

# Flame Arresters and Low Pressure Venting Equipment



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Protecting People, Property and our Planet

# In-line Deflagration and Detonation Flame Arresters

Elmac Technologies® is renowned for bringing enhanced levels of safety and protection to the world's most challenging industrial environments.

Our comprehensive range of ATEX accredited Flame Arresters and low pressure venting equipment is suitable for a wide variety of applications and conditions.

## In-line Flame Arresters

Series	Explosion Group		Connection Size DN/mm (inches)	Operating Conditions	Features
	IEC/CEN	US (NEC)			
LCA	IIA1 & IIA	Group D (MESG > 0.9)	15 - 600 (1/2" - 24")	+60°C (+140°F), 1.60 bar up to DN300; +160°C (+320°F), 1.45 bar up to DN300 +60°C (+140°F), 1.45 bar for sizes DN350 & DN400 +60°C (+140°F), 1.20 bar up to DN600	Concentric Design, Extended Operating Limits, Short Time Burn, Removable Elements
LCB					
LEA	IIA1 & IIA	Group D (MESG > 0.9)	15 - 400 (1/2" - 16")	+60°C (+140°F), 1.60 bar; +160°C (+320°F), 1.45 bar +60°C (+140°F), 1.45 bar for DN300 - DN400	Eccentric Design, Extended Operating Limits, Short Time Burn, Removable Elements
LEB					
SGE-IB	IIA1 & IIA IIB1, IIB2 & IIB3	Group D, Group C (MESG ≥ 0.65)	15 - 400 (1/2" - 16")	+150°C (+302°F), 1.30 bar up to DN200 +60°C (+140°F), 1.60 bar up to DN200, 1.25 bar up to DN400	Extended Operating Limits, Removable Elements
DFB	IIA1, IIA, IIB1, IIB2 & IIB3	Group D, Group C (MESG ≥ 0.65)	25 - 150 (1" - 6")	+60°C (+140°F), 1.60 bar +150°C (+302°F), 1.30 bar	Extended Operating Limits, Removable Elements
DFC				IIB1, IIB2, IIB3, IIB & IIC	

## In-line Microbore Flame Arresters

Series	Explosion Group		Connection Size DN/mm (inches)	Operating Conditions	Features
	IEC/CEN	US (NEC)			
MB-IB	IIA, IIA1, IIB1, IIB2 & IIB3	Group D, Group C (MESG ≥ 0.65)	15 - 20 (1/2" - 3/4")	-20°C to +60°C -4°F to +140°F	Fixed Elements

## In-line Unstable Detonation Flame Arresters

Series	Explosion Group		Connection Size DN/mm (inches)	Operating Conditions	Features
	IEC/CEN	US (NEC)			
UCA	IIA & IIA1	Group D (MESG > 0.9)	15 - 450 (1/2" - 18")	+60°C (+140°F), 1.20 bar up to DN300; 1.10 bar up to DN450; 1.50 bar up to DN100 +150°C (+302°F), 1.40 bar up to DN100; 1.10 bar for DN200 - DN400	E-Flow™ Technology HEDS™ Technology Short Time Burn Removable Elements
UCB					
UEA	IIA & IIA1	Group D (MESG > 0.9)	15 - 400 (1/2" - 16")	+60°C (+140°F), 1.20 bar up to DN300 1.10 bar up to DN400	E-Flow™ Technology HEDS™ Technology Short Time Burn Removable Elements
UEB					

Please note: Special Operating Temperatures & Pressures and bespoke Materials, Dimensions and Connections are available on request.

# End-of-line Deflagration Flame Arresters

## End-of-line Flame Arresters

Series	Explosion Group		Connection Size DN/mm (inches)	Operating Conditions	Features
	IEC/CEN	US (NEC)			
EVA	IIA & IIA1	Group D (MESG > 0.9)	15 - 600 (1/2" - 24")	-20°C to +60°C -4°F to +140°F	E-Flow Technology™ Removable Elements Extensive Options List
EVB					
AVC	IIA, IIA1, IIB1, IIB2, IIB3, IIB & IIC	Group D, Group C, Group B, (MESG < 0.50)	15 - 400 (1/2" - 16")	-20°C to +60°C -4°F to +140°F	Removable Elements Extensive Options List

## Light Duty End-of-line Flame Arresters

Series	Explosion Group		Connection Size DN/mm (inches)	Operating Conditions	Features
	IEC/CEN	US (NEC)			
ERB	IIA, IIA1, IIB1, IIB2 & IIB3	Group D, Group C (MESG ≥ 0.65)	10 - 80 (3/8" - 3")	-20°C to +60°C -4°F to +140°F	E-Flow™ Technology RE-Flow™ Technology Threaded Connections
SV					

## Flame Arrester Breather (FAB™) Valve

Series	Explosion Group		Connection Size DN/mm (inches)	Operating Conditions	Features
	IEC/CEN	US (NEC)			
FAB	IIA, IIA1, IIB1, IIB2 & IIB3	Group D, Group C (MESG ≥ 0.65)	50 - 300 (2" - 12")	-20°C to +60°C -4°F to +140°F	Exceptional flow capacity/pressure drop Compact, lightweight and easy to install
FAB-E				-20°C to +150°C -4°F to +302°F	

## High Temperature End-of-line Flame Arresters (Optional Short-time Burn)

Series	Explosion Group		Connection Size DN/mm (inches)	Operating Conditions	Features
	IEC/CEN	US (NEC)			
EHB / ESA	IIA, IIA1, IIB1, IIB2 & IIB3	Group D, Group C (MESG ≥ 0.65)	15 - 600 (1/2" - 24")	-20°C to +150°C -4°F to +302°F	Short Time Burn Option Extended Operating Limits E-Flow Technology™ Removable Elements

## End-of-line Flame Arresters for use with Pressure/Vacuum Relief Valves

Series	Explosion Group		Connection Size DN/mm (inches)	Operating Conditions	Features
	IEC/CEN	US (NEC)			
FE-IE	IIA, IIA1, IIB1, IIB2 & IIB3	Group D, Group C (MESG ≥ 0.65)	15 - 300 1/2" - 12"	-20°C to +60°C -4°F to +140°F	Removable Element

Please note: Special Operating Temperatures & Pressures and bespoke Materials, Dimensions and Connections are available on request.

# Low Pressure Equipment

## Storage Tank and Vessel Protection

Elmac's low pressure equipment is designed to protect tanks from rupture or implosion due to excessive pressure and vacuum effect. They limit product loss and environmental discharges whilst also protecting tanks during thermal changes.



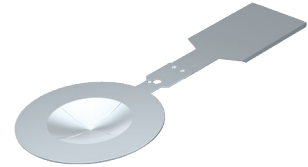
### Pressure/Vacuum Relief Valves

- Pressure relief valve, vacuum relief valve, pressure and vacuum relief valve
- Atmosphere vent, piped vent
- Weight or spring loaded
- 50 - 300mm
- 2" - 12"



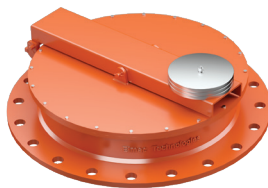
### Tank Blanketing Valves

- Control oxygen concentration in tank by preventing the ingress of air
- Protects product from contamination and moisture
- Reduce product evaporation
- 15 - 50mm
- 1/2" - 2"



### Bursting Discs

- Wide choice of materials and designs
- Forward and reverse acting
- 10 - 400mm
- 3/8" - 16"



### Emergency Relief Vents

- Pressure relief emergency manways
- For external fire/other abnormal conditions
- Available with vacuum relief option
- 250 - 900mm
- 10" - 36"



### Gauge Hatches

- For measurement and sampling
- Safety pedal for 'hands-free' operation
- Pressure relief option available
- 100 - 250mm
- 4" - 10"



### Vents

- Free vents for tank breathing
- Wide range of sizes/materials
- Customised designs for individual applications
- 50 - 300mm
- 2" - 12"

## Ancillary Equipment



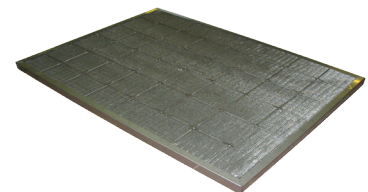
### Temperature Sensors

- ATEX rated for use with flame arresters
- Temp. measurement of process flow
- Monitoring and detecting flame
- Tailored to customer requirements



### Proximity Switches

- For use with low pressure venting equipment for the detection of pallet lift
- ATEX rated for installation in zoned areas
- Easy integration with existing on-site process controls



### Flashback Guards

- 304L and 316L stainless steel
- Knitted mesh panels
- Customised design for individual applications
- Tailored frames and mountings

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