERIAL |
|------|--------------|----------|
| 1 | Bracket | 316 SS |
| 2 | Clamp Plate | 316 SS |
| 3 | U-Bolt | 316 SS |
| 4 | Nut, Hex | 316 SS |
| 5 | Washer, Lock | 316 SS |

800000K2 – For Remote Mount Models

Dimensions are in inches (millimeters) are for reference only and are subject to change.



| ITEM | TITLE | MATERIAL |
|------|--------------|----------|
| 1 | Bracket | 316 SS |
| 2 | Clamp Plate | 316 SS |
| 3 | U-Bolt | 316 SS |
| 4 | Nut, Hex | 316 SS |
| 5 | Washer, Lock | 316 SS |



Trifold Needle Valve Manifold

The HOKE® 3-Valve Trifold manifold is designed for direct mounting to differential pressure transmitters having 2.125 inches (54 mm) center-to-center process connections.

Pipe by Flange

When direct coupling to orifice plate flanges is not desired, the pipe by flange Trifold Manifold allows for two ½" NPT process connections in addition to direct mounting of the transmitter.

Flange by Flange

When direct coupling to orifice plate flanges is required, the flange by flange Trifold Manifold mounts directly between the flange and the transmitter. If direct coupling to orifice plate flanges is not required, process futbol connectors may also be used.



instrument manifolds

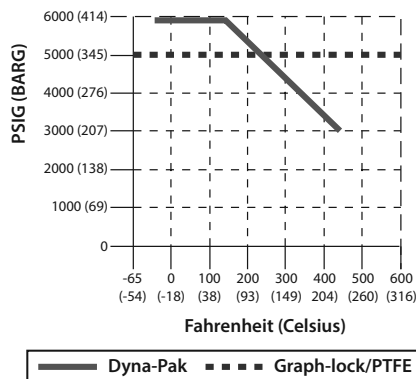
Technical Data

| | |
|------------------------------------|--|
| MAXIMUM OPERATING PRESSURE | <i>Dyna-Pak/Metal Stem Tip</i> |
| | <ul style="list-style-type: none"> • 6000 psig (414 barg) -65° F to +150° F (-54°C to +66° C) • 3000 psig (307 barg) at +450° F (+232° C) |
| | <i>Graph-Lock/PTFE Wafer Packing</i> |
| | <ul style="list-style-type: none"> • 5000 psig (345 barg) -60° F to +600° F (-51°C to +316° C) • 3000 psig (307 barg) at +450° F (+232° C) |
| OPERATING TEMPERATURE RANGE | <i>Dyna-Pak/Metal Stem Tip</i> |
| | <ul style="list-style-type: none"> • -65° F to +450° F (-54°C to +232° C) |
| | <i>Graph-Lock/PTFE Wafer Packing</i> |
| | <ul style="list-style-type: none"> • -60° F to +600° F (-51°C to +316° C) |

Features & Benefits

- Purge ports are provided on the process side of block valves for applications requiring continuous purging.
- Bleed or vent ports on the instrument side of the block valves.
- Dyna-Pak PTFE or high-temperature 600° F (316° C) Graph-lock/PTFE wafer packing is standard.
- Bonnet locks prevent accidental disengagement of the bonnet.
- Non-rotating hardened metal stem tip.
- Integral backseats on all valve stems prevent accidental removal.
- Mounting bolts and PTFE gaskets are standard.
- Packing below stem threads prevents process liquids from contaminating or washing away the thread lubricants.
- Special High Tolerance NPT Thread

Pressure Temperature Curves

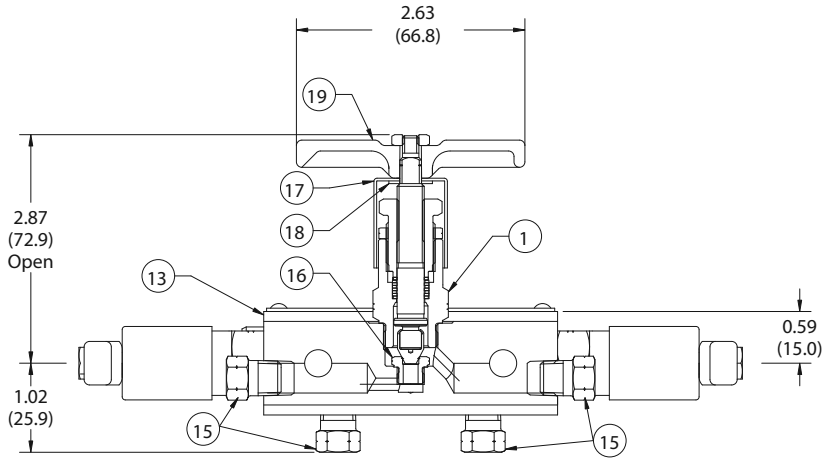


Trifold Needle Valve Manifold– Pipe by Flange

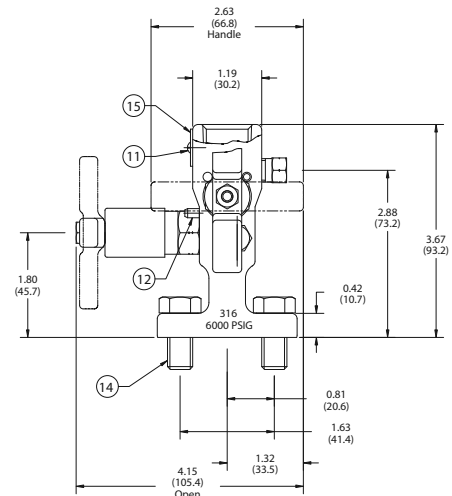
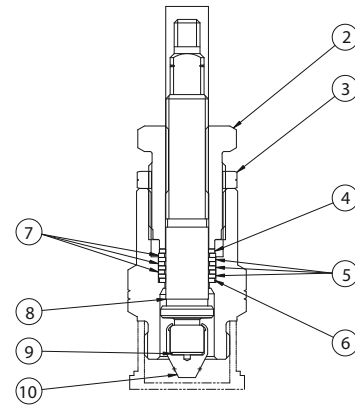
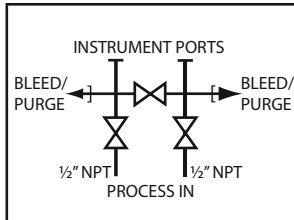
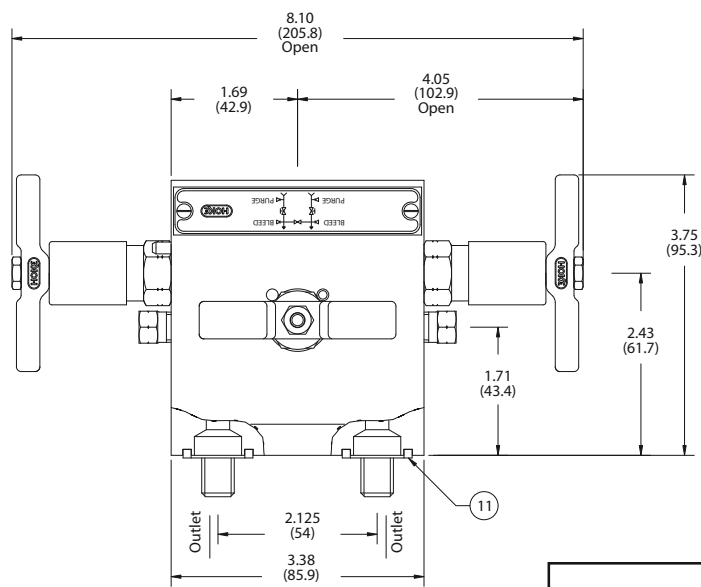
Special Application Manifolds

Dimensions and Materials

Dimensions in inches (millimeters) are for reference only and are subject to change



| | DESCRIPTION | MATERIAL |
|----|----------------|------------------------|
| 1 | HOUSING | 316 stainless steel |
| 2 | PACKING NUT | 316 stainless steel |
| 3 | LOCK NUT | 316 stainless steel |
| 4 | WASHER | 316 stainless steel |
| 5 | WAFER | PPTFE tape |
| 6 | WASHER | 316 stainless steel |
| 7 | SPACER | 316 stainless steel |
| 8 | STEM | 316 stainless steel |
| 9 | DISC | 17-7PH stainless steel |
| 10 | STEM POINT | 17-4PH stainless steel |
| 11 | WASHER | PPTFE |
| 12 | SPRING PIN | 302 stainless steel |
| 13 | MANIFOLD BLOCK | 316 stainless steel |
| 14 | CAP SCREW | 18-8 stainless steel |
| 15 | PIPE PLUG | 316 stainless steel |
| 16 | SEAT INSERT | 316 stainless steel |
| 17 | CAP LUG | Polyethylene |
| 18 | WASHER | 304 stainless steel |
| 19 | HANDLE | 316 stainless steel |



How to Order Trifold Pipe by Flange

| CONNECTIONS | | PART NUMBER | STEM POINT | PACKING |
|-----------------|------------|----------------|---------------------|----------------------------|
| PROCESS | INSTRUMENT | | | |
| 1/2" Female NPT | Flange | 8122F8Y | Non-rotating 17-4PH | Dyna-Pak |
| 1/2" Female NPT | Flange | 8128F8Y | Non-rotating 17-4PH | Graph-lock/ PTFE wafers |

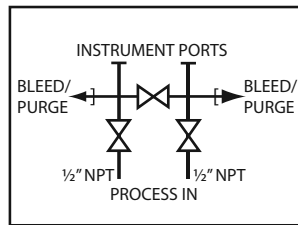
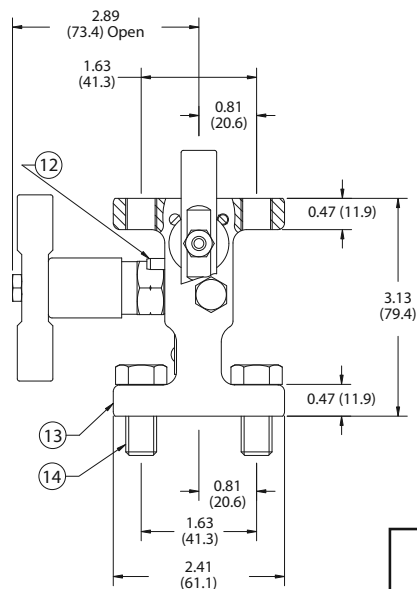
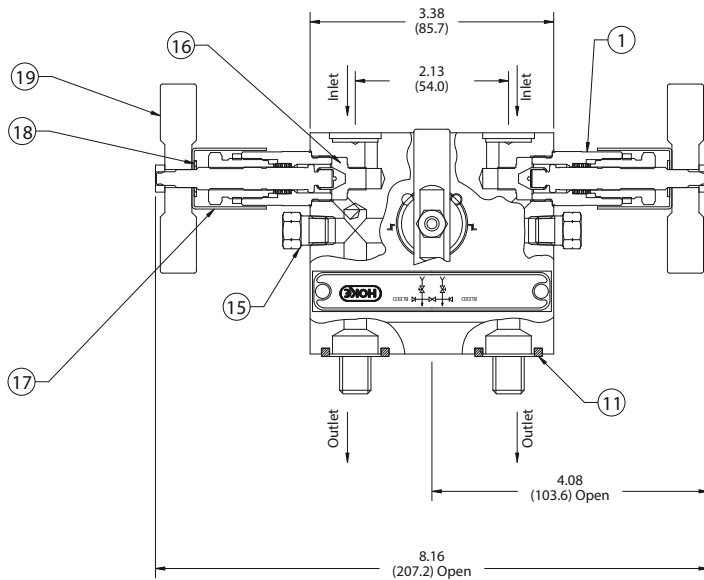
Mani-Mount mounting module see page 17 for details (available for **8122F8Y** only)

Trifold Needle Valve Manifold– Flange by Flange

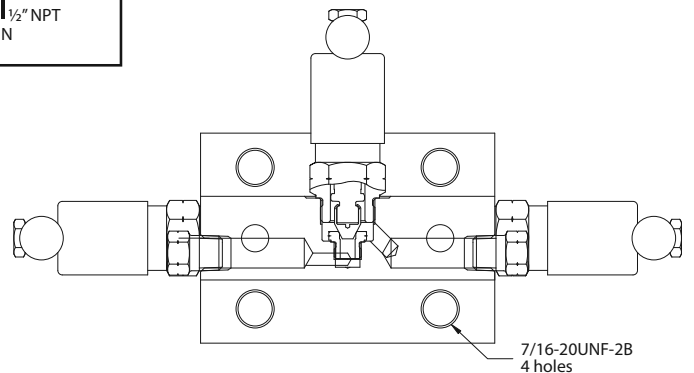
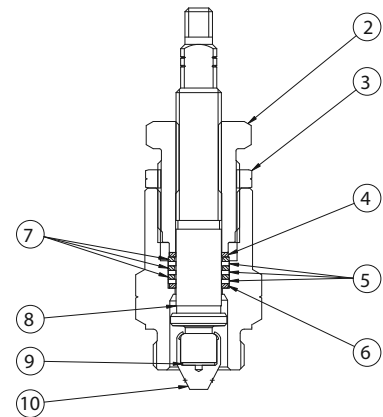
Special Application Manifolds

Dimensions and Materials

Dimensions are in inches (millimeters) are for reference only and are subject to change



| | DESCRIPTION | MATERIAL |
|----|----------------|------------------------|
| 1 | HOUSING | 316 stainless steel |
| 2 | PACKING NUT | 316 stainless steel |
| 3 | LOCK NUT | 316 stainless steel |
| 4 | WASHER | 316 stainless steel |
| 5 | WAFER | PPTFE tape |
| 6 | WASHER | 316 stainless steel |
| 7 | SPACER | 316 stainless steel |
| 8 | STEM | 316 stainless steel |
| 9 | DISC | 17-7PH stainless steel |
| 10 | STEM POINT | 17-4PH stainless steel |
| 11 | WASHER | PPTFE |
| 12 | SPRING PIN | 302 stainless steel |
| 13 | MANIFOLD BLOCK | 316 stainless steel |
| 14 | CAP SCREW | 18-8 stainless steel |
| 15 | PIPE PLUG | 316 stainless steel |
| 16 | SEAT INSERT | 316 stainless steel |
| 17 | CAP LUG | Polyethylene |
| 18 | WASHER | 304 stainless steel |
| 19 | HANDLE | 316 stainless steel |



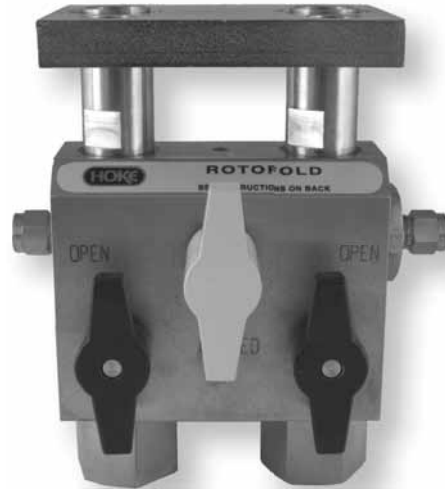
How to Order Trifold Flange by Flange

| CONNECTIONS | | PART NUMBER | STEM POINT | PACKING |
|-------------|------------|-------------|---------------------|----------------------------|
| PROCESS | INSTRUMENT | | | |
| Flange | Flange | 8132YY | Non-rotating 17-4PH | Dyna-Pak |
| Flange | Flange | 8138YY | Non-rotating 17-4PH | Graph-lock/ PTFE wafers |



Rotofold Ball Valve Manifold

The HOKE® Rotofold ball valve manifold has a unique design that utilizes quarter turn ball valves for blocking process impulse lines and performing equalizing functions. They also provide easy rod through of all passages when clean-out is necessary. PCPTFE seats and PPTFE stem packing are easily replaced if maintenance is required. The pipe by flange Rotofold design allows the manifold to be directly mounted to integral orifice transmitters by simply reversing the flanges and flange fittings. The pipe by pipe Rotofold design allows the manifold to be remotely mounted separately from the process.

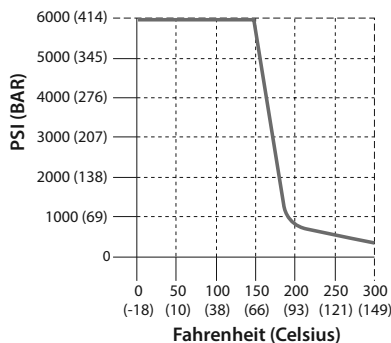


instrument manifolds

Technical Data

| | |
|------------------------------------|---|
| MAXIMUM OPERATING PRESSURE | 6000 psig (414 barg) -65° F to +150° F (-54° C to +66° C) |
| OPERATING TEMPERATURE RANGE | 400 psig @ +300° F (28 barg @ +149° C) 0° F to +300° F (-18° C to +149° C) |

Pressure Temperature Curves



Features & Specifications

- Flange can be reversed for direct mounting to an integral orifice type transmitter.
- Connections on instrument side of block valves for bleeding and venting.
- Replaceable PCPTFE seats on all valves provide longer service life.
- All media passages can be rodded for easy cleaning.
- ¼ turn handle provides visual indication of valve mode.
- Mounting bolts and PTFE gaskets are standard with flange models.
- Cam handles provide error-proof sequencing of valves.
- Mani-Mount mounting kit available for NPT pipe style (see Mani-mount mounting system, page 17)
- Special High Tolerance NPT Thread

Cam-Valve Interlocking Sequencing Handles

The correct sequencing of opening and closing manifold valves is critical to eliminating pressure transmitter damage due to over ranging. By attaching cams to the equalizing and block valve handles, the inter-locking design assures proper initial service and transmitter zeroing during calibration.

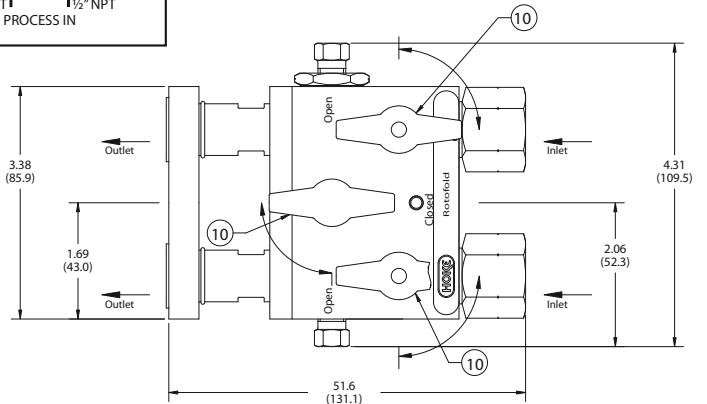
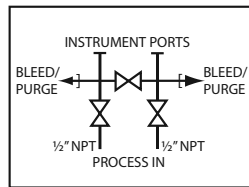
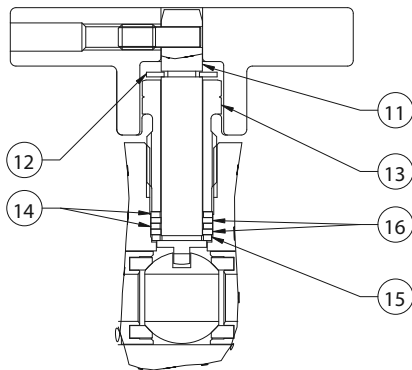
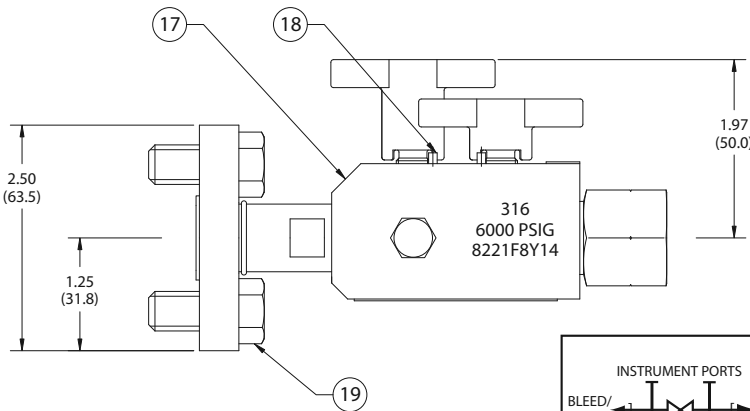
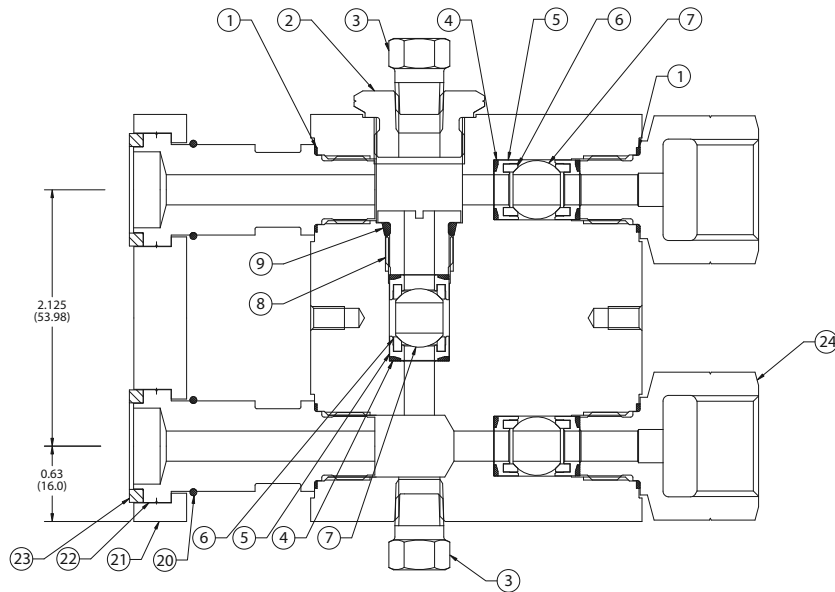
Cam kit **8200KS** can be field installed or factory assembled to the manifold at time of order. For factory assembled, add part number **8200KS** to the end of the manifold part number.

Rotofold Ball Valve Manifold - Pipe by Flange

Special Application Manifolds

Dimensions and Materials

Dimensions are in inches (millimeters) are for reference only and are subject to change



| | DESCRIPTION | MATERIAL |
|----|------------------|---------------------|
| 1 | PLUG WASHER | PPTFE |
| 2 | VENT FITTING | 316 stainless steel |
| 3 | PIPE PLUG | 316 stainless steel |
| 4 | WASHER | Viton® |
| 5 | SEAT RETAINER | 316 stainless steel |
| 6 | SEAT | PCPTFE |
| 7 | BALL | 316 stainless steel |
| 8 | INSERT | 316 stainless steel |
| 9 | O-RING | Fluorelastomer |
| 10 | HANDLE | Aluminum alloy 360 |
| 11 | STEM | 316 stainless steel |
| 12 | RETAINING RING | PH15-7MO |
| 13 | STEM RETAINER | 316 stainless steel |
| 14 | SHIM WASHER | 316 stainless steel |
| 15 | SHIM WASHER | 316 stainless steel |
| 16 | SHIM WASHER | PPTFE |
| 17 | MANIFOLD BODY | 316 stainless steel |
| 18 | SPIRAL PIN | 302 stainless steel |
| 19 | CAP SCREW | Carbon Steel |
| 20 | RETAINING RING | 302 stainless steel |
| 21 | FLANGE | Carbon Steel |
| 22 | FLANGE CONNECTOR | 316 stainless steel |
| 23 | WASHER | PPTFE |
| 24 | END FITTING | 316 stainless steel |

How to Order Rotofold-Pipe by Flange

| CONNECTIONS | | | PART NUMBER |
|-------------------|-----------------|------------------------|----------------|
| BODY OUTLET STYLE | INLET PROCESS | OUTLET INSTRUMENTATION | |
| Flange | 1/2" Female NPT | Flange | 8221F8Y |

Cam-valve sequencing handles order Part # **8200K5**

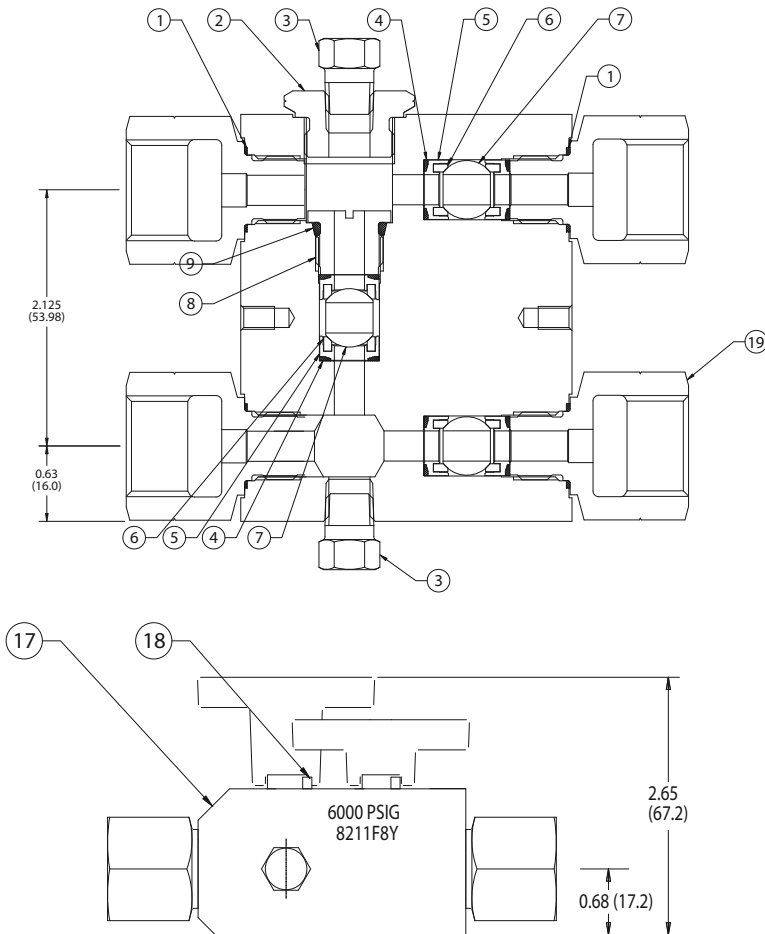
Mani-Mount mounting module - see page 17 for details (available for **8221F8Y** only)

Rotofold Ball Valve Manifold - Pipe by Pipe

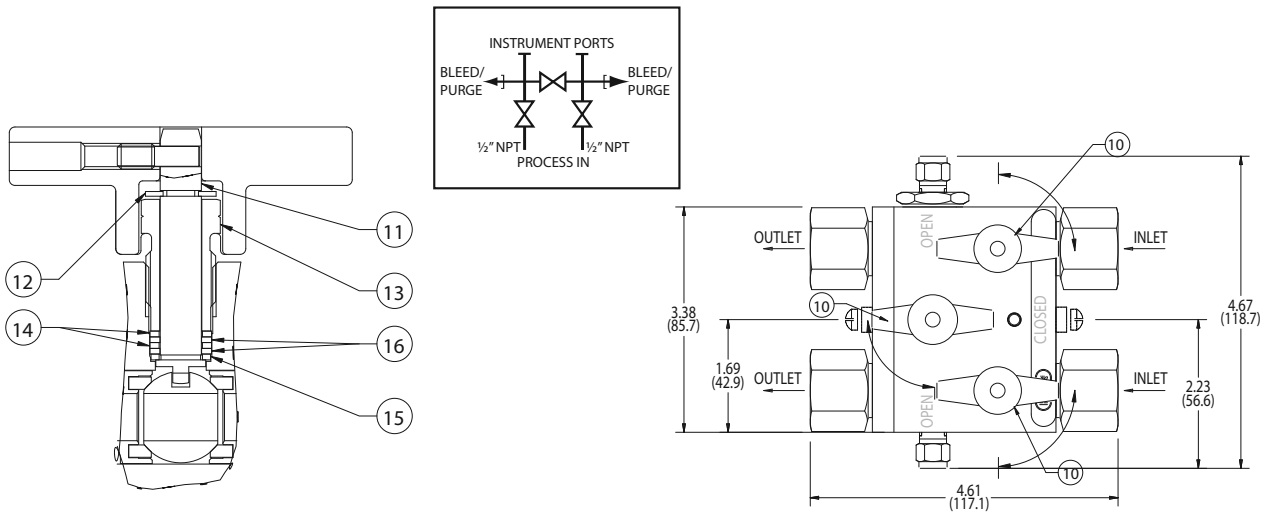
Special Application Manifolds

Dimensions and Materials

Dimensions are in inches (millimeters) are for reference only and are subject to change



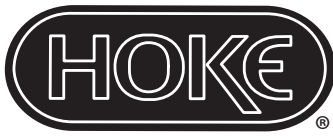
| | DESCRIPTION | MATERIAL |
|----|----------------|---------------------|
| 1 | PLUG WASHER | PPTFE |
| 2 | VENT FITTING | 316 stainless steel |
| 3 | PIPE PLUG | 316 stainless steel |
| 4 | WASHER | Viton® |
| 5 | SEAT RETAINER | 316 stainless steel |
| 6 | SEAT | PCPTFE |
| 7 | BALL | 316 stainless steel |
| 8 | INSERT | 316 stainless steel |
| 9 | O-RING | Fluorelastomer |
| 10 | HANDLE | Aluminum alloy 360 |
| 11 | STEM | 316 stainless steel |
| 12 | RETAINING RING | PH15-7MO |
| 13 | STEM RETAINER | 316 stainless steel |
| 14 | SHIM WASHER | 316 stainless steel |
| 15 | SHIM WASHER | 316 stainless steel |
| 16 | SHIM WASHER | PPTFE |
| 17 | MANIFOLD BODY | 316 stainless steel |
| 18 | SPIRAL PIN | 302 stainless steel |
| 19 | END FITTING | 316 stainless steel |



How to Order Rotofold-Pipe by Pipe

| CONNECTIONS | | | PART NUMBER |
|-------------------|-----------------|------------------------|-------------|
| BODY OUTLET STYLE | INLET PROCESS | OUTLET INSTRUMENTATION | |
| NPT Pipe | 1/2" Female NPT | 1/2" Female NPT | 8211F8Y |

Cam-valve sequencing handles order Part # **8200K5**



Pentafold 5-Valve Manifold

The HOKE® Pentafold 5-valve manifold is specifically designed for use with differential pressure transmitters when applied to gas flow measurement. This manifold design uses two PCPTFE seated ball valves and three needle valves with non-rotating PCPTFE stem tips as bypass or equalizing valves and vent valves. The two by-pass valves assure no leakage across the high and low side of the orifice meter for critical gas flow measurement. The pipe by pipe Pentafold design allows the manifold to be mounted away from the process but close to a differential pressure transmitter through the use of impulse piping.



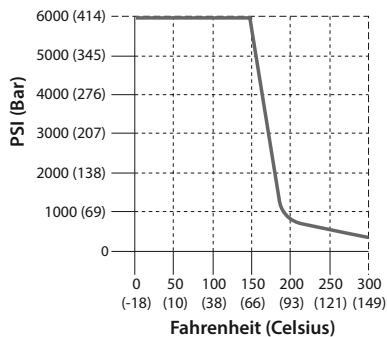
Technical Data

| | |
|------------------------------------|--|
| MAXIMUM OPERATING PRESSURE | 6000 psig (414 barg) |
| | -20° F to +150° F (-29°C to +66° C) |
| OPERATING TEMPERATURE RANGE | 400 psig @ +300° F (28 barg @ +149° C) |
| | 0° F to +300° F (-18°C to +149° C) |

Features & Benefits

- Static or vent ports provided on instrument side.
- Replaceable ball seats and stem tips extend service life, reducing cost.
- Threaded mounting hole provided on all models.
- Single manifold block has fewer potential leak paths than individually assembled valves.
- PTFE standard packing in all valves.
- Special High Tolerance NPT Thread

Pressure Temperature Curves



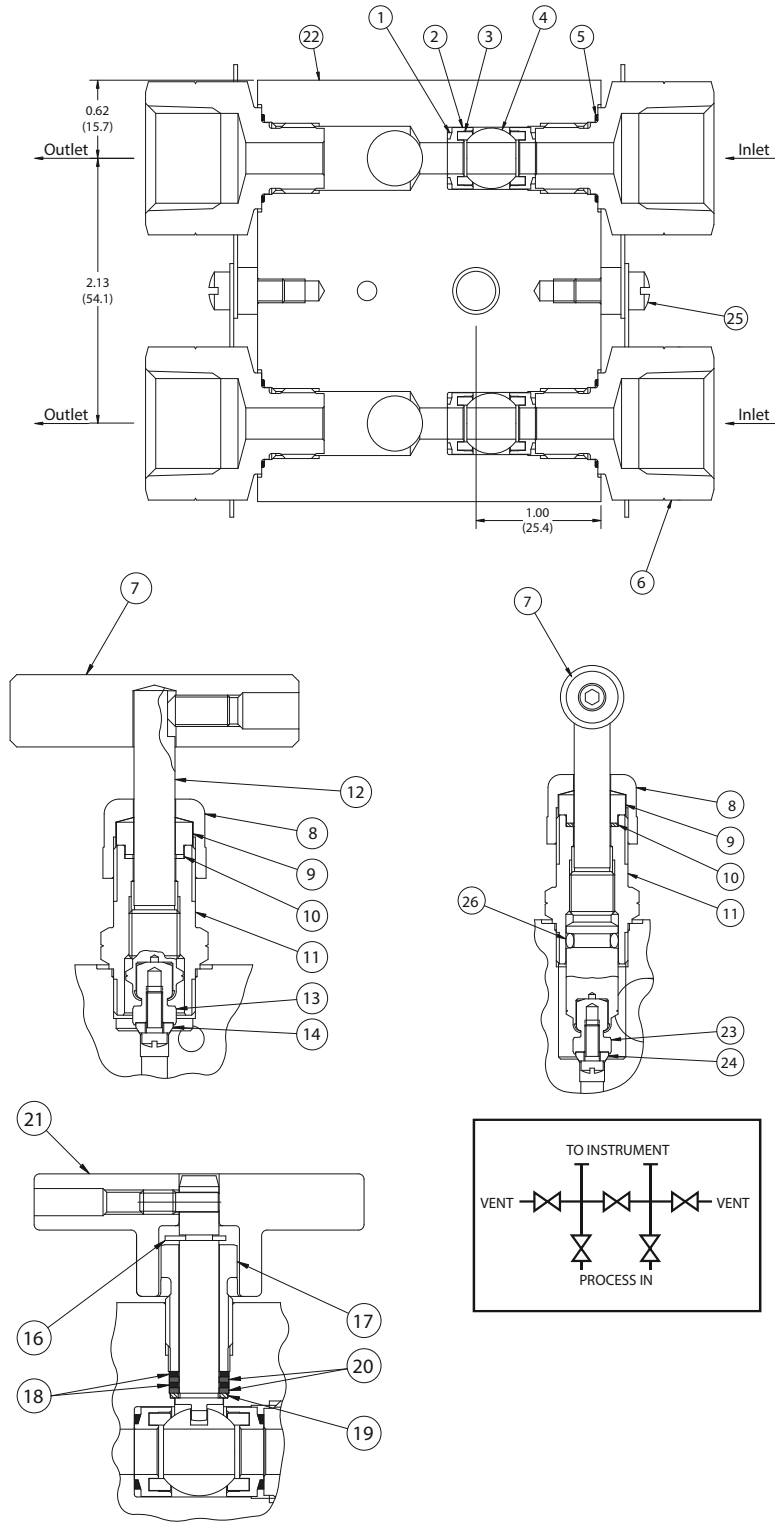
instrument manifolds

Pentafold 5-Valve Manifold

Special Application Manifolds

Dimensions and Materials

Dimensions are in inches (millimeters) are for reference only and are subject to change



| | DESCRIPTION | MATERIAL |
|----|----------------|----------------------|
| 1 | WASHER | Fluorelastomer |
| 2 | SEAT RETAINER | 316 stainless steel |
| 3 | SEAT | PCPTFE |
| 4 | BALL | 316 stainless steel |
| 5 | PLUG WASHER | PPTFE |
| 6 | END FITTING | 316 stainless steel |
| 7 | HANDLE | 316 stainless steel |
| 8 | PACKING NUT | 316 stainless steel |
| 9 | PACKING | PPTFE |
| 10 | SPACER | 316 stainless steel |
| 11 | HOUSING | 316 stainless steel |
| 12 | SPINDLE | 316 stainless steel |
| 13 | SEAT RETAINER | 316 stainless steel |
| 14 | SEAT | PCPTFE |
| 15 | STEM | 316 stainless steel |
| 16 | RETAINING RING | Stainless steel |
| 17 | STEM RETAINER | 316 stainless steel |
| 18 | SHIM WASHER | 316 stainless steel |
| 19 | SHIM WASHER | 316 stainless steel |
| 20 | SHIM WASHER | PPTFE |
| 21 | HANDLE | Aluminum alloy 360 |
| 22 | BODY | 316 stainless steel |
| 23 | SEAT RETAINER | 316 stainless steel |
| 24 | SEAT | PCPTFE |
| 25 | SCREW | 18-8 stainless steel |
| 26 | O-RING | Fluorelastomer |
| 27 | SPRING PIN | 302 stainless steel |

How to Order Pentafold

| CONNECTIONS | | PART NUMBER |
|-----------------|------------------------|-------------|
| INLET PROCESS | OUTLET INSTRUMENTATION | |
| 1/2" Female NPT | Flange | 8613F8Y |

Manifold Accessories

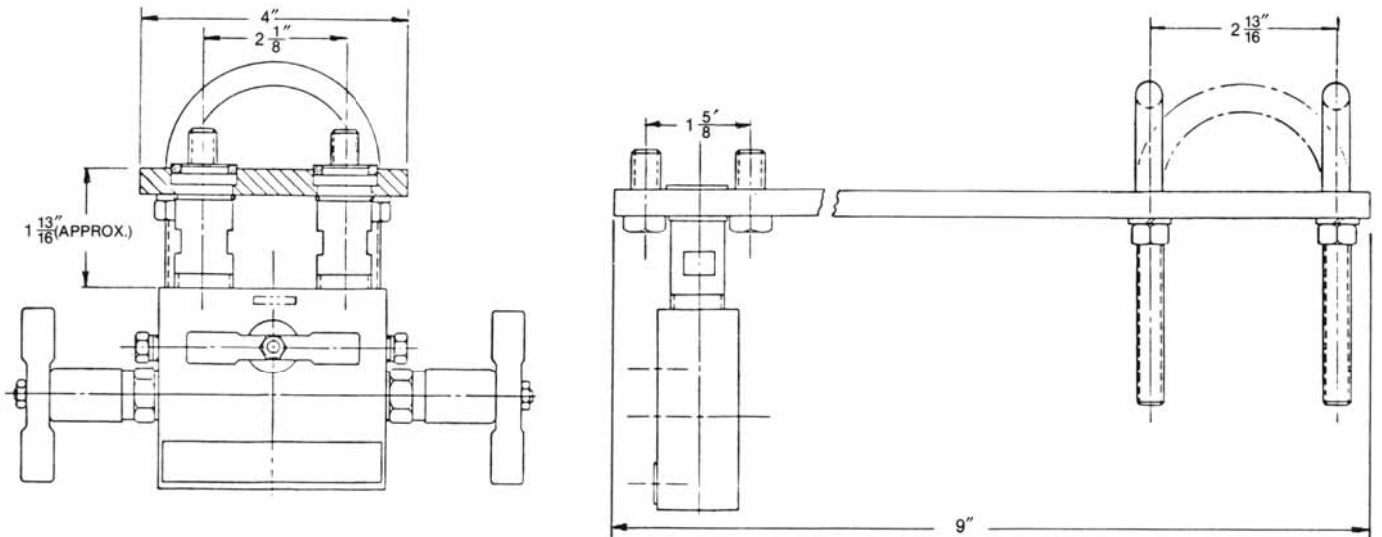
Mani-Mount Manifold Mounting System*

This installation method provides for rigid mounting of a Trifold or Rotofold manifold to a 2 inch pipe stand instead of a differential pressure transmitter. Only the manifold is mounted during construction, which permits storage of the transmitter until needed. The Mani-Mount not only provides a simple universal mounting solution, but also converts the manifold to a single flange design for direct mounting to the transmitter. The Mani-Mount can be used with any standard transmitter having 2 1/8" center to center process connections. Typical installation hardware costs are reduced because transmitter mounting brackets are not necessary.

*Available for Special Application Trifold **8122F8Y** and Rotofold **8221F8Y** models only

Features & Benefits

- Allows for rigid mounting of the manifold, instead of the transmitter.
- Simple universal mounting system for vertical, horizontal or either side of 2 inch pipe stand.
- Only the manifold needs to be mounted during construction; the transmitter can be securely stored until final installation.
- Transmitter mounting bracket is not necessary, reducing costs.
- Provides easy access to the transmitter by loosening 4 flange bolts.
- Fast installation process, saving time and money on costly conventional installations.
- Converts the manifold to a single flange style for direct mounting to the transmitter cell.
- Special High Tolerance NPT Thread

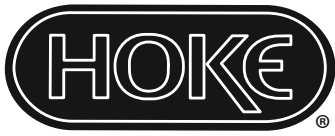


How to Order Kit*

PART NUMBER

8200K9

* manifold not included



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SAMPLING Inc.
405 Centura Ct.
Spartanburg, SC 29305, USA
Tel: 1-864-574-7966
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