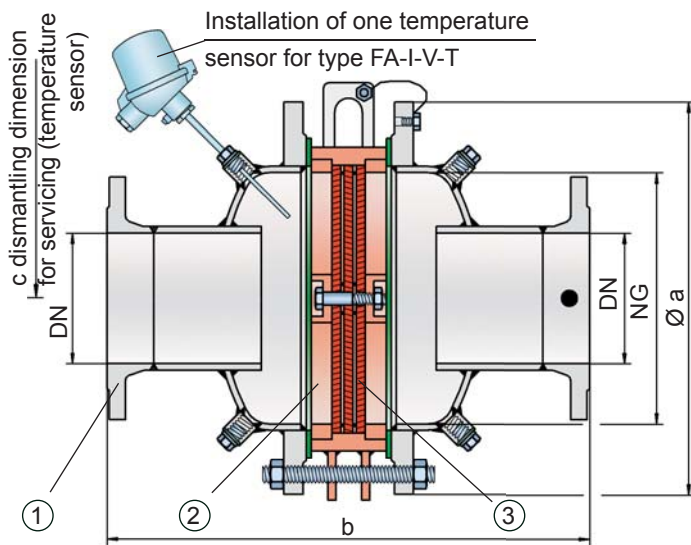


Deflagration Flame Arrester

for vacuum pumps, compressors and blowers

PROTEGO® FA-I-V and FA-I-P



- Connection to the protected side (only for type FA-I-V-T-...)

Function and Description

FA-I-V and FA-I-P deflagration flame arresters are specifically designed for vacuum pumps, blowers, and compressors. The high flow velocity 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 vacuum and pressure side of the equipment. FA-I-V devices for the vacuum side and FA-I-P devices for the pressure side provide a unique modular design that gives every manufacturer of vacuum pumps or comparable devices the option of using optimized and adapted flame arresters.

Our expert technical staff will assist you with the proper selection of the devices as well as execution of type testing.

FA-I-V and FA-I-P devices are symmetrical in design. The device consists of two housing parts (1) and a PROTEGO® flame arrester unit (2) in the center. The flame arrester unit is modular, consisting of several FLAMEFILTER® (3) installed within the FLAMEFILTER® cage. The number of FLAMEFILTER® and their gap size depend on the devices intended use. FA-I-V and FA-I-P flame arresters are available for explosion groups IIA to IIC (NEC groups B to D) and special gases such as ethylene oxide.

Special Features and Advantages

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

Design and Specifications

There are five different designs:

Flame arrester for low pressure side in the basic design **FA-I-V**

Flame arrester for the low pressure side with integrated temperature sensor* for additional protection against short-time burning on one side **FA-I-V-T**

Flame arrester for the pressure side in the basic design **FA-I-P**

Flame arrester for the pressure side with integrated temperature sensor* for additional protection against short-time burning on one side (recommended) **FA-I-P-T**

Additional special devices are available upon request

*Resistance temperature sensor for equipment group II, category (1) 2

Flow capacity curves are provided for each individual application

Table 1: Dimensions			Dimensions in mm / inches				
NG		150 / 6"	150 / 6"	200 / 8"	300 / 12"	400 / 16"	500 / 20"
DN		≤ 50 / 2"	80 / 3"	≤ 100 / 4"	≤ 150 / 6"	≤ 200 / 8"	≤ 250 / 10"
	a	285 / 11.22	285 / 11.22	340 / 13.39	445 / 17.52	565 / 22.24	670 / 26.38
Number of FLAMEFILTER®	2	b	364 / 14.33	364 / 14.33	452 / 17.80	584 / 22.99	638 / 25.12
	3	b	376 / 14.80	376 / 14.80	464 / 18.27	596 / 23.46	650 / 25.59
	4	b	388 / 15.28	388 / 15.28	476 / 18.74	608 / 23.94	662 / 26.06
	5	b	400 / 15.75	400 / 15.75	488 / 19.21	628 / 24.72	690 / 27.17
	6	b	412 / 16.22	412 / 16.22	500 / 19.69	640 / 25.20	702 / 27.17
	7	b	-	-	500 / 19.69	650 / 25.59	-
	8	b	-	-	-	662 / 26.06	-
		c	500 / 19.69	500 / 19.69	520 / 20.47	570 / 22.44	620 / 24.41

Table 2: Selection of FLAMEFILTER® gap / Explosion group			
FLAMEFILTER® gap	MESG	Expl. Gr. (IEC/CEN)	Gas Group (NEC)
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 for housing			
Design	A	B	C
Housing	Steel	Stainless steel	Hastelloy
Gasket	PTFE	PTFE	PTFE
Flame arrester unit	A, B	B	C

The housing can also be delivered in steel with an ECTFE coating
Special materials upon request

Table 4: Material combinations of the flame arrester unit			
Design	A	B	C
FLAMEFILTER® cage	Steel	Stainless steel	Hastelloy
FLAMEFILTER®*	Stainless steel	Stainless steel	Hastelloy
Spacers	Stainless steel	Stainless steel	Hastelloy

* the FLAMEFILTER® is also available in the materials Tantalum, Inconel, Copper, etc. when the listed housing and cage materials are used
Special materials upon request

Table 5: Flange connection Type	
EN 1092-1; Form B1	other types upon request
ASME B 16.5; 150 lbs RFSF	

