

Process Instrumentation Valve and Manifold Solutions

H Series Product Range



ENGINEERING YOUR SUCCESS.

Contents

| | |
|---|-----------|
| Introduction..... | 5 |
| General Technical Information..... | 6 |
| Design | 6 |
| Materials of construction..... | 6 |
| Standard and optional specification details..... | 7 |
| Connections | 8 |
| Integral tubing connections – A Parker Superior Advantage..... | 8 |
| PT/Free connect™..... | 10 |
| Other connections..... | 11 |
| Transmitter flange connections – DIN/IEC 61518..... | 12 |
| Bonnet Assemblies..... | 13 |
| Standard bonnet design..... | 13 |
| Larger bore bonnet design – Class 2500 (6,000 PSI) and Class 4500 (10,000 PSI)..... | 14 |
| Soft seat tip bonnet design..... | 14 |
| Fire safe bonnet design – Class 2500 (6,000 PSI)..... | 15 |
| Power plant bonnet design – Compliant to ANSI B31.1 – Class 2500 (6,000 PSI)..... | 15 |
| Rising plug bonnet design..... | 16 |
| Tru-Loc® safety bonnet lock..... | 16 |
| Low Emission bonnet design..... | 17 |
| Bonnet assembly options..... | 19 |
| Hand Valves & Gauge Valves | 20 |
| Introduction..... | 20 |
| Hand Valves – HNV Series – Straight Pattern | 21 |
| Hand Valves – HNAV Series – Angle Pattern | 22 |
| Gauge Valves – HNVV Series – Single Block Gauge Vent Valves..... | 23 |
| Gauge Valves – HGV Series – Multi-port Gauge Valves..... | 24 |
| Rising Plug Valves – HRPV Series..... | 25 |
| Ordering information..... | 26 |
| 2-Valve Manifolds – Remote/line Mount | 28 |
| Introduction..... | 28 |
| 2-Valve Manifolds – HNL Series – Remote/line Mount – Long Pattern..... | 29 |
| 2-Valve Manifolds – Remote/line Mount – Short Pattern..... | 30 |
| Ordering Information – 2-Valve Manifolds – Remote/Line Mount | 32 |
| Mounting Brackets for Remote/line Mount Manifolds and Gauge Valves..... | 34 |
| 3 and 5-Valve Manifolds – Remote/line Mount | 35 |
| Introduction..... | 35 |
| 3-Valve Manifolds – Remote/line Mount..... | 36 |
| 5-Valve Manifolds – Remote/line Mount..... | 37 |
| Ordering Information – 3 and 5-Valve Manifolds – Remote/line Mount | 38 |
| Mounting Brackets for Remote/line Mount Manifolds and Gauge Valves..... | 40 |
| 2-Valve Manifolds – Direct Mount | 41 |
| 3-Valve Manifolds – Direct Mount | 42 |
| 5-Valve Manifolds – Direct Mount | 44 |
| Ordering information..... | 46 |
| Mounting Brackets for 2, 3 and 5-valve Direct Mount Manifolds..... | 48 |
| Base Connected Manifolds Especially Suited For Enclosure Mounting | 50 |
| Instrument Enclosure Solutions | 54 |
| Manifolds for 2051/3051 Coplanar™ Transmitters..... | 55 |
| Essential Manifold Accessories | 61 |
| Other Manifold Products | 64 |
| Customer Specific Manifold Solutions..... | 66 |
| Complementary Products for Complete Installation Solutions | 68 |

General Technical Information

Design

All valves and manifolds are designed to meet the pressure and temperature ratings of ANSI B16.34 Class 2500/Class 4500 as applicable, limited only by selection of gland packing materials, Conformity to the recommendations of MSS SP-99 is also assured.

Relevant codes, standards and specifications

| Code/Specification | Description |
|-------------------------|---|
| DIN EN61518 / IEC 61518 | Mating dimensions between differential pressure (type) measuring instruments |
| ASME B31.1 | Power Piping Specification for Pipeline Valves |
| ASME B16.34 | Valves - Flanged, Threaded and Welding End |
| ASME B16.5 | Pipe Flanges and Flanged Fittings |
| NACE MR0175 / ISO 15156 | Petroleum and Natural Gas Industries - Materials for use in H2S - containing Environments in Oil and Gas Production |
| API 598 | Valves Inspection and Testing |
| ISO 5208 | Industrial Valves - Pressure Testing of Metallic Valves |
| API 607 / ISO 10497 | Fire Test of Soft-Seated Quarter Turn Valves |
| MSS SP-25 | Fire type-testing requirements |
| MSS SP-61 | Standard Marking Systems for Valves, Fittings, Flange and Unions |
| MSS SP-99 | Pressure Testing of Valves |
| ISO 15848 | Instrument Valves |
| TA Luft | Industrial valves— Measurement, test and qualification procedures for fugitive emissions |
| | TA-Luft 2002, Absatz 5.2,6.4 und VDI 2440 (Ausgabe Nov. 2000), Absatz 3.31,3 |

Materials of construction

All materials are purchased from long standing reputable sources, conforming not only to recognised national/international standards, but also to additional requirements imposed by Parker to assure suitability/usability across the widest spectrum of user applications.
A range of techniques and processes including PMI (Positive Material Identification) are used to validate all incoming material supplies, segregation, storage and maintenance of product quality.

Body material options

| Material Group | Material Designator | UNS No. | Werkstoff No. | Euronorm Equivalent | ASTM Material Grade |
|--------------------------------------|-------------------------|------------|---------------|---------------------|---------------------|
| Carbon Steel* | A105 | UNS 1.0482 | 19Mn5 | K03504 | A105 |
| Austenitic Stainless Steel | 316/316L Dual certified | UNS S31600 | 1.4401 | X5CrNiMo17-12-2 | A479 Gr 316 |
| | | UNS S31603 | 1.4404 | X2CrNiMo17-12-2 | A479 Gr 316L |
| Super Austenitic Stainless Steel | 6Mo | UNS S31254 | 1.4547 | X1CrNiMoCuN20-18-7 | A479/A276 |
| | Duplex 22Cr | UNS S31803 | 1.4462 | X2CrNiMoN22 5 3 | A479/A276 |
| Austenitic-Ferritic Steel (Duplexes) | Duplex 25Cr | UNS S32750 | 1.4410 | X2CrNiMoN25-7-4 | A479/A276 |
| | | UNS S32760 | 1.4501 | X2CrNiMoCuWN25-7-4 | A479/A276 |
| Copper-Nickel Alloy | Alloy M400 | UNS N04400 | 2.436 | NiCu30Fe | ASTM B164 |
| Nickel Alloy | Alloy 825 | UNS N08825 | 2.4858 | NiCr21Mo | ASTM B425 |
| Nickel Alloy | Alloy 625 | UNS N06625 | 2.4856 | NiCr22Mo9Nb | ASTM B446 |
| Nickel Alloy | Alloy C276 | UNS N10276 | 2.4819 | NiMo16Cr15W | ASTM B574 |
| Titanium | Titanium Grade 2 | UNS R50400 | 3.7075 | Ti-11 | ASTM B348 |

All materials will meet (as applicable) the requirements of NACE MR0103/MR0175 and ISO 15156. They are further supplied as per NORSOK M650/M630 as required.

* Carbon Steel may not be universally available, and if offered, may be restricted to body only. Other materials may be considered but any offer may also be restricted to body only. Please consult with your local Parker support.

General information - materials of construction

| Item | Material | | | | |
|----------------|---------------------------|------------------|-------------------------|-------------------------------|------------------|
| | SLSt. | CRA-NiCu | Duplex | Super Duplex | Titanium |
| Body | 316 SLSt. / ASTM A479 | Alloy M400 | Duplex UNS S31803 | Super Duplex UNS S32750/32760 | Titanium GR-2 |
| | 17-4PH SLSt. | Alloy K500 | Duplex UNS S32750/32760 | Alloy 625 | Titanium GR-5 |
| Tip | 316 SLSt. / ASTM A479 | Alloy M400 | 6MO | Alloy 625 | Alloy 825 |
| Joint Seal | PTFE. / Graphite | PTFE. / Graphite | PTFE. / Graphite | PTFE. / Graphite | PTFE. / Graphite |
| Packing | 316 SLSt. | 316 SLSt. | 316 SLSt. | 316 SLSt. | 316 SLSt. |
| Thrust Bush | 316 SLSt. / ASTM A479 | Alloy M400 | Duplex UNS 31803 | Super Duplex UNS S32750/32760 | Alloy C276 |
| Stem | 316 SLSt. | 316 SLSt. | 316 SLSt. | 316 SLSt. | 316 SLSt. |
| Gland Adjuster | 316 SLSt. / ASTM A479 | ASTM A479 | ASTM A479 | ASTM A479 | ASTM A479 |
| Handle | 316 SLSt. | 316 SLSt. | 316 SLSt. | 316 SLSt. | 316 SLSt. |
| Grub Screw | A4-80 SLSt. / A4-80 SLSt. | A4-80 SLSt. | A4-80 SLSt. | A4-80 SLSt. | A4-80 SLSt. |
| Dust Cap | LDPE - Coloured | LDPE - Coloured | LDPE - Coloured | LDPE - Coloured | LDPE - Coloured |
| Lock Nut | 316 SLSt. | 316 SLSt. | 316 SLSt. | 316 SLSt. | 316 SLSt. |
| Bonnet | 316 SLSt. / ASTM A479 | Alloy M400 | Duplex UNS 31803 | Super Duplex UNS S32750/32760 | Titanium GR-2 |

Max. Working Pressure
High Pressure Range

6,000 psig (414 barg)
10,000 psig (689 barg)

Temperature Range:
• PTFE Packing
• Graphite Packing

-54°C to 260°C (-65°F to 500°F)
-54°C to 538°C (-65°F to 1000°F)

Notes:

- CRA-NiCu selection down-rates to 5,000 psig (345 barg)
- Titanium selection down-rates to 3,950 psig (272 barg)
- Other materials and option selections can also affect performance ratings. If in doubt, please consult your local Parker support.

Standard and optional specification details

| Standard Specification Details | Optional Specification Details |
|--|--|
| Seat orifice diameter: 4mm | Seat orifice diameter: up to 6mm in some configurations/styles. See page 14 |
| Flow co-efficient (Cv): 0.35 | 6mm - Flow co-efficient (Cv): 0.5 |
| Metal to metal valve seat and stem tip | Alternative soft tip and tip materials. See page 14 |
| 100% pressure test. All valves and manifolds are subjected to hydrostatic pressure at 1.1x maximum working pressure for the seat and 1.5x maximum working pressure for the shell | Alternative pressure test regimes applied to oxygen cleaned and/or low emission products. See page 17 |
| All products supplied in a clean bur and grease free condition suitable for most liquid and gaseous applications | Your other pressure test requirements can be considered |
| Bodies and bonnets are fully traceable to original material source (certification with unique trace code applied to the bar stock material) | Cleaned suitable for oxygen service. Not every product option is suitable for oxygen service |
| Certification according to BS EN 10204 3.1 for material and pressure test is available | Alternative levels of traceability and certification are available. Your other requirements can be considered |
| All products are permanently marked. Manifolds include a line diagram describing the flow paths | Certification according to BS EN 10204 3.2 can be available at additional cost, please contact your local Parker support |
| Complementary to the marking, bonnet assemblies are all functionally colour coded by the dust caps | |
| Number of turns open to close: 3.5 | 6mm - Number of turns open to close: 3.3 |
| Gauge valves and manifolds do not include plugs as standard | Various plugs are available to order. See page 61 |
| Direct mount manifolds include applicable flange face seals and high tensile, zinc plated carbon steel mounting bolts | Stainless steel mounting bolts are available. See page 48 |
| All manifolds include mounting holes suitable for brackets or enclosure mounting | A full range of mounting brackets and accessories are available. See pages 40, 48, 60 |
| | Mounting for selected hand valves and gauge valves is available |

Connections

Introduction

Parker valve and manifold products are available with a wide array of connection types and sizes. These products are manufactured at the highest quality to applicable standards, utilising state of the art machinery and processes backed by decades of expertise.

The following pages detail the standard connections available. Other connection types can be considered. If you can't find the best connection for your application, please contact your local Parker support. Please note – not all connection types and sizes will be universally possible across the entire product range.

Integral tubing connections – A Parker Superior Advantage

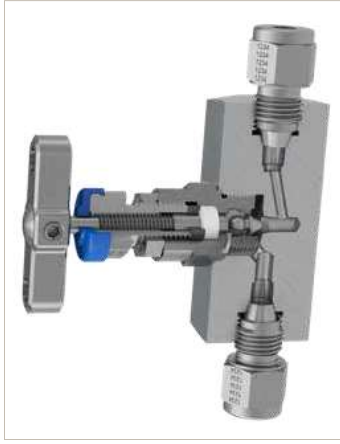
For the ultimate in safety, reliability, speed and ease of installation all valves and manifolds can be specified with solutions offering integral tube connection utilising Parker A-LOK® (Two Ferrule) or CPI™ (Single Ferrule) compression fitting technologies.

For full details of the A-LOK® and CPI™ technologies, please see Catalogue ref. 4190-FMTG.

As standard, hand valves and gauge valves are offered with the traditional external thread and nut or inverted (internal thread) design to inlet and outlet connections. Other ports (such as vent) are offered with Parker unique PTFree connect™ solution (see p. 10).



HNV series hand valve with traditional type fully integrated tube fitting connection.



HNV series hand valve with the unique Parker fully integrated inverted tube fitting connection.



HNV series gauge vent hand valve with inverted tube fitting to inlet and outlet connections with Parker PTFree connect™ tube fitting connection to the vent.

As standard, manifolds are offered with PTFree connect™ style solutions to the inlet connections for direct mount types and also to the outlet connections for remote mount types. Other ports (such as vent) are also offered with Parker Instrumentation's unique PTFree connect™ solution. Some manifold types can be offered with the inverted design to inlet and outlet connections as applicable.



5-valve direct mount manifold for differential pressure applications having inlet and vent connections provided through the use of PTFree connect™ tube fittings.



5-valve direct mount manifold having the Parker superior advantage input connections provided through inverted tube fitting connections. Vent can also be specified as threaded or PTFree connect™.

Why the Superior Advantage of an integrated tube connection?

Consider the following simple example with a typical hand valve.

Example shown is the widely utilised normal specification of a valve and individual tube fittings to achieve the installation.

| Component | Cost |
|--------------|--------------|
| Needle valve | 1x |
| Fittings (2) | 1.1x |
| Sealant/Tape | 0.01x |
| Labour | 0.15x |
| TOTAL | 2.26x |

Example shown is the Parker Superior Advantage fully integrated tube fitting connection.

| Component | Cost |
|--------------|--------------|
| Needle valve | 1.6x |
| Fittings (2) | 0x |
| Sealant/Tape | 0x |
| Labour | 0.05x |
| TOTAL | 1.65x |

Integrated tube connections deliver:

- Average 25% saving on installed cost
- Average 55% saving on installation time
- Zero rework
- Significantly improved safety and system integrity

Connections

Tube end dimensional data

| Inches | | | | Millimeters | | | |
|----------|-----------|-----------------|------|-------------|------|-------|---------------|
| Size No. | Tube O.D. | Straight Thread | tC | H Hex | tC | H Hex | tD Tube Depth |
| 1 | 1/16 | 10-32 | .43 | 5/16 | .052 | .34 | |
| 2 | 1/8 | 5/16-20 | .60 | 7/16 | .093 | .50 | |
| 3 | 3/8 | 3/8-20 | .64 | 1 1/2 | .125 | .54 | |
| 4 | 1/4 | 7/16-20 | .70 | 9/16 | .187 | .60 | |
| 5 | 5/16 | 1/2-20 | .73 | 5/8 | .250 | .64 | |
| 6 | 3/8 | 9/16-20 | .76 | 11/16 | .281 | .67 | |
| 8 | 1/2 | 3/4-20 | .87 | 7/8 | .406 | .90 | |
| 10 | 5/8 | 7/8-20 | .87 | 1 | .500 | .96 | |
| 12 | 3/4 | 1-20 | .87 | 1-1/8 | .625 | .96 | |
| 14 | 7/8 | 1-1/8-20 | .87 | 1-1/4 | .750 | 1.03 | |
| 16 | 1 | 1-5/16-20 | 1.05 | 1-1/2 | .875 | 1.24 | |
| 20 | 1-1/4 | 1-5/8-20 | 1.52 | 1-7/8 | 1.09 | 1.61 | |
| 24 | 1-1/2 | 1-15/16-20 | 1.77 | 2-1/4 | 1.34 | 1.96 | |
| 32 | 2 | 2-5/8-20 | 2.47 | 2-3/4 | 1.81 | 2.65 | |

Notes:

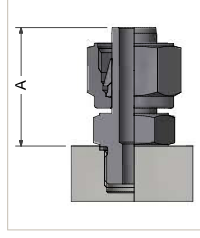
- Dimensions C and D are shown in the finger-tight position.
- † Average value
- Dimensions for reference only, subject to change.

PTFFree connect™

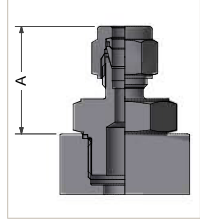


Manifolds can also be supplied with male connectors using the same thread form as the PTFFree connect™. They are provided factory fitted, pin locked and tested.

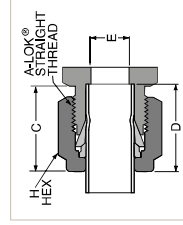
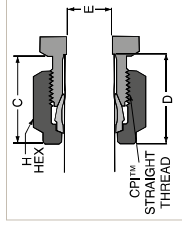
Some size restrictions may be necessary due to the close proximity of some connections and the across flat hexagon dimensions. As a guide, PTFFree connect™ for inlet and outlet can be up to 1/2" or 12mm o/d, drain/bleed connections should be restricted to 1/4" or 6mm. For PTFFree connect™ male connectors inlet and outlet should be restricted to 3/8" or 10mm and 1/4" or 6mm o/d for drain/bleed.



| Tube size | Dimension (A) |
|-----------|---------------|
| 6mm | 22.26mm 0.88" |
| 10mm/3/8" | 24.80mm 0.98" |
| 12mm/1/2" | 26.40mm 1.04" |
| | 32.10mm 1.26" |



| Tube size | Dimension (A) |
|-----------|---------------|
| 6mm | 26.90mm 0.95" |
| 10mm/3/8" | 24.10mm 0.84" |
| 12mm/1/2" | 27.70mm 1.09" |
| | 30.30mm 1.20" |



| Size No. | Tube O.D. | Straight Thread | tC | H Hex | tC | H Hex | tD Tube Depth |
|----------|-----------|-----------------|------|-------|------|-------|---------------|
| 2 | 2mm | 5/16-20 | 15.3 | 12.0 | 1.7 | 12.9 | |
| 3 | 3mm | 5/16-20 | 15.3 | 12.0 | 2.4 | 12.9 | |
| 4 | 4mm | 3/8-20 | 16.1 | 12.0 | 2.4 | 13.7 | |
| 6 | 6mm | 7/16-20 | 17.7 | 14.0 | 4.8 | 15.3 | |
| 8 | 8mm | 1/2-20 | 18.6 | 15.0 | 6.4 | 16.2 | |
| 10 | 10mm | 5/8-20 | 19.5 | 18.0 | 7.9 | 17.2 | |
| 12 | 12mm | 3/4-20 | 22.0 | 22.0 | 9.5 | 22.8 | |
| 14 | 14mm | 7/8-20 | 22.0 | 24.0 | 11.1 | 24.4 | |
| 15 | 15mm | 7/8-20 | 22.0 | 24.0 | 11.9 | 24.4 | |
| 16 | 16mm | 7/8-20 | 22.0 | 24.0 | 12.7 | 24.4 | |
| 18 | 18mm | 1-20 | 22.0 | 27.0 | 15.1 | 24.4 | |
| 20 | 20mm | 1-1/8-20 | 22.0 | 30.0 | 15.9 | 26.0 | |
| 22 | 22mm | 1-1/8-20 | 22.0 | 30.0 | 18.3 | 26.0 | |
| 25 | 25mm | 1-5/16-20 | 26.5 | 35.0 | 21.8 | 31.3 | |

Many users desire the elimination of taper threads and their associated sealant.

The PTFFree connect™ system enables users to assemble tube lines to any of the manifold ports without the need for PTFE tape or liquid sealant.

The PTFFree connect™ connection can be applied to any of the manifolds featured in this catalogue. These will be factory fitted, pin locked and pressure tested.

PTFFree connect™ enables angled tube connections to be swivelled to achieve optimum tube alignment. Assembly to the tube connector is achieved by tightening the standpipe nut one-quarter turn from the finger-tight position.

Other connections

Tapered Pipe Threads - Male and Female



NPT Tapered Thread
NPT Tapered Thread conforming to ASME B1.20.1 with enhanced manufacturing tolerance for optimal assembly and inspected by three step gauging with Parker enhanced tolerancing to ANPT requirement per ASTM SAE AS71051.

Parallel Pipe Threads - Male and Female



BSP Parallel Thread - Default standard (Code R)
BSP Parallel Thread conforming to BS2779, ISO 228/1+2, DIN 3852. Not available on all product/model types, please consult with your local Parker support.

Weld Connections



Socket Weld (Code SW/MSW)
Female or male Socket Weld connection suitable for pipe conforming to ASME B16.11, EN12760.

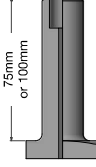
Notes:

- Valves with female socket weld connections will be of the same length as per the equivalent NPT pipe threaded variants.
- Valves with male socket weld connections will, as standard, have a stub length increase of 1/2" (13mm) when compared to the male pipe threaded equivalent variants.

| Pipe size | Dimension (A) |
|--------------|---------------|
| 4 (1/4" NB) | 29 |
| 6 (3/8" NB) | 29 |
| 8 (1/2" NB) | 32 |
| 12 (3/4" NB) | 35 |

Optional lengths:

If requested, male socket welds or butt welds can be offered with stub length of 75mm or 100mm.



Flange Connections



Process Flange
Flange connections can be considered if conforming to ANSI B16.5 and executed in various ways. Please consult your local Parker support.

Instrument Flange (Code HK)
DIN/IEC 61518 compliant instrument (kidney/oval) flange connections.



BSP Tapered Thread (Code K)
BSP Tapered Thread conforming to BS21, ISO7/1 (R 1/2 - Male, Rc 1/2 Female) with enhanced manufacturing tolerance for best optimal assembly and inspected using gauging system to BS21.



BSP Parallel Gauge connection type - Optional (Code RD)
According to DIN 16284/16288/ DIN EN 837.

Thread conforming to BS2779, ISO228/1+2, DIN 3852. Not available on all product/model types, please consult with your local Parker support.



Butt Weld (Code BW)

Butt Weld connection suitable for pipe conforming to ASME B16.25, EN12627.



Notes:

- Valves with butt weld connections will, as standard, be of the same length as per the equivalent male NPT pipe threaded variants.
- For valves with welded connections, special consideration must be given to the installation/welding process. Care must be taken to ensure that the central valve body and bonnet assembly sections are not harmed by the process itself and to further protect these elements from injurious heat transfer.

Other Notes:

- Connection ratings: Certain weld connections can impact published performance ratings of the manifold. Care should be taken in the selection of connections to ensure they meet application expectations for performance. For example: Butt weld or tube fitting connections with a thinner wall section, may result in a reduced pressure performance capability when compared to that of the published. Please consult relevant Parker publications or consult with your local Parker support.

Connections

Transmitter flange connections - DIN/IEC 61518

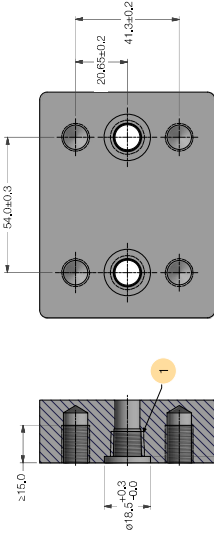
As standard, Parker manifolds have inlet and outlet interface connections in full accordance with DIN/IEC 61518. For the Manifold to Transmitter interface, the type B connection is standard, type A is optionally available.

Within DIN/EN 61518 the manifold-transmitter interface is rated for maximum allowable working pressure of 413 bar (6,000 psi) and maximum allowable temperature of 120°C (248°F) for liquids,

gas or vapours. The maximum allowable temperature of 120°C (248°F) considers the requirement that manifolds and transmitters need to be protected against undue heating by hot media. This requirement should be achieved by using adequate hook-ups or by instrument impulse lines with sufficient length.

However, Parker confirms that H series manifolds can be used for temperatures up to 538°C (1,000°F) with graphite gland packing and up to 260°C (500°F) with PTFE gland packing.

Process inlet to manifold / transmitter interface DIN EN 61518 / IEC 61518

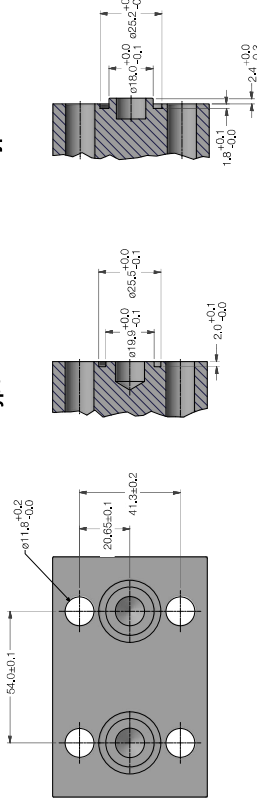


| Reference | Description |
|-----------|--|
| 1 | Threaded option for transmitters - plug/vent valve |

Parker manifold outlet to transmitter interface DIN EN 61518 / IEC 61518 Type B and Type A

Type B

Type A



| | Type B (Standard) | Type A (Optional) |
|---------------------------------|--|--|
| Max. Allowable Working Pressure | 413 bar (6,000 PSI) | 413 bar (6,000 PSI) |
| Temperature range | PTFE: -10°C to +80°C (14°F to 176°F) Graphite: -40°C to +120°C (-40°F to 248°F) | PTFE: -10°C to +80°C (14°F to 176°F) Graphite: -15°C to +120°C (5°F to 248°F) |
| Seal ring | Flat Ring 25.4 x 20 x 2.7 Material: PTFE | Flat Ring 25.1 x 18.0 x 2.9 Material: Graphite |
| Min. Thread Engagement | 9mm | 9mm |
| Spare/Replacement Seal part No. | HIEC001-PTFE/1 | HIEC002-PTFE/1 |
| | HIEC001-GRAPHITE/1 | HIEC002-GRAPHITE/1 |

Connection at the manifold acc. to DIN/IEC 61518.

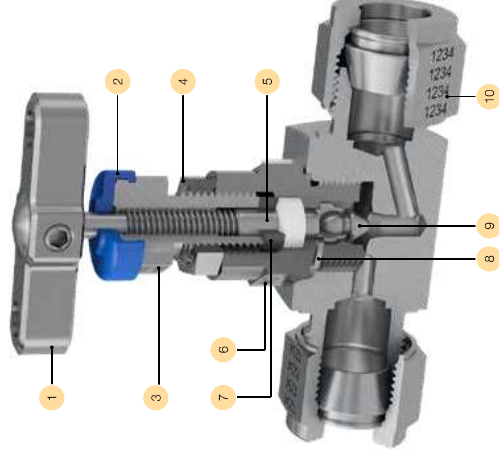
- Important Note** - there are some exceptions to the IEC 61518 standard:
- Emerson Coplanar™ transmitter design, Parker offers a full range of specifically suitable manifolds for this type. See pages 55-60.
 - There is a limited range of other higher working pressure transmitters by some manufacturers, where the interface is proprietary by design (Example: Yokogawa EJA 440E). Parker is able to provide manifold designs that are complementary to those products. Please consult your local Parker support.

Bonnet Assemblies

Standard bonnet design

Class 2500 (6,000 PSI) and Class 4500 (10,000 PSI)

For safe, reliable and repeatable performance

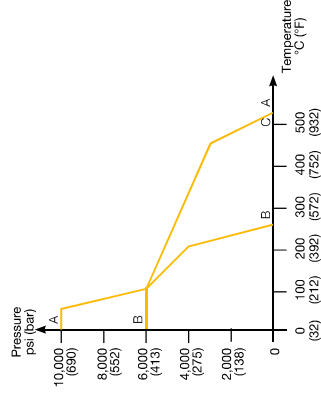


| Reference | Description |
|-----------|---|
| 1 | Ergonomic 'T' bar style handle with positive retention |
| 2 | Dual purpose dust cap provides functional identification |
| 3 | Compensatory adjustable gland |
| 4 | Secure anti-vibration gland lock nut |
| 5 | Anti-blowout low torque back seating stem |
| 6 | All metal body bonnet seal |
| 7 | Gland thrust bush ensures uniform packing compression and tight sealing |
| 8 | Annealed sealing washer guarantees 100% sealing assurance |
| 9 | Self-centering, non-rotating stem tip guarantees bubble tight shut off |
| 10 | Material traceability for major pressure containing components |

Notes:

- As standard, all metallic parts are 316 Stainless Steel. Optional materials are available, please see page 6.
- For products specified in optional materials, non-wetted parts will be 316 Stainless Steel as standard.
- 6,000 PSI bonnet thread is M16; 10,000 PSI bonnet thread is M18.

Pressure vs temperature



| Reference | Description |
|-----------|---|
| A - A | Graphite packing |
| A - B | PTFE packing |
| B - B | 6,000 PSI (414 bar) standard PTFE packing |
| B - C | 6,000 PSI (414 bar) standard Graphite packing |

Notes:

- Pressure and temperature ratings shown are maximum possible values. Continuous operation at the maximum ratings will reduce life expectancy.
- Pressure and temperature ratings can be derated by certain connection types or materials of construction.

Bonnet Assemblies

Larger bore bonnet design
Class 2500 (6,000 PSI) and Class 4500 (10,000 PSI)



Features

- 6mm seat orifice size, allowing the provision of larger 5mm or 6mm flow passages
- Ideal for applications with dirtier/denser service media and/or those prone to blocking in small bore installations
- Can enhance other aspects of performance and measurement accuracy
- Will result in the use of larger body material sizes
- Not possible for all styles and types of product
- All other technical information remains unchanged from standard

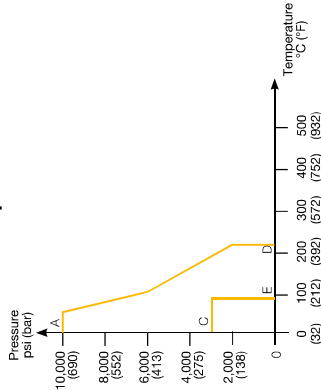
Soft seat tip bonnet design



Features

- Available in the 4mm orifice size only, this PEEK seat tip option is available for all product styles and types
- Ideal for clean gaseous or other services where bubble-tight shut-off with minimum effort is required
- Suitable for temperatures up to 204°C and pressures up to 10,000 psi at reduced temperature, as per graph
- For larger bore requirements Parker recommends Rising Plug valve

Pressure vs temperature



| Reference | Description |
|-----------|--|
| A - D | PEEK tip |
| C - E | PCTFE tip - Temperature limit 150°C (302°F) at 3,000 psi (207 bar) |

Fire safe bonnet design - Class 2500 (6,000 PSI)

Features

- Specifically designed and developed to meet exacting industry requirements, products incorporating this Bonnet Design conform to BS 6755 Part 2, API 6FA / API607. For further details contact your local Parker support.
- 100% fire safe design certified, many typical actual third party test certificates are available for review
- Available for most product styles and types
- Some material selections are restricted



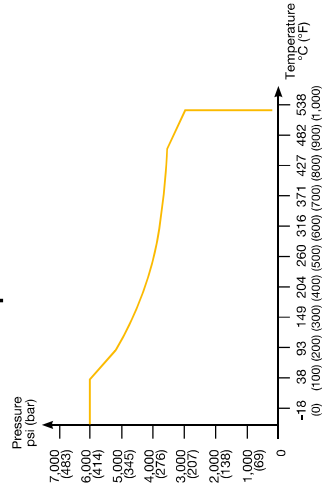
Power plant bonnet design
Compliant to ANSI B31.1 – Class 2500 (6,000 PSI)



Features

- Available in a select range of body styles and types. Please consult your local Parker support
- Designed specifically to meet the requirements of ANSI B31.1 (Power Plants) and B31.3 (Petrochemical Plants) including materials of construction, these bonnet assemblies are Graphite packed for higher temperature service
- Suitable for temperatures up to 538°C and pressures up to 6,000 psi at reduced temperature, as per graph
- Unique patented Tru-Loc® safety bonnet lock further enhances security in application

Pressure vs temperature



To order valves and manifolds with power plant bonnet design, follow the part builder structures as on pages 26-27, 32-33, 46-47 and replace **H** in the series names with **HPP**. Consult your local Parker support for available options.

Examples:

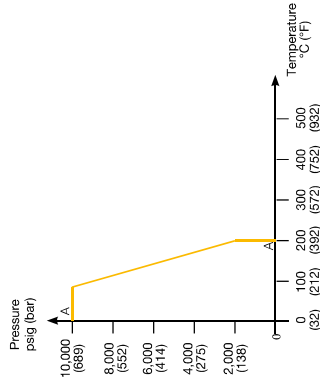
- HPNVS8FF3 - Hand valve
- HPPLS2V3 - 2-valve remote mount flat barstock manifold
- HPPLS5M3 - 5-valve remote mount flat barstock manifold
- HPDSSM3 - 5-valve direct mount flat barstock manifold

Bonnet Assemblies

Rising plug bonnet design



Pressure vs temperature



Tru-Loc® safety bonnet lock



Features

- HRPV valve is unique to Parker and is patent-protected
- Non-rotating plug/tip
- Dynamic response moulded seat insert with guaranteed alignment
- Standard straight through orifice size: 1/4" (6.4mm)
- Cv: 1.8
- Rolled spindle operating threads
- Straight through flow path
- Multi-port gauge style available as standard. Other styles can be considered - please consult the factory
- Bi-directional flow
- Backstop spindle for blowout prevention and minimal atmospheric leakage
- Low torque operating T bar handle
- Externally adjustable gland
- Full range of head options available
- Dust cap to prevent ingress of contamination to operating thread
- Bonnet locking pin fitted as standard
- Suitable for temperatures up to 204°C and pressures up to 10,000 psi at reduced temperature, as per graph

| Reference | Description |
|-----------|-------------|
| A - A | PEEK Seat |

Available as standard on ANSI/ASME B31.1 manifold versions, the unique Parker Tru-Loc® security locking system is applied to the body to bonnet interface but can also be applied to many other screwed component interfaces. Extensive tests have proven that threaded connection interfaces secured with Tru-Loc® guarantee 100% security in preventing movement between connected components. In the H series manifolds it prevents loosening or removal of the bonnet assembly by any means.

Low emission bonnet design

TA-Luft compliant

As standard, products fitted with the Parker Instrumentation standard bonnet assembly are bubble tight in service and have been proven to meet the requirements of **TA-Luft 2002, Absatz 5.2.6.4 und VDI 2440 (Ausgabe Nov. 2000), Absatz 3.3.1.3.**

ISO 15848 compliant

From 2007 EU's IPPC directive 96/61/EC legislates for the minimisation of pollution from industrial sources (Many other regions and countries have similar legislation). An important part of this legislation is reducing Ultra-Low emissions. According to the IPPS, all plants and factories which fail to comply with the standards set by the directive, may face closure.

The legislation introduced a concept of Best Available Technique (BAT), urging plants to find the best available solution for reducing Ultra-Low emissions throughout all processes. With respect to valves, ISO 15848 parts 1 and 2 were developed to aid companies to meet the legislation.

Part 1 covers the classification system and qualification procedure for type testing of valves. The standard specifies three tightness classes of leakage with respect to stem sealing diameter. These classes are class A, B and C; class A having the smallest environmental leakage. Each class level is one hundred fold lower than the class above i.e. a class B product may have a leakage of 100 times that of a class A product. The standard also specifies the duty that the valve has been tested to.

Parker Instrumentation specifically developed an H series Bonnet Assembly design with class A approval to ISO 15848-1. Classed 'FE', products specified with these bonnet assemblies are certified as **ISO FE AH-C01-SSA1-t(RT,180°C)-ANSI2500-ISO 15848-1**. These products are further classified as meeting the ISO 15848-1 standard with the following criteria.

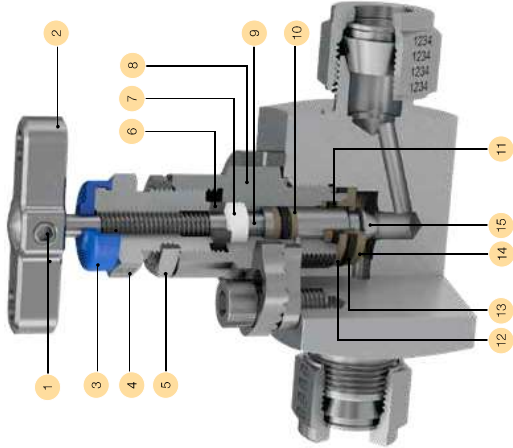
- Class A tested with Helium
- Endurance class C01 – a mechanical valve which has been tested throughout 500 mechanical actuations with two thermal cycles
- Temperature class RT-180°C – fully thermal cycled and tested from -29°C to +180°C pressure class ANSI 2500 – 6000 psi in 316 Stainless Steel.

Part 2 of the standard covers production acceptance testing of valves. This production testing can only be carried out to product which has already been approved to part 1 of the standard. Parker can offer production testing and certification to a sampling percentage specified by the purchaser. A third party witnesses can also be considered.

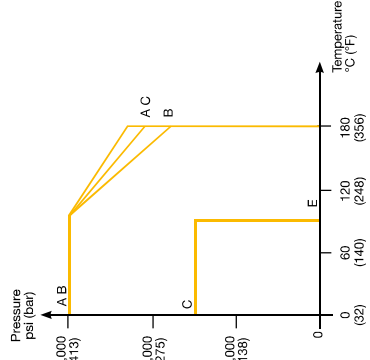


Bonnet Assemblies

Low emission bonnet design



Pressure vs temperature



| Reference | Description |
|-----------|---|
| A - A | Graphite packing |
| A - B | PTFE packing |
| B - B | 6,000 PSI (414 bar) standard PTFE packing |
| B - C | 6,000 PSI (414 bar) standard PTFE packing |
| A - D | PEEK tip |
| C - E | PCTFE tip |

Bonnet assembly options

Available as a factory fit or as retrofit, these useful bonnet assembly options are provided in all 316 Stainless Steel material. For locking options padlocks are not provided but the hole size in all cases is 6mm (0.24"). To obtain factory fit options, your specified product part number must be suffixed with the additional option part numbers as below. Some options can be combined.



| T bar handle locking | |
|--------------------------|--------|
| Retrofit Kit Part Number | KITTHL |
| Factory Fitted Suffix | HL |



| Handwheel | |
|--------------------------|--------|
| Retrofit Kit Part Number | KITTHW |
| Factory Fitted Suffix | HW |



| Anti-tamper spindle | |
|--------------------------|-------------|
| Retrofit Kit Part Number | KITAK |
| Factory Fitted Suffix | ATK |
| With Key | Without Key |
| Without Key | AT |



| Lockable handwheel | |
|--------------------------|--------|
| Retrofit Kit Part Number | KITLHW |
| Factory Fitted Suffix | LHW |



| Key | |
|----------------------|--------|
| Key only Part Number | ATHKEY |



| Anti-tamper handwheel | |
|-----------------------|---------|
| Key only Part Number | ATHWKEY |



| Panel mounting | |
|---------------------------------------|--|
| Retrofit Kit Part Number | KITPM |
| Factory Fitted Suffix | PM |
| Hole Diameter | 26mm (1.02") |
| Panel Thickness | Max. 5mm (0.20") Min. 2.3mm (0.09") |
| Min. distance for panel mount spacing | 51mm (2.00") |

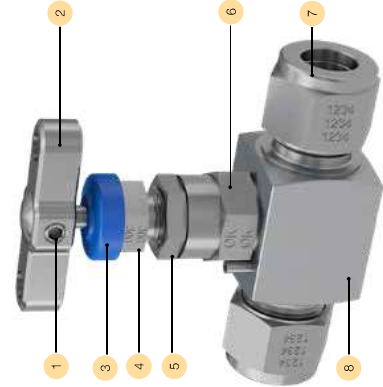


Hand Valves & Gauge Valves

Introduction

Following years of valve design and development, the Parker needle pattern hand and gauge valves range is one of the most comprehensive to be found. The valves are available to users from a wide market spectrum and are suitable for all industries and applications.

In combination with Parker A-LOK® or CPI™ compression tube fitting technologies, a superior advantage is gained allowing users to eliminate threaded connections and reduce leak paths whilst offering superior installation and operational performance.



With their small ports and needle/plug stem tip, Parker hand valves allow precise regulation of flow in low flow applications for a wide variety of media.

These hand valves are widely used in situations where the flow must be gradually brought to a halt and at other points where precise adjustments of flow are necessary or where a small flow rate is desired. They can be used as both on/off valves and for throttling service.



Example shown: Multi-port gauge valve with Parker Superior Advantage integral A-LOK® tube fitting connections.

They are used in every industry in a wide range of applications - anywhere where accurate and secure control or metering of steam, air, gas, oil, water or other non-viscous liquids is required.

Utilising these same attributes, the Parker needle pattern gauge valves will be found controlling flow into a vast array of measurement and analysis instrumentation such as pressure gauges, transmitters, switches and more. With additional functionality these gauge valves also allow users to provide vent, drain or blowdown routes to their process and/or the ability to attach additional instruments and accessories.

We are confident you will find a valve style, type and connection option to suit your applications, but should you require something different please contact your local Parker support.

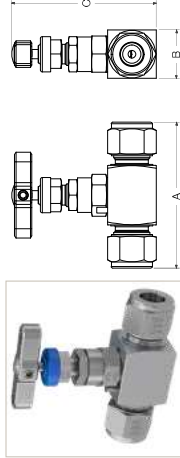


Example shown: Hand valve with Parker Superior Advantage integral CPI™ tube fitting connections.

Hand Valves – HNV Series

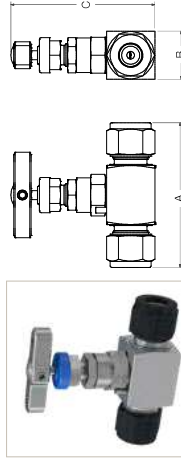
Straight pattern

HNV* - Integral A-LOK® connections - up to 6,000 PSI



| Inlet | Outlet | Dimension | | |
|-----------|-----------|--------------|--------------|--------------|
| A-LOK® | A-LOK® | A | B | C |
| mm (inch) | mm (inch) | mm (inch) | mm (inch) | mm (inch) |
| 1/4" | 1/4" | 67.5 (2.66") | 25.4 (1.00") | 76.2 (3.00") |
| 1/2" | 1/2" | 76.2 (3.00") | 25.4 (1.00") | 76.2 (3.00") |
| 6mm | 6mm | 67.5 (2.66") | 25.4 (1.00") | 76.2 (3.00") |
| 12mm | 12mm | 76.2 (3.00") | 25.4 (1.00") | 76.2 (3.00") |

HNV* - Integral CPI™ connections - up to 6,000 PSI

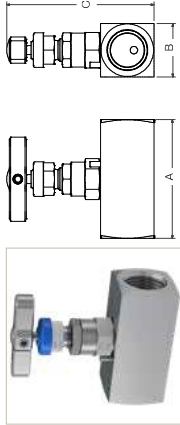


| Inlet | Outlet | Dimension | | |
|-----------|-----------|--------------|--------------|--------------|
| CPI™ | CPI™ | A | B | C |
| mm (inch) | mm (inch) | mm (inch) | mm (inch) | mm (inch) |
| 1/4" | 1/4" | 67.5 (2.66") | 25.4 (1.00") | 76.2 (3.00") |
| 1/2" | 1/2" | 76.2 (3.00") | 25.4 (1.00") | 76.2 (3.00") |
| 6mm | 6mm | 67.5 (2.66") | 25.4 (1.00") | 76.2 (3.00") |
| 12mm | 12mm | 76.2 (3.00") | 25.4 (1.00") | 76.2 (3.00") |

Integral connections - up to 10,000 PSI

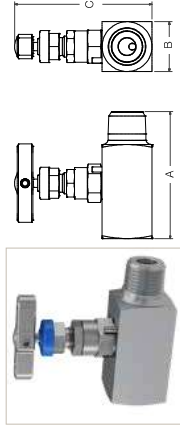
A limited range of integral connections for 10,000 PSI is available as tube selection can adversely affect overall product ratings. Please consult your local Parker support.

HNV* - Female threaded - NPT



| Pressure (PSI) | Inlet | Outlet | Dimension | | |
|----------------|----------|----------|--------------|--------------|--------------|
| | Female | Female | A | B | C |
| | | | mm (inch) | mm (inch) | mm (inch) |
| 6,000 | 1/4" NPT | 1/4" NPT | 54.0 (2.13") | 28.6 (1.13") | 79.4 (3.13") |
| | 3/8" NPT | 3/8" NPT | 54.0 (2.13") | 28.6 (1.13") | 79.4 (3.13") |
| | 1/2" NPT | 1/2" NPT | 63.5 (2.50") | 28.6 (1.13") | 79.4 (3.13") |
| 10,000 | 1/4" NPT | 1/4" NPT | 60.5 (2.38") | 31.8 (1.25") | 82.6 (3.25") |
| | 1/2" NPT | 1/2" NPT | 69.9 (2.75") | 31.8 (1.25") | 82.6 (3.25") |

HNV* - Male x Female threaded - NPT



| Pressure (PSI) | Inlet | Outlet | Dimension | | |
|----------------|----------|----------|--------------|--------------|--------------|
| | Male | Female | A | B | C |
| | | | mm (inch) | mm (inch) | mm (inch) |
| 6,000 | 1/4" NPT | 1/4" NPT | 57.8 (2.27") | 28.6 (1.13") | 79.4 (3.13") |
| | 1/2" NPT | 1/2" NPT | 73.0 (2.87") | 28.6 (1.13") | 79.4 (3.13") |
| 10,000 | 1/4" NPT | 1/4" NPT | 62.8 (2.47") | 31.8 (1.25") | 82.6 (3.25") |
| | 1/2" NPT | 1/2" NPT | 76.2 (3.00") | 31.8 (1.25") | 82.6 (3.25") |

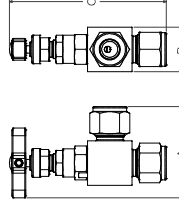
Notes:

- Dimension "A" given for finger-tight nuts and ferrules.
- Dimension "C" in open position.

Hand Valves - HNAV Series

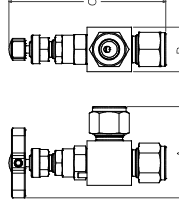
Angle pattern

HNAV* - Integral A-LOK® connections - up to 6,000 PSI



| Inlet | Outlet | Dimension | | |
|--------|--------|-------------|-------------|--------------|
| A-LOK® | A-LOK® | A | B | C |
| | | mm (inch) | mm (inch) | mm (inch) |
| 1/4" | 1/4" | 53.5 (2.10) | 25.4 (1.00) | 94.0 (3.70) |
| 1/2" | 1/2" | 58.8 (2.32) | 28.6 (1.13) | 101.6 (4.00) |
| 6mm | 6mm | 53.5 (2.10) | 25.4 (1.00) | 94.0 (3.70) |
| 12mm | 12mm | 58.8 (2.32) | 28.6 (1.13) | 101.6 (4.00) |

HNAV* - Integral CPT™ connections - up to 6,000 PSI

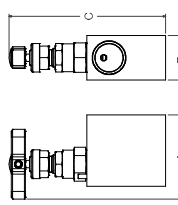


| Inlet | Outlet | Dimension | | |
|--------|--------|-------------|-------------|--------------|
| A-LOK® | A-LOK® | A | B | C |
| | | mm (inch) | mm (inch) | mm (inch) |
| 1/4" | 1/4" | 53.5 (2.10) | 25.4 (1.00) | 94.0 (3.70) |
| 1/2" | 1/2" | 58.8 (2.32) | 28.6 (1.13) | 101.6 (4.00) |
| 6mm | 6mm | 53.5 (2.10) | 25.4 (1.00) | 94.0 (3.70) |
| 12mm | 12mm | 58.8 (2.32) | 28.6 (1.13) | 101.6 (4.00) |

Integral connections - up to 10,000 PSI

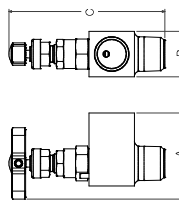
A limited range of integral connections for 10,000 PSI is available as tube selection can adversely affect overall product ratings. Please consult your local Parker support.

HNAV* - Female threaded - NPT



| Inlet | Outlet | Dimension | | |
|----------|----------|-------------|-------------|--------------|
| Female | Female | A | B | C |
| | | mm (inch) | mm (inch) | mm (inch) |
| 1/4" NPT | 1/4" NPT | 49.5 (1.95) | 25.4 (1.00) | 88.3 (3.47) |
| 1/2" NPT | 1/2" NPT | 54.3 (2.14) | 28.6 (1.13) | 101.0 (3.98) |

HNAV* - Male x Female threaded - NPT



| Inlet | Outlet | Dimension | | |
|----------|----------|-------------|-------------|-------------|
| Male | Female | A | B | C |
| | | mm (inch) | mm (inch) | mm (inch) |
| 1/4" NPT | 1/4" NPT | 49.5 (1.95) | 25.4 (1.00) | 91.7 (3.61) |
| 1/2" NPT | 1/2" NPT | 54.3 (2.14) | 28.6 (1.13) | 98.3 (3.87) |

Notes:

- Dimension "A" given for finger-tight nuts and ferrules.
- Dimension "C" in open position.

Gauge Valves - HNV Series

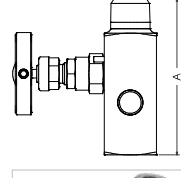
Single block gauge vent valves

Generally used in conjunction with the measuring instrument, these valves allow for the function of venting/draining any process media that may be trapped, following isolation of the instrument for maintenance and/or removal purposes.



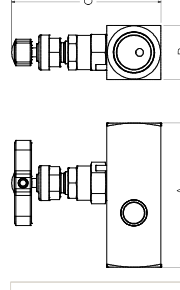
Example shown: HNV single block gauge vent valve with Parker Superior Advantage integral inverted A-LOK® tube connections to inlet and outlet and with Parker PTFree connect™ to the vent.

HNV* - Male x Female threaded - NPT



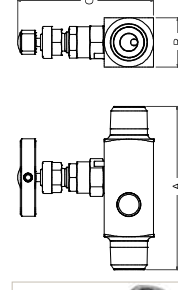
| Pressure (PSI) | Inlet | Outlet | Vent | Dimension | | |
|----------------|----------|----------|----------|-------------|-------------|-------------|
| | Male | Female | Female | A | B | C |
| | | | | mm (inch) | mm (inch) | mm (inch) |
| 6,000 | 1/4" NPT | 1/4" NPT | 1/4" NPT | 72.5 (2.85) | 28.6 (1.13) | 79.4 (3.13) |
| | 1/2" NPT | 1/2" NPT | 1/4" NPT | 85.8 (3.38) | 28.6 (1.13) | 79.4 (3.13) |
| 10,000 | 1/4" NPT | 1/4" NPT | 1/4" NPT | 71.2 (2.80) | 31.8 (1.25) | 82.6 (3.25) |
| | 1/2" NPT | 1/2" NPT | 1/4" NPT | 85.6 (3.37) | 31.8 (1.25) | 82.6 (3.25) |

HNV* - Female x Female threaded - NPT



| Pressure (PSI) | Inlet | Outlet | Vent | Dimension | | |
|----------------|----------|----------|----------|-------------|-------------|-------------|
| | Female | Female | Female | A | B | C |
| | | | | mm (inch) | mm (inch) | mm (inch) |
| 6,000 | 1/4" NPT | 1/4" NPT | 1/4" NPT | 63.5 (2.50) | 28.6 (1.13) | 79.4 (3.13) |
| | 1/2" NPT | 1/2" NPT | 1/4" NPT | 76.3 (3.00) | 28.6 (1.13) | 79.4 (3.13) |
| 10,000 | 1/4" NPT | 1/4" NPT | 1/4" NPT | 69.0 (2.71) | 31.8 (1.25) | 82.6 (3.25) |
| | 1/2" NPT | 1/2" NPT | 1/4" NPT | 79.5 (3.13) | 31.8 (1.25) | 82.6 (3.25) |

HNV* - Male x Male threaded - NPT



| Pressure (PSI) | Inlet | Outlet | Vent | Dimension | | |
|----------------|----------|----------|----------|-------------|-------------|-------------|
| | Male | Male | Female | A | B | C |
| | | | | mm (inch) | mm (inch) | mm (inch) |
| 6,000 | 1/4" NPT | 1/4" NPT | 1/4" NPT | 76.2 (3.00) | 28.6 (1.13) | 79.4 (3.13) |
| | 1/2" NPT | 1/2" NPT | 1/4" NPT | 94.8 (3.73) | 28.6 (1.13) | 79.4 (3.13) |
| 10,000 | 1/4" NPT | 1/4" NPT | 1/4" NPT | 76.2 (3.00) | 31.8 (1.25) | 82.6 (3.25) |
| | 1/2" NPT | 1/2" NPT | 1/4" NPT | 94.8 (3.73) | 31.8 (1.25) | 82.6 (3.25) |

Notes:

- Dimension "A" given for finger-tight nuts and ferrules.
- Dimension "C" in open position.
- For bleed/vent valves and plugs see page 61.

Products shown here can be supplied with integral swivel gauge adaptor as shown on page 24.

Gauge Valves - HGV Series

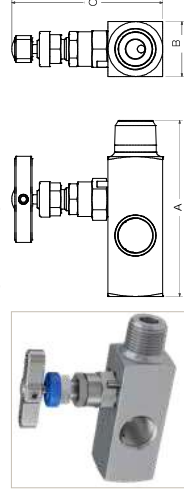
Multi-port gauge valves

Parker's multi-port gauge valves are purpose designed valves for operation up to 6,000 psig (414 barg) and 10,000 psig (689 barg). Featuring as standard PTFE gland packing and self-centering non-rotational tip for bubble-tight seat shut-off, these valves give the user the assurance of safety and performance.



Example shown: Multi-port gauge valve with integral A-LOK® connections.

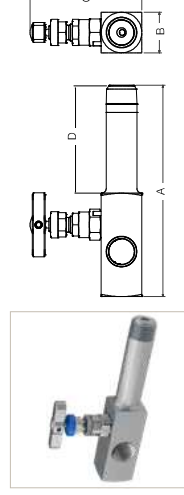
HGV* - Male x Female (3 outlets) threaded - NPT



| Inlet | Outlet | Dimension | | |
|----------|----------|----------------|----------------|----------------|
| | | A mm (inch) | B mm (inch) | C mm (inch) |
| Male | Female | 72.5 (2.85) | 28.6 (1.13) | 79.4 (3.13) |
| 1/4" NPT | 1/4" NPT | 92.0 (3.62) | 28.6 (1.13) | 79.4 (3.13) |
| 1/2" NPT | 1/2" NPT | 97.2 (3.82) | 28.6 (1.13) | 79.4 (3.13) |

*Optional outlet

HGVX* - Male Extended x Female (3 outlets) threaded - NPT

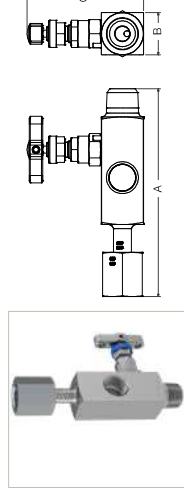


| Inlet | Outlet | Dimension | | | |
|----------|----------|----------------|----------------|----------------|----------------|
| | | A mm (inch) | B mm (inch) | C mm (inch) | D mm (inch) |
| Male | Female | 148.0 (5.83) | 28.6 (1.13) | 79.4 (3.13) | 75.0 (2.95)* |
| 1/2" NPT | 1/2" NPT | 148.0 (5.83) | 28.6 (1.13) | 79.4 (3.13) | 75.0 (2.95)* |

* Example part numbers:

- 1/2" NPT Male inlet - default extension: 75mm (2.95"), 1/2" NPT Fem. outlet = **HGVXSB**
- 1/2" NPT Male inlet - optional extension: 100mm (3.94"), 1/2" NPT Fem. outlet = **HGVXSBD**

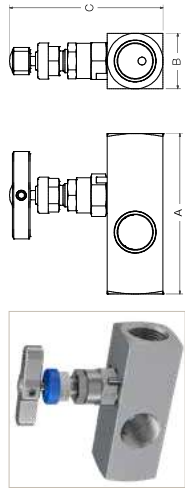
HGVWG* - Male x Female (2 outlets) threaded - NPT with integral swivel gauge adaptor



| Inlet | Outlet | Dimension | | |
|----------|----------|----------------|----------------|----------------|
| | | A mm (inch) | B mm (inch) | C mm (inch) |
| Male | Female | 140.8 (5.54) | 28.6 (1.13) | 79.4 (3.13) |
| 1/2" NPT | 1/2" BSP | 140.8 (5.54) | 28.6 (1.13) | 79.4 (3.13) |

- Swivel adaptor to the outlet is provided through a socket weld, generally conforming to ANSI B16.11.
- Weld connection is a "commercial weld", completed by a qualified welder. Any specific qualification, certification, documentation or additional NDT will require to be engineered and quoted extra - please contact Parker support.
- Union nut dimensions generally conform to DIN 16284 as it applies to the union of nipple & nut themselves.
- Union nut also conforms generally to DIN EN 837 for the gauge connection itself, as it applies to the union of nipple and nut themselves.

HGV* - Female x Female (3 outlets) threaded - NPT



| Inlet | Outlet | Dimension | | |
|----------|----------|----------------|----------------|----------------|
| | | A mm (inch) | B mm (inch) | C mm (inch) |
| Female | Female | 82.5 (3.25) | 28.6 (1.13) | 79.4 (3.13) |
| 1/2" NPT | 1/2" NPT | 82.5 (3.25) | 28.6 (1.13) | 79.4 (3.13) |

Notes:

- Dimension "A" given for finger-tight nuts and ferrules.
- Dimension "C" in open position.

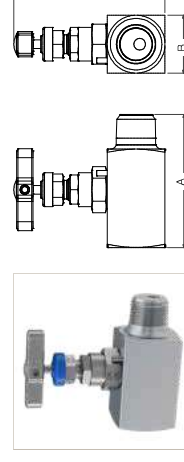
Rising Plug Valves - HRPV Series

These unique, high quality, high performance, low-torque rising plug soft-seated valves have been specifically designed to perform with fluids containing high levels of contamination, such as those frequently found in oil and gas processing facilities. With a straight through flow pattern and 100% repeatable bubble-tight shut-off, the valves as standard with PEEK seat will perform up to 10,000 psig (689 barg) with low spindle operating torques.



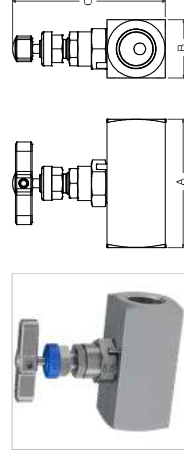
Example shown: Hand valve with integral A-LOK® connections.

HRPV4* - Male x Female threaded - NPT



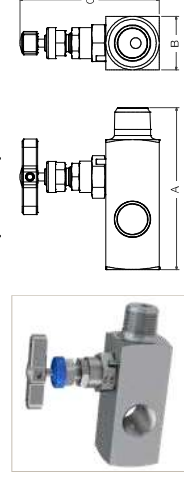
| Inlet | Outlet | Dimension | | |
|----------|----------|----------------|----------------|----------------|
| | | A mm (inch) | B mm (inch) | C mm (inch) |
| Male | Female | 72.9 (2.87) | 31.8 (1.25) | 88.0 (3.46) |
| 1/2" NPT | 1/2" NPT | 72.9 (2.87) | 31.8 (1.25) | 88.0 (3.46) |
| 3/4" NPT | 1/2" NPT | 72.9 (2.87) | 31.8 (1.25) | 88.0 (3.46) |

HRPV4* - Female x Female threaded - NPT



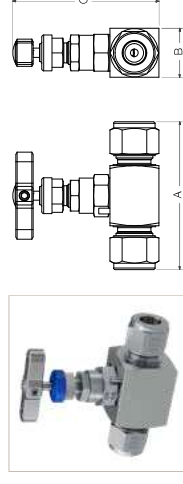
| Inlet | Outlet | Dimension | | |
|----------|----------|----------------|----------------|----------------|
| | | A mm (inch) | B mm (inch) | C mm (inch) |
| Female | Female | 60.5 (2.38) | 31.8 (1.25) | 88.0 (3.46) |
| 1/4" NPT | 1/4" NPT | 60.5 (2.38) | 31.8 (1.25) | 88.0 (3.46) |
| 1/2" NPT | 1/2" NPT | 69.8 (2.75) | 31.8 (1.25) | 88.0 (3.46) |

HRPV4G* - Male x Female (3 outlets) threaded - NPT



| Inlet | Outlet | Dimension | | |
|----------|----------|----------------|----------------|----------------|
| | | A mm (inch) | B mm (inch) | C mm (inch) |
| Male | Female | 96.5 (3.80) | 31.8 (1.25) | 88.0 (3.46) |
| 1/2" NPT | 1/2" NPT | 96.5 (3.80) | 31.8 (1.25) | 88.0 (3.46) |

HRPV4* - Integral A-LOK® connections



| Inlet | Outlet | Dimension | | |
|-------|--------|----------------|----------------|----------------|
| | | A mm (inch) | B mm (inch) | C mm (inch) |
| A-LOK | A-LOK | 63.5 (2.50) | 31.8 (1.25) | 88.0 (3.46) |
| 1/2" | 1/2" | 63.5 (2.50) | 31.8 (1.25) | 88.0 (3.46) |
| 12mm | 12mm | 63.5 (2.50) | 31.8 (1.25) | 88.0 (3.46) |

Notes:

- Dimension "A" given for finger-tight nuts and ferrules.
- Dimension "C" in open position.

Products shown here can be supplied with integral swivel gauge adaptor as shown on page 24.

Hand Valves and Gauge Valves

Ordering information

Example 1: HNV6M8MFHPLHW

Example 2: HGV6MO123PBVBMC

Example 3: HNVWVGSSA8PBMNC

Example 4: HGV6MOIVAM12PFCAM6RTATK

| Series | |
|--------|--|
| HNV | Hand valve straight pattern |
| HNV | Hand valve angle pattern |
| HNV | Gauge valve single ported ¹ |
| HNVWVG | Gauge valve single ported with Integral Swivel Gauge connection ² |
| HGV | Gauge valve multi-port ³ |
| HGVX | Gauge valve multi-ported extended |
| HGVWG | Gauge valve multi-ported with Integral Swivel Gauge connection ² |
| HRPV4 | Rising plug valve |

¹ For single ported gauge valves, port is standard as 1/4" NPT Fem. For other options, see tables.
² Extended swivel gauge adaptor for HNV & HGV model types only as standard available in 316SS BSPP (R), 1/4" BSPP (R) by special request.
Available in 316SS BSPP (R), 1/4" BSPP (R) by special request.
Material options.
³ For multi-ported gauge valves, ports (2x) are standard as 1/2" NPT Fem. For other options, see tables.

| Materials | |
|-----------|---------------------------|
| S | 316/316L Stainless Steel |
| 6MO | 6MO Sup. Aust. St. Steel |
| M | Alloy M400 |
| D1 | Duplex 22 Cr. Steel |
| D2 | Super Duplex 25 Cr. Steel |
| C | Carbon Steel ⁴ |

⁴ For Carbon Steel consult your local Parker representation.

| Connections - Standard | | | |
|------------------------|---------------|---------------|------------------------------|
| Inlet | Outlet | Inlet | Outlet |
| 4FF | 1/4" NPT Fem. | 1/4" NPT Fem. | 4A 1/4" A-LOK ⁵ |
| 6FF | 3/8" NPT Fem. | 3/8" NPT Fem. | 6A 3/8" A-LOK ⁵ |
| 8FF | 1/2" NPT Fem. | 1/2" NPT Fem. | 8A 1/2" A-LOK ⁵ |
| 12FF | 3/4" NPT Fem. | 3/4" NPT Fem. | 12A 3/4" A-LOK ⁵ |
| 16FF | 1" NPT Fem. | 1" NPT Fem. | 16A 1" A-LOK ⁵ |
| 4M4F | 1/4" NPT Male | 1/4" NPT Fem. | M10A 10mm A-LOK ⁵ |
| 6M6F | 3/8" NPT Male | 3/8" NPT Fem. | M12A 12mm A-LOK ⁵ |
| 8M8F | 1/2" NPT Male | 1/2" NPT Fem. | M14A 14mm A-LOK ⁵ |
| 12M8F | 3/4" NPT Male | 3/4" NPT Fem. | M16A 16mm A-LOK ⁵ |

| Other Connection Options | | | |
|--------------------------|--|--|--|
| F | Female connection. Utilised when connection choices vary | | |
| K | BSPP BS21, ISO 71 - British Standard Taper Pipe Thread | | |
| R | BSPP BS2779 - British Standard Parallel Pipe Thread | | |
| RD | DIN 16284/16288/EN837 BSPP gauge connection type | | |
| SW | ASME B16.11, EN12760 Female Socket Weld ⁶ | | |
| M2X | ISO Metric M20x1.5 Parallel Pipe Thread - outlet option with Swivel Gauge connection (WG type) | | |

| Butt Weld and Male Socket Weld - Pipe | | | |
|---------------------------------------|-------------------------------|--------------------------------------|--------------------------------|
| Type | Size | Schedule (Thickness) | Extension |
| BW | Butt Weld ⁸ | 4 1/4" NB 8 1/2" NB 12 3/4" NB | * Default C 75mm D 100mm |
| MSW | Male Socket Weld ⁹ | A Sch.80 B Sch.160 C Sch.XXS | |

| Inverted Connection and PTFE Connect ¹⁰ | | | |
|--|---------------------------------------|------------|-----------------------------|
| Type | Fitting | Unit | Inlet/Outlet Drain/Vent |
| IV | Inverted Connection | M Metric | 6 6mm 10 10mm 12 12mm |
| PF | PTFE connect tube stub ¹¹ | Z CPI | 4 1/4" 4F 8 1/2" 4F |
| PFC | PTFE connect male union ¹¹ | I Imperial | 4 3/8" 4F 8 1/2" 4F |

Hand Valves and Gauge Valves

Ordering information

Example 1: HNV6M8MFHPLHW

Example 2: HGV6MO123PBVBMC

Example 3: HNVWVGSSA8PBMNC

Example 4: HGV6MOIVAM12PFCAM6RTATK

| Options | |
|---|--|
| High Pressure - 10,000 PSI (689 bar) option | |
| HP | High Pressure ¹³ |
| Gland Packing Options | |
| 3 | Graphite ¹⁴ |
| FS | Firesafe design ¹⁵ |
| Sealing Options - Needle Valves only | |
| 6S | 6mm bore seat |
| RT | Regulating/Meitering Tip |
| ST | Stellite Tip |
| 9 | PTFE Soft Tip ¹⁶ |
| PK | PEEK Soft Tip |
| Plug/Bleed Valve Options ¹⁷ | |
| P | Blank Plug |
| BV | Bleed Valve/Plug |
| PBV | Blank Plug and Bleed Valve/Plug |
| Operator Options | |
| HW | Handwheel |
| LHW | Handwheel Locking |
| THL | T Bar Locking |
| AT | Anti-Tamper ¹⁸ |
| ATK | Anti-Tamper with Key ¹⁸ |
| ATHKEY | Anti-Tamper Key ¹⁸ |
| Mounting Options | |
| PM | Panel Mount |
| BM | Base Mount |
| BKS | Assembled with Carbon Steel bracketry & bolts ²¹ |
| BKS | Assembled with Stainless Steel bracketry & bolts ²¹ |
| Other Options | |
| OX | Cleaned & lubricated for Oxygen use |
| NC | NACE MR-01-75 Compliant |
| M* | Assembly and Test of Free Issue Instrument |

¹³ Not necessary for HRPV models.

¹⁴ Not available for HRPV models. Not required when Firesafe design option (FS) selected.

¹⁵ Not available for PCTFE Soft tip (9), HRPV models or Oxygen cleaned product (OX).

¹⁶ 3,000 PSI/207 BAR only. See catalogue page 14.

¹⁷ Plugs supplied loose in a packing box. Typically required with multi-port gauge valves and single vent hand valves. See page 61.

¹⁸ Anti-Tamper operation and no key.

¹⁹ Anti-Tamper operation and one key supplied per manifold.

²⁰ Anti-Tamper key. Specify quantity required as separate line item.

²¹ Available on HNV and HGV / HGVWG series only. Contact your local Parker representative for further support.

* Specify assembly and test option - see page 71. Gauge valves only.

IMPORTANT NOTES:

- For optimum results in integral tube connections on hand valves and gauge valves, the use of Parker pre-assembly tooling is highly recommended. For inverted style integral tube connections the use of Parker pre-assembly tooling is mandatory.
- Not all options/combinations are available in each single product model type.
- We reserve the right to review/revise this part number structure at any time. If necessary, we can refuse and/or recommend the most suitable alternative part number(s). We may also apply MOQ rules.
- Should your part number selection exceed 25 characters in length when completed, then it is likely to be incorrect. please consult your local Parker representation for assistance.
- If in any doubt, please consult your local Parker representation.

Parker Worldwide

Europe, Middle East, Africa

AE – United Arab Emirates,
Dubai
Tel: +971 4 8127100

AT – Austria, St. Florian
Tel: +43 (0)7224 66201

AZ – Azerbaijan, Baku
Tel: +994 50 2233 458

BE/NL/LU – Benelux,
Hendrik Ido Ambacht
Tel: +31 (0)541 585 000

BY – Belarus, Minsk
Tel: +48 (0)22 573 24 00

CH – Switzerland, Etoy
Tel: +41 (0)21 821 87 00

CZ – Czech Republic,
Prague
Tel: +420 284 083 111

DE – Germany, Kaarst
Tel: +49 (0)2131 4016 0

DK – Denmark, Ballerup
Tel: +45 43 56 04 00

ES – Spain, Madrid
Tel: +34 902 330 001

FI – Finland, Vantaa
Tel: +358 (0)20 753 2500

FR – France, Contamine s/Arve
Tel: +33 (0)4 50 25 80 25

GR – Greece
Tel: +30 69 44 52 78 25

HU – Hungary, Budaörs
Tel: +36 23 885 470

IE – Ireland, Dublin
Tel: +353 (0)1 466 6370

IL – Israel
Tel: +39 02 45 19 21

IT – Italy, Corsico (MI)
Tel: +39 02 45 19 21

KZ – Kazakhstan, Almaty
Tel: +7 7273 561 000

NO – Norway, Asker
Tel: +47 66 75 34 00

PL – Poland, Warsaw
Tel: +48 (0)22 573 24 00

PT – Portugal
Tel: +351 22 999 7360

RO – Romania, Bucharest
Tel: +40 21 252 1382

RU – Russia, Moscow
Tel: +7 495 645-2156

SE – Sweden, Borås
Tel: +46 (0)8 59 79 50 00

SL – Slovenia, Novo Mesto
Tel: +386 7 337 6650

TR – Turkey, Istanbul
Tel: +90 216 4997081

UK – United Kingdom, Warwick
Tel: +44 (0)1926 317 878

ZA – South Africa, Kempton Park
Tel: +27 (0)11 961 0700

North America

CA – Canada, Milton, Ontario
Tel: +1 905 693 3000

US – USA, Cleveland
Tel: +1 216 896 3000

Asia Pacific

AU – Australia, Castle Hill
Tel: +61 (0)2-9634 7777

CN – China, Shanghai
Tel: +86 21 2899 5000

HK – Hong Kong
Tel: +852 2428 8008

IN – India, Mumbai
Tel: +91 22 6513 7081-85

JP – Japan, Tokyo
Tel: +81 (0)3 6408 3901

KR – South Korea, Seoul
Tel: +82 2 559 0400

MY – Malaysia, Shah Alam
Tel: +60 3 7849 0800

NZ – New Zealand, Mt Wellington
Tel: +64 9 574 1744

SG – Singapore
Tel: +65 6887 6300

TH – Thailand, Bangkok
Tel: +662 186 7000

TW – Taiwan, Taipei
Tel: +886 2 2298 8987

South America

AR – Argentina, Buenos Aires
Tel: +54 3327 44 4129

BR – Brazil, Sao Jose dos Campos
Tel: +55 080 0727 5374

CL – Chile, Santiago
Tel: +56 22 303 9640

MX – Mexico, Toluca
Tel: +52 72 2275 4200

European Product Information Centre
Free phone: 00 800 27 27 5374
(from AT, BE, CH, CZ, DE, DK, EE, ES, FI,
FR, IE, IL, IS, IT, LU, MT, NL, NO, PL, PT, RU,
SE, SK, UK, ZA)



Parker Hannifin Manufacturing Ltd.
Instrumentation Products Division, Europe
Riverside Road
Barnstaple EX31 1NP
United Kingdom

phone 0044 (0)1271 313131
www.parker.com/ipd