



CS CLEAN
SOLUTIONS

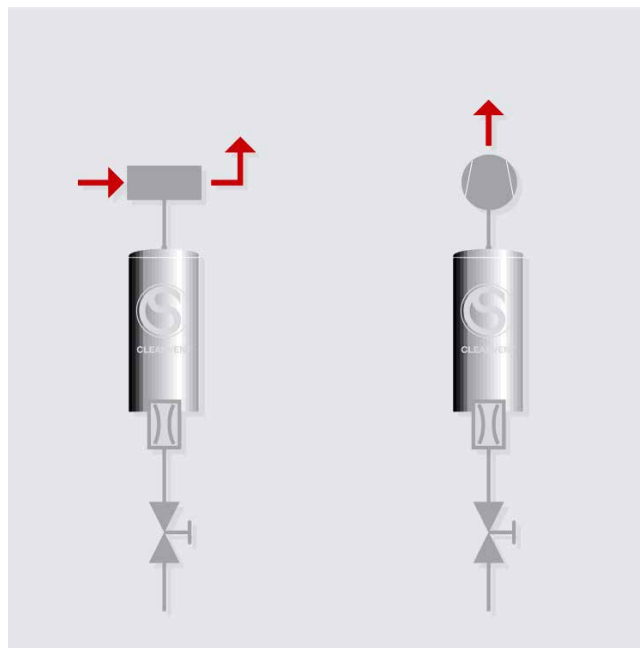
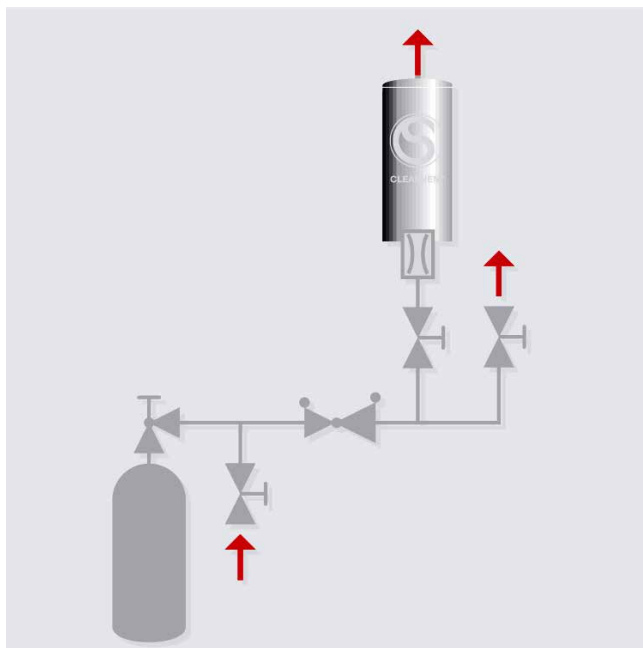
Product Information and Specifications

CLEANVENT® Cartridge for Gas Cabinet Vent Purge Models: CV02S, CV10ST



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The CLEANVENT CV02S cartridge is normally installed downstream of the pressure regulator within the gas supply cabinet. The cartridge is usually fitted with a flow restricting orifice at its inlet and designed to scrub small dead volumes of concentrated gas during pressure venting. It should be fitted to the suction side (not the outlet!) of the venturi vacuum generator. For most applications, the restricting orifice renders the cartridge unsuitable for installation downstream of safety pressure release valves or bursting discs. Deployment of the cartridge downstream of pressure relief devices requires special approval.

Removal of Hazardous Gases during Purging of Vent Lines

The gas supply pipework and components within a gas cabinet contain a pressurized dead volume of process gas which may be toxic, pyrophoric or corrosive. As part of the cylinder-change operation, the gas supply panel must be purged free of any remaining process gases. In addition to safety considerations, this procedure is also necessary to ensure the integrity of the gas supply.

For over 20 years the CLEANVENT cartridge has proven itself a safe solution for the removal of hazardous purge gases. Installed within the gas cabinet on the suction side of the venturi vacuum generator, or in a valve manifold box (VMB), the cartridge allows residual gases to be scrubbed "at source".

On most installations the refillable cartridge allows 24 months of operation between refill service. CLEANVENT cartridges are available for a wide range of hazardous gases and organometallic precursors.

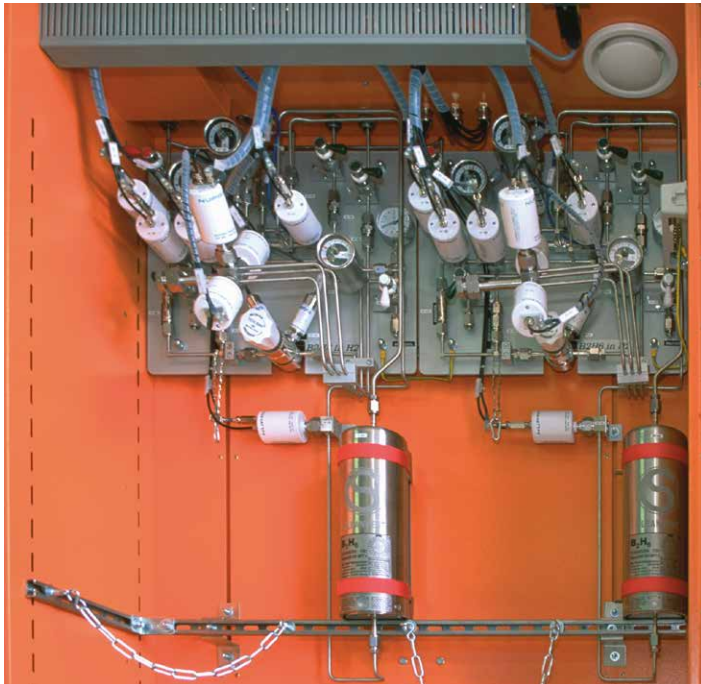
CLEANVENT Cartridge, CV02S

- Point-of-Use removal of purge gases directly within gas cabinet
- Dry conversion of gases to stable solids at ambient temperature
- Passive operation, always on standby
- Long absorbing lifetimes
- No heating, electricity or water required
- Applicable to a wide range of hazardous gases, including:

AsH₃, BF₃, Br₂, CO, Cl₂, ClF₃, COCl₂, F₂, GeH₄, HCl, HF, HBr, H₂S, H₂Se, HCN, NH₃, N₂H₄, PH₃, SiH₄, SiH₂Cl₂, SO₂, TEOS, WF₆,

Worldwide Service and Support

- CS CLEAN SOLUTIONS customers can avail of a worldwide sales and service network for the servicing and refilling of CLEANVENT cartridges.



Photos showing CLEANVENT integrated in the supply panel within gas cabinets

Basic System Configuration

<p>System Description</p>	<p>Refillable absorber cartridge for removal of hazardous vent gases during change out of gas cylinders. Hazardous gases are converted by chemisorption into stable inorganic solids at room temperature. Compact design for integration into gas supply cabinet or gas supply panel. The cartridge is designed to absorb dead volumes of gas. In its standard configuration it is not designed for applications requiring unrestricted, continuous flow-through of gas.</p> <p>Construction features: Overall length 400 mm, outside diameter 114,3mm, 1/4" VCR compatible fittings at inlet and outlet. Depending on gas type, may include inlet flow restricting orifice to limit gas flowrate through cartridge.</p> <p>Max. weight: 8,0 kg</p> <p>Includes bracket with fastening strap for wall mounting.</p>
<p>Documentation</p>	<p>Operating manual in English or German language with customer-specific specifications.</p>

Available Accessories

<p>Transport Boxes</p>	<p>Aluminum transport chest for CV02S, incl. foam padding die-cut insert for up to 3 CLEANVENT-cartridges (UN-approved for transportation of Hazardous Goods)</p>
	<p>CLEANVENT Packing set (optional incl. approved over-pack for transportation of hazardous goods)</p>



CLEANVENT CV10ST Thermal Dry Bed Absorber (for NF_3)

Designed for the removal of purge gases which are chemically stable at room temperature, the CLEANVENT CV10ST features a heated cartridge with control and monitoring elements in an air-extracted cabinet.

The CV10ST is most commonly used for the removal of nitrogen trifluoride – a chemically stable gas used in the plasma cleaning of CVD chambers in semiconductor and photovoltaic manufacturing.

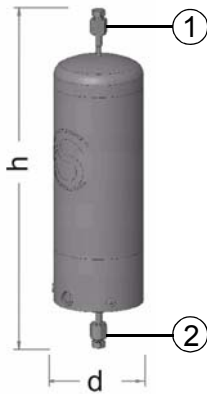
Unlike the smaller CV02S cartridge, the CV10ST is installed downstream of the gas supply cabinet or bulk gas supply manifold.

The system configuration and specifications depend on the requirements of the individual application and are not provided in this document.

System Specifications

Series CLEANVENT

Models CV02S



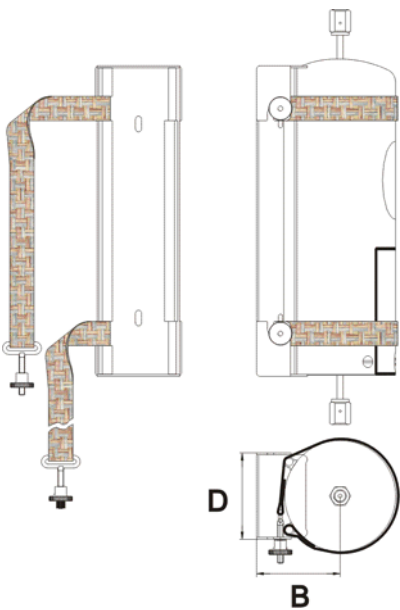
1 Cartridge outlet connection

¼" piping with ¾" VCR nut;
 outlet pressure: 0...1.5 bar absolute (0...21.75 psi);
 treating air-sensitive or combustible gases: install two check valves
 in series down-stream of the cartridge to prevent air intrusion;
 Free gas flow must be guaranteed as long as gas is routed into
 the cartridge!

2 Cartridge inlet connection

¼" piping with ¾" VCR nut;
 gas amount per purge: < 20 NTP-litre
 5...40 °C (40...104 °F)
 inlet pressure: up to 200 bar (2900 psi)


Model	h	d	weight
CV02S	400 mm (15.7 in)	115 mm (4.5 in)	8 kg (17.6 lb)
Pressure drop	~ 1.5 bar @ 1 slm, linearly increased to ~ 5 bar @ 3 slm (values for CV02S with flow restrictor)		



Accessory (optional) B	D	weight
Bracket for wall mounting	89 mm (3.5 in)	1 kg (2.2 lb)


Transport and Storage Conditions

- temperature range 5...25 °C (41...77 °F)
- max. 80 % rel. humidity (non-condensing)
- under clean, dry conditions
- protected from uni-directional heating and sunlight
- in upright position
- protected from unauthorized access.

 Contact the manufacturer CS CLEAN SOLUTIONS AG for further details if necessary.

On-site Environmental Conditions for Operation

Temperature range	5 ... 35 °C (41 ... 95 °F)
Humidity	80 % relative humidity (non-condensing!)
Installation	indoors; lighting > 270 lux, mechanical ventilation
Altitude	max. 2000 m (6600 ft) above sea level
Floor space	absolutely level; according to DIN 18202

 Contact the manufacturer CS CLEAN SOLUTIONS AG, if a different specification is required.



**CS CLEAN
SOLUTIONS**

CS CLEAN SOLUTIONS AG

Fraunhoferstrasse 4

85737 Ismaning, Germany

Phone: +49 (89) 96 24 00-0

Fax: +49 (89) 96 24 00-122

E-mail:

General: welcome@csclean.com

Distribution: sales@csclean.com

URL: www.csclean.com