COMMERCIAL VALVE SOLUTIONS

Specification Clause

V905, V906 Series Butterfly Valves

1.0 Product Overview and Technical Details

The valves shall be drawn from the Pegler Commercial Cast Iron V905/V906 series (available from Pegler Yorkshire Group) are intended for isolating sections of pipe work and equipment in HVAC applications.

1.1 Tube compatibility

Valve Type	Flange Connection Specification
V905 PN16	Fully lugged. Flanges to EN1092-2 PN16
V905G PN16	Fully lugged. Flanges to EN1092-2 PN16
V906 PN16	Semi lugged. Flanges to EN1092-2 PN16
V906G PN16	Semi lugged. Flanges to EN1092-2 PN16

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

V905, V905G (Fully lugged ends for fitting between flanges) all sizes rated at PN16, Lever operated DN65 to DN200, Gear operated DN250 and DN300.

V906, V906G (Semi lugged ends for fitting between flanges) all sizes rated at PN16, Lever operated DN65 to DN200 and Gear operated DN250 and DN300.
Size range DN65-DN300

It is important that the valve selected is suitable for the required service conditions. Providing it is installed correctly and receives adequate preventative maintenance it should give years of trouble-free service.

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. Designs for this valve do not allow for decomposition of unstable fluids and must not be used where this could occur.

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

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

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 V905, V906 Series offers Heat free jointing across its whole range of flanged valves. These valve connections must not be brazed.

2.3 Insulation

For all Pegler V905, V906 Series valves, it is recommended that you adhere to the insulation requirements as specified by the Water Supply (Water Fittings Regulations 1999), 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.

V905, V906 Series valves perform best when they are installed in a horizontal position with the strainer sited beneath the pipeline but may be installed in a vertical pipeline as long as the flow direction is respected with the body arrow pointing in an upward direction.

2.5 Location/end of line service

Valves must be provided with adequate support. Adjoining pipe work must be supported to avoid the imposition of pipeline strains on the valve body, which would impair its performance,

Heavy valves may need independent support or anchorage.

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

These Butterfly valves must not be used in an end of line application without a blanking flange being fitted on 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 – Flanged valves

Unpack the valve and check that the flow paths and valve are clean and free from debris.
Check the body and handle markings to ensure that the correct valve has been selected for installation.
Before valve installation the pipe work to which the valve is to be connected should be inspected for cleanliness and freedom from debris.

Butterfly valves may be fixed in horizontal or vertical pipe lines, always leaving enough space for the operation of the lever handle or gear mechanism. Consideration should be given to large sized valves and their weight from a handling, securing and fixing viewpoint.

Pegler butterfly valves are manufactured to exacting standards and, therefore, should not be subjected to misuse. The following should be avoided:

- Careless handling of the valve- (Valves should not be lifted using the lever or gear mounting).
- Dirt and debris entering the valve through the end ports.
- Excessive force during assembly and handle operation.

Use suitable hangers close to both ends of the valve in order to remove stresses transmitted by the pipe.

V905, V905G are fully lugged Butterfly valves-these valves are joined with mating flanges using the threaded bolt holes to secure the assembly. V906, V906G are semi lugged Butterfly valves that are fitted between two flanges using through bolting. Gaskets must not be used with these Butterfly valves as the design incorporates EPDM flange seals.

Bolt tightening should proceed from the bottom flange hole and then use the cross over method with the appropriate torque, taking care to ensure that the correct specification and size of bolt is utilized for the application.

3.0 Testing

DN65 to DN300 - each products shall be pneumatically tested at 6 bar (90psig) for 5 sec. There shall be no signs of visible leakage from the Body / Bonnet 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.

	DN65 to DN300
a) Hydrostatic body test	24 bar
b) Hydraulic seat test	17.6 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)
Flanged to EN1092-2 PN16	16	Up to 130˚C	Up to 130˚C	16

PN rated valves

PN	Non-shock pressure at temperature range	Non-shock pressure at Maximum temperature
16	16bar -10˚C up to 130˚C	16bar -10˚C up to 130˚C
	Suitable for use with Group 2 Liquids only	

Not suitable for use with Group 1 Liquids, Group 1 Gases or Group 2 Gases, CE marking is not required.

Certification

WRAS Approved.

Operation/Commissioning

The valve is self acting but the strainer may require cleaning after commissioning and then at regular intervals during its lifecycle.

In systems where corrosion could be a potential hazard, wall thickness checks on the body and bonnet should be made. This requires either the removal of the valve from the pipeline or the removal of the bonnet with system at zero pressure. If the wall thickness of the valve has reduced by 25% then the valve should be replaced.

3.1 Additives

It is strongly recommended to consult a commissioning engineer in conjunction with the manufacturer prior to their use.

3.2 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.
When Pegler valves are fitted to pressure equipment or assemblies, suitable protective devices may be required.

5.0 Contact details

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

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