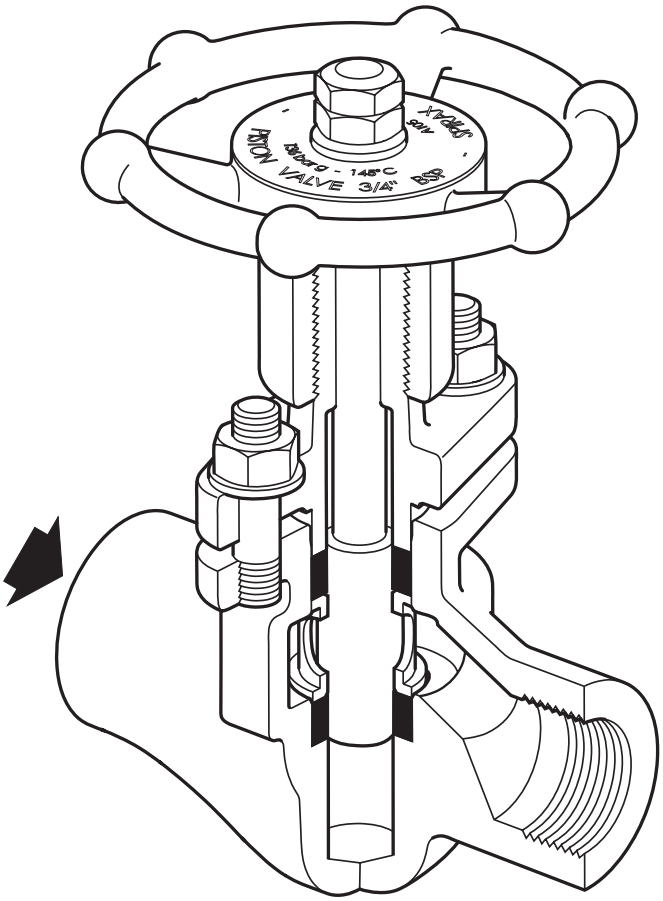
PV4 and PV6
Piston Valves

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



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

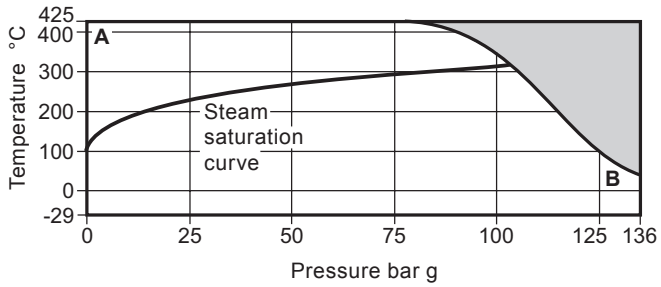
Standards
This product fully complies with the requirements of the Indian Boiler Regulations, 1950.

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

Sizes and pipe connections
½", ¾", 1", 1¼", 1½" and 2"
Butt welded ends to EN 12627:1999BW - ASME B16.25
Screwed BSP (BS 21 / DIN 2999) or NPT to (ASME B1.20.1)
Socket weld ends to ASME B 16.11

Pressure/temperature limits

PV4

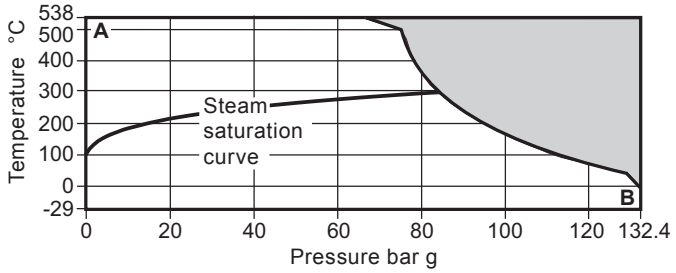


The product **must not** be used in this region.

A - **B** Screwed, socket weld and butt weld

Body design conditions		API Class 800
PMA	Maximum allowable pressure	136 bar g @ 38 °C
TMA	Maximum allowable temperature	425 °C @ 76 bar g
Minimum allowable temperature		-29 °C
PMO	Maximum operating pressure for saturated steam service	101 bar g
TMO	Maximum operating temperature	425 °C @ 76 bar g
Minimum operating temperature		-29 °C
Note: For lower operating temperatures consult Spirax Sarco		
Designed for a maximum cold hydraulic test pressure of		204 bar g

PV6



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

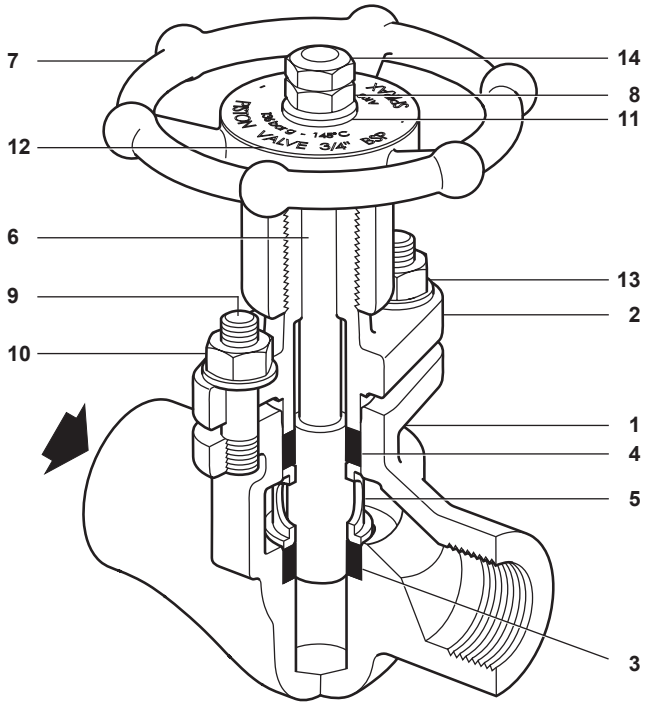
A - **B** Screwed, socket weld and butt weld

Body design conditions		API Class 800
PMA	Maximum allowable pressure	132 bar g @ 0 °C
TMA	Maximum allowable temperature	538 °C @ 67 bar g
Minimum allowable temperature		-29 °C
PMO	Maximum operating pressure for saturated steam service	84 bar g
TMO	Maximum operating temperature	538 °C @ 67 bar g
Minimum operating temperature		-29 °C
Note: For lower operating temperatures consult Spirax Sarco		
Designed for a maximum cold hydraulic test pressure of		198 bar g

K_V values

	Size	½"	¾"	1"	1¼"	1½"	2"
Screwed, Socket weld and butt weld	**K_V**	3	4.5	8.5	12	20.5	32

For conversion:
C_V (UK) = K_V x 0.963
C_V (US) = K_V x 1.156

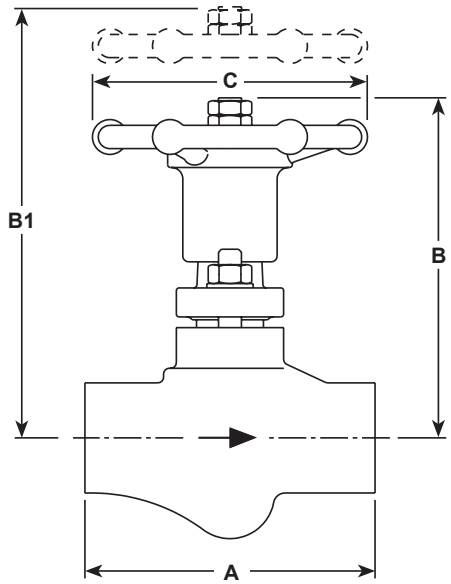


Materials

No.	Part		Material	
1	Body and Bonnet	**PV4**	Carbon steel	ASTM A105
2		**PV6**	Stainless steel	EN 1.4401 / AISI 316
3	Lower sealing rings		Graphite laminate	
			Stainless steel	
4	Upper sealing rings		Graphite laminate	
			Stainless steel	
5	Lantern bush	**PV4**	Stainless steel	EN 1.4057 / AISI 431
		PV6	Stainless steel	EN 1.4401 / AISI 316
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	

Dimensions/weights (approximate) in mm and kg
Screwed, socket weld and butt weld

Size	A	B	B1	C	Weight
½"	85	92	112	75	1.1
¾"	100	102	142	95	1.6
1"	120	134	174	115	2.8
1¼"	140	160	196	150	4.0
1½"	160	180	220	150	6.5
2"	185	210	265	201	15.0



(Screwed / Socket weld and butt weld)

Safety information, installation and maintenance
For full details see the Installation and Maintenance Instructions (IM-IBR-P174-01-EN-ISS1) 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.

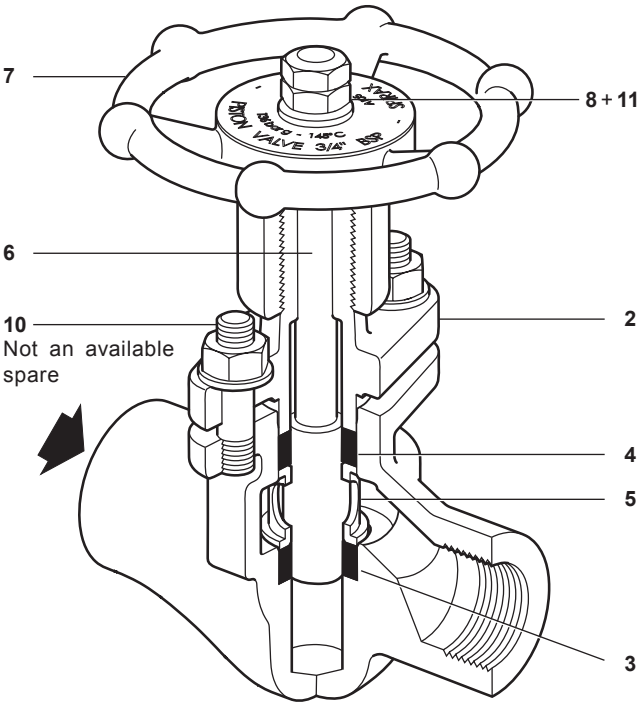
Disposal
The product is recyclable. No ecological hazard is anticipated with the disposal of this product, providing due care is taken.

How to order
Example: 1 off Spirax Sarco ½" PV4 piston valve having screwed NPT connections. The valve is to be supplied with IBR certification. The K_V is to be 3.0.

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 ½" PV4 piston valve.



Recommended tightening torques

Item	Size	or mm	N m
10	½"	13 A/F	12
	¾"	13 A/F	9
	1"	13 A/F	9
	1¼"	17 A/F	30
	1½"	22 A/F	35
	2"	26 A/F	70

Caution: The torque of the studs is calculated to optimise the use of the product. An excessive torque can damage the valve internals (particulary 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.