Specification clause

Pegler Proflow pressure independent control valve

1.0 product overview and features

The new Pegler ProFlow 1500 is a great addition to the PICV family, with a range flexibility of DN15 to DN50, the new 1500 PICV comes complete with a direct fast flush cap giving simple access to removing the cartridge. The location of test points allow direct flow measuring utilising the built in venturi technology.

key features

- achieves 2% to 6% flow measurement accuracy across all setting points
- fast measuring with fixed venturi orifice
- easy cartridge exchange
- allows for full-flow flush
- settings visible when the actuator is attached

specification clause

The Pressure Independent Control Valve (PICV) shall be a Pegler 1500 model.
The PICV is designed to provide precise flow regulation in HVAC systems by maintaining a constant flow rate regardless of changes in system pressure. It shall incorporate a differential pressure control mechanism for accurate flow regulation.
The PICV shall be available in sizes suitable DN15 to DN50 for the specific project requirements.
The valve size/type shall be determined based on the flow rates of the system.
The pressure rating of the PICV shall be PN25.
The valve body shall be constructed of CW511L or CC705Sbrass, providing excellent corrosion resistance and durability.
The material shall be compatible with the system medium (e.g., water, air) and any specific environmental conditions.
The PICV shall exhibit a fast acting flow characteristics, allowing control of the flow rate throughout the operating range.
The PICV shall be suitable for use with a motoric and thermic actuator, as specified by the project requirements.
The actuator shall provide reliable and accurate modulation of the valve position based on control signals from the building automation system.
The PICV shall include a position Indicator to show the setting point after commissioning and must remain visible following installation of the actuator.
The manufacturer shall provide comprehensive documentation, including product datasheets, installation instructions, operation manuals, and maintenance guidelines for the PICV.

1.1

tube compatibility

valve type	end connection specification
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
VSH XPress*	VSH 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
VSH XPress union*	VSH 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

*Connection ends only supplied, and fitting mounted by Pegler on to these valves

1.2

technical performance specification

size range

Threaded - 1/2" female (ISO R228/1)G
VSH Xpress - 15mm to 54mm (M profile)

materials

body	brass CW511L (DN15-25) brass CC7705 lead-free (DN32-50)
cap	brass CW511L (DN15-25) brass CC7705 lead-free (DN32-50)
cartridge	Polyphenylene Sulphide (PPS)
indicator	Stainless steel (AISI 304)
"O" ring	EPDM (EPI/1/5)
spring clip	Stainless steel (302526)
socket screw	Stainless steel (A2-70)
test point	Brass (CW602N)
end connection	Gunmetal (EN CC491K)
flat seal	fibre
union nut	brass (CW602N)

pressure ratings

Valves must be installed in a piping system where the 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 for applications for which they have not been designed.

Type	Temperature range	Pressure at min working temperature	Pressure at max working temperature
threaded	-10°C to 90°C	25	25
VSH XPress	-10°C to 90°C	16	16

operating pressure range

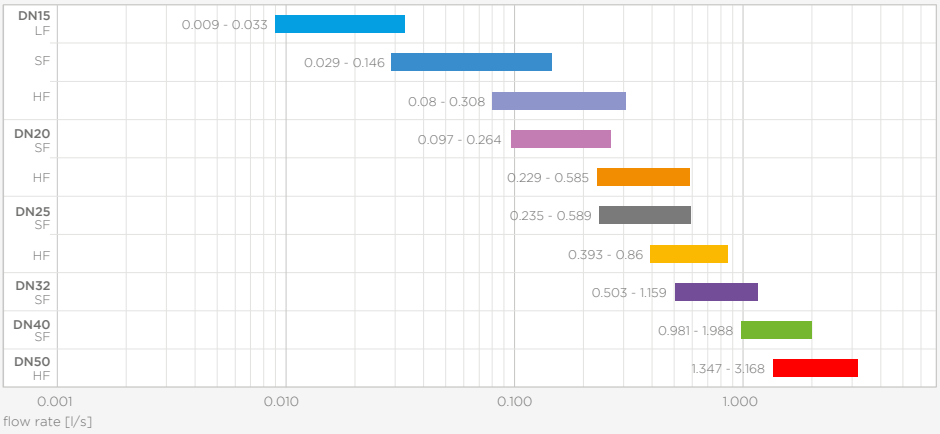
30 - 400 kPa for all sizes

PED category

Sound Engineering Practice (SEP)

valve flow range

	flow [l/s]		flow [l/min]		flow [l/h]		
dimension	min.	max.	min.	max.	min.	max.	Kvs [m3/h]
G½" (DN15) LF	0.009	0.033	0.54	1.98	32.4	118.8	0.227
G½" (DN15) SF	0.029	0.146	1.74	8.76	104.4	525.6	0.839
G½" (DN15) HF	0.080	0.308	4.80	18.48	288.0	1108.8	2.649
G¾" (DN20) SF	0.097	0.264	5.82	15.84	349.2	950.4	1.909
G¾" (DN20) HF	0.229	0.585	13.74	35.1	824.4	2106.0	4.681
G1" (DN25) SF	0.235	0.589	14.1	35.34	846.0	2120.4	4.850
G¾" (DN25) HF	0.393	0.86	23.58	51.6	1414.8	3096.0	8.299
G1 ¼" (DN32) HF	0.503	1.159	30.18	69.54	1810.8	4172.4	7.978
G1 ¾"(DN40) SF	0.981	1.988	58.86	119.28	3531.6	7156.8	17.878
G2" (DN50) HF	1.347	3.168	80.82	190.08	4849.2	11404.8	31.458



flow rate Pegler ProFlow 1500 PICV

2.0 installation

All pipe connections made to the product must be carried out in accordance with the guide offered for the connection type utilised.

Details on the jointing methods for threaded, VSH Xpress, VSH Tectite , Endex, Yorkshire, Kuterlite znd PowerPress can be found on the Aalberts IPS UK website.

Threaded
XPress
Tectite
Endex
Yorkshire
Kuterlite
PowerPress

2.1 operation

Unpack the valve and check that the flow paths and valve threads are clean and free from debris. Check the body markings and nameplate, where fitted, 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. The valve is marked with a directional flow arrow on the body. The valve will function correctly providing it is fitted so that the fluid transported follows the indicated flow direction.

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

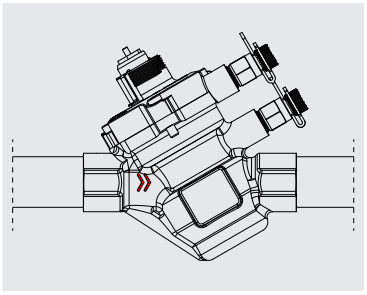
- careless handling of the valve
- dirt and debris entering the valve through the end ports
- excessive force during assembly and operation

Use suitable hangers close to both ends of the valve in order to remove stresses transmitted by the pipe. Confirm that the pipe threading length is correct to avoid excessive penetration of the pipe into the valve that would otherwise cause damage. Care should be taken to apply jointing compound to the pipe only and not in the valve threads. Surplus compound will then be forced outwards and will not enter the valve. Overuse of compound can lead to valve failure on the body ends.

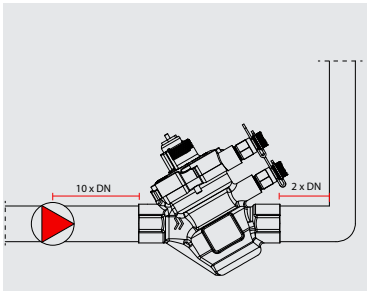
Threads should be engaged correctly when tightening the valve onto the pipe. The wrench should always be fitted on the body end adjacent to the joint being made. Severe damage can occur to stems, valves and seats by the use of hand wheels or levers larger than those originally supplied by the manufacturer, and by wheel keys.

Press-fit valves include the VSH XPress connectors and these are Gunmetal and are suitable for copper tube, stainless steel and carbon steel tube. The joints are of the leak before press type and utilise the M press profile. Full instructions are on press jointing are available in the VSH XPress technical manual.

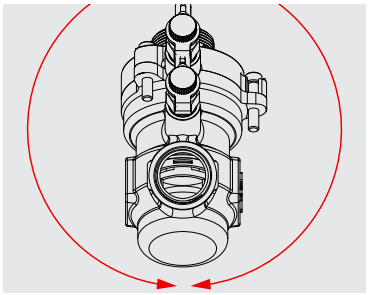
mounting



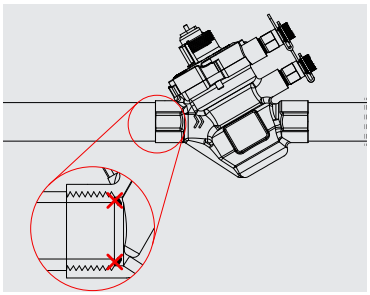
1. an arrow on the Pegler ProFlow 1500 PICV housing indicates the flow direction



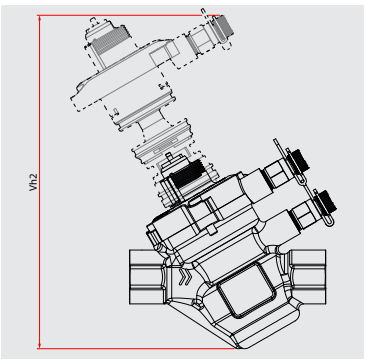
4. 10 x DN straight piping is required when the valve is mounted directly after the system pump



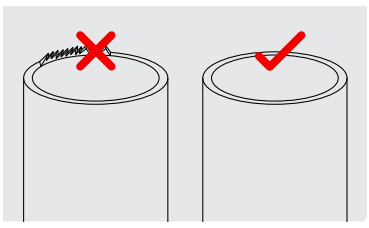
2. the Pegler ProFlow 1500 PICV can be installed in any orientation



5. 10 x DN straight piping is required when the valve is mounted directly after the system pump and 2 x DN is required after the valve and before any bend



3. additional space is required to remove the cartridge for flushing and installing an actuator

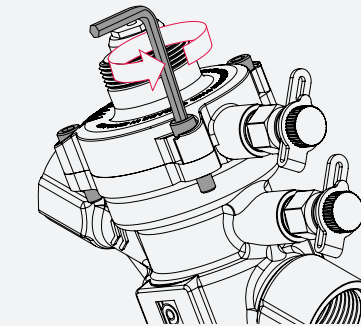


6. deburring of pipe ends is required to prevent system clogging

7. when installing Pegler ProFlow PS1500 PICV valves please refer to the VSH XPress technical manual for VSH XPress connection instructions

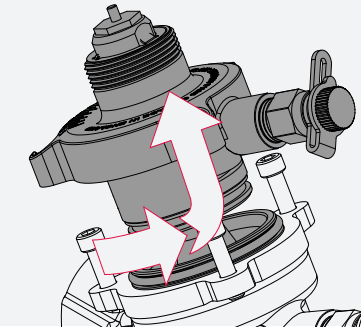
Pegler ProFlow 1500 DN15, DN20 and DN25

operation



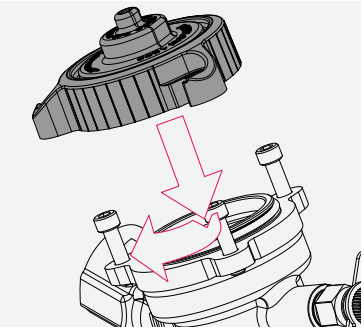
1. system flushing
loosen (do not remove) cap bolts with Allen Key

turn anti-clockwise to release

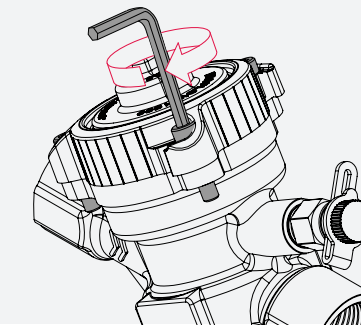


2. remove cap and cartridge from body

keep it clean

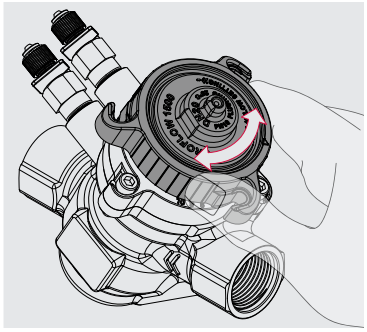


3. fit flushing cap
turn clockwise
engage bolts



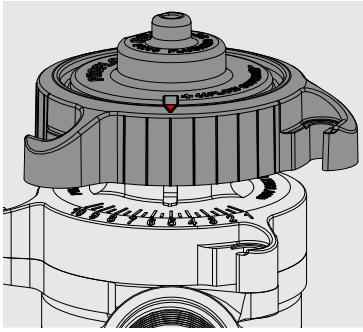
4 tighten cap bolts with Allen Key

commissioning steps

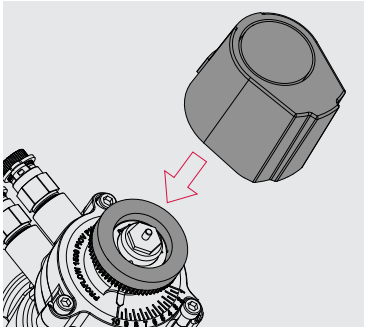


1. regulation
clockwise to increase flow

anti-clockwise to decrease flow



2. set the flow rate using the indicator on the flushing cap

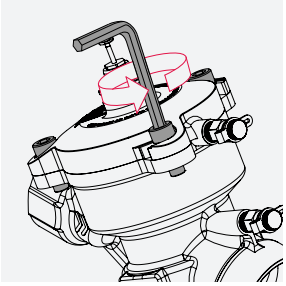


3. install the actuator (using its provided instructions) and any relevant adaptors

note: the thread on the Pegler ProFlow 1500 PICV is M30 x 1.5

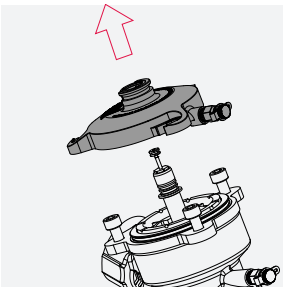
Pegler ProFlow 1500 DN32, DN40 and DN50

operation

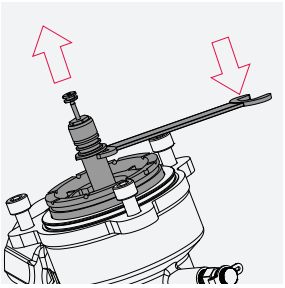


1. system flushing
loosen (do not remove) cap bolts with Allen Key

turn anti-clockwise to release

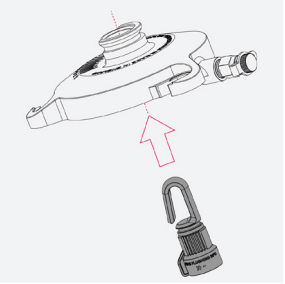


2. remove cap from cartridge and body

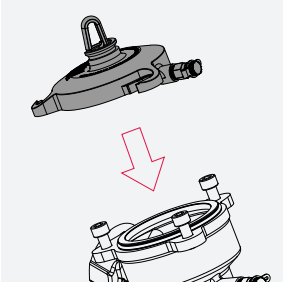


3. carefully lever cartridge up with an appropriate spanner

keep it clean



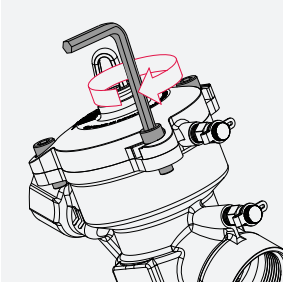
4 insert flushing plug



5. fit cap

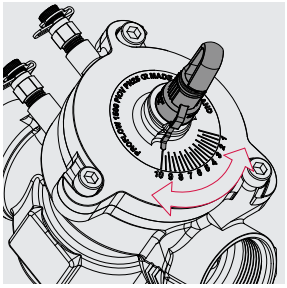
turn clockwise

engage bolts



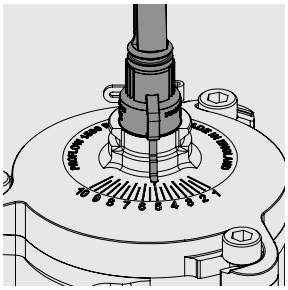
6. tighten cap bolts with Allen Key

commissioning steps

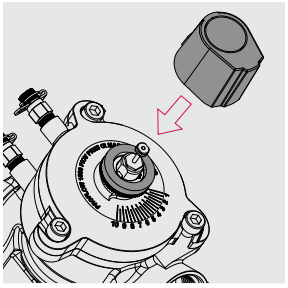


1. regulation
clockwise to increase flow

anti-clockwise to decrease flow



2. set the flow rate using the indicator on the flushing plug



3. install the actuator (using its provided instructions) and any relevant adaptors

note: the thread on the Pegler ProFlow 1500 PICV is M30 x 1.5

2.2 **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.

2.3 **heat free**

The Proflow dynamic 1600 Series offers Heat free jointing across its whole range with threaded, and VSH XPress connection technology. These valve connections must not be brazed.

2.4 **insulation**

For all products, 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.

2.5 **valve selection**

Valves must be properly selected for their intended services conditions. 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.

2.6 **location / end of line service**

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

3.0 **testing**

Products are subject to a pressure decay test to ensure sealing of the valve. There shall be no signs of leakage from the body / cap joint for the duration of the test.

type testing

Type tests shall be carried out ay Aalberts IPS UK on a sample basis in accordance with BS6001.

3.1 **certification**

Not applicable

3.2 **additives**

For information on additives compatible with VSH XPress, VSH Tectite and VSH PowerPress systems visit www.pegler.co.uk/en/brochures. It is strongly recommended to consult a commissioning engineer in conjunction with the manufacturer prior to their use.

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.

Pegler valves with adapted ends for 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 warranty

All guarantees are between Pegler and the final purchaser of the product.

The guarantee is subject to proof of purchase being supplied and 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. Products which are designed for the use in commercial applications must be 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 behavior 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.

warranty periods

VSH XPress

XPress copper and XPress copper gas fittings with copper tube - 25 Year (30 Year if using Yorkex copper tube) XPress stainless and XPress stainless gas fittings with XPress stainless steel system tube - 25 Year (30 Year when using XPress 316 tube)
XPress carbon fittings with XPress carbon steel and XPress plastic coated carbon steel tube - 10 years

VSH Tectite

Sprint fittings with copper, PEX and PB tube - 25 years
Classic fittings with flexible metal, copper, PEX and PB tube - 25 years
Pro fittings with flexible metal, copper, PEX and PB tube - 25 years
316 fittings with stainless steel, flexible metal, copper, PEX and PB tube - 25 years

Yorkshire

Yorkshire ISR fittings with copper tube - 25 years
Yorkshire GHD fittings with copper tube - 25 years

Endfeed

Endex fittings with copper tube - 25 years
Endbraze fittings with copper tube - 25 years

Kuterlite

K600 fittings with copper tube - 25 years
K600 fittings with XPress Stainless steel system tube (up to and including 28mm) - 25 years
K600 fittings with XPress Carbon system tube (up to and including 28mm) - 10 years
K900 fittings with copper tube - 25 years
K900 fittings with XPress Stainless steel system tube (up to and including 28mm) - 25 years
K900 fittings with XPress Carbon system tube (up to and including 28mm) - 10 years

Pegler Valves

Resident valve - 2 years
ProFlow valves - 2 years

terms and conditions

Full terms and conditions can be found on the Pegler website at www.aalberts-ips.co.uk

6.0 contact details

technical department

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