

## 1-1/2" BCV 31 Blowdown Control Valve

### Description

The Spirax Sarco BCV31 is a pneumatically operated control valve for the blowdown of steam boilers. It is normally used with a controller as part of an automatic TDS control system, though it can also be used for other high pressure drop flowrate applications.

The flowrate is adjusted by limiting the spindle stroke to regulate the size of the orifice that is uncovered.

The valve, which is specially designed to minimise seat erosion and ensure consistent tight shut-off, is supplied adjusted to a flowrate setting of 10 mm.

It can be adjusted to give different flowrates. The actuator has a mechanical stroke indicator and incorporates a rolling diaphragm. A 1/4" NPT plug at the base of the valve may be removed to allow a sample cooler to be fitted (available from Spirax Sarco).

The BCV31 requires a regulated and filtered air supply (1/4" NPT), which should be free of oil and water, and a solenoid valve, (available from Spirax Sarco).

### Operation:

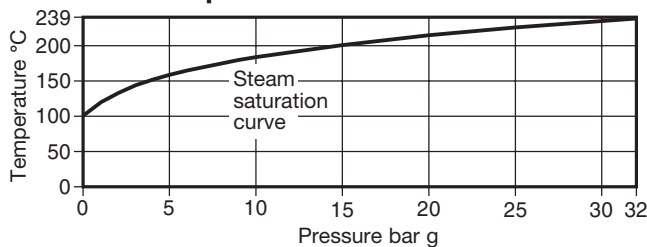
The valve is spring loaded to the closed position (spring retract), and is also held closed by the boiler pressure. When the solenoid valve opens, air is admitted to the actuator causing the valve to open to the selected stroke.

### Sizes and pipe connections

ANSI Class 300

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

### Pressure/temperature limits

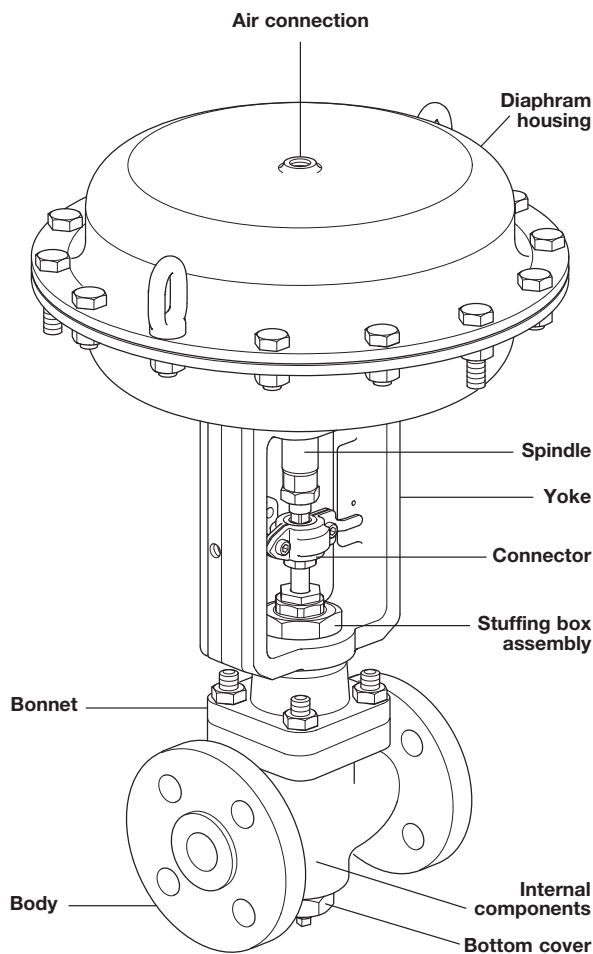


Maximum operating pressure	32 bar g	(464 psi g)
Maximum operating temperature	239°C	(462°F)
Maximum ambient temperature	110°C	(230°F)
Minimum ambient temperature	0°C	(32°F)
Minimum operating temperature	0°C	(32°F)
Air pressure range	2.5 to 6 bar g	(36 to 87 psi g)
Air consumption - normal (20 mm travel)	1.606 litres	(0.565 ft <sup>3</sup> )

### Capacities

Boiler pressure bar g	Blowdown valve capacity kg/h (lb/h)			
	5 mm stroke	10 mm stroke	15 mm stroke	20 mm stroke
5	450 (992)	2900 (6393)	3450 (7606)	3550 (7826)
7	475 (1047)	3300 (7275)	4100 (9039)	4500 (9921)
10	500 (1102)	3700 (8157)	4750 (10472)	5450 (12015)
15	550 (1212)	4550 (10031)	6450 (14210)	7150 (15763)
20	800 (1764)	5750 (12677)	8100 (17857)	8650 (19070)
32	1300 (2866)	8400 (18519)	10300 (22708)	11050 (24361)

**Note:** Intermediate flowrate strokes can be set on the 1 1/2" BCV31.



### Materials

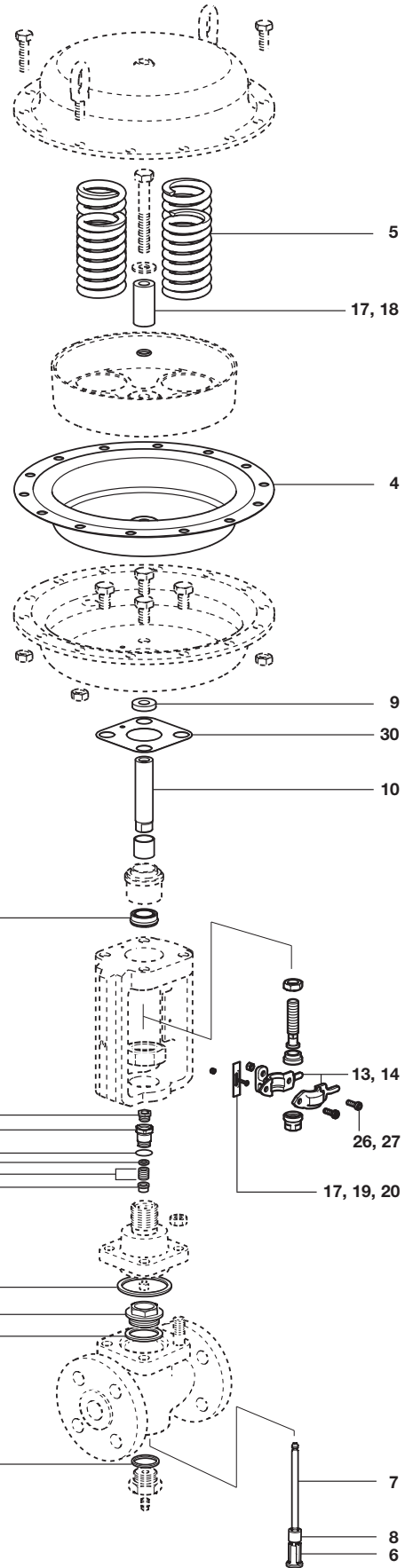
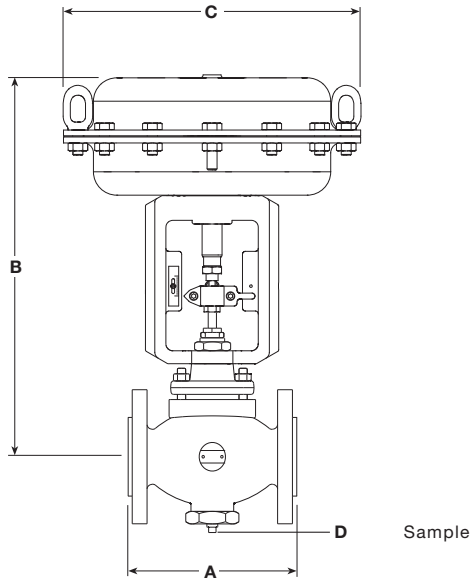
Part	Material
Body	Cast carbon steel DIN 17245 GS-C25
Bonnet	Forged carbon steel DIN 17243 C 22.8
Stuffing box assembly	Stainless steel / graphite seals ASTM A276 316L
Bottom cover	Carbon steel BS 970 230 M07
Internal components	Stainless steel Type 431 (valve cone and seat are hardened)
Guide bush	Phosphor bronze BS EN 12163 CW451K
Diaphragm housing	Pressed steel
Diaphragm	Reinforced NBR
Yoke	SG iron
Spindle	Stainless steel
Connector	Carbon steel

**Note:** These items are clearly shown overleaf.

# 1-1/2" BCV 31 Blowdown Control Valve

## Dimensions/weight (approximate) in inches and pounds

Size	A	B	C	D	Weight
DN40	7.8	15.9	11.8	1/4" NPT	64



## Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions supplied with the product.

### Important:

Your attention is drawn to Safety Information Leaflet IM-GCM-10, as well as to any national or regional regulations.

### Installation note:

The valve itself may be installed outdoors without additional protection. The solenoid valve however, must be installed indoors, or adequately protected against outdoor conditions.

### Maintenance note:

We recommend that the valve and actuator are examined annually and parts replaced as necessary.

## How to order

**Example:** 1 off Spirax Sarco 1 1/2" BCV31 blowdown control valve having flanged ANSI 300 connections.

## Spare parts

The spare parts available are shown in solid line. Parts shown in broken line are not supplied as spares.

### Available spares

	Gasket and stem seal set	Stock No. 4034880	9, 13, 40, 41, 42, 43, 44
<b>Valve</b>	Valve cone, seat and stem set	Stock No. 4034882	3, 4, 6, 7, 8, 22
	Stem seal kit		17, 18, 30
	Diaphragm kit		4, 9
<b>Actuator</b>	Travel indicator kit		15, 19, 20
	Spring kit		5
	Linkage kit (suitable for MK1 and Mk2 valves)		10, 13, 14, 26, 27

### How to order spares

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

**Example:** 1 off Gasket and stem seal set, Stock No. 4034880, for a Spirax Sarco 1 1/2" BCV31 blowdown control valve having flanged ANSI 300 connections.