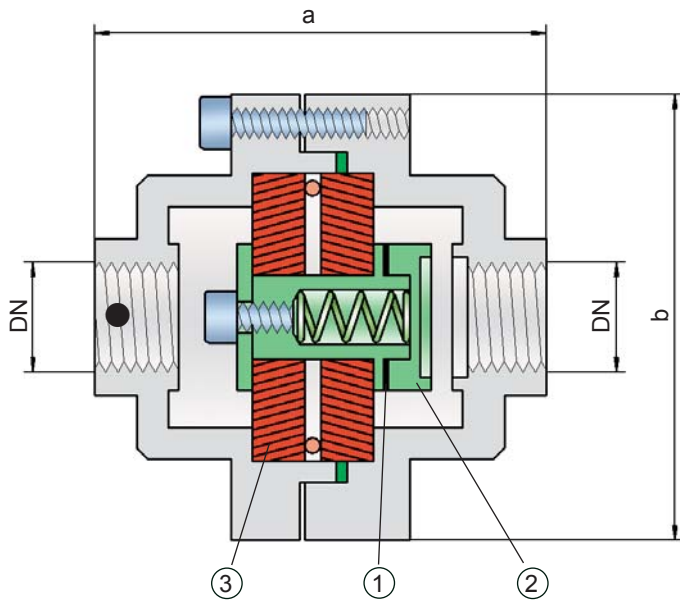


In-Line Detonation Flame Arrester

with shut-off valve,
for stable detonations and deflagrations in a straight through design, unidirectional

PROTEGO® DR/SV



● Connection to the protected side

Function and Description

The PROTEGO® DR/SV flame arrester series ideally combines the function of a detonation arrester with the advantages of a shut-off valve. In case of ignition, the fire can be stabilized within the flame arrester when the flammable gas continues to flow. Inside the detonation arrester, is a valve (1) that closes in case of fire, stops the additional supply of fuel and extinguishes the flames. Temperature sensors in combination with an emergency switch off do not have to be installed if the type PROTEGO® DR/SV device is used. This device is particularly useful for the suction-side protection of compressors and pumps.

The flame arrester protects against deflagrations and stable detonations. It can be installed anywhere in the pipe independently from the distance of the potential ignition source.

Once a detonation enters the flame arrester, energy is absorbed from the detonation shock wave by the central plate disc (2) before the flame is extinguished in the narrow gaps of the two FLAMEFILTER® discs (3). This device can be used for fluids of explosion group IIA (NEC group D).

The in-line detonation flame arresters are unidirectional and equipped with a threaded connection. The thread can be executed to international standards. The standard design can be used up to an operating temperature of +60°C / 140°F and an (absolute) operating pressure up to 1.1 bar / 15,9 psi.

Type-approved according to ATEX Directive and EN 12874 as well as other international standards.

Special Features and Advantages

- protects against stabilized burning
- no expensive emergency switch-offs are required
- temperature monitoring is not necessary
- minimum number of FLAMEFILTER® discs
- easy to maintain
- the individual FLAMEFILTER® discs can be quickly removed and installed
- the FLAMEFILTER® discs can be individually replaced
- provides protection from deflagrations and stable detonations
- ideal protective system for vacuum pumps
- cost efficient spare parts

Table 1: Dimensions

Dimensions in mm / inches

To select the nominal size (DN), please use the flow capacity chart on the following page

| DN | G ½" | G ¾" |
|----|------------|------------|
| a | 115 / 4.53 | 115 / 4.53 |
| b | 100 / 3.94 | 100 / 3.94 |

Table 2: Selection of the explosion group

| MESG | Expl. Gr. (IEC/CEN) | Gas Group (NEC) | Special approvals upon request |
|-----------|---------------------|-----------------|--------------------------------|
| > 0,90 mm | IIA | D | |

Table 3: Selection of max. operating pressure

| DN | G ½" | G ¾" | P _{max} = maximum allowable operating pressure in bar / psi (absolute), higher operating pressure upon request |
|------------------|------------|------------|---|
| P _{max} | 1.1 / 15.9 | 1.1 / 15.9 | |

Table 4: Specification of max. operating temperature

| ≤ 60°C / 140°F | T _{maximum} allowable operating temperature in °C | higher operating temperatures upon request |
|----------------|--|--|
| - | Designation | |

Table 5: Material selection for housing

| Design | A | B |
|---------------------|-------|-----------------|
| Housing | Brass | Stainless Steel |
| Gasket | PTFE | PTFE |
| Flame arrester unit | A | A, B |

Special materials upon request

* the FLAMEFILTER® are also available in the materials Tantalum, Inconel, Copper, etc. when the listed housing materials are used.

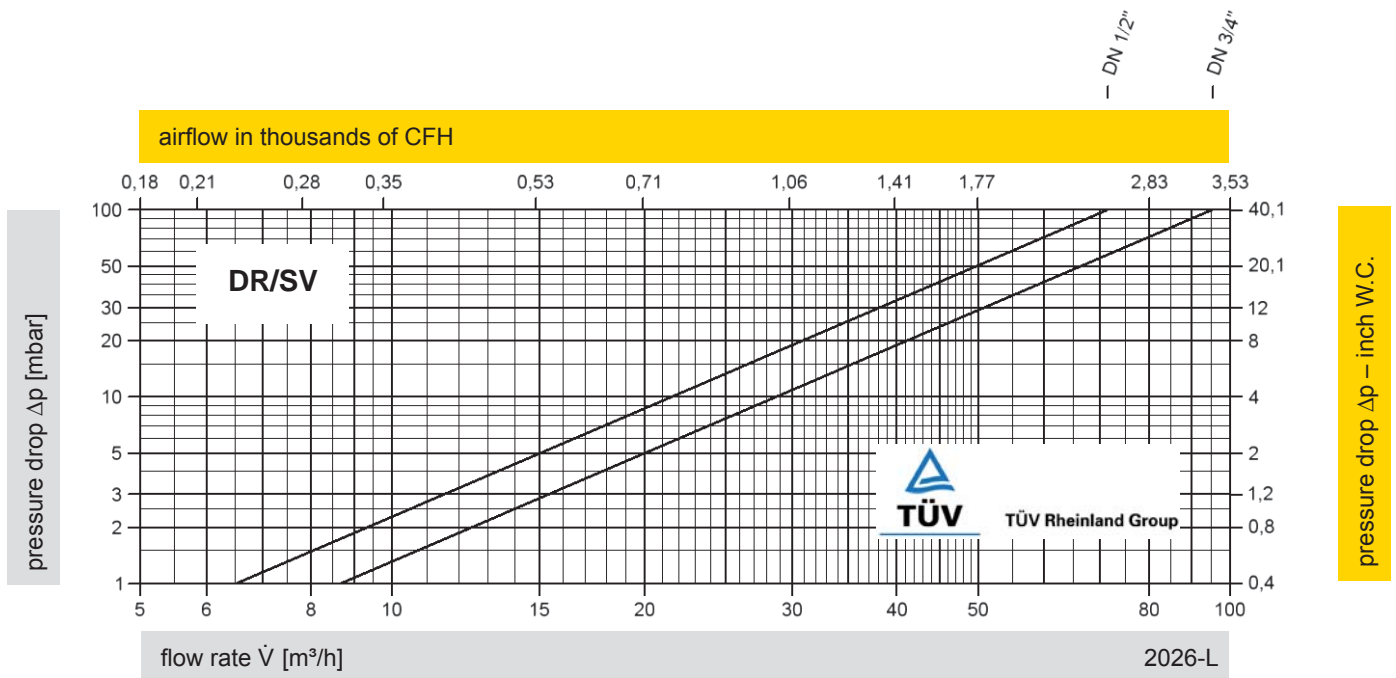
Table 6: Material combinations of the flame arrester unit

| Design | A | B |
|--------------------------|-----------------|-----------------|
| FLAMEFILTER® * | Stainless Steel | Stainless Steel |
| Spacer | Stainless Steel | Stainless Steel |
| Support for FLAMEFILTER® | Brass | Stainless Steel |
| Washer | Brass | Stainless Steel |

Table 7: Type of connection

Pipe thread DIN ISO 228-1 DIN other types of thread upon request

Flow Capacity Chart



The flow capacity chart has 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".

