



Cert. No. LRQ 0963008

ISO 9001

## BCV31 DN20 - 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, low flowrate applications.

The flowrate is adjusted by limiting the spindle stroke to regulate the number of orifices that are uncovered.

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

It can be adjusted to give 15 mm stroke for medium flowrates, or to 20 mm stroke for high flowrates. The actuator has a mechanical stroke indicator and incorporates a rolling diaphragm.

A 1/4" BSP 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.

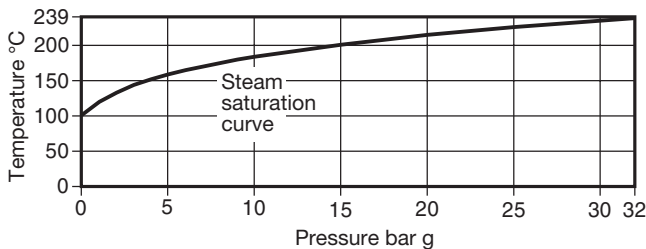
### Sizes and pipe connections

DN20 Flanged BS 10 Table H, BS 1560 Class 300, EN 1092 PN40\*

\*(PN40 version is also available with 3.1 certification to special order).

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

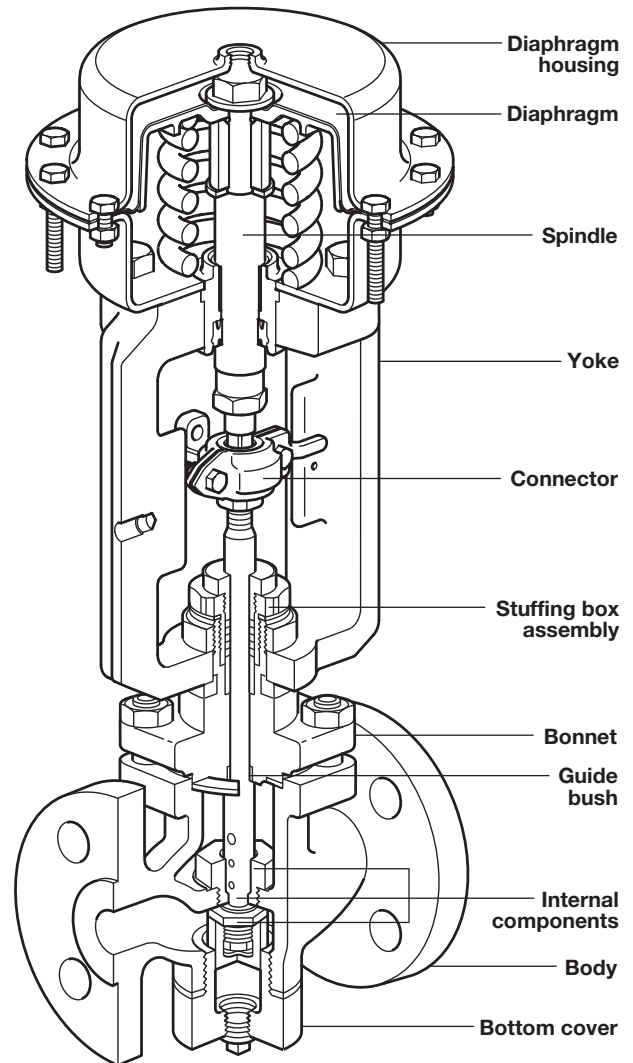
### Pressure/temperature limits



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	3 to 6 bar g	(44 to 87 psi g)
Air consumption - normal (20mm travel)	0.48 litres	(0.017 ft <sup>3</sup> )

### Capacities

Boiler pressure bar g	Blowdown valve capacity kg/h		
	Low flowrates 10 mm stroke	Medium flowrates 15 mm stroke	High flowrates 20 mm stroke
5	380	530	730
7	460	710	1150
10	570	950	1500
15	700	1150	1650
20	780	1250	1700
32	940	1400	1800

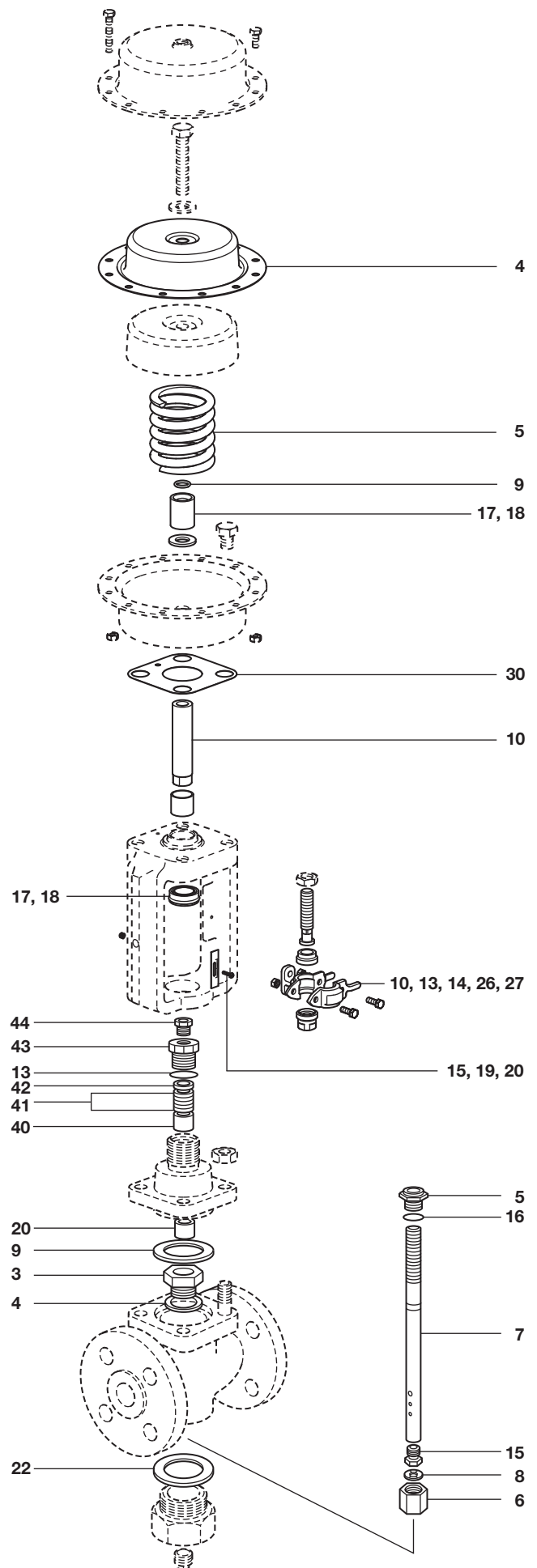
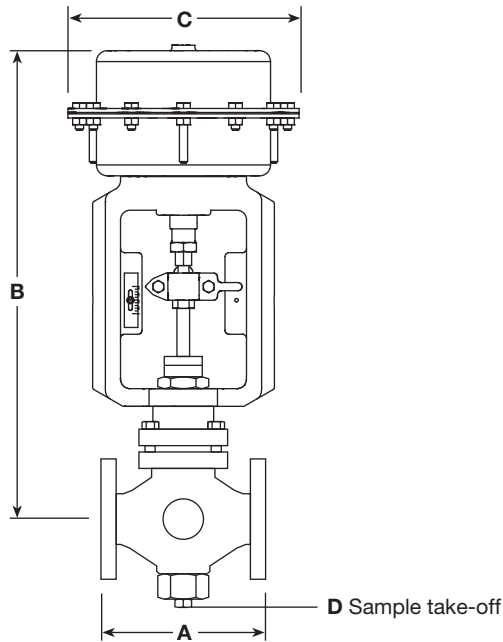


### Materials

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 MO7
3.1 version	Forged carbon steel DIN 17243 C 22.8
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

## Dimensions/weight (approximate) in mm and kg

Size	A	B	C	D	Weight
DN20	150 (maximum)	360	170	1/4" BSP	11.2



## 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 DN20 BCV31 blowdown control valve having flanged EN 1092 PN40 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 packing set	Stock No. 4034682	4, 9, 13, 16, 22, 41
Valve	Valve cone, seat and stem set	Stock No. 4034683	3, 5, 6, 7, 8, 15, 16, 20 + Gasket and packing set
	Adjustable stuffing box kit	Stock No. 4034484	40, 42, 43, 44 + Gasket and packing set
	Stem seal kit		17, 18, 30
	Diaphragm kit		4, 9
Actuator	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 packing set, Stock No. 4034682, for a Spirax Sarco DN20 BCV31 blowdown control valve having flanged EN 1092 PN40 connections.