IPDE-IOM-NEEDLE-VALVE-BALL-VALVE
Effective: REV A : July 2023

Installation and Operation Manual

Needle Valves & Ball Valves

Note - These Instructions apply to Parker Products that utilise Needle and Ball Valves such as the ones shown above

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Installation and Operation Manual
Needle Valves & Ball Valves

Parker Hannifin

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IDENTIFICATION OF HAZARDS

NEVER adjust valves under pressure.
NEVER slacken or remove any valve parts under pressure.
NEVER use any mechanical aids i.e. wrenches, extensions to operate handles.
NEVER carry ball valves by the handle.
NEVER obscure valve body marking.
NEVER remove end connectors.

INSTALLATION

Wear suitable PPE before installation and follow appropriate site safety procedures.

Before installation, ensure that all valves are in the closed position.

H Series Manifolds & Needle Valves:
Needle valves supplied with weld connections will generally be supplied, unless specified and/or agreed with customer, fully assembled. Prior to welding Parker recommend removing the Head Assembly from the body to protect from heat. The valve body should be welded into the system following the appropriate welding procedures. To prevent ingress of foreign contaminants into the valve body, the Head Assembly hole and thread must be protected. After welding the Head Assembly can be reassembled into the valve body:

1. Ensure the spindle is fully retracted by holding the valve head unit and turning handle (1) counter clockwise until stop if felt.
2. Place stainless steel washer (8) into body recess at the top of the body thread. Apply suitable lubricant to stainless steel thread (6) prior to assembling the valve head to the body.
3. Tighten bonnet hexagon (6) into valve body to 108Nm (6000 Psi / 414 Bar) Standard Head Assembly *
   122Nm (10,000 Psi / 689 Bar) High Pressure Head Assembly - Designated HP *
   * Note - Monoflanges use Standard Head Assembly and Pro-Bloc use High Pressure Head Assembly.
4. Place rolled locking pin into the nearest one of the 2 Ø3mm holes to the bonnet hexagon and insert until fully located.

Hi-Pro Ball Valve:
Care should be taken to ensure that the end connector (1) is firmly held by an appropriate spanner / wrench (size varies depending on size of valve) to prevent any movement when assembling or disassembling pipe or tube connections.

Flanged Products:
Refer to the appropriate installation standard for the flange specification in question.

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NPT: Use standard practice for NPT taper threads. Use an appropriate thread tape or sealant to prevent galling.

A-lok/CPI: See separate instruction sheet supplied with A-lok products. For full instruction and best practice on fabrication and installation of tube and A-lok/CPI tube fittings, scan the QR code below. *

When fitting A-lok/CPI, care should be taken to ensure that the end connector (1) *(fig1)* is firmly held by an appropriate spanner / wrench (the size varies depending on the size of valve) to prevent any movement when assembling or disassembling pipe or tube connections.

O-Lok: Take care to not damage the captive O-ring. For full instructions on O-lok assembly and installation, please refer the O-lok section on page 55 of our Tube Assembly Guide which can be found by scanning the QR link below. *

**For text versions of these QR codes, please See 'Further Information' at the end of this guide.*

HANDLING AND STORAGE

Handling

Parker Products that utilise Needle and Ball Valves may be heavy. Ensure that local manual handling requirements are followed.
Do not lift or carry by the operating handles, as this may cause damage.

Storage

There is no specified shelf-life.
Boxed products should be stored in a covered area, preferably indoors, and away from excessive moisture, heat, or airborne contaminants.
The use of desiccant or corrosion inhibitors is not required during normal storage periods.

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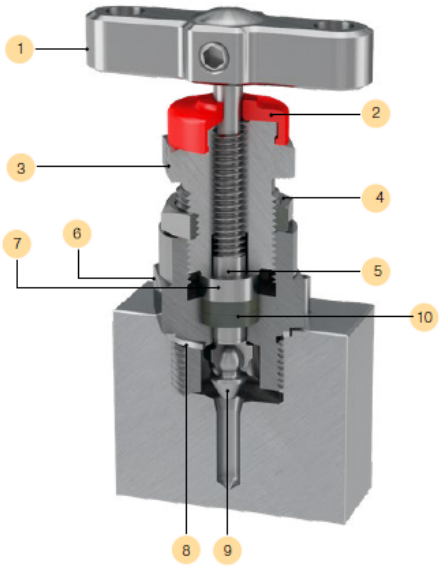
OPERATION

H Series Screwed Head/Bonnet:

To close: Rotate the handle (1) Clockwise until a positive stop is felt up to a maximum torque of 6Nm.
To open: Rotate the handle (1) Counter Clockwise until the backstop is located. The valve will be in its fully open position after approximately 3 turns of the handle

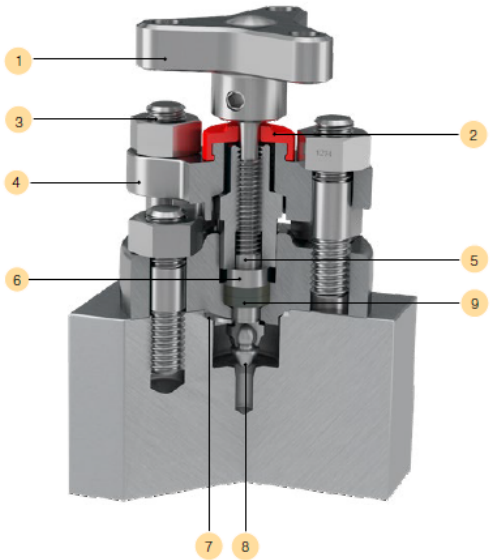


Reference	Description
1	Ergonomic 'T' bar style handle with positive retention
2	Dual purpose dust cap provides functional identification
3	Compensatory adjustable gland
4	Secure anti-vibration gland lock nut
5	Anti-blowout low torque back seating stem
6	All metal body bonnet seal
7	Gland thrust bush 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	Gland packing below stem threads preventing thread lubricant wash-out

Notes:
- For products specified in optional materials, non-wetted parts will be 316 Stainless Steel as standard.

H Series Outside Screw & Yoke Head:

To close: Rotate the handle (1) Clockwise until a positive stop is felt up to a maximum torque of 6Nm.
To open: Rotate the handle (1) Counter Clockwise until the backstop is located. The valve will be in its fully open position after approximately 3 turns of the handle.



Reference	Description
1	Trilobe handle prevents excessive torque
2	Dual purpose dust cap provides functional identification
3	Packing adjustment nuts
4	Bridge (Yoke) provides downforce for packing
5	Anti-blowout low torque back seating stem
6	Gland thrust bush ensures uniform packing compression and tight sealing
7	Annealed sealing washer guarantees 100% sealing assurance
8	Self centering, non-rotating stem tip guarantees bubble tight shut off
9	Gland packing below stem threads preventing thread lubricant wash-out

Notes:
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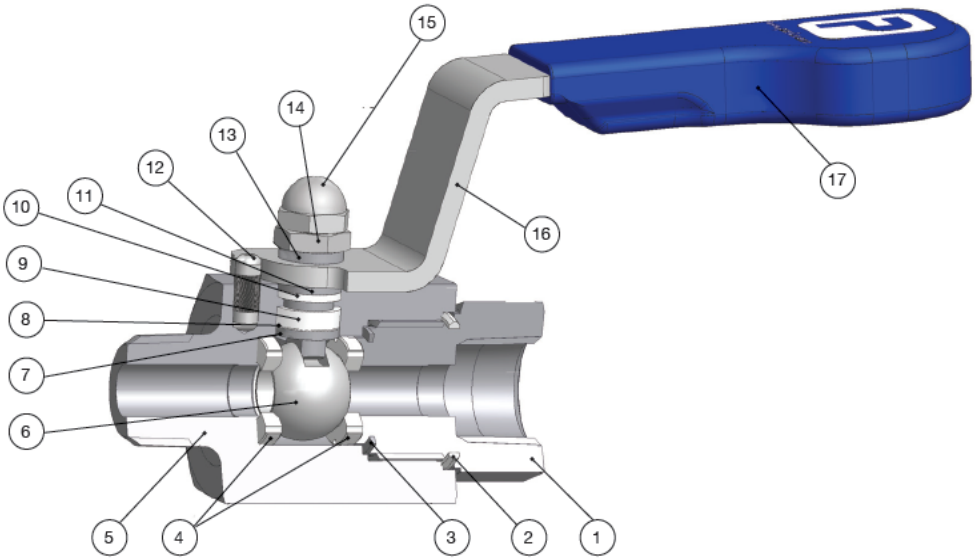
Hi-Pro Ball Valve:
To close: Operate the handle (17) until it is at 90° from the valve body centreline.
To open: Operate the handle (17) until it is in line with the centreline of the body and reaches the stop pin.
Movement is limited to 90° by a mechanical stop pin.
Ball valves should always be fully open or fully closed. Do not leave in a mid-position.

Part description

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



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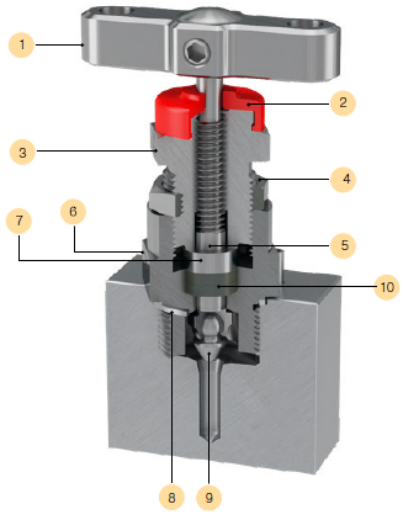
MAINTENANCE

H Series Screwed Head/Bonnet:
CAUTION: Adjustment of the gland must be carried out at zero pressure

1. Fully close the valve by turning the handle (1) in a clockwise direction to stop lightly on seat
2. (max. 2 Nm).
3. Open the valve one full turn by rotating the handle (1) in a counter clockwise direction.
4. Loosen gland lock nut (4).
5. Tighten gland nut (3) to 11 Nm
6. Re-tighten gland lock nut (4) to 25 Nm.



Reference	Description
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Notes:
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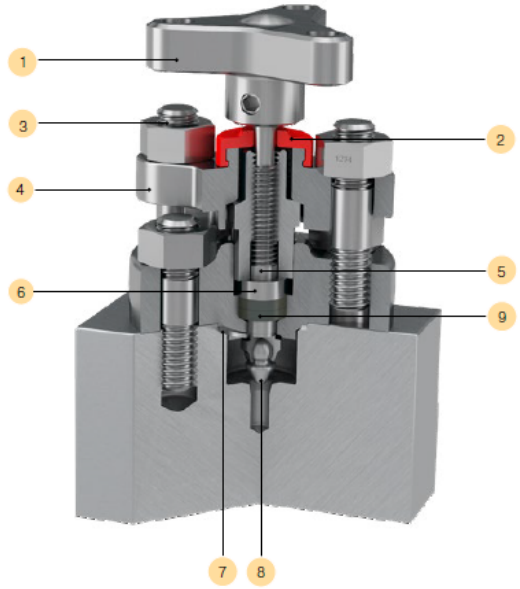
H Series Outside Screw & Yoke Head:

CAUTION: Adjustment of the gland must be carried out at zero pressure

1. Fully close the valve by turning the handle (1) in a clockwise direction to stop lightly on seat (max. 2 Nm).
2. Open the valve one full turn by rotating the handle in a counter clockwise direction.
3. The two bridge-nuts (3) on either side of the spindle must be tightened evenly, keeping the bridge parallel to the body, to a torque of 5Nm.



Reference	Description
1	Trilobe handle prevents excessive torque
2	Dual purpose dust cap provides functional identification
3	Packing adjustment nuts
4	Bridge (Yoke) provides downforce for packing
5	Anti-blowout low torque back seating stem
6	Gland thrust bush ensures uniform packing compression and tight sealing
7	Annealed sealing washer guarantees 100% sealing assurance
8	Self centering, non-rotating stem tip guarantees bubble tight shut off
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Notes:
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Hi-Pro Ball Valve:

Parker Hi-Pro Ball Valves are not user-serviceable.

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FURTHER INFORMATION

Dust Cap colours on Needle Valves signified below:

BLUE	Isolate/block
RED	Drain/vent/test
GREEN	Equalise

Ball Valve Cv values:
10mm bore: 6.4
15mm bore: 15
20mm bore: 31
25mm bore: 39

Needle Valve Cv values
Bar Stock Needle valves: 0.35
Bar Stock Needle valves with 6mm bonnet seats: 0.5
Rising plug valves: 1.8
(Note, these are generic values for our range and may vary for specific items/connections. If in doubt, please contact our technical support)

Text versions of QR codes

https://qr.parker.com/203785 Tube Fitting Installation Manual (A-lok/CPI)
https://qr.parker.com/203784 Tube Assembly (O-lok: please refer to page 55)

Technical Support: IPDE.Technical@support.parker.com