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ISO 9001

spirax sarco

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AB Issue 7



CHRYSSAFIDIS

BCV31 DN40 - 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" 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.

Καμπύλη κορεσμένου ατμού

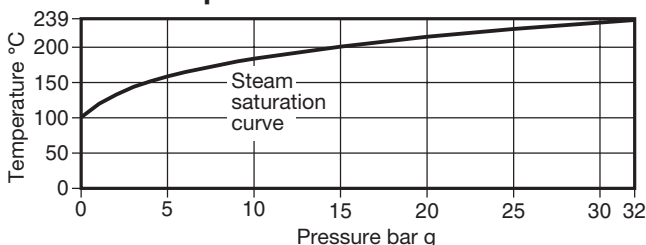
Sizes and pipe connections

DN40 Flanged BS 10 Table H, BS 1560 Class 300, EN 1092 PN40*

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

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

Pressure/temperature limits

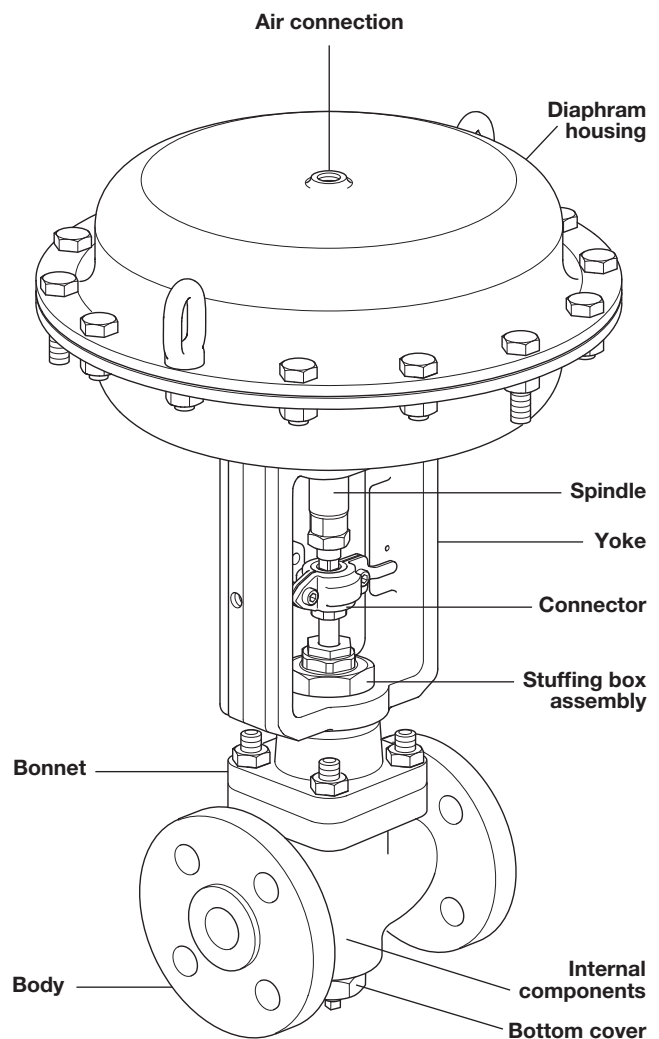


Maximum operating pressure	32 bar g	(464 psi g)
Maximum operating temperature	239°C	(462°F)
Maximum ambient temperature	110°C	(230°F)
Minimum ambient temperature	0°C	(32°F)
Minimum operating temperature	0°C	(32°F)
Air pressure range	2.5 to 6 bar g	(36 to 87 psi g)
Air consumption - normal (20mm travel)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

Capacities

Boiler pressure bar g	Blowdown valve capacity kg/h			
	5 mm stroke	10 mm stroke	15 mm stroke	20 mm stroke
5	450	2900	3450	3550
7	475	3300	4100	4500
10	500	3700	4750	5450
15	550	4550	6450	7150
20	800	5750	8100	8650
32	1300	8400	10300	11050

Note: Intermediate flowrate strokes can be set on the DN40 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 MO7
* Internal components	Stainless steel (valve cone and seat are hardened)	Type 431
* 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.

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.

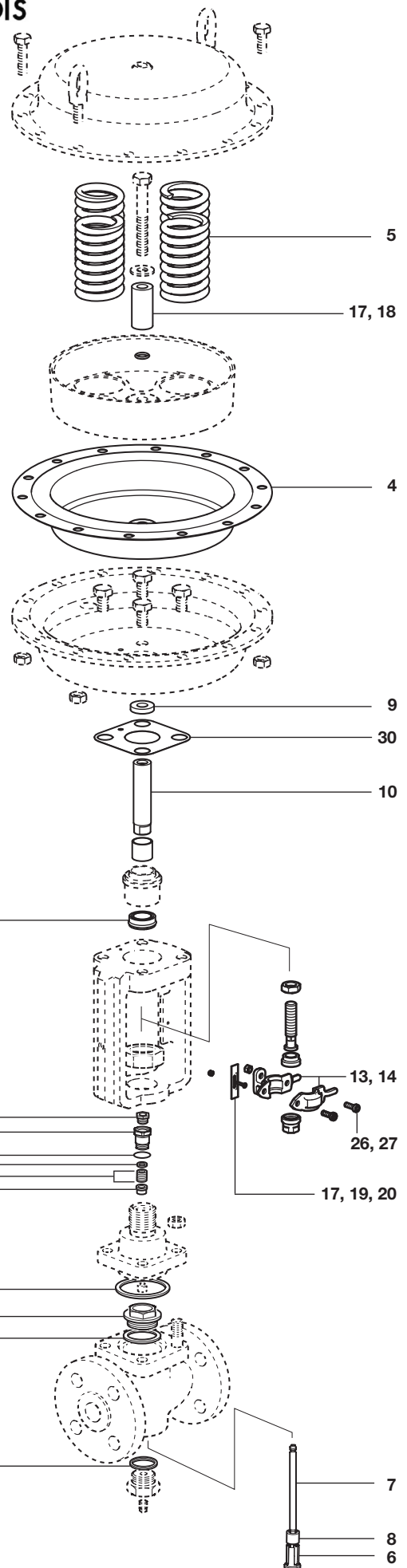
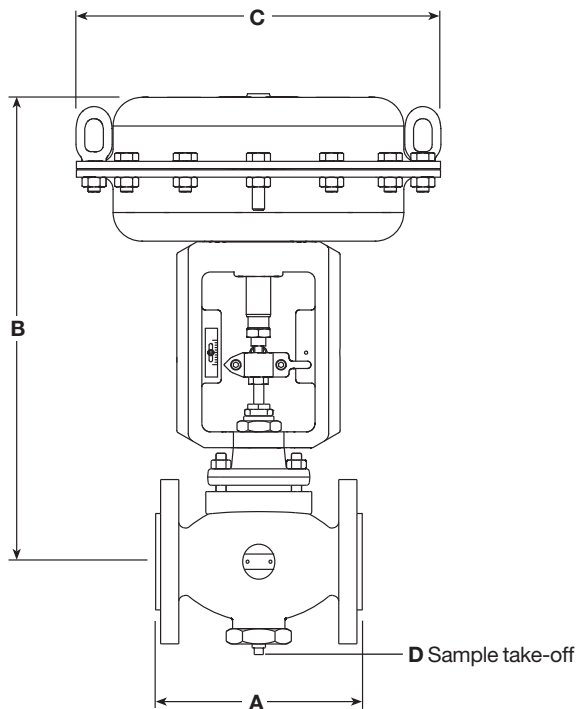
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Dimensions / weight (approximate) in mm and kg

Size	A	B	C	D	Weight
DN40	200 ±2	404	300	¼" BSP	29.0



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 DN40 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 stem seal set	Stock No. 4034880	9, 13, 40, 41, 42, 43, 44
Valve	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
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 stem seal set, Stock No. 4034880, for a Spirax Sarco DN40 BCV31 blowdown control valve having flanged EN 1092 PN40 connections.