

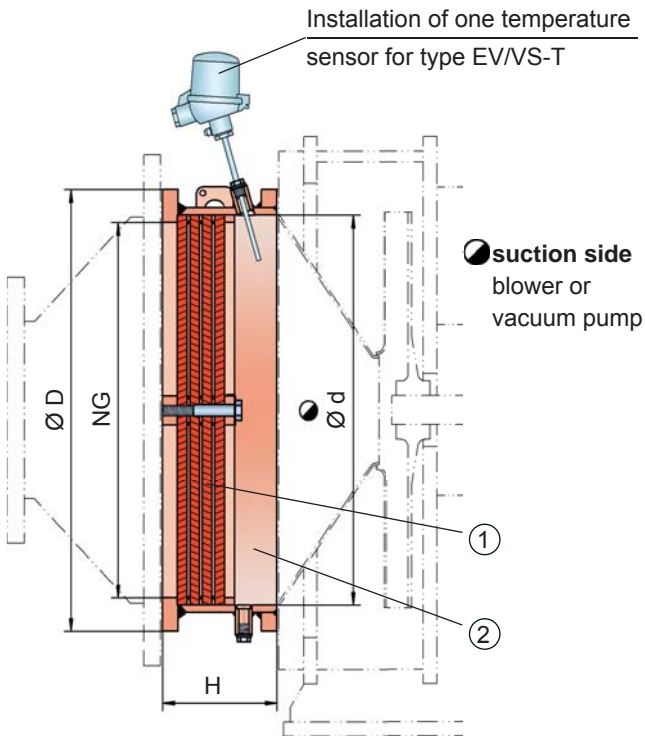


Flame Arrester Unit

for vacuum pumps, compressors and blowers

PROTEGO® EV/VS and EV/VD

Type EV/VS



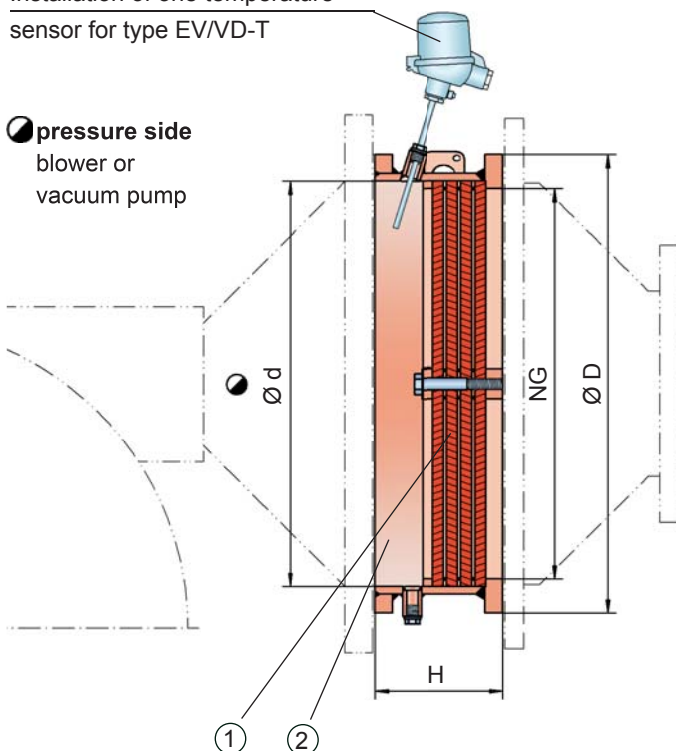
Function and Description

PROTEGO® EV/VS and PROTEGO® EV/VD flame arrester units provide manufacturers of vacuum pumps, blowers and compressors with a cost-effective protection for their machines. The high flow velocities in the small gaps of these machines can lead to undesirable ignitions within the housing. One of the safest measures against explosion propagation are flame arrester units that are installed on the inlet and outlet side of the machines. PROTEGO® EV/VS for inlet (vacuum side) and PROTEGO® EV/VD for outlet (pressure side) are flame arrester units without housing. They are designed modular providing each manufacturer of blowers, vacuum pumps or similar devices the option of using optimized, adapted, and cost-effective flame arrester units. Our expert technical staff will assist you with the proper selection of the devices as well as execution of type testing.

PROTEGO® EV/VS and PROTEGO® EV/VD flame arrester units are modular in design and consist of several FLAMEFILTER® (1) and spacers firmly held in a FLAMEFILTER® cage (2). The number of FLAMEFILTER® and the gap size depend on the intended use. Both types have a threaded nozzle for temperature sensors. PROTEGO® EV/VS and PROTEGO® EV/VD flame arrester units are available for explosion groups from IIC to IIA (NEC groups B to D) and special gases such as ethylene oxide.

Type EV/VD

Installation of one temperature sensor for type EV/VD-T



Special Features and Advantages

- cost-effective alternative to complete flame arresters with flange connection
- customized protection for vacuum pumps, blowers and compressors
- modular design provides every user with the optimal PROTEGO® flame arrester unit
- flexible design parameters result in lowest pressure drops
- the modular design enables individual FLAMEFILTER® to be replaced and cleaned
- modular design reduces spare parts cost
- worldwide, long-term availability of spare parts in different materials

Design and Specifications

There are four different designs:

Flame arrester unit for the inlet side, basic design **EV/VS**

Flame arrester unit for the inlet side with integrated temperature sensor* for additional protection against short-time burning on one side **EV/VS - T**

Flame arrester unit for the pressure side, basic design **EV/VD**

Flame arrester unit for the pressure side with integrated temperature sensor* for additional protection against short-time burning on one side **EV/VD - T**

*Resistance thermometer for device group II, category (1) 2 (GII cat. (1) 2)

Table 1: Dimensions

Dimensions in mm / inches

NG	50 / 2"	80 / 3"	100 / 4"	150 / 6"	200 / 8"	250 / 10"	300 / 12"	400 / 16"	500 / 20"	600 / 24"
D	102 / 4.02	138 / 5.43	158 / 6.22	212 / 8.35	268 / 10.55	320 / 12.60	370 / 14.57	482 / 18.98	585 / 23.03	685 / 26.97
d	69 / 2.72	93 / 3.66	117 / 4.61	172 / 6.77	218 / 8.58	275 / 10.83	325 / 12.80	415 / 16.34	515 / 20.28	615 / 24.21
H	170 / 6.69	170 / 6.69	170 / 6.69	170 / 6.69	170 / 6.69	170 / 6.69	170 / 6.69	170 / 6.69	170 / 6.69	170 / 6.69

Table 2: Selection of FLAMEFILTER® gap / Explosion group

FLAMEFILTER® gap	MESG	Expl. Gr. (IEC/CEN)	Gas Group (NEC/NFPA)
0.7 mm	> 0.90 mm	IIA	D
0.5 mm	≥ 0.65 mm	IIB3	C
0.3 mm	≥ 0.50 mm	IIB	C
0.2 mm	< 0.50 mm	IIC	B

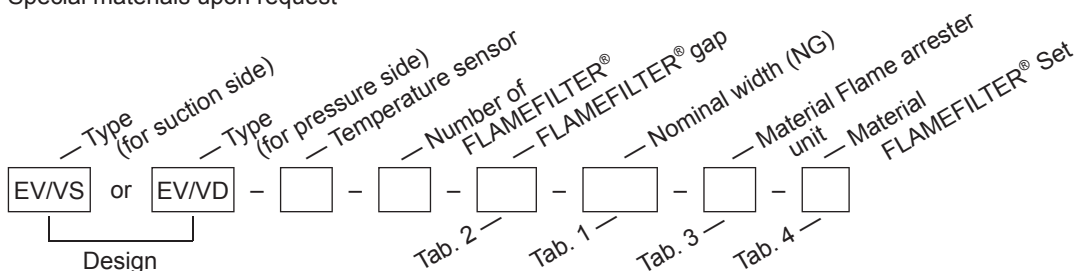
Table 3: Material selection of Flame arrester unit

Design	A	B	C	
FLAMEFILTER® cage	Steel	Stainless steel	Hastelloy	Special materials upon request
Gasket	WS 3822	PTFE	PTFE	
FLAMEFILTER® Set	A, B	B	C	

Table 4: Material selection of FLAMEFILTER® Set

Design	A	B	C	
FLAMEFILTER® *	Stainless steel	Stainless steel	Hastelloy	* the FLAMEFILTER® is also available in the materials Tantalum, Inconel, Copper, etc. when the listed cage materials are used.
Spacers	Stainless steel	Stainless steel	Hastelloy	

Special materials upon request



Order example

EV/VS - [] - T - * - 0.5 - 600 - B - B

* according to type-approval

Materials and chemical resistance: See Vol. 1 "Technical Fundamentals"

Flow capacity curves are provided for each individual application



for safety and environment