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# Manifold Valves Hi-Pro Ball Valve for High Performance

4190-HBV  
März 2003

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# *Hi-Pro Manifolds for High Performance Instrument Control*

*Catalog 4190-HBM  
October 2003*



# Hi-Pro Manifolds for up to 10,000psig (689 barg) operation

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**Page 10/11** Manifold and valve options and spares

A table with columns for 'Options' and 'Options Description'. The table lists various options for manifolds and valves, such as '1. Ball Valve', '2. Needle Valve', '3. Bleed Valve', etc., and their corresponding descriptions.

Options	Options Description
1. Ball Valve	Ball Valve
2. Needle Valve	Needle Valve
3. Bleed Valve	Bleed Valve
4. Single Block and Bleed Manifold	Single Block and Bleed Manifold
5. Double Block and Bleed Manifold	Double Block and Bleed Manifold
6. Manifold and Valve Options and Spares	Manifold and Valve Options and Spares



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# Hi-Pro Manifolds for up to 10,000psig (689 barg) operation

## Introduction

With many years of manifold development and manufacture Parker Hannifin are able to offer the most comprehensive range of block and bleed and double block and bleed manifolds to suit all types of instrumentation installations, specifications and applications.

Now consolidated into one catalog, selection can be made from a comprehensive range of bodies with a variety of connections and valve positions, optimising installation and access opportunities.

Designed to reduce installation costs and improve safety performance, the consolidation of valves into one unit provides you with a combination of instrument isolation together with bleed/vent and test facilities.

In addition to manufacturing manifolds Parker also produce a comprehensive range of single and twin ferrule high integrity tube fittings. Manufactured in a variety of materials these products are used extensively in the oil, gas, petro-chem, power, processing and many other markets.

By integrating these products, instrument manifolds and tube fittings, Parker can offer unique connection combinations which are specifically designed to eliminate site assembled threaded connectors, ingress of debris and contamination from thread sealant materials which often result in instrument failure, replacement and downtime. Eliminating the use of taper threads, factory assembled and tested connections will ensure improved performance through simpler assembly and installation procedures. This system provides total flexibility of tubing position with positive leak proof connections.

Continuous product development may from time to time necessitate changes in the details contained in this catalogue. Parker Hannifin reserve the right to make such changes at their discretion and without prior notification.



All dimensions shown in this catalogue are approximate and subject to change.

### **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.

### **Offer of Sale**

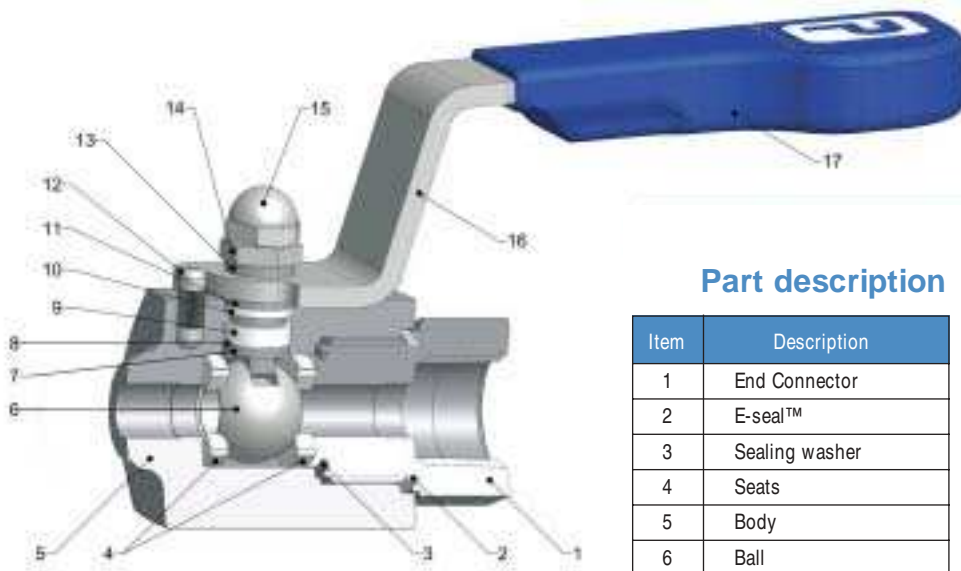
The items described in this document are hereby offered for sale by Parker Hannifin Corporation, its subsidiaries or its authorized distributors. This offer and its acceptance are governed by the provisions stated in the "Offer of Sale" located in catalog 4110-U Needle Valves (U Series).



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# Hi-Pro Manifolds for up to 10,000psig (689 barg) operation



## Part description

Item	Description
1	End Connector
2	E-seal™
3	Sealing washer
4	Seats
5	Body
6	Ball
7	Anti blowout stem
8	Thrust Seal
9	Gland packing
10	Upper gland packing
11	Thrust bush
12	Stop pin
13	Thrust bush
14	Lock nut
15	Locking dome nut
16	Handle
17	Handle grip



Handle locking



Secured end connector (double pin)

## Specifications

- 316 Stainless steel construction
  - Maximum cold working pressure rating 6,000 psig (414 barg) with P.T.F.E. seats.\*
  - Temperature rating PTFE seats -54°C to +204°C (-65°F to +400°F).\*
  - Maximum cold working pressure rating 10,000 psig (689 barg) with PEEK seats.\*
  - Temperature rating PEEK seats -54°C to +232°C (-65°F to +450°F).\*
- \*always refer to P/T graph

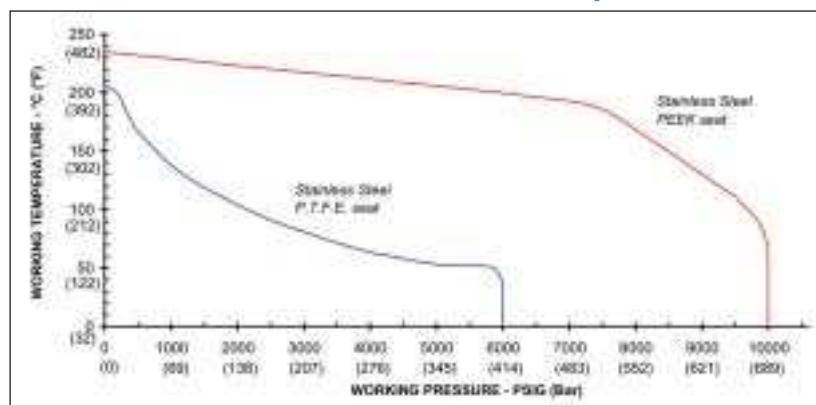
## Features

- Two piece body design - minimal leakage paths.
- 4:1 Pressure boundary designed safety factor.
- Designed to comply with requirements of ANSI/ASME B16.34 where applicable.
- Bi-directional.
- PEEK and PTFE standard ball seat materials.
- PTFE and Graphoil gland packings.
- Bubble tight shutoff.
- Floating ball principal with dynamic response seats featuring inherent self relief.
- Anti blowout stem.
- Integral compression ends available eliminating taper threads and thread sealants.
- Low torque operation.
- Quarter turn positive stop handle with ergonomically designed protective sleeve.
- Full hydrostatic and low pressure air tested.
- Connector thread environmentally sealed.
- Anti static.
- Optional firesafe designed to meet API 607, BS6755 Pt2.



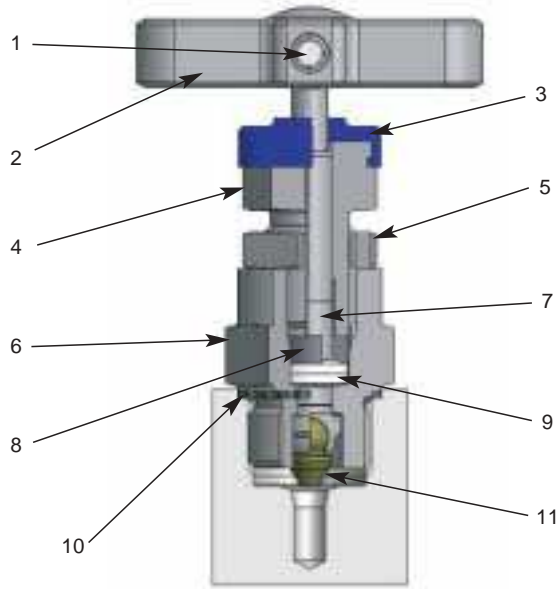
Spanner actuation

## Performance Data Pressure vs temperature



# Hi-Pro Manifolds for up to 10,000psig (689 barg) operation

## Standard manifold globe style bonnet design

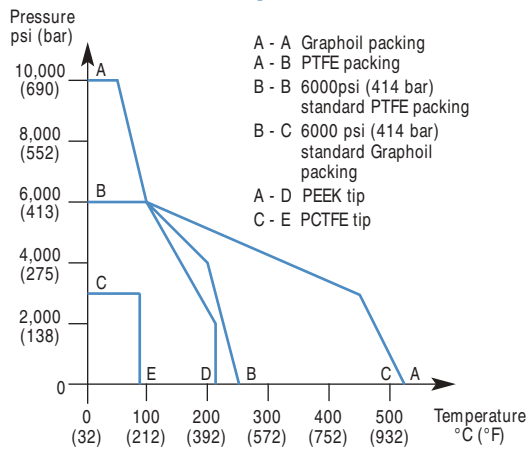


For safe reliable and repeatable performance

### Part description

Item	Description
1	Positive handle retention
2	"T" bar
3	Dust Cap
4	Gland packing adjuster
5	Gland adjuster lock nut
6	Valve Bonnet
7	Anti blowout spindle
8	Thrust Bush
9	Gland packing (adjustable)
10	Bonnet/body washer
11	Spindle tip

### Pressure vs temperature



### Anti tamper spindle



For key only - part no. **ATHKEY/1**

Retro-fit kit part number **KITAT** without key  
**KITATK** with key

### Handwheel



Retro-fit kit part number **KITHW**

### Lockable handwheel



Retro-fit kit part number **KITLHW**

### T bar handle locking



Retro-fit kit part number **KITTHL**

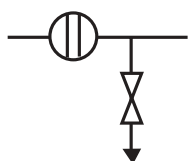
# Hi-Pro Manifolds for up to 10,000psig (689 barg) operation

## Block and bleed remote mount static pressure manifolds

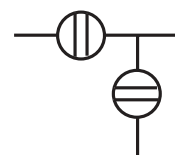
### Purpose

This series of manifolds combines isolate in the form of a ball valve and bleed/vent in a choice of ball or needle into one block for interface with pressure measurement transmitters, gauges and switches for applications up to 10,000psig (689 barg)

A variety of end connections can be provided including NPT as standard with optional BSPT<sub>r</sub> and BSPP. Parker can also combine single or twin ferrule integral fitting technology into the product offering the end user the benefit of leak path reduction and contaminant free connections by eliminating taper threads.



HPM6L\*2

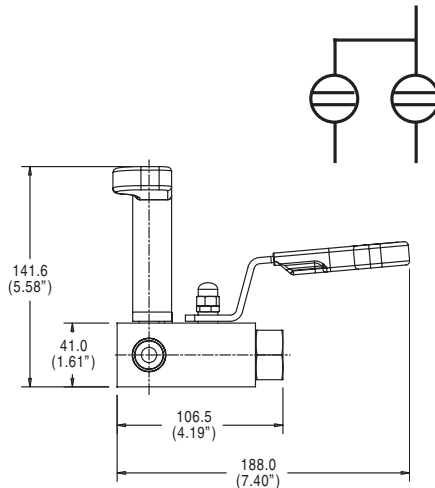
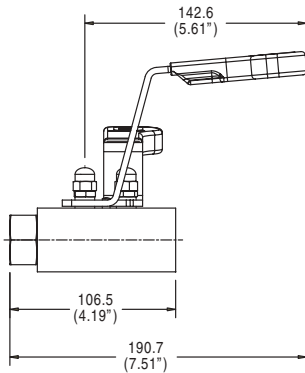


HPM6L\*2B

# Hi-Pro Manifolds for up to 10,000psig (689 barg) operation

## Block and bleed remote mount static pressure manifolds

### Series HPM6L\*2B

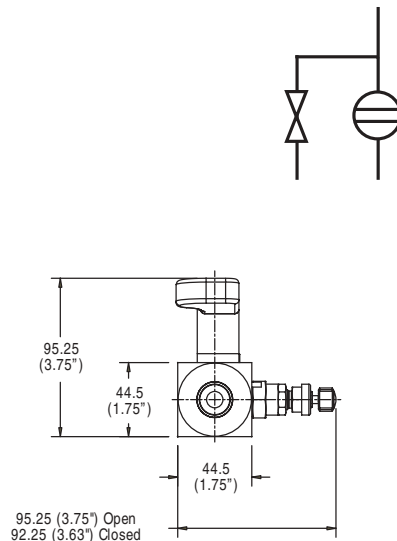
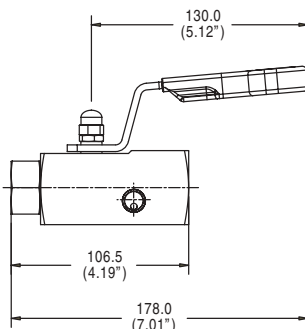


#### Standard Product Specifications

**Part No. HPM6LS2B:** 316 Stainless steel construction with single isolate and bleed/vent 10mm bore ball valves, PTFE packing, PTFE seats. Process and instrument connection 1/2" NPT female, bleed/vent 1/4" NPT female. Maximum cold working pressure 6,000 psig (414 barg).

**Part No. HPM6LS2BHP:** 316 Stainless steel construction with single isolate and bleed/vent 10mm bore ball valves, PTFE packing, PEEK seats. Process and instrument connection 1/2" NPT female, bleed/vent 1/4" NPT female. Maximum cold working pressure 10,000 psig (689 barg).

### Series HPM6L\*2



#### Standard Product Specifications

**Part No. HPM6LS2:** 316 Stainless steel construction with single isolate 10mm bore ball valve, PTFE packing, PTFE seats. Bleed/vent valve globe pattern needle, none rotating self-centering tip, T bar handle, PTFE packing and metal/metal seat. Process and instrument connection 1/2" NPT female, bleed/vent 1/4" NPT female. Maximum cold working pressure 6,000 psig (414 barg).

**Part No. HPM6LS2HP:** 316 Stainless steel construction with single isolate 10mm bore ball valve, PTFE packing, PEEK seats. Bleed/vent valve globe pattern needle, none rotating self-centering tip, T bar handle, PTFE packing and metal/metal seat. Process and instrument connection 1/2" NPT female inlet, bleed/vent 1/4" NPT female. Maximum cold working pressure 10,000 psig (689 barg).

### Standard range part numbers

Part No.	Inlet (NPT)	Standard connections	
		Outlet (NPT)	Bleed/test (NPT)
HPM6L*2B	1/2" female	1/2" female	1/4" female
HPM6L*2BHP	1/2" female	1/2" female	1/4" female
HPM6L*2	1/2" male	1/2" female	1/4" female
HPM6L*2HP	1/2" female	1/2" female	1/4" female

\*Insert material designator, [see page 10](#)

#### Function

Blue – isolate,  
Red – drain/bleed

### Features

- Standard high performance bonnet design.
- Colour coded valve function identification.
- Alternative materials of construction available.
- Optional port sizes and thread forms available: BSPT<sub>r</sub>, BSPP.
- Socket and butt weld connections available.
- PTFree connections available ([see page 10](#)).
- Blank and bleed plugs available.
- NACE certified on request.
- Optional cleaned and lubricated suitable for Oxygen service.
- Heat code traceable body and bonnet.
- Optional Fire safe design to meet API 607, BS6755 Pt2.



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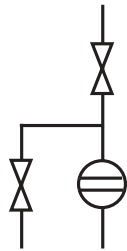
# Hi-Pro Manifolds for up to 10,000psig (689 barg) operation

## Double block and bleed remote mount static pressure manifolds

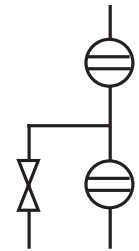
### Purpose

This series of manifolds combines double isolate (Primary and Secondary) and bleed/vent in a combination of ball and needle into one block, for interface with pressure measurement transmitters, gauges and switches for applications up to 10,000psig (689 barg).

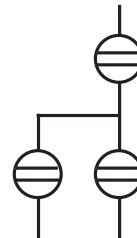
A variety of end connections can be provided including NPT as standard with optional BSPT<sub>r</sub> and BSPP. Parker can also combine single or twin ferrule integral fitting technology into the product offering the end user the benefit of leak path reduction and contaminant free connections by eliminating taper threads.



HPM6L\*3DBBN



HPM6L\*3DBB



HPM6L\*3DBBB

### Standard range part numbers

Part No.	Inlet (NPT)	Standard connections	
		Outlet (NPT)	Bleed/test (NPT)
HPM6L*3DBBN	1/2" female	1/2" female	1/4" female
HPM6L*3DBBNHP	1/2" female	1/2" female	1/4" female
HPM6L*3DBB	1/2" male	1/2" female	1/4" female
HPM6L*3DBBHP	1/2" female	1/2" female	1/4" female
HPM6L*3DBBB	1/2" female	1/2" female	1/4" female
HPM6L*3DBBBHP	1/2" female	1/2" female	1/4" female

\*Insert material designator, see page 10

### Function

Blue – isolate,  
Red – drain/bleed

### Features

- Standard high performance design.
- Colour coded valve function identification.
- Alternative materials of construction available.
- Optional port sizes and thread forms available: BSPT<sub>r</sub>, BSPP.
- Socket and butt weld connections available.
- PTFree connections available (see page 10).
- Blank and bleed plugs available.
- NACE certified on request.
- Optional cleaned and lubricated suitable for Oxygen service.
- Heat code traceable body and bonnet.
- Optional fire safe design to meet API 607, BS6755 Pt2.



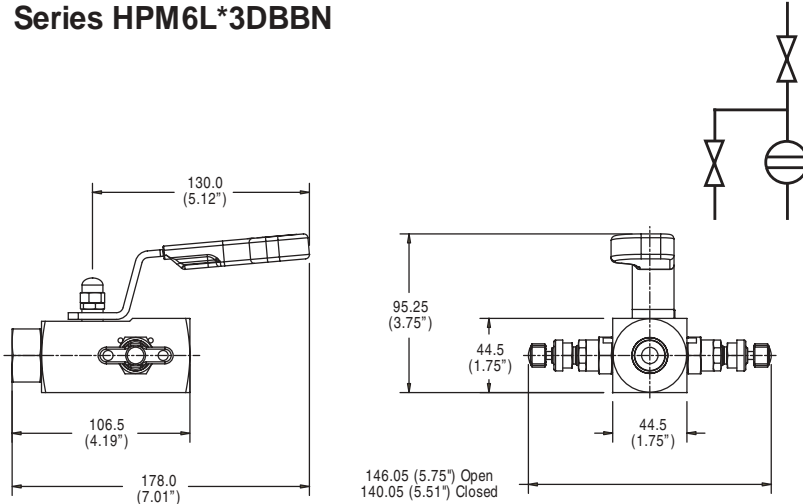
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# Hi-Pro Manifolds for up to 10,000psig (689 barg) operation

## Double block and bleed remote mount static pressure manifolds

### Series HPM6L\*3DBBN

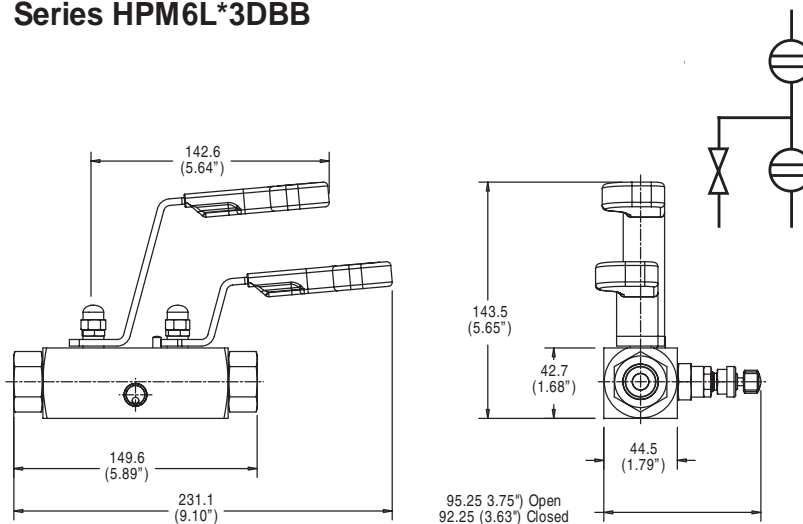


#### Standard Product Specifications

**Part No. HPM6LS3DBBN:** 316 Stainless steel construction with primary isolate 10mm bore ball valves, PTFE packing, PTFE seats. Secondary isolate and bleed/vent valve globe pattern needle, none rotating self centering tip, T bar handle, PTFE packing and metal/metal seat. Process and instrument connection 1/2" NPT female, bleed/vent 1/4" NPT female. Maximum cold working pressure 6,000 psig (414 barg).

**Part No. HPM6LS3DBBNHP:** 316 Stainless steel construction with primary isolate 10mm bore ball valves, PTFE packing, PEEK seats. Secondary isolate and bleed/vent valve globe pattern needle, none rotating self centering tip, T bar handle, PTFE packing and metal/metal seat. Process and instrument connection 1/2" NPT female, bleed/vent 1/4" NPT female. Maximum cold working pressure 10,000 psig (689 barg).

### Series HPM6L\*3DBB

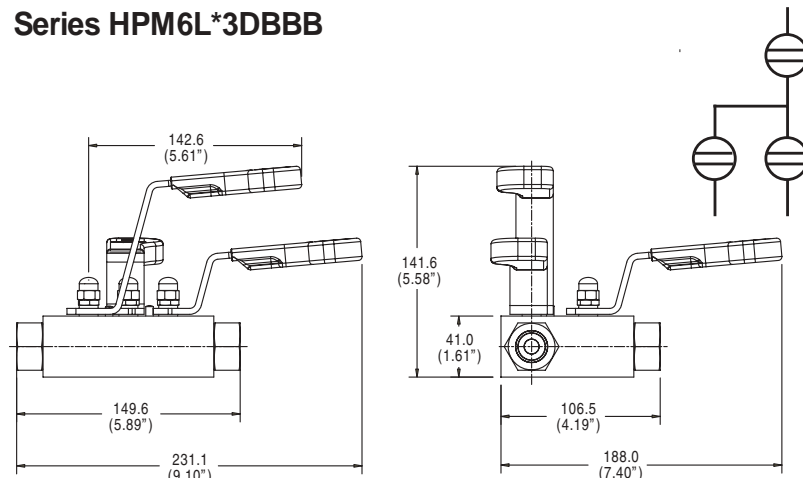


#### Standard Product Specifications

**Part No. HPM6LS3DBB:** 316 Stainless steel construction with double isolate 10mm bore ball valves, PTFE packing, PTFE seats. Single bleed/vent valve globe pattern needle, none rotating self-centering tip, T bar handle, PTFE packing and metal/metal seat. Process and instrument connection 1/2" NPT female, bleed/vent 1/4" NPT female. Maximum cold working pressure 6,000 psig (414 barg).

**Part No. HPM6LS3DBBHP:** 316 Stainless steel construction with double isolate 10mm bore ball valves, PTFE packing, PEEK seats. Single bleed/vent valve globe pattern needle, none rotating self-centering tip, T bar handle, PTFE packing and metal/metal seat. Process and instrument connection 1/2" NPT female, bleed/vent 1/4" NPT female. Maximum cold working pressure 10,000 psig (689 barg).

### Series HPM6L\*3DBBB



#### Standard Product Specifications

**Part No. HPM6LS3DBBB:** 316 Stainless steel construction with double isolate and vent/bleed 10mm bore ball valves, PTFE packing, PTFE seats. Process and instrument connection 1/2" NPT female, bleed/vent 1/4" NPT female. Maximum cold working pressure 6,000 psig (414 barg).

**Part No. HPM6LS3DBBBHP:** 316 Stainless steel construction with double isolate and vent/bleed 10mm bore ball valves, PTFE packing, PEEK seats. Process and instrument connection 1/2" NPT female, bleed/vent 1/4" NPT female. Maximum cold working pressure 10,000 psig (689 barg).



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# Hi-Pro Manifolds for High Performance Instrument Control

## Available options

Suffix adding sequence	Function	Option Detail	All Valves	Ball	Needle	Body
1	<b>Gland packing</b>	Graphite (all valves)	3	–	–	–
2	<b>Seating</b>	PEEK	–	PKB	PKN	–
3	<b>Plug/Bleed valve</b>	Blank plug 1/2 NPT	P	–	–	–
	<b>(supplied loose in box)</b>	Bleed valve	BV	–	–	–
		Plug & bleed valve	PBV	–	–	–
4	<b>Connection style</b>	Socket weld extension	–	–	–	SW* NBM
	<b>Note 1</b>	Socket weld	–	–	–	SW* NB
		Butt weld	–	–	–	BW* NB
		BSPT	–	–	–	* K
		BSPP	–	–	–	* R
	<b>Note 2</b>	A-LOK®/CPI™	–	–	–	See note 2
		Secured end connector	–	–	–	LC
5	<b>Operating mechanism</b>	Spanner actuation	–	SA*		–
	<b>Note 3</b>	Anti tamper T bar	–	–	AT*	–
		Anti tamper + key	–	–	ATK*	–
		Hand wheel	–	–	HW*	–
		Lockable hand wheel	–	–	LHW*	–
		Lockable handle	–	HL*	THL*	–
6	<b>Mounting</b>	Mounting holes	–	–	–	MH
	<b>Note 4</b>	Assembled to bracket	–	–	–	BRK
7	<b>Condition</b>	NACE	NACE	–	–	–
	<b>Note 5</b>	Cleaned and lubricated for oxygen use	OXY	–	–	–
		Fire safe	FS	–	–	–
		Fire safe certified	FC	–	–	–
		Heat Code Certs.	HCT	–	–	–

Note 1: For tube or pipe sizing use denominations of 1/16" i.e. 8 = 1/2". Give actual size for metric i.e. M12. For tube socket weld change NB to TB.

Note 2: For A-LOK®/CPI™ use 1/16" denominations i.e. 1/2"=8A. For metric use actual size i.e. 12mm = M12A. For CPI™ change A to Z. To specify inlet e.g. 1/2" A-LOK® suffix part number E8A and for outlet X8A.

Note 3: \* Indicate which valve requires locking feature i.e. 1 = Primary, 2 = Secondary, 3 = Vent/drain, 4 = All valves.

Note 4: Bracket will include U bolt and manifold/bracket bolts.

Note 5: Certification requirements should be clearly requested at enquiry and order stage - we are unable to provide retrospectively.

Material	* Insert
316 Stainless steel std	S
Monel	M
Duplex	D1
Hasteloy	HC
Carbon steel	C
6Mo	6MO
Inconel 625	625

*The widest range of precision Instrumentation products*



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Order Code 'Manifold/Bin'

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Germany	(49) 6134 204 243
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Sweden	(46) 157434900
Taiwan	(886) (2) 8787 3780
United Arab Emirates	(971) (2) 6788587
United Kingdom	(44) 1271 313131
Venezuela	(58) (2) 2385422



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