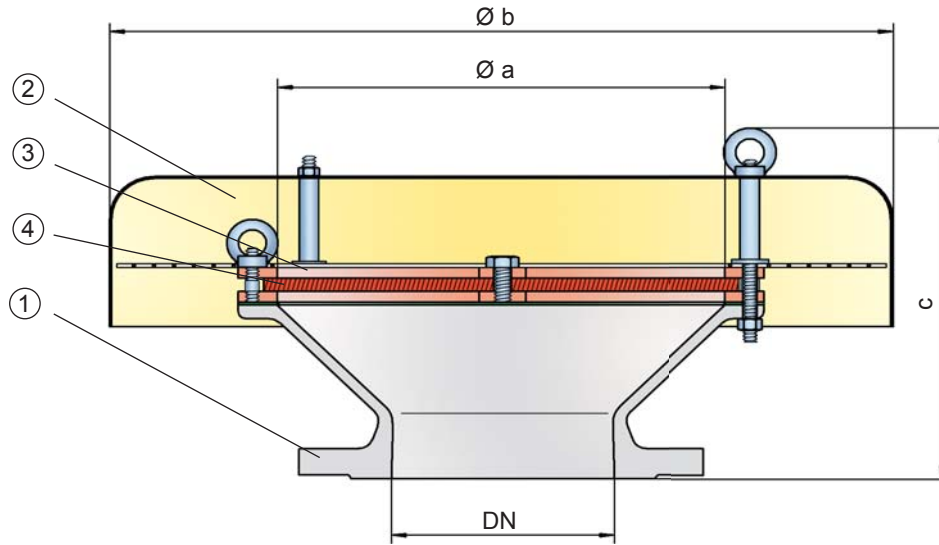


PROTEGO® LH/AD



Function and Description

The PROTEGO® LH/AD end-of-line deflagration flame arrester provides protection against flame transmission through atmospheric deflagration. The device is typically installed on vent lines of vessels and process engineering apparatus which are not pressurized. For safe application it is important that an endurance burning situation can be excluded, so typically it is installed on vent lines which discharge vapour for a short time period only. The device prevents flame transmission from atmospheric deflagration into the vessel or plant.

The PROTEGO® LH/AD consists of a housing (1), a weather hood (2) and the PROTEGO® flame arrester unit (3). The device is equipped with a metal weather hood. A protection screen is installed between the weather hood and the housing to keep animals out. The FLAMEFILTER® (4) gap size will depend on the devices intended use. Detailing the operating conditions such as the temperature, explosion group and the composition of the fluid, enables PROTEGO® to select the best end-of-line deflagration flame arrester for your application.

The PROTEGO® LH/AD series end-of-line deflagration flame arrester is available for substances from explosion groups IIA to IIC (NEC groups D to B). Special certifications for carbon disulfide are available.

The standard design can be used with operating temperature of up to +60°C / 140°F. Devices with special approval can be obtained for higher temperatures upon request.

Type-approved in accordance with the current ATEX Directive and EN ISO 16852 as well as other international standards.

Special Features and Advantages

- weather hood provides protection against environmental impact (harsh weather conditions, bird nests, etc.)
- available in sizes DN 50 (2") – up to DN 800 (32")
- easy maintenance
- available for elevated operating temperatures
- protection against atmospheric deflagration
- low operating and lifecycle cost
- cost effective device
- cost effective spare parts

Design Type and Specification

End-of-line deflagration flame arrester, basic design

LH/AD

End-of-line deflagration flame arrester for carbon disulfide

LH/AD-CS2

NEW

Special designs available on request

Table 1: Dimensions

Dimensions in mm / inches

To select the nominal size (DN), please use the flow capacity charts on the following pages

DN	a	b	IIB3	IIC
			c*	c*
50 / 2"	100 / 3.94	200 / 7.87	170 / 6.69	185 / 7.28
80 / 3"	150 / 5.91	240 / 9.45	180 / 7.09	195 / 7.68
100 / 4"	200 / 7.87	295 / 11.61	220 / 8.66	235 / 9.25
125 / 5"	250 / 9.84	350 / 13.78	240 / 9.45	-
150 / 6"	300 / 11.81	550 / 21.65	260 / 10.24	270 / 10.63
200 / 8"	300 / 11.81	550 / 21.65	260 / 10.24	270 / 10.63
250 / 10"	400 / 15.75	600 / 23.62	355 / 13.98	365 / 14.37
300 / 12"	400 / 15.75	600 / 23.62	340 / 13.39	350 / 13.78
350 / 14"	600 / 23.62	800 / 31.50	390 / 15.35	400 / 15.75
400 / 16"	600 / 23.62	800 / 31.50	380 / 14.96	390 / 15.35
500 / 20"	700 / 27.56	1000 / 39.37	400 / 15.75	410 / 16.14
600 / 24"	800 / 31.50	1200 / 47.24	475 / 18.70	485 / 19.09
700 / 28"	1000 / 39.37	1400 / 55.12	505 / 19.88	515 / 20.28
800 / 32"	1200 / 47.24	1600 / 62.99	550 / 21.65	560 / 22.05

* c are reference values. Exact measures depend on the flange connection.

Table 2: Selection of explosion group

MESG	Expl. Gr. (IEC/CEN)	Gas Group (NEC)	
≥ 0,65 mm	IIB3	C	Special approvals upon request
< 0,5 mm	IIC	B	

Table 3: Specification of max. operating temperature

≤ 60°C / 140°F	Tmaximum allowable operating temperature in °C	
-	Designation	higher operating temperatures upon request

Table 4: Material selection for housing

Design	A	B	
Housing	Steel	Stainless Steel	Special materials upon request
Weather hood	Stainless Steel	Stainless Steel	
Protection screen	Stainless Steel	Stainless Steel	
Flame arrester unit	A, B	B	

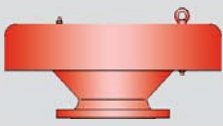
Table 5: Material combinations of flame arrester unit

Design	A	B	
FLAMEFILTER® cage	Steel	Stainless Steel	Special materials upon request
FLAMEFILTER®	Stainless Steel	Stainless Steel	

Table 6: Flange connection type

EN 1092-1; Form B1	other types upon request
ASME B16.5; 150 lbs RFSF	

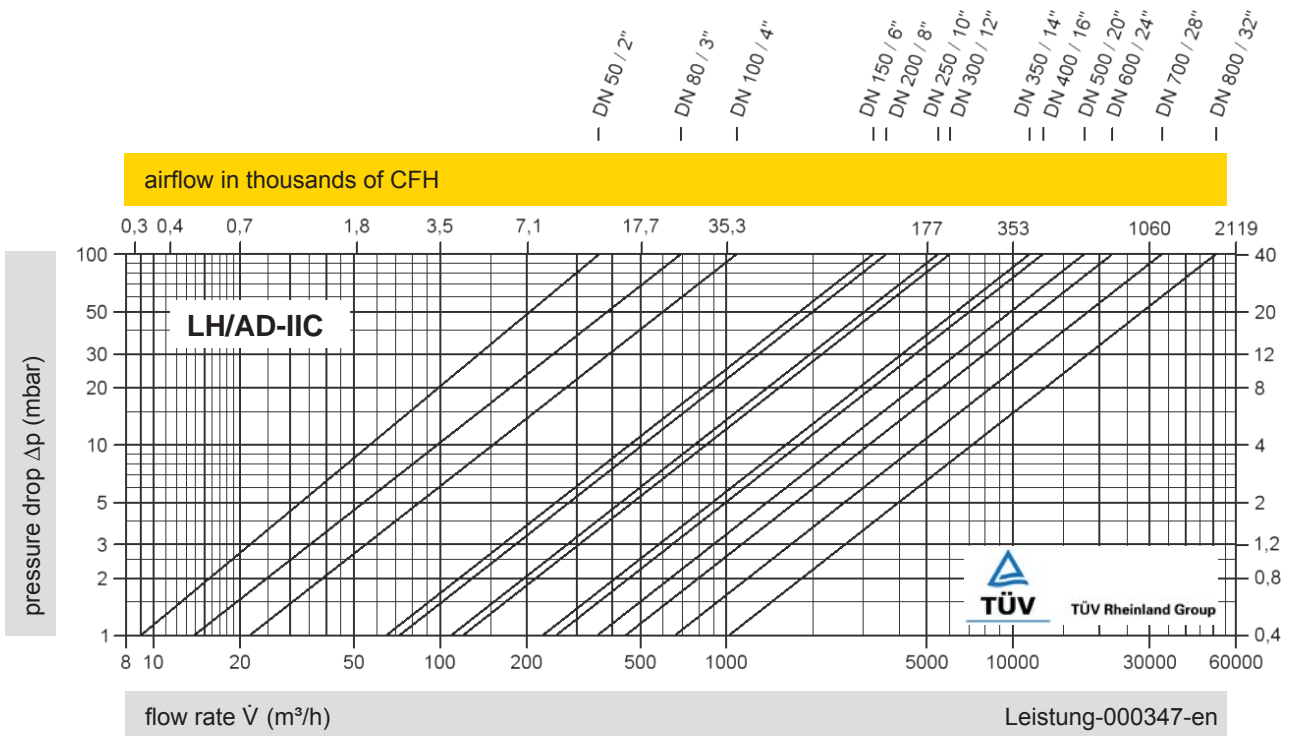
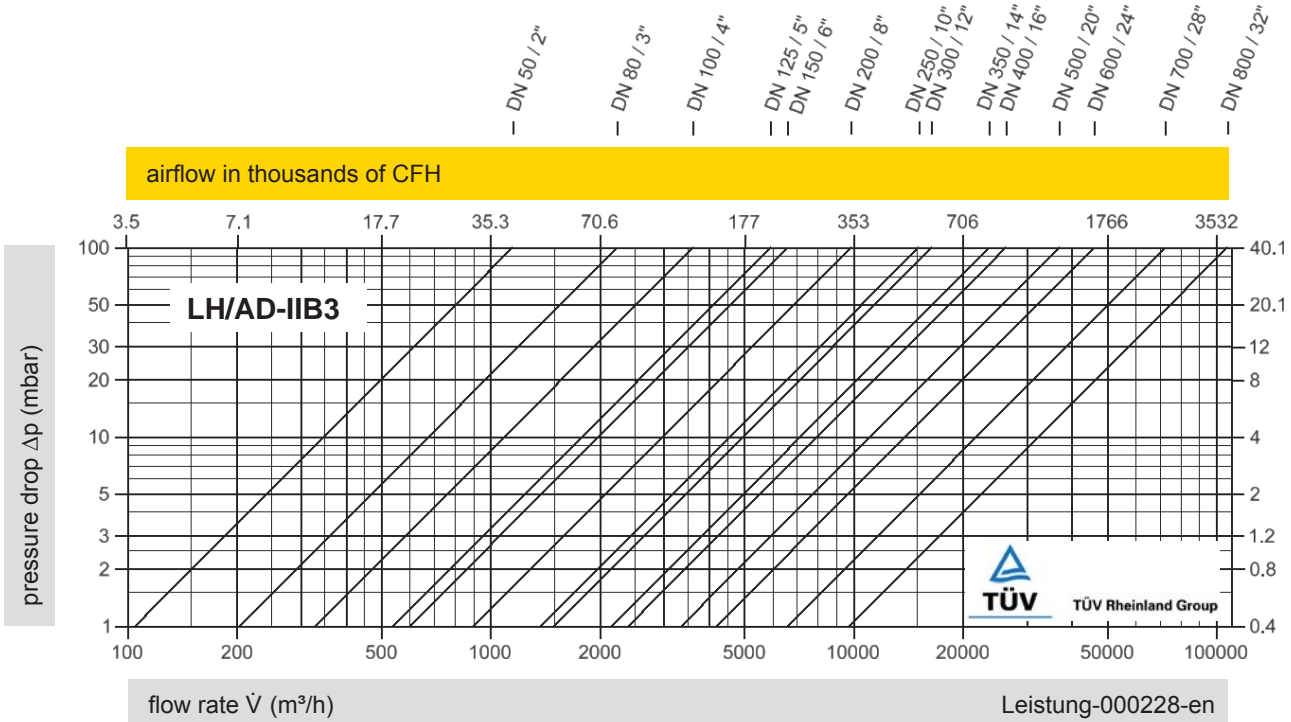




Deflagration Flame Arrester, End-of-Line

Flow Capacity Charts

PROTEGO® LH/AD



The flow capacity charts have been determined with a calibrated and TÜV certified flow capacity test rig. Volume flow \dot{V} in (m³/h) and CFH refer to the standard reference conditions of air ISO 6358 (20°C, 1bar). Conversion to other densities and temperatures refer to Vol. 1: "Technical Fundamentals".