Instrumentation Hand Valves
Catalog 4190-HV

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

ENGINEERING YOUR SUCCESS.
Introduction

With years of valve design and development experience Parker Hannifin are able to offer the most comprehensive range of instrument hand valves available to users for a wide variety of markets, industries and applications. Now consolidated into one catalogue Parker is able to offer a simplified system of selection and choice for all Instrument applications and installations.

In addition to producing valves and manifolds Parker also makes twin and single ferrule compression fittings A-LOK® and CPI™ and the innovative Phastite® ferrule-less, push-fit connector which are used extensively in the oil, gas, petro-chem, power, processing and many other industries. Combining these as an integral part of the valve body users can eliminate pipe threaded connections reducing leak paths and avoiding the use of thread sealant, a frequent menace to instrument and system performance.

For higher pressure ratings up to 20,000 psig Parker can now offer their new Phastite® range of compression fittings.

All the valves offered in this catalogue are available with integral compression ends improving system performance, safety factors, size and weight reduction, simplifying installation and ultimately reducing customer costs.

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 his own analysis and testing, is solely responsible for making the final selection of a specific product or system and for ensuring that it is properly installed, operated and maintained.

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. Any Order accepted by Parker Hannifin will be subject to our terms and conditions of sale, copy available on request.
Hand Valves

Globe style bonnet design for HNV, HGV and HVG series

For safe reliable and repeatable performance

1. **Positive Handle Retention Design** Featuring Broached Square Engagement Positioned by Thread Locked Grub Screw.

2. **‘T’ Bar**
   - Ergonomically designed for ease of operation.
   - Anti-tamper and lockable devices can be supplied for on site retro-fit.

3. **Dust Cap**
   - This has a dual purpose, preventing air born debris from contaminating the operating spindle thread and providing colour coded functional identification.
   - Colour coded isolation balls.

4. **Gland Packing Adjuster**
   - For maximum packing stability and performance.
   - Simple and easily adjustable for gland wear compensation.
   - For maximum packing stability and performance.

5. **Anti Blowout Spindle**
   - Designed for low torque operation with high quality micro mirror stem finish for positive gland sealing.

6. **Valve Bonnet**
   - Standard construction for maximum pressure rating with replaceable sealing washer arrangement.

7. **Anti Blowout Spindle**
   - Self-centering, non-rotational titanium gives successive positive bubble tight shut off assuring the user of leakage free performance and downstream functional safety.

8. **Thrust Bush**
   - Anti-rotation gland bush ensures uniform packing compression, maximizing pressure tight sealing and limiting cold flow passages.

9. **Valve Body Washer**
   - Annealed sealing washer to ensure complete atmospheric leakage and allowing on site retro-fit of bonnets with 100% re-sealing assurance.

All metallic standard parts are produced in stainless steel, for alternative materials please refer to page 21. Manifolds produced in other specified materials will be provided with non-wetted parts as standard in stainless steel, this applies to items 1, 2, 4, 5 & 8.

**Features**

- Standard unit throughout hand valve range
- Operating threads outside washout area
- Externally adjustable gland
- Low operating torque
- Alternative 10,000 psig (689 barg) range available
- Retro-fit kit for anti-tamper spindle
- Anti-tamper spindle
  - Panel mounting
  - Lockable T bar
- Handwheel with lockable option
- Bonnet locking pin to prevent accidental removal fitted as standard
- Alternative graphoil packing for high temperature performance available
- Alternative self centering tip materials available for gaseous and aggressive fluids
- Safety back seated spindle prevents stem blowout and provides secondary back up stem seal
- Packing below threads to prevent lubricant washout
- All valves 100% factory tested
- NACE compliant wetted parts available
- Optional cleaned and lubricated suitable for Oxygen service
- Heat code traceable body and bonnet

**Pressure vs temperature**

<table>
<thead>
<tr>
<th>Temperature °C</th>
<th>0</th>
<th>100</th>
<th>200</th>
<th>300</th>
<th>400</th>
<th>500</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure psig</td>
<td>500</td>
<td>1000</td>
<td>1500</td>
<td>2000</td>
<td>2500</td>
<td>3000</td>
</tr>
</tbody>
</table>

When selecting products for specific applications users should refer to our notice at the bottom of page 3.

Optional globe style bonnet design for HNV, HGV and HVG series

**For on-site assembly**

The design options below can be simply retrofit to any NV, GV and VG series standard valves. Retrofit kit part numbers are listed next to the illustrated option and all parts will be supplied in stainless steel regardless of the parent body material.

**For factory fitted assembly**

To obtain factory assembled options the valve part number must be suffixed with the option and function designator. Options can be combined:

- Example HNV8FFAT – NV series valve, factory fitted with anti-tamper (AT) operating mechanism.
- Example HGV8THL – GV series valve, factory fitted with “T” bar locking plate (THL).

Note: Padlocks for lockable handwheels and “T” bars are not supplied (hole size 6mm/0.24).
Hand Valves

Globe style bar stock needle valves HNV series (6,000 psig/414 barg)

Purpose
Bar stock needle valves are purpose designed valves for operation with any fluid up to 6,000 psig (414 barg) rating. Complete with standard PTFE gland packing and self centering non rotational tip, gives the user assurance of total in service sealing security. For gaseous application soft tipped optional seating is available. A wide variety of end connectors are offered for all types of installation. NACE compliant materials and oxygen clean are also available along with an extensive list of materials of construction.

Specification
• Standard seat diameter 4mm
• Optional seat diameter 6mm
• Cv: 0.35 standard
• Maximum standard pressure up to 6,000 psig (414 barg)
• Temperature rating -54°C to +538°C (-65°F to +1000°F)
• Port sizes up to 1/2" pipe thread and 1/2"/12mm tube compression ends as standard
• Optional sizes up to 1" pipe, tube and combination ends can be considered

Features
• Rolled spindle operating threads
• Stainless steel construction as standard
• PTFE packing standard, optional graphite
• Alternative tip and materials of construction available
• Self centering non rotating spindle tip for bubble tight shut off
• Colour coded functional identification
• Back stop spindle for blowout prevention, and minimal atmospheric leakage
• Low torque operating T bar operation
• Externally adjustable gland
• Panel and base mount option
• Variety of end connections including integral compression one piece bodies
• Angled versions available
• Firesafe option available to API 607 BS 6755 Part 2
• Dust cap to prevent ingress of contamination to operating thread
• Bonnet locking pin fitted as standard
• Angled flow path (option)

Part description
1. Locked grub screw
2. T bar handle assembly
3. Dust cap/function label
4. Gland adjuster
5. Gland locknut
6. Valve bonnet
7. Anti blowout spindle
8. Thrust bush
9. Gland packing (2)
10. Sealing washer
11. Self centering spindle tip
12. Body

Pressure vs temperature

Pressure

Temperature

°C (°F)

6,000 (414)

4,000 (275)

2,000 (138)

0

100

200

300

400

500

(32)

(212)

(392)

(572)

(752)

(932)

Notes for compression ended valves:
1. For CPI™ change A to Z.
2. “A” dimension given for finger tight nuts and ferrules.
3. Can be offered to comply with latest issue of NACE subject to para. 8.4.1.1.
4. For compression ended valve pressure ratings consult tube fittings table.

Designed to meet pressure/temperature ratings of ANSI Class 2500 where applicable.

For a full list of options and suffix’s, see page 20. For a full list of materials and specifications, see page 21.
Hand Valves

Globe style bar stock needle valves HNV series (10,000 psig/689 barg)

Purpose
Bar stock needle valves are purpose designed valves for operation with any fluid up to 10,000 psig (689 barg) rating. Complete with standard PTFE gland packing and self centering non rotational tip, gives the user assurance of total in service sealing security. For gaseous application soft tipped optional seating is available. A wide variety of end connectors are offered for all types of installation. NACE compliance and oxygen clean are also available along with an extensive list of materials of construction.

Specification
- Standard seat diameter 4mm
- Optional seat diameter 6mm
- Cv: 0.35 standard
- Maximum standard pressure up to 10,000 psig (689 barg)
- Temperature rating -54°C to +538°C (-65°F to +1000°F)
- Port sizes up to 1/2" pipe thread and 1/2" MPI™ tube compression ends as standard
  Optional sizes up to 1" pipe, tube and combination ends can be considered

Features
- Rolled spindle operating threads
- Stainless steel construction as standard
- PTFE packing standard, optional graphite
- Alternative tip and materials of construction available
- Self centering non rotating spindle tip for bubble tight shut off
- Colour coded functional identification
- Back stop spindle for blowout prevention, and minimal atmospheric leakage
- Low torque operating T bar handle
- Externally adjustable gland
- Panel and base mount option
- Variety of end connections including integral compression one piece bodies
- Angled versions available
- Dust cap to prevent ingress of contamination to operating thread
- Bonnet locking pin fitted as standard

Part description

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Locked grub screw</td>
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<tr>
<td>2</td>
<td>T bar handle assembly</td>
</tr>
<tr>
<td>3</td>
<td>Dust cap/function label</td>
</tr>
<tr>
<td>4</td>
<td>Gland adjuster</td>
</tr>
<tr>
<td>5</td>
<td>Gland bonnet</td>
</tr>
<tr>
<td>6</td>
<td>Valve bonnet</td>
</tr>
<tr>
<td>7</td>
<td>Anti blowout spindle</td>
</tr>
<tr>
<td>8</td>
<td>Thrust bush</td>
</tr>
<tr>
<td>9</td>
<td>Gland packing (2)</td>
</tr>
<tr>
<td>10</td>
<td>Sealing washer</td>
</tr>
<tr>
<td>11</td>
<td>Self centering spindle tip</td>
</tr>
<tr>
<td>12</td>
<td>Body</td>
</tr>
</tbody>
</table>

Pressure vs temperature

Pressure psig (barg) vs Temperature °C (°F) (32) (212) (392) (572) (752) (932)

Material options:
- A - A Graphite packing
- A - B PTFE packing
- A - D PEEK tip/PTFE packing

Standard range part numbers

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Hose size</th>
<th>Male size</th>
<th>Female size</th>
<th>Thread</th>
<th>Dimension</th>
</tr>
</thead>
<tbody>
<tr>
<td>HNV*4FFHP</td>
<td>1/4 NPT</td>
<td>1/4 NPT</td>
<td>60.5 (2.38&quot;)</td>
<td>31.8 (1.25&quot;)</td>
<td>82.6 (3.25&quot;)</td>
</tr>
<tr>
<td>HNV*8FFHP</td>
<td>1/2 NPT</td>
<td>1/2 NPT</td>
<td>101.6 (4.00&quot;)</td>
<td>31.8 (1.25&quot;)</td>
<td>82.6 (3.25&quot;)</td>
</tr>
<tr>
<td>HNV*6MPI</td>
<td>3/8</td>
<td>3/8</td>
<td>113.6 (4.48&quot;)</td>
<td>31.8 (1.25&quot;)</td>
<td>82.6 (3.25&quot;)</td>
</tr>
</tbody>
</table>

Insert material code

For MPI™ compression ended valve pressure ratings consult tube catalogue CAT 4234 for wall thickness and assembly instructions. MPI™ only available in stainless steel. Dimension “C” in open position.

Designed to meet pressure/temperature ratings of ANSI Class 4500 where applicable.

For a full list of options and suffix’s, see page 20. For a full list of materials and specifications, see page 21.
Hand Valves

H Series rising plug valves (HRPV series)*

Purpose
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 frequently found in oil and gas processing facilities. With a straight through flow pattern and giving 100% repeatable bubble tight shut off, the valves as standard when specified with PEEK seat will perform up to 10,000 psig (689 barg) with low spindle operating torques. A variety of end connections are offered for all types of installation. NACE compliance is also available along with an extensive list of materials of construction.

Specification
- Standard Orifice size 1/4" (6.4mm)
- Cv = 1.8
- Maximum standard pressure up to 10,000 psig (689 barg) - PEEK seat
- Temperature rating PEEK seat maximum 200°C
- Port sizes up to 1/2" pipe thread as standard

Features
- Rolled spindle operating threads.
- 316 Stainless steel construction as standard
- PTFE packing standard
- PEEK seat standard
- Alternative body materials available
- Straight through flow path
- Standard multi port gauge style available
- Bi-directional flow
- Replaceable soft seat
- Colour coded functional identification
- 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
- Patent(s) pending
- Other seating materials could be considered for special applications

Standard product specification: supplied in 316 stainless steel with PEEK soft seat, PTFE packed, T bar operation, 10,000 psig (689 barg) maximum pressure rating, 200°C maximum temperature rating.

Part description

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>Body</td>
</tr>
<tr>
<td>2</td>
<td>Seat</td>
</tr>
<tr>
<td>3</td>
<td>Joint seal</td>
</tr>
<tr>
<td>4</td>
<td>Packing</td>
</tr>
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<td>5</td>
<td>Thrust bush</td>
</tr>
<tr>
<td>6</td>
<td>Stem</td>
</tr>
<tr>
<td>7</td>
<td>Tip</td>
</tr>
<tr>
<td>8</td>
<td>Stem Cap</td>
</tr>
<tr>
<td>9</td>
<td>Valve stem</td>
</tr>
<tr>
<td>10</td>
<td>Handle</td>
</tr>
<tr>
<td>11</td>
<td>Dust Cap</td>
</tr>
<tr>
<td>12</td>
<td>Gland Adjuster</td>
</tr>
<tr>
<td>13</td>
<td>Lock nut</td>
</tr>
<tr>
<td>14</td>
<td>Stem</td>
</tr>
<tr>
<td>15</td>
<td>Pin</td>
</tr>
<tr>
<td>16</td>
<td>Seat retainer</td>
</tr>
</tbody>
</table>

Pressure vs temperature

When selecting products for specific applications users should refer to our notice at the bottom of page 3.

For a full list of options and suffix’s, see page 20. For a full list of materials and specifications, see page 21.
**Hand Valves**

**Multi-port gauge valves (HGV series)**

**Purpose**

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). Complete with standard PTFE gland packing and self centering none rotational tip gives the user assurance of bubble tight seat shut off. For gaseous application soft tipped optional seating is available. A wide variety of connector ends are offered for all types of installations. NACE compliance and oxygen clean are also available along with an extensive list of materials. Each valve has 3 female outlets giving the user optimum selection for instrument positioning and location.

**Specification**

- Standard seat diameter 4mm (0.16”)
- Cv: 0.35 standard
- Maximum standard pressure up to 6,000 psig (414 barg)
- Maximum optional (HP) up to 10,000 psig (689 barg)
- Temperature rating -54°C to +538°C (-65F to +1000F)
- Port sizes up to 3/4” pipe thread as standard

**Features**

- Rolled spindle operating threads
- Stainless steel construction as standard
- PTFE packing standard, optional graphite
- Alternative tip and materials of construction available
- Self centering non rotating spindle tip for bubble tight shut off
- Colour coded functional identification
- Back stop spindle for blowout prevention and minimal atmospheric leakage
- Low torque operating T bar handle.
- Externally adjustable gland
- Variety of end connections including integral compression one piece bodies
- Dust cap to prevent ingress of contamination to operating thread
- Bonnet locking pin fitted as standard

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**Part description**

- 1 Locked grub screw
- 2 T bar handle assembly
- 3 Dust cap/functional label
- 4 Gland adjuster
- 5 Gland locknut
- 6 Valve bonnet
- 7 Anti blowout spindle
- 8 Thrust bush
- 9 Gland packing (2)
- 10 Sealing washer
- 11 Self centering spindle tip
- 12 Body

**Pressure vs temperature**

<table>
<thead>
<tr>
<th>Pressure (psig)</th>
<th>Temperature (°C)</th>
<th>Temperature (°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-54 (-65)</td>
<td>0</td>
</tr>
<tr>
<td>2,000</td>
<td>2,000 (138)</td>
<td>392 (74)</td>
</tr>
<tr>
<td>4,000</td>
<td>4,000 (275)</td>
<td>752 (167)</td>
</tr>
<tr>
<td>6,000</td>
<td>6,000 (413)</td>
<td>1,000 (212)</td>
</tr>
<tr>
<td>8,000</td>
<td>8,000 (552)</td>
<td>1,500 (312)</td>
</tr>
<tr>
<td>10,000</td>
<td>10,000 (689)</td>
<td>2,000 (392)</td>
</tr>
</tbody>
</table>

**Part no.**

<table>
<thead>
<tr>
<th>HGV*8</th>
<th>1/2 NPT</th>
<th>3 x 1/2” BPE</th>
<th>50.0 (2.00)</th>
<th>82.0 (3.25)</th>
<th>131.0 (5.16)</th>
<th>6,000 psi (414 bar)</th>
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</thead>
<tbody>
<tr>
<td>HGV*12</td>
<td>3/4 NPT</td>
<td>3 x 1/2” BPE</td>
<td>56.0 (2.20)</td>
<td>82.0 (3.25)</td>
<td>131.0 (5.16)</td>
<td>8,000 psi (552 bar)</td>
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<tr>
<td>HGV*8HP</td>
<td>1/2 NPT</td>
<td>3 x 1/2” BPE</td>
<td>50.0 (2.00)</td>
<td>31.8 (1.25)</td>
<td>82.6 (3.25)</td>
<td>10,000 psi (689 bar)</td>
</tr>
</tbody>
</table>

*Insert material code - select from material matrix on page 21

**Dimension “C” in open position.**

**To order individual bleed valves (captive spindle) & plugs**

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Description</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBV*4M</td>
<td>Bleed valve</td>
<td>1/4” NPT</td>
</tr>
<tr>
<td>HBV*8M</td>
<td>Bleed valve</td>
<td>1/2” NPT</td>
</tr>
<tr>
<td>RPHS5</td>
<td>Hexagon plug</td>
<td>5/8” NPT</td>
</tr>
<tr>
<td>RPHS5S</td>
<td>Hollow hexagon plug</td>
<td>5/8” NPT</td>
</tr>
<tr>
<td>RPHHS5S</td>
<td>Hollow hexagon plug</td>
<td>5/8” NPT</td>
</tr>
</tbody>
</table>

Plug part numbers are from IPD’s pipe fitting range.

Designed to meet pressure/temperature ratings of ANSI Class 2500/4500 where applicable.

For a full list of options and suffix’s, see page 20. For a full list of materials and specifications, see page 21.
Hand Valves

Single port gauge valves with vent (HVG series)

Purpose
Parker’s Single port gauge valves with vent are purpose designed valves for operation with any fluid up to 6,000 psig (414 barg) rating. Valves are provided with a single 1/4” NPT port for the optional fitting of captive bleed/vent valve or blank plug. Complete with standard PTFE gland packing and self centering none rotational tip gives the user assurance of total in service sealing security. For gaseous application soft tipped optional seating is available.

A wide variety of end connectors are offered for all types of installations. NACE compliance and oxygen clean are also available along with an extensive list of materials of construction.

Specification
- Standard seat diameter 4mm (0.16”)
- Cv: 0.35 standard
- Maximum std. pressure up to 6,000 psig (414 barg)
- Temperature rating -54°C to +538°C (-65°F to +1000°F)
- Port sizes up to 1/2” pipe thread and 1/2”/12mm tube compression ends

Features
- Rolled spindle operating threads
- Stainless steel construction standard
- PTFE packing standard, optional graphite
- Alternative tip and materials of construction available
- Self centering non rotating spindle tip for bubble tight shut off
- Colour coded functional identification
- Back stop spindle for blowout prevention and minimal atmospheric leakage
- Low torque operating T bar handle
- Externally adjustable gland
- Base mount option
- Variety of end connections including integral compression one piece bodies
- Firesafe option available to API 607 BS 6755 Part 2
- Dust cap to prevent ingress of contamination to operating thread
- Bonnet locking pin fitted as standard

Standard product specification: metal/metal seated, PTFE packed, stainless steel, T bar operation, globe pattern, 1/4” NPT vent/bleed port, 6,000 psig (414 barg). Add suffix’s to obtain bleed valve or plug.

Standard range part numbers

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Inlet Outlet Dimension</th>
<th>Connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>HNV*4FFV</td>
<td>1/4 NPT 1/4 NPT</td>
<td>63.5 (2.50”) 28.6 (1.13”) 79.4 (3.13”)</td>
</tr>
<tr>
<td>HNV*6FFV</td>
<td>3/8 NPT 3/8 NPT</td>
<td>67.0 (2.64”) 28.6 (1.13”) 79.4 (3.13”)</td>
</tr>
<tr>
<td>HNV*8FFV</td>
<td>1/2 NPT 1/2 NPT</td>
<td>75.0 (3.00”) 28.6 (1.13”) 79.4 (3.13”)</td>
</tr>
</tbody>
</table>

Part description

Item Description
1 Locked grub screw
2 T bar handle assembly
3 Dust cap/function label
4 Gland adjuster
5 Gland locknut
6 Valve bonnet
7 Anti blowout spindle
8 Thrust bush
9 Gland packing (2)
10 Sealing washer
11 Self centering spindle tip
12 Body

Pressure vs temperature

When selecting products for specific applications users should refer to our notice at the bottom of page 3.

To order individual bleed valves (captive spindle) & plugs

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
<th>Connection</th>
</tr>
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<tbody>
<tr>
<td>HNV 4M</td>
<td>Bleed valve</td>
<td>1/4” NPT</td>
</tr>
<tr>
<td>4PHSS</td>
<td>Hexagon plug</td>
<td>1/4” NPT</td>
</tr>
<tr>
<td>4PHSS</td>
<td>Hollow hexagon plug</td>
<td>1/4” NPT</td>
</tr>
</tbody>
</table>

Designed to meet pressure/temperature ratings of ANSI Class 2500 where applicable.

For a full list of options and suffix’s, see page 20. For a full list of materials and specifications, see page 21.
Hand Valves

Outside screw and yoke globe pattern needle valves (HYNV series)

**Purpose**
Outside screw and yoke valves are designed for primary isolating applications operating up to 6,000 psig (414 barg) with optional 10,000 psig (689 barg) rating. The valve is supplied complete with standard graphite gland packing and the self centering non rotational tip gives bubble tight sealing. For gaseous application soft tipped optional seating is available. A wide variety of connector ends are offered for all types of installations including multi-ported root/primary isolate service. NACE compliance and oxygen clean are also available along with an extensive list of materials. Firesafe to BS 6755 Part 2 and API 607 standard with graphite packing.

**Specification**
- Standard seat diameter 4mm (0.16”)
- **Cv**: 0.35 standard
- Maximum standard pressure up to 6,000 psig (414 barg)
- Maximum optional pressure up to 10,000 psig (689 barg)
- Temperature rating -54°C to +538°C (-65°F to +1000°F)
- Port sizes up to 1/2” pipe thread and 1/2”/12mm tube compression ends as standard

**Features**
- Rolled spindle operating threads
- Stainless steel construction standard
- Graphite packing standard, PTFE optional
- Alternative tip and materials of construction available
- Self centering non rotating spindle tip for bubble tight shut off
- Colour coded functional identification
- Back stop spindle for blowout prevention
- Externally adjustable gland independent of spindle thread
- Base mount option
- Variety of end connections including integral compression one piece bodies
- Angled versions available
- Firesafe design and verified by testing to BS 6755 Part 2 and API 607

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**Part description**

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Body</td>
</tr>
<tr>
<td>2</td>
<td>Thrust bush</td>
</tr>
<tr>
<td>3</td>
<td>Stem packing</td>
</tr>
<tr>
<td>4</td>
<td>Dust cap</td>
</tr>
<tr>
<td>5</td>
<td>Stem</td>
</tr>
<tr>
<td>6</td>
<td>Joint</td>
</tr>
<tr>
<td>7</td>
<td>Grub screw</td>
</tr>
<tr>
<td>8</td>
<td>Joint seat</td>
</tr>
<tr>
<td>9</td>
<td>Gland bridge</td>
</tr>
<tr>
<td>10</td>
<td>Gland adjuster</td>
</tr>
<tr>
<td>11</td>
<td>Tri-lobe handle</td>
</tr>
<tr>
<td>12</td>
<td>Bonnet - gland stud</td>
</tr>
<tr>
<td>13</td>
<td>Body - bonnet stud</td>
</tr>
<tr>
<td>14</td>
<td>Nuts</td>
</tr>
</tbody>
</table>

**Pressure vs temperature**

<table>
<thead>
<tr>
<th>Pressure</th>
<th>Temperature °C (°F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10,000</td>
<td>-65°F to +1000°F</td>
</tr>
<tr>
<td>8,000</td>
<td>-65°F to +1000°F</td>
</tr>
<tr>
<td>6,000</td>
<td>-65°F to +1000°F</td>
</tr>
<tr>
<td>4,000</td>
<td>-65°F to +1000°F</td>
</tr>
<tr>
<td>2,000</td>
<td>-65°F to +1000°F</td>
</tr>
</tbody>
</table>

When selecting products for specific applications users should refer to our notice at the bottom of page 3.

---

For a full list of options and suffix’s, see page 20. For a full list of materials and specifications, see page 21.
Hand Valves

Angled versions available for the following:
- Globe style bar stock needle valves HVN series (6,000 psig/414 barg) (10,000 psig/689 barg)
- Single port gauge valves with vent (HV/G series)
- Outside screw and yoke globe pattern needle valves (HYNV series)

Below is example of Globe style bar stock needle valves HVN series (6,000 psig/414 barg). Please consult factory for other options.

**Part description**
1. Locked grub screw
2. T bar handle assembly
3. Valve camshaft/handles
4. Gland adjuster
5. Valve bonnet
6. Anti blowout spindle
7. Seat washer
8. Needle/seat ring
9. Gasket

**Pressure vs temperature**

**Features**
- All valves are graphite packed for high temperature service
- Non rotating, hard stem tip with metal to metal seating for bubble tight shut-off
- Back seat design
- Blow-out proof stem
- Pressures & temperatures in accordance with ASME class 2500
- Patented Tru-Lok® safety bonnet locking device prevents accidental removal
- Standard orifice 4mm (CV 0.35), optional orifice for needle valves 6mm (CV 0.47)

**Specific pressure / temperature performance**

1385 - 6000 psig @ 100°F (414 bar @ 38°C)
2915 - 10,000 psig @ 300°F (201 bar @ 538°C)

**Plus a range of manifolds:**

**Part description & Product range offered:**
For H series valves and manifolds use CAT4190HV; CAT4190FM; CAT4190FM then replace the prefix 'H' with 'HP'. Eg: HNV58FF becomes HPNV58FF3

**Product range:**
- HPPNVS; HPPG; HPPBSNVS2; HPLS2V; HPLS2VH5SV; HPLSVM; HPLSSM; HPPDS2HLH; HPPDSS3M; HPPDSS5M; HPPEFS2/3/5

Consult factory or come and see us about other options.

---

**Standard range part numbers**

<table>
<thead>
<tr>
<th>Part no.</th>
<th>Style</th>
<th>Diameter</th>
<th>Material</th>
<th>Pressure</th>
<th>Temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>HNV*4ANG</td>
<td>1/4 NPT</td>
<td>25.4 (1.00&quot;)</td>
<td>38.1 (1.50&quot;)</td>
<td>42.0 (1.65&quot;)</td>
<td>51.0 (2.00&quot;)</td>
</tr>
<tr>
<td>HNV*6ANG</td>
<td>1/2 NPT</td>
<td>38.1 (1.50&quot;)</td>
<td>57.2 (2.25&quot;)</td>
<td>66.1 (2.60&quot;)</td>
<td>82.6 (3.25&quot;)</td>
</tr>
<tr>
<td>HNV*8ANG</td>
<td>1/2 NPT</td>
<td>28.6 (1.13&quot;)</td>
<td>38.1 (1.50&quot;)</td>
<td>42.0 (1.65&quot;)</td>
<td>51.0 (2.00&quot;)</td>
</tr>
<tr>
<td>HNV*12ANG</td>
<td>3/4 NPT</td>
<td>47.7 (1.88&quot;)</td>
<td>66.7 (2.63&quot;)</td>
<td>25.4 (1.00&quot;)</td>
<td>54.0 (2.13&quot;)</td>
</tr>
<tr>
<td>HNV*16ANG</td>
<td>1 NPT</td>
<td>54.0 (2.13&quot;)</td>
<td>54.0 (2.13&quot;)</td>
<td>54.0 (2.13&quot;)</td>
<td>54.0 (2.13&quot;)</td>
</tr>
</tbody>
</table>

*Insert material code - select from material matrix on page 21.

1. For GPI - change A to 2.
2. "A" dimension given for finger tight nuts and ferrules.
3. Cannot be offered for NaCl.
4. For compression ended valve pressure ratings consult tube ratings table. Dimension "C" in open position.

Design to meet pressure/temperature ratings of ANSI Class 2500 where applicable. For a full list of options and suffixes, see page 20. For a full list of materials and specifications, see page 21.
### Hand Valves

#### Instrumentation hand valves

<table>
<thead>
<tr>
<th>Available options</th>
<th>Valve types</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Available options</strong></td>
<td><strong>Part no. suffix</strong></td>
</tr>
<tr>
<td>1</td>
<td>Hand packing</td>
</tr>
<tr>
<td>2</td>
<td>Geating</td>
</tr>
<tr>
<td>3</td>
<td>Seat type</td>
</tr>
<tr>
<td>4</td>
<td>Plug bleed valve</td>
</tr>
<tr>
<td>5</td>
<td>Flow pattern</td>
</tr>
<tr>
<td>6</td>
<td>Operating mechanism</td>
</tr>
<tr>
<td>7</td>
<td>Mounting</td>
</tr>
<tr>
<td>8</td>
<td>Condition</td>
</tr>
</tbody>
</table>

**Notes:**
- Heat code traceable certificates for body and bonnet stud available on application.
- For tube or butt weld use 116 inch denominations and change NB to TB.
- For metric tube size use actual metric (mm) dimensions e.g. SW12MMTB.
- All non-wetted parts ie those not in contact with the process medium will be supplied in stainless steel for all materials shown above.

---

### Hand Valves

#### Instrumentation hand valves

<table>
<thead>
<tr>
<th>Available options</th>
<th>Valve types</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Available options</strong></td>
<td><strong>Material</strong></td>
</tr>
<tr>
<td>1</td>
<td>Stainless steel std.</td>
</tr>
<tr>
<td>2</td>
<td>Incoloy 825</td>
</tr>
<tr>
<td>3</td>
<td>Inconel 625</td>
</tr>
<tr>
<td>4</td>
<td>Monel</td>
</tr>
<tr>
<td>5</td>
<td>Hastelloy B327</td>
</tr>
<tr>
<td>6</td>
<td>Hastelloy C276</td>
</tr>
<tr>
<td>7</td>
<td>Titanium</td>
</tr>
<tr>
<td>8</td>
<td>Carbon Steel</td>
</tr>
<tr>
<td>9</td>
<td>Duplex 2205</td>
</tr>
<tr>
<td>10</td>
<td>Stainless steel std.</td>
</tr>
<tr>
<td>11</td>
<td>Carbon Steel</td>
</tr>
<tr>
<td>12</td>
<td>Stainless Steel</td>
</tr>
</tbody>
</table>

---

**The widest range of precision Instrumentation products**

- **Cat 4190-FP**
  - Flanged products
- **Cat 4190-PM**
  - Two valve manifolds
- **Cat 4190-FM**
  - Three and five valve manifolds

---

For tube or butt weld use 1/16 inch denominations and change NB to TB.
For metric tube size use actual metric (mm) dimensions e.g. SW12MMTB.
Note: Heat code traceable certificates for body and bonnet stud available on application.

**"Does not apply for A-LOK/CPI" ended valves in 316 stainless steel.**
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