	<b>FLAME ARRESTER</b> <b>934-B-E 25/1x0,9 to 934-B-E 100/1x0,9</b>	<b>REV 1.0</b>
	<b>INSTRUCTIONS FOR OPERATING AND MAINTENANCE</b>	<b>Page 1/4</b>

For the flame arrester type 934-B-E/1x0,9 dimension sheet and pressure drop/volume flow diagram are available.

### 1. Use

The flame arrester type 934-B-E/1x0,9 complies with the standard EN ISO 16852:2016 “Flame Arresters-Performance requirements, test methods and limits for use”.

The general suitability as a deflagration flame arrester when used with inflammable gas/air mixture and vapour/air mixture of inflammable liquids of the explosion group IIB3 (gap  $\geq 0,65$  mm) had been verified by tests executed at the Institute for Safety Technology IBExU Freiberg. The results of it were confirmed by the issued EC prototype test certificate **IBExU14ATEX2071 X**.

On principle, for all cases of use the placement conditions, especially the following limits for the operating pressure and temperature have to be considered:

- permissible operating pressure :                   atmospheric (0,8bar (absolute) to 1,1bar (absolute))
- permissible operating temperature :               -20°C to 60°C

On delivery of the devices the technical parameter of the flame arrester with stating the EC prototype test certificate number are documented in the works test certificate according to EN 10204.

In the declaration of compliance it is referred to the accordance with the harmonized standard EN ISO 16852 and EN 1127-1. The maintenance of the basic safety requirements according to directive 2014/34/EU has been confirmed.

### 2. Construction

The flame arrester 934-B-E consists of a casing (2), in which a flame arrester element (1) above set screws (5) and distance sockets (4) is clamped.

The flame arrester itself consists of a covering flange, a star and an angular winded metal foil element (1.2) with a gap width of 0.9mm.

For protection against effects of the weather the flame arrester is equipped with a sheet metal cover (3).


### 3. Marking

The information for marking the vent is arranged on the nameplate and an additional hazard sign (page 4/4). The following data are indicated:

nameplate

- name and address of the manufacturer
- type (including version number)
- serial number and year of production
- number of the certificate (EC prototype certificate-no.)
- number of relevant standard – ISO 16852
- specific mark for prevention of explosions in connection with the mark indicating the group of devices II, and the letter “G” (for areas where explosive gas, vapour, air mixtures are available)
- explosion group
- CE mark with the number of the indicated inspection authority, which act during production

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Hazard sign

- **Warning** **Flame arresters have installation and application limits**  
**Type designation in accordance with ISO 16852**
- sign for type of flame arrester: **DEF** (deflagration)
- ratio  $L_w/D$  (distance to ignition source): --- (not applicable)
- burn rate „BC“: **c** (no burn time)
- burn time  $t_{BT}$  (only for „BC“ b): --- (not applicable)
- explosion group: **IIB3**
- operational temperature  $T_0$ : **60°C**
- maximum operational pressure  $p_0$ : **atm.** (atmospheric)

The metal foil is marked at the outermost wound element, as follows:

- name of the manufacturer
- gap width
- material number
- direction of winding

example: BS&B – 0,9 – 1.4571 – R

#### 4. Installation

The arrangement and the installation of the flame arrester into the plant shall be done under observance of the rules applicable to the relevant range of use. Especially the instructions for accident prevention have to be observed.

A vertical installation position of the flame arrester has to be kept under any circumstances.

A minimum distance of vent outlet to external devices has to be adhered to avoid reduction of volume flow. This minimum distance depends on local circumstances and has to be specified by operator.


In the flange version from DN25 to DN100 the flame arrester is equipped with a flange adapter PN 16 Form C or ANSI 150 RF. While flanging be careful that the sealing face is not damaged and that there is no foreign matter or grease between the flanges for no gap to the atmosphere can occur.

The thread version of flame arrester has pipe thread type Rp or NPTF.  
For pipe connection are recommended tapered external thread R or NPTF.

parallel internal thread (flame arrester)	Rp (BSP) 1	Rp (BSP) 1 1/4	Rp (BSP) 2	Rp (BSP) 2 1/2
tapered external thread (pipeline)	R 1	R 1 1/4	R 2	R 2 1/2
wrench size (flame arrester)	SW 50		SW 65	

tapered internal thread (flame arrester)	NPTF 1	NPTF 1 1/4	NPTF 2	NPTF 2 1/2
tapered external thread (pipeline)	NPTF 1	NPTF 1 1/4	NPTF 2	NPTF 2 1/2
wrench size (flame arrester)	SW 50		SW 65	

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## 5. Maintenance

The maintenance includes a periodic visual control of the flame arrester, especially the flame arrester element with regard to contamination and appearance. The intervals for the maintenance works depend on the operating conditions and the kind how the individual media tend to contamination.

For the purpose of cleansing the flame arrester element (1) shall be dismantled:

The sheet metal cover (3) had to dismount by loosening the screw (6) resp. cap nuts (8) and then the flame arrester element (1) by disconnecting the distance bolts (4).

In case of minor contamination the flame arrester element shall be blown up with compressed air or hot vapour.

In case of major contamination a flushing with a cleaning agent can be carried out. After cleansing all parts which had been wetted by a cleansing agent shall be blown dry.

If necessary the metal foil element (1.2) of the flame arrester (1) can be removed by loosing the screwed connection.

The installation of the flame arrester and housing is carried out in reverse order.

During the cleansing works no mechanical modifications may be done on the flame arrester element or on the housing parts of the flame arrester.

On principle, the metal foil element has to be replaced by a new one, if:

- a fire occurred at the flame arrester element;
- loosening or distortions in the structure of the metal foil elements can be recognized;
- corrosion damages at the metal foil elements have been detected;
- in case of strongly contaminated metal foil elements, even after cleaning, a residual contamination of more than 30 % of the free flow cross-section remained.

All works in connection with the replacement of metal foil elements in a flame arrester element shall be executed only by trained and authorized skilled personnel.

It is recommended to hold a spare metal foil element ready for each flame arrester.

In case of replacement of structural units only original spare parts listed in the spare parts list may be installed to ensure the required safety.

## 6. Spare part list

Table : Spare parts 934-B-E /1x0,9

Item No.	Nominal Diameter	Designation	No.	Material	Order No.
1.2	32(25)	metal foil element 1x0,9	1	NSt	FET993153100
	50(40)				FET992753000
	80(65)				FET992810000
	100				FET999648900
3	32(25)	metal cover	1	NSt	542013000
	50(40)				542012200
	80(65)				FET994735000
	100				FET994734000

### Material marks

NSt ... stainless steel	K ... plastic (acryl glass)
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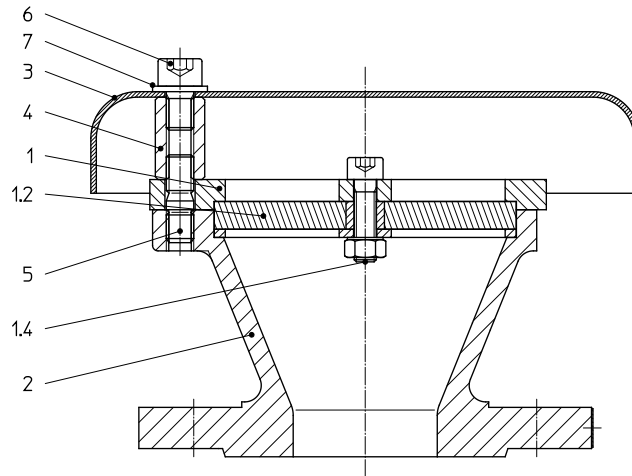
**FLAME ARRESTER**  
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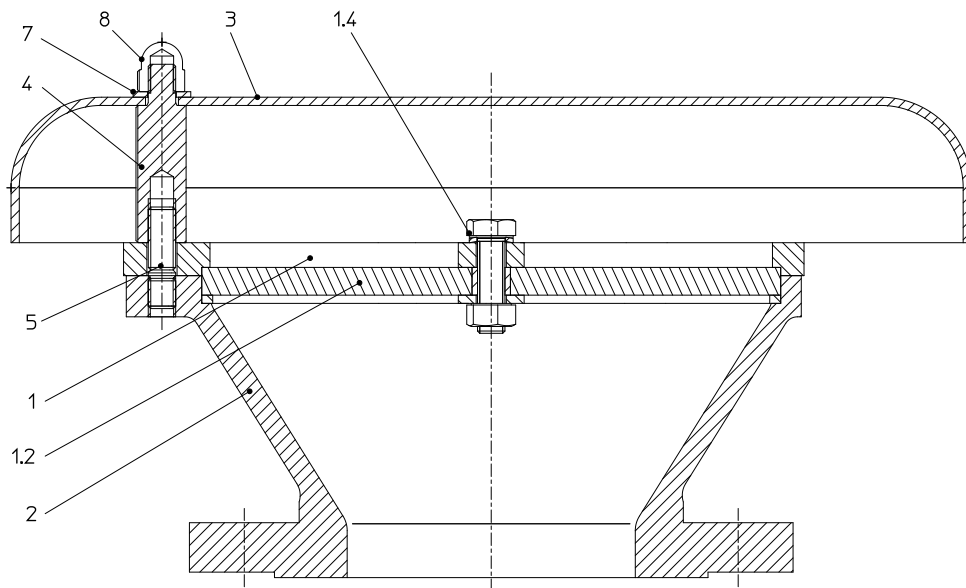
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**Assembly Drawing**

DN25 to DN80:



DN100:



**Hazard sign**

<b>Warning</b> Flame arrester have installation and application limits. Type design in accordance with ISO 16852			
DEF	$L_u/D = \text{---}$	BC: c	$t_{BT} = \text{--- min}$
	Ex G IIB3	$T_0 = 60 \text{ }^\circ\text{C}$	$p_0 = \text{atm.}$

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