

WEB VERSION

## Parker Phoenix Precision Brand Manifold Products

Compiled Catalogs

April, 2022

aerospace  
climate control  
electromechanical  
filtration  
fluid & gas handling  
hydraulics  
pneumatics  
process control  
sealing & shielding



Instrumentation Products Division

## Parker Instrumentation Products Division (IPD)

Live Chat Support is available from [www.parker.com/IPD](http://www.parker.com/IPD) when the Chat icon “” is visible on screen.

### **WARNING**

**FAILURE, IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.**

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog.

Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

ALL PARKER VALVES MUST PASS A RIGID OPERATIONAL AND LEAKAGE TEST BEFORE LEAVING THE FACTORY. IT IS RECOMMENDED AFTER ANY REASSEMBLY, THE VALVE SHOULD BE TESTED BY THE USER FOR OPERATION AND LEAKAGE. IF THESE INSTRUCTIONS ARE NOT FULLY COMPLIED WITH, THE REPAIRED PRODUCT MAY FAIL AND CAUSE DAMAGE TO PROPERTY OR INJURY TO PERSONS. PARKER HANNIFIN CANNOT ASSUME RESPONSIBILITY FOR PERFORMANCE OF A CUSTOMER SERVICED VALVE.

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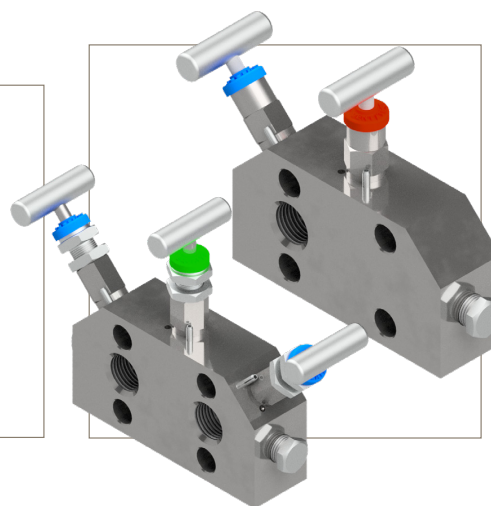
**PHOENIX™**  
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# bottom mount manifolds

# 2, 3, 5 Valve Bottom Mount Manifolds

## P2MBM™

1/8" Bore Bottom Mount Manifolds



### Principle of Operation:

The 1/8" bore bottom mount manifold is designed for transmitters having flanged bottom inlets with 2-1/8" spacing. The globe-style manifold affords maximum shut-off and is available in 2-valve, 3-valve, 5-valve gas and 5-valve power configurations in a variety of materials and a range of special tips. The manifold includes robust stems, pinned bonnets, and two mount holes for connecting to Parker's bracket mount.

### Features and Benefits:

- Pressure component materials sourced from the US, Canada or Europe  
Reliable material traceability. MTR's provided with every order for pressure containing components.
- 100% gas tested  
Complies with MSS SP-99 testing procedures as standard. Ensures structural integrity of valve.
- Packing below stem thread  
Prevents corrosion of critical stem threads
- Metal body-to-bonnet seals are in compression, not tension  
Mitigates risk of stress cracking
- Stem threads are rolled, not cut  
Higher quality stem for longer service life
- 8 RMS stem finish  
Extended packing life
- V-Style PTFE packing  
30-40% less operational torque and less frequent packing adjustments than traditional PTFE packed valves



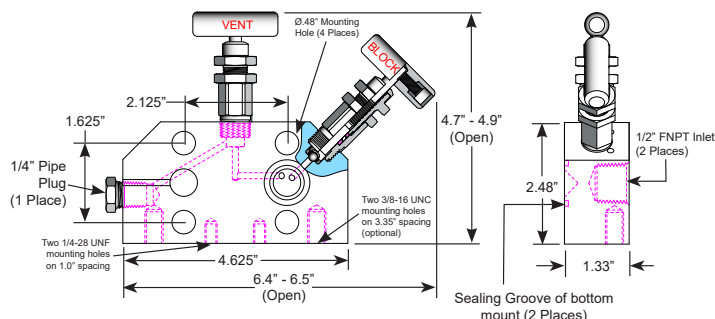
Parker Hannifin acquired PGI in 2012 and Phoenix Precision Ltd in 2014. The enclosed offering combines the best product features of the acquisitions and is the best available, safest technology to better serve customers.



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# P2MBM™: Technical Specifications

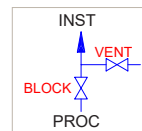
## 2 Valve Configuration



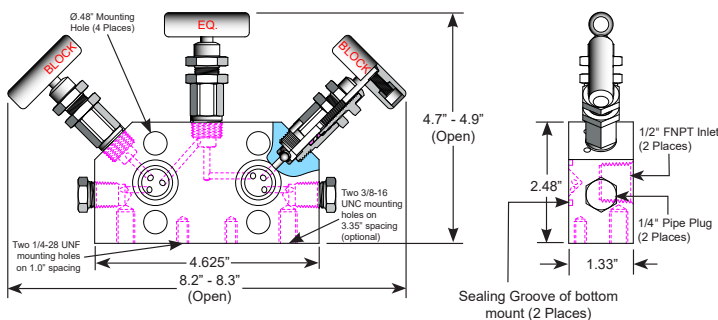
### Specifications:

Feature	Description
Type:	P2MB2H Valve Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	TFE/P, FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	1/8"
Inlet Connections:	1/2" FNPT
Outlet Connections:	Flange
Vent Port:	1/4" FNPT (1 Place, includes 1/4" Pipe Plug)
Bonnet Lock:	Pin or Plate
Body Stock:	4.625" x 2.48" x 1.33"
Weight:	3.90 lbs
Special Service:	O <sub>2</sub> or CL cleaning available*

Notes: \*Other specifications or services may be available.



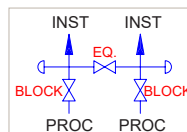
## 3 Valve Configuration



### Specifications:

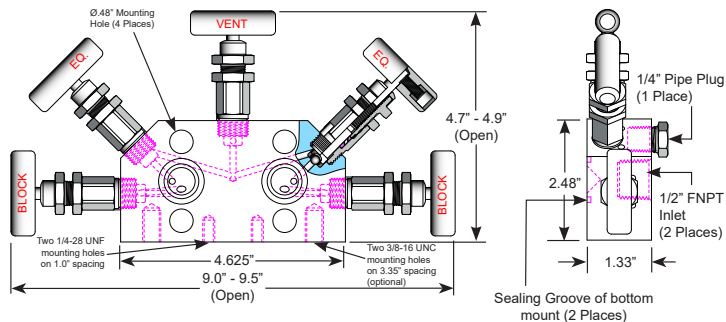
Feature	Description
Type:	P2MBM3H Valve, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	TFE/P, FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	1/8"
Inlet Connections:	1/2" FNPT
Outlet Connections:	Flange
Vent Port:	1/4" FNPT (2 Place, includes 1/4" Pipe Plugs)
Bonnet Lock:	Pin or Plate
Body Stock:	4.625" x 2.48" x 1.33"
Weight:	4.18 lbs
Special Service:	O <sub>2</sub> or CL cleaning available*

Notes: \*Other specifications or services may be available.



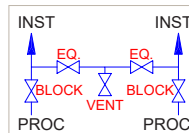
# P2MBM™: Technical Specifications

## 5 Valve Configuration (Gas)

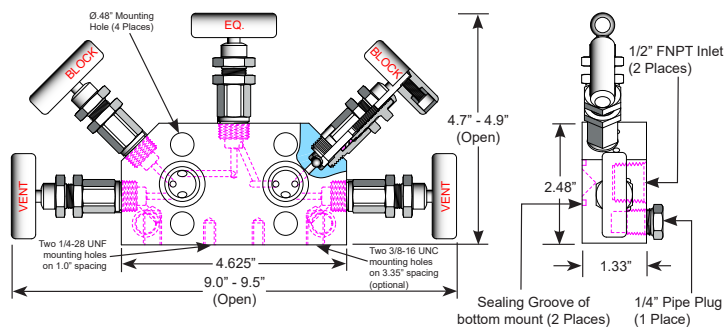


### Specifications:

Feature	Description
Type:	P2MB2H Valve Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	TFE/P, FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	1/8"
Inlet Connections:	1/2" FNPT
Outlet Connections:	Flange
Vent Port:	1/4" FNPT (1 Place, includes 1/4" Pipe Plug)
Bonnet Lock:	Pin or Plate
Body Stock:	4.625" x 2.48" x 1.33"
Weight:	3.90 lbs
Special Service:	O <sub>2</sub> or CL cleaning available*
Notes: *Other specifications or services may be available.	

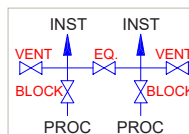


## 5 Valve Configuration (Power)



### Specifications:

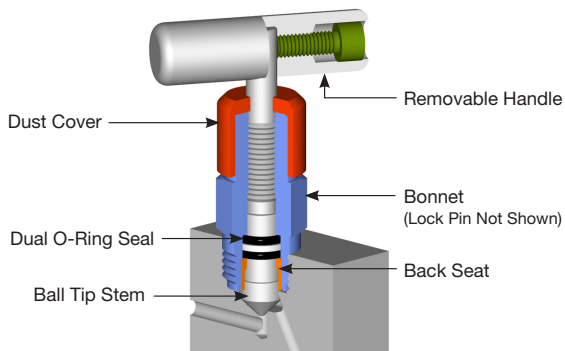
Feature	Description
Type:	P2MPB5H Valve, 2-Vent, 1-Equalize, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	TFE/P, FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	1/8"
Inlet Connections:	1/2" FNPT
Outlet Connections:	Flange
Vent Port:	1/4" FNPT (2 Places, includes 1/4" Pipe Plug)
Bonnet Lock:	Pin or Plate
Body Stock:	4.625" x 2.48" x 1.33"
Weight:	4.72 lbs
Special Service:	O <sub>2</sub> or CL cleaning available*
Notes: *Other specifications or services may be available.	



# P3M2H™: Bonnet, Stem, and Seat Characteristics

## O-Ring Bonnet Assembly

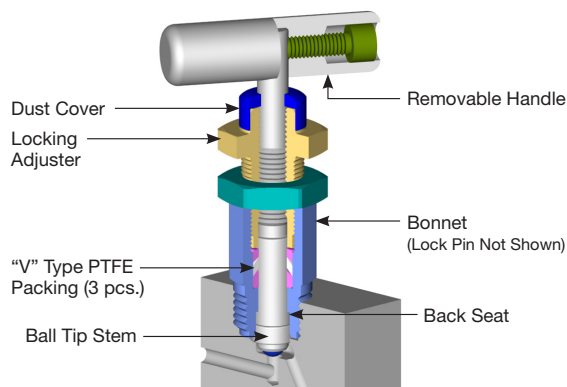
Standard Material					
Valve	Body	Bonnet	Stem	Ball	Packing
CS	ASTM A108CS	ASTM A108CS	ASTM A582 303SS	See Option Codes on Page 4	Dual FKM O-ring with PTFE Backup Ring
SC	ASTM A105CS	ASTM A182 316SS	ASTM A182 316SS		
316SS	ASTM A182 316SS	ASTM A182 316SS	ASTM A182 316SS		



## Packed Bonnet Assembly

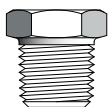
Standard Material					
Valve	Body	Bonnet	Stem	Ball	Packing
CS	ASTM A108CS	ASTM A108CS	ASTM A582 303SS	See Option Codes on Page 4	PTFE and Graphite
SC	ASTM A105CS	ASTM A182 316SS	ASTM A182 316SS		
316SS	ASTM A182 316SS	ASTM A182 316SS	ASTM A182 316SS		

Note: Low Torque Grafoil™ available (G4 Packing Code)



## Pipe Plug for Vent

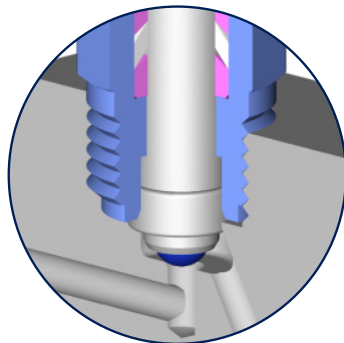
Standard Specifications: 1/4" Pipe Plug: PP4M



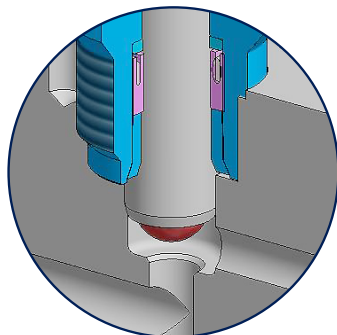
Specifications:  
 Rating: 10000 psi @ 100°F (68950 kpa @ 38°C)  
 Hex Size: 5/8"  
 Weight: 0.045 lbs (Length: 0.7")  
 \*Add SS for A182 316SS, CS for A108CS

# P3M2H™: Bonnet, Stem, and Seat Characteristics

## Stem and Seat Configurations

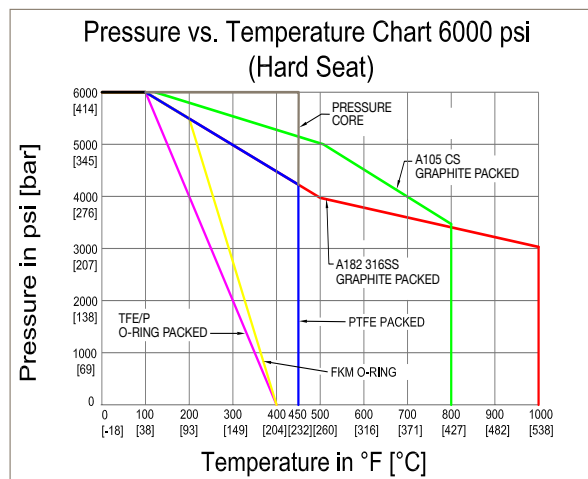


Mini Ball Tip



Pressure Core

## Pressure vs. Temperature



Note: Body material specifications based on ASME B16.34 - 2013.  
 Packing material ratings based on manufacturer's specifications.  
 Approximations only. Parker does not represent these values as finite.  
 They are provided only as representative values.

# P3M2H™ : Pressure-Core® Seal - Advanced Stem Seal System

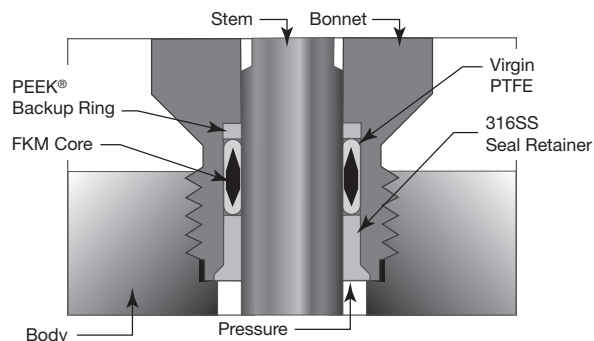
## A Superior Design for Better Performance:

Parker's patented Pressure-Core® Stem Seal System was tested by an independent laboratory in accordance with EPA Method 21, and the results indicate that the Pressure-Core® Stem Seal is a reliable, affordable, virtually leak-free bonnet requiring no costly, time consuming maintenance.

After years of field experience and millions of valves in service, Parker takes great pride in extending a five-year limited warranty on our Pressure-Core® Stem Seal, far exceeding the industry standard.

### Product Features:

- Virtually Leak-Free Performance
- No Adjustments or Maintenance Requirements
- Unmatched 5 Year Warranty
- No Fugitive Emissions



### Fugitive Emissions Test Results:

See for yourself how our Pressure-Core® not only outperforms the competition, but sets a new industry standard...

#### Test Procedure

Valves mechanically cycled 50 times (full open to full close) at 1,000 PSI methane, then heated to 400°F and air cooled to ambient. Procedure repeated until failure.

#### Failure Criteria

100 PPM leak\*

\*Competition's Emission Seal Warranty

#### Test Results:

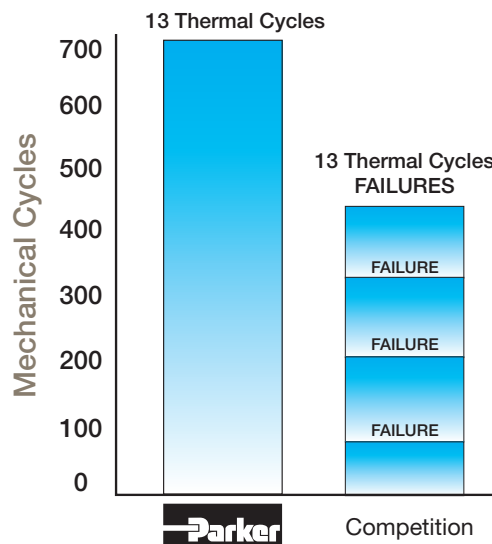
##### Parker:

The Pressure-Core Seal successfully completed 694 mechanical cycles and 13 thermal cycles. Maximum leakage throughout testing was 40 PPM.

##### Competition:

The competition's "low emissions" graphite design failed on the 89th mechanical cycle and on average every 125 cycles throughout the testing.

Repeated maintenance was required between each failure to readjust the valve packing.



# P3M2H™: Model Numbering System

Parker	Orifice Size	Type	Inlet Size & Type	Outlet Size & Type	Material	Packing	Seat	Stem Tip
P	2=1/8"	MBM2H 2 Valve Manifold	8F = 1/2" FNPT	FL = Flange	SS=ASTM A182 316/316L	A=TFE/P	Integral (leave blank)	B=316SS Ball Tip
		MBM3H 3 Valve Manifold			SC=ASTM A105 CS*	V=FKM		BC=Ceramic Ball Tip
		MBM5H 5 Valve Manifold			CS=ASTM A108 CS*	T=PTFE		BM=Monel™ Ball Tip
		MPBM5H 5 Valve Power Style			C5=ASTM A350 LF2	G=Graphite		
					N4=Monel™ 400	G4=Low Torque Grafoil™		
					N6=Inconel™ 625	P= Pressure Core		
					N8=Inconel™ 825			
					N2=Hastelloy™ C276			
EXAMPLE: <b>P2MBM3H8FFLSSTB</b> = Parker, 1/8" Orifice, Bottom Mount, 3-Valve, 1/2" MNPT Inlet, Flange Outlet, 316 SS Body, PTFE Packing, Integral Seat, 316 SS Ball Tip Stem								
<b>P</b>	<b>2</b>	<b>MBM3H</b>	<b>8F</b>	<b>FL</b>	<b>SS</b>	<b>T</b>		<b>B</b>
* For code applications, A108 CS is unacceptable, A105 CS must be selected for CS valves.								

Option Codes	Description
LB	Bonnet Lock
OC	Oxygen Clean
TG	SS Tag
SGI	Sour Gas ISO NACE Latest Rev.
S6	316 SS Bolts
N4	Monel™ 400 Stem
N5	Monel™ 500 Stem
N6	Inconel™625 Stem
N8	Inconel™825 Stem
N2	Hastelloy™ C276 Stem

## Meets the Following Specifications as required:

- ASME B31.1 Power Piping
- ASME B31.3 Process Piping
- ASME B16.34 Valves - Flanged, Thread, and Welding End
- API 598 Valve Inspection and Testing
- MSS SP-25 Standard Marking Systems for Valves, Fittings, and Flange Unions
- MSS SP-99 Instrument Valves
- MSS SP-105 Instrument Valves for Code Applications
- NACE MR0175 for all 316SS valves and A105CS body/316SS bonnet (SC Material Code)

## Seal and Seat Temperature Rating:

Code	Description	Min. Temperature	Max. Temperature
A	TFE/P	15°F (-10°C)	400°F (204°C)
V	FKM	-20°F (-29°C)	400°F (204°C)
P	Pressure Core	-40°F (-40°C)	450°F (232°C)
T	PTFE	-65°F (-54°C)	450°F (232°C)
G	Graphite		
	SS Body	-70°F (-56°C)	1000°F (537°C)
	CS Body	-70°F (-56°C)	800°F (427°C)
Note: Grafoil™ is suitable for services in excess of 1000°F in a non-oxidizing environment.			

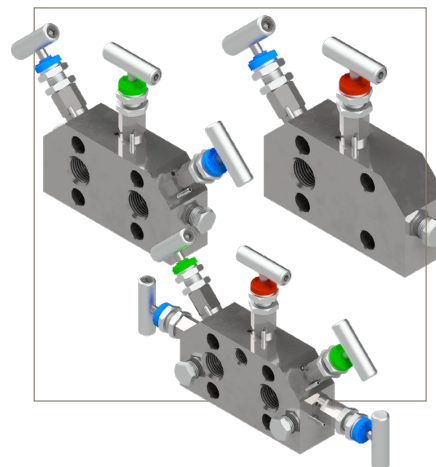
**PHOENIX™**  
PRECISION 

# coplanar manifolds

# 2, 3, 5 Valve Coplanar Style Manifolds

**P2MCP™**

1/8" Bore Coplanar Manifolds



## Principle of Operation:

The 1/8" bore coplanar manifold mounts directly to a coplanar- style transmitter (i.e.: Rosemount™ 3051 Series transmitters) eliminating the need for a coplanar flange. The globe-style manifold affords maximum shut-off and is available in 2-valve, 3-valve, 5-valve gas and 5-valve power configurations in a variety of materials and a range of special tips. The manifold includes robust stems, pinned bonnets, and two mount holes for connecting to Parker's bracket mount. Mounting holes for alternate bracket mounts are available.

## Features and Benefits:

- Pressure component materials sourced from the US, Canada or Europe  
Reliable material traceability. MTR's provided with every order for pressure containing components.
- 100% gas tested  
Complies with MSS SP-99 testing procedures as standard. Ensures structural integrity of valve.
- Packing below stem thread  
Prevents corrosion of critical stem threads
- Metal body-to-bonnet seals are in compression, not tension  
Mitigates risk of stress cracking
- Stem threads are rolled, not cut  
Higher quality stem for longer service life
- 8 RMS stem finish  
Extended packing life
- V-Style PTFE packing  
30-40% less operational torque and less frequent packing adjustments than traditional PTFE packed valves



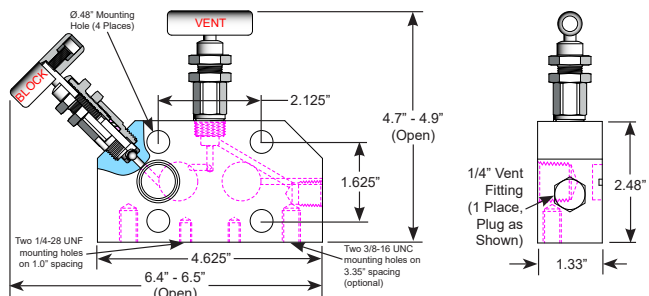
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# P2MCP™: Technical Specifications

## 2 Valve Configuration

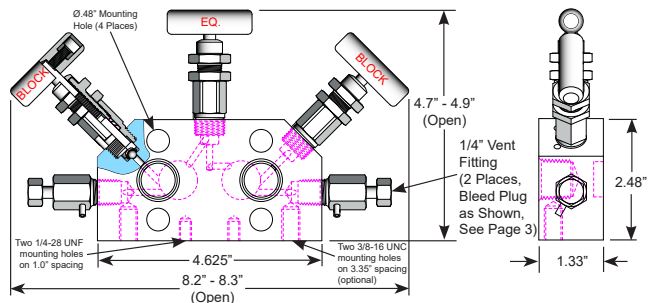


### Specifications:

Feature	Description
Type:	P2MCP2H Valve Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	TFE/P, FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	1/8"
Inlet Connections:	1/2" FNPT
Outlet Connections:	Flange
Vent Port:	1/4" FNPT (1 Place, includes 1/4" Pipe Fittings)
Bonnet Lock:	Pin or Plate
Body Stock:	4.625" x 2.48" x 1.33"
Weight:	3.90 lbs
Special Service:	O <sub>2</sub> or CL cleaning available*

Notes: \*Other specifications or services may be available.

## 3 Valve Configuration



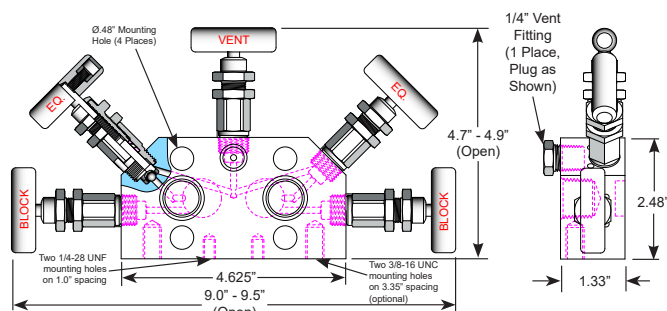
### Specifications:

Feature	Description
Type:	P2MCP3H Valve, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	TFE/P, FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	1/8"
Inlet Connections:	1/2" FNPT
Outlet Connections:	Flange
Vent Port:	1/4" FNPT (2 Place, includes 1/4" Pipe Fittings)
Bonnet Lock:	Pin or Plate
Body Stock:	4.625" x 2.48" x 1.33"
Weight:	4.18 lbs
Special Service:	O <sub>2</sub> or CL cleaning available*

Notes: \*Other specifications or services may be available.

# P2MCP™ : Technical Specifications

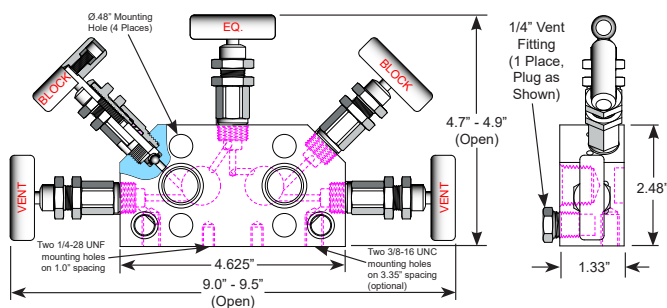
## 5 Valve Configuration (Gas)



### Specifications:

Feature	Description
Type:	P2MCP5H Valve, 1-Vent, 2-Equalize, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	TFE/P, FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	1/8"
Inlet Connections:	1/2" FNPT
Outlet Connections:	Flange
Vent Port:	1/4" FNPT (1 Place, includes 1/4" Pipe Fittings)
Bonnet Lock:	Pin or Plate
Body Stock:	4.625" x 2.48" x 1.33"
Weight:	4.72 lbs
Special Service:	O <sub>2</sub> or CL cleaning available*
Notes: *Other specifications or services may be available.	

## 5 Valve Configuration (Power)



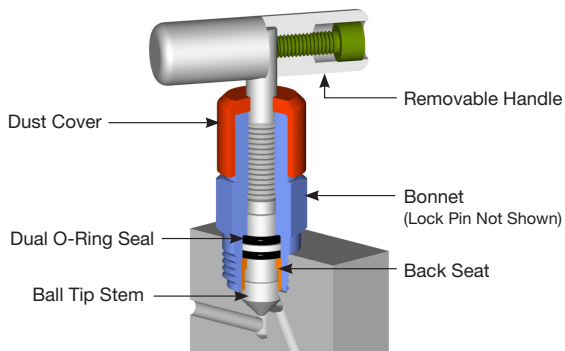
### Specifications:

Feature	Description
Type:	P2MPCP5H Valve, 2-Vent, 1-Equalize, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	TFE/P, FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	1/8"
Inlet Connections:	1/2" FNPT
Outlet Connections:	Flange
Vent Port:	1/4" FNPT (2 Places, includes 1/4" Pipe Fittings)
Bonnet Lock:	Pin or Plate
Body Stock:	4.625" x 2.48" x 1.33"
Weight:	4.72 lbs
Special Service:	O <sub>2</sub> or CL cleaning available*
Notes: *Other specifications or services may be available.	

# P2MCP™: Bonnet, Stem, and Seat Characteristics

## O-Ring Bonnet Assembly

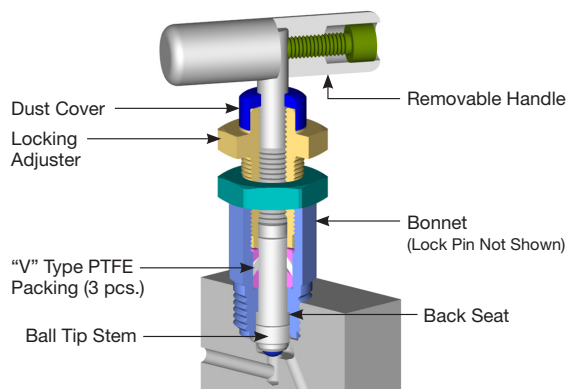
Standard Material					
Valve	Body	Bonnet	Stem	Ball	Packing
CS	ASTM A108CS	ASTM A108CS	ASTM A582 303SS	See Option Codes on Page 4	Dual FKM O-ring with PTFE Backup Ring
SC	ASTM A105CS	ASTM A182 316SS	ASTM A182 316SS		
316SS	ASTM A182 316SS	ASTM A182 316SS	ASTM A182 316SS		



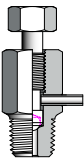
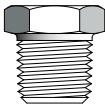
## Packed Bonnet Assembly

Standard Material					
Valve	Body	Bonnet	Stem	Ball	Packing
CS	ASTM A108CS	ASTM A108CS	ASTM A582 303SS	See Option Codes on Page 4	PTFE and Graphite
SC	ASTM A105CS	ASTM A182 316SS	ASTM A182 316SS		
316SS	ASTM A182 316SS	ASTM A182 316SS	ASTM A182 316SS		

Note: Low Torque Graphite available (G4 Packing Code)

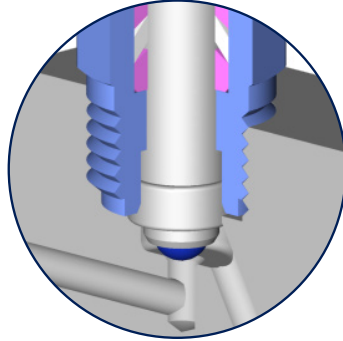


## Vent Pipe Fitting Options

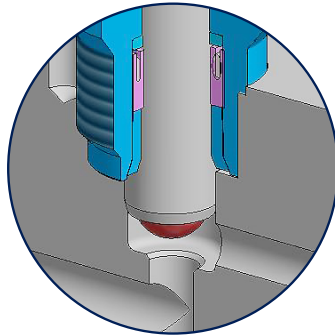
Standard Specifications	
	<p><b>Bleed Plug: P2BP4M</b>            Rating: 6000 psi @ 100°F (41370 kpa @ 38°C)            Stem: Ball Tip Stem            Seat: Integral            Handle: 1/2" Hex            Connections: 1/4" NPT            Hex Size: 5/8"            Weight: 0.18 lbs (Length: 1.5" open installed)            *Add SS for A182 316SS, CS for A108CS</p>
	<p><b>1/4" Pipe Plug: PP4M</b>            Specifications:            Rating: 10000 psi @ 100°F (68950 kpa @ 38°C)            Hex Size: 5/8"            Weight: 0.045 lbs (Length: 0.7")            *Add SS for A182 316SS, CS for A108CS</p>

# P2MCP™ : Bonnet, Stem, and Seat Characteristics

## Stem and Seat Configurations

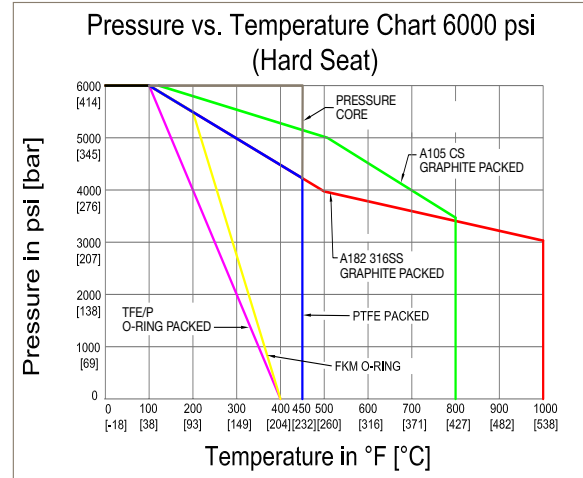


Mini Ball Tip  
(Optional)



Pressure Core  
(Optional)

## Pressure vs. Temperature



Note: Body material specifications based on ASME B16.34 - 2013.  
Packing material ratings based on manufacturer's specifications.  
Approximations only. Parker does not represent these values as finite.  
They are provided only as representative values.

# P2MCP™: Pressure-Core® Seal - Advanced Stem Seal System

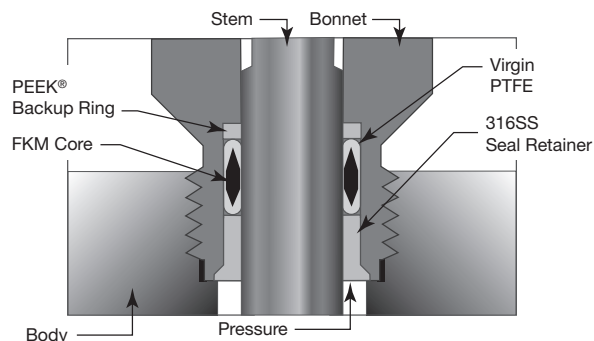
## A Superior Design for Better Performance:

Parker's patented Pressure-Core® Stem Seal System was tested by an independent laboratory in accordance with EPA Method 21, and the results indicate that the Pressure-Core® Stem Seal is a reliable, affordable, virtually leak-free bonnet requiring no costly, time consuming maintenance.

After years of field experience and millions of valves in service, Parker takes great pride in extending a five-year limited warranty on our Pressure-Core® Stem Seal, far exceeding the industry standard.

### Product Features:

- Virtually Leak-Free Performance
- No Adjustments or Maintenance Requirements
- Unmatched 5 Year Warranty
- No Fugitive Emissions



### Fugitive Emissions Test Results:

See for yourself how our Pressure-Core® not only outperforms the competition, but sets a new industry standard...

#### Test Procedure

Valves mechanically cycled 50 times (full open to full close) at 1,000 PSI methane, then heated to 400°F and air cooled to ambient. Procedure repeated until failure.

#### Failure Criteria

100 PPM leak\*

\*Competition's Emission Seal Warranty

#### Test Results:

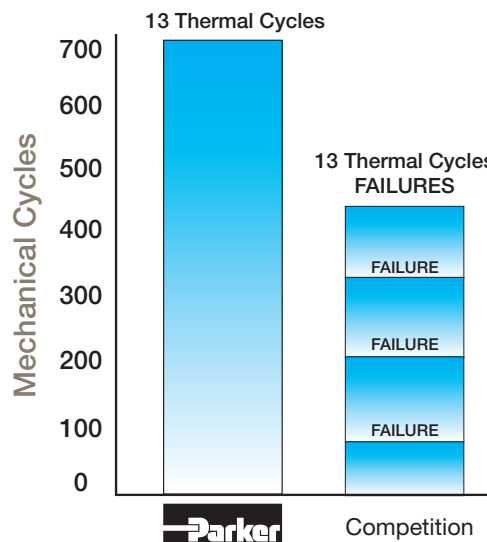
##### Parker:

The Pressure-Core Seal successfully completed 694 mechanical cycles and 13 thermal cycles. Maximum leakage throughout testing was 40 PPM.

##### Competition:

The competition's "low emissions" graphite design failed on the 89th mechanical cycle and on average every 125 cycles throughout the testing.

Repeated maintenance was required between each failure to readjust the valve packing.



# P2MCP™: Model Numbering System

Parker	Orifice Size	Type	Inlet Size & Type	Outlet Size & Type	Material	Packing	Seat	Stem Tip	Option Codes	Description
P	2=1/8"	MCP2H 2 Valve Coplanar	8F = 1/2" FNPT	FL = Flange	SS=ASTM A182 316/316L	A=TFE/P	Integral (leave blank)	B=316SS Ball Tip	LB	Bonnet Lock
		MCP3H 3 Valve Coplanar			SC=ASTM A105 CS*	V=FKM		BC=Ceramic Ball Tip	OC	Oxygen Clean
		MCP5H 5 Valve Coplanar			CS=ASTM A108 CS*	T=PTFE		BM=Monel™ Ball Tip	TG	SS Tag
		MCP5H 5 Valve Power Style			C5=ASTM A350 LF2	G=Graphite			SGI	Sour Gas ISO NACE Latest Rev.
					N4=Monel™ 400	G4=Low Torque Graphite			S6	316 SS Bolts
					N6=Inconel™ 625	P=Pressure Core			N4	Monel™ 400 Stem
					N8=Inconel™ 825				N5	Monel™ 500 Stem
					N2=Hastelloy™ C276				N6	Inconel™625 Stem
									N8	Inconel™825 Stem
									N2	Hastelloy™ C276 Stem
									BP	Bleed Plug
EXAMPLE: <b>P2MCP3H8FFLSSTB</b> = Parker, 1/8" Orifice, Coplanar, 3-Valve, 1/2" MNPT Inlet, Flange Outlet, 316 SS Body, PTFE Packing, Integral Seat, 316 SS Ball Tip Stem										
<b>P</b>	<b>2</b>	<b>MCP3H</b>	<b>8F</b>	<b>FL</b>	<b>SS</b>	<b>T</b>		<b>B</b>		
* For code applications, A108 CS is unacceptable, A105 CS must be selected for CS valves.										

## Meets the Following Specifications as required:

- ASME B31.1 Power Piping
- ASME B31.3 Process Piping
- ASME B16.34 Valves - Flanged, Thread, and Welding End
- API 598 Valve Inspection and Testing
- MSS SP-25 Standard Marking Systems for Valves, Fittings, and Flange Unions
- MSS SP-99 Instrument Valves
- MSS SP-105 Instrument Valves for Code Applications
- NACE MR0175 for all 316SS valves and A105CS body/316SS bonnet (SC Material Code)

## Seal and Seat Temperature Rating:

Code	Description	Min. Temperature	Max. Temperature
A	TFE/P	15°F (-10°C)	400°F (204°C)
V	FKM	-20°F (-29°C)	400°F (204°C)
P	Pressure Core	-40°F (-40°C)	450°F (232°C)
T	PTFE	-65°F (-54°C)	450°F (232°C)
G	Graphite		
	SS Body	-70°F (-56°C)	1000°F (537°C)
	CS Body	-70°F (-56°C)	800°F (427°C)
Note: Graphite is suitable for services in excess of 1000°F in a non-oxidizing environment.			

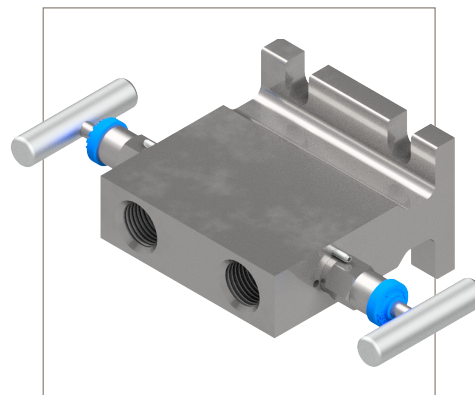
**PHOENIX™**  
PRECISION 

# 2-valve manifolds

# 2 Valve Liquid Level Manifold

## P3ML2H™

3/16" Bore Liquid Level Manifold



### Principle of Operation:

The P3ML2H manifold is designed to be used with differential pressure ( $\Delta P$ ) transmitters on pressurized vessels in liquid level applications. The P3ML2H features 2 isolation valves with no communication between the high pressure and the low pressure leg. It is available in both a 1/2" FNPT x Flange design and a Flange x Flange design.

### Features and Benefits:

- Pressure component materials sourced from the US, Canada or Europe  
Reliable material traceability. MTR's provided with every order for pressure containing components.
- 100% gas tested  
Complies with MSS SP-99 testing procedures as standard. Ensures structural integrity of valve.
- Packing below stem thread  
Prevents corrosion of critical stem threads
- Metal body-to-bonnet seals are in compression, not tension  
Mitigates risk of stress cracking
- Stem threads are rolled, not cut  
Higher quality stem for longer service life
- 8 RMS stem finish  
Extended packing life
- V-Style PTFE packing  
30-40% less operational torque and less frequent packing adjustments than traditional PTFE packed valves



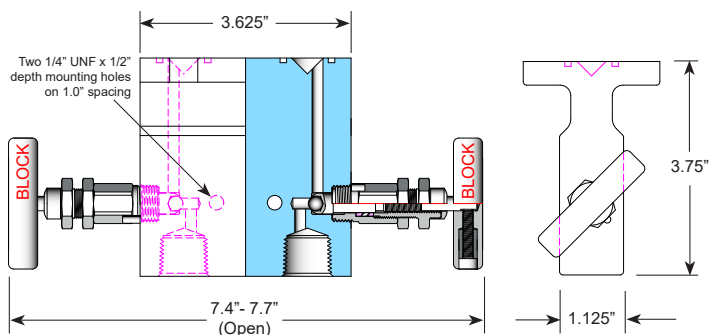
Parker Hannifin acquired PGI in 2012 and Phoenix Precision Ltd in 2014. The enclosed offering combines the best product features of the acquisitions and is the best available, safest technology to better serve customers.



ENGINEERING YOUR SUCCESS.

# P3ML2H™: Technical Specifications

## Pipe x Flange Configuration

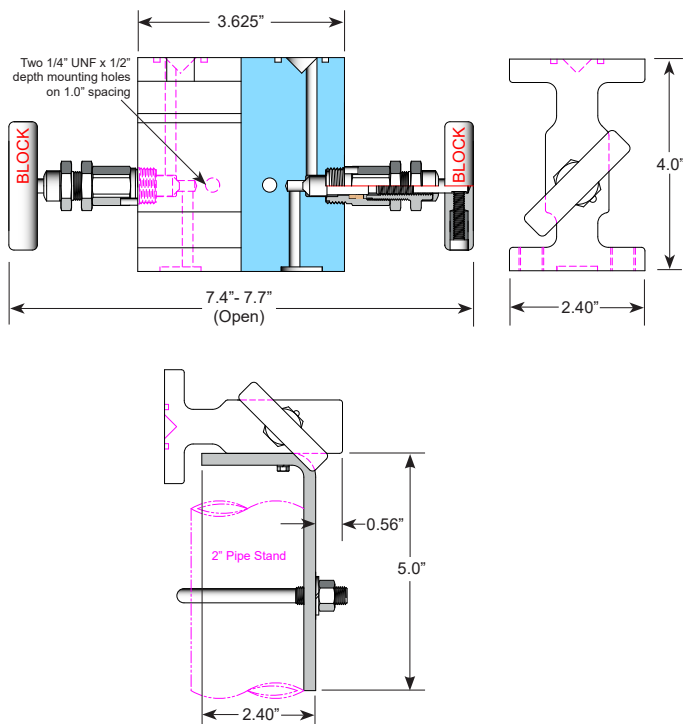


### Specifications:

Feature	Description
Type:	<b>P3ML2H</b> , 2-Valve Liquid Level Manifold, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	3/16"
Inlet Connections:	FNPT
Outlet Connections:	Flange
Bonnet Lock:	Pin or Plate
Body Stock:	3.750" x 3.625" x 2.4" x 1.125"
Weight:	4.7 lbs
Special Service:	O <sub>2</sub> or CL cleaning available*

Notes: \*Other specifications or services may be available.

## Flange x Flange Configuration



### Specifications:

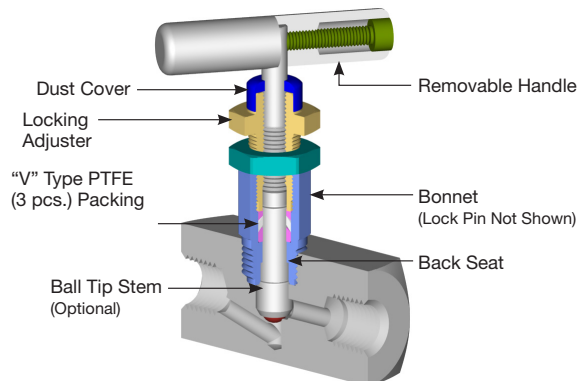
Feature	Description
Type:	<b>P3ML2H</b> , 2-Valve Liquid Level Manifold, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	3/16"
Inlet Connections:	Flange
Outlet Connections:	Flange
Bonnet Lock:	Pin or Plate
Body Stock:	4.0" x 3.625" x 2.4" x 1.125"
Weight:	5.1 lbs
Special Service:	O <sub>2</sub> or CL cleaning available*

Notes: \*Other specifications or services may be available.

# P3ML2H™ : Bonnet, Stem, and Seat Characteristics

## PTFE Bonnet Assembly

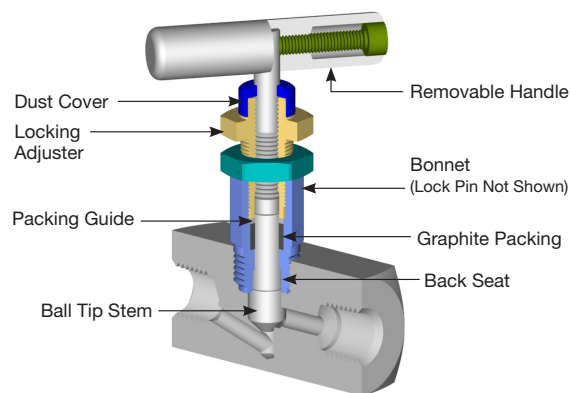
Standard Material					
Valve	Body	Bonnet	Stem	Ball	Packing
CS	ASTM A108CS	ASTM A108CS	ASTM A582 303SS	See Option Codes on Page 4	PTFE
SC	ASTM A105CS	ASTM A182 316SS	ASTM A182 316SS		
316SS	ASTM A182 316SS	ASTM A182 316SS	ASTM A182 316SS		



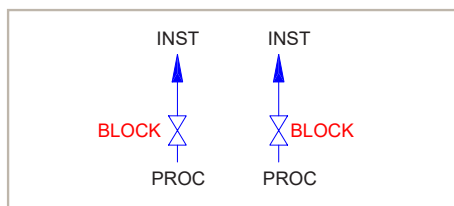
## Grafoil™ Bonnet Assembly

Standard Material					
Valve	Body	Bonnet	Stem	Ball	Packing
CS	ASTM A108CS	ASTM A108CS	ASTM A582 303SS	See Option Codes on Page 4	Graphite
SC	ASTM A105CS	ASTM A182 316SS	ASTM A182 316SS		
316SS	ASTM A182 316SS	ASTM A182 316SS	ASTM A182 316SS		

Note: Low Torque Grafoil™ available (G4 Packing Code)

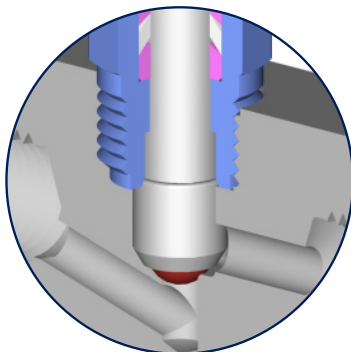


## Flow Diagram for all Manifolds:

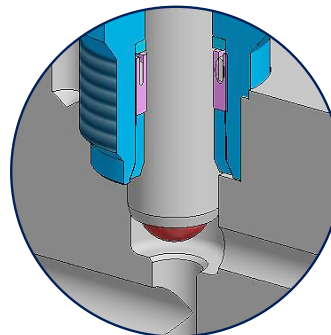


# P3ML2H™: Bonnet, Stem, and Seat Characteristics

## Stem and Seat Configurations

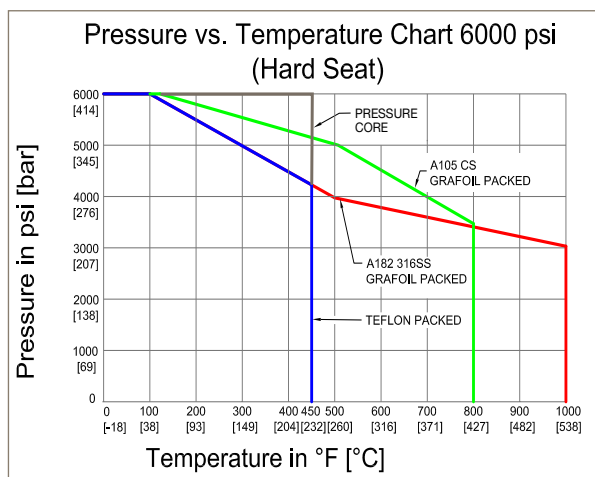


Ball Tip



Pressure Core

## Pressure vs. Temperature



Note: Body material specifications based on ASME B16.34 - 2013. Packing material ratings based on manufacturer's specifications. Approximations only. Parker does not represent these values as finite. They are provided only as representative values.

# P3ML2H™: Pressure-Core® Seal - Advanced Stem Seal System

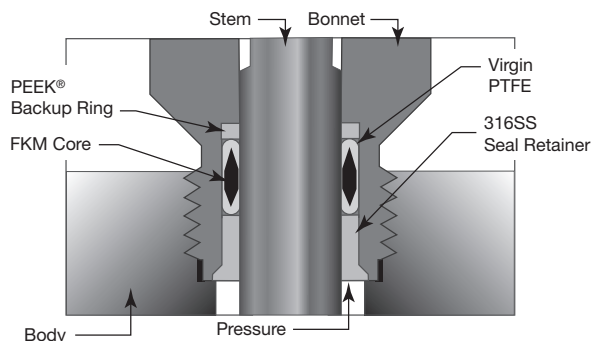
## A Superior Design for Better Performance:

Parker's patented Pressure-Core® Stem Seal System was tested by an independent laboratory in accordance with EPA Method 21, and the results indicate that the Pressure-Core® Stem Seal is a reliable, affordable, virtually leak-free bonnet requiring no costly, time consuming maintenance.

After years of field experience and millions of valves in service, Parker takes great pride in extending a five-year limited warranty on our Pressure-Core® Stem Seal, far exceeding the industry standard.

### Product Features:

- Virtually Leak-Free Performance
- No Adjustments or Maintenance Requirements
- Unmatched 5 Year Warranty
- No Fugitive Emissions



### Fugitive Emissions Test Results:

See for yourself how our Pressure-Core® not only outperforms the competition, but sets a new industry standard...

#### Test Procedure

Valves mechanically cycled 50 times (full open to full close) at 1,000 PSI methane, then heated to 400°F and air cooled to ambient. Procedure repeated until failure.

#### Failure Criteria

100 PPM leak\*

\*Competition's Emission Seal Warranty

#### Test Results:

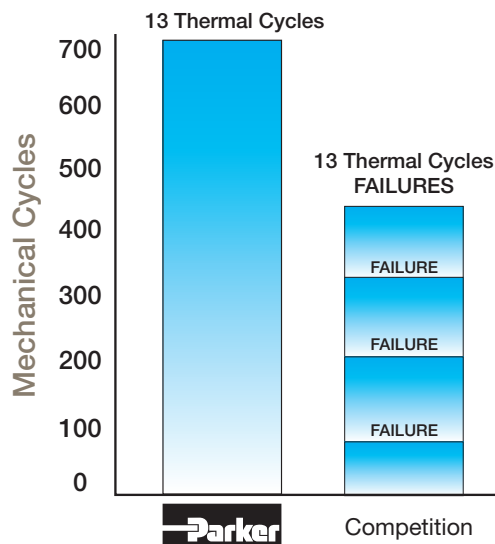
##### Parker:

The Pressure-Core Seal successfully completed 694 mechanical cycles and 13 thermal cycles. Maximum leakage throughout testing was 40 PPM.

##### Competition:

The competition's "low emissions" graphite design failed on the 89th mechanical cycle and on average every 125 cycles throughout the testing.

Repeated maintenance was required between each failure to readjust the valve packing.



# P3ML2H™: Model Numbering System

Parker	Orifice Size	Type	Inlet Size & Type	Outlet Size & Type	Material	Packing	Seat	Stem Tip
P	3=3/16"	ML2H	8F = FNPT	FL = Flange	SS=ASTM A182 316/316L	T=PTFE	Integral (leave blank)	B=316SS Ball Tip
			FL = Flange		SC=ASTM A105 CS*	G=Graphite		BC=Ceramic Ball Tip
			FT = Female Tube Fitting		CS=ASTM A108 CS*	P=Pressure Core		BM=Monel™ Ball Tip
			4PT = 1/4" PTFree		C5=ASTM A350 LF2			
			6PT = 3/8" PTFree		N4=Monel™ 400			
			8PT = 1/2" PTFree		N6=Inconel™ 625			
					N8=Inconel™ 825			
					N2=Hastelloy™ C276			
EXAMPLE: <b>P3ML2H8FFLSSTB</b> = 3/16" Orifice, 2-Valve Liquid Level Manifold, 1/2" FNPT Inlet, Flange Outlet, 316 SS Body, PTFE Packing, Integral Seat, 316 SS Ball Tip Stem								
<b>P</b>	<b>3</b>	<b>ML2H</b>	<b>8F</b>	<b>FL</b>	<b>SS</b>	<b>T</b>		<b>B</b>
*For code applications, A105 CS must be selected for CS valves. Code grade bolts must be specified for code applications. <b>Note:</b> Standard Bolting Options, <b>CS</b> - carbon steel, Gr.8, zinc plated bolts; <b>SS</b> - stainless steel, 18.8 (304SS) bolts.								

Option Codes	Description
LB	Bonnet Lock
OC	Oxygen Clean
TG	SS Tag
N4	Monel™ 400 Stem
N6	Inconel™ 625 Stem
N8	Inconel™ 825 Stem
N2	Hastelloy™ C276 Stem
H(V)MB	Horizontal (Vertical) Mounting Bracket
H(V)MBS	SS Horizontal (Vertical) Mounting Bracket
S6	316 SS Bolts
225CS	2.25" CS Bolts
225S4	2.25" 304 SS Bolts
225S6	2.25" 316 SS Bolts
TB	1/4" FNPT Test Ports Bottom
PB	1/4" FNPT Purge Ports Bottom
B7	AISI 4140/4142 QT
B8C1	Class 1, 304SS, ST
B8MC1	Class 1, 316SS, ST
B8C2	Class 2, 304SS, ST, SH
B8MC2	Class 2, 316SS, ST, SH

Code Bolting Information
1. B7, B8C1, B8MC1, B8C2, B8MC2 are code grades to ASTM A193;
2. To specify code grade bolting, example: 225B7 indicates 2.25" bolt length; B7 grade, alloy steel, AISI 4140/4142
3. QT-Quenched & Tempered; ST-Carbide Solution Treated; SH-Strain Hardened

## Meets the Following Specifications as required:

- ASME B31.1 Power Piping
- ASME B31.3 Process Piping
- ASME B16.34 Valves - Flanged, Thread, and Welding End
- API 598 Valve Inspection and Testing
- MSS SP-25 Standard Marking Systems for Valves, Fittings, and Flange Unions
- MSS SP-99 Instrument Valves
- MSS SP-105 Instrument Valves for Code Applications
- NACE MR0175 for all 316SS valves and A105CS body/316SS bonnet (SC Material Code)

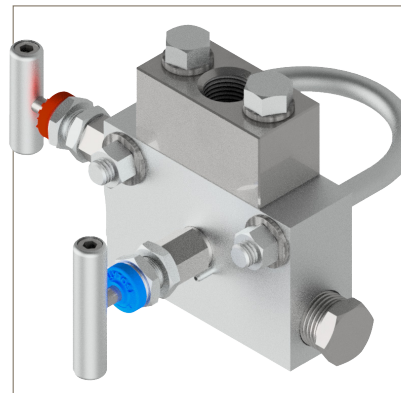
## Seal and Seat Temperature Rating:

Code	Description	Min. Temperature	Max. Temperature
T	PTFE	-65°F (-54°C)	450°F (232°C)
G	Graphite		
	SS Body	-70°F (-56°C)	1000°F (537°C)
	CS Body	-70°F (-56°C)	800°F (427°C)
Note: Grafoil™ is suitable for services in excess of 1000°F in a non-oxidizing environment.			

# 2 Valve Pipe x Pipe Manifold

## P3M2H™ (PxP)

3/16" Bore 2 Valve Pipe x Pipe Manifold



### Principle of Operation:

The 2-valve block and bleed manifold is an efficient and economical choice for static pressure measurement due to its built-in vent/calibration port. The pipe-by-pipe design features a body manufactured from extruded solid bar, robust stems and bonnets pinned for safety. Parker's unique design assures a bubble tight seal. The manifold is offered in a variety of special tips, materials and configurations that meet most application requirements.

### Features and Benefits:

- Pressure component materials sourced from the US, Canada or Europe  
Reliable material traceability. MTR's provided with every order for pressure containing components.
- 100% gas tested  
Complies with MSS SP-99 testing procedures as standard. Ensures structural integrity of valve.
- Packing below stem thread  
Prevents corrosion of critical stem threads
- Metal body-to-bonnet seals are in compression, not tension  
Mitigates risk of stress cracking
- Stem threads are rolled, not cut  
Higher quality stem for longer service life
- 8 RMS stem finish  
Extended packing life
- V-Style PTFE packing  
30-40% less operational torque and less frequent packing adjustments than traditional PTFE packed valves



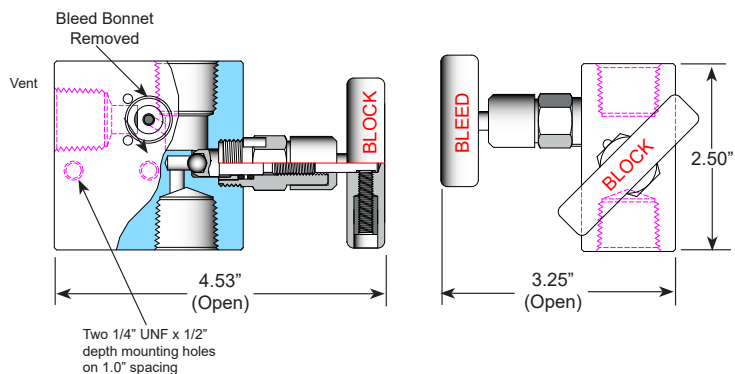
Parker Hannifin acquired PGI in 2012 and Phoenix Precision Ltd in 2014. The enclosed offering combines the best product features of the acquisitions and is the best available, safest technology to better serve customers.



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# P3M2H™ (PxP): Technical Specifications

## Pipe x Pipe Configuration

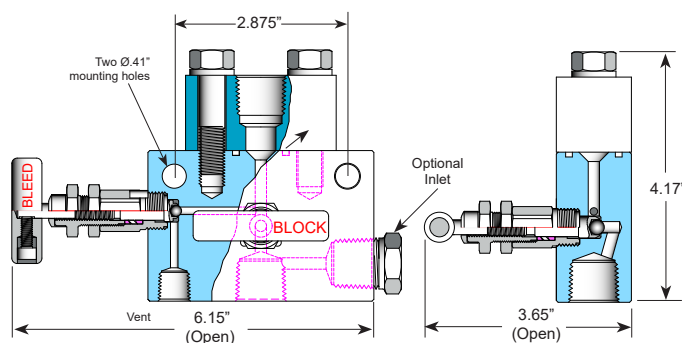


### Specifications:

Feature	Description
Type:	<b>P3M2H</b> , Pipe x Pipe, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	3/16" (Primary), 1/8" (Bleed)
Inlet Connections:	1/2" FNPT
Outlet Connections:	1/2" FNPT
Bleed Port:	1/2" FNPT
Bonnet Lock:	Pin or Plate
Body Stock:	2.5" x 2.5" x 1.25"
Weight:	2.24 - 2.31 lbs.
Special Service:	O <sub>2</sub> or CL cleaning available*

Notes: \*Other specifications or services may be available.

## Pipe x Futbol Configuration



### Specifications:

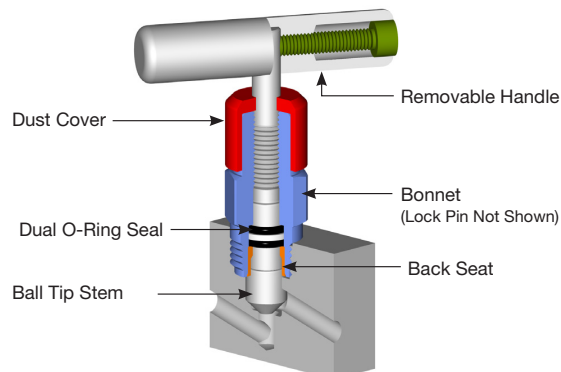
Feature	Description
Type:	<b>P3M2H</b> , Pipe x Futbol, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	3/16" (Primary), 1/8" (Bleed)
Inlet Connections:	1/2" FNPT
Outlet Connections:	1/2" FNPT
Bleed Port:	1/4" FNPT
Bonnet Lock:	Pin or Plate
Body Stock:	3.750" x 2.5" x 1.25"
Weight:	4.56 - 4.71 lbs.
Mounting:	Integral 2-inch "U" bolt for pipe stand mounting included
Special Service:	O <sub>2</sub> or CL cleaning available*

Notes: \*Other specifications or services may be available.

# P3M2H™ (PxP): Bonnet, Stem, and Seat Characteristics

## O-Ring Bonnet Assembly

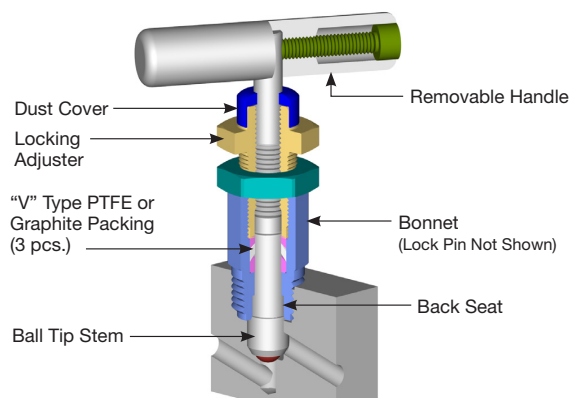
Standard Material					
Valve	Body	Bonnet	Stem	Ball	Packing
CS	ASTM A108CS	ASTM A108CS	ASTM A582 303SS	See Option Codes on Page 4	Dual FKM O-ring with PTFE Backup Ring
SC	ASTM A105CS	ASTM A182 316SS	ASTM A182 316SS		
316SS	ASTM A182 316SS	ASTM A182 316SS	ASTM A182 316SS		



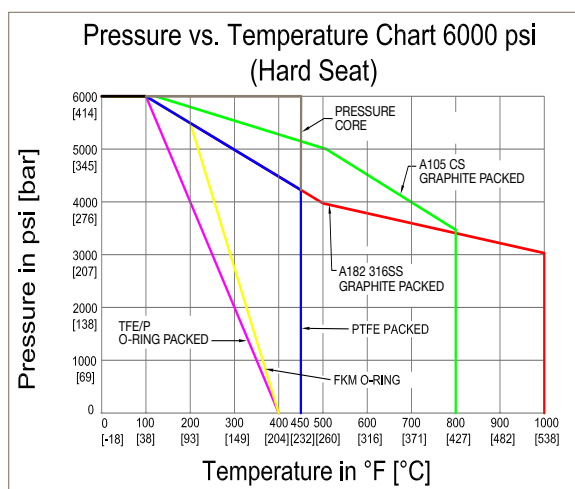
## PTFE or Grafoli™ Bonnet Assembly

Standard Material					
Valve	Body	Bonnet	Stem	Ball	Packing
CS	ASTM A108CS	ASTM A108CS	ASTM A582 303SS	See Option Codes on Page 4	PTFE and Graphite
SC	ASTM A105CS	ASTM A182 316SS	ASTM A182 316SS		
316SS	ASTM A182 316SS	ASTM A182 316SS	ASTM A182 316SS		

Note: Low Torque Grafoli™ available (G4 Packing Code)



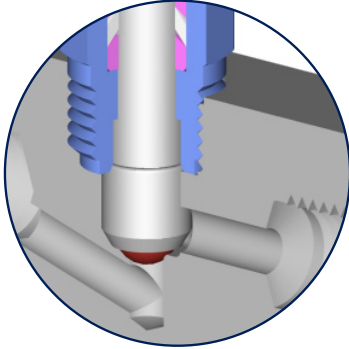
## Pressure vs. Temperature



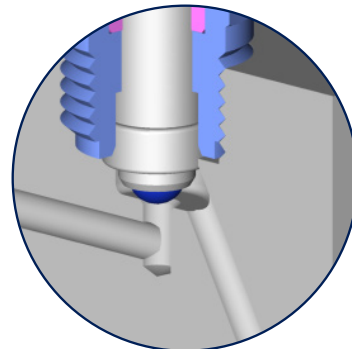
Note: Body material specifications based on ASME B16.34 - 2013.  
 Packing material ratings based on manufacturer's specifications.  
 Approximations only. Parker does not represent these values as finite.  
 They are provided only as representative values.

# P3M2H™ (PxP): Bonnet, Stem, and Seat Characteristics

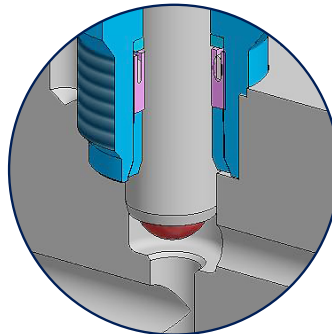
## Stem and Seat Configurations



3/16" Bore Ball Tip  
(Optional)



Mini Ball Tip  
(Optional)



Pressure Core  
(Optional)

# P3M2H™ (PxP): Pressure-Core® Seal - Advanced Stem Seal System

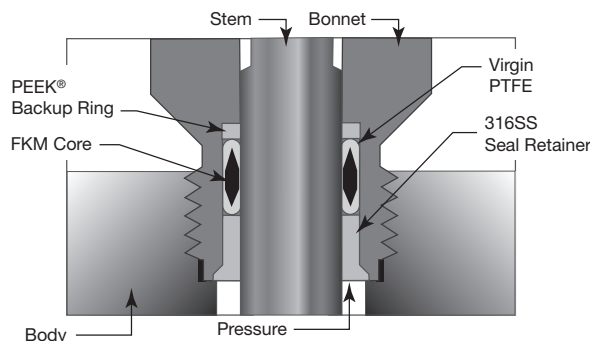
## A Superior Design for Better Performance:

Parker's patented Pressure-Core® Stem Seal System was tested by an independent laboratory in accordance with EPA Method 21, and the results indicate that the Pressure-Core® Stem Seal is a reliable, affordable, virtually leak-free bonnet requiring no costly, time consuming maintenance.

After years of field experience and millions of valves in service, Parker takes great pride in extending a five-year limited warranty on our Pressure-Core® Stem Seal, far exceeding the industry standard.

### Product Features:

- Virtually Leak-Free Performance
- No Adjustments or Maintenance Requirements
- Unmatched 5 Year Warranty
- No Fugitive Emissions



### Fugitive Emissions Test Results:

See for yourself how our Pressure-Core® not only outperforms the competition, but sets a new industry standard...

#### Test Procedure

Valves mechanically cycled 50 times (full open to full close) at 1,000 PSI methane, then heated to 400°F and air cooled to ambient. Procedure repeated until failure.

#### Failure Criteria

100 PPM leak\*

\*Competition's Emission Seal Warranty

#### Test Results:

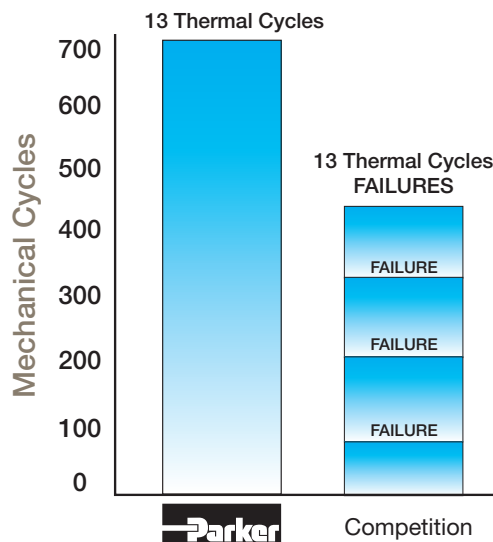
##### Parker:

The Pressure-Core Seal successfully completed 694 mechanical cycles and 13 thermal cycles. Maximum leakage throughout testing was 40 PPM.

##### Competition:

The competition's "low emissions" graphite design failed on the 89th mechanical cycle and on average every 125 cycles throughout the testing.

Repeated maintenance was required between each failure to readjust the valve packing.



# P3M2H™ (PxP): Model Numbering System

Parker	Orifice Size	Type	Inlet Size & Type	Outlet Size & Type	Material	Packing	Seat	Stem Tip
P	3=3/16"	M2H	8F = 1/2" FNPT	8F = 1/2" FNPT	SS=ASTM A182 316/316L	A=TFE/P	Integral (leave blank)	Needle Tip Standard (leave blank)
				FB = Futbol	SC=ASTM A105 CS*	V=FKM		B=316SS Ball Tip
					CS=ASTM A108 CS*	T=PTFE		BC=Ceramic Ball Tip
					C5=ASTM A350 LF2	G=Graphite		BM=Monel™ Ball Tip
					N4=Monel™ 400	G4=Low Torque Graphite		
					N6=Inconel™ 625	P=Pressure Core		
					N8=Inconel™ 825			
					N2=Hastelloy™ C276			
EXAMPLE: P3M2H8FFBSSTB = 3/16" Orifice, 2-Valve Manifold, 1/2" FNPT Inlet, Futbol Outlet, 316 SS Body, Teflon™ Packing, Integral Seat, 316 SS Ball Tip Stem								
P	3	M2H	8F	FB	SS	T		B

\* For code applications, A105 CS must be selected for CS valves. Code grade bolts must be specified for code applications.  
 \*\* Used for pipe x pipe manifolds only (See Option Codes)  
 Note: Standard Bolting Options, CS - carbon steel, Gr.8, zinc plated bolts; SS - stainless steel, 18.8 (304SS) bolts.

Option Codes	Description
LB	Bonnet Lock
OC	Oxygen Clean
TG	SS Tag
SGI	Sour Gas ISO NACE Latest Rev.
N4	Monel™ 400 Stem
N5	Monel™ 500 Stem
N6	Inconel™625 Stem
N8	Inconel™825 Stem
N2	Hastelloy™ C276 Stem
H(V)MB	Horizontal (Vertical) Mounting Bracket
H(V)MBS	SS Horizontal (Vertical) Mounting Bracket
S6	316 SS Bolts
225CS	2.25" CS Bolts
225S4	2.25" 304 SS Bolts
225S6	2.25" 316 SS Bolts
TB	1/4" FNPT Test Ports Bottom
PB	1/4" FNPT Purge Ports Bottom
B7	AISI 4140/4142 QT
B8C1	Class 1, 304SS, ST
B8MC1	Class 1, 316SS, ST
B8C2	Class 2, 304SS, ST, SH
B8MC2	Class 2, 316SS, ST, SH

Code Bolting Information
1. B7, B8C1, B8MC1, B8C2, B8MC2 are code grades to ASTM A193;
2. To specify code grade bolting, example: 225B7 indicates 2.25" bolt length; B7 grade, alloy steel, AISI 4140/4142
3. QT-Quenched & Tempered; ST-Carbide Solution Treated; SH-Strain Hardened

## Meets the Following Specifications as required:

- ASME B31.1 Power Piping
- ASME B31.3 Process Piping
- ASME B16.34 Valves - Flanged, Thread, and Welding End
- API 598 Valve Inspection and Testing
- MSS SP-25 Standard Marking Systems for Valves, Fittings, and Flange Unions
- MSS SP-99 Instrument Valves
- MSS SP-105 Instrument Valves for Code Applications
- NACE MR0175 for all 316SS valves and A105CS body/316SS bonnet (SC Material Code)

## Seal and Seat Temperature Rating:

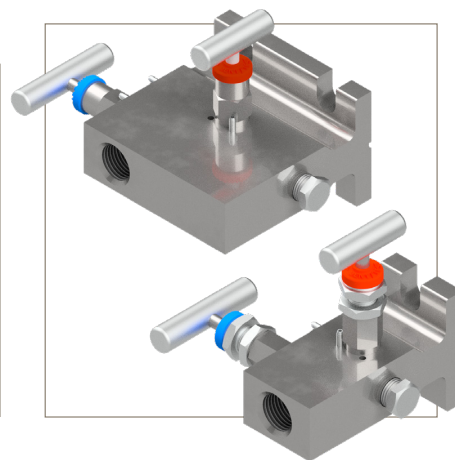
Code	Description	Min. Temperature	Max. Temperature
A	TFE/P	15°F (-10°C)	400°F (204°C)
V	FKM	-20°F (-29°C)	400°F (204°C)
P	Pressure Core	-40°F (-40°C)	450°F (232°C)
T	PTFE	-65°F (-54°C)	450°F (232°C)
G	Graphite		
	SS Body	-70°F (-56°C)	1000°F (537°C)
	CS Body	-70°F (-56°C)	800°F (427°C)

Note: Grafoil™ is suitable for services in excess of 1000°F in a non-oxidizing environment.

# 2 Valve Manifolds

## P3M2H™

3/16" Bore 2 Valve Manifolds



### Principle of Operation:

The 2-valve block and bleed manifold is a cost effective choice for static pressure measurement. The valve is designed with a built-in vent/calibration port and is available in two-bolt or four-bolt configurations. The manifold features a valve body manufactured from extruded solid bar, robust stems and Parker's unique globe pattern design which ensures a bubble tight seal. Bonnets are pinned for safety. Two standard mount holes are provided for bracket support. The 2-valve block and bleed manifold is available in a variety of stem tips, materials and configurations that meet most application requirements.

### Features and Benefits:

- Pressure component materials sourced from the US, Canada or Europe  
Reliable material traceability. MTR's provided with every order for pressure containing components.
- 100% gas tested  
Complies with MSS SP-90 testing procedures as standard. Ensures structural integrity of valve.
- Packing below stem thread  
Prevents corrosion of critical stem threads
- Metal body-to-bonnet seals are in compression, not tension  
Mitigates risk of stress cracking
- Stem threads are rolled, not cut  
Higher quality stem for longer service life
- 8 RMS stem finish  
Extended packing life
- V-Style PTFE packing  
30-40% less operational torque and less frequent packing adjustments than traditional PTFE packed valves



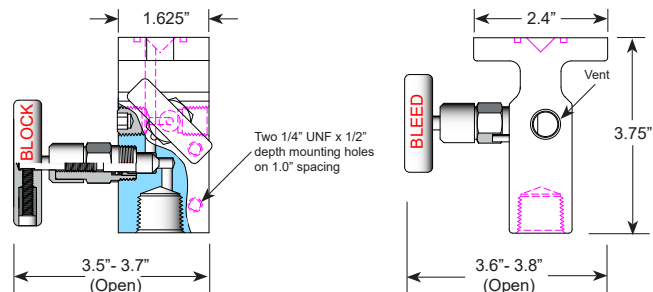
Parker Hannifin acquired PGI in 2012 and Phoenix Precision Ltd in 2014. The enclosed offering combines the best product features of the acquisitions and is the best available, safest technology to better serve customers.



ENGINEERING YOUR SUCCESS.

# P3M2H™: Technical Specifications

## Pipe x Flange (2 Bolt) Configuration

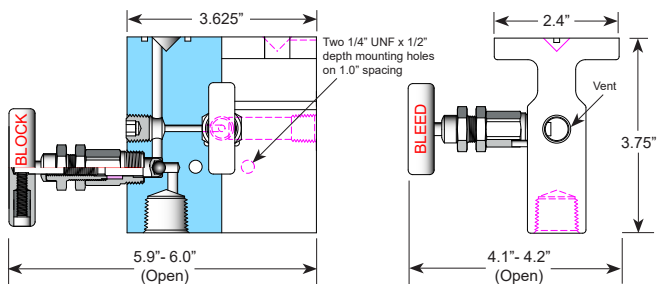


### Specifications:

Feature	Description
Type:	P3M2H, 2-Valve Manifold, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	3/16" (Primary), 1/8" (Bleed)
Inlet Connections:	FNPT
Outlet Connections:	2-Bolt Flange, 1/4" FNPT Bleed
Bonnet Lock:	Pin or Plate
Body Stock:	1.625" x 3.750" x 2.4" x 1.125"
Weight:	2.6 - 2.7 lbs
Special Service:	O <sub>2</sub> or CL cleaning available*

Notes: \*Other specifications or services may be available.

## Pipe x Flange (4 Bolt) Configuration



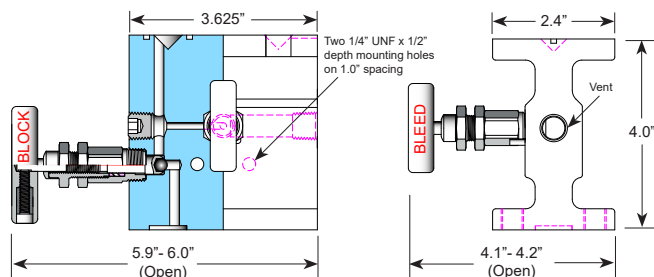
### Specifications:

Feature	Description
Type:	P3M2H, 2-Valve Manifold, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	3/16" (Primary), 1/8" (Bleed)
Inlet Connections:	FNPT
Outlet Connections:	4-Bolt Flange, 1/4" FNPT Bleed
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 3.750" x 2.4" x 1.125"
Weight:	4.6 - 4.7 lbs
Special Service:	O <sub>2</sub> or CL cleaning available*

Notes: \*Other specifications or services may be available.

# P3M2H™: Technical Specifications

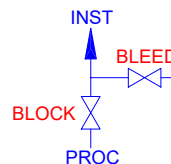
## Flange x Flange Configuration



### Specifications:

Feature	Description
Type:	P3M2H, 2-Valve Manifold, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	3/16" (Primary), 1/8" (Bleed)
Inlet Connections:	4-Bolt Flange
Outlet Connections:	4-Bolt Flange, 1/4" FNPT Bleed
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 4.0" x 2.4" x 1.125"
Weight:	5.0 - 5.1 lbs
Special Service:	O <sub>2</sub> or CL cleaning available*

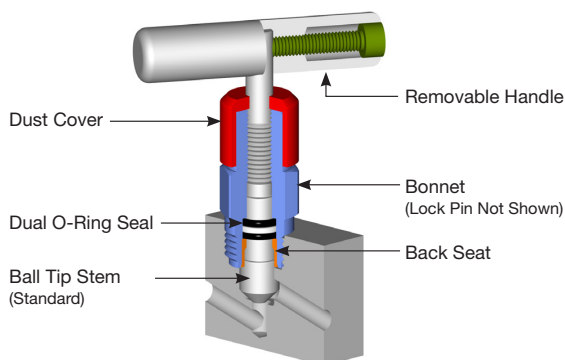
Notes: \*Other specifications or services may be available.



# P3M2H™: Bonnet, Stem, and Seat Characteristics

## O-Ring Bonnet Assembly

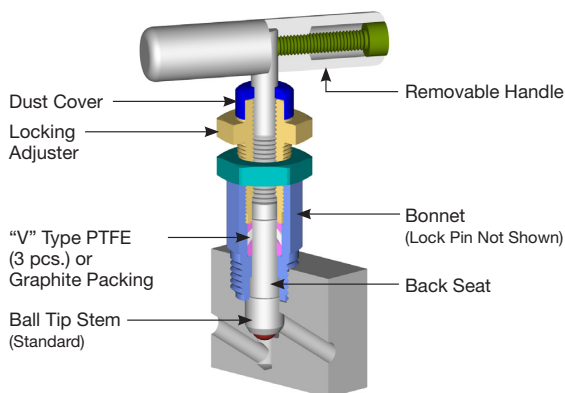
Standard Material					
Valve	Body	Bonnet	Stem	Ball	Packing
CS	ASTM A108CS	ASTM A108CS	ASTM A582 303SS	See Option Codes on Page 4	Dual FKM O-ring with PTFE Backup Ring
SC	ASTM A105CS	ASTM A182 316SS	ASTM A182 316SS		
316SS	ASTM A182 316SS	ASTM A182 316SS	ASTM A182 316SS		



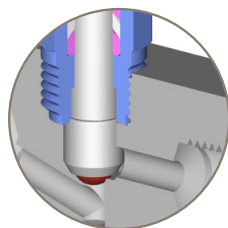
## PTFE or Graphite Bonnet Assembly

Standard Material					
Valve	Body	Bonnet	Stem	Ball	Packing
CS	ASTM A108CS	ASTM A108CS	ASTM A582 303SS	See Option Codes on Page 4	PTFE and Graphite
SC	ASTM A105CS	ASTM A182 316SS	ASTM A182 316SS		
316SS	ASTM A182 316SS	ASTM A182 316SS	ASTM A182 316SS		

Note: Low Torque Grafoil™ available (G4 Packing Code)

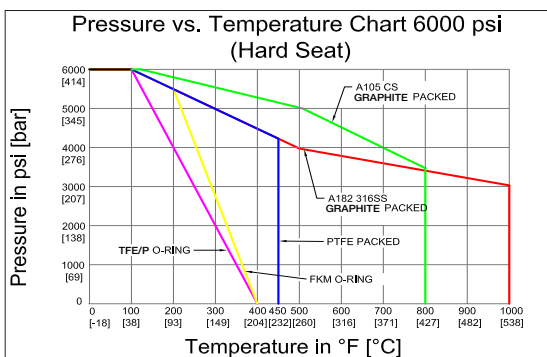


## Stem and Seat Configurations



Ball Tip (Standard)

## Pressure vs. Temperature



Note: Body material specifications based on ASME B16.34 - 2013. Packing material ratings based on manufacturer's specifications. Approximations only. Parker does not represent these values as finite. They are provided only as representative values.

# P3M2H™: Model Numbering System

Parker	Orifice Size	Type	Inlet: Size/Type	Outlet: Size/Type	Material	Packing	Seat	Stem Tip
P	3=3/16"	M2H	8F=1/2" FNPT	FL=Flange	SS=ASTM A182 316/316L	A=TFE/P	Integral (leave blank)	B=316SS Ball Tip
			FL=Flange	FL2B= 2 Bolt Flange	SC=ASTM A105 CS*	V=FKM		BC=Ceramic Ball Tip
			4PT=1/4" PTFree		CS=ASTM A108 CS*	T=PTFE		BM=Monel™ Ball Tip
			6PT=3/8" PTFree		C5=ASTM A350 LF2	G=Graphite		
			8PT=1/2" PTFree		N4=Monel™ 400	P=Pressure Core		
					N6=Inconel™ 625			
					N8=Inconel™ 825			
					N2=Hastelloy™ C276			
EXAMPLE: P3M2H8F8FSSTB = 3/16" Orifice, 2-Valve Manifold, 1/2" FNPT Inlet, 2 Bolt Flange Outlet, 316 SS Body, PTFE Packing, Integral Seat, Ball Tip Stem								
P	3	M2H	8	F	FL	SS	T	B
*For code applications, A105 CS must be selected for CS valves. Code grade bolts must be specified for code applications. Note: Standard Bolting Options, CS - carbon steel, Gr.8, zinc plated bolts; SS - stainless steel, 18.8 (304SS) bolts.								

Option Codes	Description
LB	Bonnet Lock
OC	Oxygen Clean
TG	SS Tag
N4	Monel™ 400 Stem
N5	Monel™ 500 Stem
N6	Inconel™625 Stem
N8	Inconel™825 Stem
N2	Hastelloy™ C276 Stem
H(V)MB	Horizontal (Vertical) Mounting Bracket
H(V)MBS	SS Horizontal (Vertical) Mounting Bracket
S6	316 SS Bolts
225CS	2.25" CS Bolts
225S6	2.25" 316 SS Bolts
TB	1/4" FNPT Test Ports Bottom
PB	1/4" FNPT Purge Ports Bottom
B7	AISI 4140/4142 QT
B8MC1	Class 1, 316SS, ST
B8MC2	Class 2, 316SS, ST, SH

Code Bolting Information
1. B7, B8C1, B8MC1, B8C2, B8MC2 are code grades to ASTM A193;
2. To specify code grade bolting, example: 225B7 indicates 2.25" bolt length; B7 grade, alloy steel, AISI 4140/4142
3. QT-Quenched & Tempered; ST-Carbide Solution Treated; SH-Strain Hardened

## Meets the Following Specifications is required:

- ASME B31.1 Power Piping
- ASME B31.3 Process Piping
- ASME B16.34 Valves - Flanged, Thread, and Welding End
- API 598 Valve Inspection and Testing
- MSS SP-25 Standard Marking Systems for Valves, Fittings, and Flange Unions
- MSS SP-99 Instrument Valves
- MSS SP-105 Instrument Valves for Code Applications
- NACE MR0175 for all 316SS valves and A105CS body/316SS bonnet (SC Material Code)

## Seal and Seat Temperature Rating:

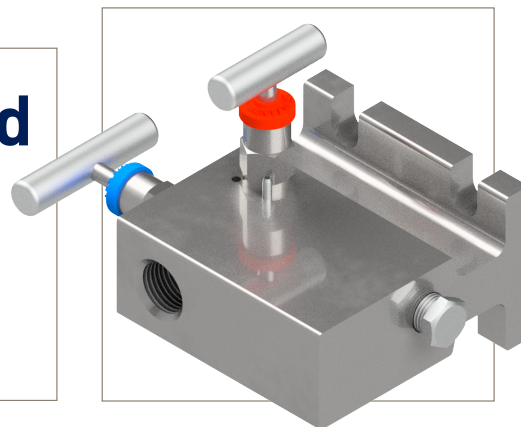
Code	Description	Min. Temperature	Max. Temperature
A	TFE/P	15°F (-10°C)	400°F (204°C)
V	FKM	-20°F (-29°C)	400°F (204°C)
T	PTFE	-65°F (-54°C)	450°F (232°C)
G	Graphite		
	Pressure Core	-140°F (-95°C)	450°F (232°C)
	SS Body	-70°F (-56°C)	1000°F (537°C)
	CS Body	-70°F (-56°C)	800°F (427°C)
Note: Graphite is suitable for services in excess of 1000°F in a non-oxidizing environment.			

# 2 Valve Soft Seat Manifold

## P3M2S™

2 Valve Gas Manifolds

Solutions for Oil, Gas, and Petrochemical Processing



### Principle of Operation:

The 3/16" bore 2-valve block and bleed manifold features a built-in vent/calibration port making it a cost-effective choice for static pressure measurement. The roddable, soft-seated manifold machined from bar stock ensures a bubble-tight seal and is available in a range of materials and configurations that meet most application requirements. The valve includes robust stems, pinned bonnets and two mount holes for bracket support.

### Features and Benefits:

- Pressure component materials sourced from the US, Canada or Europe  
Reliable material traceability. MTR's provided with every order for pressure containing components.
- 100% gas tested  
Complies with MSS SP-99 testing procedures as standard. Ensures structural integrity of valve.
- Packing below stem thread  
Prevents corrosion of critical stem threads
- Metal body-to-bonnet seals are in compression, not tension  
Mitigates risk of stress cracking
- Stem threads are rolled, not cut  
Higher quality stem for longer service life
- 8 RMS stem finish  
Extended packing life
- V-Style PTFE packing  
30-40% less operational torque and less frequent packing adjustments than traditional PTFE packed valves



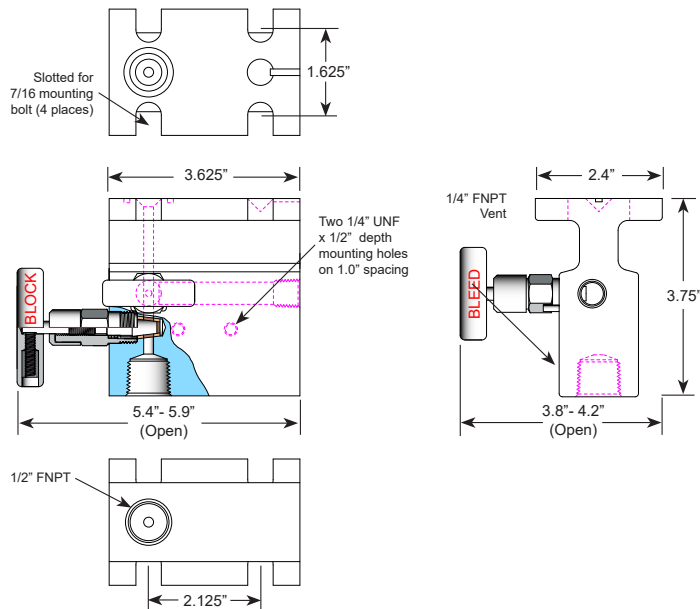
Parker Hannifin acquired PGI in 2012 and Phoenix Precision Ltd in 2014. The enclosed offering combines the best product features of the acquisitions and is the best available, safest technology to better serve customers.



ENGINEERING YOUR SUCCESS.

# P3M2S™ : Technical Specifications

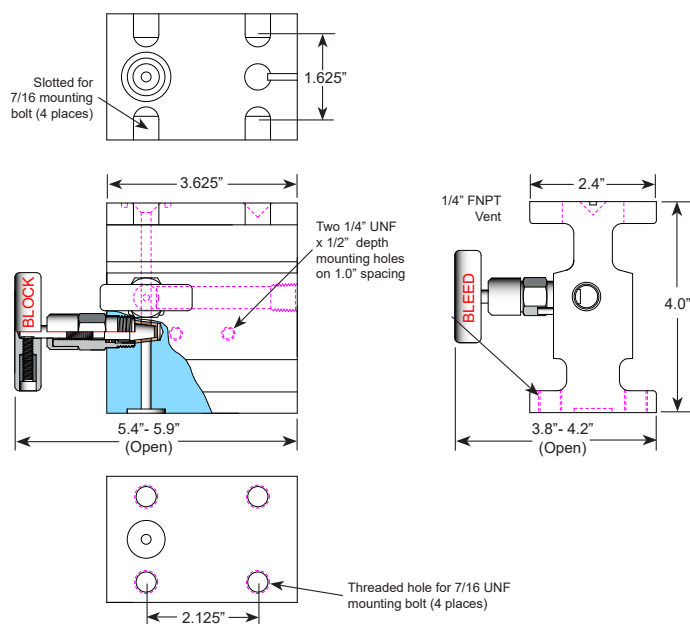
## Pipe x Flange Configuration



### Specifications:

Feature	Description
Type:	<b>P3M2S</b> , 2-Valve Manifold, Roddable Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Tapered tip, Flat tip
Packing:	TFE/P, FKM O-ring, PTFE
Seat:	Acetal, PEEK™
Handle:	Removable
Bore Size:	3/16" (Primary), 1/8" (Bleed)
Inlet Connections:	FNPT
Outlet Connections:	Flange
Vent Port:	1/4" FNPT
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 3.75" x 2.4" x 1.5"
Weight:	4.7 - 4.8 lbs
Special Service:	O <sub>2</sub> or Cl cleaning available*
Notes: *Other specifications or services may be available.	

## Flange x Flange Configuration



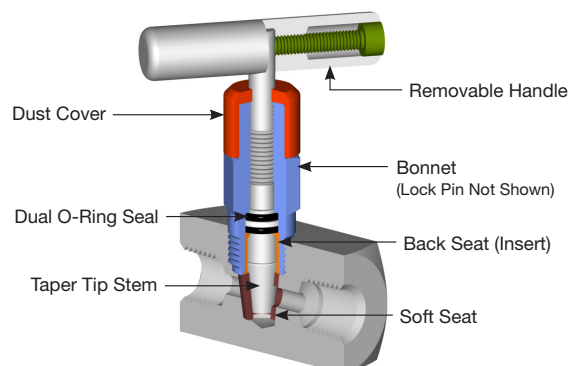
### Specifications:

Feature	Description
Type:	<b>P3M2S</b> , 2-Valve Manifold, Roddable Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Tapered tip, Flat tip
Packing:	TFE/P, FKM O-ring, PTFE
Seat:	Acetal, PEEK™
Handle:	Removable
Bore Size:	3/16" (Primary), 1/8" (Bleed)
Inlet Connections:	Flange
Outlet Connections:	Flange
Vent Port:	1/4" FNPT
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 4.0" x 2.4" x 1.5"
Weight:	5.1 - 5.2 lbs
Special Service:	O <sub>2</sub> or Cl cleaning available*
Notes: *Other specifications or services may be available.	

# P3M2S™: Bonnet Assembly

## O-Ring Bonnet Assembly

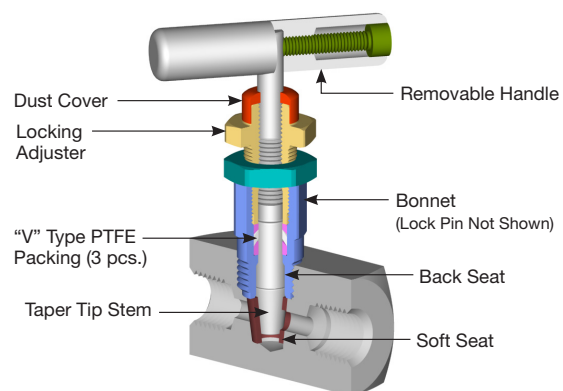
Standard Material					
Valve	Body	Bonnet	Stem	Ball	Packing
CS	ASTM A108CS	ASTM A108CS	ASTM A582 303SS	See Option Codes on Page 4	TFE/P FKM O-ring with PTFE Backup Ring
SC	ASTM A105CS	ASTM A182 316SS	ASTM A182 316SS		
316SS	ASTM A182 316SS	ASTM A182 316SS	ASTM A182 316SS		



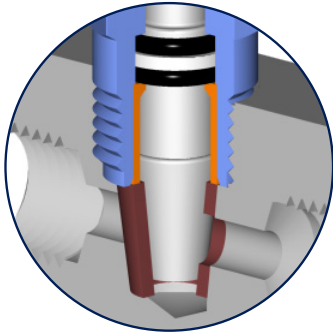
## PTFE or Grafoil™ Bonnet Assembly

Standard Material					
Valve	Body	Bonnet	Stem	Ball	Packing
CS	ASTM A108CS	ASTM A108CS	ASTM A582 303SS	See Option Codes on Page 4	PTFE
SC	ASTM A105CS	ASTM A182 316SS	ASTM A182 316SS		
316SS	ASTM A182 316SS	ASTM A182 316SS	ASTM A182 316SS		

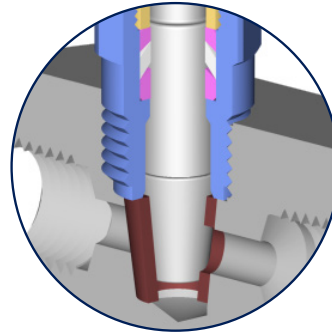
Note: Low Torque Grafoil™ available (G4 Packing Code)



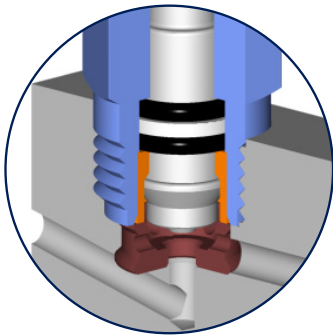
# P3M2S™ : Stem and Seat Characteristics



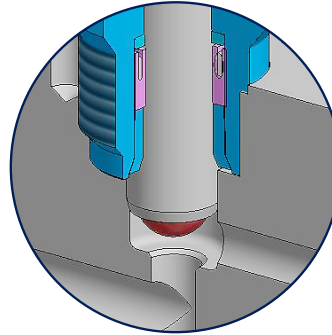
3/16"  
Bore Tapered Tip (O-ring)



3/16"  
Bore Tapered Tip (O-ring)



1/8"  
Flat Tip (O-ring)



Pressure Core

# P3M2S™: Pressure-Core® Seal - Advanced Stem Seal System

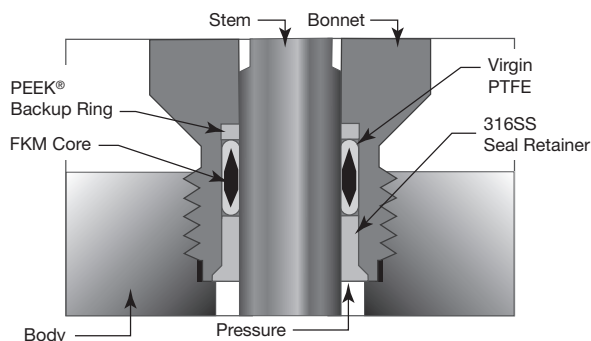
## A Superior Design for Better Performance:

Parker's patented Pressure-Core® Stem Seal System was tested by an independent laboratory in accordance with EPA Method 21, and the results indicate that the Pressure-Core® Stem Seal is a reliable, affordable, virtually leak-free bonnet requiring no costly, time consuming maintenance.

After years of field experience and millions of valves in service, Parker takes great pride in extending a five-year limited warranty on our Pressure-Core® Stem Seal, far exceeding the industry standard.

### Product Features:

- Virtually Leak-Free Performance
- No Adjustments or Maintenance Requirements
- Unmatched 5 Year Warranty
- No Fugitive Emissions



### Fugitive Emissions Test Results:

See for yourself how our Pressure-Core® not only outperforms the competition, but sets a new industry standard...

#### Test Procedure

Valves mechanically cycled 50 times (full open to full close) at 1,000 PSI methane, then heated to 400°F and air cooled to ambient. Procedure repeated until failure.

#### Failure Criteria

100 PPM leak\*

\*Competition's Emission Seal Warranty

#### Test Results:

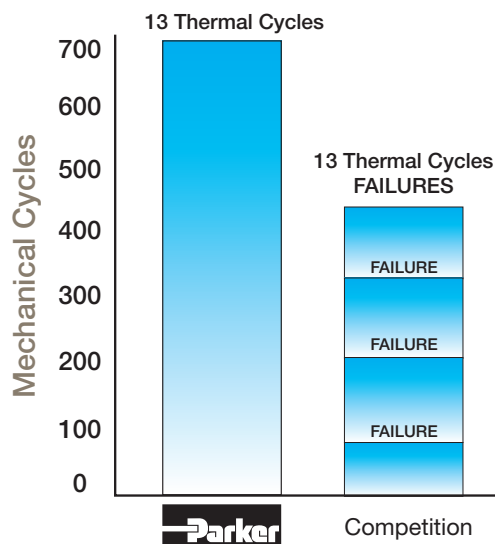
##### Parker:

The Pressure-Core Seal successfully completed 694 mechanical cycles and 13 thermal cycles. Maximum leakage throughout testing was 40 PPM.

##### Competition:

The competition's "low emissions" graphite design failed on the 89th mechanical cycle and on average every 125 cycles throughout the testing.

Repeated maintenance was required between each failure to readjust the valve packing.



# P3M2S™ : Additional Technical Information

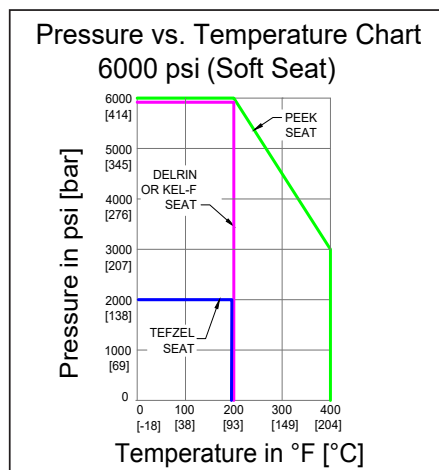
## Meets the Following Specifications as required:

- ASME B31.1 Power Piping
- ASME B31.3 Process Piping
- ASME B16.34 Valves - Flanged, Thread, and Welding End
- API 598 Valve Inspection and Testing
- MSS SP-25 Standard Marking Systems for Valves, Fittings, and Flange Unions
- MSS SP-99 Instrument Valves
- MSS SP-105 Instrument Valves for Code Applications
- NACE MR0175 for all 316SS valves and A105CS body/316SS bonnet (SC Material Code)

## Seal and Seat Temperature Rating:

Code	Description	Min. Temperature	Max. Temperature
A	TFE/P	15°F (-10°C)	400°F (204°C)
V	FKM	-20°F (-29°C)	400°F (204°C)
P	Pressure Core	-40°F (-40°C)	450°F (232°C)
T	PTFE	-65°F (-54°C)	450°F (232°C)
D	Acetal	-40°F (-40°C)	200°F (93°C)
P	PEEK™	-40°F (-40°C)	400°F (204°C)

## Pressure vs. Temperature:



Note: Body material specifications based on ASME B16.34 - 2013. Packing material ratings based on manufacturer's specifications. Approximations only. Parker does not represent these values as finite. They are provided only as representative values.

# P3M2S™: Model Numbering System

Parker	Orifice Size	Type	Inlet: Size/Type	Outlet: Size/Type	Material	Packing	Seat	Options
P	3=3/16"	M2S	8F=1/2" FNPT	8F=1/2" FNPT	SS=ASTM A182 316/316L	A=TFE/P	D=Acetal	DL=Dielectric
			FL=Flange	FL=Flange	SC=ASTM A105 CS*	V=FKM	P=PEEK™	OR=FKM O-ring flange seal
			4PT=1/4" PTFree	4PT=1/4" PTFree	CS=ASTM A108 CS*	T=PTFE		
			6PT=3/8" PTFree	6PT=3/8" PTFree	C5=ASTM A350 LF2	P=Pressure Core		
			8PT=1/2" PTFree	8PT=1/2" PTFree	N4=Monel™ 400			
					N6=Inconel™ 625			
					N8=Inconel™ 825			
					N2=Hastelloy™ C276			
EXAMPLE: <b>P3M2S8FFLSSTD</b> = 3/16" Orifice, 2-Valve Manifold, 1/2" FNPT Inlet, Flange Outlet, 316 SS Body, PTFE Packing, Acetal Seat, 316 SS Tapered Tip Stem								
<b>P</b>	<b>3</b>	<b>M2S</b>	<b>8</b>	<b>F</b>	<b>FL</b>	<b>SS</b>	<b>T</b>	<b>B</b>
*For code applications, A105 CS must be selected for CS valves. Code grade bolts must be specified for code applications. Note: <b>Standard Bolting Options</b> - <b>CS</b> - carbon steel, Gr.8, zinc plated bolts; <b>SS</b> - stainless steel, 18.8 (304SS) bolts.								

Option Codes	Description
LB	Bonnet Lock
OC	Oxygen Clean
TG	SS Tag
N4	Monel™ 400 Stem
N5	Monel™ 500 Stem
N6	Inconel™625 Stem
N8	Inconel™825 Stem
N2	Hastelloy™ C276 Stem
H(V)MB	Horizontal (Vertical) Mounting Bracket
H(V)MBS	SS Horizontal (Vertical) Mounting Bracket
S6	316 SS Bolts
225CS	2.25" CS Bolts
225S6	2.25" 316 SS Bolts
TB	1/4" FNPT Test Ports Bottom
PB	1/4" FNPT Purge Ports Bottom
B7	AISI 4140/4142 QT
B8MC1	Class 1, 316SS, ST
B8MC2	Class 2, 316SS, ST, SH

Code Bolting Information
1. B7, B8C1, B8MC1, B8C2, B8MC2 are code grades to ASTM A193;
2. To specify code grade bolting, example: 225B7 indicates 2.25" bolt length; B7 grade, alloy steel, AISI 4140/4142
3. QT-Quenched & Tempered; ST-Carbide Solution Treated; SH-Strain Hardened

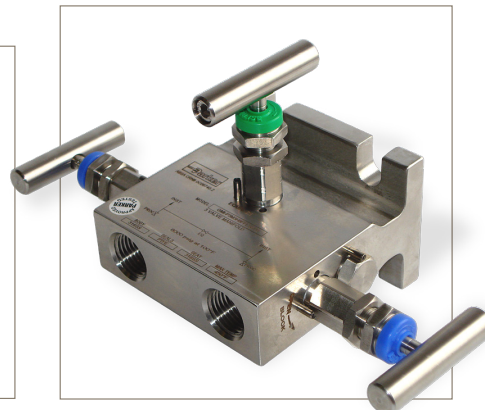
**PHOENIX™**  
PRECISION 

# 3-valve manifolds

# 3 Valve Manifolds

## P3M3H™ and P6M3H™

3/16" and 3/8" Bore 3-Valve Hard Seat Manifolds  
Solutions for Oil, Gas, and Petrochemical Processing



### Principle of Operation:

The 3-valve hard seat manifold designed for instrument calibration incorporates two shut-off valves and an equalizing valve in a single body. The manifold features a valve body manufactured from extruded solid bar, robust stems and bonnets pinned for safety. Two standard mount holes are provided for bracket support. The manifold's globe-pattern provides maximum shut-off. Parker offers the manifold with a variety of special tips, materials and configurations that meet most application requirements.

### Features and Benefits:

- Pressure component materials sourced from the US, Canada or Europe  
Reliable material traceability. MTR's provided with every order for pressure containing components.
- 100% Gas tested  
Complies with MSS SP-99 testing procedures as standard. Ensures structural integrity of valve.
- Packing below stem thread  
Prevents corrosion of critical stem threads
- Metal body-to-bonnet seals are in compression, not tension  
Mitigates risk of stress cracking
- Stem threads are rolled, not cut  
Higher quality stem for longer service life
- 8 RMS stem finish  
Extended packing life
- V-Style PTFE packing  
30-40% less operational torque and less frequent packing adjustments than traditional PTFE packed valve



**PHOENIX**™  
PRECISION

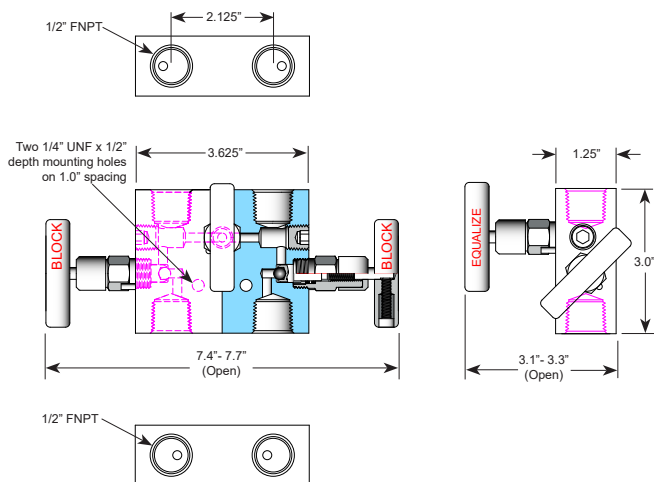
Parker Hannifin acquired PGI in 2012 and Phoenix Precision Ltd in 2014. The enclosed offering combines the best product features of the acquisitions and is the best available, safest technology to better serve customers.



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# P3M3H™/P6M3H™ : Pipe x Pipe Technical Specifications

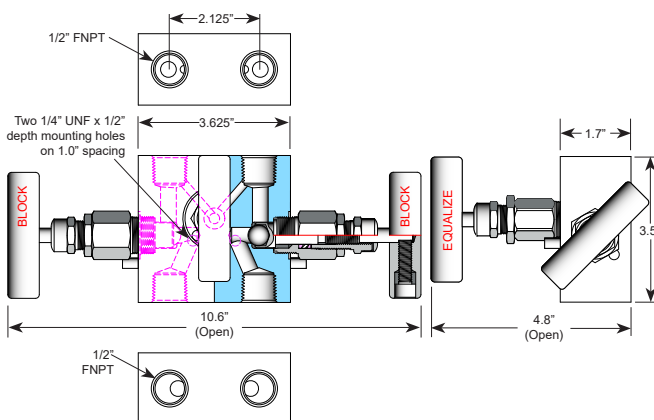
## 3/16" Bore Configuration



### Specifications:

Feature	Description
Type:	P3M3H, 3-Valve Manifold, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	3/16"
Inlet Connections:	FNPT
Outlet Connections:	FNPT
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 3.00" x 1.25"
Weight:	4.5 - 5.1 lbs
Special Service:	O <sub>2</sub> or Cl cleaning available*
Notes: *Other specifications or services may be available.	

## 3/8" Bore Configuration

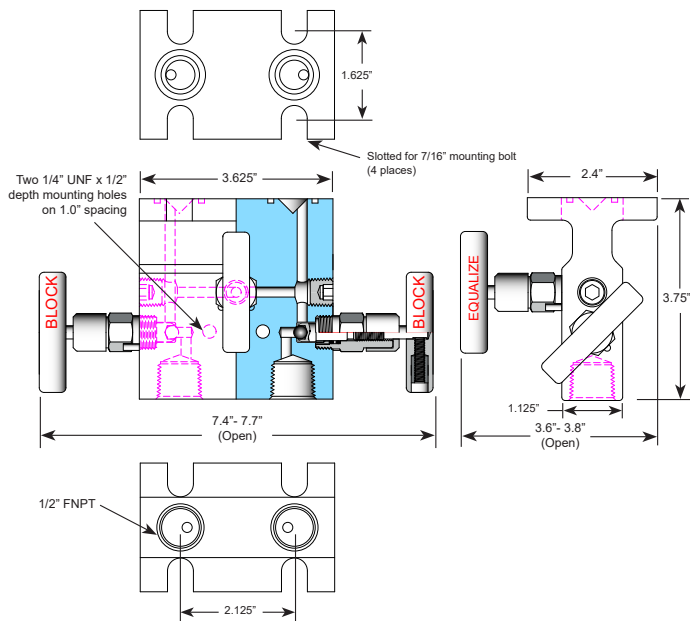


### Specifications:

Feature	Description
Type:	PG6M3H, 3-Valve Manifold, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	3/8"
Inlet Connections:	FNPT
Outlet Connections:	FNPT
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 3.5" x 1.7"
Weight:	7.0 - 7.2 lbs
Special Service:	O <sub>2</sub> or Cl cleaning available*
Notes: *Other specifications or services may be available.	

# P3M3H™/P6M3H™: Pipe x Flange Technical Specifications

## 3/16" Bore Configuration

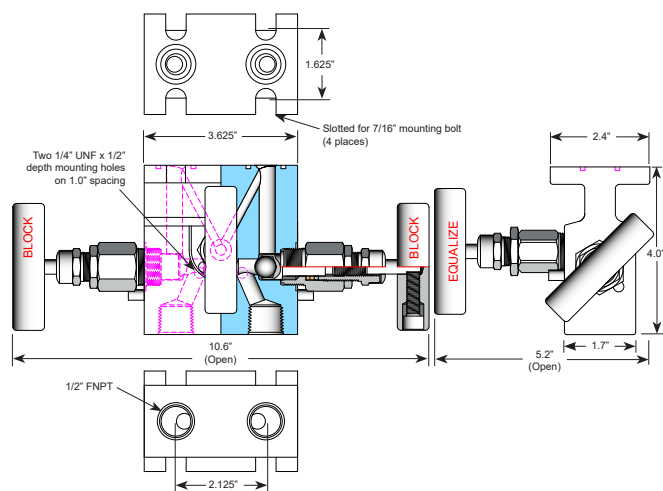


### Specifications:

Feature	Description
Type:	P3M3H, 3-Valve Manifold, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	3/16"
Inlet Connections:	FNPT
Outlet Connections:	Flange
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 3.75" x 2.4" x 1.125"
Weight:	4.5 - 5.1 lbs
Special Service:	O <sub>2</sub> or Cl cleaning available*

Notes: \*Other specifications or services may be available.

## 3/8" Bore Configuration



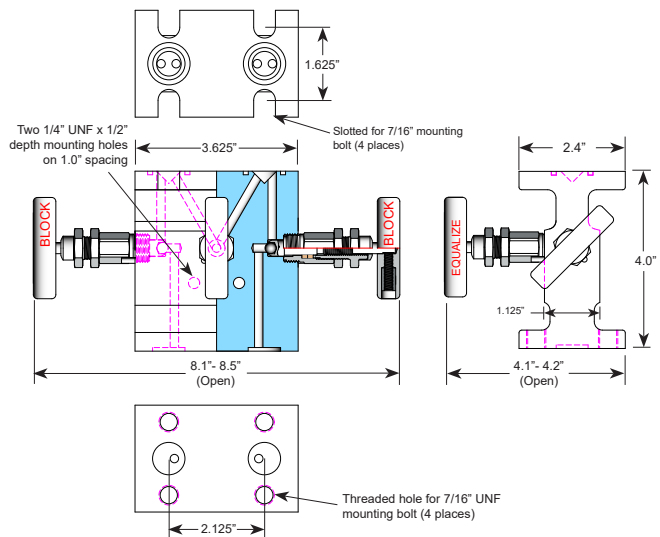
### Specifications:

Feature	Description
Type:	P6M3H, 3-Valve Manifold, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	3/8"
Inlet Connections:	FNPT
Outlet Connections:	Flange
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 4.0" x 2.45" x 1.7"
Weight:	7.5 - 7.7 lbs
Special Service:	O <sub>2</sub> or Cl cleaning available*

Notes: \*Other specifications or services may be available.

# P3M3H™/P6M3H™: Flange x Flange Technical Specifications

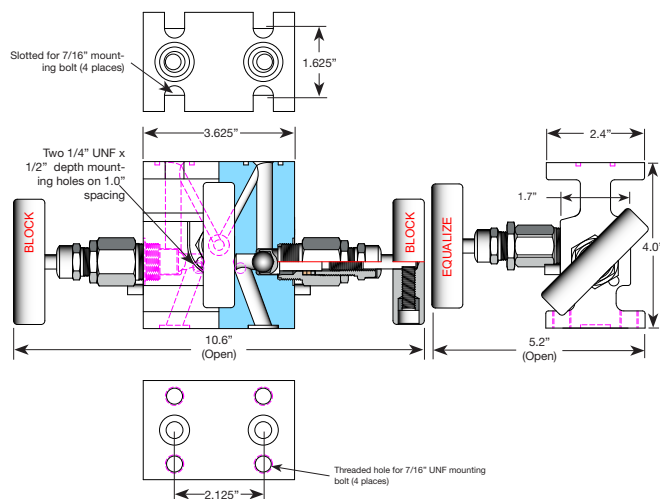
## 3/16" Bore Configuration



### Specifications:

Feature	Description
Type:	P3M3H, 3-Valve Manifold, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	3/16"
Inlet Connections:	FNPT
Outlet Connections:	Flange
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 4.0" x 2.4" x 1.125"
Weight:	4.5 - 5.1 lbs
Special Service:	O <sub>2</sub> or Cl cleaning available*
Notes: *Other specifications or services may be available.	

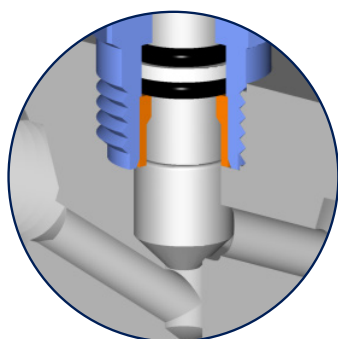
## 3/8" Bore Configuration



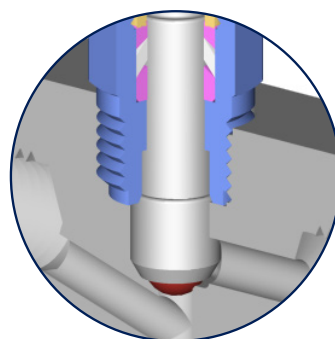
### Specifications:

Feature	Description
Type:	P6M3H, 3-Valve Manifold, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	3/8"
Inlet Connections:	Flange
Outlet Connections:	Flange
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 4.0" x 2.4" x 1.7"
Weight:	7.6 - 7.8 lbs
Special Service:	O <sub>2</sub> or Cl cleaning available*
Notes: *Other specifications or services may be available.	

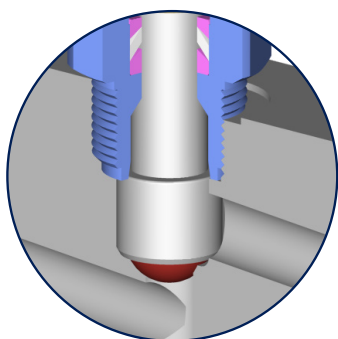
# P3M3H™/P6M3H™: Stem and Seat Characteristics



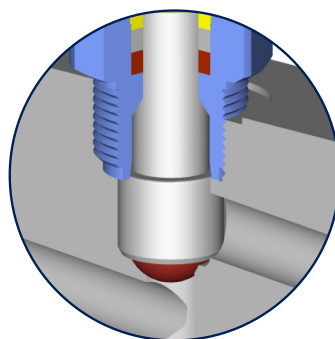
3/16"  
Bore O-ring Configuration



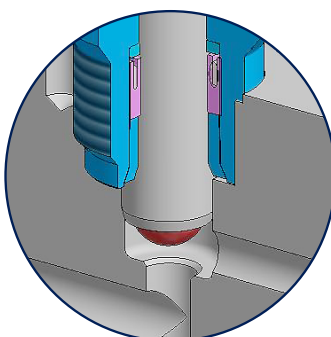
3/16"  
Bore Packed Configuration



3/8"  
PTFE Packed Configuration



3/8"  
Graphite Packed Configuration



Pressure Core

# P3M3H™/P6M3H™: Pressure-Core® Seal - Advanced Stem Seal System

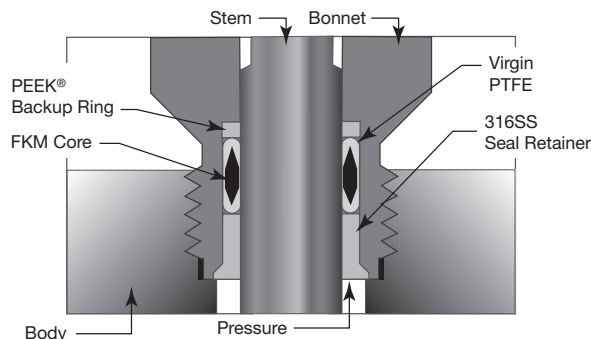
## A Superior Design for Better Performance:

Parker's patented Pressure-Core® Stem Seal System was tested by an independent laboratory in accordance with EPA Method 21, and the results indicate that the Pressure-Core® Stem Seal is a reliable, affordable, virtually leak-free bonnet requiring no costly, time consuming maintenance.

After years of field experience and millions of valves in service, Parker takes great pride in extending a five-year limited warranty on our Pressure-Core® Stem Seal, far exceeding the industry standard.

### Product Features:

- Virtually Leak-Free Performance
- No Adjustments or Maintenance Requirements
- Unmatched 5 Year Warranty
- No Fugitive Emissions



### Fugitive Emissions Test Results:

See for yourself how our Pressure-Core® not only outperforms the competition, but sets a new industry standard...

#### Test Procedure

Valves mechanically cycled 50 times (full open to full close) at 1,000 PSI methane, then heated to 400°F and air cooled to ambient. Procedure repeated until failure.

#### Failure Criteria

100 PPM leak\*

\*Competition's Emission Seal Warranty

#### Test Results:

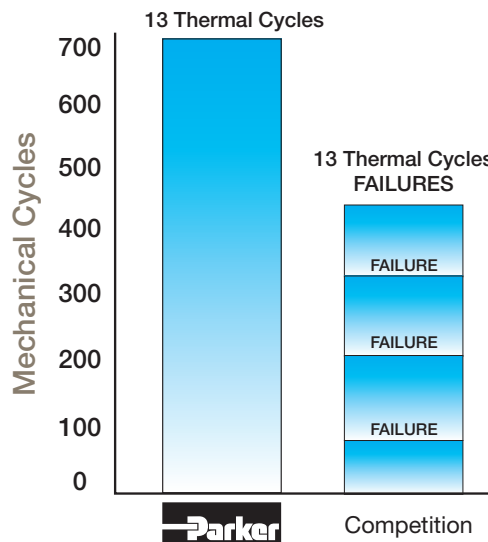
##### Parker:

The Pressure-Core Seal successfully completed 694 mechanical cycles and 13 thermal cycles. Maximum leakage throughout testing was 40 PPM.

##### Competition:

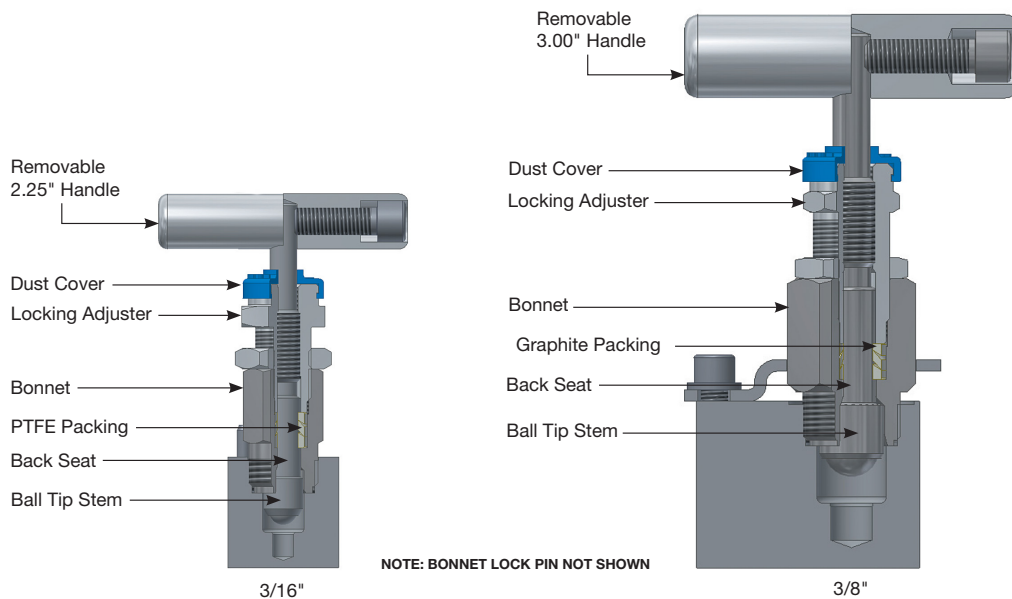
The competition's "low emissions" graphite design failed on the 89th mechanical cycle and on average every 125 cycles throughout the testing.

Repeated maintenance was required between each failure to readjust the valve packing.

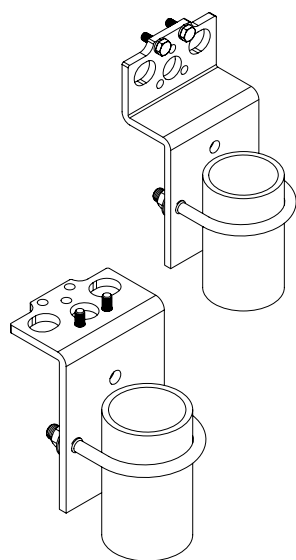


# P3M3H™/P6M3H™: Block Bonnet Characteristics and Accessories

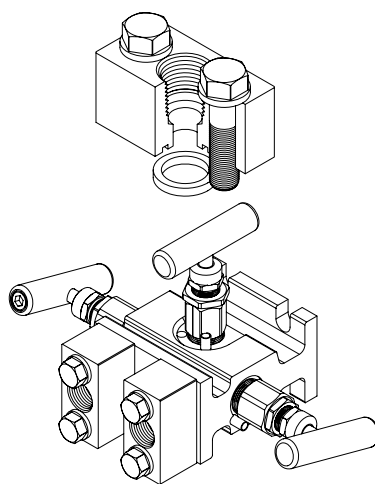
## PTFE and Graphite Packed Bonnet Assembly



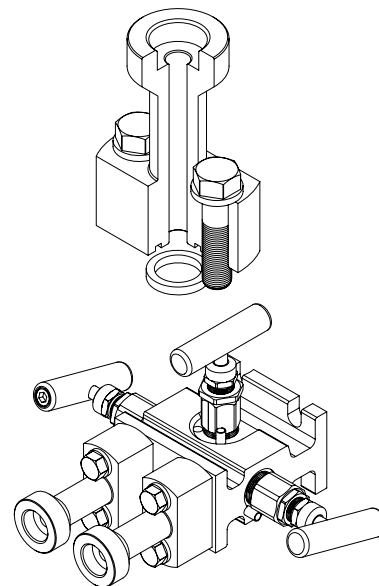
## Optional Manifold Accessories



Mounting Bracket Kit



1/2" Female Threaded Adapter



1/2" Socket Weld Adapter

# P3M3H™/P6M3H™: Additional Technical Information

## Meets the Following Specifications as required:

- ASME B31.1 Power Piping
- ASME B31.3 Process Piping
- ASME B16.34 Valves - Flanged, Thread, and Welding End
- API 598 Valve Inspection and Testing
- MSS SP-25 Standard Marking Systems for Valves, Fittings, and Flange Unions
- MSS SP-99 Instrument Valves
- MSS SP-105 Instrument Valves for Code Applications
- NACE MR0175 for all 316SS valves and A105CS body/316SS bonnet (SC Material Code)
- ISO 9001:2015 certified quality system
- Canadian Registration Number (CRN)
- ASME/ANSI B1.20.1 general pipe threads

## Material of Construction:

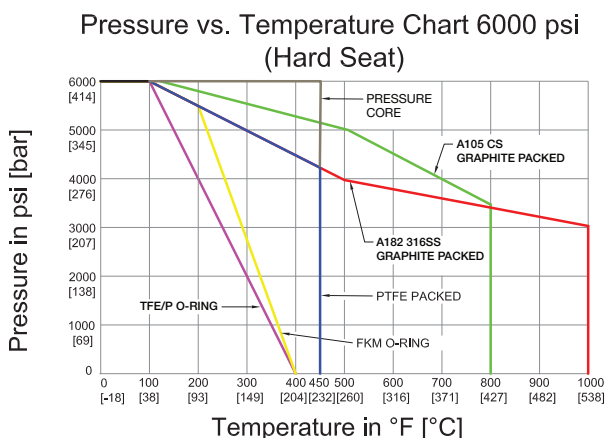
Code	SS	SC	CS
Body	ASTM A182 316SS	ASTM A105 CS	ASTM A108 CS
Bonnet	ASTM A182 316SS	ASTM A182 316SS	ASTM A108 CS
Stem	ASTM A182 316SS	ASTM A182 316SS	ASTM A582 303SS
Adjuster	ASTM A582 303SS	ASTM A582 303SS	ASTM A108 CS
Insert	ASTM A182 316SS	ASTM A182 316SS	ASTM A108 CS
Handle	ASTM A182 303SS	ASTM A182 303SS	ASTM A108 CS

## Seal and Seat Temperature Rating:

Code	Description	Min. Temperature	Max. Temperature
A	TFE/P	15°F (-10°C)	400°F (204°C)
V	FKM	-20°F (-29°C)	400°F (204°C)
P	Pressure Core	-40°F (-40°C)	450°F (232°C)
T	PTFE	-65°F (-54°C)	450°F (232°C)
G	Graphite	-70°F (-56°C)	1000°F (537°C)
	CS Body	-70°F (-56°C)	800°F (427°C)

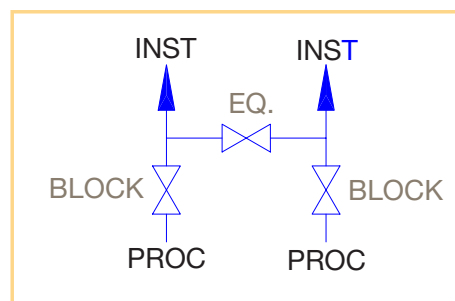
Note: Grafoil™ is suitable for services in excess of 1000°F in a non-oxidizing environment.

## Pressure vs. Temperature:



Note: Body material specifications based on ASME B16.34 - 2013. Packing material ratings based on manufacturer's specifications. Approximations only. Parker does not represent these values as finite. They are provided only as representative values.

## Flow Diagram for all Manifolds:



# P3M3H™/P6M3H™: Model Numbering System

Parker	Orifice Size	Type	Inlet Size & Type	Outlet Size & Type	Material	Packing	Seat	Stem Tip	
P	3=3/16"	M3H	8F = 1/2" FNPT	8F = 1/2" FNPT	SS=ASTM A182 316/316L	A=TFE/P	Integral (leave blank)	B=316SS Ball Tip	
			FL = Flange	FL = Flange	SC=ASTM A105 CS*	V=FKM		BC=Ceramic Ball Tip	
	6=3/8"	4PT = 1/4" PTFree	4PT = 1/4" PTFree	CS=ASTM A108 CS*	T=PTFE	BM=Monel™ Ball Tip			
		6PT = 3/8" PTFree	6PT = 3/8" PTFree	C5=ASTM A350 LF2	G=Graphite				
		8PT = 1/2" PTFree	8PT = 1/2" PTFree	N4=Monel™ 400	P=Pressure Core				
				N6=Inconel™ 625					
				N8=Inconel™ 825					
				N2=Hastelloy™ C276					
EXAMPLE: <b>P3M3H8F8FSSTB</b> = 3/16" Orifice, 3-Valve Manifold, 1/2" FNPT Inlet, 1/2" FNPT Outlet, 316 SS Body, PTFE Packing, Integral Seat, Ball Tip Stem									
<b>P</b>	<b>3</b>	<b>M3H</b>	<b>8</b>	<b>F</b>	<b>8</b>	<b>F</b>	<b>SS</b>	<b>T</b>	<b>B</b>

\*For code applications, A105 CS must be selected for CS valves. Code grade bolts must be specified for code applications. Note: Standard Bolting Options, CS - carbon steel, Gr.8, zinc plated bolts; SS - stainless steel, 18.8 (304SS) bolts.

Option Codes	Description
LB	Bonnet Lock
OC	Oxygen/Chlorine Clean
TG	SS Tag
SGI	Sour Gas ISO NACE Latest Rev.
N4	Monel™ 400 Stem
N5	Monel™ 500 Stem
N6	Inconel™625 Stem
N8	Inconel™825 Stem
N2	Hastelloy™ C276 Stem
H(V)MB	Horizontal (Vertical) Mounting Bracket
H(V)MBS	SS Horizontal (Vertical) Mounting Bracket
S6	316 SS Bolts
225CS	2.25" CS Bolts
225S4	2.25" 304 SS Bolts
225S6	2.25" 316 SS Bolts
TB	1/4" FNPT Test Ports Bottom
PB	1/4" FNPT Purge Ports Bottom
B7	AISI 4140/4142 QT
B8MC1	Class 1, 316SS, ST
B8MC2	Class 2, 316SS, ST, SH

#### Code Bolting Information

1. B7, B8C1, B8MC1, B8C2, B8MC2 are code grades to ASTM A193;
2. To specify code grade bolting, example: 225B7 indicates 2.25" bolt length; B7 grade, alloy steel, AISI 4140/4142
3. QT-Quenched & Tempered; ST-Carbide Solution Treated; SH-Strain Hardened

#### BOLT OPTIONS

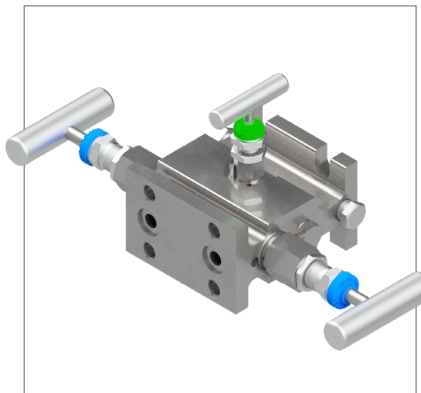
Application	Description	Length	BOLT MATERIAL DESIGNATION		
			CS	304 SS	316 SS
DP Transmitter	Bi-planar Design: Rosemount™ 1151, Honeywell™ 900 etc.	1"	Blank: Standard for CS Manifolds	Blank: Standard for SS Manifolds	-S6
	Coplanar Design: Rosemount™ 3051, 3095, 2024 with coplanar flange.	2 1/4"	-225CS	-225S4	-225S6
Flow Computer	ABB Total Flow, Thermo Fisher™ (with Honeywell™ Transducer Module), Barton Scanner, Bristol Teleflow & TeleTrans	1"	Blank: Standard for CS Manifolds	Blank: Standard for SS Manifolds	-S6
	Fisher™, Flow Automation™ (with Rosemount™ transducer module), Daniel, Dynamic Fluid	2 1/4"	-225CS	-225S4	-225S6
DP Transmitter with DP to GP Adapter	DP Bi-planar design used in combination with DP to GP Adapter (DPG6S)	2"	-200CS	-200S4	-200S6
	DP Coplanar design used in combination with DP to GP Adapter (DPG6S)	3 1/4"	-325CS	325S4	-325S6

Note: For manifolds with dielectric option add 1/4" to bolt length.

# 3 Valve Soft Seat Manifolds

## P3M3S™ and P6M3S™

3/16" and 3/8" Bore 3-Valve Soft Seat Manifolds  
Solutions for Oil, Gas, and Petrochemical Processing



### Principle of Operation:

The 3-valve manifold is designed for instrument calibration. The roddable, soft-seated manifold is machined from bar stock and incorporates two (2) shut-off valves and an equalizing valve in a single body. It provides maximum shut-off and is offered in a range of materials and configurations that meet most application requirements. The manifold includes robust stems, pinned bonnets and two mount holes for bracket support.

### Features and Benefits:

- Pressure component materials sourced from the US, Canada or Europe  
Reliable material traceability. MTR's provided with every order for pressure containing components.
- 100% gas tested  
Complies with MSS SP-99 testing procedures as standard. Ensures structural integrity of valve.
- Packing below stem thread  
Prevents corrosion of critical stem threads
- Metal body-to-bonnet seals are in compression, not tension  
Mitigates risk of stress cracking
- Stem threads are rolled, not cut  
Higher quality stem for longer service life
- Non-rotating tapered tip stem (3/8" bore only)  
Extended soft seat life and a reliable soft seat shut off
- 8 RMS stem finish  
Extended packing life
- V-Style PTFE packing  
30-40% less operational torque and less frequent packing adjustments than traditional PTFE packed valve



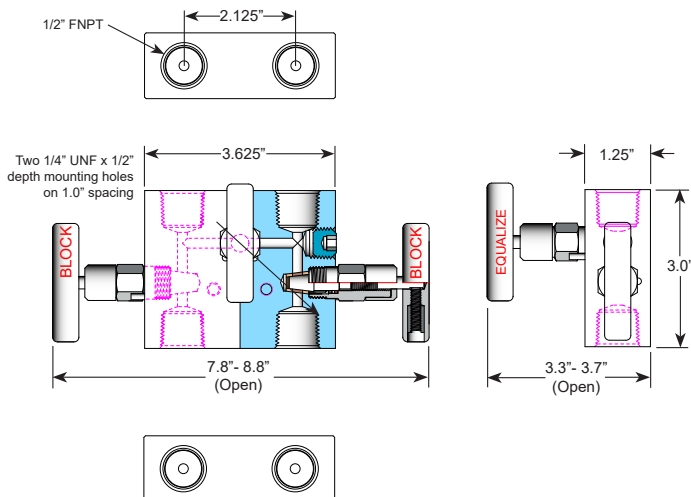
Parker Hannifin acquired PGI in 2012 and Phoenix Precision Ltd in 2014. The enclosed offering combines the best product features of the acquisitions and is the best available, safest technology to better serve customers.



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# P3M3S™/P6M3S™: Pipe x Pipe Technical Specifications

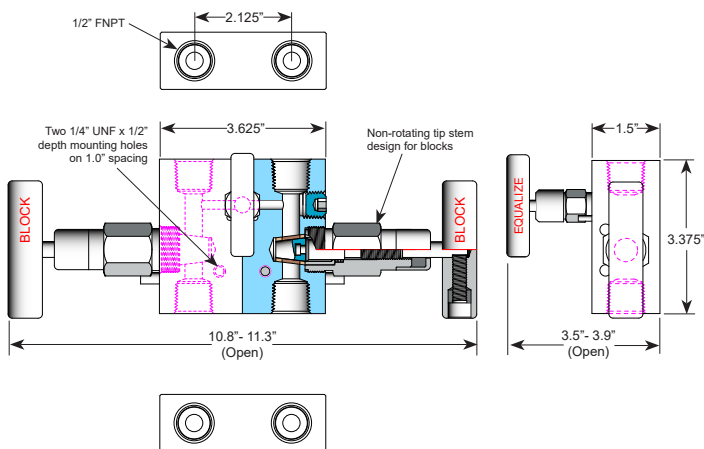
## 3/16" Bore Configuration



### Specifications:

Feature	Description
Type:	<b>P3M3S</b> , PxP Manifold, Roddable Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Taper Tip
Packing:	TFE/P, FKM O-ring or PTFE
Seat:	Acetal or PEEK™
Handle:	Removable
Bore Size:	3/16"
Inlet Connections:	1/2" FNPT
Outlet Connections:	1/2" FNPT
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 3.00" x 1.25"
Weight:	4.0 - 4.2 lbs
Special Service:	O <sub>2</sub> or Cl cleaning available*
Notes: *Other specifications or services may be available.	

## 3/8" Bore Configuration

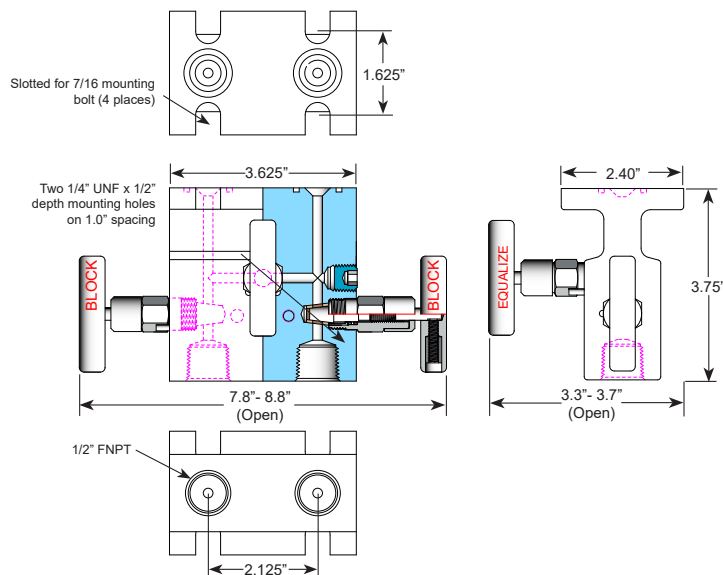


### Specifications:

Feature	Description
Type:	<b>PG6M3S</b> , PxP Manifold, Roddable Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Tapered Tip
Packing:	TFE/P, FKM O-ring or PTFE
Seat:	Acetal, PEEK™ and ETFE (for blocks)
Handle:	Removable
Bore Size:	3/8"
Inlet Connections:	1/2" FNPT
Outlet Connections:	1/2" FNPT
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 3.375" x 1.5"
Weight:	5.7 - 6.0 lbs
Special Service:	O <sub>2</sub> or Cl cleaning available*
Notes: *Other specifications or services may be available.	

# P3M3S™/P6M3S™ : Pipe x Flange Technical Specifications

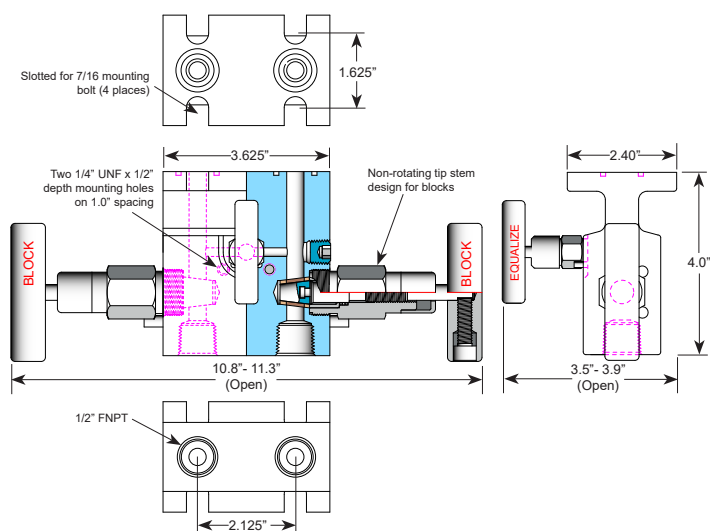
## 3/16" Bore Configuration



### Specifications:

Feature	Description
Type:	<b>P3M3S</b> , PxF Manifold, Roddable Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Taper Tip
Packing:	TFE/P, FKM O-ring or PTFE
Seat:	Acetal or PEEK™
Handle:	Removable
Bore Size:	3/16"
Inlet Connections:	1/2" FNPT
Outlet Connections:	4 Bolt Flange
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 3.75" x 2.4" x 1.5"
Weight:	5.8 - 6.0 lbs
Special Service:	O <sub>2</sub> or Cl cleaning available*
Notes: *Other specifications or services may be available.	

## 3/8" Bore Configuration

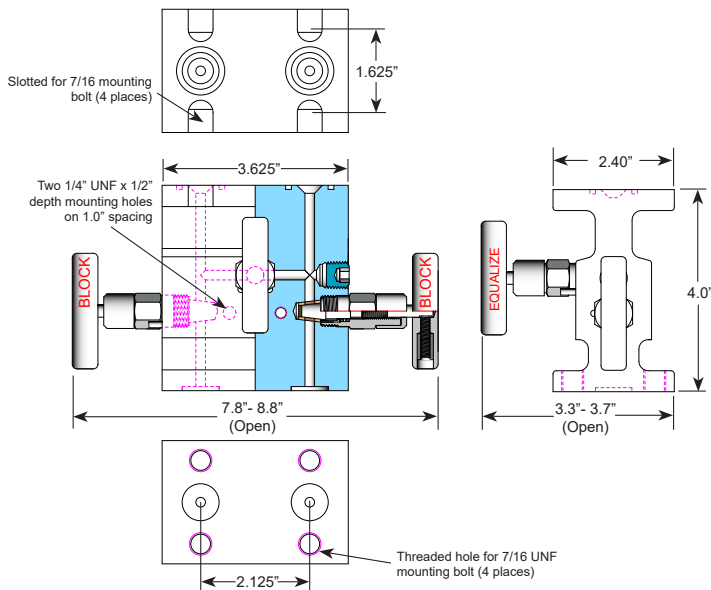


### Specifications:

Feature	Description
Type:	<b>PG6M3S</b> , PxF Manifold, Roddable Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Tapered Tip
Packing:	TFE/P, FKM O-ring or PTFE
Seat:	Acetal, PEEK™ and ETFE (for blocks)
Handle:	Removable
Bore Size:	3/8"
Inlet Connections:	1/2" FNPT
Outlet Connections:	4 Bolt Flange
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 4.0" x 2.4" x 1.7"
Weight:	7.3 - 7.5 lbs
Special Service:	O <sub>2</sub> or Cl cleaning available*
Notes: *Other specifications or services may be available.	

# P3M3S™/P6M3S™: Flange x Flange Technical Specifications

## 3/16" Bore Configuration

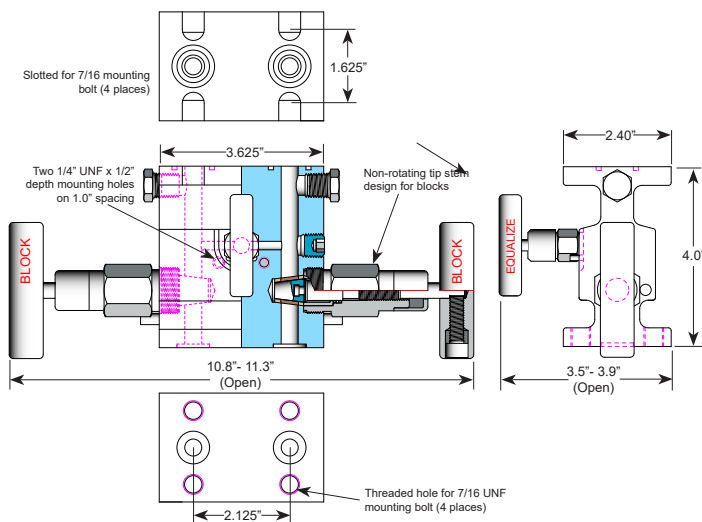


### Specifications:

Feature	Description
Type:	<b>P3M3S</b> , FxF Manifold, Roddable Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Taper Tip
Packing:	TFE/P, FKM O-ring or PTFE
Seat:	Acetal or PEEK™
Handle:	Removable
Bore Size:	3/16"
Inlet Connections:	4 Bolt Flange
Outlet Connections:	4 Bolt Flange
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 4.0" x 2.4" x 1.5"
Weight:	6.8 - 7.0 lbs
Special Service:	O <sub>2</sub> or Cl cleaning available*

Notes: \*Other specifications or services may be available.

## 3/8" Bore Configuration



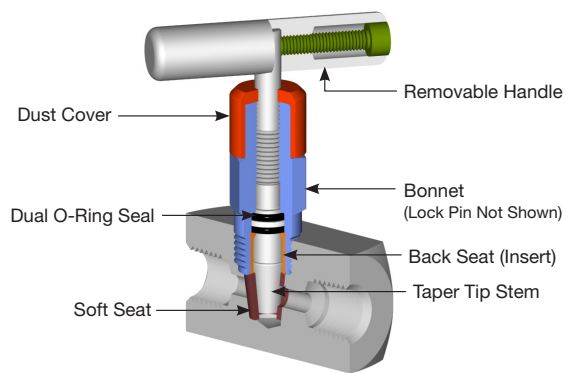
### Specifications:

Feature	Description
Type:	<b>PG6M3S</b> , FxF Manifold, Roddable Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Tapered Tip
Packing:	TFE/P, FKM O-ring or PTFE
Seat:	Acetal, PEEK™ and ETFE (for blocks)
Handle:	Removable
Bore Size:	3/8"
Inlet Connections:	4 Bolt Flange
Outlet Connections:	4 Bolt Flange
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 4.0" x 2.4" x 1.7"
Weight:	7.5 - 7.7 lbs
Special Service:	O <sub>2</sub> or Cl cleaning available*

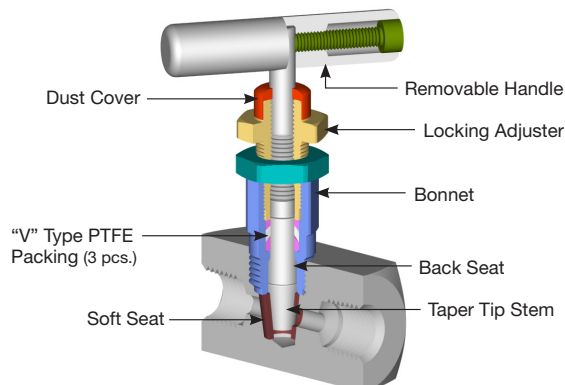
Notes: \*Other specifications or services may be available.

# P3M3S™/P6M3S™ : Block Bonnet Assembly

## 3/16" Bore O-Ring and Packed Bonnet Assembly

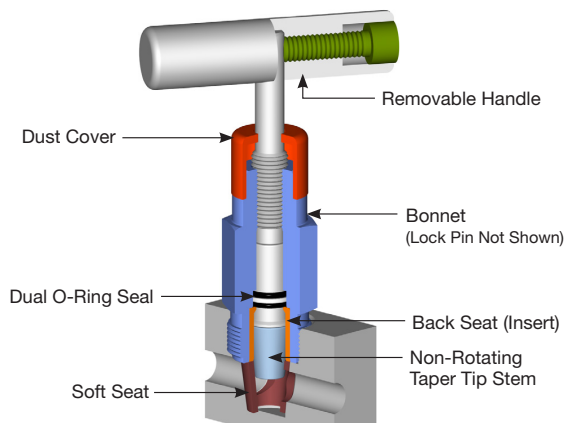


**Bore O-Ring**

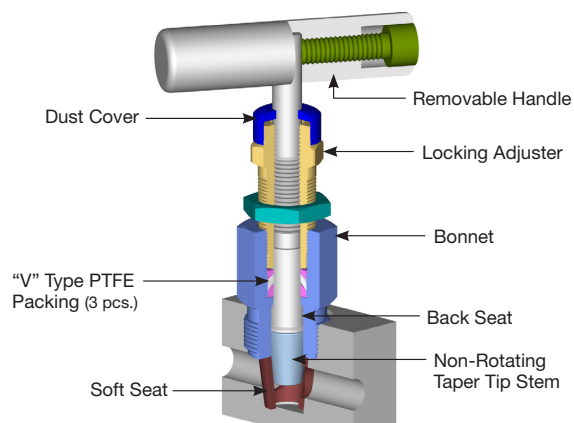


**Packed Bonnet**

## 3/8" Bore O-Ring and Packed Bonnet Assembly

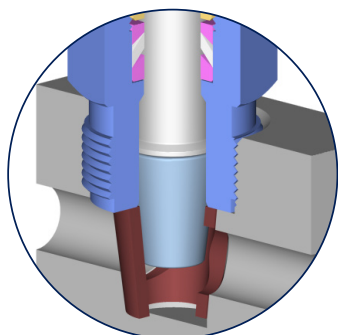


**Bore O-Ring**

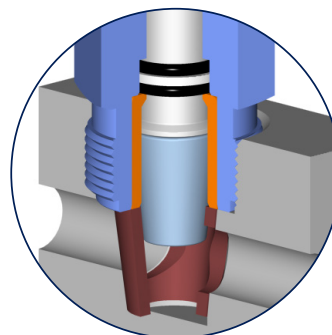


**Packed Bonnet**

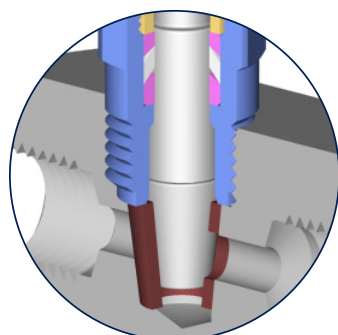
# P3M3S™/P6M3S™: Stem and Seat Characteristics



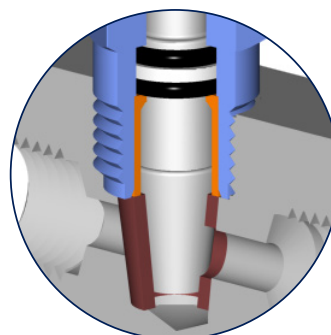
3/8" Bore  
Non-rotating Packed for Block



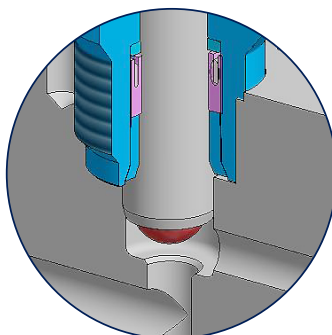
3/8" Bore  
Non-rotating O-ring for Block



3/16" Bore  
Packed for Block



3/16" Bore  
O-ring for Block



Pressure Core

# P3M3S™/P6M3S™ : Pressure-Core® Seal - Advanced Stem Seal System

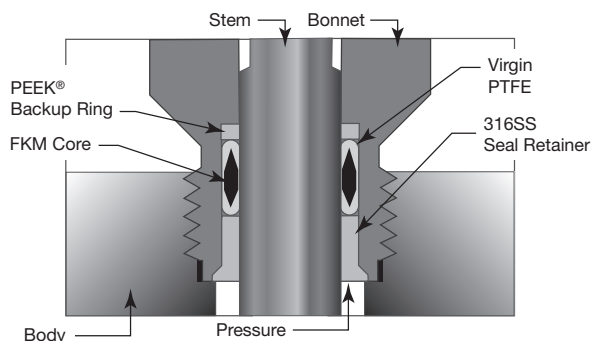
## A Superior Design for Better Performance:

Parker's patented Pressure-Core® Stem Seal System was tested by an independent laboratory in accordance with EPA Method 21, and the results indicate that the Pressure-Core® Stem Seal is a reliable, affordable, virtually leak-free bonnet requiring no costly, time consuming maintenance.

After years of field experience and millions of valves in service, Parker takes great pride in extending a five-year limited warranty on our Pressure-Core® Stem Seal, far exceeding the industry standard.

### Product Features:

- Virtually Leak-Free Performance
- No Adjustments or Maintenance Requirements
- Unmatched 5 Year Warranty
- No Fugitive Emissions



### Fugitive Emissions Test Results:

See for yourself how our Pressure-Core® not only outperforms the competition, but sets a new industry standard...

#### Test Procedure

Valves mechanically cycled 50 times (full open to full close) at 1,000 PSI methane, then heated to 400°F and air cooled to ambient. Procedure repeated until failure.

#### Failure Criteria

100 PPM leak\*

\*Competition's Emission Seal Warranty

#### Test Results:

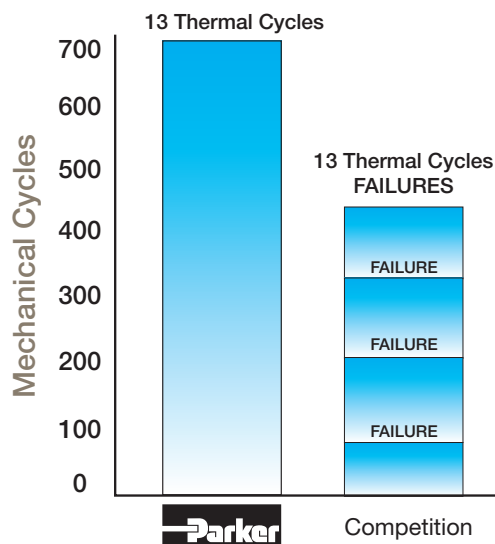
##### Parker:

The Pressure-Core Seal successfully completed 694 mechanical cycles and 13 thermal cycles. Maximum leakage throughout testing was 40 PPM.

##### Competition:

The competition's "low emissions" graphite design failed on the 89th mechanical cycle and on average every 125 cycles throughout the testing.

Repeated maintenance was required between each failure to readjust the valve packing.



# P3M3S™/P6M3S™: Additional Technical Information

## Meets the Following Specifications as required:

- ASME B31.1 Power Piping
- ASME B31.3 Process Piping
- ASME B16.34 Valves - Flanged, Thread, and Welding End
- API 598 Valve Inspection and Testing
- MSS SP-25 Standard Marking Systems for Valves, Fittings, and Flange Unions
- MSS SP-99 Instrument Valves
- MSS SP-105 Instrument Valves for Code Applications
- NACE MR0175 for all 316SS valves and A105CS body/316SS bonnet (SC Material Code)

## Material of Construction:

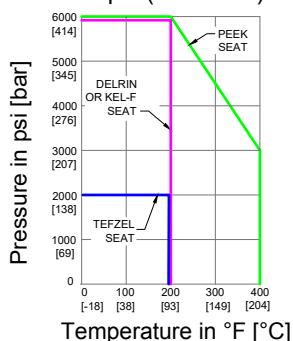
Code	SS	SC	CS
Body	ASTM A182 316SS	ASTM A105 CS	ASTM A108 CS
Bonnet	ASTM A182 316SS	ASTM A182 316SS	ASTM A108 CS
Stem	ASTM A182 316SS	ASTM A182 316SS	ASTM A582 303SS
Adjuster	ASTM A582 303SS	ASTM A582 303SS	ASTM A108 CS
Insert	ASTM A182 316SS	ASTM A182 316SS	ASTM A108 CS
Handle	ASTM A582 303SS	ASTM A582 303SS	ASTM A108 CS

## Seal and Seat Temperature Rating:

Code	Description	Min. Temperature	Max. Temperature
A	TFE/P	15°F (-10°C)	400°F (204°C)
V	FKM	-20°F (-29°C)	400°F (204°C)
P	Pressure Core	-40°F (-40°C)	450°F (232°C)
T	PTFE	-65°F (-54°C)	450°F (232°C)
D	Acetal	-40°F (-40°C)	200°F (93°C)
P	PEEK™	-40°F (-40°C)	400°F (204°C)
Z	ETFE	-300°F (-185°C)	300°F (150°C)

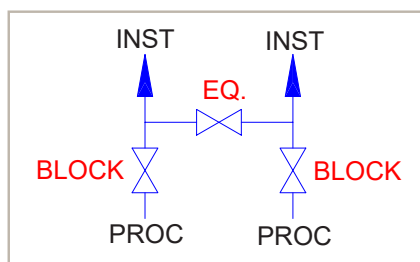
## Pressure vs. Temperature:

Pressure vs. Temperature Chart  
6000 psi (Soft Seat)



Note: Packing material ratings based on manufacturer's specifications. Approximations only. Parker does not represent these values as finite. They are provided only as representative values.

## Flow Diagram for all Manifolds:



# P3M3S™/P6M3S™ : Model Numbering System

Parker	Orifice Size	Type	Inlet Size & Type	Outlet Size & Type	Material	Packing	Seat	Options
P	3=3/16"	M3S	8F= FNPT	8F= FNPT	SS=ASTM A182 316/316L	A=TFE/P	D=Acetal	DL=Dielectric
	6=3/8"		FL=Flange	FL=Flange	SC=ASTM A105 CS*	V=FKM	P=PEEK™	OR= FKM O-ring Flange Seal
			4PT = 1/4" PTFree	4PT = 1/4" PTFree	CS=ASTM A108 CS*	T=PTFE	Z=ETFE	
			6PT = 3/8" PTFree	6PT = 3/8" PTFree		P=Pressure Core		
			8PT = 1/2" PTFree	8PT = 1/2" PTFree				
EXAMPLE: P6M3SFLFLSSVD = 3/8" Orifice, 3 Valve Manifold, Flange Inlet, Flange Outlet, 316SS Body, FKM Packing, Acetal Seats, Taper Tip Stem								
<b>P</b>	<b>6</b>	<b>M3S</b>	<b>FL</b>	<b>FL</b>	<b>SS</b>	<b>V</b>	<b>D</b>	
* For code applications, A108 CS is unacceptable, A105 CS must be selected for CS valves. ** Block bonnet of 3/8" bore manifold only.								
Note: <b>Standard Bolting Options</b> , CS - carbon steel, Gr.8, zinc plated bolts; SS - stainless steel, 18.8 (304SS) bolts.								

## BOLT OPTIONS

Application	Description	Length	BOLT MATERIAL DESIGNATION		
			CS	304 SS	316 SS
DP Transmitter	Bi-planar Design: Rosemount™ 1151, Honeywell™ 900 etc.	1"	Blank: Standard for CS Manifolds	Blank: Standard for SS Manifolds	-S6
	Coplanar Design: Rosemount™ 3051, 3095, 2024 with coplanar flange.	2 1/4"	Blank: Standard for CS Manifolds	Blank: Standard for CS Manifolds	-225S6
Flow Computer	ABB Total Flow, Thermo Fisher™ (with Honeywell™ Transducer Module), Barton Scanner, Bristol Teleflow & TeleTrans	1"	Blank: Standard for CS Manifolds	Blank: Standard for SS Manifolds	-S6
	Fisher™, Flow Automation™ (with Rosemount™ Transducer module), Daniel, Dynamic Fluid	2 1/4"	-225CS	-225S4	-225S6
DP Transmitter with DP to GP Adapter	DP Bi-planar design used in combination with DP to GP Adapter (DPG6S)	2"	-200CS	-200S4	-200S6
	DP Coplanar design used in combination with DP to GP Adapter (DPG6S)	3 1/4"	-325CS	325S4	-325S6
Note: For manifolds with dielectric option add 1/4" to bolt length.					

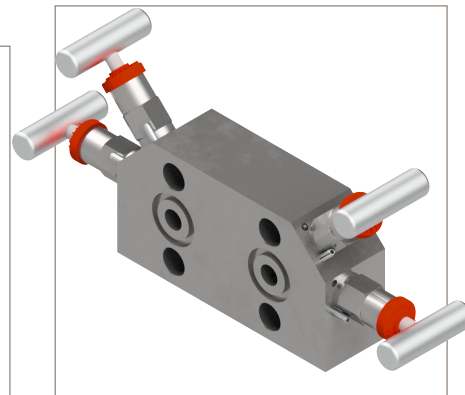
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PRECISION 

# double vent manifolds

# 2 and 4 Valve Double Vent Manifold

## P2MDV™

1/8" Bore Double Vent Manifold



### Principle of Operation:

The P2MDV provides a double block on the Vent/Calibrate connections for transmitters. Designed for superior control of fugitive emissions, it utilizes a double block for safety, and as preventative measure against accidental releases. The P2MDV's can be incorporated into a company's ISO 14001 Environmental Management System.

### Features and Benefits:

- Pressure component materials sourced from the US, Canada or Europe  
Reliable material traceability. MTR's provided with every order for pressure containing components.
- 100% gas tested  
Complies with MSS SP-99 testing procedures as standard. Ensures structural integrity of valve.
- Packing below stem thread  
Prevents corrosion of critical stem threads
- Metal body-to-bonnet seals are in compression, not tension  
Mitigates risk of stress cracking
- Stem threads are rolled, not cut  
Higher quality stem for longer service life
- 8 RMS stem finish  
Extended packing life
- V-Style PTFE packing  
30-40% less operational torque and less frequent packing adjustments than traditional PTFE packed valves



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PRECISION

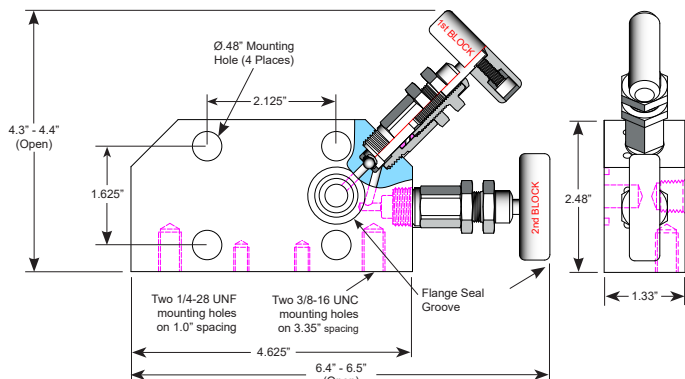
Parker Hannifin acquired PGI in 2012 and Phoenix Precision Ltd in 2014. The enclosed offering combines the best product features of the acquisitions and is the best available, safest technology to better serve customers.



ENGINEERING YOUR SUCCESS.

# P2MDV™: Technical Specifications

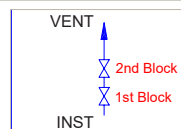
## 2 Valve Configuration (For Gauge Pressure Transmitter)



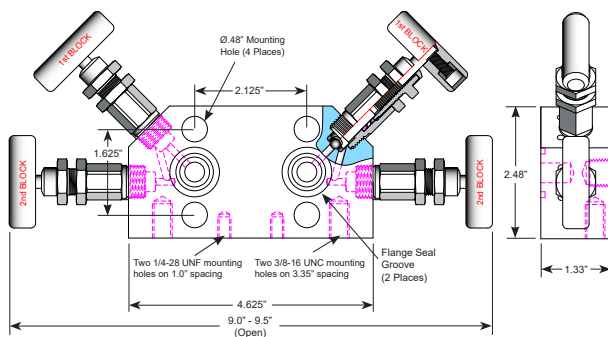
### Specifications:

Feature	Description
Type:	P2MDV2H Valve, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	TFE/P, FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	1/8"
Inlet Connections:	1/2" FNPT
Outlet Connections:	Flange
Vent Port:	1/4" FNPT
Bonnet Lock:	Pin or Plate
Body Stock:	4.625" x 2.48" x 1.33"
Weight:	~3.90 lbs
Special Service:	O <sub>2</sub> or CL cleaning available*

Notes: \*Other specifications or services may be available.



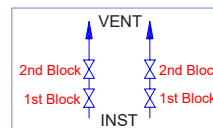
## 4 Valve Configuration (For Differential Pressure Transmitter)



### Specifications:

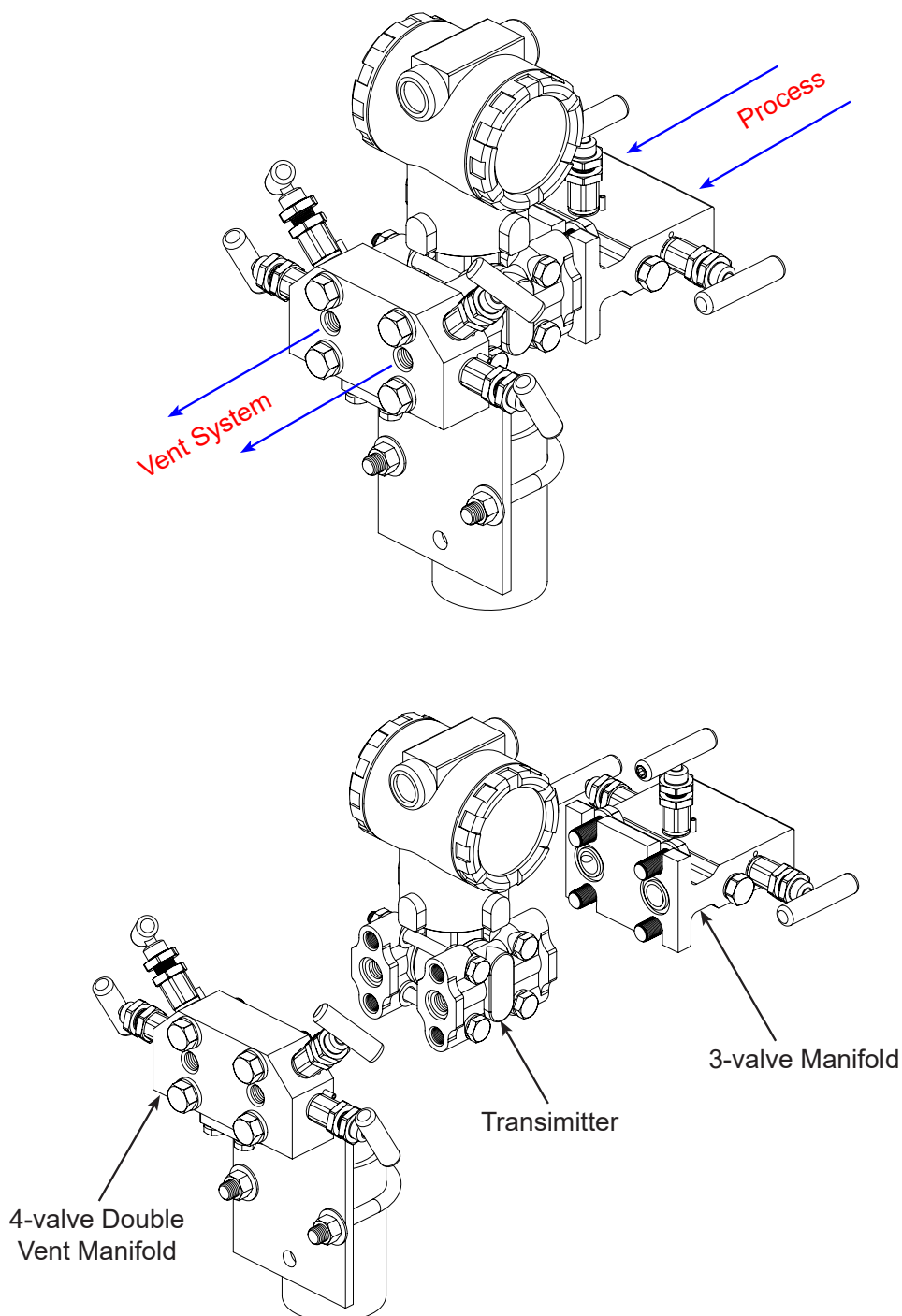
Feature	Description
Type:	P2MDV4H Valve, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	TFE/P, FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	1/8"
Inlet Connections:	Flange
Outlet Connections:	1/4" FNPT
Vent Port:	1/4" FNPT (2 Place, includes 1/4" Pipe Fittings)
Bonnet Lock:	Pin or Plate
Body Stock:	4.625" x 2.48" x 1.33"
Weight:	~4.70 lbs
Special Service:	O <sub>2</sub> or CL cleaning available*

Notes: \*Other specifications or services may be available.



# P2MDV™: Technical Specifications

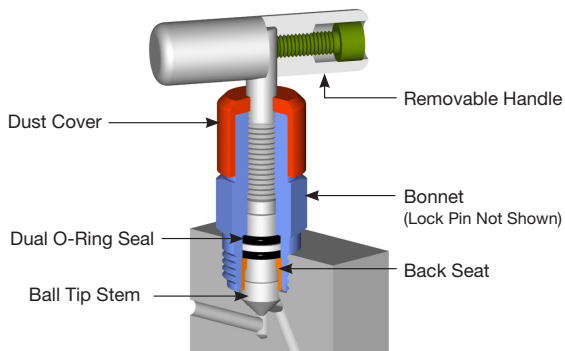
## Illustration of Application (4 Valve Configuration as shown)



# P2MDV™: Bonnet Assembly

## O-Ring Bonnet Assembly

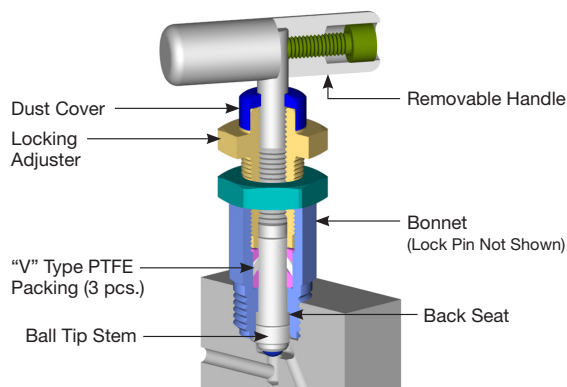
Standard Material					
Valve	Body	Bonnet	Stem	Ball	Packing
CS	ASTM A108CS	ASTM A108CS	ASTM A582 303SS	See Option Codes on Page 4	Dual FKM O-ring with PTFE Backup Ring
SC	ASTM A105CS	ASTM A182 316SS	ASTM A182 316SS		
316SS	ASTM A182 316SS	ASTM A182 316SS	ASTM A182 316SS		



## Packed Bonnet Assembly

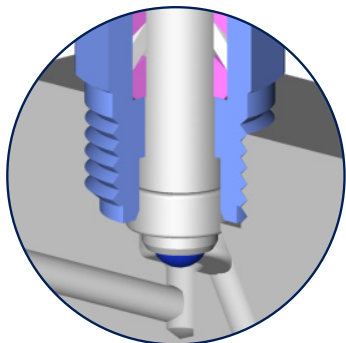
Standard Material					
Valve	Body	Bonnet	Stem	Ball	Packing
CS	ASTM A108CS	ASTM A108CS	ASTM A582 303SS	See Option Codes on Page 4	PTFE and Graphite
SC	ASTM A105CS	ASTM A182 316SS	ASTM A182 316SS		
316SS	ASTM A182 316SS	ASTM A182 316SS	ASTM A182 316SS		

Note: Low Torque Grafoil™ available (G4 Packing Code)

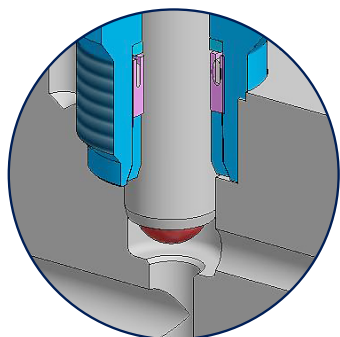


# P2MDV™: Stem and Seat Characteristics, Pressure vs. Temperature

## Stem and Seat Configurations

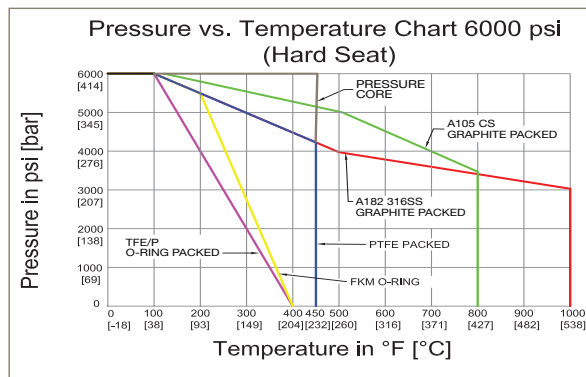


Mini Ball Tip



Pressure Core  
(Optional)

## Pressure vs. Temperature



Note: Body material specifications based on ASME B16.34 - 2013.  
Packing material ratings based on manufacturer's specifications.  
Approximations only. Parker does not represent these values as finite.  
They are provided only as representative values.

# P2MDV™ : Pressure-Core® Seal - Advanced Stem Seal System

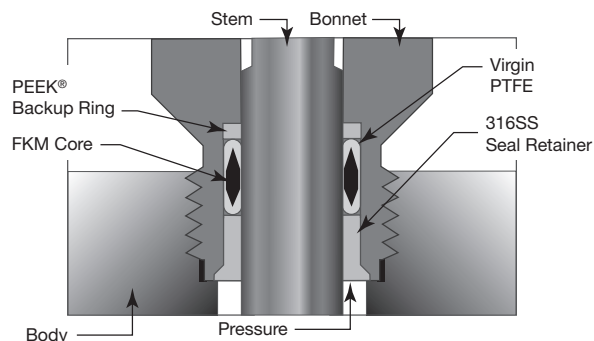
## A Superior Design for Better Performance:

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### Product Features:

- Virtually Leak-Free Performance
- No Adjustments or Maintenance Requirements
- Unmatched 5 Year Warranty
- No Fugitive Emissions



### Fugitive Emissions Test Results:

See for yourself how our Pressure-Core® not only outperforms the competition, but sets a new industry standard...

#### Test Procedure

Valves mechanically cycled 50 times (full open to full close) at 1,000 PSI methane, then heated to 400°F and air cooled to ambient. Procedure repeated until failure.

#### Failure Criteria

100 PPM leak\*

\*Competition's Emission Seal Warranty

#### Test Results:

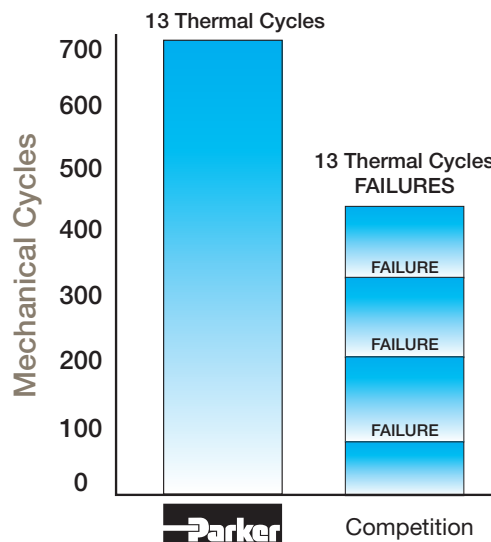
##### Parker:

The Pressure-Core Seal successfully completed 694 mechanical cycles and 13 thermal cycles. Maximum leakage throughout testing was 40 PPM.

##### Competition:

The competition's "low emissions" graphite design failed on the 89th mechanical cycle and on average every 125 cycles throughout the testing.

Repeated maintenance was required between each failure to readjust the valve packing.



# P2MDV™ : Model Numbering System

Parker	Orifice Size	Type	Inlet Size & Type	Outlet Size & Type	Material	Packing	Seat	Stem Tip	Option Codes	Description
P	2=1/8"	MDV2H 2 Valve Manifold	FL = Flange	4F = 1/4" Female NPT	SS=ASTM A182 316/316L	V=FKM	Integral (leave blank)	B=316SS Ball Tip	LB	Bonnet Lock
		MDV4H 4 Valve Manifold			SC=ASTM A105 CS*	T=PTFE		BC=Ceramic Ball Tip	TG	SS Tag
					CS=ASTM A108 CS*	G=Graphite		BM=Monel™ Ball Tip	SGL	Sour Gas ISO NACE Latest Rev.
					C5=ASTM A350 LF2	P= Pressure Core			RLR	Round Large Red Aluminum Handle for Bleed (Vent)
					N4=Monel™ 400				RC	Round Handle CS
					N6=Inconel™ 625				RS	Round Handle SS
					N8=Inconel™ 825				HMB	Horizontal Mounting Bracket
					N2=Hastelloy™ C276				HMBS	SS Horizontal Mounting Bracket
EXAMPLE: P2DV2HFL4FSSTB = Parker, 1/8" Orifice, Double Vent, 2-Valve, Flange Inlet, 1/4" MNPT Outlet, 316 SS Body, PTFE Packing, Integral Seat, 316 SS Ball Tip Stem										
P	2	MDV2H	FL	4F	SS	T		B		
* For code applications, A108 CS is unacceptable, A105 CS must be selected for CS valves.										

## Meets the Following Specifications:

- ASME B31.1 Power Piping
- ASME B31.3 Process Piping
- ASME B16.34 Valves - Flanged, Thread, and Welding End
- API 598 Valve Inspection and Testing
- MSS SP-25 Standard Marking Systems for Valves, Fittings, and Flange Unions
- MSS SP-99 Instrument Valves
- MSS SP-105 Instrument Valves for Code Applications
- NACE MR0175 for all 316SS valves and A105CS body/316SS bonnet (SC Material Code)
- ISO 9001:2015 certified quality system
- Canadian Registration Number (CRN)
- ASME/ANSI B1.20.1 general pipe threads

## Seal and Seat Temperature Rating:

Code	Description	Min. Temperature	Max. Temperature
A	TFE/P	15°F (-10°C)	400°F (204°C)
V	FKM	-20°F (-29°C)	400°F (204°C)
P	Pressure Core	-40°F (-40°C)	450°F (232°C)
T	PTFE	-65°F (-54°C)	450°F (232°C)
G	Graphite		
	SS Body	-70°F (-56°C)	1000°F (537°C)
	CS Body	-70°F (-56°C)	800°F (427°C)
Note: graphite is suitable for services in excess of 1000°F in a non-oxidizing environment.			

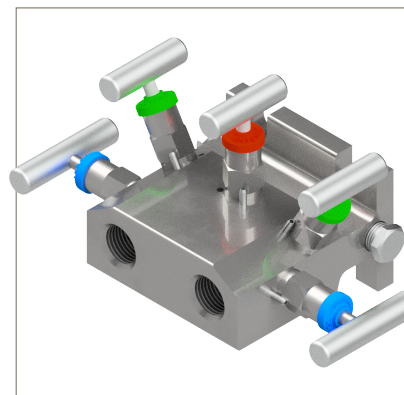
**PHOENIX™**  
PRECISION 

# 5-valve manifolds

# 5 Valve Hard Seat Manifolds

## P3M5H™ and P6M5H™

3/16" and 3/8" Bore 5-Valve Hard Seat Manifolds  
Solutions for Oil, Gas, and Petrochemical Processing



### Principle of Operation:

The 5-valve manifold features 2 isolation valves, 2 equalizer valves and 1 vent valve in a single body for isolation and calibration of differential pressure transmitters. The RADIAL PATTERN™ manifold has an innovative angled bonnet configuration for easy operation. Additional features include a body manufactured from extruded solid bar, robust stems and Parker's innovative design which ensures a bubble tight seal in a variety of conditions. All Parker valves are manufactured and designed in accordance with MSS-SP105.

### Features and Benefits:

- Pressure component materials sourced from the US, Canada or Europe  
Reliable material traceability. MTR's provided with every order for pressure containing components.
- 100% gas tested.  
Complies with MSS SP-29 testing procedures as standard. Ensures structural integrity of valve.
- Packing below stem thread  
Prevents corrosion of critical stem threads
- Metal body-to-bonnet seals are in compression, not tension  
Mitigates risk of stress cracking
- Stem threads are rolled, not cut  
Higher quality stem for longer service life
- 8 RMS stem finish  
Extended packing life
- True globe pattern valve  
Extended packing life
- V-Style PTFE packing  
30-40% less operational torque and less frequent packing adjustments than traditional PTFE packed valves



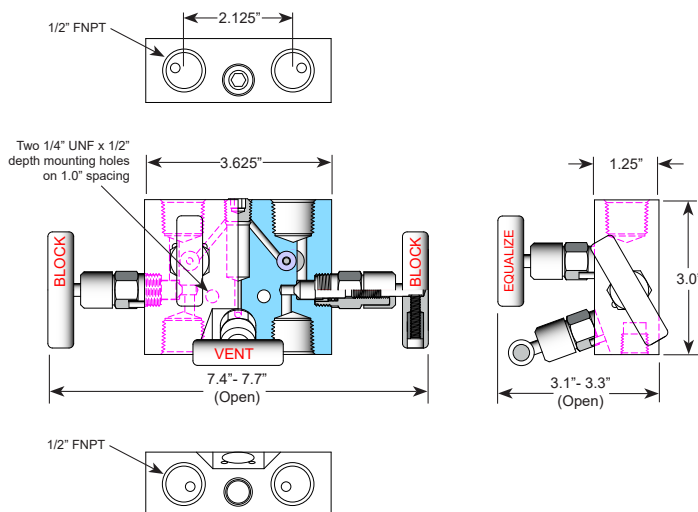
Parker Hannifin acquired PGI in 2012 and Phoenix Precision Ltd in 2014. The enclosed offering combines the best product features of the acquisitions and is the best available, safest technology to better serve customers.



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# P3M5H™/P6M5H™: Pipe x Pipe Technical Specifications

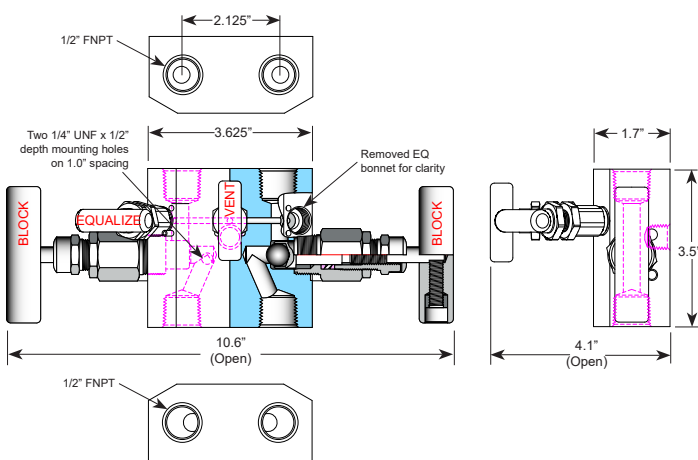
## 3/16" Bore Configuration



### Specifications:

Feature	Description
Type:	<b>P3M5H</b> , 5-Valve Manifold, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	3/16"
Inlet Connections:	1/2" FNPT
Outlet Connections:	1/2" FNPT
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 3.00" x 1.25"
Weight:	4.5 - 5.1 lbs
Special Service:	O <sub>2</sub> or Cl cleaning available*
Notes: *Other specifications or services may be available.	

## 3/8" Bore Configuration

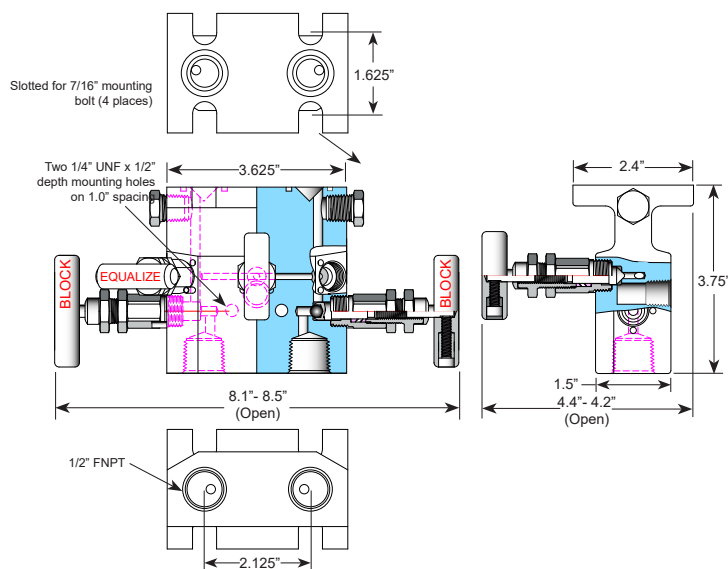


### Specifications:

Feature	Description
Type:	<b>P6M5H</b> , 5-Valve Manifold, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	3/8"
Inlet Connections:	1/2" FNPT
Outlet Connections:	1/2" FNPT
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 3.5" x 1.7"
Weight:	7.0 - 7.2 lbs
Special Service:	O <sub>2</sub> or Cl cleaning available*
Notes: *Other specifications or services may be available.	

# P3M5H™/P6M5H™ : Pipe x Flange Technical Specifications

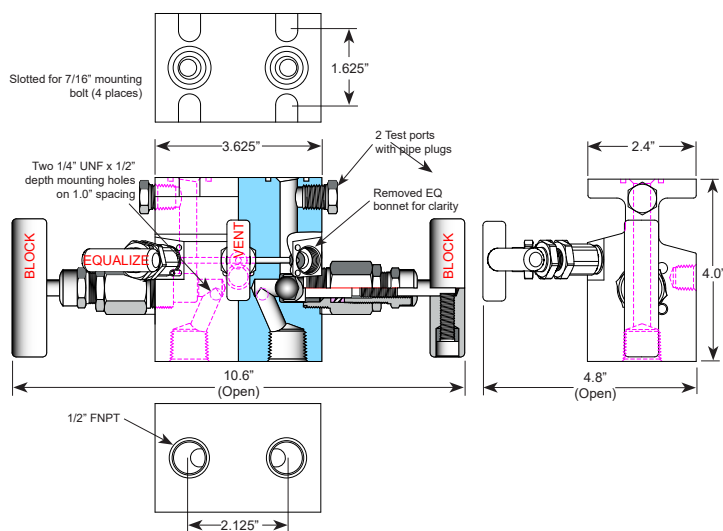
## 3/16" Bore Configuration



### Specifications:

Feature	Description
Type:	<b>P3M5H</b> , 5-Valve Manifold, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	3/16"
Inlet Connections:	1/2" FNPT
Outlet Connections:	Flange
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 3.75" x 2.4" x 1.5"
Weight:	4.5 - 5.1 lbs
Special Service:	O <sub>2</sub> or Cl cleaning available*
Notes: *Other specifications or services may be available.	

## 3/8" Bore Configuration

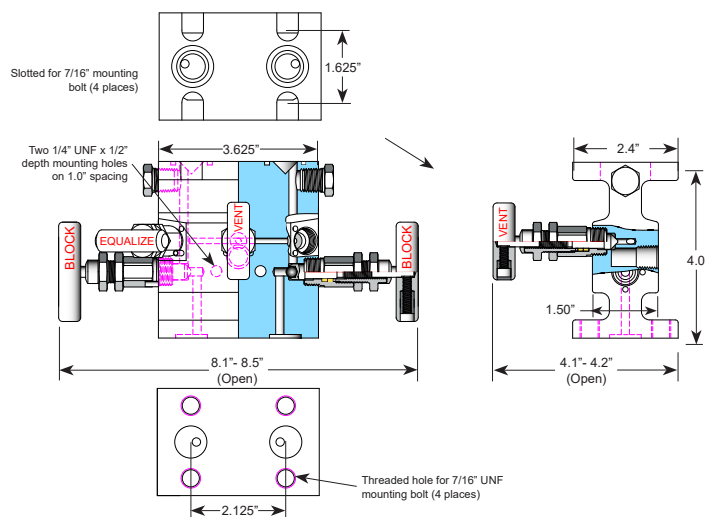


### Specifications:

Feature	Description
Type:	<b>P6M5H</b> , 5-Valve Manifold, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	3/8"
Inlet Connections:	FNPT
Outlet Connections:	FNPT
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 4.0" x 2.4"
Weight:	7.5 - 7.7 lbs
Special Service:	O <sub>2</sub> or Cl cleaning available*
Notes: *Other specifications or services may be available.	

# P3M5H™/P6M5H™: Flange x Flange Technical Specifications

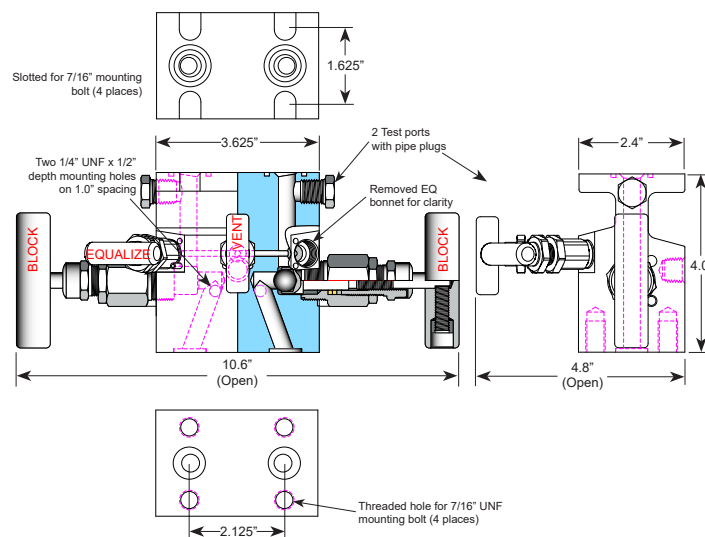
## 3/16" Bore Configuration



### Specifications:

Feature	Description
Type:	<b>P3M5H</b> , 5-Valve Manifold, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	3/16"
Inlet Connections:	Flange
Outlet Connections:	Flange
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 4.0" x 2.4" x 1.5"
Weight:	4.5 - 5.1 lbs
Special Service:	O <sub>2</sub> or Cl cleaning available*
Notes: *Other specifications or services may be available.	

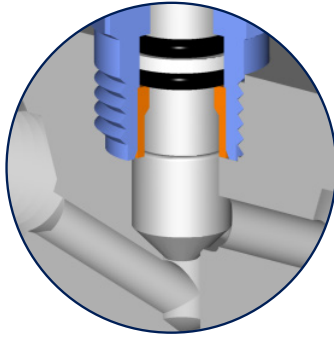
## 3/8" Bore Configuration



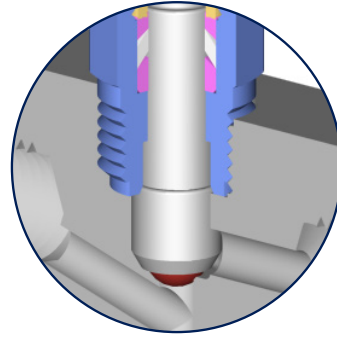
### Specifications:

Feature	Description
Type:	<b>P6M5H</b> , 5-Valve Manifold, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball tip
Packing:	FKM O-ring, PTFE or Graphite
Seat:	Integral
Handle:	Removable
Bore Size:	3/8"
Inlet Connections:	Flange
Outlet Connections:	Flange
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 4.0" x 2.4"
Weight:	7.6 - 7.8 lbs
Special Service:	O <sub>2</sub> or Cl cleaning available*
Notes: *Other specifications or services may be available.	

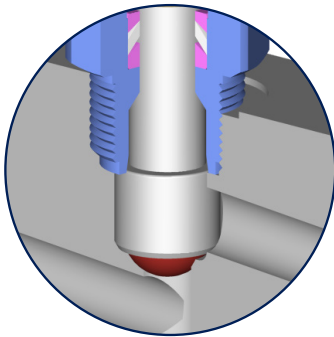
# P3M5H™/P6M5H™ : Stem and Seat Characteristics



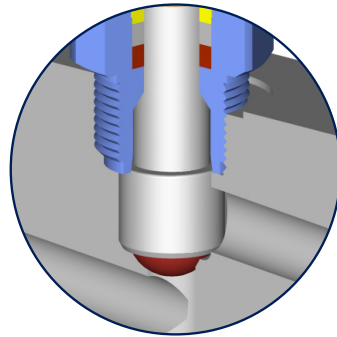
3/16"  
Bore O-ring Configuration



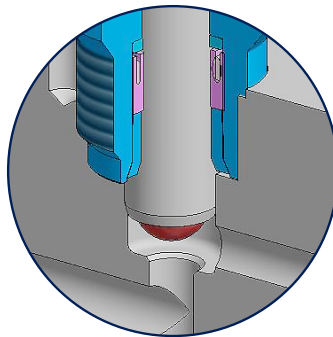
3/16"  
Bore Packed Configuration



3/8"  
PTFE Packed Configuration



3/8"  
Grafoil™ Packed Configuration



Pressure Core

# P3M3H™/P6M3H™: Pressure-Core® Seal - Advanced Stem Seal System

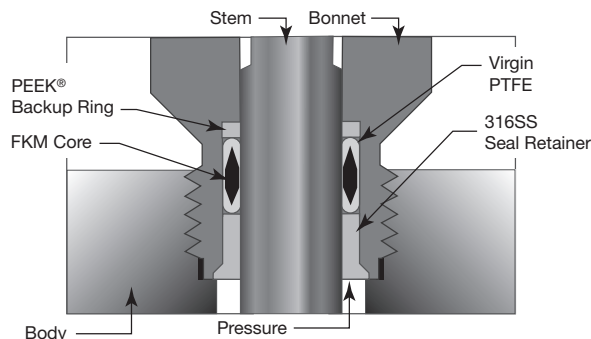
## A Superior Design for Better Performance:

Parker's patented Pressure-Core® Stem Seal System was tested by an independent laboratory in accordance with EPA Method 21, and the results indicate that the Pressure-Core® Stem Seal is a reliable, affordable, virtually leak-free bonnet requiring no costly, time consuming maintenance.

After years of field experience and millions of valves in service, Parker takes great pride in extending a five-year limited warranty on our Pressure-Core® Stem Seal, far exceeding the industry standard.

### Product Features:

- Virtually Leak-Free Performance
- No Adjustments or Maintenance Requirements
- Unmatched 5 Year Warranty
- No Fugitive Emissions



### Fugitive Emissions Test Results:

See for yourself how our Pressure-Core® not only outperforms the competition, but sets a new industry standard...

#### Test Procedure

Valves mechanically cycled 50 times (full open to full close) at 1,000 PSI methane, then heated to 400°F and air cooled to ambient. Procedure repeated until failure.

#### Failure Criteria

100 PPM leak\*

\*Competition's Emission Seal Warranty

#### Test Results:

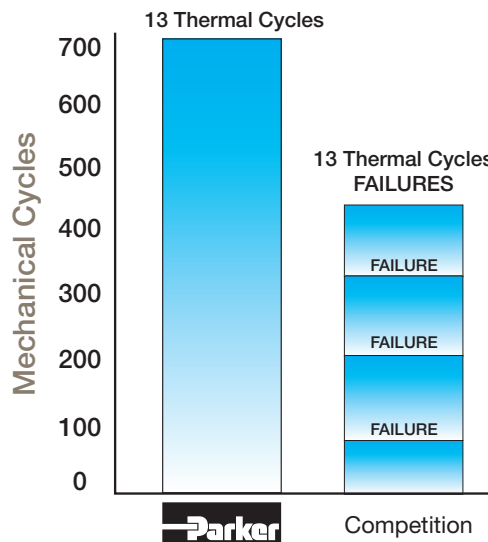
##### Parker:

The Pressure-Core Seal successfully completed 694 mechanical cycles and 13 thermal cycles. Maximum leakage throughout testing was 40 PPM.

##### Competition:

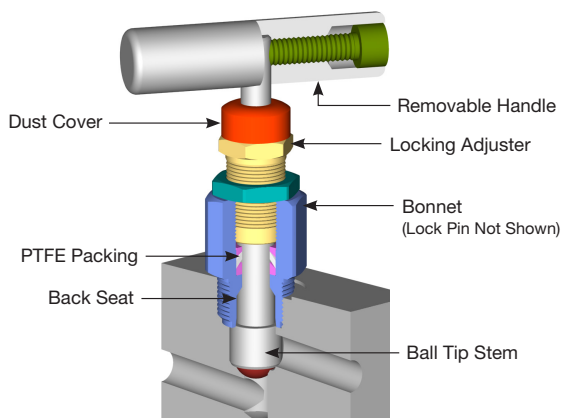
The competition's "low emissions" graphite design failed on the 89th mechanical cycle and on average every 125 cycles throughout the testing.

Repeated maintenance was required between each failure to readjust the valve packing.

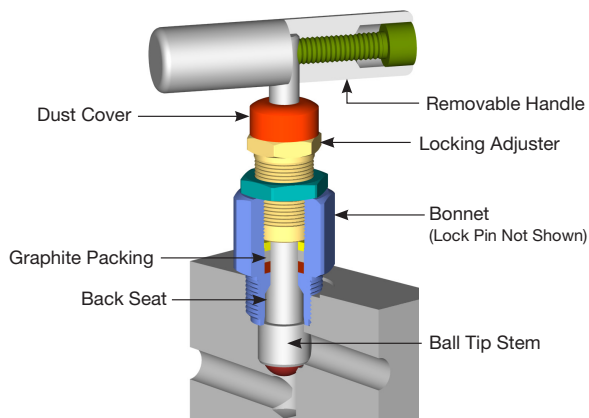


# P3M3H™/P6M3H™ : Block Bonnet Characteristics and Accessories

## PTFE and Graphite Packed Bonnet Assembly

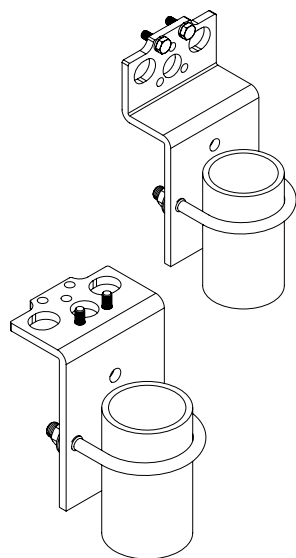


**PTFE Packed Bonnet**

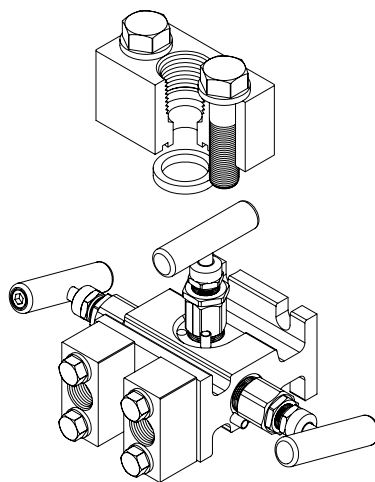


**Graphite Packed Bonnet**

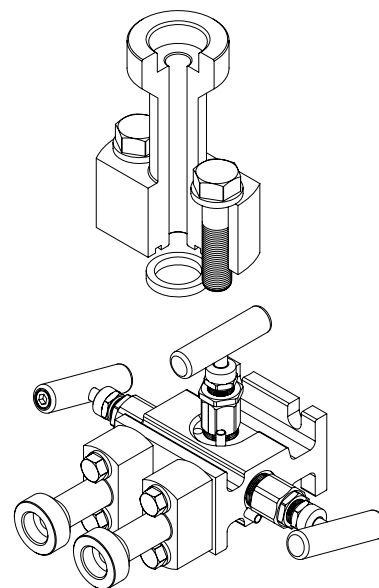
## Optional Manifold Accessories



**Mounting Bracket Kit**



**1/2" Female Threaded Adapter**



**1/2" Socket Weld Adapter**

# P3M5H™/P6M5H™: Additional Technical Information

## Meets the Following Specifications is required:

- ASME B31.1 Power Piping
- ASME B31.3 Process Piping
- ASME B16.34 Valves - Flanged, Thread, and Welding End
- API 598 Valve Inspection and Testing
- MSS SP-25 Standard Marking Systems for Valves, Fittings, and Flange Unions
- MSS SP-99 Instrument Valves
- MSS SP-105 Instrument Valves for Code Applications
- NACE MR0175 for all 316SS valves and A105CS body/316SS bonnet (SC Material Code)

## Material of Construction:

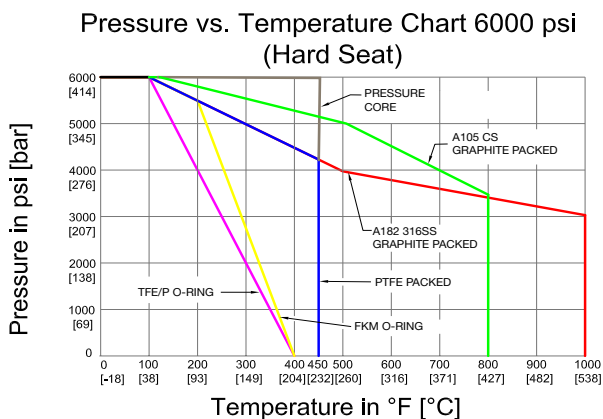
Code	SS	SC	CS
Body	ASTM A182 316SS	ASTM A105 CS	ASTM A108 CS
Bonnet	ASTM A182 316SS	ASTM A182 316SS	ASTM A108 CS
Stem	ASTM A182 316SS	ASTM A182 316SS	ASTM A582 303SS
Adjuster	ASTM A582 303SS	ASTM A582 303SS	ASTM A108 CS
Insert	ASTM A182 316SS	ASTM A182 316SS	ASTM A108 CS
Handle	ASTM A582 303SS	ASTM A582 303SS	ASTM A108 CS

## Seal and Seat Temperature Rating:

Code	Description	Min. Temperature	Max. Temperature
A	TFE/P	15°F (-10°C)	400°F (204°C)
V	FKM	-20°F (-29°C)	400°F (204°C)
P	Pressure Core	-40°F (-40°C)	450°F (232°C)
T	PTFE	-65°F (-54°C)	450°F (232°C)
G	Graphite	-70°F (-56°C)	1000°F (537°C)
	CS Body	-70°F (-56°C)	800°F (427°C)

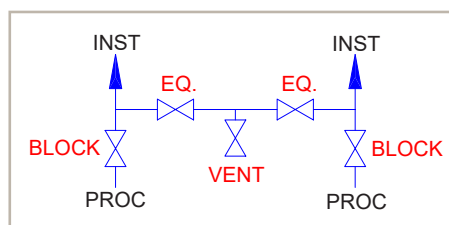
Note: Grafoil™ is suitable for services in excess of 1000°F in a non-oxidizing environment.

## Pressure vs. Temperature:



Note: Body material specifications based on ASME B16.34 - 2013. Packing material ratings based on manufacturer's specifications. Approximations only. Parker does not represent these values as finite. They are provided only as representative values.

## Flow Diagram for all Manifolds:



# P3M5H™/P6M5H™ : Model Numbering System

Parker	Orifice Size	Type	Inlet Size & Type	Outlet Size & Type	Material	Packing	Seat	Stem Tip
P	3=3/16"	M5H	8F = 1/2" FNPT	8F = 1/2" FNPT	SS=ASTM A182 316/316L	A=FTE/P	Integral (leave blank)	B=316SS Ball Tip
	6=3/8"		FL = Flange	FL = Flange	SC=ASTM A105 CS*	V=FKM		BC=Ceramic Ball Tip
			4PT = 1/4" PTFree	4PT = 1/4" PTFree	CS=ASTM A108 CS*	T=PTFE		BM=Monel™ Ball Tip
			6PT = 3/8" PTFree	6PT = 3/8" PTFree	C5=ASTM A350 LF2	G=Graphite		
			8PT = 1/2" PTFree	8PT = 1/2" PTFree	N4=Monel™ 400	P=Pressure Core		
					N6=Inconel™ 625			
					N8=Inconel™ 825			
					N2=Hastelloy™ C276			
EXAMPLE: <b>P3M5H8F8FSSTB</b> = 3/16" Orifice, 5-Valve Manifold, 1/2" FNPT Inlet, 1/2" FNPT Outlet, 316 SS Body, PTFE Packing, Integral Seat, Ball Tip Stem								
<b>P</b>	<b>3</b>	<b>M5H</b>	<b>8F</b>	<b>8F</b>	<b>SS</b>	<b>T</b>		<b>B</b>
*For code applications, A105 CS must be selected for CS valves. Code grade bolts must be specified for code applications. Note: Standard Bolting Options, CS - carbon steel, Gr.8, zinc plated bolts; SS - stainless steel, 18.8 (304SS) bolts.								

Option Codes	Description
LB	Bonnet Lock
OC	Oxygen Clean
TG	SS Tag
N4	Monel™ 400 Stem
N5	Monel™ 500 Stem
N6	Inconel™625 Stem
N8	Inconel™825 Stem
N2	Hastelloy™ C276 Stem
H(V)MB	Horizontal (Vertical) Mounting Bracket
H(V)MBS	SS Horizontal (Vertical) Mounting Bracket
S6	316 SS Bolts
225CS	2.25" CS Bolts
225S4	2.25" 304 SS Bolts
225S6	2.25" 316 SS Bolts
TB	1/4" FNPT Test Ports Bottom
PB	1/4" FNPT Purge Ports Bottom
B7	AISI 4140/4142 QT
B8MC1	Class 1, 316SS, ST
B8MC2	Class 2, 316SS, ST, SH

Code Bolting Information
1. B7, B8C1, B8MC1, B8C2, B8MC2 are code grades to ASTM A193;
2. To specify code grade bolting, example: 225B7 indicates 2.25" bolt length; B7 grade, alloy steel, AISI 4140/4142
3. QT-Quenched & Tempered; ST-Carbide Solution Treated; SH-Strain Hardened

## BOLT OPTIONS

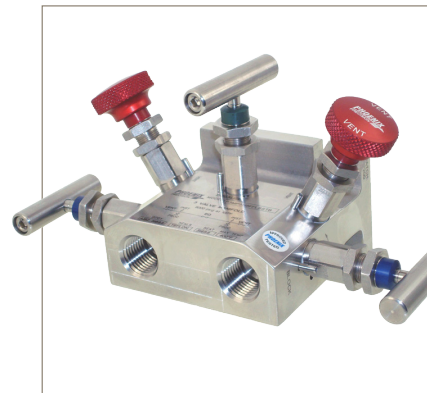
Application	Description	Length	BOLT MATERIAL DESIGNATION		
			CS	304 SS	316 SS
DP Transmitter	Bi-planar Design: Rosemount™ 1151, Honeywell™ 900 etc.	1"	Blank: Standard for CS Manifolds	Blank: Standard for SS Manifolds	-S6
	Coplanar Design: Rosemount™ 3051, 3095, 2024 with coplanar flange.	2 1/4"	-225CS	-225S4	-225S6
Flow Computer	ABB Total Flow, Thermo Fisher™ (with Honeywell™ Transducer Module), Barton Scanner, Bristol Teleflow & TeleTrans	1"	Blank: Standard for CS Manifolds	Blank: Standard for SS Manifolds	-S6
	Fisher™, Flow Automation™ (with Rosemount™ transducer module), Daniel, Dynamic Fluid	2 1/4"	-225CS	-225S4	-225S6
DP Transmitter with DP to GP Adapter	DP Bi-planar design used in combination with DP to GP Adapter (DPG6S)	2"	-200CS	-200S4	-200S6
	DP Coplanar design used in combination with DP to GP Adapter (DPG6S)	3 1/4"	-325CS	325S4	-325S6

Note: For manifolds with dielectric option add 1/4" to bolt length.

# 5 Valve Power Style Manifold

## P3MP5H™

3/16" Bore 5 Valve Power Style Manifold



### Principle of Operation:

Parker offers this 5-valve globe pattern manifold for 6,000 psi service. The manifold is designed to function as a 3-valve manifold with the addition of two vent/calibration valves, which allow venting and draining of the transmitter for safe disposal of process media. The RADIAL PATTERN™ manifold has an innovative angled bonnet configuration for easy operation. The additional connections can also be used for field calibration of a transmitter.

### Features and Benefits:

- Hydrotested at 150% of rated pressure (shell test). Nitrogen gas tested to 2000 psi.  
Complies with ASME B31.1 & B31.3 shell testing procedures as standard. Ensures structural integrity of valve.
- Seat tightness (zero leakage) verified to 110% of rated pressure. Nitrogen gas tested to 2000 psi.  
Complies with ASME B31.1 & B31.3 seat testing procedures as standard. Ensures zero leakage at seats for proper calibration.
- Packing below stem thread  
Prevents corrosion of critical stem threads
- Metal body-to-bonnet seals are in compression, not tension  
Mitigates risk of stress cracking
- Stem threads are rolled, not cut  
Higher quality stem for longer service life
- 8 RMS stem finish  
Extended packing life
- V-Style PTFE packing  
30-40% less operational torque and less frequent packing adjustments than traditional PTFE packed valves
- Pressure component materials sourced from the US, Canada or Europe  
Reliable material traceability. MTR's provided with every order for pressure containing components.



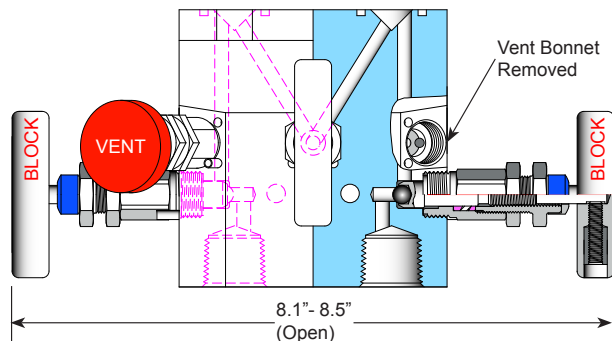
Parker Hannifin acquired PGI in 2012 and Phoenix Precision Ltd in 2014. The enclosed offering combines the best product features of the acquisitions and is the best available, safest technology to better serve customers.



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# P3MP5H™: Technical Specifications

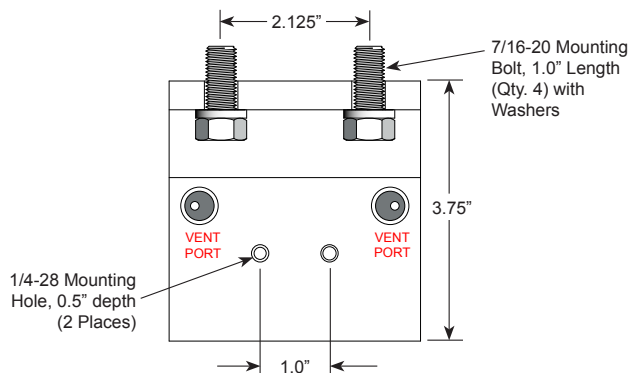
## Top View of Power Manifold



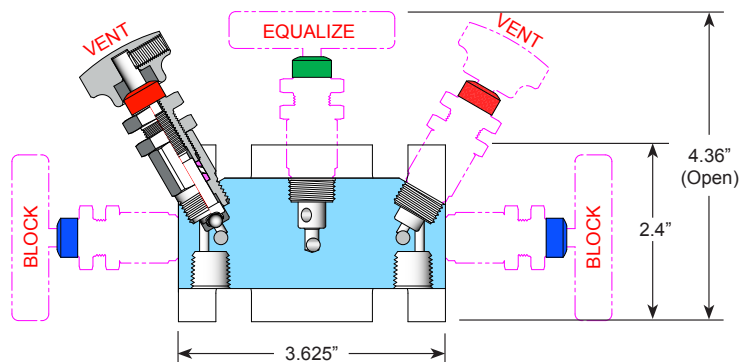
### Specifications:

Feature	Description
Type:	<b>P3ML2H</b> , 2-Valve Liquid Level Manifold, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Needle tip or Ball tip
Packing:	PTFE or Grafoil™
Seat:	Integral
Handle:	Removable
Bore Size:	3/16"
Inlet Connections:	FNPT
Outlet Connections:	Flange
Bonnet Lock:	Pin or Plate
Body Stock:	3.750" x 3.625" x 2.4" x 1.125"
Weight:	4.7 lbs
Special Service:	O <sub>2</sub> or CL cleaning available*
Notes: *Other specifications or services may be available.	
Color Code of Bonnets	
Block Bonnet	Blue
Equalize Bonnet	Green
Vent Bonnet	Red

## Bottom View of Power Manifold



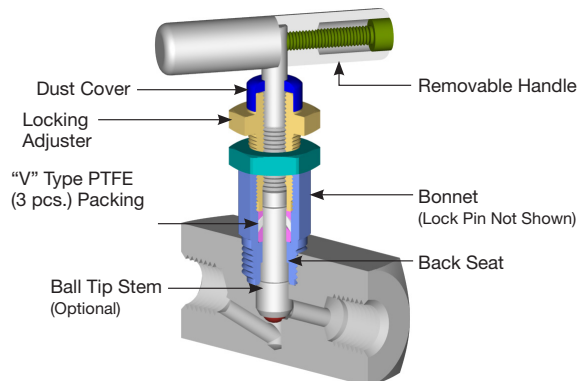
## Section View with Color Coded Bonnets



# P3MP5H™ : Bonnet, Stem, and Seat Characteristics

## PTFE Bonnet Assembly

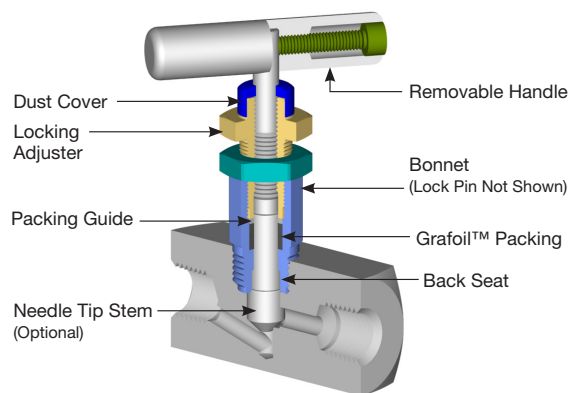
Standard Material					
Valve	Body	Bonnet	Stem	Ball	Packing
CS	ASTM A108CS	ASTM A108CS	ASTM A582 303SS	See Option Codes on Page 4	PTFE
SC	ASTM A105CS	ASTM A182 316SS	ASTM A182 316SS		
316SS	ASTM A182 316SS	ASTM A182 316SS	ASTM A182 316SS		



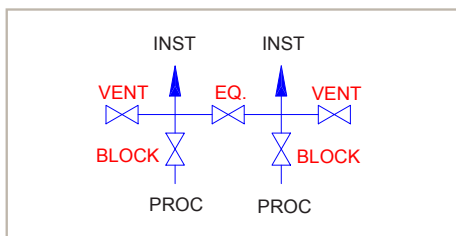
## Grafoil™ Bonnet Assembly

Standard Material					
Valve	Body	Bonnet	Stem	Ball	Packing
CS	ASTM A108CS	ASTM A108CS	ASTM A582 303SS	See Option Codes on Page 4	Grafoil™
SC	ASTM A105CS	ASTM A182 316SS	ASTM A182 316SS		
316SS	ASTM A182 316SS	ASTM A182 316SS	ASTM A182 316SS		

Note: Low Torque Grafoil™ available (G4 Packing Code)

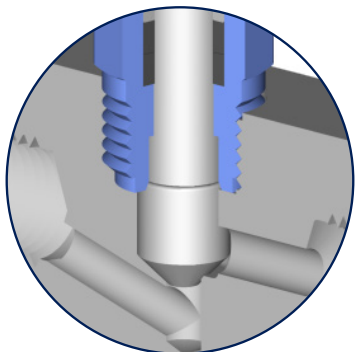


## Flow Diagram for Manifold:

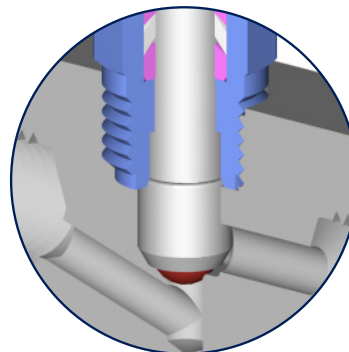


# P3MP5H™: Bonnet, Stem, and Seat Characteristics

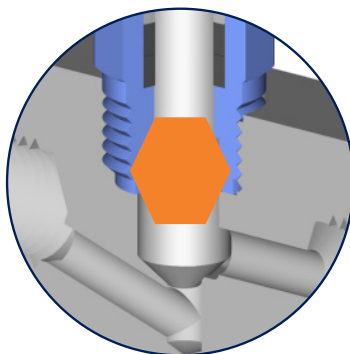
## Stem and Seat Configurations



Needle Tip  
(Standard)

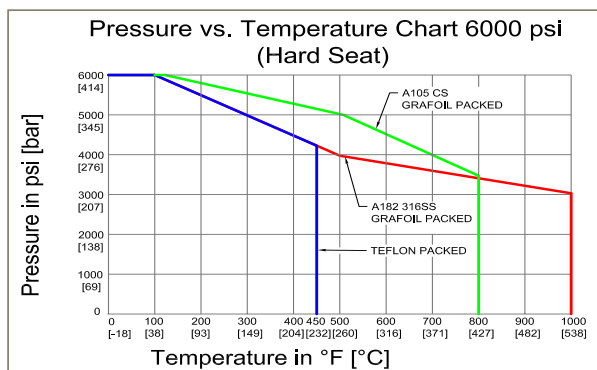


Ball Tip  
(Optional)



Pressure Core

## Pressure vs. Temperature



Note: Body material specifications based on ASME B16.34 - 2013. Packing material ratings based on manufacturer's specifications. Approximations only. Parker does not represent these values as finite. They are provided only as representative values.

# P3MP5H™ : Pressure-Core® Seal - Advanced Stem Seal System

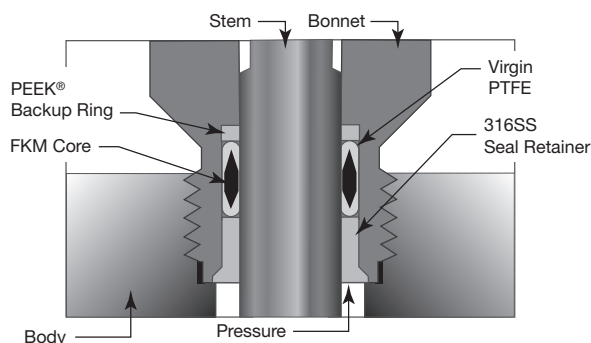
## A Superior Design for Better Performance:

Parker's patented Pressure-Core® Stem Seal System was tested by an independent laboratory in accordance with EPA Method 21, and the results indicate that the Pressure-Core® Stem Seal is a reliable, affordable, virtually leak-free bonnet requiring no costly, time consuming maintenance.

After years of field experience and millions of valves in service, Parker takes great pride in extending a five-year limited warranty on our Pressure-Core® Stem Seal, far exceeding the industry standard.

### Product Features:

- Virtually Leak-Free Performance
- No Adjustments or Maintenance Requirements
- Unmatched 5 Year Warranty
- No Fugitive Emissions



### Fugitive Emissions Test Results:

See for yourself how our Pressure-Core® not only outperforms the competition, but sets a new industry standard...

#### Test Procedure

Valves mechanically cycled 50 times (full open to full close) at 1,000 PSI methane, then heated to 400°F and air cooled to ambient. Procedure repeated until failure.

#### Failure Criteria

100 PPM leak\*

\*Competition's Emission Seal Warranty

#### Test Results:

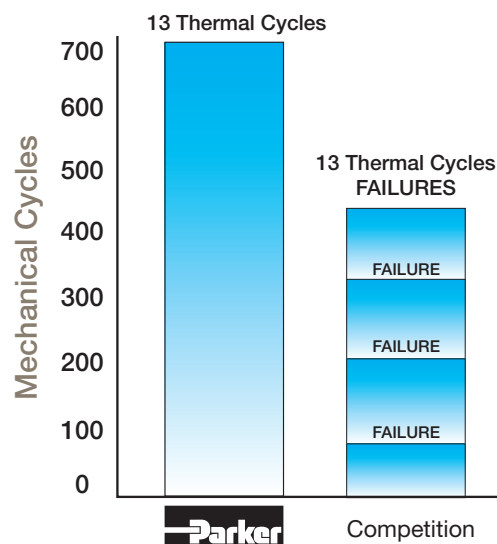
##### Parker:

The Pressure-Core Seal successfully completed 694 mechanical cycles and 13 thermal cycles. Maximum leakage throughout testing was 40 PPM.

##### Competition:

The competition's "low emissions" graphite design failed on the 89th mechanical cycle and on average every 125 cycles throughout the testing.

Repeated maintenance was required between each failure to readjust the valve packing.



# P3MP5H™: Model Numbering System

Parker	Orifice Size	Type	Inlet Size	Inlet Type	Outlet Size	Outlet Type	Material	Packing	Seat	Stem Tip	Option Codes	Description
P	3=3/16"	MP5H	8=1/2"	F=FNPT		FL=Flange	SS=ASTM A182 316/316L	T=PTFE	Integral (leave blank)	Needle Tip Standard (leave blank)	LB	Bonnet Lock
				FL=Flange			SC=ASTM A105 CS*	G=Grafoil™		B=316SS Ball Tip	CC	Chlorine Clean
				FT=Female Tube Fitting			CS=ASTM A108 CS*	P=Pressure Core		BC=Ceramic Ball Tip	OC	Oxygen Clean
							C5=ASTM A350 LF2			BM=Monel™ Ball Tip	TG	SS Tag
							N4=Monel™ 400				SGI	Sour Gas ISO NACE Latest Rev.
							N6=Inconel™ 625				N4	Monel™ 400 Stem
							N8=Inconel™ 825				N5	Monel™ 500 Stem
							N2=Hastelloy™ C276				N6	Inconel™625 Stem
											N8	Inconel™825 Stem
											N2	Hastelloy™ C276 Stem
EXAMPLE: <b>P3MP5H8FFLSSTB</b> = 3/16" Orifice, 5-Valve Manifold Power Style, 1/2" FNPT Inlet, Flange Outlet, 316 SS Body, PTFE Packing, Integral Seat, 316 SS Ball Tip Stem												
<b>P</b>	<b>3</b>	<b>MP5H</b>	<b>8</b>	<b>F</b>		<b>FL</b>	<b>SS</b>	<b>T</b>		<b>B</b>	H(V)MB	Horizontal (Vertical) Mounting Bracket
											H(V)MBS	SS Horizontal (Vertical) Mounting Bracket
											S6	316 SS Bolts
											225CS	2.25" CS Bolts
											225S4	2.25" 304 SS Bolts
											225S6	2.25" 316 SS Bolts
											B7	AISI 4140/4142 QT
											B8C1	Class 1, 304SS, ST
											B8MC1	Class 1, 316SS, ST
											B8C2	Class 2, 304SS, ST, SH
											B8MC2	Class 2, 316SS, ST, SH

\*For code applications, A105 CS must be selected for CS valves. Code grade bolts must be specified for code applications.  
**Note:** Standard Bolting Options, **CS** - carbon steel, Gr.8, zinc plated bolts; **SS** - stainless steel, 18.8 (304SS) bolts.

Code Bolting Information
1. B7, B8C1, B8MC1, B8C2, B8MC2 are code grades to ASTM A193;
2. To specify code grade bolting, example: 225B7 indicates 2.25" bolt length; B7 grade, alloy steel, AISI 4140/4142
3. QT-Quenched & Tempered; ST-Carbide Solution Treated; SH-Strain Hardened

## Meets the Following Specifications:

- ASME B31.1 Power Piping
- ASME B31.3 Process Piping
- ASME B16.34 Valves - Flanged, Thread, and Welding End
- API 598 Valve Inspection and Testing
- MSS SP-25 Standard Marking Systems for Valves, Fittings, and Flange Unions
- MSS SP-99 Instrument Valves
- MSS SP-105 Instrument Valves for Code Applications
- NACE MR0175 for all 316SS valves and A105CS body/316SS bonnet (SC Material Code)

## Seal and Seat Temperature Rating:

Code	Description	Min. Temperature	Max. Temperature
T	PTFE	-65°F (-54°C)	450°F (232°C)
G	Grafoil™		
	SS Body	-70°F (-56°C)	1000°F (537°C)
	CS Body	-70°F (-56°C)	800°F (427°C)

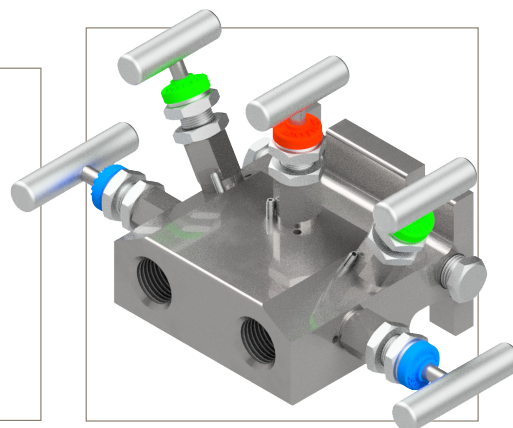
Note: Grafoil™ is suitable for services in excess of 1000°F in a non-oxidizing environment.

# 5 Valve Soft Seat Manifold

**P3M5S™, P4M5S™, P6M5S™**

Gas Style Manifold

US Patent No: US 7,225,832 B2



## Principle of Operation:

The 5-valve manifold features 2 isolation valves, 2 equalizer valves and 1 vent valve in a single body for isolation and calibration of differential pressure transmitters. The RADIAL PATTERN™ manifold has an innovative angled bonnet configuration for easy operation. Additional features include a body manufactured from extruded solid bar, robust stems and Parker's innovative design which ensures a bubble tight seal in a variety of conditions.

## Features and Benefits:

- **Pressure component materials sourced from the US, Canada or Europe**  
Reliable material traceability. MTR's provided with every order for pressure containing components.
- **100% gas tested**  
Complies with MSS SP-99 testing procedures as standard. Ensures structural integrity of valve.
- **Packing below stem thread**  
Prevents corrosion of critical stem threads
- **Metal body-to-bonnet seals are in compression, not tension**  
Mitigates risk of stress cracking
- **Stem threads are rolled, not cut**  
Higher quality stem for longer service life
- **Non-rotating tapered tip stem (3/8" bore only)**  
Extended soft seat life and a reliable soft seat shut off
- **8 RMS stem finish**  
Extended packing life
- **V-Style PTFE packing**  
30-40% less operational torque and less frequent packing adjustments than traditional PTFE packed valves



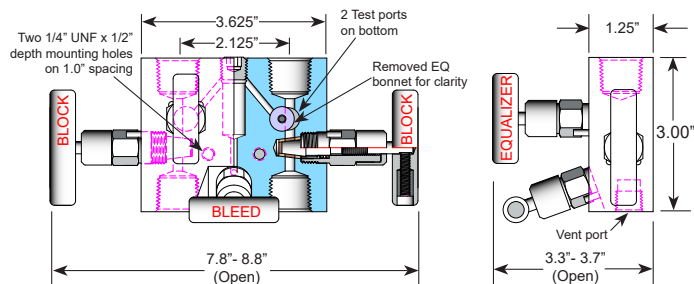
Parker Hannifin acquired PGI in 2012 and Phoenix Precision Ltd in 2014. The enclosed offering combines the best product features of the acquisitions and is the best available, safest technology to better serve customers.



ENGINEERING YOUR SUCCESS.

# P3(4,6)M5S™: Pipe x Pipe Technical Specifications

## 3/16" Bore Configurations

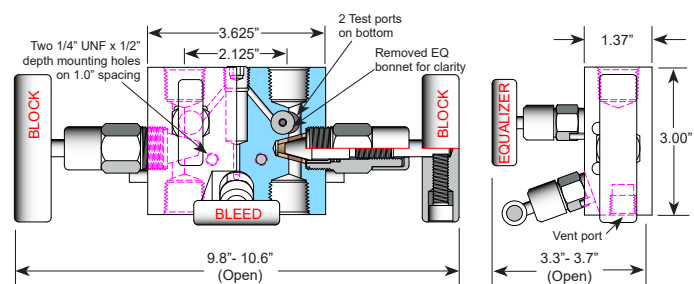


### Specifications:

Feature	Description
Type:	<b>P3M5S</b> PxP Manifold, Roddable Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Taper Tip and Flat Tip
Packing:	FKM O-ring, or PTFE
Seat:	Acetal or PEEK™
Handle:	Removable
Bore Size:	3/16" (Primary), 1/8" (EQ., Bleed)
Inlet Connections:	1/2" FNPT
Outlet Connections:	1/2" FNPT
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 3.00" x 1.25"
Weight:	4.1 - 4.3 lbs.
Special Service:	O <sub>2</sub> or CL cleaning available*

Notes: \*Other specifications or services may be available.

## 1/4" Bore Configurations

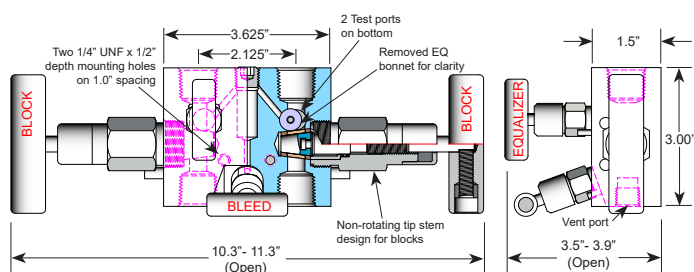


### Specifications:

Feature	Description
Type:	<b>P4M5S</b> PxP Manifold, Roddable Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Taper Tip and Flat Tip
Packing:	FKM O-ring, or PTFE
Seat:	Acetal or PEEK™
Handle:	Removable
Bore Size:	1/4" (Primary), 1/8" (EQ., Bleed)
Inlet Connections:	1/2" FNPT
Outlet Connections:	1/2" FNPT
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 3.00" x 1.37"
Weight:	5.0 - 5.2 lbs.
Special Service:	O <sub>2</sub> or CL cleaning available*

Notes: \*Other specifications or services may be available.

## 3/8" Bore Configurations



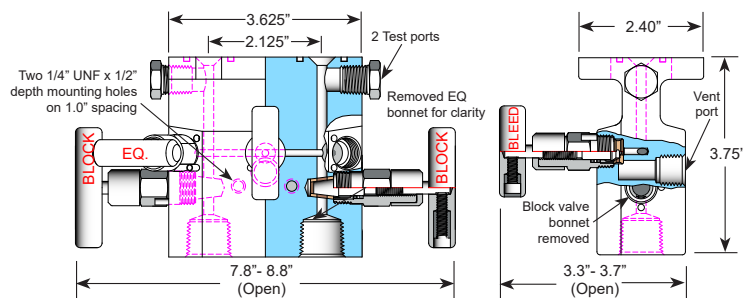
### Specifications:

Feature	Description
Type:	<b>P6M5S</b> PxP Manifold, Roddable Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Taper Tip and Flat Tip
Packing:	FKM O-ring, or PTFE
Seat:	Acetal, PEEK™ and ETFE (for blocks)
Handle:	Removable
Bore Size:	3/8" (Primary), 1/8" (EQ., Bleed)
Inlet Connections:	1/2" FNPT
Outlet Connections:	1/2" FNPT
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 3.00" x 1.5"
Weight:	5.9 - 6.1 lbs.
Special Service:	O <sub>2</sub> or CL cleaning available*

Notes: \*Other specifications or services may be available.

# P3(4,6)M5S™ : Pipe x Flange Technical Specifications

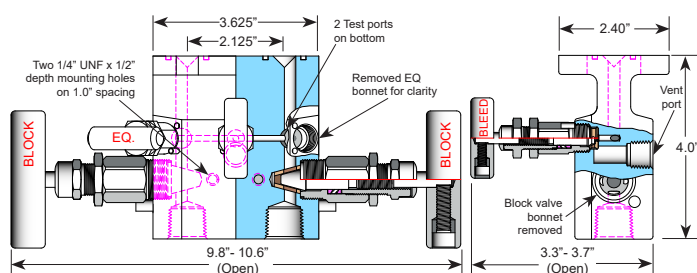
## 3/16" Bore Configurations



### Specifications:

Feature	Description
Type:	<b>P3M5S</b> Px F Manifold, Roddable Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Taper Tip and Flat Tip
Packing:	FKM O-ring, or PTFE
Seat:	Acetal or PEEK™
Handle:	Removable
Bore Size:	3/16" (Primary), 1/8" (EQ., Bleed)
Inlet Connections:	1/2" FNPT
Outlet Connections:	4 Bolt Flange
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 3.75" x 1.5" x 2.4"
Weight:	5.9 - 6.1 lbs.
Special Service:	O <sub>2</sub> or CL cleaning available*
Notes: *Other specifications or services may be available.	

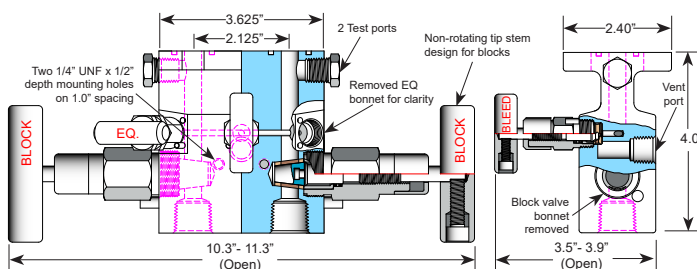
## 1/4" Bore Configurations



### Specifications:

Feature	Description
Type:	<b>P4M5S</b> Px F Manifold, Roddable Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Taper Tip and Flat Tip
Packing:	FKM O-ring, or PTFE
Seat:	Acetal or PEEK™
Handle:	Removable
Bore Size:	1/4" (Primary), 1/8" (EQ., Bleed)
Inlet Connections:	1/2" FNPT
Outlet Connections:	4 Bolt Flange
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 4.0" x 1.7" x 2.4"
Weight:	7.5 - 7.7 lbs.
Special Service:	O <sub>2</sub> or CL cleaning available*
Notes: *Other specifications or services may be available.	

## 3/8" Bore Configurations

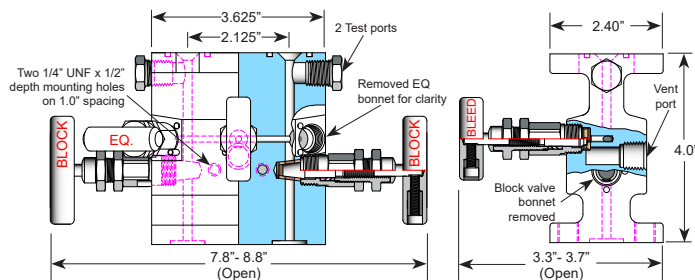


### Specifications:

Feature	Description
Type:	<b>P6M5S</b> Px F Manifold, Roddable Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Non-Rotating Taper Tip and Flat Tip
Packing:	FKM O-ring, or PTFE
Seat:	Acetal, PEEK™ and ETFE (for blocks)
Handle:	Removable
Bore Size:	3/8" (Primary), 1/8" (EQ., Bleed)
Inlet Connections:	1/2" FNPT
Outlet Connections:	4 Bolt Flange
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 4.0" x 1.7" x 2.4"
Weight:	7.5 - 7.7 lbs.
Special Service:	O <sub>2</sub> or CL cleaning available*
Notes: *Other specifications or services may be available.	

# P3(4,6)M5S™: Flange x Flange Technical Specifications

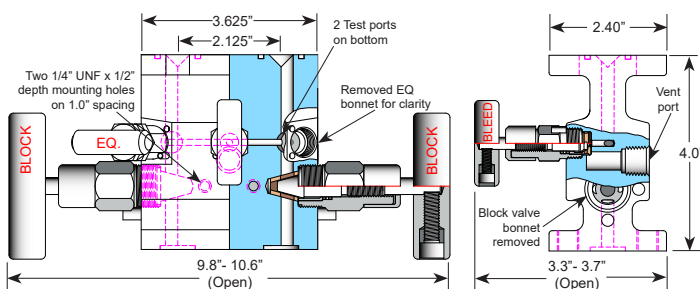
## 3/16" Bore Configurations



### Specifications:

Feature	Description
Type:	<b>P3M5S</b> FxF Manifold, Roddable Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Taper Tip and Flat Tip
Packing:	FKM O-ring, or PTFE
Seat:	Acetal or PEEK™
Handle:	Removable
Bore Size:	3/16" (Primary), 1/8" (EQ., Bleed)
Inlet Connections:	4 Bolt Flange
Outlet Connections:	4 Bolt Flange
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 4.0" x 1.7" x 2.4"
Weight:	6.9 - 7.1 lbs.
Special Service:	O <sub>2</sub> or CL cleaning available*
Notes: *Other specifications or services may be available.	

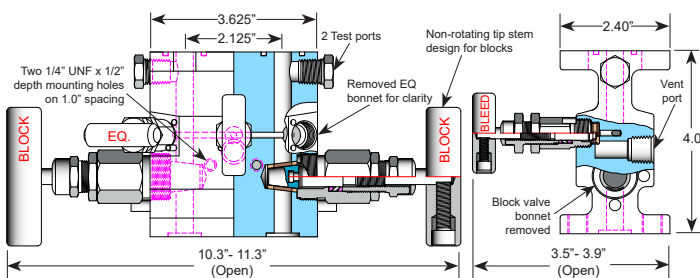
## 1/4" Bore Configurations



### Specifications:

Feature	Description
Type:	<b>P4M5S</b> FxF Manifold, Roddable Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Taper Tip and Flat Tip
Packing:	FKM O-ring, or PTFE
Seat:	Acetal or PEEK™
Handle:	Removable
Bore Size:	1/4" (Primary), 1/8" (EQ., Bleed)
Inlet Connections:	4 Bolt Flange
Outlet Connections:	4 Bolt Flange
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 4.00" x 1.7" x 2.4"
Weight:	7.6 - 7.8 lbs.
Special Service:	O <sub>2</sub> or CL cleaning available*
Notes: *Other specifications or services may be available.	

## 3/8" Bore Configurations

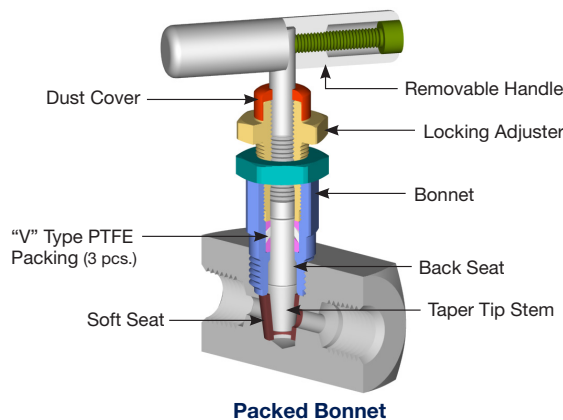
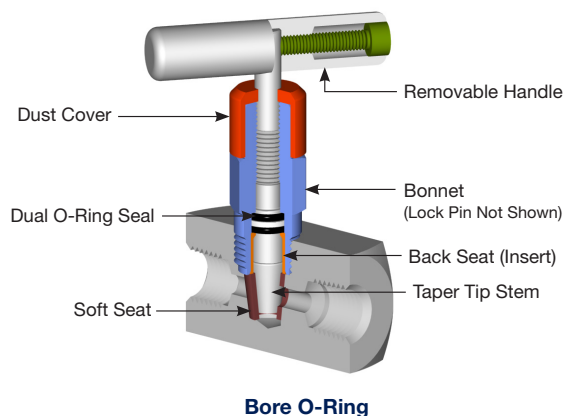


### Specifications:

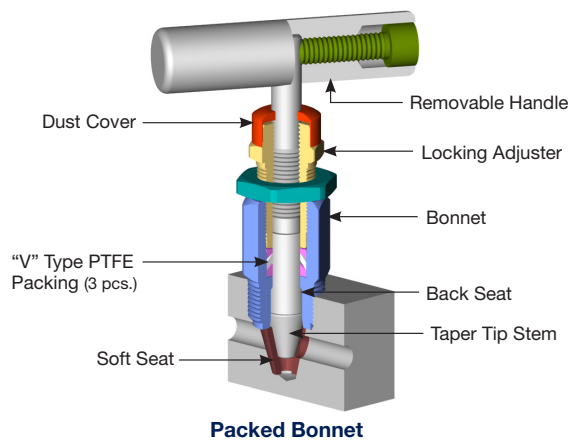
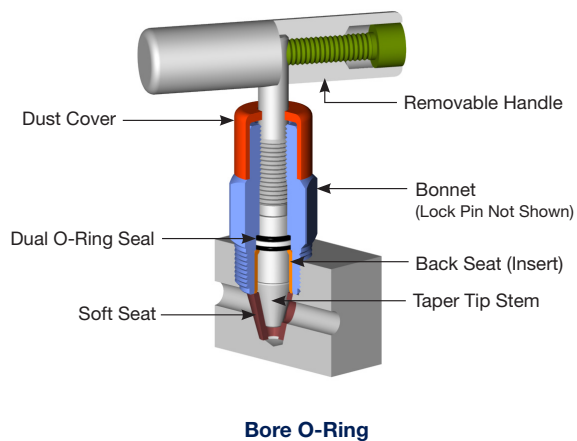
Feature	Description
Type:	<b>P6M5S</b> FxF Manifold, Roddable Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Taper Tip and Flat Tip
Packing:	Viton™ O-ring, or PTFE
Seat:	Acetal, PEEK™ and ETFE (for blocks)
Handle:	Removable
Bore Size:	3/8" (Primary), 1/8" (EQ., Bleed)
Inlet Connections:	4 Bolt Flange
Outlet Connections:	4 Bolt Flange
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 4.00" x 1.7" x 2.4"
Weight:	7.6 - 7.8 lbs.
Special Service:	O <sub>2</sub> or CL cleaning available*
Notes: *Other specifications or services may be available.	

# P3(4,6)M5S™ : Block Bonnet Assembly

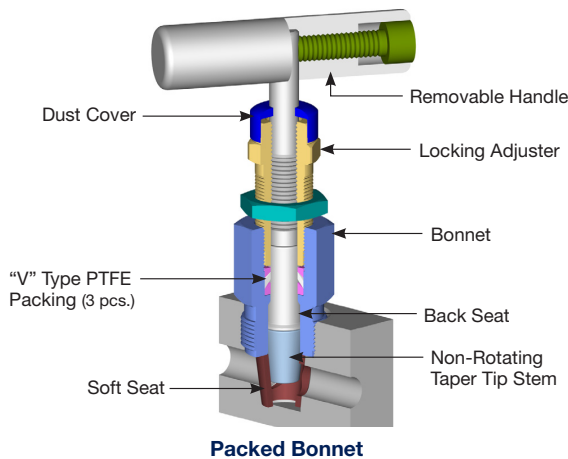
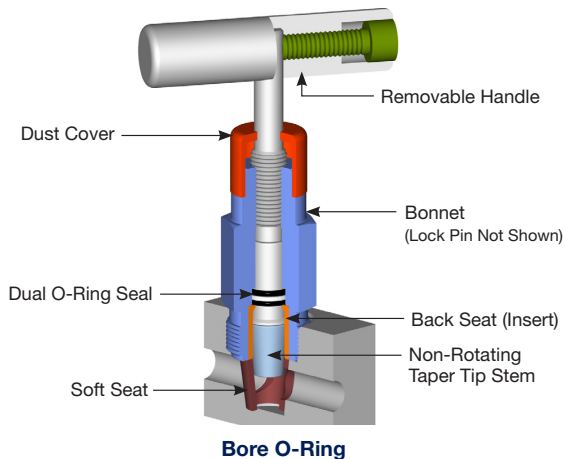
## 3/16" Bore O-Ring and Packed Bonnet Assembly



## 1/4" Bore O-Ring and Packed Bonnet Assembly



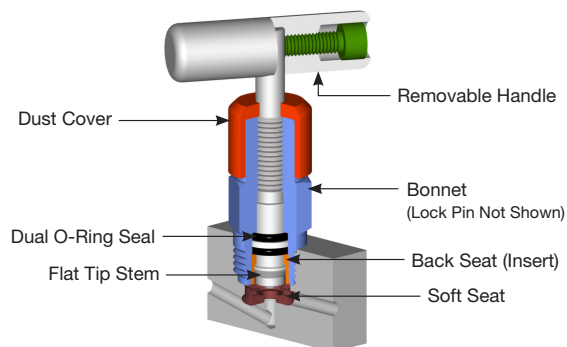
## 3/8" Bore O-Ring and Packed Bonnet Assembly



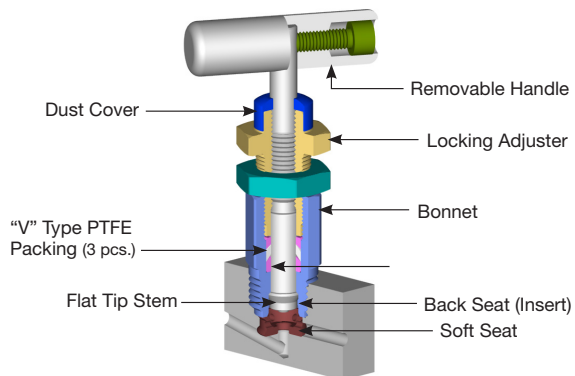
P3M5S™, P4M5S™, P6M5S™, 5 Valve Soft Seat Manifold • PPL-CAT\_P3(4,6)M5S-001 05/19

# P3(4,6)M5S™: Bleed and Equalizer Bonnet, Stem & Seat Characteristics

## 1/8" Bore O-Ring and Packed Bonnet Assembly for Bleed and Equalizer

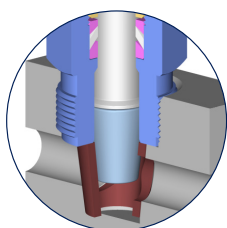


**Bore O-Ring**

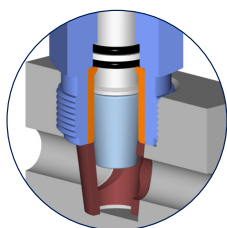


**Packed Bonnet**

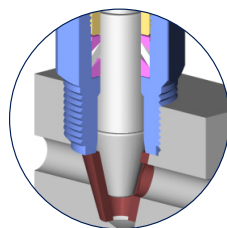
## Stem and Seat Configurations



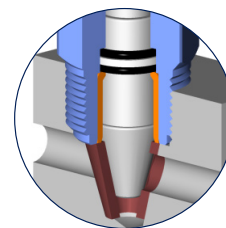
3/8" Bore  
Non-rotating Packed  
for Block



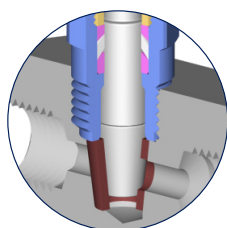
3/8" Bore  
Non-rotating O-ring  
for Block



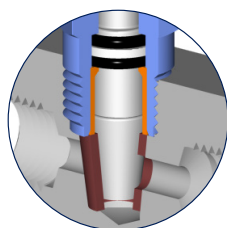
1/4" Bore  
Packed  
for Block



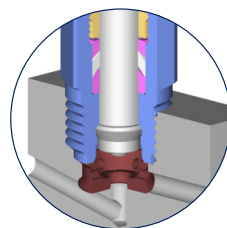
1/4" Bore  
O-ring  
for Block



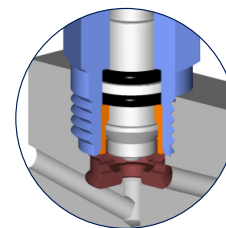
3/16" Bore  
Packed  
for Block



3/16" Bore  
O-ring  
for Block

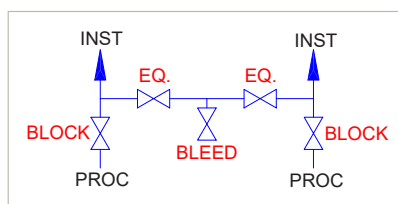


1/8" Bore  
Packed  
for Equalize or Bleed



1/8" Bore  
O-ring  
for Equalize or Bleed

## Flow Diagram for All Manifolds



# P3(4,6)M5S™: Pressure-Core® Seal - Advanced Stem Seal System

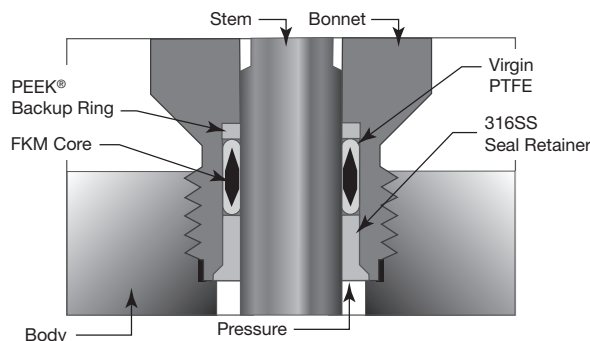
## A Superior Design for Better Performance:

Parker's patented Pressure-Core® Stem Seal System was tested by an independent laboratory in accordance with EPA Method 21, and the results indicate that the Pressure-Core® Stem Seal is a reliable, affordable, virtually leak-free bonnet requiring no costly, time consuming maintenance.

After years of field experience and millions of valves in service, Parker takes great pride in extending a five-year limited warranty on our Pressure-Core® Stem Seal, far exceeding the industry standard.

### Product Features:

- Virtually Leak-Free Performance
- No Adjustments or Maintenance Requirements
- Unmatched 5 Year Warranty
- No Fugitive Emissions



### Fugitive Emissions Test Results:

See for yourself how our Pressure-Core® not only outperforms the competition, but sets a new industry standard...

#### Test Procedure

Valves mechanically cycled 50 times (full open to full close) at 1,000 PSI methane, then heated to 400°F and air cooled to ambient. Procedure repeated until failure.

#### Failure Criteria

100 PPM leak\*

\*Competition's Emission Seal Warranty

#### Test Results:

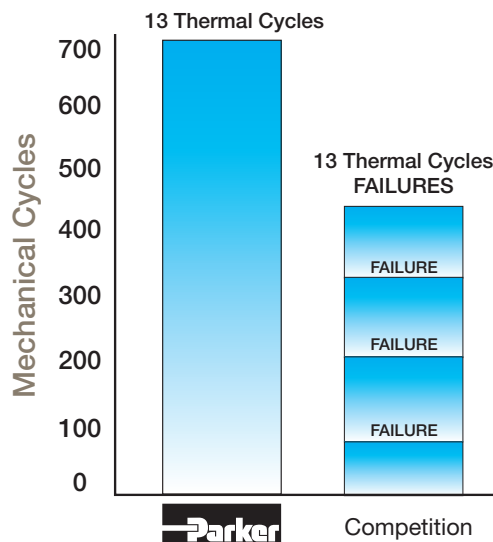
##### Parker:

The Pressure-Core Seal successfully completed 694 mechanical cycles and 13 thermal cycles. Maximum leakage throughout testing was 40 PPM.

##### Competition:

The competition's "low emissions" graphite design failed on the 89th mechanical cycle and on average every 125 cycles throughout the testing.

Repeated maintenance was required between each failure to readjust the valve packing.

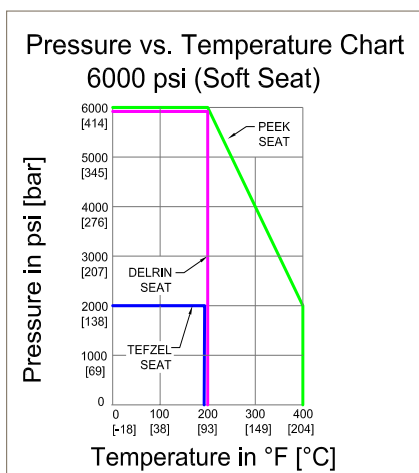


# P3(4,6)M5S™: Other Technical Information

## Manifold Applications



### Pressure vs. Temperature



Note: Packing material ratings based on manufacturer's specifications. Approximations only. Parker does not represent these values as finite. They are provided only as representative values.

### Meets the Following Specifications as required:

- ASME B31.1 Power Piping
- ASME B31.3 Process Piping
- ASME B16.34 Valves - Flanged, Thread, and Welding End
- API 598 Valve Inspection and Testing
- MSS SP-25 Standard Marking Systems for Valves, Fittings, and Flange Unions
- MSS SP-99 Instrument Valves
- MSS SP-105 Instrument Valves for Code Applications
- NACE MR0175 for all 316SS valves and A105CS body/316SS bonnet (SC Material Code)

### Seal and Seat Temperature Rating:

Code	Description	Min. Temperature	Max. Temperature
A	TFE/P	15°F (-10°C)	400°F (204°C)
V	FKM	-20°F (-29°C)	400°F (204°C)
P	Pressure Core	-40°F (-40°C)	450°F (232°C)
T	PTFE	-65°F (-54°C)	450°F (232°C)
D	Acetal	-40°F (-40°C)	200°F (93°C)
P	PEEK™	-40°F (-40°C)	400°F (204°C)
Z	ETFE	-300°F (-185°C)	300°F (150°C)

### Material of Construction:

Code	SS	SC	CS
Body	ASTM A182 316SS	ASTM A105 CS	ASTM A108 CS
Bonnet	ASTM A182 316SS	ASTM A182 316SS	ASTM A108 CS
Stem	ASTM A182 316SS	ASTM A182 316SS	ASTM A582 303SS
Adjuster	ASTM A582 303SS	ASTM A582 303SS	ASTM A108 CS
Insert	ASTM A182 316SS	ASTM A182 316SS	ASTM A108 CS
Handle	ASTM A582 303SS	ASTM A582 303SS	ASTM A108 CS

# P3(4,6)M5S™: Model Numbering System

Parker	Orifice Size	Type	Inlet Size & Type	Outlet Size & Type	Material	Packing	Seat	Stem Tip
P	3=3/16"	M5S	8F = 1/2" FNPT	8F = 1/2" FNPT	SS=ASTM A182 316/316L	A=TFE/P	D=Acetal	DL=Dielectric
	4=1/4"		FL = Flange	FL = Flange	SC=ASTM A105 CS*	V=FKM	P=PEEK™	OR= FKM O-ring Flange Seal
	6=3/8"		4PT = 1/4" PTFree	4PT = 1/4" PTFree	CS=ASTM A108 CS*	T=PTFE	Z=ETFE**	
			6PT = 3/8" PTFree	6PT = 3/8" PTFree		P=Pressure Core		
			8PT = 1/2" PTFree	8PT = 1/2" PTFree				
EXAMPLE: P6M5SFLFLSSVD = 3/8" Orifice, Flange Inlet, Flange Outlet, 316SS Body, Viton™ packing, Delrin™ Seats, Needle Tip Stem								
P	3	M5S	FL	FL	SS	V	D	
<p>*For code applications, A108 CS is unacceptable, A105 CS must be selected for CS valves.  **For block bonnet only.  <b>Note:</b> Standard Bolting Options: 1. CS - carbon steel, Gr.8, zinc plated bolts; SS - stainless steel, 18.8 (304SS) bolts.  2. All manifolds are supplied with both 1" lg. and 2-1/2" lg. bolts.  3. Manifolds with dielectric option are supplied with 1-1/4" lg. and 2-1/2" lg. bolts.</p>								

## BOLT OPTIONS

BOLT OPTIONS			BOLT MATERIAL DESIGNATION		
Application	Description	Length	CS	304 SS	316 SS
DP Transmitter	Bi-planar Design: Rosemount™ 1151, Honeywell™ 900 etc.	1"	Blank: Standard for CS Manifolds	Blank: Standard for SS Manifolds	-S6
	Coplanar Design: Rosemount™ 3051, 3095, 2024 with coplanar flange.	2 1/2"	Blank: Standard for CS Manifolds	Blank: Standard for CS Manifolds	-225S6
Flow Computer	ABB Total Flow, Thermo Fisher™ (with Honeywell™ Transducer Module), Barton Scanner, Bristol Teleflow & TeleTrans	1"	Blank: Standard for CS Manifolds	Blank: Standard for SS Manifolds	-S6
	Fisher™, Flow Automation™ (with Rosemount™ Transducer module), Daniel, Dynamic Fluid	2 1/2"	Blank: Standard for CS Manifolds	Blank: Standard for CS Manifolds	-225S6
DP Transmitter with DP to GP Adapter	DP Bi-planar design used in combination with DP to GP Adapter (DPG6S)	2"	-200CS	-200S4	-200S6
	DP Coplanar design used in combination with DP to GP Adapter (DPG6S)	3 1/4"	-325CS	325S4	-325S6

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PRECISION 

# 5-valve severe service manifolds

# 5 Valve Severe Service Manifold

## P6M5H-NR™

Severe Service Manifold



### Principle of Operation:

The 5-valve manifold features 2 isolation valves, 2 equalizer valves, and 1 vent valve in a single body for isolation and calibration of differential pressure transmitters. The manifold bonnets are configured with large severe service handles for easy operation. Additional features include a body manufactured from extruded solid bar, robust non-rotating stems, and Parker's innovative design which ensures a bubble tight seal in a variety of conditions. All Parker valves are manufactured and designed in accordance with MSS-SP105.

### Features and Benefits:

- Hydrotested at 150% of rated pressure (shell test). Nitrogen gas tested to 2000 psi.  
Complies with ASME B31.1 & B31.3 shell testing procedures as standard. Ensures structural integrity of valve.
- Seat tightness (zero leakage) verified to 110% of rated pressure. Nitrogen gas tested to 2000 psi.  
Complies with ASME B31.1 & B31.3 seat testing procedures as standard. Ensures zero leakage at seats for proper calibration.
- High temperature/pressure qualification tests of design  
Prevents corrosion of critical stem threads
- Metal body-to-bonnet seals are in compression, not tension. Bonnet design has additional top- bonnet seal.  
Mitigates risk of stress cracking
- Integral 5 Valve solid Body  
Higher quality stem for longer service life
- Non-rotating stem design with 8 RMS finish  
Extended packing life
- Non-rotating stem design with ceramic ball tip  
Provides best sealing ability on stem and valve seat and longer service life in abrasive processes
- Grafoil™ packing (PTFE free)  
Fire safe design to API 6FA
- Pressure component materials sourced from the US, Canada or Europe  
Reliable material traceability. MTR's provided with every order for pressure containing components.



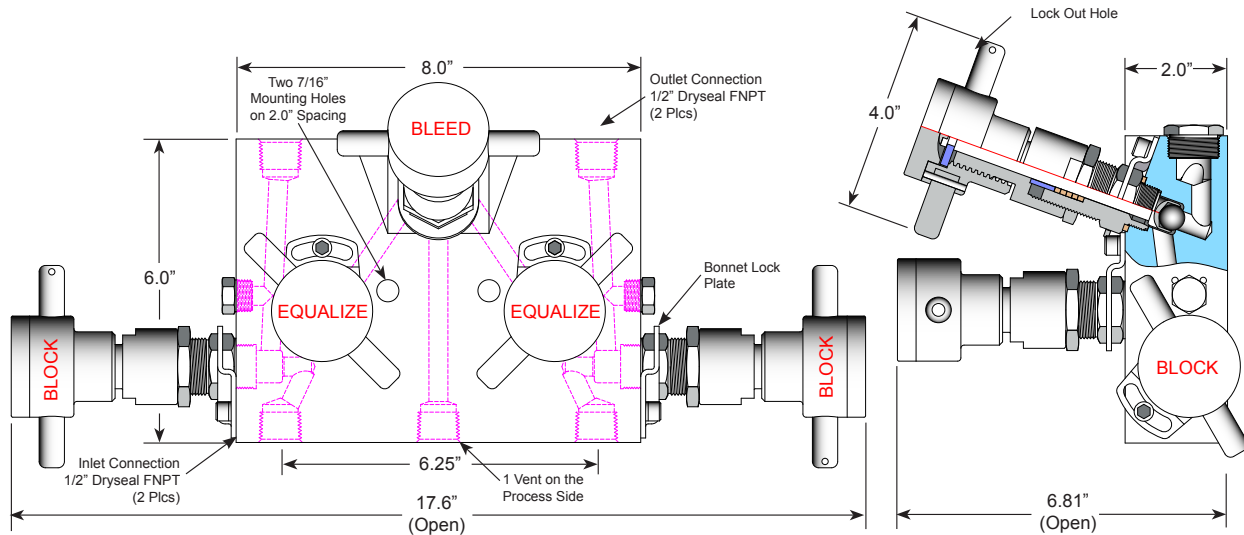
Parker Hannifin acquired PGI in 2012 and Phoenix Precision Ltd in 2014. The enclosed offering combines the best product features of the acquisitions and is the best available, safest technology to better serve customers.



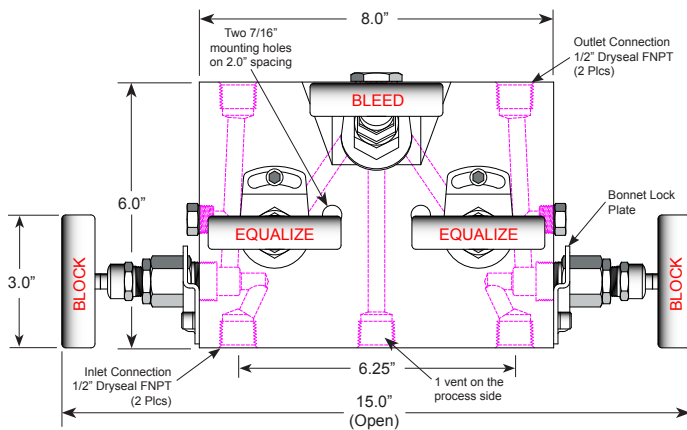
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# P6M5H-NR™: Technical Specifications

## Severe Service Configurations (Non-Rotating Stem)



## Regular Service Configurations (Rotating Stem) also Available

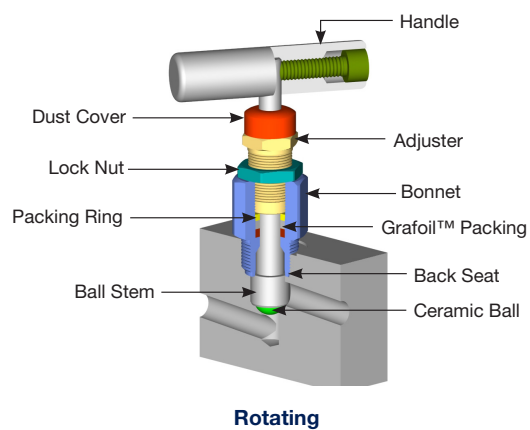
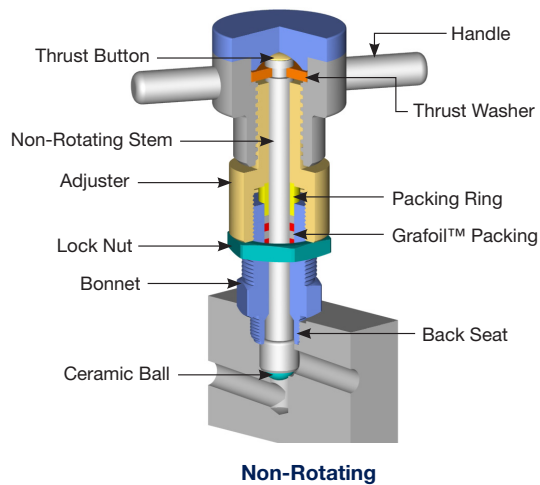


### Specifications:

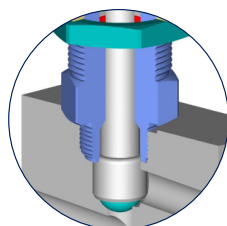
Feature	Description
Type:	<b>P6M5H</b> 5 Valve Manifold, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Non-Rotating Ball Tip (Severe Service) Rotating Ball Tip (Regular Service)
Packing:	Grafoil™
Seat:	Integral
Handle:	Non-Removable (Severe Service) Removable (Regular Service)
Bore Size:	3/8"
Inlet Connections:	FNPT, FNPTE (Dry Seal)
Outlet Connections:	FNPT, FNPTE (Dry Seal)
Bonnet Lock:	Plate
Body Stock:	8.0" x 6.0" x 2.0"
Weight:	30 - 39 lbs.
Special Service:	O <sub>2</sub> or CL cleaning available*
Notes: *Other specifications or services may be available.	

# P6M5H-NR™: Bonnet Assembly, Stem and Seat, Flow Diagram

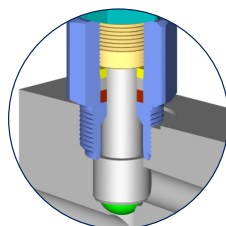
## Non-Rotating and Rotating Bonnet Assembly



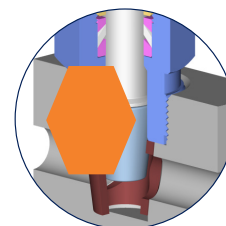
## Stem and Seat Configurations



Non-rotating Bonnet

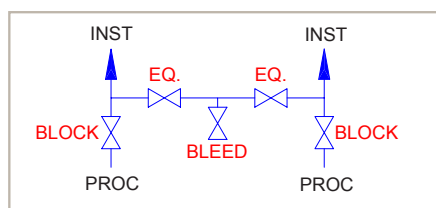


Rotating Bonnet



Pressure Core

## Flow Diagram for All Manifolds



# P6M5H-NR™: Pressure-Core® Seal - Advanced Stem Seal System

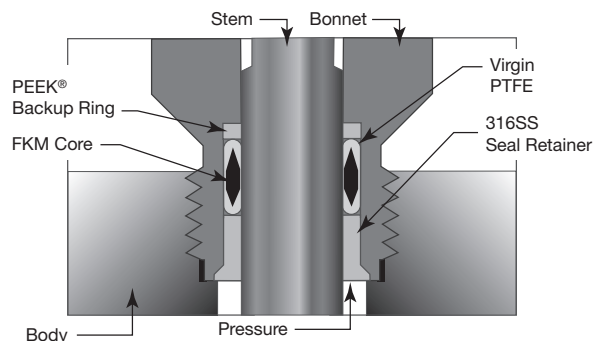
## A Superior Design for Better Performance:

Parker's patented Pressure-Core® Stem Seal System was tested by an independent laboratory in accordance with EPA Method 21, and the results indicate that the Pressure-Core® Stem Seal is a reliable, affordable, virtually leak-free bonnet requiring no costly, time consuming maintenance.

After years of field experience and millions of valves in service, Parker takes great pride in extending a five-year limited warranty on our Pressure-Core® Stem Seal, far exceeding the industry standard.

### Product Features:

- Virtually Leak-Free Performance
- No Adjustments or Maintenance Requirements
- Unmatched 5 Year Warranty
- No Fugitive Emissions



### Fugitive Emissions Test Results:

See for yourself how our Pressure-Core® not only outperforms the competition, but sets a new industry standard...

#### Test Procedure

Valves mechanically cycled 50 times (full open to full close) at 1,000 PSI methane, then heated to 400°F and air cooled to ambient. Procedure repeated until failure.

#### Failure Criteria

100 PPM leak\*

\*Competition's Emission Seal Warranty

#### Test Results:

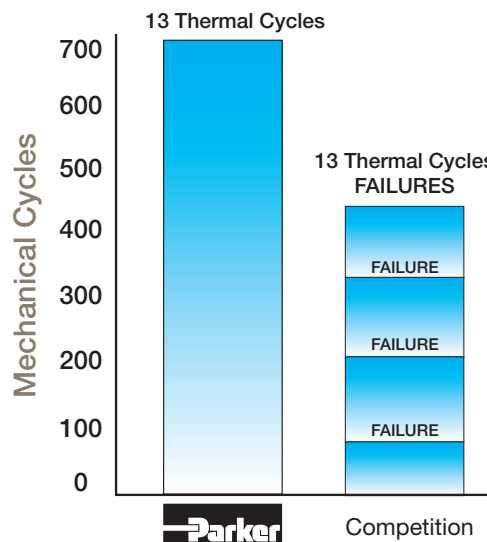
##### Parker:

The Pressure-Core Seal successfully completed 694 mechanical cycles and 13 thermal cycles. Maximum leakage throughout testing was 40 PPM.

##### Competition:

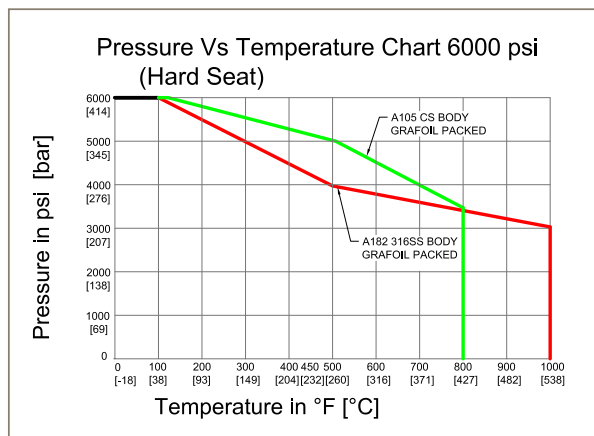
The competition's "low emissions" graphite design failed on the 89th mechanical cycle and on average every 125 cycles throughout the testing.

Repeated maintenance was required between each failure to readjust the valve packing.



## P6M5H-NR™: Other Technical Information

### Pressure vs. Temperature



Note: Packing material ratings based on manufacturer's specifications. Approximations only. Parker does not represent these values as finite. They are provided only as representative values.

### Meets the Following Specifications:

- ASME B31.1 Power Piping
- ASME B31.3 Process Piping
- ASME B16.34 Valves - Flanged, Thread, and Welding End
- API 598 Valve Inspection and Testing
- MSS SP-25 Standard Marking Systems for Valves, Fittings, and Flange Unions
- MSS SP-99 Instrument Valves
- MSS SP-105 Instrument Valves for Code Applications
- NACE MR0175 for all 316SS valves and A105CS body/316SS bonnet (SC Material Code)

### Seal and Seat Temperature Rating:

Code	Description	Min. Temperature	Max. Temperature
G	Grafoil™		
	(SS Body)	-70°F (-56°C)	1000°F (537°C)
	(CS Body)	-70°F (-56°C)	800°F (427°C)

Note: Grafoil™ is suitable for services in excess of 1000°F in a non-oxidizing environment.

### Material of Construction:

Code	SC	316SS
Body	ASTM A105CS	ASTM A182 316SS
Bonnet	ASTM A182 316SS	ASTM A182 316SS
Stem	ASTM A182 316SS	ASTM A182 316SS
Ball	See Option Codes on Page 6	
Packing	Grafoil™	

Note: Optional low torque Grafoil™ available (G4 Packing Code)

## P6M5H-NR™: Model Numbering System

Parker	Orifice Size	Type	Inlet Size	Inlet Type	Outlet Size	Outlet Type	Material	Packing	Stem Tip	Stem Tip	Option Codes	Description
P	6=3/8"	M5H	8=1/2"	F=FNPT	8=1/2"	F=FNPT	SS=ASTM A182 316/316L	G=Grafoil™	B= 316SS Ball Tip	NR= Non-rotating	OC	Oxygen Clean
				DF= Dry Seal FNPT		DF= Dry Seal FNPT	SC=ASTM A105 CS*	P= Pressure Core	BC= Ceramic Ball Tip		TG	SS Tag
				FT=Female Tube Fitting		FT=Female Tube Fitting	CS=ASTM A108 CS*		BM= Monel™ Ball Tip		SGL	Sour Gas ISO NACE Latest Rev.
							C5=ASTM A350 LF2				N4	Monel™ 400 Stem
							N4=Monel™ 400				N5	Monel™ 500 Stem
							N6=Inconel™ 625				N6	Inconel™625 Stem
							N8=Inconel™ 825				N8	Inconel™825 Stem
							N2=Hastelloy™ C276				N2	Hastelloy™ C276 Stem
<b>EXAMPLE: P6MBM3H8FFLSSTB</b> = 3/8" Orifice, 5-Valve Manifold, 1/2" Dryseal FNPT Inlet, 1/2" Dryseal FNPT Outlet, 316 SS Body, Grafoil™ Packing, Integral Seat, Ceramic Ball Tip and Non-rotating Stem												
<b>P</b>	<b>6</b>	<b>M5H</b>	<b>8</b>	<b>DF</b>	<b>8</b>	<b>DF</b>	<b>SS</b>	<b>G</b>	<b>BC</b>	<b>NR</b>		
*For code applications, A105 CS must be selected for CS valves. Code grade bolts must be specified for code applications. Note: <b>Standard Bolting Options</b> , <b>CS</b> - carbon steel, Gr.8, zinc plated bolts; <b>SS</b> - stainless steel, 18.8 (304SS) bolts.												

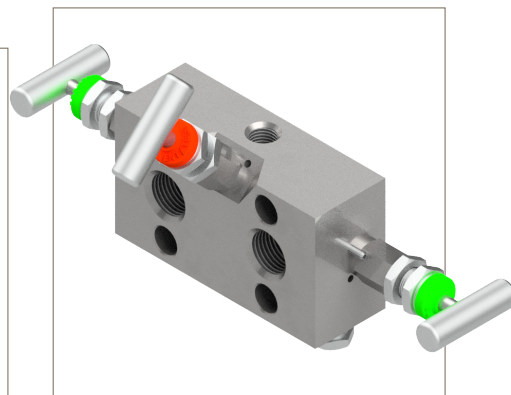
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# ev manifolds (equalizer/vent)

# 2 Equalizer, 1 Vent Manifold

## P6MEV3S™

EV Style Manifold



### Principle of Operation:

The EV Style Manifold is designed for users who install primary block valves for isolation and calibration functions at the orifice taps. The manifold features two equalizer valves and one vent valve. It also features two 1/4" FNPT calibration ports, a 1/4" vent port and a 3/8" bore for optimal measurement accuracy. To maximize the utility of the EV Style Manifold, customer should utilize the valve in conjunction with a 3/8" full port primary block valve.

### Features and Benefits:

- Pressure component materials sourced from the US, Canada or Europe  
Reliable material traceability. MTR's provided with every order for pressure containing components.
- 100% gas tested  
Complies with MSS SP-90 testing procedures as standard. Ensures structural integrity of valve.
- Packing below stem thread  
Prevents corrosion of critical stem threads
- Metal body-to-bonnet seals are in compression, not tension  
Mitigates risk of stress cracking
- Stem threads are rolled, not cut  
Higher quality stem for longer service life
- Non-rotating tapered tip stem (3/8" bore only)  
Extended soft seat life and a reliable soft seat shut off
- 8 RMS stem finish  
Extended packing life
- V-Style PTFE packing  
30-40% less operational torque and less frequent packing adjustments than traditional PTFE packed valves



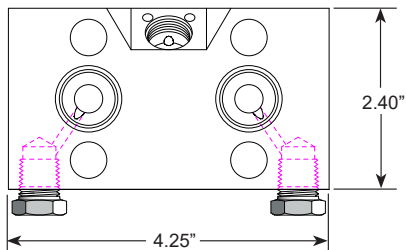
Parker Hannifin acquired PGI in 2012 and Phoenix Precision Ltd in 2014. The enclosed offering combines the best product features of the acquisitions and is the best available, safest technology to better serve customers.



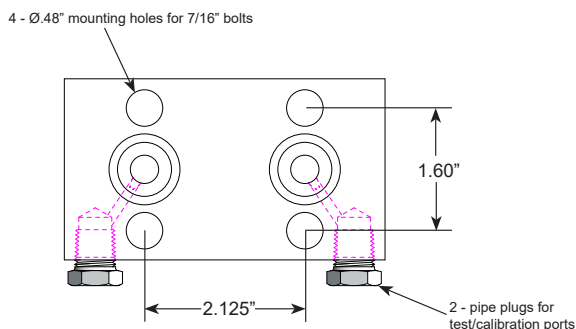
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# P6MEV3S™: Technical Specifications

## Inlet Side Configuration



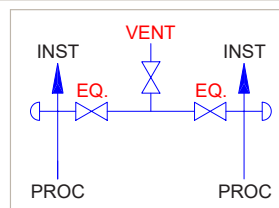
## Outlet Side Configuration



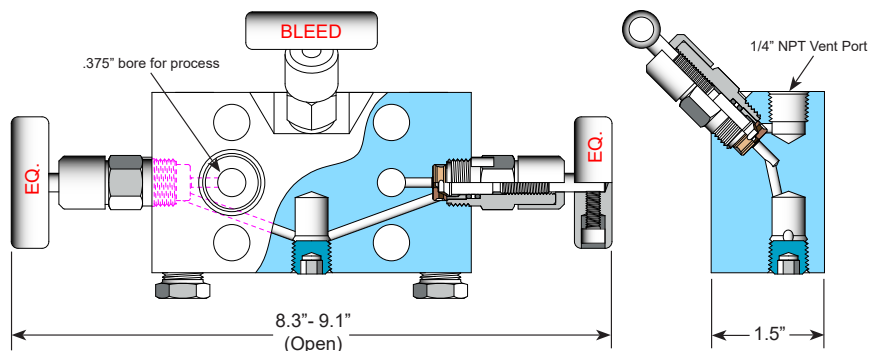
### Specifications:

Feature	Description
Type:	<b>P6MEV3S</b> EV Manifold, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Flat Tip
Packing:	TFE/P or FKM O-ring, PTFE
Seat:	Acetal
Handle:	Removable
Bore Size:	3/8" Process, 1/8" Bleed and EQ.
Inlet Connections:	FNPT
Outlet Connections:	4 Bolt Flange
Bonnet Lock:	Pin or Plate
Body Stock:	4.25" x 2.40" x 1.5"
Weight:	4.2 - 4.5 lbs.
Special Service:	O <sub>2</sub> or CL cleaning available*

Notes: \*Other specifications or services may be available.



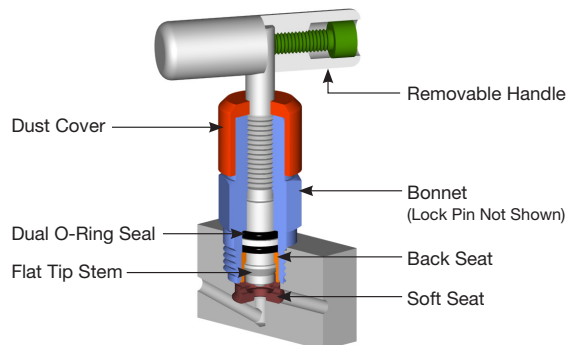
## Overview Configuration



# P6MEV3S™: Bonnet Assembly, Stem and Seat Configurations

## O-Ring Bonnet Assembly

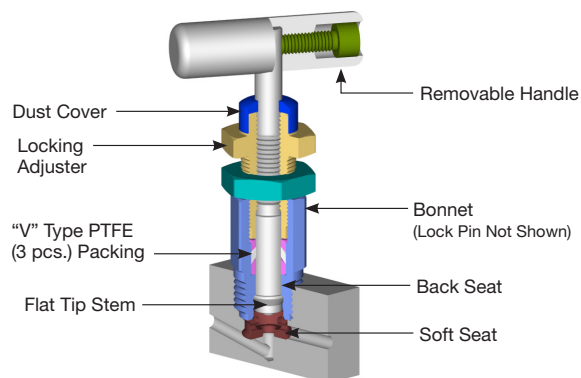
Standard Material					
Valve	Body	Bonnet	Stem	Seat	Packing
CS	ASTM A108CS	ASTM A108CS	ASTM A582 303SS	Acetal or PEEK	Dual FKM O-ring with PTFE Backup Ring
SC	ASTM A105CS	ASTM A182 316SS	ASTM A182 316SS		
316SS	ASTM A182 316SS	ASTM A182 316SS	ASTM A182 316SS		



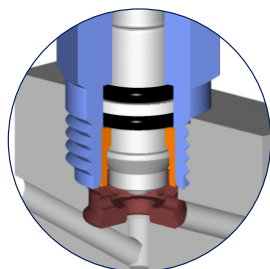
## Packed Bonnet Assembly

Standard Material					
Valve	Body	Bonnet	Stem	Seat	Packing
CS	ASTM A108CS	ASTM A108CS	ASTM A582 303SS	Acetal or PEEK	PTFE and Graphite
SC	ASTM A105CS	ASTM A182 316SS	ASTM A182 316SS		
316SS	ASTM A182 316SS	ASTM A182 316SS	ASTM A182 316SS		

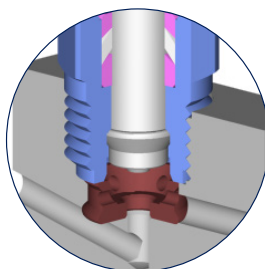
Note: Low Torque Grafoil™ available (G4 Packing Code)



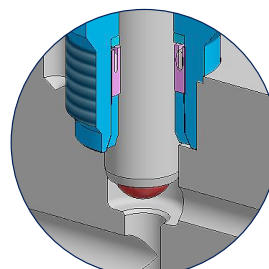
## Stem and Seat Configurations



O-Ring Seal with Flat Tip



Packed Seal with Flat Tip



Pressure Core®

# P6MEV3S™: Pressure-Core® Seal - Advanced Stem Seal System

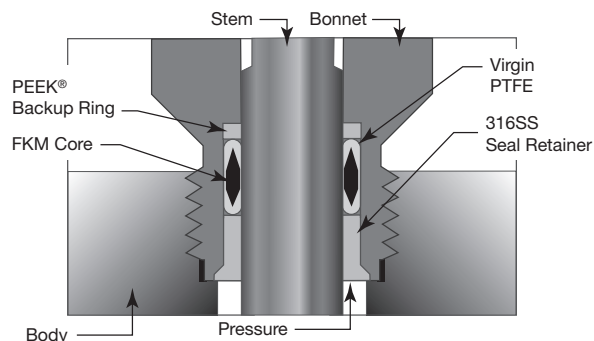
## A Superior Design for Better Performance:

Parker's patented Pressure-Core® Stem Seal System was tested by an independent laboratory in accordance with EPA Method 21, and the results indicate that the Pressure-Core® Stem Seal is a reliable, affordable, virtually leak-free bonnet requiring no costly, time consuming maintenance.

After years of field experience and millions of valves in service, Parker takes great pride in extending a five-year limited warranty on our Pressure-Core® Stem Seal, far exceeding the industry standard.

### Product Features:

- Virtually Leak-Free Performance
- No Adjustments or Maintenance Requirements
- Unmatched 5 Year Warranty
- No Fugitive Emissions



### Fugitive Emissions Test Results:

See for yourself how our Pressure-Core® not only outperforms the competition, but sets a new industry standard...

#### Test Procedure

Valves mechanically cycled 50 times (full open to full close) at 1,000 PSI methane, then heated to 400°F and air cooled to ambient. Procedure repeated until failure.

#### Failure Criteria

100 PPM leak\*

\*Competition's Emission Seal Warranty

#### Test Results:

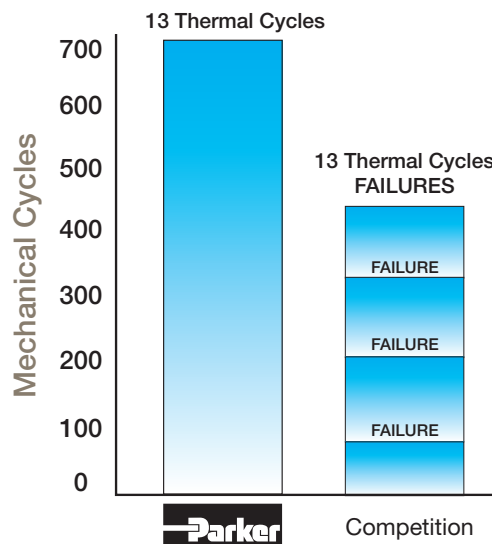
##### Parker:

The Pressure-Core Seal successfully completed 694 mechanical cycles and 13 thermal cycles. Maximum leakage throughout testing was 40 PPM.

##### Competition:

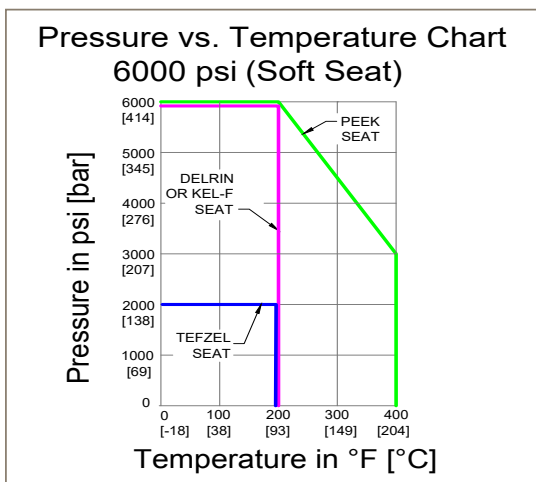
The competition's "low emissions" graphite design failed on the 89th mechanical cycle and on average every 125 cycles throughout the testing.

Repeated maintenance was required between each failure to readjust the valve packing.



## P6MEV3S™: Other Technical Information

### Pressure vs. Temperature



Note: Packing material ratings based on manufacturer's specifications. Approximations only. Parker does not represent these values as finite. They are provided only as representative values.

### Meets the Following Specifications as required:

- ASME B31.1 Power Piping
- ASME B31.3 Process Piping
- ASME B16.34 Valves - Flanged, Thread, and Welding End
- API 598 Valve Inspection and Testing
- MSS SP-25 Standard Marking Systems for Valves, Fittings, and Flange Unions
- MSS SP-99 Instrument Valves
- MSS SP-105 Instrument Valves for Code Applications
- NACE MR0175 for all 316SS valves and A105CS body/316SS bonnet (SC Material Code)

### Seal and Seat Temperature Rating:

Code	Description	Min. Temperature	Max. Temperature
A	TFE/P	15°F (-10°C)	400°F (204°C)
V	FKM	-20°F (-29°C)	400°F (204°C)
P	Pressure Core	-40°F (-40°C)	450°F (232°C)
T	PTFE	-65°F (-54°C)	450°F (232°C)
D	Acetal	-40°F (-40°C)	200°F (93°C)

## P6MEV3S™: Model Numbering System

Parker	Orifice Size	Type	Inlet Size	Inlet Type	Outlet Size	Outlet Type	Material	Packing	Seat	Stem Tip
P	6=3/8"	MEV3S	8=1/2"	F=FNPT		FL=Flange	SS=ASTM A182 316/316L	A=TFE/P	D=Acetal	Flat Tip Standard (leave blank)
							SC=ASTM A105 CS*	V=FKM		
							CS=ASTM A108 CS*	T=PTFE		
							C5=ASTM A350 LF2	P= Pressure Core		
							N4=Monel™ 400			
							N6=Inconel™ 625			
							N8=Inconel™ 825			
							N2=Hastelloy™ C276			
EXAMPLE: <b>P3MEV3S8FFLSSVD</b> = 3/8" Orifice, 3-Valve Manifold with 2 Equalize and 1 Bleed, 1/2" FNPT Inlet, 4-bolt Flange Outlet, 316 SS Body, Viton™ O-ring Seal, Acetal Seat										
<b>P</b>	<b>3</b>	<b>MEV3S</b>	<b>8</b>	<b>F</b>		<b>FB</b>	<b>SS</b>	<b>V</b>	<b>D</b>	
* For code applications, A105 CS must be selected for CS valves. Code grade bolts must be specified for code applications. Note: <b>Standard Bolting</b> , 2.00" length, <b>CS</b> - carbon steel, Gr.8, zinc plated bolts; <b>SS</b> - stainless steel, 18.8 (304SS) bolts. See Option Codes for non-standard bolts.										

Option Codes	Description
LB	Bonnet Lock
OC	Oxygen/Chlorine Cleaning
TG	SS Tag
SGI	Sour Gas ISO NACE Latest Rev.
N4	Monel™ 400 Stem
N5	Monel™ 500 Stem
N6	Inconel™ 625 Stem
N8	Inconel™ 825 Stem
N2	Hastelloy™ C276 Stem
S6	316 SS Bolts
325CS	3.25" CS Bolts
325S4	3.25" 304 SS Bolts
325S6	3.25" 316 SS Bolts
B7	AISI 4140/4142 QT
B8C1	Class 1, 304SS, ST
B8MC1	Class 1, 316SS, ST
B8C2	Class 2, 304SS, ST, SH
B8MC2	Class 2, 316SS, ST, SH

Code Bolting Information
1. B7, B8C1, B8MC1, B8C2, B8MC2 are code grades to ASTM A193;
2. To specify code grade bolting, example: 225B7 indicates 2.25" bolt length; B7 grade, alloy steel, AISI 4140/4142
3. QT-Quenched & Tempered; ST-Carbide Solution Treated; SH-Strain Hardened

**PHOENIX™**  
PRECISION 

double  
block & bleed  
manifolds

# Double Block & Bleed Valve

## P6GDBB-NR™

3/8" Severe Service Valve



### Principle of Operation:

The double block and bleed valve (DBB) is designed for high temperature and severe service applications. This globe pattern provides maximum shut-off using a ceramic ball tip stem on the process valve and a needle tip stem on the bleed valve. Parker offers this valve in a variety of construction materials, end connections and configurations, including configurations with multiple cross ports. The DBB provides an excellent transition between process piping and instrumentation. The P6GDBB functions in applications that monoflange valves and DBB ball valves cannot due to plugging and/or high temperatures.

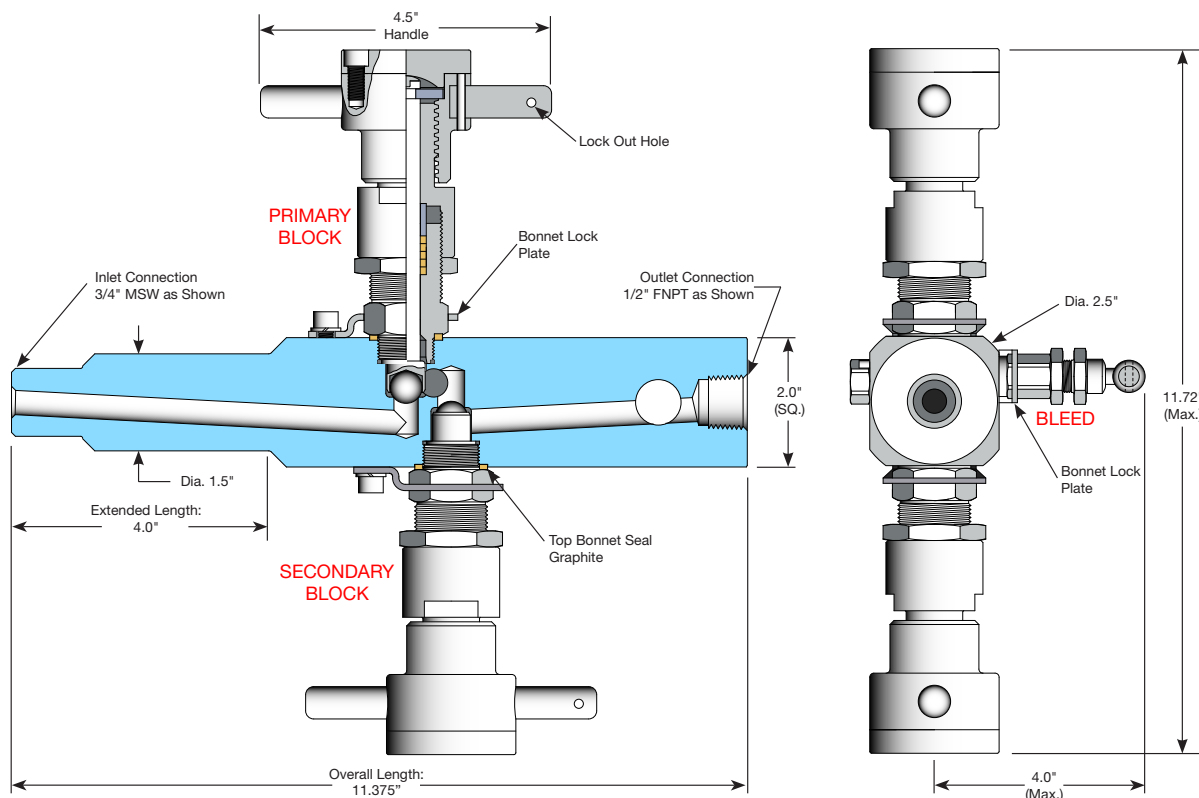
### Features and Benefits:

- **Hydrotested at 150% of rated pressure (shell test). Nitrogen gas tested to 2000 psi.**  
Complies with ASME B31.1 & B31.3 shell testing procedures as standard. Ensures structural integrity of valve.
- **Seat tightness (zero leakage) verified to 110% of rated pressure. Nitrogen gas tested to 2000 psi.**  
Complies with ASME B31.1 & B31.3 seat testing procedures as standard. Ensures zero leakage at seats for proper calibration.
- **High temperature/pressure qualification tests of design**  
Complies with the requirements of EEMUA Pub. 182
- **Extended body and high temperature bonnet**  
Allows for welded installation and localize PWHT without disassembling valve
- **Metal body-to-bonnet seals are in compression, not tension. Bonnet design has additional top bonnet seal.**  
Mitigates risk of stress cracking
- **Integral block and bleed**  
Minimizes number of leak points in valve
- **Non-rotating stem design with 8 RMS finish**  
Extended packing life
- **Non-rotating stem design with ceramic ball tip**  
Provides best sealing ability on stem and valve seat and longer service life in abrasive processes
- **Graphite packing (PTFE free)**  
Fire safe design to API 6FA
- **Top bonnet seal graphite**  
Protects against corrosion attacks of bonnet threads from chlorides and other contaminants
- **Pressure component materials sourced from the US, Canada or Europe**  
Reliable material traceability. MTR's provided with every order for pressure containing components.



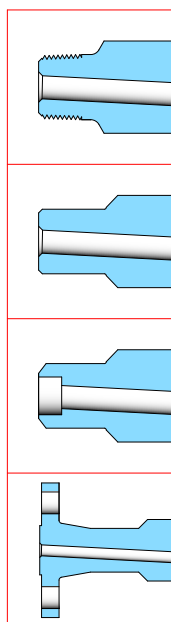
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# P6GDBB-NR™ Severe Service Valve: Technical Specifications



NOTE: DBB valves supplied with four 1/2" MNPT pipe plugs liquid nitrided, two gusset bolts with lock washers and one stainless steel tag with wire, not shown above.

**FIGURE 1**  
INLET CONNECTION TYPE



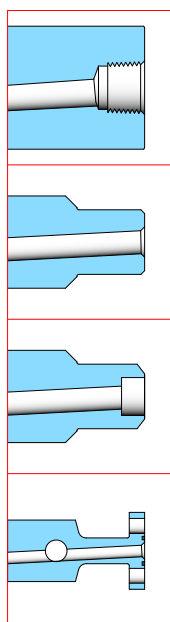
**-M**  
MALE NPT  
INLET  
1/2" - 1"

**-MS**  
MALE SOCKET  
WELD INLET  
1/2" - 2"

**-BW**  
BUTT WELD  
INLET  
1/2" - 2"

**-F**  
FLANGE INLET  
3/4" - 2"  
CLASS 150 -  
CLASS 600

**FIGURE 2**  
OUTLET CONNECTION TYPE



**-F**  
FEMALE NPT  
OUTLET  
1/2" - 1"

**-MS**  
MALE SOCKET  
WELD OUTLET  
1/2" - 2"

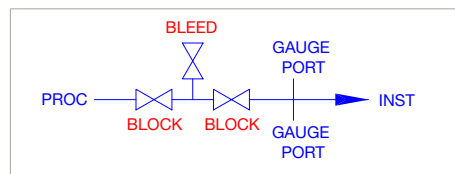
**-BW**  
BUTT WELD  
OUTLET  
1/2" - 2"

**-IF**  
INTEGRAL  
FLANGE  
2-BOLTS

## Specifications

Feature	Description
Type:	<b>P6GDBB</b> , DBB Gauge Valve, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Non-Rotating Ceramic Ball Tip Stems for both Blocks and Needle Tip for Bleed
Packing:	Graphite
Seat:	Integral
Handle:	Non-Removable
Bore Size:	3/8" for Primary, 1/8" for Bleed
Inlet Connections:	See Figure 1
Outlet Connections:	See Figure 2
Vent Port:	1/2" FNPT (includes 1/2" Pipe Plug)
Bonnet Lock:	Standard
Body Stock:	2.5" Round
Weight:	7.6 - 7.8 lbs.

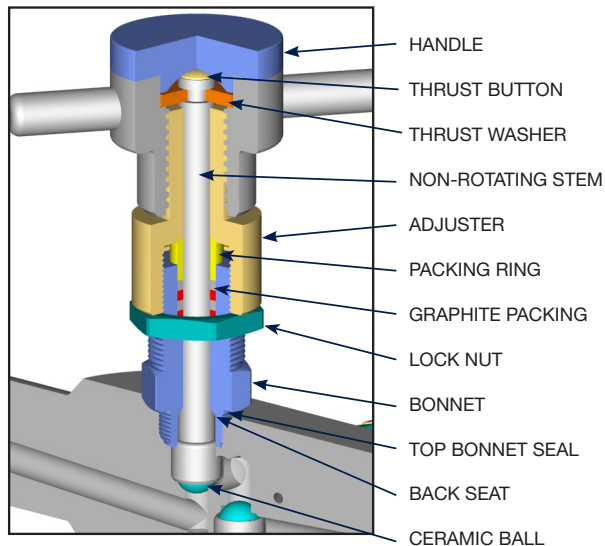
Note: Other specifications or services may be available. Please contact factory.



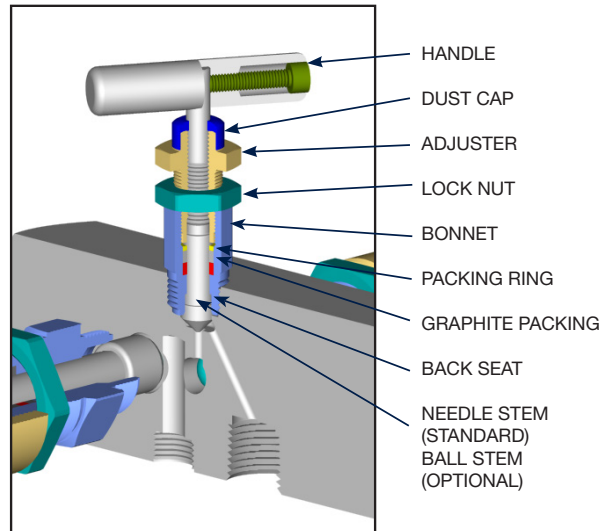
# P6GDBB-NR™ Severe Service Valve:

Bonnet, Stem & Seal Characteristics

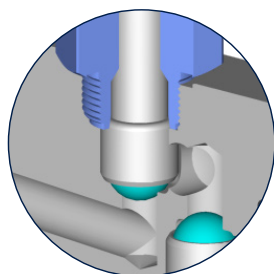
## Block Bonnet Assembly



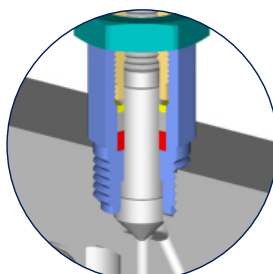
## Bleed Bonnet Assembly



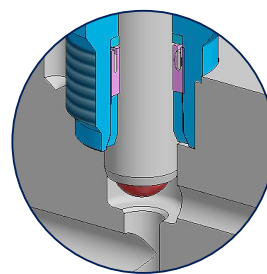
## Stem and Seat Configurations



Non-Rotating Stem  
with Ceramic Ball Tip



Needle Tip Stem  
Standard

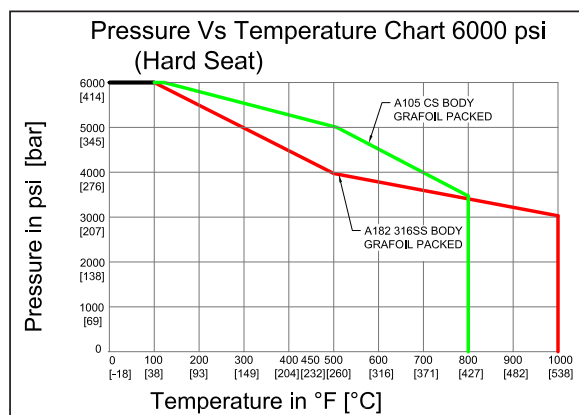


Pressure  
Core

# P6GDBB-NR™ Severe Service Valve:

Bonnet, Stem & Seal Characteristics

## Pressure vs. Temperature



Note: Packing material ratings based on manufacturer's specifications. Approximations only. Parker does not represent these values as finite. They are provided only as representative values.

## Meets the Following Specifications as required:

- ASME B31.1 Power Piping
- ASME B31.3 Process Piping
- ASME B16.34 Valves - Flanged, Thread, and Welding End
- API 598 Valve Inspection and Testing
- MSS SP-25 Standard Marking Systems for Valves, Fittings, and Flange Unions
- MSS SP-99 Instrument Valves
- MSS SP-105 Instrument Valves for Code Applications
- NACE MR0175 for all 316SS valves and A105CS body/316SS bonnet (SC Material Code)

## P6GDBB-NR™ Severe Service Valve: Model Numbering System

Parker	Orifice Size	Type	Inlet Size	Inlet Type	Schedule (for Butt Weld Inlet)	Outlet Size	Outlet Type	Body Material	Trim Material	Packing	Stem Tip	Stem Tip	Option Code
P	6 6/16" 3/8"	GDBB6H	8 1/2"	M Male NPT	40S SCH 40S	8 1/2"	F Female NPT	SS ASTM A182 316/316L	same as body	G Graphite	BC Ceramic Ball	NR Non-Rotating	
			12 3/4"	MS Male Socket Weld	80S SCH 80S	12 3/4"	MS Male Socket Weld	S317 ASTM F317/317L	same as body	P Pressure Core	B 316SS Ball		
			16 1"	BW Male Butt Weld	160S SCH 160S	16 1"	BW Male Butt Weld	S310 ASTM A182 F310H	same as body				
			*75 3/4"	R150F 150# Raised Face Flange	XXH SCH XXH		IF Integral 2 Bolt Flange	S321 ASTM A182 F321SS	same as body				
			*100 1"	R300F 300# Raised Face Flange				S347 ASTM A182 F347SS	same as body				
			*150 1.5"	R600F 600# Raised Face Flange				C5 ASTM LF2	316SS				
			*200 2"					SC ASTM A105	316SS				S410 410SS
								C4 ASTM SA105	316SS				
								S22 Duplex 2205	same as body				
								F5 A182 F5	Stem = 316SS				
							F9 A182 F9						
								F11 A182 F11	Bonnet: Same as body				
							F22 A182 F22						
								N6 Inconel™ 625	same as body				
								N8 Inconel™ 825	same as body				
								N20 Alloy 20	same as body				

EXAMPLE: P6GDBB6H12MS8FSSGBC-NR = 3/8" Bore, 3/4" Male Socket Weld Inlet, 1/2" FNPT Outlet, 316SS Body, Graphite Packing, Ceramic Ball Tip, Non-Rotating Stem													
P	6	GDBB6H	12	MS		8	F	SS		G	BC	NR	
EXAMPLE: P6GDBB6H12BWXXHIF11GBC-NR = 3/8" Bore, 3/4" BW(XXH) Inlet, Integral 2 Bolt Flange Outlet, F11 Body, Graphite Packing, Ceramic Ball Tip, Non-Rotating stem													
P	6	GDBB6H	12	BW	XXH		IF	F11		G	BC	NR	
EXAMPLE: P6GDBB6H100R300F8FSCGBC-NR = 3/8" Bore, 1" 300# RF Flange Inlet, 1/2" FNPT Outlet, A105CS Body, Graphite Packing, Ceramic Ball Tip, Non-Rotating Stem													
P	6	GDBB6H	100	R300F		8	F	SC		G	BC	NR	
*Only for raised face flange inlet													

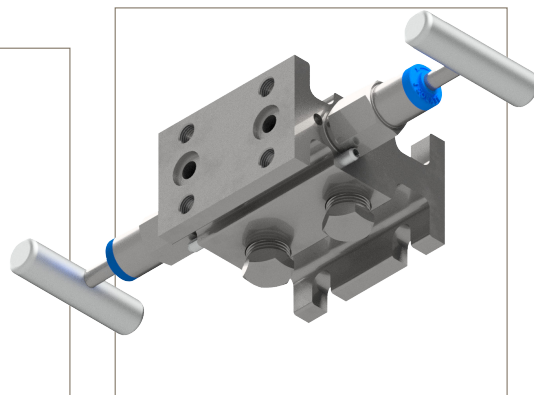
**PHOENIX™**  
PRECISION 

# mount systems

# 2 Valve Block Manifolds

## P6MB2S™ and P6MBA2S™

3/8" Bore Soft Seat Manifold



### Principle of Operation:

The 2-valve block manifold is designed to use in conjunction with a 5-valve manifold to eliminate the need to blow down an entire meter run when performing maintenance or when transferring measurement equipment to an alternate site. These manifolds also provide additional clearance needed in certain applications. The 2-valve block is available in both straight (MB2S) and 90 degree (MBA2S) configurations to accommodate vertical and horizontal-to-vertical applications. The MB2S features non-rotating stem tips and large handles with rounded corners for easy, comfortable operation. For more economical and/or compact installations see Parker's stabilized connector with block valve (ST6S).

### Features and Benefits:

- Pressure component materials sourced from the US, Canada or Europe  
Reliable material traceability. MTR's provided with every order for pressure containing components.
- 100% gas tested  
Complies with MSS SP-99 testing procedures as standard. Ensures structural integrity of valve.
- Packing below stem thread  
Prevents corrosion of critical stem threads
- Metal body-to-bonnet seals are in compression, not tension  
Mitigates risk of stress cracking
- Stem threads are rolled, not cut  
Higher quality stem for longer service life
- Non-rotating tapered tip stem (3/8" bore only)  
Extended soft seat life and a reliable soft seat shut off
- 8 RMS stem finish  
Extended packing life
- V-Style PTFE packing  
30-40% less operational torque and less frequent packing adjustments than traditional PTFE packed valves



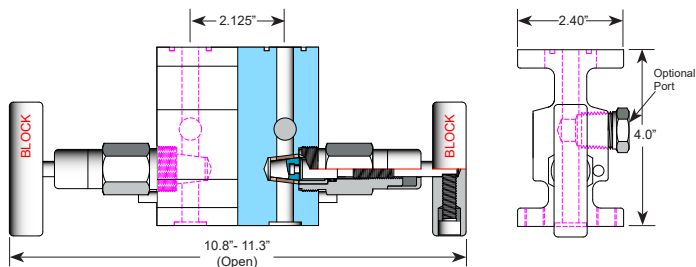
Parker Hannifin acquired PGI in 2012 and Phoenix Precision Ltd in 2014. The enclosed offering combines the best product features of the acquisitions and is the best available, safest technology to better serve customers.



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# P6MB2S™ and P6MBA2S™: Technical Specifications

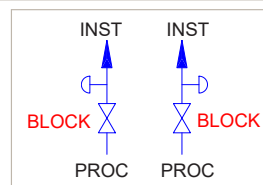
## P6MB2S Straight Configurations



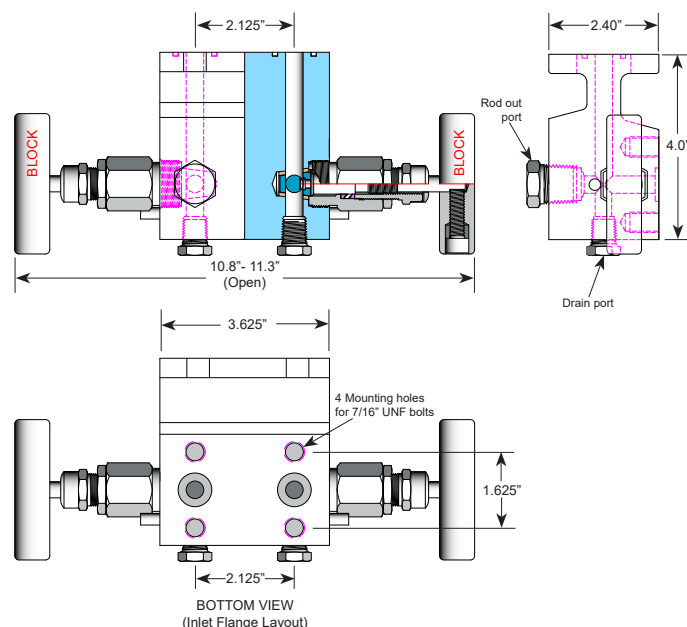
### Specifications:

Feature	Description
Type:	<b>P6MB2S</b> FxF Manifold, Roddable Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Non-Rotating Taper Tip
Packing:	FKM O-ring, or PTFE
Seat:	Acetal, PEEK™ or ETFE
Handle:	Removable
Bore Size:	3/8"
Inlet Connections:	4 Bolt Flange
Outlet Connections:	4 Bolt Flange
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 4.0" x 2.4" x 1.7"
Weight:	7.6 - 7.8 lbs.
Special Service:	O <sub>2</sub> or CL cleaning available*

Notes: \*Other specifications or services may be available.



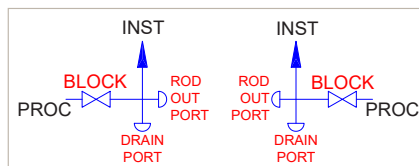
## P6MBA2S 90° Angle Configurations



### Specifications:

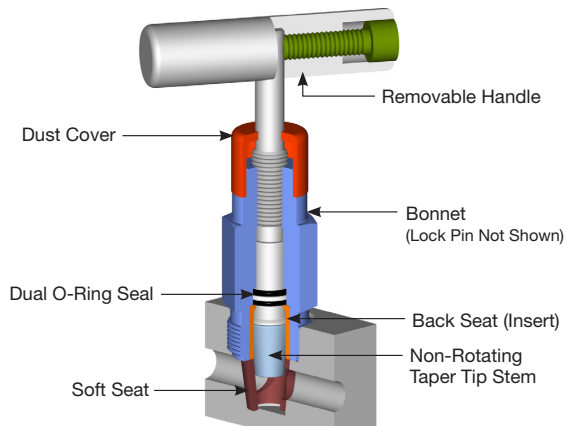
Feature	Description
Type:	<b>P6MBA2S</b> Angle FxF Manifold, Roddable Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Non-Rotating Taper Tip
Packing:	FKM O-ring, or PTFE
Seat:	Acetal, PEEK™ or ETFE
Handle:	Removable
Bore Size:	3/8"
Inlet Connections:	4 Bolt Flange
Outlet Connections:	4 Bolt Flange
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 4.0" x 2.4" x 2.4"
Weight:	9.2 - 9.4 lbs.
Special Service:	O <sub>2</sub> or CL cleaning available*

Notes: \*Other specifications or services may be available.

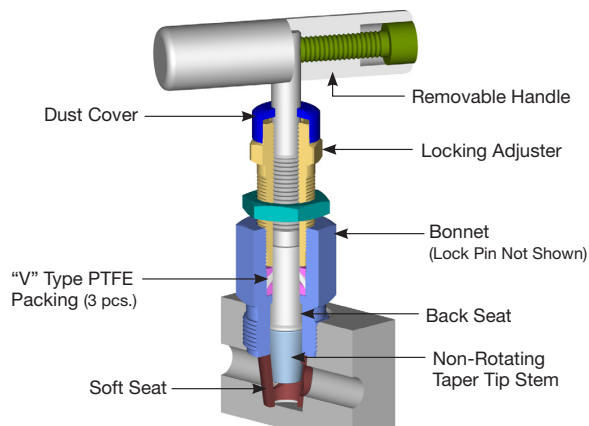


# P6MB2S™ and P6MBA2S™: Bonnet Assembly, Stem and Seat Configurations

## 3/8" Bore O-Ring and Packed Bonnet Assembly

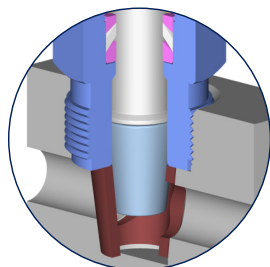


**Bore O-Ring**

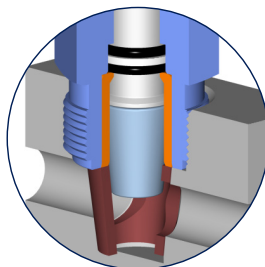


**Packed Bonnet**

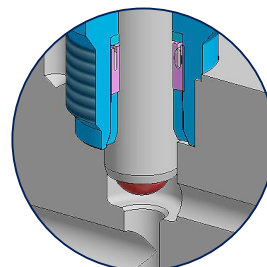
## Stem and Seat Configurations



3/8" Bore  
Non-rotating Packed  
for Block



3/8" Bore  
Non-rotating O-ring  
for Block



Pressure  
Core

# P6MB2S™ and P6MBA2S™: Pressure-Core® Seal - Advanced Stem Seal System

System

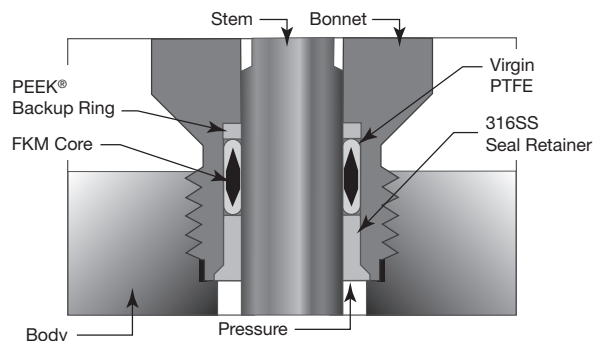
## A Superior Design for Better Performance:

Parker's patented Pressure-Core® Stem Seal System was tested by an independent laboratory in accordance with EPA Method 21, and the results indicate that the Pressure-Core® Stem Seal is a reliable, affordable, virtually leak-free bonnet requiring no costly, time consuming maintenance.

After years of field experience and millions of valves in service, Parker takes great pride in extending a five-year limited warranty on our Pressure-Core® Stem Seal, far exceeding the industry standard.

### Product Features:

- Virtually Leak-Free Performance
- No Adjustments or Maintenance Requirements
- Unmatched 5 Year Warranty
- No Fugitive Emissions



### Fugitive Emissions Test Results:

See for yourself how our Pressure-Core® not only outperforms the competition, but sets a new industry standard...

#### Test Procedure

Valves mechanically cycled 50 times (full open to full close) at 1,000 PSI methane, then heated to 400°F and air cooled to ambient. Procedure repeated until failure.

#### Failure Criteria

100 PPM leak\*

\*Competition's Emission Seal Warranty

#### Test Results:

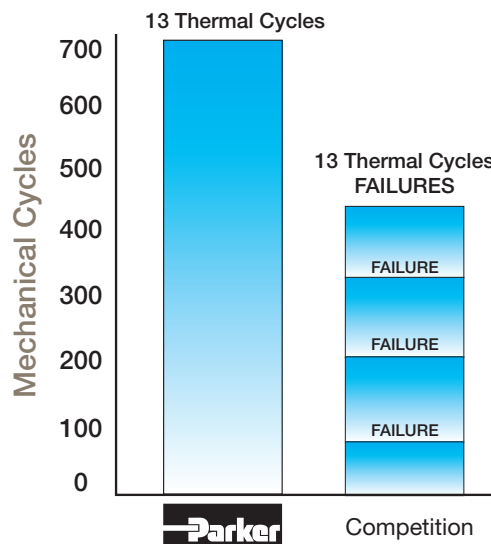
##### Parker:

The Pressure-Core Seal successfully completed 694 mechanical cycles and 13 thermal cycles. Maximum leakage throughout testing was 40 PPM.

##### Competition:

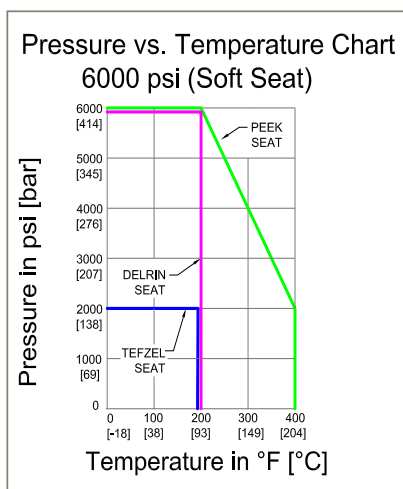
The competition's "low emissions" graphite design failed on the 89th mechanical cycle and on average every 125 cycles throughout the testing.

Repeated maintenance was required between each failure to readjust the valve packing.



## P6MB2S™ and P6MBA2S™: Other Technical Information

### Pressure vs. Temperature



Note: Packing material ratings based on manufacturer's specifications. Approximations only. Parker does not represent these values as finite. They are provided only as representative values.

### Meets the Following Specifications as required:

- ASME B31.1 Power Piping
- ASME B31.3 Process Piping
- ASME B16.34 Valves - Flanged, Thread, and Welding End
- API 598 Valve Inspection and Testing
- MSS SP-25 Standard Marking Systems for Valves, Fittings, and Flange Unions
- MSS SP-99 Instrument Valves
- MSS SP-105 Instrument Valves for Code Applications
- NACE MR0175 for all 316SS valves and A105CS body/316SS bonnet (SC Material Code)

### Seal and Seat Temperature Rating:

Code	Description	Min. Temperature	Max. Temperature
A	TFE/P	15°F (-10°C)	400°F (204°C)
V	FKM	-20°F (-29°C)	400°F (204°C)
P	Pressure Core	-40°F (-40°C)	450°F (232°C)
T	PTFE	-65°F (-54°C)	450°F (232°C)
D	Acetal	-40°F (-40°C)	200°F (93°C)
P	PEEK™	-40°F (-40°C)	400°F (204°C)
Z	ETFE	-300°F (-185°C)	300°F (150°C)

### Material of Construction:

Code	SS	SC	CS
Body	ASTM A182 316SS	ASTM A105 CS	ASTM A108 CS
Bonnet	ASTM A182 316SS	ASTM A182 316SS	ASTM A108 CS
Stem	ASTM A182 316SS	ASTM A182 316SS	ASTM A582 303SS
Adjuster	ASTM A582 303SS	ASTM A582 303SS	ASTM A108 CS
Handle	ASTM A582 303SS	ASTM A582 303SS	ASTM A108 CS
Packing	"V" Shape PTFE		

## P6MB2S™ and P6MBA2S™: Model Numbering System

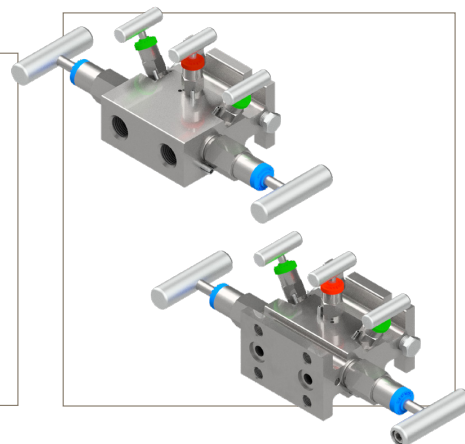
Parker	Orifice Size	Type	Inlet Type	Outlet Type	Material	Packing	Seat	Option Code
P	6=3/8"	MB2S	FL=Flange	FL=Flange	SS=ASTM A182 316/316L	A=TFE/P	D=Acetal	DL=Dielectric
		MBA2S			SC=ASTM A105 CS*	V=FKM	P=PEEK™	OR= FKM O-ring Flange Seal
					CS=ASTM A108 CS*	T=PTFE	Z=ETFE**	
						P=Pressure Core		
EXAMPLE: <b>P6MBASFLFLSSVD</b> = 3/8" Orifice, Flange Inlet, Flange Outlet, 316SS, FKM Packing, Acetal Seat								
<b>P</b>	<b>6</b>	<b>MB2S</b>	<b>FL</b>	<b>FL</b>	<b>SS</b>	<b>V</b>	<b>D</b>	
*For code applications, A108 CS is unacceptable, A105 CS must be selected for CS valves. Note: <b>Standard Bolting Options</b> , <b>CS</b> - carbon steel, Gr.8, zinc plated bolts; <b>SS</b> - stainless steel, 18.8 (304SS) bolts.								

# 5 Valve Gas Manifolds

## P6M5S™ and P6MA5S™

Gas Style Manifold

US Patent No: US 7,225,832 B2



### Principle of Operation:

The 5-valve roddable manifold features two isolation valves, two equalizer valves and a vent valve in a single body for isolation and calibration of differential pressure transmitters. The RADIAL PATTERN™ manifold has an innovative angled bonnet configuration for easy operation. Additional features of the manifold include a body manufactured from extruded solid bar, robust stems and Parker's innovative design which ensures a bubble tight seal in a variety of conditions.

### Features and Benefits:

- Pressure component materials sourced from the US, Canada or Europe  
Reliable material traceability. MTR's provided with every order for pressure containing components.
- 100% gas tested  
Complies with MSS SP-99 testing procedures as standard. Ensures structural integrity of valve.
- Packing below stem thread  
Prevents corrosion of critical stem threads
- Metal body-to-bonnet seals are in compression, not tension  
Mitigates risk of stress cracking
- Stem threads are rolled, not cut  
Higher quality stem for longer service life
- Non-rotating tapered tip stem (3/8" bore only)  
Extended soft seat life and a reliable soft seat shut off
- 8 RMS stem finish  
Extended packing life
- V-Style PTFE packing  
30-40% less operational torque and less frequent packing adjustments than traditional PTFE packed valves



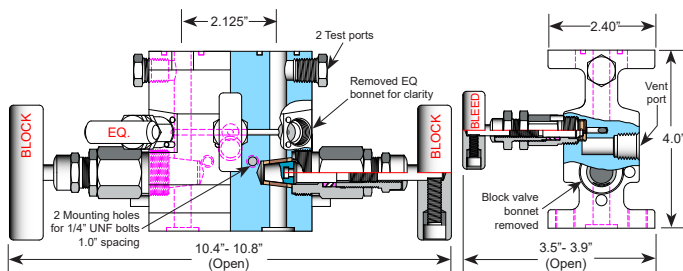
Parker Hannifin acquired PGI in 2012 and Phoenix Precision Ltd in 2014. The enclosed offering combines the best product features of the acquisitions and is the best available, safest technology to better serve customers.



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# P6M5S™ and P6MA5S™: Technical Specifications

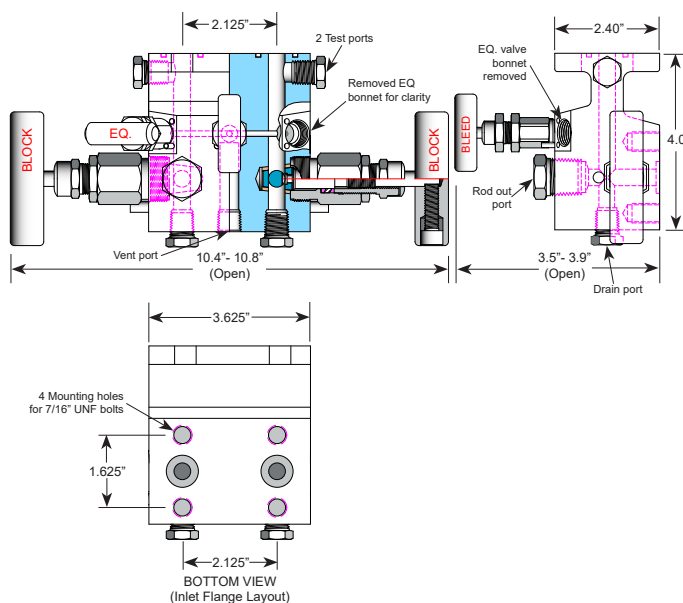
## P6M5S Straight Configurations



### Specifications:

Feature	Description
Type:	<b>P6M5S</b> FxF Manifold, Roddable Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Non-Rotating Taper Tip and Flat Tip
Packing:	FKM O-ring, or PTFE
Seat:	Acetal, PEEK™ and ETFE (for blocks)
Handle:	Removable
Bore Size:	3/8" (Primary), 1/8" (EQ., Bleed)
Inlet Connections:	4 Bolt Flange
Outlet Connections:	4 Bolt Flange
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 4.0" x 1.7" x 2.4"
Weight:	7.6 - 7.8 lbs.
Special Service:	O <sub>2</sub> or CL cleaning available*
Notes: *Other specifications or services may be available.	

## P6MA5S 90° Angle Configurations

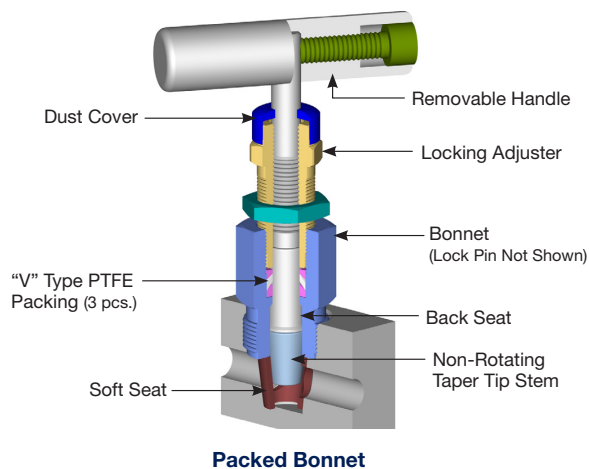
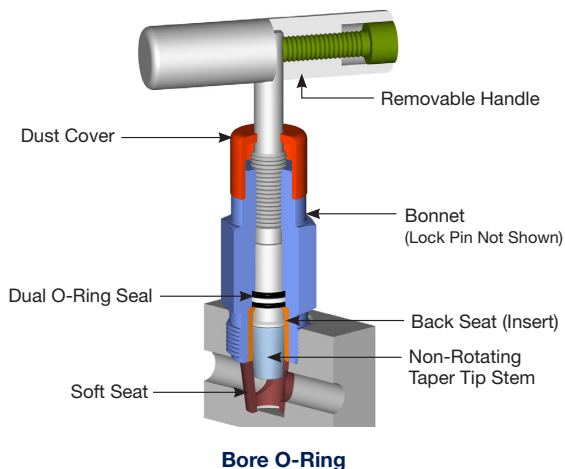


### Specifications:

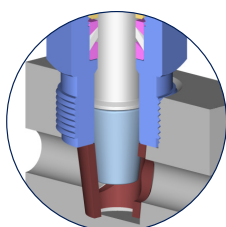
Feature	Description
Type:	<b>P6MA5S</b> Angle FxF Manifold, Roddable Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Non-Rotating Taper Tip and Flat Tip
Packing:	FKM O-ring, or PTFE
Seat:	Acetal, PEEK™ and ETFE (for blocks)
Handle:	Removable
Bore Size:	3/8" (Primary), 1/8" (EQ., Bleed)
Inlet Connections:	4 Bolt Flange
Outlet Connections:	4 Bolt Flange
Bonnet Lock:	Pin or Plate
Body Stock:	3.625" x 4.0" x 2.4"
Weight:	9.4 - 9.6 lbs.
Special Service:	O <sub>2</sub> or CL cleaning available*
Notes: *Other specifications or services may be available.	

# P6M5S™ and P6MA5S™: Bonnet Assembly, Stem and Seat, Flow Diagram

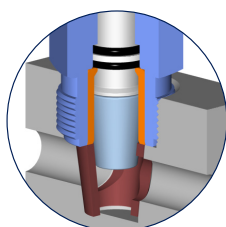
## 3/8" Bore O-Ring and Packed Bonnet Assembly



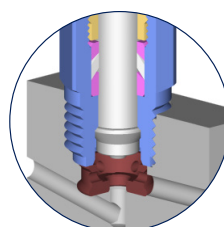
## Stem and Seat Configurations



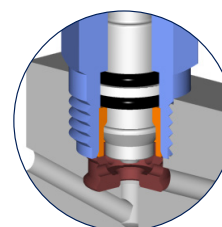
3/8" Bore  
Non-rotating Packed  
for Block



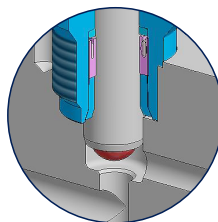
3/8" Bore  
Non-rotating O-ring  
for Block



1/8" Bore  
Packed  
for Equalize or Bleed

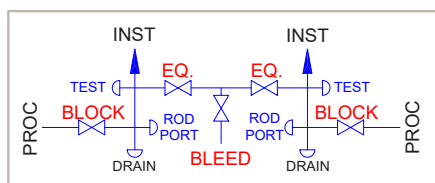


1/8" Bore  
O-ring  
for Equalize or Bleed



Pressure Core

## Flow Diagram for All Manifolds



# P6M5S™ and P6MA5S™: Pressure-Core® Seal - Advanced Stem Seal System

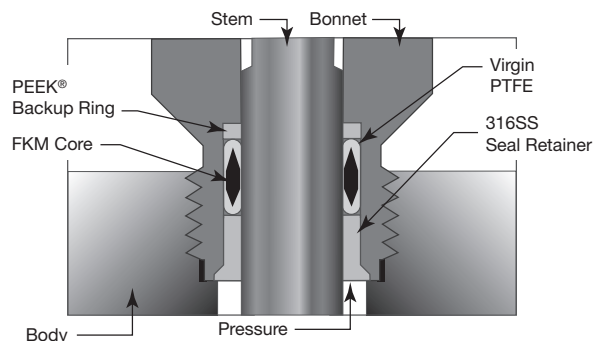
## A Superior Design for Better Performance:

Parker's patented Pressure-Core® Stem Seal System was tested by an independent laboratory in accordance with EPA Method 21, and the results indicate that the Pressure-Core® Stem Seal is a reliable, affordable, virtually leak-free bonnet requiring no costly, time consuming maintenance.

After years of field experience and millions of valves in service, Parker takes great pride in extending a five-year limited warranty on our Pressure-Core® Stem Seal, far exceeding the industry standard.

### Product Features:

- Virtually Leak-Free Performance
- No Adjustments or Maintenance Requirements
- Unmatched 5 Year Warranty
- No Fugitive Emissions



### Fugitive Emissions Test Results:

See for yourself how our Pressure-Core® not only outperforms the competition, but sets a new industry standard...

#### Test Procedure

Valves mechanically cycled 50 times (full open to full close) at 1,000 PSI methane, then heated to 400°F and air cooled to ambient. Procedure repeated until failure.

#### Failure Criteria

100 PPM leak\*

\*Competition's Emission Seal Warranty

#### Test Results:

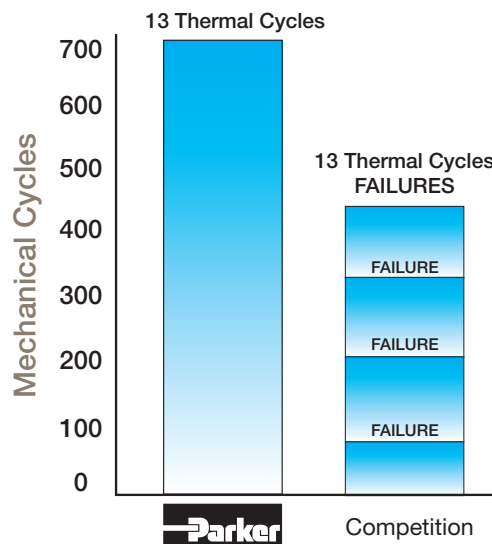
##### Parker:

The Pressure-Core Seal successfully completed 694 mechanical cycles and 13 thermal cycles. Maximum leakage throughout testing was 40 PPM.

##### Competition:

The competition's "low emissions" graphite design failed on the 89th mechanical cycle and on average every 125 cycles throughout the testing.

Repeated maintenance was required between each failure to readjust the valve packing.

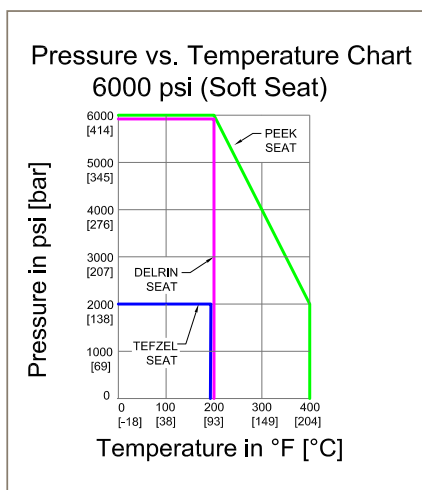


# P6M5S™ and P6MA5S™: Other Technical Information

## Manifold Applications



### Pressure vs. Temperature



Note: Packing material ratings based on manufacturer's specifications. Approximations only. Parker does not represent these values as finite. They are provided only as representative values.

### Meets the Following Specifications as required:

- ASME B31.1 Power Piping
- ASME B31.3 Process Piping
- ASME B16.34 Valves - Flanged, Thread, and Welding End
- API 598 Valve Inspection and Testing
- MSS SP-25 Standard Marking Systems for Valves, Fittings, and Flange Unions
- MSS SP-99 Instrument Valves
- MSS SP-105 Instrument Valves for Code Applications
- NACE MR0175 for all 316SS valves and A105CS body/316SS bonnet (SC Material Code)

### Seal and Seat Temperature Rating:

Code	Description	Min. Temperature	Max. Temperature
A	TFE/P	15°F (-10°C)	400°F (204°C)
V	FKM	-20°F (-29°C)	400°F (204°C)
P	Pressure Core	-40°F (-40°C)	450°F (232°C)
T	PTFE	-65°F (-54°C)	450°F (232°C)
D	Acetal	-40°F (-40°C)	200°F (93°C)
P	PEEK™	-40°F (-40°C)	400°F (204°C)
Z	ETFE	-300°F (-185°C)	300°F (150°C)

### Material of Construction:

Code	SS	SC	CS
Body	ASTM A182 316SS	ASTM A105 CS	ASTM A108 CS
Bonnet	ASTM A182 316SS	ASTM A182 316SS	ASTM A108 CS
Stem	ASTM A182 316SS	ASTM A182 316SS	ASTM A582 303SS
Adjuster	ASTM A582 303SS	ASTM A582 303SS	ASTM A108 CS
Insert	ASTM A182 316SS	ASTM A182 316SS	ASTM A108 CS
Handle	ASTM A582 303SS	ASTM A582 303SS	ASTM A108 CS

## P6M5S™ and P6MA5S™: Model Numbering System

Parker	Orifice Size	Type	Inlet Size & Type	Outlet Size & Type	Material	Packing	Seat	Stem Tip
P	6=3/8"	M5S	FL = Flange	FL = Flange	SS=ASTM A182 316/316L	A=TFE/P	D=Acetal	DL=Dielectric
		MA5S			SC=ASTM A105 CS*	V=FKM	P=PEEK	OR= FKM O-ring Flange Seal
					CS=ASTM A108 CS*	T=PTFE	Z=ETFE**	
						P=Pressure Core		
EXAMPLE: <b>P6MA5SFLDLSSVD</b> = 3/8" Orifice, Angle Manifold, Flange Inlet, Flange Outlet, 316SS Body, FKM Packing, Acetal Seats, Non-rotating Tapered Tip Stem on Blocks, Flat Tip Stem on Bleed and EQs								
<b>P</b>	<b>6</b>	<b>MA5S</b>	<b>FL</b>	<b>FL</b>	<b>SS</b>	<b>V</b>	<b>D</b>	
*For code applications, A108 CS is unacceptable, A105 CS must be selected for CS valves. **For block bonnet only. <b>Note:</b> Standard Bolting Options: 1. CS - carbon steel, Gr.8, zinc plated bolts; SS - stainless steel, 18.8 (304SS) bolts. 2. All manifolds are supplied with both 1" lg. and 2-1/2" lg. bolts. 3. Manifolds with dielectric option are supplied with 1-1/4" lg. and 2-1/2" lg. bolts.								

### BOLT OPTIONS

BOLT OPTIONS			BOLT MATERIAL DESIGNATION		
Application	Description	Length	CS	304 SS	316 SS
DP Transmitter	Bi-planar Design: Rosemount™ 1151, Honeywell™ 900 etc.	1"	Blank: Standard for CS Manifolds	Blank: Standard for SS Manifolds	-S6
	Coplanar Design: Rosemount™ 3051, 3095, 2024 with coplanar flange.	2 1/2"	Blank: Standard for CS Manifolds	Blank: Standard for CS Manifolds	-225S6
Flow Computer	ABB Total Flow, Thermo Fisher™ (with Honeywell™ Transducer Module), Barton Scanner, Bristol Teleflow & TeleTrans	1"	Blank: Standard for CS Manifolds	Blank: Standard for SS Manifolds	-S6
	Fisher™, Flow Automation™ (with Rosemount™ Transducer module), Daniel, Dynamic Fluid	2 1/2"	Blank: Standard for CS Manifolds	Blank: Standard for CS Manifolds	-225S6
DP Transmitter with DP to GP Adapter	DP Bi-planar design used in combination with DP to GP Adapter (DPG6S)	2"	-200CS	-200S4	-200S6
	DP Coplanar design used in combination with DP to GP Adapter (DPG6S)	3 1/4"	-325CS	325S4	-325S6

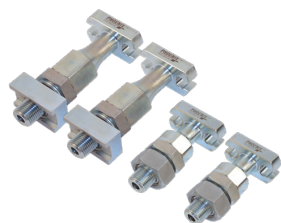
# TAPS AND FUTBOLS

## Stabilized and Non-Stabilized

US Patent No: D541.645



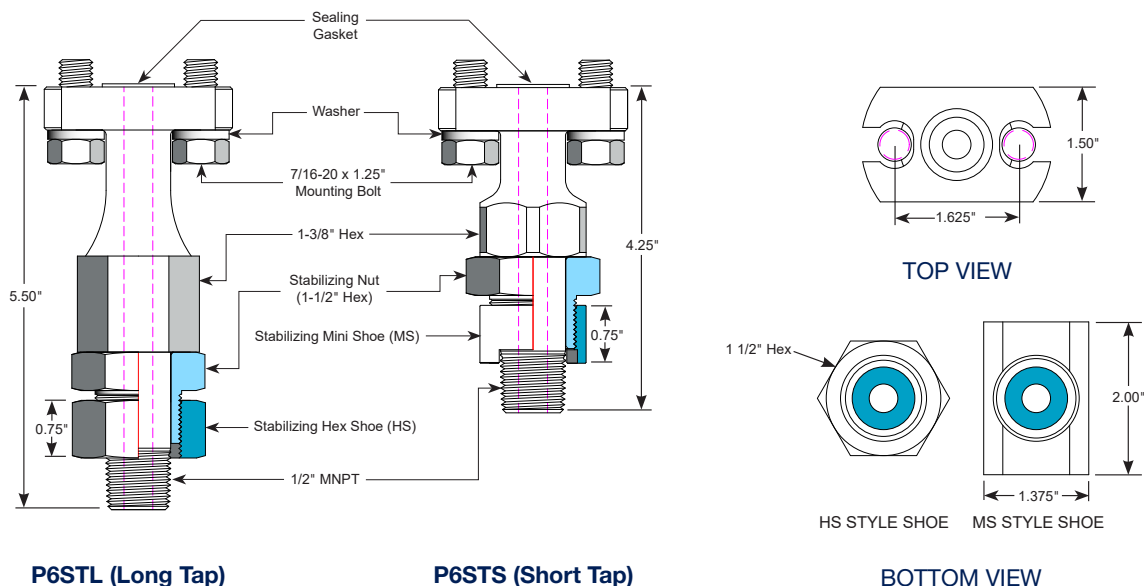
### 3/8" Bore Stabilized Taps (Futbols)



The 6ST futbol is available in both carbon and stainless steel, in short and long configurations (for different clearance requirements), and with one style of shoe for both round (i.e.: orifice flange unions) and flat (i.e.: senior fittings) surfaces.

The tap's slotted bolt holes will accommodate 2.125" to 2.250" bolt spacing. The tap shoes create a larger footprint which transfers the radial load away from the NPT threads. Dielectric gaskets are available to provide a non-conductive barrier between the instrument and the meter. These taps also feature wrench flats to facilitate quick and easy installation.

#### Details & Dimensions:



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## 3/8" Bore Stabilized Taps (Futbols): Modeling Number System:

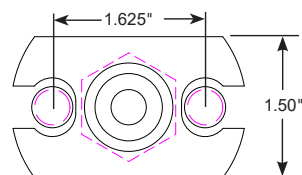
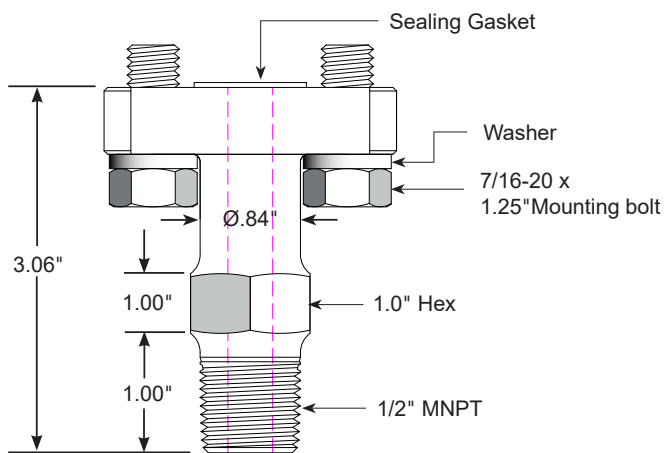
Parker	Orifice Size	Type	Tap Length	Inlet Size	Inlet Type	Outlet Type	Material	Show Type	Option
P	6 = 3/8"	ST	L = Long	8 = 1/2"	M = MNPT	IF = Integral Flange	SS = ASTM A182 316/316L	HS = Hex Style for Flat Surface	DL = Dielectric
			S = Short				CS = ASTM A108 CS*	MS = Show Style for Round Surface	OR = FKM O-ring Flange Seal
									S6 = 316SS Bolts
EXAMPLE: <b>P6STL8MIFSSHS</b> = 3/8" Bore, 1/2" MNPT Inlet, Integral Flange Outlet, 316SS, Hex Shoe									
P	6	ST	L	8	M	IF	SS	HS	
<b>Note: Standard Bolting Options, CS</b> - carbon steel, Gr.8, zinc plated bolts; <b>SS</b> - stainless steel, 18.8 (304SS) bolts.									

## 3/8" Bore Non-Stabilized Taps (Futbols)

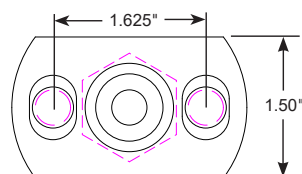


The 6FB futbol is designed for lightweight, vertical, close-couple installations. The 6FB is a non-stabilized futbol and should not be used in high vibration applications or in applications featuring large loads. The 6FB features a 3/8" bore design and is available in A108 carbon steel or 316 stainless steel. This futbol features wrench flats to facilitate quick and easy installation.

### Details & Dimensions:



TOP VIEW  
(slot type) FB Option



TOP VIEW  
(non-slot type) FBNS Option

## 3/8" Bore Non-Stabilized Taps (Futbols): Modeling Number System

Parker	Orifice Size	Type	Inlet Size	Inlet Type	Outlet Type	Material	Option
P	6 = 3/8"	FB	8 = 1/2"	M = MNPT	IF = Integral Flange	SS=ASTM A1316/316L	DL = Dielectric
		FBNS				CS = ASTM A108 CS*	OR = FKM O-ring Flange Seal
							S6 = 316SS Bolts
EXAMPLE: <b>P6FBNS8MIFSS</b> = 3/8" Bore, FUTBOL Non Slotted, 1/2" MNPT Inlet, Integral Flange Outlet, 316SS							
<b>P</b>	<b>6</b>	<b>FBNS</b>	<b>8</b>	<b>M</b>	<b>IF</b>	<b>SS</b>	
<b>Note: Standard Bolting Options, CS</b> - carbon steel, Gr.8, zinc plated bolts; <b>SS</b> - stainless steel, 18.8 (304SS) bolts.							

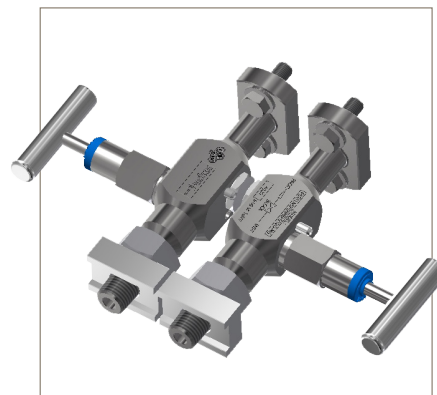
### Meets the following Specifications as required:

- ASME B31.1 Power Piping
- ASME B31.3 Process Piping
- ASME B16.34 Valves - Flanged, Thread, and Welding End
- API 598 Valve Inspection and Testing
- MSS SP-25 Standard Marking Systems for Valves, Fittings and Flange Unions optional PTFE packed valves
- MSS SP-99 Instrument Valves
- MSS SP-105 Instrument Valves for Code Applications
- NACE MR0175 for all 316SS valves NACE MR0175 for all 316SS valves

# Stabilized Connector

## P6STL6S™

Stabilized Connector With Integral Block Valve



### Principle of Operation:

The STL6S incorporates a stabilized connector with an integral block valve. Redundant soft seats allow the stabilizer to align with a simple half turn, facilitating easy installation. The STL6S incorporates an instrument valve eliminating the potential of pressure shock to the measurement device. Lock pins and a pin insertion tool are provided for easy installation. The STL6S is designed with two styles of shoes for both round (i.e.: orifice flange unions) and flat (i.e.: senior fittings) surfaces. The slotted bolt holes accommodate 2-1/8" to 2-1/4" bolt spacing. The shoes provide a large footprint which transfers the radial load away from the NPT threads. Dielectric gaskets are available as an option to provide a non-conductive barrier between the instrument and meter run. The STL6S featured wrench flats provide a quick and easy installation.

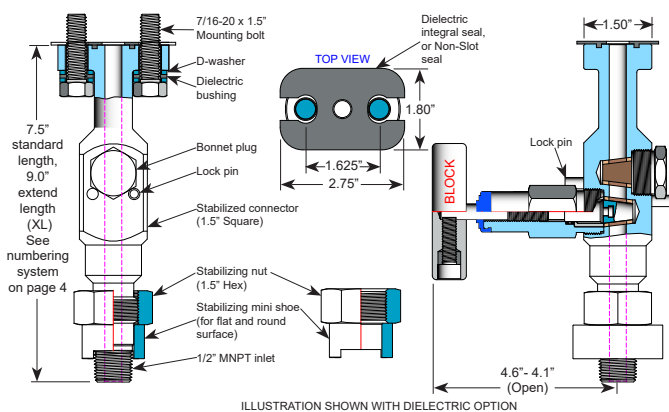
### Features and Benefits:

- Hydrotested at 150% of rated pressure (shell test). Nitrogen gas tested to 2000 psi.  
Complies with ASME B31.1 & B31.3 shell testing procedures as standard. Ensures structural integrity of valve.
- Seat tightness (zero leakage) verified to 110% of rated pressure. Nitrogen gas tested to 2000 psi.  
Complies with ASME B31.1 & B31.3 seat testing procedures as standard. Ensures zero leakage at seats for proper calibration.
- Packing below stem thread  
Prevents corrosion of critical stem threads
- Metal body-to-bonnet seals are in compression, not tension  
Mitigates risk of stress cracking
- Stem threads are rolled, not cut  
Higher quality stem for longer service life
- Non-rotating tapered tip stem (3/8" bore only)  
Extended soft seat life and a reliable soft seat shut off
- 8 RMS stem finish  
Extended packing life
- V-Style PTFE packing  
30-40% less operational torque and less frequent packing adjustments than traditional PTFE packed valves



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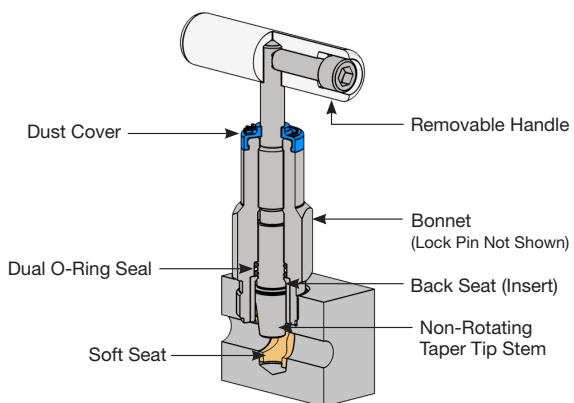
# P6STL6S™: Technical Specifications, Bonnet Assembly, Stem and Seat Configurations



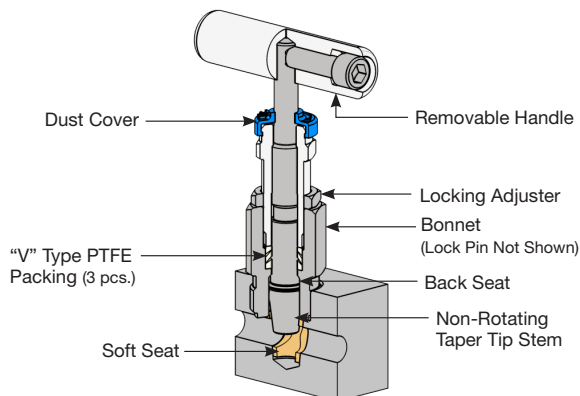
## Specifications:

Feature	Description
Type:	P6STL6S Stabilized Connector with Integral Block Valve, Roddable Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Non-Rotating Taper Tip
Packing:	FKM O-ring, or PTFE
Seat:	Acetal, PEEK™ or ETFE
Handle:	Removable
Bore Size:	3/8"
Inlet Connections:	1/2" MNPT
Outlet Connections:	2-Bolt Integral Flange
Bonnet Lock:	Pin or Plate
Weight:	3.4 lbs.
Special Service:	O <sub>2</sub> or CL cleaning available*
Notes: *Other specifications or services may be available.	

## 3/8" Bore O-Ring and Packed Bonnet Assembly

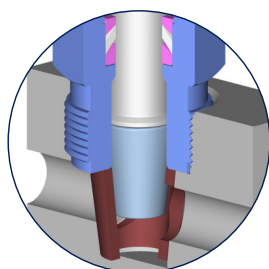


**Bore O-Ring**

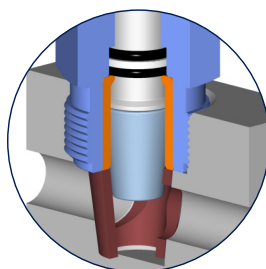


**Packed Bonnet**

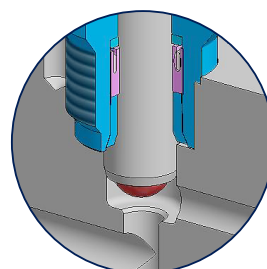
## Stem and Seat Configurations



3/8" Bore  
Non-rotating Packed  
for Block



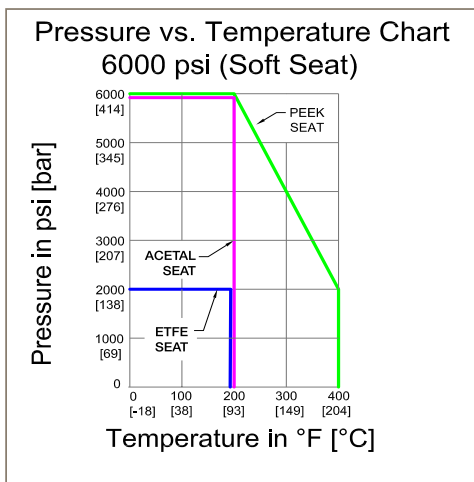
3/8" Bore  
Non-rotating O-ring  
for Block



Pressure  
Core

# P6STL6S™: Pressure vs. Temperature, Seat Rating, Material of Construction

## Pressure vs. Temperature



Note: Packing material ratings based on manufacturer's specifications. Approximations only. Parker does not represent these values as finite. They are provided only as representative values.

## Meets the Following Specifications as required:

- ASME B31.1 Power Piping
- ASME B31.3 Process Piping
- ASME B16.34 Valves - Flanged, Thread, and Welding End
- API 598 Valve Inspection and Testing
- MSS SP-25 Standard Marking Systems for Valves, Fittings, and Flange Unions
- MSS SP-99 Instrument Valves
- MSS SP-105 Instrument Valves for Code Applications
- NACE MR0175 for all 316SS valves and A105CS body/316SS bonnet (SC Material Code)

## Seal and Seat Temperature Rating:

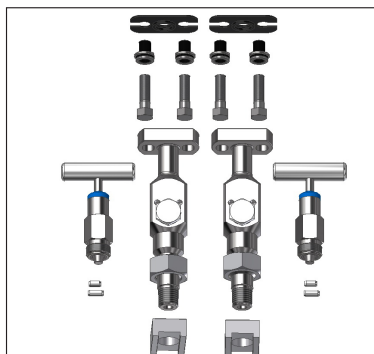
Code	Description	Min. Temperature	Max. Temperature
A	TFE/P	15°F (-10°C)	400°F (204°C)
V	FKM	-20°F (-29°C)	400°F (204°C)
P	Pressure Core	-40°F (-40°C)	450°F (232°C)
T	PTFE	-65°F (-54°C)	450°F (232°C)
D	Acetal	-40°F (-40°C)	200°F (93°C)
P	PEEK™	-40°F (-40°C)	400°F (204°C)
Z	ETFE	-300°F (-185°C)	300°F (150°C)

## Material of Construction:

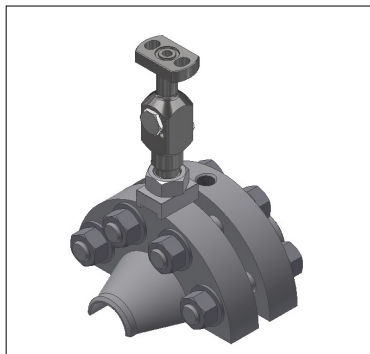
Code	SS	SC	CS
Body	ASTM A182 316SS	ASTM A105 CS	ASTM A108 CS
Bonnet	ASTM A182 316SS	ASTM A182 316SS	ASTM A108 CS
Stem	ASTM A182 316SS	ASTM A182 316SS	ASTM A582 303SS
Insert	ASTM A182 316SS	ASTM A182 316SS	ASTM A108 CS
Handle	ASTM A582 303SS	ASTM A582 303SS	ASTM A108 CS
Packing	"V" Shape PTFE		

# P6STL6S™: Assembly Procedure

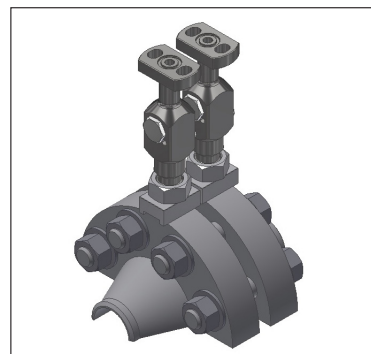
## Assembly Procedure



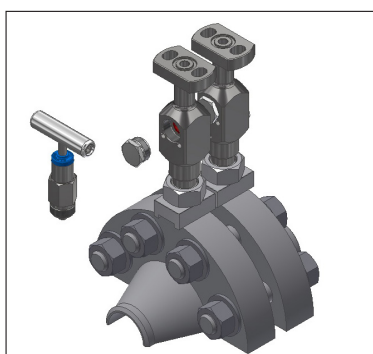
Assembly of parts



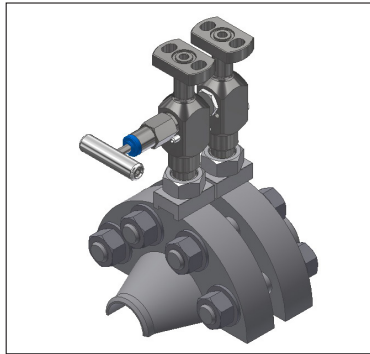
Step 1: Install 1st tap



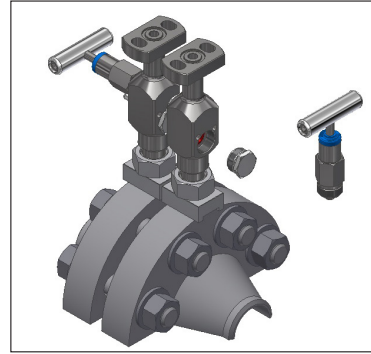
Step 2: Install 2nd tap



Step 3: Remove 1st bonnet plug



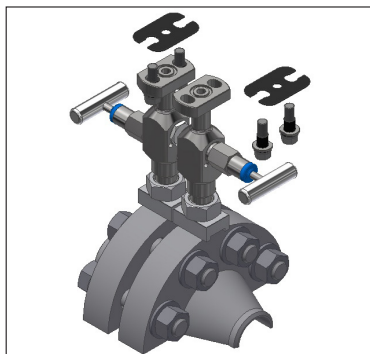
Step 4: Install 1st bonnet



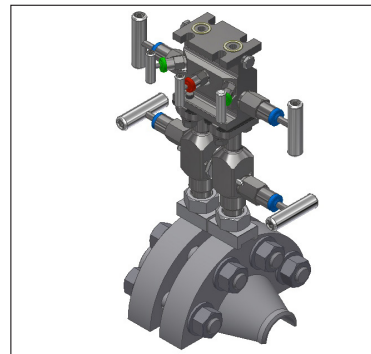
Step 5: Remove 2nd bonnet plug



Step 6: Install 2nd bonnet



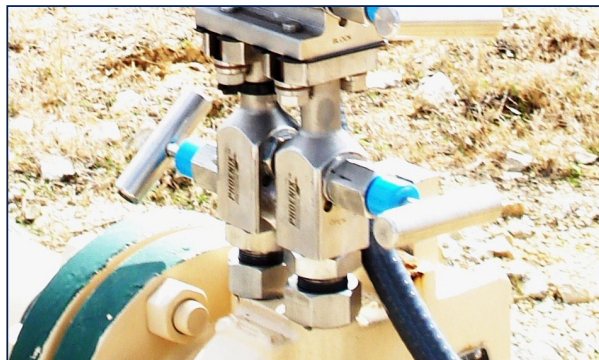
Optional: Dielectric kit



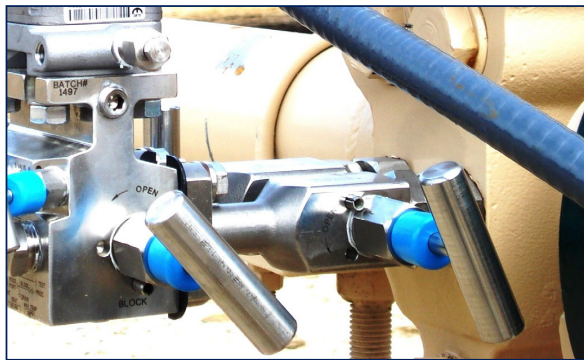
Step 7: Install 5-valve manifold

# P6STL6S™: Installed Application, Modeling Number System

## Installed Applications



Installed with Straight Manifold



Installed with Angle Manifold

## Modeling Number System

Parker	Orifice Size	Type	Inlet Size	Inlet Type	Outlet Type	Material	Packing	Seat	Show Type	Option Code
P	6 = 3/8"	STL6S	8 = 1/2"	M = MNPT	IF = Integral Flange	SS = ASTM A182 316/316L	A = TFE/P	D = Acetal	MS = Mini Shoe	DL = Dielectric
		STLX6S*				CS = ASTM A108 CS*	V = FKM	P = PEEK™		OR = FKM O-ring Flange Seal
							T = PTFE	Z = ETFE**		
							P = Pressure Core			
EXAMPLE: P6STL6S8MIFSSVDHS = 3/8" Bore, 1/2" MNPT Inlet, Integral Flange Outlet, 316SS, Viton™ packing, Delrin™ Seat, Hex Shoe										
P	6	STL6S	8	M	IF	SS	V	D	MS	
*STLX6S for extended length valve body, consult IPD for details. Note: Standard Bolting Options, CS - carbon steel, Gr.8, zinc plated bolts; SS - stainless steel, 18.8 (304SS) bolts.										

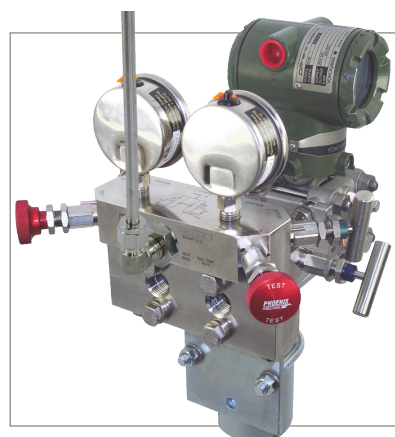
**PHOENIX™**  
PRECISION 

# specialty products purge manifolds

# Purge Manifold and Assemblies

## P6PM4H™ and P6PM2H™

4 Valve and 2 Valve Purge Manifolds



### Principle of Operation:

Parker Precision's constant purge system is designed to protect instruments and connecting tubing from corrosive or toxic process media. This innovative system also prevents plugging of sensing points between instruments and process connections. The constant purge of the system eliminates the need for rotometers, back pressure regulators, multiple threaded connections and individual valves. The system is offered in a differential FLOW, LEVEL application design and a gauge pressure application design. A complete purge system can be ordered with one part number.

### Features and Benefits:

- Hydrotested at 150% of rated pressure (shell test). Nitrogen gas tested to 2000 psi.  
Complies with ASME B31.1 & B31.3 shell testing procedures as standard. Ensures structural integrity of valve.
- Seat tightness (zero leakage) verified to 110% of rated pressure. Nitrogen gas tested to 2000 psi.  
Complies with ASME B31.1 & B31.3 seat testing procedures as standard. Ensures zero leakage at seats for proper calibration.
- Packing below stem thread  
Prevents corrosion of critical stem threads
- Metal body-to-bonnet seals are in compression, not tension  
Mitigates risk of stress cracking
- Stem threads are rolled, not cut  
Higher quality stem for longer service life
- 8 RMS stem finish  
Extended packing life
- V-Style PTFE packing  
30-40% less operational torque and less frequent packing adjustments than traditional PTFE packed valves
- Pressure component materials sourced from the US, Canada or Europe  
Reliable material traceability. MTR's provided with every order for pressure containing components.



**PHOENIX™**  
PRECISION

Parker Hannifin acquired PGI in 2012 and Phoenix Precision Ltd in 2014. The enclosed offering combines the best product features of the acquisitions and is the best available, safest technology to better serve customers.



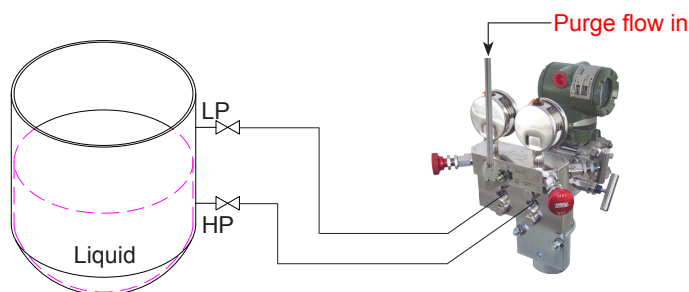
ENGINEERING YOUR SUCCESS.

## P6PM4H™ and P6PM2H™: Special Features and Applications

### Special Features

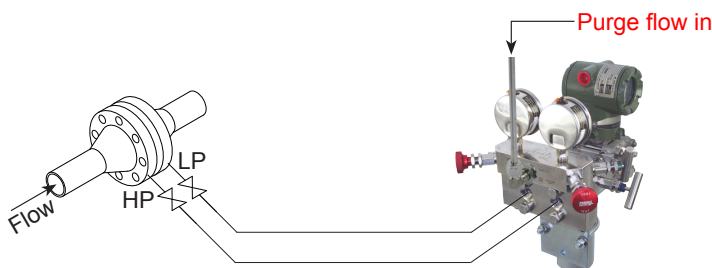
- Fixed constant purge for liquids and gases
- Ordering a complete purge system with one part number
- Built-in test valves
- Built-in bypass valves to allow for high flow purge
- Reduces maintenance and tampering
- Built-in 316SS sintered purge filter
- High temperature option, allows temperatures to 1000°F
- Makes change of one piece flow metering element easy
- Variety of flow rates available both liquids and gases
- Optional built-in check valves to prevent process backing into purge system

### P6PM4H - Level ( $\Delta P$ ) Application



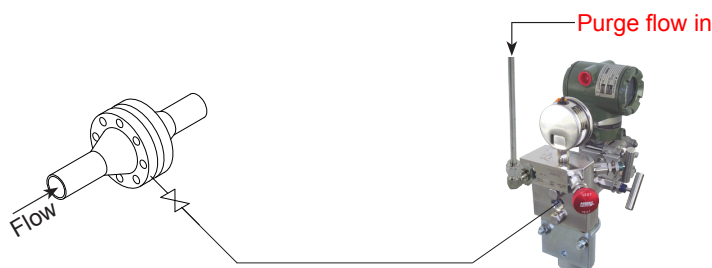
- Fluidized bed reactors
- Delta P's across trays
- Distillation column levels
- Tank levels

### P6PM4H - Flow ( $\Delta P$ ) Application



- Orifice Flange Units
  - Flow Tubes
  - Wedge Meters

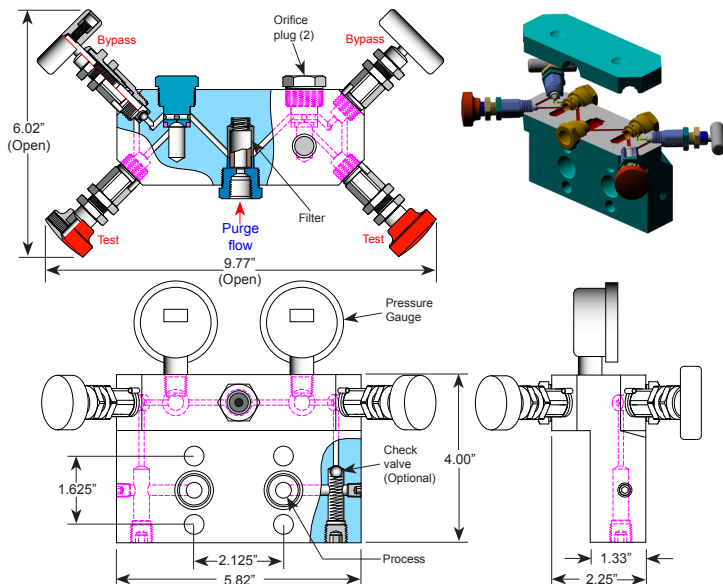
### P6PM2H - Gauge Pressure Application



- Regular Gauge Pressure Measurements

# P6PM4H™ and P6PM2H™: Technical Specifications

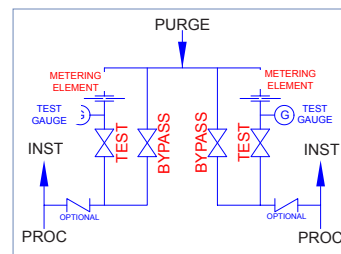
## P6PM4H Differential Pressure Purge Manifold



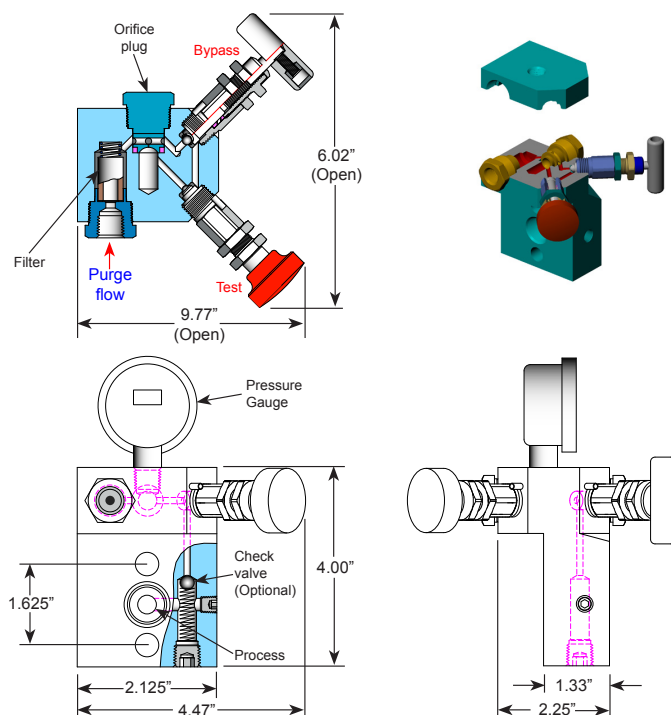
### Specifications:

Feature	Description
Type:	<b>P6PM4H</b> Purge Manifold, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball Tip
Packing:	PTFE or Grafoil™
Seat:	Integral
Handle:	Removable
Bore Size:	3/8" Process, 1/8" Purge
Inlet Connections:	1/2" FNPT x 2
Outlet Connections:	4 Bolt Flange
Bonnet Lock:	Pin or Plate
Weight:	11.8 lbs.
Special Service:	O <sub>2</sub> or CL cleaning available*

Notes: \*Other specifications or services may be available.



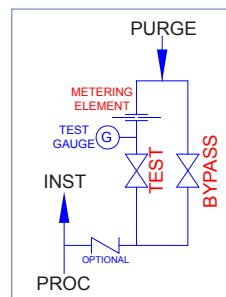
## P6PM2H Gauge Pressure Purge Manifold



### Specifications:

Feature	Description
Type:	<b>P6PM2H</b> Purge Manifold, Globe Pattern
Rating:	Up to 6000 psi @ 100°F (41370 kPa @ 38°C)
Stem:	Ball Tip
Packing:	PTFE or Grafoil™
Seat:	Integral
Handle:	Removable
Bore Size:	3/8" Process, 1/8" Purge
Inlet Connections:	1/2" FNPT x 1
Outlet Connections:	2 Bolt Flange
Bonnet Lock:	Pin or Plate
Weight:	5.8 lbs.
Special Service:	O <sub>2</sub> or CL cleaning available*

Notes: \*Other specifications or services may be available.

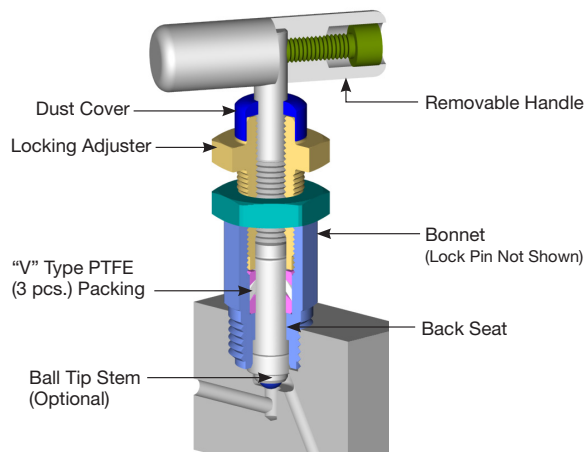


P6PM4H™ and P6PM2H™, Purge Manifolds and Assemblies • PPL-CAT-P6PM2(4)-001 04/17

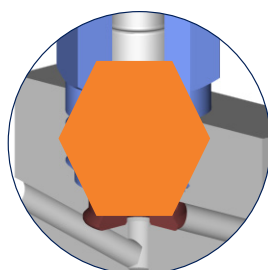
# P6MEV3S™: Bonnet Assembly, Stem and Seat Configurations

## Packed Bonnet Assembly

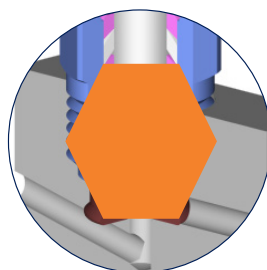
Standard Material					
Valve	Body	Bonnet	Stem	Ball	Packing
ASTM A182 316SS					PTFE and Grafoil™
NOTE: Low torque Grafoil™ available (G4 Packing Code)					



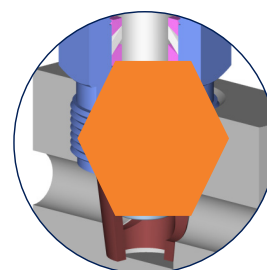
## Stem and Seat Configurations



Needle



Ball



Pressure Core

# P6MEV3S™: Pressure-Core® Seal - Advanced Stem Seal System

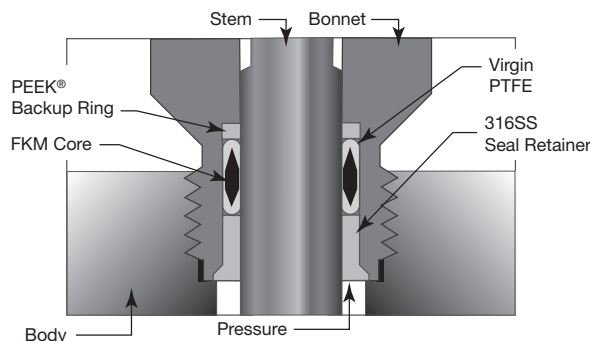
## A Superior Design for Better Performance:

Parker’s patented Pressure-Core® Stem Seal System was tested by an independent laboratory in accordance with EPA Method 21, and the results indicate that the Pressure-Core® Stem Seal is a reliable, affordable, virtually leak-free bonnet requiring no costly, time consuming maintenance.

After years of field experience and millions of valves in service, Parker takes great pride in extending a five-year limited warranty on our Pressure-Core® Stem Seal, far exceeding the industry standard.

### Product Features:

- Virtually Leak-Free Performance
- No Adjustments or Maintenance Requirements
- Unmatched 5 Year Warranty
- No Fugitive Emissions



### Fugitive Emissions Test Results:

See for yourself how our Pressure-Core® not only outperforms the competition, but sets a new industry standard...

#### Test Procedure

Valves mechanically cycled 50 times (full open to full close) at 1,000 PSI methane, then heated to 400°F and air cooled to ambient. Procedure repeated until failure.

#### Failure Criteria

100 PPM leak\*

\*Competition's Emission Seal Warranty

#### Test Results:

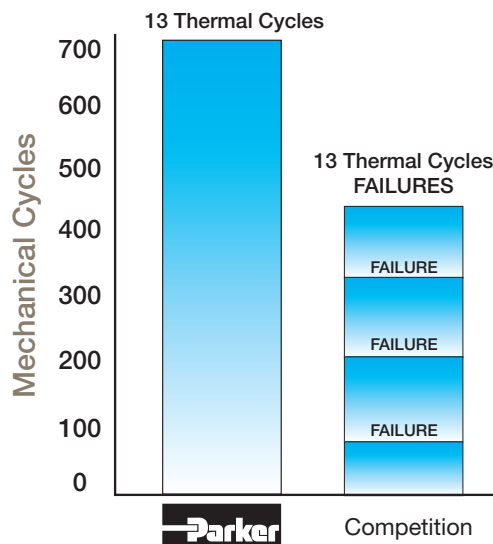
##### Parker:

The Pressure-Core Seal successfully completed 694 mechanical cycles and 13 thermal cycles. Maximum leakage throughout testing was 40 PPM.

##### Competition:

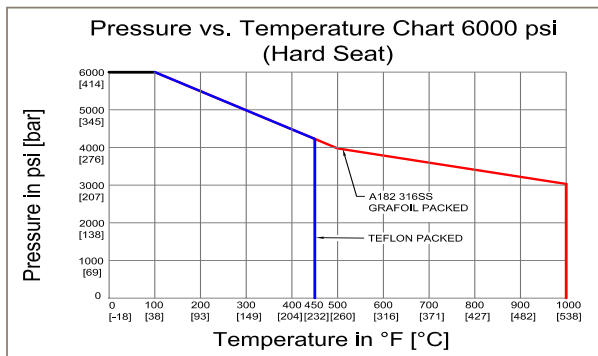
The competition's "low emissions" graphite design failed on the 89th mechanical cycle and on average every 125 cycles throughout the testing.

Repeated maintenance was required between each failure to readjust the valve packing.



# P6MEV3S™: Other Technical Information

## Pressure vs. Temperature



Note: Packing material ratings based on manufacturer's specifications. Approximations only. Parker does not represent these values as finite. They are provided only as representative values.

## Meets the Following Specifications:

- ASME B31.1 Power Piping
- ASME B31.3 Process Piping
- ASME B16.34 Valves - Flanged, Thread, and Welding End
- API 598 Valve Inspection and Testing
- MSS SP-25 Standard Marking Systems for Valves, Fittings, and Flange Unions
- MSS SP-99 Instrument Valves
- MSS SP-105 Instrument Valves for Code Applications
- NACE MR0175 for all 316SS valves and A105CS body/316SS bonnet (SC Material Code)

## Modeling Number System

Parker	Orifice Size	Type	Inlet Size	Inlet Type	Outlet Type	Material	Packing	Seat	Stem	Stem Tip	Metering Element Orifice Flow Rates		
											Orifice Size	SCFH (10 psi Air)	GPH (25 psi H <sub>2</sub> O)
P	6=3/8"	PM4H (4 Valves)	8=1/2"	F=FNPT	FL=Flange	SS=ASTM A182 316/316L	T=PTFE	Integral (Blank)	Needle Tip (Blank)	See chart on the right	.012"	2	1
		G=Grafoil™						B=Ball Tip (Blank)	.016"		4	2	
		P=Pressure Core							.031"		19	6	
EXAMPLE: <b>P6PM4H8FFLSSTB</b> = 3/8" Bore, 1/2" FNPT Inlet, Flange Outlet, 316SS, PTFE packing, Integral Seat, Ball Tip Stem											.047"	36	16
<b>P</b>	<b>6</b>	<b>PM4H</b>	<b>8</b>	<b>F</b>	<b>FL</b>	<b>SS</b>	<b>T</b>		<b>B</b>	<b>-012</b>	.063"	55	28
Note: 1. PM4H: a complete purge manifold assembly includes 4-valve purge manifold, 3-valve flange x flange manifold, and horizontal mounting bracket. Packing and orifice size must be specified.											.078"	85	42
2. PM2H: a complete purge manifold assembly includes 2-valve purge manifold, 2-valve flange x flange manifold, and horizontal mounting bracket. Packing and orifice size must be specified.													