

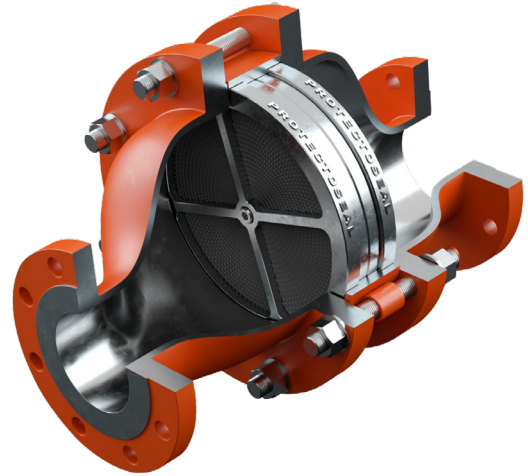
# LEA Series

## In-Line Deflagration Flame Arresters



### With Eccentric Body and Replaceable Element for NEC Explosion Gas Group D

The Protectoseal LEA Series prevents the spread of fire when a horizontal installation is required or when the pipe system is very close to other objects or a wall and an eccentric design is a better fit. The design is built with this contoured shape to avoid condensation build up in and around the element, ensuring maximum life and optimal performance. By installing an LEA Series in close proximity to the potential source of ignition, flames (or an explosion) are restricted to the immediate area.



### Principle of Operation

The LEA Series cools the combustion products at the element surface during a deflagration without a stable flame. This technique prevents the combustion process from continuing through the LEA Series and into the protected line.

In the case that a flame stabilizes on the element surface of the LEA Series, a monitoring system will detect a fast increase in temperature and activate secondary protective measures to stop the flow of the flammable mixture.

### Operating Conditions

The Protectoseal LEA Series is ATEX-approved for a maximum operating temperature of **140°F** or **60°C**. For high-temperature models, the maximum operating temperature is increased to **320°F** or **160°C**.

### Explosion Gas Groups

The Protectoseal LEA Series is certified for gases in **NEC Group D** and **IEC Group IIA**.

### Standards Compliance

Protectoseal's LEA Series of In-Line Deflagration Flame Arresters has been type-tested to **EN ISO 16852** and approved according to **ATEX Directive 2014/34/EU**.

Each LEA that passes through Protectoseal's facilities undergoes a rigorous inspection and verification of its safety and performance features.

### Protectoseal Expertise

Protectoseal offers industry leading technical leadership with its renowned flame and explosion protection for the most diverse and challenging of industrial applications. By utilizing a range of testing facilities, advanced algorithms and computational fluid dynamics (CFD), our research and development team is constantly looking for new ways to challenge the status quo, thus providing best-in-class innovation.

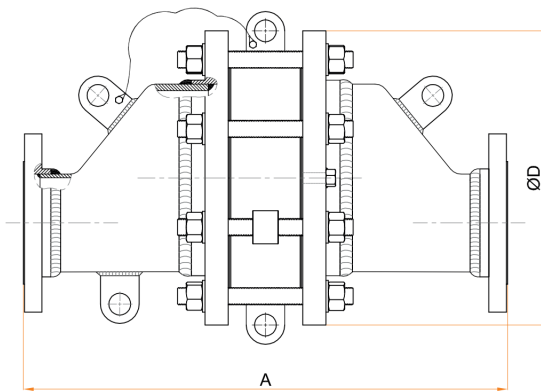
With over 95 years in the business, we have an established sales and service team to support clients with their initial specifications and throughout the product's life cycle.

## Features and Benefits

- Outstanding flow capacity with minimal pressure drop
- Prevents condensation buildup for horizontal installations
- Short-time burning proof capabilities
- The highest degree of bi-directional safety
- Available with elevated operating temperature and pressure
- Elements feature replaceable, easy-to-clean crimped-ribbon
- Available with elevated operating temperature and pressure
- Sizes and materials to accommodate a vast array of applications
- Options for end connections include flanged or threaded

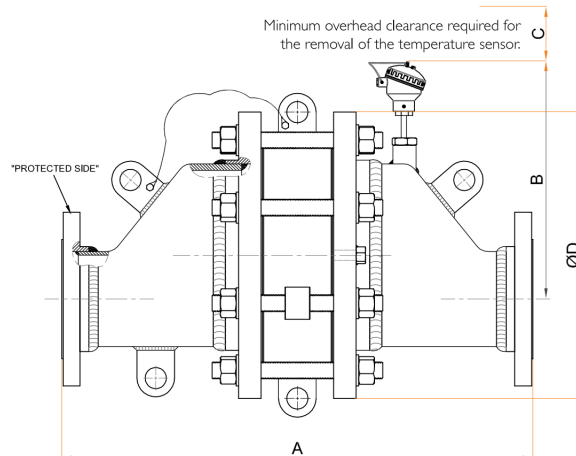
## General Arrangements:

LEA Flame Arresters (inc. High Temperature)



Eccentric Design

LEA Short-Time Burn Flame Arresters



Eccentric Design

## Selection Key

Positions	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
Example	L	E	A	-	O	5	O	A	T	-	1	O	O	T	S	-	N	1	.	2	O	-	N	/	O	O	O	W	O
Table	a	b	c	-	d	e	f	-	g	h	j	-	k	l	-	m	/	n	o	p	q	r	-						
Model No.	L	E	A	-				A		-	X	X	X		S	-		1	.			-		/	O		O		O

Standard Options		
a	Flame Arrester Type	In-Line Deflagration
b	Model Variation	Eccentric
c	Gas Group	D, IIA
d	Size	Refer to Table 1
e	Pipe Connection Type	ANSI 150lb. RF
f	Flame Arrester Housing Material	Refer to Table 2
g	Element Size	XXX <i>(Place Holder - your local Protectoseal representative will fill out this section for you)</i>
h	Element Housing Material	Refer to Table 3
j	Element Core Material	316/316L Stainless Steel
k	Temp Rating	Refer to Table 4
l	Operating Pressure Rating	Refer to Table 5
m	Short-Time Burn Capability	Refer to Table 6

Non-Standard Options		
n	Body Modification	Standard - No Alterations
o	Finish/Paint	Refer to Table 7
p	Gasket/Seal	CNAF
q	Fasteners	Refer to Table 8
r	Ports/Taps	Standard - No Ports/Taps

## Table 1: Sizes

### 1.1 Standard LEA

d	Size	Overall Length A	ØD	f	h	Approx Weight
015	1/2", 0.5", 15mm	12.48", 317mm	9.02", 229mm	C or S	D or T	46lbs, 21kg
020	3/4", 0.75", 20mm	12.48", 317mm	9.02", 229mm	C or S	D or T	49lbs, 22kg
025	1", 25 mm	13.27", 337mm	9.02", 229mm	C or S	D or T	49lbs, 22kg
040	1.5", 40 mm	12.48", 317mm	9.02", 229mm	C or S	D or T	49lbs, 22kg
050	2", 50 mm	12.72", 323mm	9.02", 229mm	C or S	D or T	53lbs, 24kg
080	3", 80 mm	16.26", 413mm	10.98", 279mm	C or S	D or T	88lbs, 40kg
100	4", 100 mm	17.99", 457mm	13.50", 343mm	C or S	D or T	139lbs, 63kg
150	6", 150 mm	22.72", 577mm	19.02", 483mm	C or S	D or T	269lbs, 122kg
200	8", 200 mm	35.55", 903mm	23.50", 597mm	C or S	D or T	474lbs, 215kg
250	10", 250 mm	48.07", 1221mm	27.48", 698mm	C or S	D or T	683lbs, 310kg
300	12", 300 mm	48.78", 1239mm	32.01", 813mm	C or S	D or T	917lbs, 416kg

### 1.2 Short-Time Burn LEA

d	Size	Overall Length A	Max B	Min C	ØD	f	h	Approx Weight
015	1/2", 0.5", 15mm	12.48", 317mm	11.22", 285mm	2.95", 75mm	9.02", 229mm	C or S	D or T	49lbs, 22kg
020	3/4", 0.75", 20mm	12.48", 317mm	11.22", 285mm	2.95", 75mm	9.02", 229mm	C or S	D or T	51lbs, 23kg
025	1", 25 mm	13.27", 337mm	11.22", 285mm	2.95", 75mm	9.02", 229mm	C or S	D or T	51lbs, 23kg
040	1.5", 40 mm	12.48", 317mm	11.22", 285mm	2.95", 75mm	9.02", 229mm	C or S	D or T	51lbs, 23kg
050	2", 50 mm	12.72", 323mm	11.22", 285mm	2.95", 75mm	9.02", 229mm	C or S	D or T	55lbs, 25kg
080	3", 80 mm	16.26", 413mm	11.22", 285mm	2.95", 75mm	10.98", 279mm	C or S	D or T	90lbs, 41kg
100	4", 100 mm	17.99", 457mm	13.39", 340mm	2.95", 75mm	13.50", 343mm	C or S	D or T	141lbs, 64kg
150	6", 150 mm	22.72", 577mm	15.75", 400mm	5.31", 135mm	19.02", 483mm	C or S	D or T	271lbs, 123kg
200	8", 200 mm	35.55", 903mm	17.13", 435mm	5.31", 135mm	23.50", 597mm	C or S	D or T	476lbs, 216kg
250	10", 250 mm	48.07", 1221mm	19.09", 485mm	7.68", 195mm	27.48", 698mm	C or S	D or T	686lbs, 311kg
300	12", 300 mm	48.78", 1239mm	21.06", 535mm	7.68", 195mm	32.01", 813mm	C or S	D or T	919lbs, 417kg

**Note:** Dish-End models are available with larger elements for enhanced flow capabilities. Dimensions presented above are for 1.2bara operating pressure models.

### 1.3 High-Temperature LEA

d	Size	Overall Length A	ØD	f	h	Approx Weight
015	1/2", 0.5", 15mm	12.87", 327mm	9.02", 229mm	C or S	D or T	46lbs, 21kg
020	3/4", 0.75", 20mm	12.87", 327mm	9.02", 229mm	C or S	D or T	49lbs, 22kg
025	1", 25 mm	13.66", 347mm	9.02", 229mm	C or S	D or T	49lbs, 22kg
040	1.5", 40 mm	12.87", 327mm	9.02", 229mm	C or S	D or T	49lbs, 22kg
050	2", 50 mm	13.11", 333mm	9.02", 229mm	C or S	D or T	53lbs, 24kg
080	3", 80 mm	16.65", 423mm	10.98", 279mm	C or S	D or T	93lbs, 42kg
100	4", 100 mm	18.39", 467mm	13.50", 343mm	C or S	D or T	146lbs, 66kg
150	6", 150 mm	23.11", 587mm	19.02", 483mm	C or S	D or T	276lbs, 125kg
200	8", 200 mm	35.94", 913mm	23.50", 597mm	C or S	D or T	487lbs, 221kg
250	10", 250 mm	48.46", 1231mm	27.48", 698mm	C or S	D or T	701lbs, 318kg
300	12", 300 mm	49.17", 1249mm	32.01", 813mm	C or S	D or T	941lbs, 427kg

**Note:** Dish-End models are available with larger elements for enhanced flow capabilities.

Table 2: Flame Arrester Housing Materials

f	Flame Arrester Housing (Body) Material	o	q
C	Fabricated Carbon Steel	O	C
S	Fabricated 316/316L Stainless Steel	F	W

Table 3: Element Housing Materials

h	Element Housing (Body) Material
D	Cast Carbon Steel
T	Cast 316/316L Stainless Steel

Table 4: Temperature Rating

k	Temperature Rating
N	Standard (140°F, 60°C)
E	Max Elevated Temperature (320°F, 160°C)

Table 5: Operating Pressure Rating

l	Operating Pressure Rating
1.20	17.4 psia, 1.20 bara
1.45	21 psia, 1.45 bara

Table 6: Short-Time Burn Capability

m	Short-Time Burn Capability
N	No Capability
S	Short Time Burn Single Sensor
T	Short Time Burn Double Sensor (Bi-Directional)

Table 7: Finish/Paint

o	Finish/Paint
O	Primer & Top Coat Orange
F	Natural, Unpainted

Table 8: Fasteners

o	Finish/Paint
C	Zinc Plated Steel
W	316 Stainless Steel

## Customer Support

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