Pegler

COMMERCIAL VALVE SOLUTIONS

Specification Clause

PB500 Ball Valve Series

PB500, PB500T, PB500EL, PB500MF, PS500MFT, PB500DC, PB550, PB550T, PB550LS, PB550EL, PS500, PS500T PS550, PS550T, PS550EL, PSU500, PSU500EL, PSU550, PSU550EL, XT500, XT550, XT550EL, XTU550EL PT500, PT500T, PT550, PT550T, MLH500, MLH500EL, MLH550, MLH550EL , MLC500, MLC500EL, MLC550, MLC550EL, XTU550LS, PSU550LS

1.0 Product Overview and Technical Details

The valves shall be drawn from the Pegler Commercial ball valve PB500 series (available from Pegler Yorkshire Group) , manufactured from brass with plain or Chrome plated finish. The PB500 series are intended for the isolation of sections of pipe work and equipment in HVAC applications and general plumbing applications. The valves are quarter turn operation with the standard lever version having a unique grip for ease of operation. Tee handle and Lever operation with extended stems (for use with insulation), are also included in the range.

1.1 Tube compatibility

Valve Type	End Connection Specification
Screwed Female Taper	Female Taper thread end-ISO7/EN10226-1 (formerly BS21/ISO 7) Pipe threads where pressure tight joints are made on the threads.
Screwed Female Parallel	Female Parallel thread end-ISO228:2003 (formerly BS2779/ISO R228/1) Pipe threads where pressure tight joints are not made on the threads.
Screwed Female (American)	Female Taper thread end-ANSI (NPT) American thread B1.20.1 Pipe threads where pressure tight joints are made on the threads.
XPress*	XPress end suitable for use with Copper tube to BS EN1057 (R250 temper, R290 temper), Carbon Steel in accordance with (EN10335-2) DIN2394/NEN1982 and Stainless Steel 316 System tube.
XPress Union*	XPress end suitable for use with Copper tube to BS EN1057 (R250 temper, R290 temper), Carbon Steel in accordance with (EN10335-2) DIN2394/NEN1982 and Stainless Steel 316 System tube.
XPress x Tectite* XPress Union x Tectite*	XPress end suitable for use with Copper tube to BS EN1057 (R250 temper, R290 temper), Carbon Steel in accordance with (EN10335-2) DIN2394/NEN1982 and Stainless Steel 316 System tube. Tectite end suitable for use with Copper tube to BS EN1057 (R250 temper, R290 temper), Carbon Steel in accordance with (EN10335-2) DIN2394/NEN1982, Stainless Steel 316 System tube, PB pipe (with liner) BS7291:Part 2 and PEX Pipe(with liner) BS7291:Part 3
Tectite*	Tectite end suitable for use with Copper tube to BS EN1057 (R250 temper, R290 temper), Carbon Steel in accordance with (EN10335-2) DIN2394/NEN1982, Stainless Steel 316 System tube, PB pipe (with liner) BS7291:Part 2 and PEX Pipe(with liner) BS7291:Part 3
Multi Layer PVDF	Henco PVDF ends suitable for use with Henco multilayer Alu-PEXc pipe.
Multi Layer Brass	Henco Brass ends suitable for use with Henco multilayer Alu-PEXc pipe.

*Connection ends only supplied and fitting mounted by Pegler Yorkshire Group on to these valves.

1.2 Pressure ratings

Pressure and Temperature ratings

Valves must be installed in a piping system whose normal pressure and temperature does not exceed the stated rating of the valve. The maximum allowable pressure in valves as specified in the standards is for non shock conditions. Water hammer and impact should also be avoided.

If system testing will subject the valve to pressures in excess of the working pressure, this should be within the "shell test pressure for the body" to a maximum of 1.5 times the PN rating of the valve and conducted with the valve fully opened.

It may be hazardous to use these valves outside of their specified pressure and temperature limitations and also when not used for the correct application.

Technical Performance Specification

PB500 (Thread ends) all sizes rated at PN25
Full bore
Quarter Turn operation
Blow-out proof stem
Size range _" to 4"
PTFE ball seals
Viton Stem O Rings

A Yellow handle option is available for use with Gas on threaded end valves only.
Pressure Temperature ratings-
PB500 YELLOW (Thread ends) all sizes rated at PN25 (MOP5 for gas applications).
25bar up to 100˚C (non shock)
16.5bar up to 150˚C (non shock)
Temperature range -10˚C to +150˚C (-20˚C to +60˚C for Gas applications)
Air - maximum 10bar

2.0 Installation

2.1 Electrical continuity

All metallic pipework should comply with the equipotential bonding requirements of the current edition of the IEE wiring regulations (BS7671:2001). After all plumbing work has been completed continuity checks are to be conducted by a qualified electrician in accordance with the regulations.

2.2 Heat free

The Pegler PB500 Series offers Heat free jointing across it's whole range with threaded, XPress, Tectite and Henco Multilayer connection technology. These valve connections must not be brazed.

2.3 Insulation

For all Pegler PB500 Series valves, it is recommended that you adhere to the insulation requirements as specified by the Water Supply (Water Fittings) Regulations1999, ensuring at all times that access for valve operation is taken into consideration.

2.4 Valve selection

Valves must be properly selected for their intended services conditions. Provided it is installed correctly and receives adequate preventative maintenance it should give years of trouble free service.

They must be compatible with the system design, pressure and temperature requirements and must be suitable for the fluids that they are intended to carry. Interactions between metals in the pipe system must be considered as part of the valve selection.

Ball valves perform best when they are installed in an upright position. The direction of flow is not important. They are fitted when the valve is in the open position.

Ball valves are designed for isolation and should either be fully opened or fully closed and should not be used for regulation or throttling of flow.

2.5 Location/end of line service

To ensure ease of operation, adjustment, maintenance and repair, valve siting should be decided during the system design phase.

Pegler ball valves are not suitable for end-of-line service. Where ball valves required for end of line service a blanking plug must be fitted to the downstream end of the valve.

2.6 Pre Installation- Health and Safety

Before starting work on any installation a risk assessment must be made to consider the possibility of operational limits being exceeded and reduction or elimination of ant potential hazards.

1.Protective clothing and safety equipment must be utilized as appropriate to the hazard presented by the nature of the process to which the valve is being installed or maintained.

2. Before installing or removing a valve the pipeline circulating pumps (when fitted) must be turned off. The pipeline must be depressurised, drained and vented. Valves must be fully opened to ensure release of any pipeline or valve pressure.

3. Fitters must be trained in manual and mechanical handling to enable them to safely lift and install Pegler valves.

4. The valve selected must be suitable for the required service conditions. The pressure and temperature limitations are indicated on the valve nameplates, body or data plate. They must not be exceeded.

5. Valve seats, seals and internal components can be damaged by system debris. Protective devices may need to be fitted and system flushing may be required.

6. Any flushing fluid used to clean the pipeline must not cause any damage to the valve and its components.

7. Pegler valves must not be misused by lifting them by their hand wheels, levers or valve stems.

8. Pegler valves are not suitable for fatigue loading, creep conditions, fire testing, fire hazard environment, corrosive or erosive service, or for carrying fluids containing abrasive solids. There is no allowance for corrosion in the design of these valves. Design for this valve do not allow for decomposition of unstable fluids and must not be used where this could occur.

9. Pegler valves are not designed to withstand the effects of fire, wind, earthquakes and traffic.

10. All Health and Safety Rules must be followed when installing and maintaining valves.

2.7 Installation – Screwed valves

Unpack the valve.
Check that the valve is correct for its intended use.
Check that the flow paths are clear and that the threads are clean and free from debris.
Ensure that the valve is fully open during installation.
Fix the threaded pipe into a vice and apply sealing compound on to the male pipe threads.
Use sealing compounds that do not over pack the threads. Preferred materials are PTFE thread tape or suitable liquid/paste sealant.
Do not use hemp.
Screw the valve on to the pipe.
Use the spanner flats adjacent to the pipe joint being made.
Do not use the flats at the opposite end of the valve.
Ensure that good quality, close fitting tools are used.
Avoid tightening to such an extent that the female end becomes permanently deformed.
Valves must not be over tightened.
Use suitable hangers close to both ends of the valve in order to remove stresses transmitted by the pipe.

For adapted variants of the PB500Series please refer to the appropriate data pages of the catalogues:

2.8 XPress PS, PS, XT and XTU

http://www.pegleryorkshire.co.uk/MEDIA/Downloads/CC_001/43217040_XPress_Press_Fit_Solutions.pdf

2.9 Tectite PT, XT and XTU

http://www.pegleryorkshire.co.uk/MEDIA/Downloads/88782503_PE993TectiteDatabook09.pdf

3.0 Henco MLH, MLC

http://www.pegleryorkshire.co.uk/MEDIA/Downloads/CC_001/05406269_Henco_March_11.pdf

NB. Where valves have been factory adapted with end connectors for XPress and Tectite installations their performance is limited to lowest pressure/ temperature rating of either the valve or the connector.

3.1 Testing

1/4" to 4" - each products shall be pneumatically tested at 6 bar (90psig) for 5 sec. There shall be no signs of visible leakage from the Body / Cap joint, surfaces or seals.

After testing

the valves shall be left fully 'Open'.

Type Testing

These tests shall be carried out at Pegler Limited on a sample basis in accordance with BS6001.

	1/4" to 4"
a) Hydrostatic body test	37.5 bar
b) Hydraulic seat test	27.5 bar
c) Pneumatic body test	6 bar
d) Pneumatic seat test	6 bar

Valve Type	Max. working Pressure (Bar)	Temperature at Max. working Pressure	Max. Working Temperature	Max. working pressure at Max. temperature (bar)
Screwed Female Taper	25	Up to 100˚C	Up to 150˚C	16.5
Screwed Female Parallel	25	Up to 100˚C	Up to 150˚C	16.5
Screwed Female (American)	25	Up to 100˚C	Up to 150˚C	16.5
XPress	16	Up to 30˚C	Up to 110˚C	16
XPress Union	16	Up to 30˚C	Up to 110˚C	16
XPress x Tectite	16	Up to 30˚C	Up to 95˚C	6
XPress Union x Tectite	16	Up to 30˚C	Up to 95˚C	6
Tectite	16	Up to 30˚C	Up to 95˚C	6
Multi Layer PVDF	10	Up to 95˚C	Up to 95˚C	10
Multi Layer Brass	10	Up to 95˚C	Up to 95˚C	10

Certification

WRAS approved on all sizes and end connection variant.
EN331:1998 gas approved 1/4" to 2" (DN8 to DN50), PB500 Yellow lever and Yellow T handle variants only.

Operation/Commissioning

Pegler PB500 series valves are operated by a quarter turn (90˚) movement of the of the lever handle so that to open it is in line with the pipe run in which it is installed. To close - turn the lever 90˚ so that it is across the line of the pipe in which installed. Full opening and closing is completed when a full 90˚ is achieved and the lever is firmly set against the stop on the valve body.

Pegler PB500 Series T handle valves are operated by a quarter turn (90˚) movement of the of the Tee handle so that to open it is in line with the pipe run in which it is installed. To close - turn the Tee handles 90˚ so that it is across the line of the pipe in which installed. Full opening and closing is completed when a full 90˚ is achieved and the Tee handle is firmly set against the stop on the valve body.

Pegler PB500T Series may be adjusted to a "locked closed "position by removing the handle securing screw when the valve has been turned off/ closed. Once the securing screw has been removed the Tee handle can then be removed and rotated through 180˚ before being re-sited, engaging the handle on to the body lug. The securing screw can then be inserted and tightened with a hexagon to complete the procedure.

Open position Closed position

3.2 Additives

For information on additives compatible with Xpress systems visit www.pegleryorkshire.co.uk/en/brochures/bulletins. It is strongly recommended to consult a commissioning engineer in conjunction with the manufacturer prior to their use.

3.3 Warranty

Products are subject to a 5 year guarantee that is between Pegler Yorkshire and the final purchaser of the product.
The guarantee is subject to proof of purchase being supplied.
This guarantee does not affect any statutory rights the consumer may have in law.
The guarantee covers manufacturing or material defects and does not cover parts subject to normal wear and tear.
This product range has been designed for the use of homeowners, domestic and commercial applications and therefore the guarantee is subject to the product being properly selected for their intended service conditions.
The guarantee is not applicable where the product is fitted contrary to the conditions in the fitting instructions.
This is reinforced where valves are covered by the European Pressure Equipment Directive (PED97/23/EC) where Installation, Operating and Maintenance Instructions are supplied with each product and/or carton.
Provided it is installed correctly and receives adequate preventative maintenance it should give years of trouble –free service.
Abusive behaviour and accidental damage to the product are not covered by this guarantee.
The extent of this liability is limited to the cost of the replacement of the defective item and not to fitting or consequential damages.

4.0 Storage

Valves should be stored off the ground in a clean, dry, indoor area. Where desiccant bags are included these should be changed after a period of six months.

Pegler valves are supplied in appropriate packaging to give adequate protection from damage. Cast iron and steel valves may also have end protection caps.

When Pegler valves are fitted to pressure equipment or assemblies, suitable protective devices may be required.

Pegler valves with adapted ends for Press, Push and Multi layer press fitting are packed in plastic bags to protect the connection ends. The valves should not be removed until the time of assembly in order to protect the connections and avoid contamination of the o ring and lubricants.

5.0 Contact details

For further details please contact our technical department: **0800 156 0050**

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