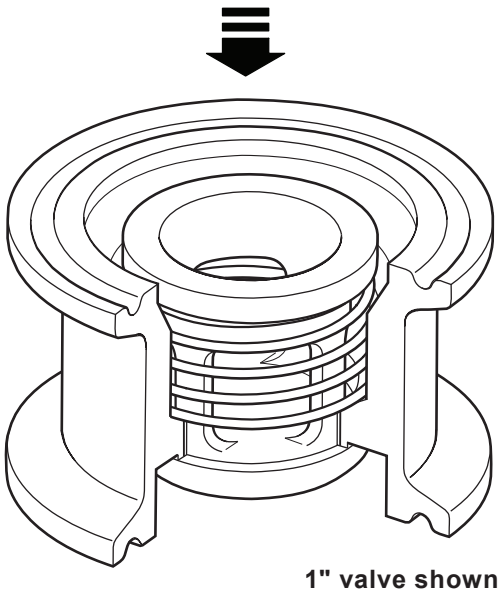
Local regulations may restrict the use of this product to below the conditions quoted.
In the interests of development and improvement of the product, we reserve the right to change the specification without notice. © Copyright 2025

CVS10
Sanitary Check Valve with Metal Seat

Description

The CVS10 sanitary in-line spring assisted check valve is manufactured from 316L stainless steel and prevents reverse flow in fluid lines. The CVS10 with metal seat is designed for steam applications or other aggressive applications where a soft seat is not suitable, within the food, medical and pharmaceutical industries.

For water, process fluid and gas applications soft-seated versions with EPDM, Viton or FEP-Silicone seats are available - See Technical Information sheet TI-P029-10 for further data.



1" valve shown

Available types and surface finish

CVS10-1 has an internal surface finish of 0.5 µm (20 µin) Ra (within ASME BPE SF1), and external surface finish of 0.8 µm (31 µin) Ra and a metal seat.
CVS10-2 has an electropolished internal surface finish of 0.38 µm (15 µin) Ra (within ASME BPE SF4), and external surface finish of 0.8 µm (20 µin) Ra and a metal seat.

Both the CVS10-1 and CVS10-2 have a suffix 'M' to denote metal valve head/seats. For example, CVS10-2M denotes a CVS10 with electropolished internal finish and metal valve head/seat.

Standards

- The CVS10 fully complies with the European Pressure Equipment Directive 2014/68/EU.
- The CVS10 is designed in accordance with ASME-BPE.

Standard shut-off

The standard shut-off of the CVS10 with metal seat conforms to EN 12266-1: 2003 Rate D.

Certification:

- EN 10204 3.1 material certification.
- Typical surface finish certificates.

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

Packaging

Packaging for this product is conducted in a clean environment segregated from other non stainless steel products, and in accordance with ASME BPE. Inlet and outlet connections are capped and the product is sealed in a plastic bag prior to boxing.

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Sizes and pipe connections

Type A (½" and ¾")/Type B (1" and 1½"). DN15 to DN50 to DIN 32676 available as standard.Sanitary clamp:

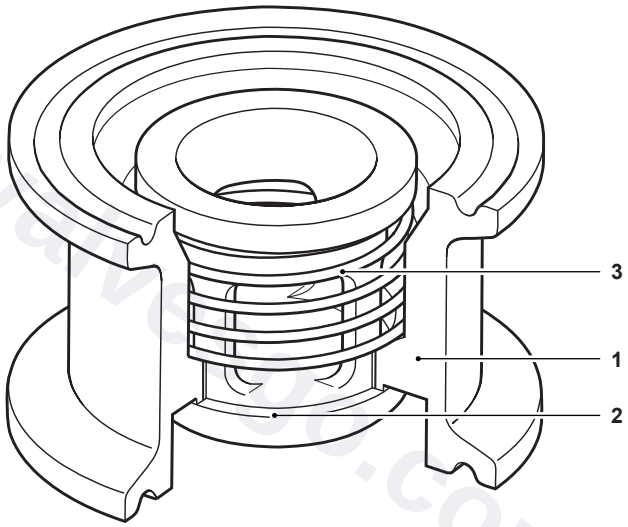
- ASME BPE clamp to Type A (½" and ¾")/Type B (1" and 1½").
- Sanitary clamp to DIN 32676 Series A/Series 2.

Note: Alternative connections and sizes are available on request.

Sizes and pipe connections

	Standard	Issue	Type	Sizes				
	ASME BPE		Type A	½"	¾"			
			Type B			1"	1½"	2"
Sanitary clamp ended variants	**DIN32676**	2001-02	Series 2	DN15	DN20	DN25	DN40	DN50
	DIN32676	2009-05	Series A	DN15	DN20	DN25	DN40	DN50

Materials



1" valve shown

No.	Part	Material
1	Body	Stainless steel 316L
2	Valve head	Stainless steel 316L
3	Spring	Stainless steel 316

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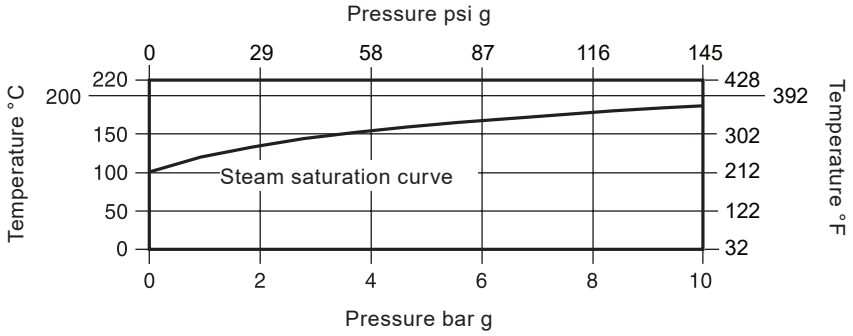
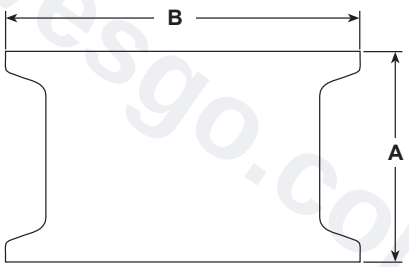
Pressure/temperature limits



Body design conditions			PN10
PMA	Maximum allowable pressure	10 bar g @ 220 °C	145 psi g @ 428 °F
TMA	Maximum allowable temperature	220 °C @ 10 bar g	428 °F @ 145 psi g
Minimum allowable temperature		-254 °C	-425 °F
PMO	Maximum operating pressure for saturated steam service	10 bar g	145 psi g
TMO	Maximum operating temperature	220 °C @ 10 bar g	428 °F @ 145 psi g
Minimum operating temperature		0 °C	32 °F
Designed for a maximum cold hydraulic test pressure of:		15 bar g	217 psi g

Dimensions/weights (approximate) in mm (inches) and kg (lbs)



Sanitary clamp

Size	SIZE	A	B		Weight
ASME	DIN	ASME	ASME	DIN	
½"	DN15	40 (1.6)	25.0 (0.98)	34.0 (1.34)	0.5 (1.10)
¾"	DN20				
1"	DN25	25 (0.98)	50.39 (1.98)	50.5 (1.99)	0.6 (1.32)
1½"	DN40	30 (1.2)			0.9 (1.98)
2"	DN50	35 (1.4)	63.91 (2.51)	64.0 (2.52)	1.2 (2.65)

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Kv values

Size	½"	¾"	1"	1½"	2"
Kv	2	2	4	8	18

For conversion:
Cv (UK) = Kv x 0.963
Cv (US) = Kv x 1.156

Opening pressures

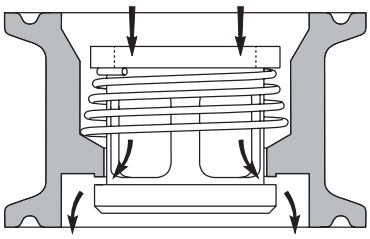
Differential pressure with zero flow in mbar (psi)..
→ Flow direction

Size	½"	¾"	1"	1½"	2"
→	35 (0.51)				
↑	39 (0.57)				
↓	31 (0.45)				

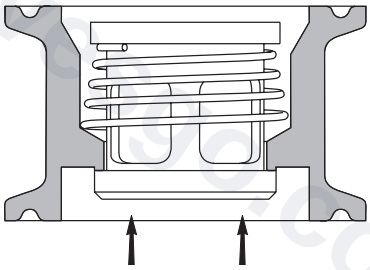
Operation

The valve is opened by the pressure of the fluid. When fluid flow stops the spring closes the valve before reverse flow can occur.

Valve open



Valve closed



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Safety information, installation and maintenance

For full details see the Installation and Maintenance Instructions (IM-P029-11) supplied with the product.

How to order

Example: 1 off Spirax Sarco 1" CVS10-1 sanitary check valve with metal seat, ASME BPE sanitary clamp connections, and having an internal surface finish of 0.5 micron Ra (20 micro inch).
Complete with certification dossier.

Spare parts

There are no spare parts available for this product

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