# **EVB Series**



# **End-of-line Deflagration Flame Arresters**

Protecting People, Property and our Planet.

# With Replaceable Element for Explosion Groups IIB1, IIB2 & IIB3.

The Elmac Technologies® EVB Series End-of-line Deflagration Flame Arresters are designed to be installed at the end of a pipeline or exit vent from a vessel, to provide protection against atmospheric deflagration, where the ignition source is external.



#### Principle of Operation

The EVB Series incorporates Elmac's E-Flow™ enhanced crimped-ribbon technology in the flame arresting element, the matrix of which has been optimised using Computational Fluid Dynamics (CFD) to ensure industry leading flow and pressure drop characteristics.

During a deflagration, the combustion products are cooled at the element surface by heat dissipation, which prevents continuation of the combustion process through the flame arrester and into the protected vent line.

### **Operating Conditions**

The Elmac EVB Series Flame Arresters are ATEX certified for a maximum operating temperature of +60°C

## **Explosion Groups**

The Elmac EVB Series Flame Arresters are ATEX approved for gases in Explosion Groups IIA1, IIA, IIB1, IIB2, & IIB3.

# Standards Compliance

Elmac Technologies® Flame Arresters have been type-tested to EN ISO 16852 and certified according to ATEX Directive 2014/34/EU.

Actual device performance is verified in the Elmac Technologies® state-of-the-art in-house test facility.









## Elmac Expertise

Elmac has been manufacturing protection equipment since 1948 and brings enhanced levels of flame and explosion protection to a diverse range of applications.

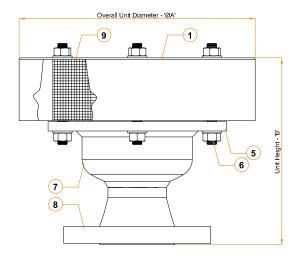
Elmac offers considerable technical leadership and, using test facilities along with Computational Fluid Dynamics (CFD) capabilities, employs research teams renowned for developing solutions for the most challenging of industrial applications.

#### Features and benefits

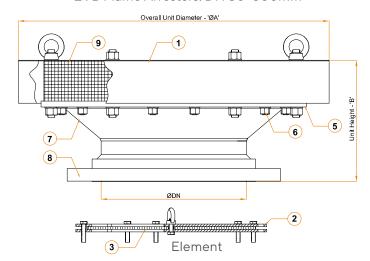
- Exceptional flow capacities with minimal pressure drop
- Easy-clean, replaceable, crimped-ribbon elements
- Unique element design is less susceptible to fouling/clogging
- ${\boldsymbol{\cdot}}$  Sizes and materials to suit a wide range of applications
- End connections include flanged or threaded options
- · Lightweight for ease of installation
- · Bird screen fitted as standard

# General arrangements:

#### EVB Flame Arresters: DN 15-40mm



#### EVB Flame Arresters: DN 50-600mm



# Standard Material Specifications

| Ref | Description     | Carbon Steel Models | Stainless Steel Models |
|-----|-----------------|---------------------|------------------------|
| 1   | Weatherhood     | Stainless Steel     | Stainless Steel        |
| 2   | Element Housing | Carbon Steel        | Stainless Steel        |
| 3   | Element Core    | Stainless Steel     | Stainless Steel        |
| 4*  | Gasket          | PTFE                | PTFE                   |
| 5   | Element Flange  | Carbon Steel        | Stainless Steel        |
| 6   | Fasteners       | Carbon Steel BZP    | Stainless Steel        |
| 7   | Reducer         | Carbon Steel        | Stainless Steel        |
| 8   | Fixing Flange   | Carbon Steel        | Stainless Steel        |
| 9   | Bird Screen     | Stainless Steel     | Stainless Steel        |

<sup>\*</sup>Not shown in general arrangement drawings above

#### Dimensions\*

| DN (mm)            | 15                | 20                | 25             | 32             | 40             |                | 50                | 65             | 80              | 100         |
|--------------------|-------------------|-------------------|----------------|----------------|----------------|----------------|-------------------|----------------|-----------------|-------------|
| ØA (mm)            | 245               | 245               | 245            | 245            | 24             | 5              | 245               | 300            | 300             | 360         |
| B (mm)             | 192               | 197               | 199            | 200            | 20             | 5              | 195               | 230            | 230             | 246         |
| Approx Wt (kg)     | 7.0               | 7.2               | 7.5            | 7.8            | 8.2            | 2              | 8.6               | 14.5           | 15.2            | 20.2        |
|                    |                   |                   |                |                |                |                |                   |                |                 |             |
| DN (mm)            | 125               | 150               | 200            | 250            | 300            | 350            | 400               | 450            | 500             | 600         |
| DN (mm)<br>ØA (mm) | <b>125</b><br>420 | <b>150</b><br>500 | <b>200</b> 500 | <b>250</b> 600 | <b>300</b> 660 | <b>350</b> 790 | <b>400</b><br>870 | <b>450</b> 950 | <b>500</b> 1030 | 600<br>1200 |
|                    | : <u>-</u>        |                   |                |                |                |                |                   |                |                 |             |

<sup>\*</sup>Flame arresters are available with different element size for enhanced flow capabilities. Please contact Customer Support for details.

#### **Variations**

| Feature            | Standard Fitting                 | Options*  |
|--------------------|----------------------------------|---|
| Arrester Materials | Carbon Steel or Stainless Steel  | Low Temperature Carbon Steel, Duplex Steel, Hastelloy |
| Element Material   | Stainless Steel                  | Hastelloy   |
| Connections        | ANSI 150 Flange                  | PN16 Flange, Female BSP/NPT, Male BSP/NPT             |
| Arrester Finish    | Painted (Carbon Steel Arresters) | Offshore Paint, PTFE Coated, Others on Request        |
| Bird Screen        | Stainless Steel                  | Stainless Steel, PTFE Coated                          |

<sup>\*</sup>Depending on flame arrester size

# **Customer Support**

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