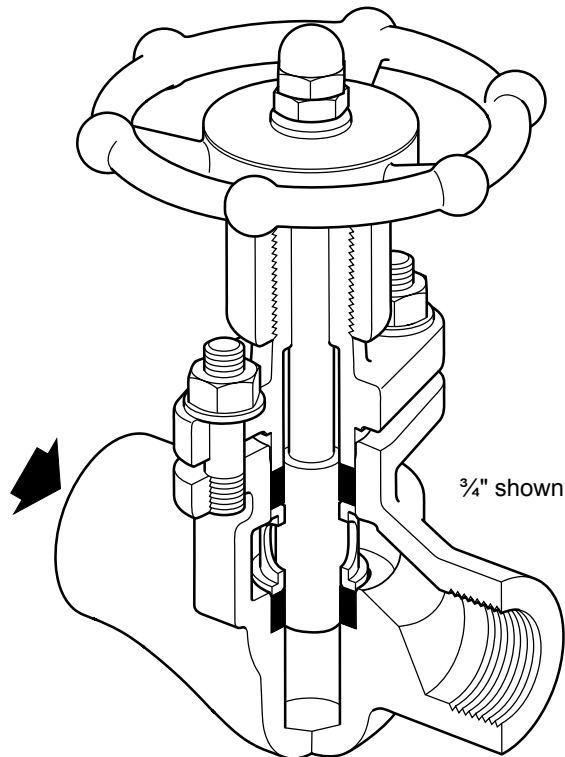


PV4 and PV6 Piston Valves

Description

The PV4 and PV6 are piston isolation valves that have been designed for use on steam, condensate and other liquid systems.

Available types:



Screwed, butt weld and socket weld connections

PV4 Carbon steel body/bonnet and stainless steel internals

PV6 Stainless steel body/bonnet and stainless steel internals

Standards

This product fully complies with the requirements of the European Pressure Equipment Directive 97/23/EC.

Certification

This product is available with certification to EN 10204 3.1.

Note: All certification/inspection requirements must be stated at the time of order placement.

Sizes and pipe connections

1/2", 3/4", 1", and 1 1/4"

NPT to (ASME B1.20.1) or BSP (BS21 / DIN 2999)

Butt welded ends to EN 12627:1999BW - ASME B16.25

Socket weld ends to ASME B 16.11

Cv Values

Screwed, socket weld and butt weld	Size	1/2"	3/4"	1"	1 1/4"
	Cv (US)	3.5	5.2	9.8	16.2

For conversion:

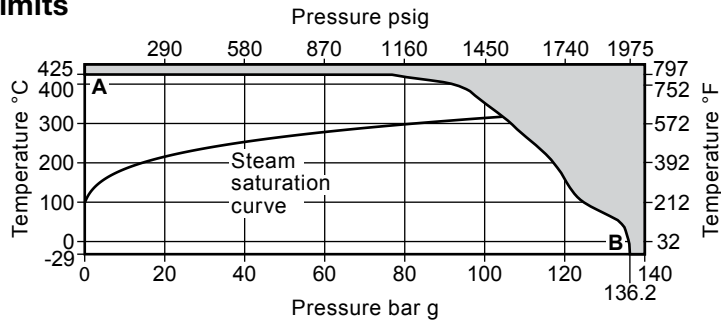
$$K_v = \frac{C_v(\text{US})}{1.156} \quad C_v(\text{US}) = K_v \times 1.156$$

Local regulation may restrict the use of this product below the conditions quoted. Limiting conditions refer to standard connections only. In the interests of development and improvement of the product, we reserve the right to change the specification.

PV4 and PV6 Piston Valves

Pressure/ Temperature Limits

PV4

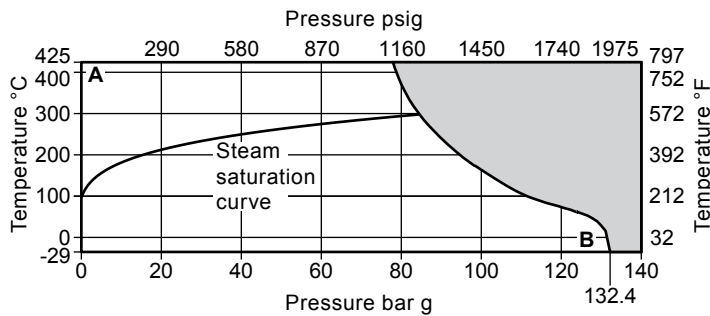


The product **must not** be used in this region.

A - B Screwed, socket weld and butt weld

Body design conditions	API Class 800
PMA Maximum allowable pressure	1975 psig @ 100°F (136.2 bar g @ 38°C)
TMA Maximum allowable temperature	797°F @ 1112 psig (425°C @ 76.7 bar g)
Minimum allowable temperature	-20°F (-29°C)
PMO Maximum operating pressure for saturated steam service	1508 psig (104 bar g)
TMO Maximum operating temperature	797°F @ 1112 psig (425°C @ 76 bar g)
Minimum operating temperature	-20°F (-29°C)
Note: For lower operating temperatures consult Spirax Sarco	
Designed for a maximum cold hydraulic test pressure of	2963 psig (204.3 bar g)

PV6

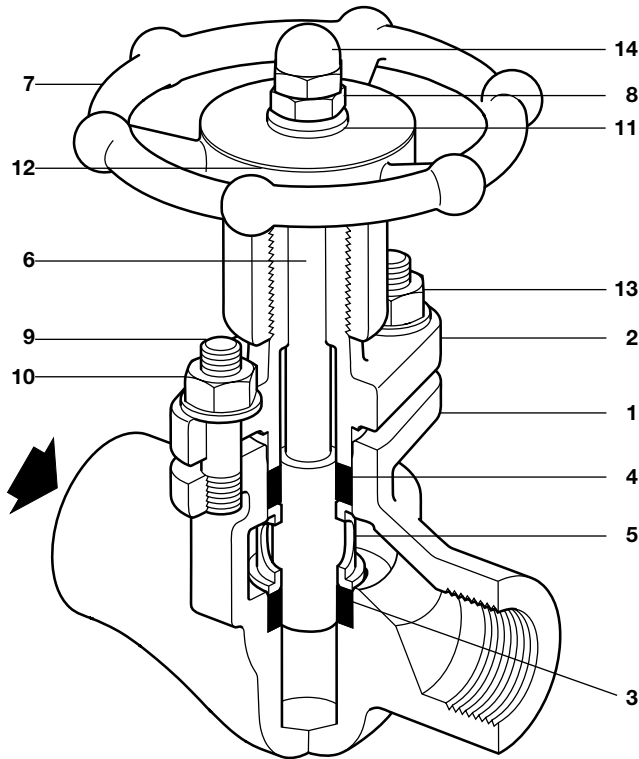


The product **must not** be used in this region.

A - B Screwed, socket weld and butt weld

Body design conditions	API Class 800
PMA Maximum allowable pressure	1920 psig @ 100°F (132.4 bar g @ 38°C)
TMA Maximum allowable temperature	797°F @ 1117 psig (425°C @ 77 bar g)
Minimum allowable temperature	-20°F (-29°C)
PMO Maximum operating pressure for saturated steam service	1218 psig (84 bar g)
TMO Maximum operating temperature	797°F @ 1117 psig (425°C @ 77 bar g)
Minimum operating temperature	-20°F (-29°C)
Note: For lower operating temperatures consult Spirax Sarco	
Designed for a maximum cold hydraulic test pressure of	2879 psig (198.5 bar g)

PV4 and PV6 Piston Valves



Materials

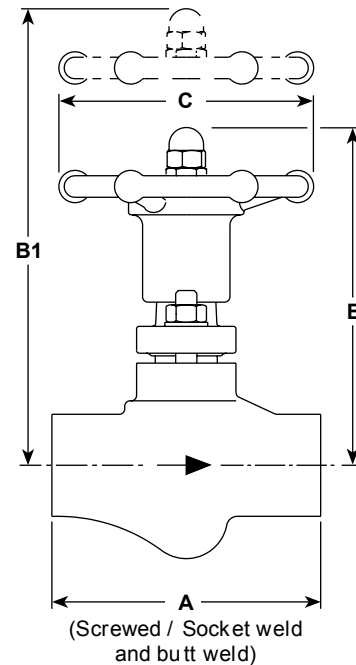
No.	Part	Material	Connection
1	Body	PV4	Carbon steel Screwed (NPT / BSP / SW / BW) ASTM A105N
		PV6	Stainless steel Screwed (NPT / BSP / SW / BW) EN 1.4401 / AISI 316
2	Bonnet	PV4	Carbon steel Screwed (NPT / BSP / SW / BW) ASTM A105W
		PV6	Stainless steel Screwed (NPT / BSP / SW / BW) EN 1.4401 / AISI 316
3	Lower sealing rings	$\frac{1}{2}$ " (DN15)	Graphite laminate / Stainless steel
		$\frac{3}{4}$ " to $1\frac{1}{4}$ " (DN20 to DN32)	Stainless steel
4	Upper sealing rings	$\frac{1}{2}$ " (DN15)	Graphite laminate / Stainless steel
		$\frac{3}{4}$ " to $1\frac{1}{4}$ " (DN20 to DN32)	Stainless steel
5	Lantern bush	PV4	Stainless steel EN 1.4057 / AISI 431
		PV6	Stainless steel EN 1.4401 / AISI 316L
6	Piston	PV4	Stainless steel EN 1.4401 / AISI 316
		PV6	Stainless steel EN 1.4404 / AISI 316L
7	Handwheel	Carbon steel	
8	Handwheel nut	Carbon steel	
9	Stud bolt	PV4	Carbon steel ASTM A193 B7
		PV6	Stainless steel ASTM A193 GrB8M2
10	Nut	PV4	Carbon steel ASTM A194 2H
		PV6	Stainless steel ASTM A193 GrB8M2
11	Washer	Stainless steel	
12	Name-plate	Stainless steel	
13	Belleville washer	Stainless steel	
14	Blind nut	Carbon steel	

PV4 and PV6 Piston Valves

Dimensions / Weights approximate in inches (mm) and pounds (kg)

Screwed, socket weld and butt weld

Size	A	B	B1	C	Weight
1/2"	3.3 (85)	4.0 (102)	4.6 (118)	3.7 (95)	2.6 (1.2)
3/4"	3.9 (100)	5.0 (126)	5.9 (150)	3.7 (95)	3.5 (1.6)
1"	4.7 (120)	5.9 (150)	7.1 (180)	4.5 (115)	6.2 (2.8)
1 1/4"	5.5 (140)	6.9 (175)	8.6 (218)	5.9 (150)	9.0 (4.1)



Safety Information, Installation and Maintenance

For full details see the Installation and Maintenance Instructions (IM-P118-05) supplied with the product.

Caution: Valve keys should not be used to operate these valves.

Installation note:

Install the valve in the direction of flow given by the arrow on the body. The valve can be installed in any plane but not with the handwheel below the valve body.

Disposal

The product is recyclable. No ecological hazard is anticipated with the disposal of this product, providing due care is taken.

How to Order

Example: 1 off Spirax Sarco 1/2" PV4 piston valve having screwed NPT connections. The valve is to be supplied with EN 10204 3.1 certification. The C_v is to be 3.5.

PV4 and PV6 Piston Valves

Spare parts

Spare parts are available as indicated. No other parts are supplied as spares.

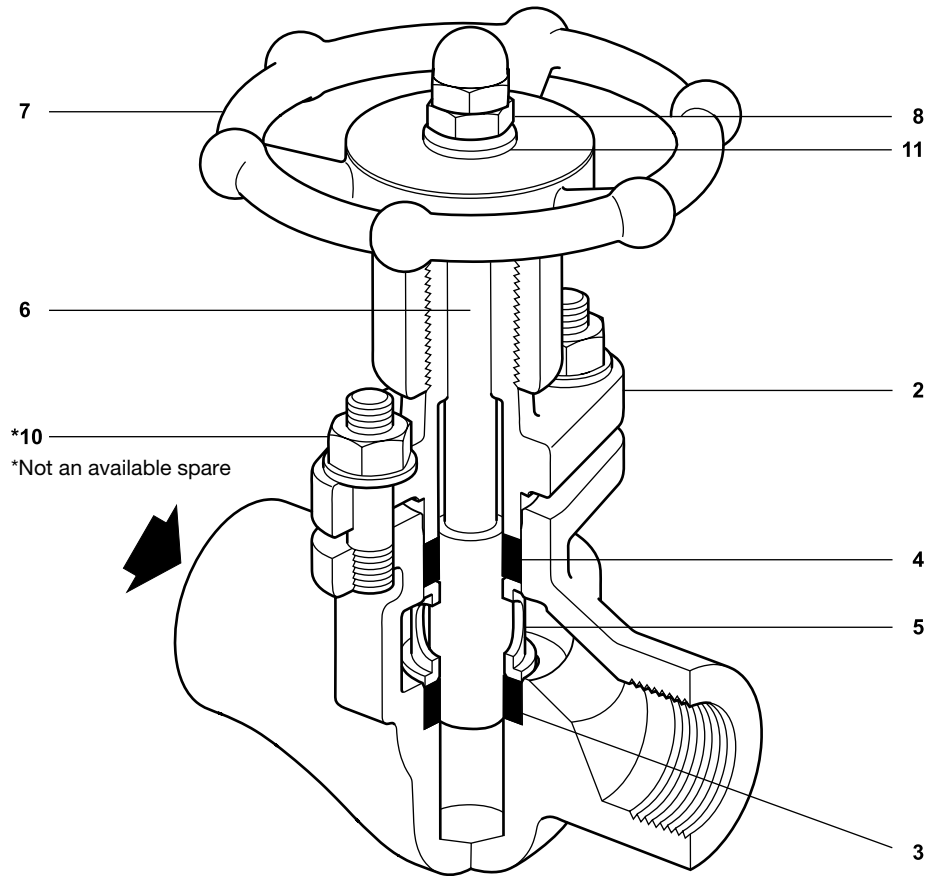
Available spares

Set of sealing rings	3 and 4
Bonnet assembly	2,3,4,5,6,7,8 and 11

How to order spares

Always order spares by using the description given above and state the size and type of valve.

Example: 1 - Bonnet assembly for a Spirax Sarco 1/4" PV4 piston valve.



Recommended tightening torques

Screwed, socket weld and butt weld

Item	Valve size	Bolting size		No. of bolts	Torque	
		Carbon steel body	Stainless steel body		lbs. ft.	Nm
10	1/2"	5/16" - 18 UNC	M8 x 1.25	2	8.8	12
	3/4"	5/16" - 18 UNC	M8 x 1.25	2	6.6	9
	1"	5/16" - 18 UNC	M8 x 1.25	2	6.6	9
	1 1/4"	3/8" - 16 UNC	3/8" - 16 UNC	2	22.1	30

Caution: the torque of the studs is calculated to optimize the use of the product. An excessive torque can damage the valve internals (particularly if the product is open). The studs of valve can be retightened to extend the life of it, but only when it is closed and not more than the recommended torque.

TI-P118-06-US 4.18

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