



Cert. No. LRQ 0963008

ISO 9001

spirax/sarco

TI-P118-01
ST Issue 5

RP31, RP32 and RP33 Piston Valves

Description

The RP valve is a piston isolation valve with a carbon steel body/bonnet and stainless steel internals. It can be used on steam, condensate and other liquid systems.

Available types:

RP31 Screwed connections

RP32 Socket weld connections

RP33 Flanged connections

Standards

This product fully complies with the requirements of the European Pressure Equipment Directive 97/23/EC. The valves conform to API 602.

Seat leakage

Seat shut-off conforms to API 602.

Certification

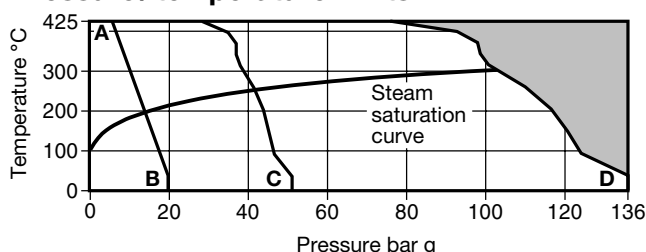
This product is available with certification to EN 10204 3.1.
Note: All certification/inspection requirements must be stated at the time of order placement.

Sizes and pipe connections

1/2", 3/4", 1", 1 1/2" and 2" screwed BSP (BS 21 / DIN 2999) or NPT to (ANSI B 2.1).

1/2", 3/4", 1", 1 1/2" and 2" socket weld ends to ANSI B 16.11 (API 602-800 lb).
DN15, DN20, DN25, DN40 and DN50 flanged ANSI B 16.5 Class 150 and Class 300.

Pressure/temperature limits



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

A - B Flanged to ANSI B 16.5 Class 150

A - C Flanged to ANSI B 16.5 Class 300

A - D Screwed and socket 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 0°C

Note: For lower operating temperatures consult Spirax Sarco
Designed for a maximum cold hydraulic test pressure of 205 bar g

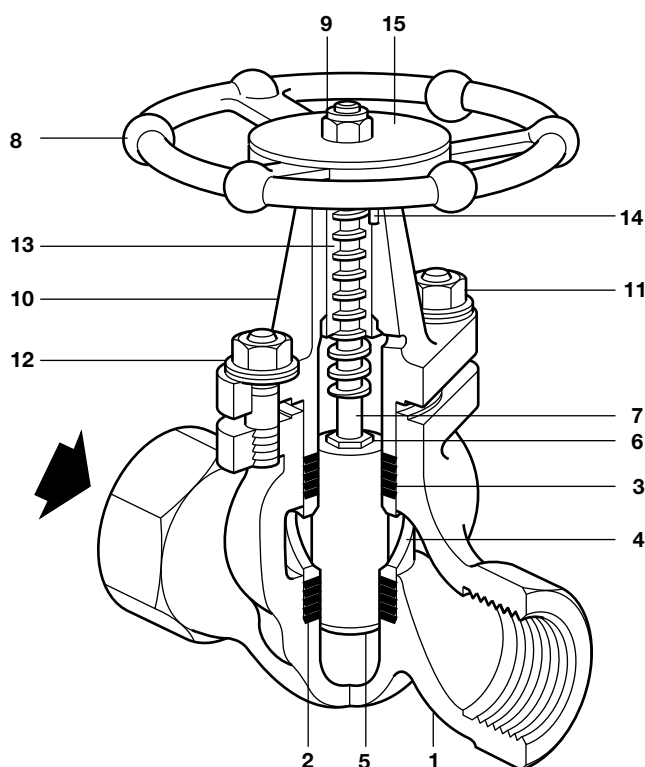
K_v values

Where available reduced bore and full bore K_{VS} are shown

Screwed and Socket weld	Size	1/2"	3/4"	1"	1 1/2"	2"
	K _v	3	4.5	8.5	20.5	32
Flanged	Size	DN15	DN20	DN25	DN40	DN50
	K _v	45	4.5/8	8.5/14	20.5/32	32/50

For conversion: C_v (UK) = K_v x 0.963

C_v (US) = K_v x 1.156



Materials

No.	Part	Material
1	Body	Carbon steel ASTM A105 ASTM A216 WCB
2	Lower sealing ring	Graphite laminate Stainless steel
3	Upper sealing ring	Graphite laminate Stainless steel
4	Lantern bush	Carbon steel
5	Piston	1/2" - 3/4" Stainless 1" - 2" XM34
6	Nut	Carbon steel
7	Spindle	Steel
8	Handwheel	Screwed Carbon steel Socket weld Carbon steel Flanged Cast iron
9	Handwheel nut	Steel
10	Bonnet	Steel ASTM A105
11	Stud bolt	Steel ASTM A193 B7
	Nut	Steel ASTM A194 2H
12	Washer	Steel
13	Threaded bush 1 1/2" - 2"	OT 58
14	Pin 1 1/2" - 2"	Carbon steel
15	Name-plate	Stainless steel

* **Note:** Screwed and socket weld versions have 2 bonnet bolts.
Flanged versions have 4 bonnet bolts.

Local regulations may restrict the use of this product to below the conditions quoted.

In the interests of development and improvement of the product, we reserve the right to change the specification without notice.

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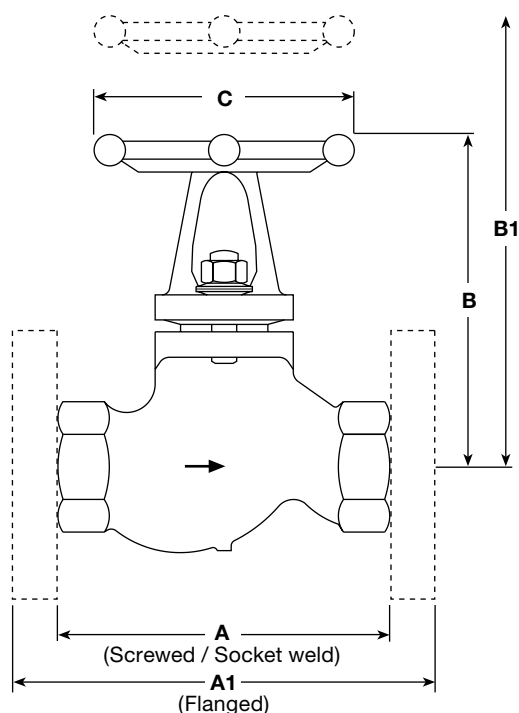
Dimensions/weights (approximate) in mm and kg

Screwed and socket weld

Size	A	B	B1	C	Weight
½"	85	92	112	75	1.0
¾"	100	102	142	95	1.6
1"	120	134	174	115	2.9
1½"	160	180	220	150	6.8
2"	185	210	265	175	10.2

Flanged

Size	A1		B		B1		C		Weight	
	ANSI 150	ANSI 300	ANSI 150	ANSI 300	ANSI 150	ANSI 300	ANSI 150	ANSI 300	ANSI 150	ANSI 300
½"	108	152	108	110	134	140	95	95	2.0	2.7
¾"	117	178	108	135	134	170	95	115	2.5	4.6
1"	127	203	133	150	165	185	115	115	4.2	7.0
1½"	165	228	170	195	212	250	150	150	8.7	14.0
2"	203	267	194	225	245	285	150	200	13.8	19.0



Spare parts

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

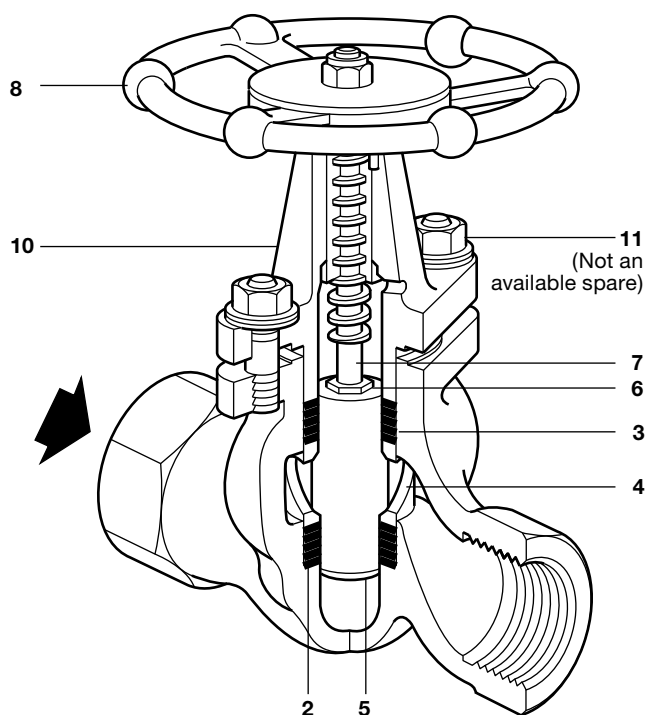
Available spares

Set of sealing rings	2, 3
Bonnet assembly	2, 3, 4, 5, 6, 7, 8, 10

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" RP31 piston valve.



Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P118-03) supplied with the product. 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" RP31 piston valve having screwed NPT connections. The valve is to be supplied with EN 10204 3.1 certification. The K_v is to be 3.0.

Recommended tightening torques

Item	Size	 or  mm	N m
11	DN15 - ½"	14	5
	DN20 - ¾"	17	6
	DN25 - 1"	17	8
	DN40 - 1½"	22	9
	DN50 - 2"	22	10