

Function and Description

The PROTEGO® LH/AD-T end-of-line deflagration flame arrester provides protection against flame transmission through atmospheric deflagration and short time burning on the flame arrester element. The device is typically installed on vent lines of vessels and plant equipment which are not pressurized. The device is equipped with a temperature sensor which immediately detects a flame on the FLAMEFILTER® surface. After the flame is detected, a secondary measure, such as inerting or closing of a shut-off valve to block the vapor flow to the device, should activate within 60 seconds and extinguish the flame so that the system can operate safely. The device prevents flame transmission from short time burning and atmospheric deflagration into the vessel or plant.

The PROTEGO® LH/AD-T consists of the housing (1), a weather hood (2), and the PROTEGO® flame arrester unit (3). The device is equipped with a metal weather hood. The FLAMEFILTER® (4) gap size depends on the device's intended use. Specifying 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-T series end-of-line deflagration flame arrester is available for substances from explosion groups IIA to IIC (NEC groups D to B).

The standard design can be used with an operating temperature of up to +60°C / 140°F. Devices with special approval for higher temperatures are available 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 with protection screen protects the PROTEGO® flame arrester unit against environmental impact, such as nesting animals and weather conditions
- available for DN 50/2"- bis DN 800/32"- pipes
- trouble-free maintenance
- advanced design for higher operating temperatures
- provides protection against atmospheric deflagrations and short-time burning
- low operating and lifecycle costs
- cost-effective Flame arrester
- cost effective spare parts

Design Type and Specification

End-of-line deflagration flame arrester, basic design **LH/AD-T**

Special designs available upon 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	240 / 9.45	530 / 20.87	550 / 21.65
80 / 3"	150 / 5.91	295 / 11.61	560 / 22.05	580 / 22.83
100 / 4"	200 / 7.87	350 / 13.78	585 / 23.03	605 / 23.82
150 / 6"	300 / 11.81	600 / 23.62	630 / 24.80	655 / 25.79
200 / 8"	300 / 11.81	600 / 23.62	630 / 24.80	655 / 25.79
250 / 10"	400 / 15.75	800 / 31.50	750 / 29.53	770 / 30.31
300 / 12"	400 / 15.75	800 / 31.50	740 / 29.13	760 / 29.92
350 / 14"	600 / 23.62	1000 / 39.37	800 / 31.50	820 / 32.28
400 / 16"	600 / 23.62	1000 / 39.37	790 / 31.10	815 / 32.09
500 / 20"	700 / 27.56	1200 / 47.24	810 / 31.89	835 / 32.87
600 / 24"	800 / 31.50	1200 / 47.24	935 / 36.81	960 / 37.80
700 / 28"	1000 / 39.37	1500 / 59.06	975 / 38.39	995 / 39.17
800 / 32"	1200 / 47.24	1700 / 66.93	1015 / 39.96	1035 / 40.75

* 'c' is 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	
-	Classification	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	

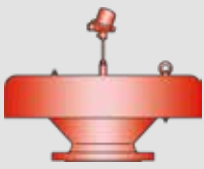
Table 5: Material combinations of flame arrester unit

Design	A	B	
FLAMEFILTER® casing	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 CL 150 R.F.	

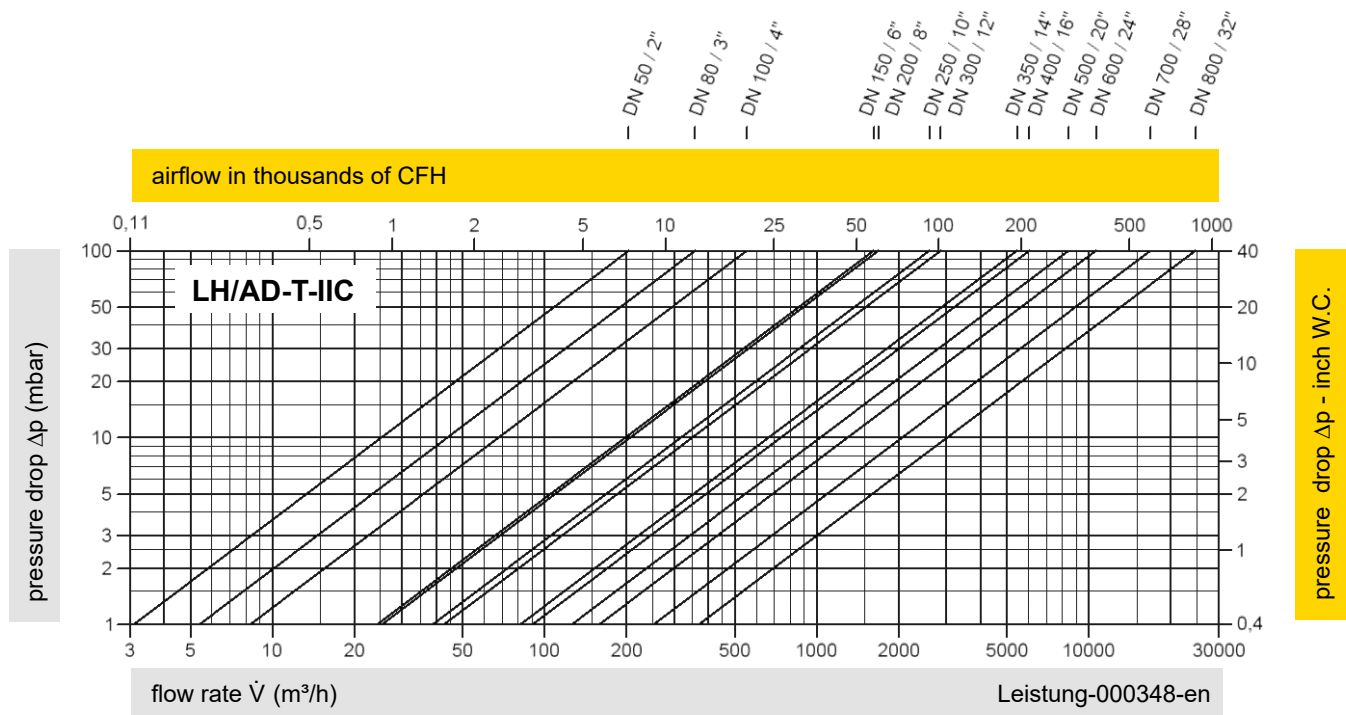
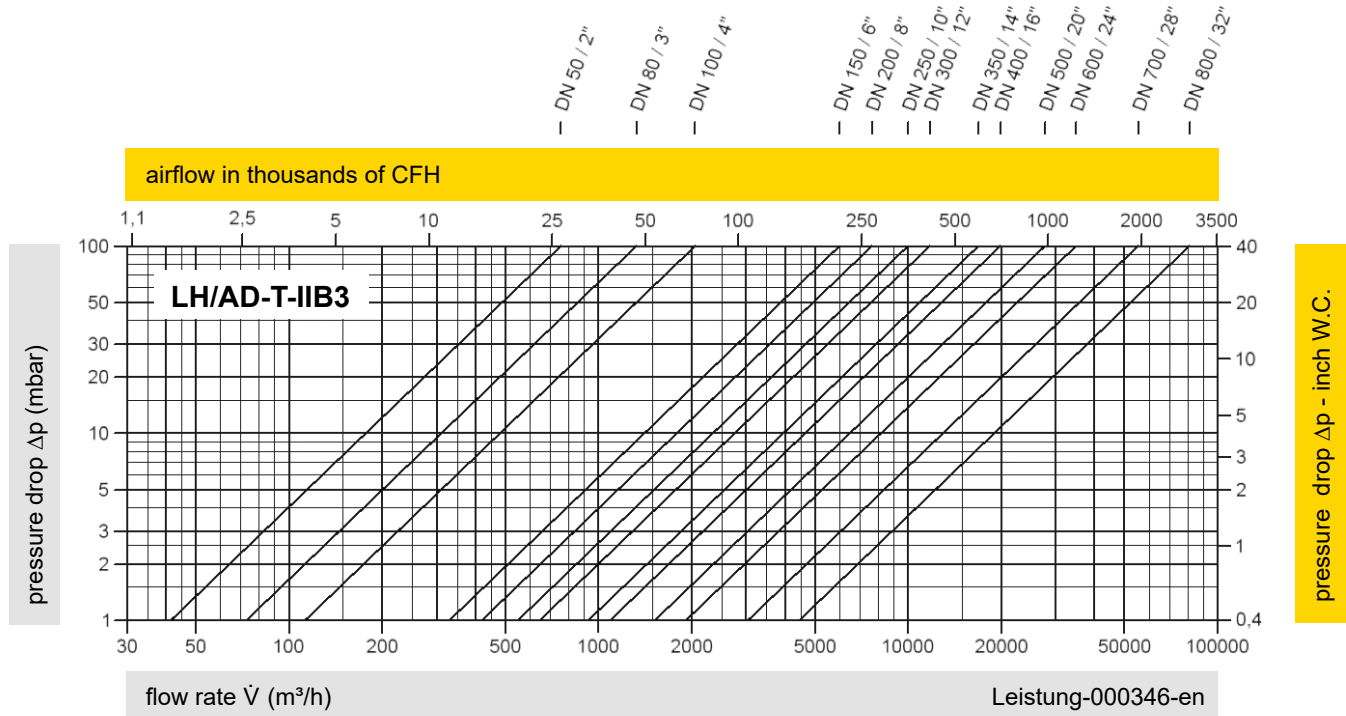




Deflagration Flame Arrester- Short-time burning-proof, End-of-Line

Flow Capacity Charts

PROTEGO® LH/AD-T



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 in ISO 6358 (20°C, 1bar). For conversion to other densities and temperatures, refer to Sec. 1: "Technical Fundamentals."