

94407



Shand & Jurs Co.

A COGNESENSE BRAND

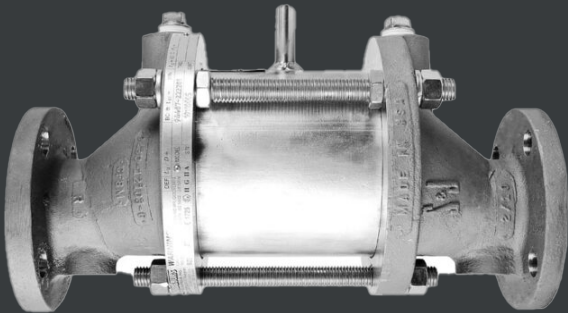
Horizontal Inline Deflagration Flame Arrester

The Shand & Jurs® Model 94407 prevents external ignition from propagating into low-pressure tanks and vapor piping at open vent discharge points. Installed at the termination of the vent piping, it establishes the flame-arresting boundary at the outlet rather than within the connected system.

Open vent terminations operate near atmospheric pressure during normal breathing but remain exposed to surrounding ignition sources. The crimped ribbon element removes heat from the flame front and quenches combustion before it reaches protected equipment, while maintaining unrestricted vapor flow.

The horizontal configuration reduces condensate accumulation that could obstruct the flame path and compromise arresting performance. The Model 94407 is applied where ignition risk exists at the atmosphere interface rather than within the piping network.

Sizing and pressure-drop verification can be evaluated using the Shand & Jurs WinSize software. Available in 2–12 in. sizes with ANSI Class 150 or EN PN16 flanges.



Key Features

Spiral crimped ribbon element

Quenches flame fronts while maintaining normal vapor discharge capacity.

Horizontal body orientation

Reduces condensate accumulation that could obstruct the flame path.

Removable tube bank assembly

Allows inspection without removing the arrester body from the piping.

NPT sensor port

Allows monitoring of element condition to determine maintenance timing.

Multi-material construction

Maintains flame gap integrity in corrosive or condensable vapor service.

Drainable configuration

Allows removal of collected condensate during inspection intervals.



Benefits



STOPS FLAME AT THE ATMOSPHERIC OUTLET

Prevents ignition entry into connected tanks and vapor piping.



MAINTAINS UNRESTRICTED VENT FLOW

Avoids unintended pressure accumulation during normal operation.



CONDENSATE-TOLERANT ORIENTATION

Preserves certified arresting performance in wet vapor service.



DEFINED IGNITION BOUNDARY

Eliminates the need for higher-severity inline detonation protection.



INSPECTABLE ELEMENT DESIGN

Preserves protection reliability following maintenance intervals.



CERTIFIED PROTECTION METHOD

Supports defensible ignition control in low-pressure vapor systems.

Available Options



316 stainless steel element

Corrosion resistance in wet or sour gas service.



Cast steel body

Increased mechanical durability for industrial installations.



316 stainless steel body

Full corrosion-resistant construction for aggressive environments.



ANSI Class 150 RF flange

Raised-face piping compatibility.



EN PN16 flange drilling

Metric piping compatibility.



Drain plug configuration

Controlled removal of accumulated condensate.

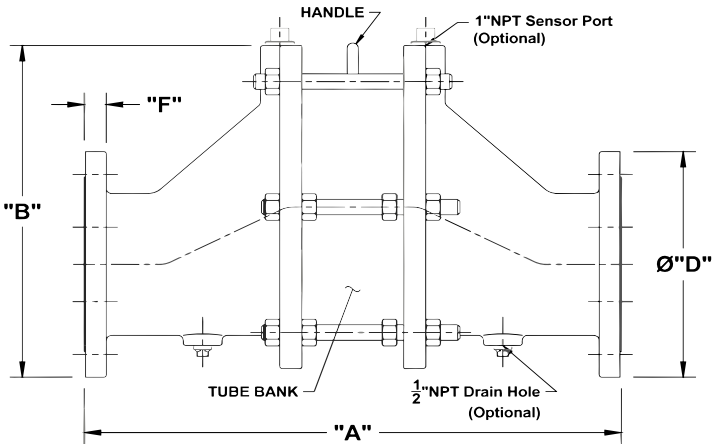


Key Performance Data

Parameter	Value
Size Range	2", 3", 4", 6", 8", 10", 12"
Temperature Range	Max Operating Temperature 140F (60C)
Maximum Operating Pressure	1.0 psig
Maximum Static Pressure	10 psig
Gas Group	NEC Group D
Installation Location	Within 10 pipe diameters of the ignition source
Flanges	ANSI 150 RF/FF • EN PN16 RF/FF
Body	Cast Aluminum, Cast Steel, or 316 Stainless Steel
Hardware	316 Stainless Steel
Element	Aluminum or 316 Stainless Steel
Gaskets	Synthetic Composition

Dimensions

Dimensions (in Inches)				
Vent Size	"A"	"B"	Diameter "D"	"F"
2"	14 1/2	8 5/32	6	5/8
3"	16	10 11/16	7 1/2	3/4
4"	20	12 3/16	9	15/16
6"	24 3/8	16 11/64	11	1
8"	32 1/8	20 7/8	13 1/2	1 1/8
10"	33 3/8	24 3/4	16	1 3/16
12"	34 3/8	29 5/16	19	1 1/4



Installation Note: Locate flame arrester within "x" pipe diameters of potential ignition source.

Run up length "x" =
2"-4" size- 50 pipe diameters.
6" size- 20 pipe diameters.
8"-12" size- 10 pipe diameters.

Model Number Selection

The model number will consist of a base number 94407 followed by 6 digit letters. These digits will represent 3 option tables.

94407 - AB - CD - EF

Ordering Information

Specify:

1. Model 94407 Horizontal Inline Deflagration Flame Arrester
2. Size and Body Material
3. Tube Bank and Hardware Material
4. Type of Flange and Auxillary Connection
5. Special Materials or Coatings, If Required

Table AB - Size & Body* Table CD - Tube Bank and Hardware*

Option AB	Size (Inches)	Body Material	Option CD	Tube Bank Material Shell/Element	Hardware Material	Shipping Wt. (lbs)
23	2	Cast Aluminum	22	316 Stainless Steel / 316 Stainless Steel	316 Stainless Steel	15
33	3	Cast Aluminum	22	316 Stainless Steel / 316 Stainless Steel	316 Stainless Steel	25
43	4	Cast Aluminum	22	316 Stainless Steel / 316 Stainless Steel	316 Stainless Steel	45
63	6	Cast Aluminum	22	316 Stainless Steel / 316 Stainless Steel	316 Stainless Steel	69
83	8	Cast Aluminum	22	316 Stainless Steel / 316 Stainless Steel	316 Stainless Steel	93
03	10	Cast Aluminum	22	316 Stainless Steel / 316 Stainless Steel	316 Stainless Steel	165
13	12	Cast Aluminum	22	316 Stainless Steel / 316 Stainless Steel	316 Stainless Steel	200
20	2	Cast Steel	22	316 Stainless Steel / 316 Stainless Steel	316 Stainless Steel	43
22	2	Cast 316 SS	22	316 Stainless Steel / 316 Stainless Steel	316 Stainless Steel	43
30	3	Cast Steel	22	316 Stainless Steel / 316 Stainless Steel	316 Stainless Steel	65
32	3	Cast 316 SS	22	316 Stainless Steel / 316 Stainless Steel	316 Stainless Steel	65
40	4	Cast Steel	22	316 Stainless Steel / 316 Stainless Steel	316 Stainless Steel	120
42	4	Cast 316 SS	22	316 Stainless Steel / 316 Stainless Steel	316 Stainless Steel	120
60	6	Cast Steel	22	316 Stainless Steel / 316 Stainless Steel	316 Stainless Steel	207
62	6	Cast 316 SS	22	316 Stainless Steel / 316 Stainless Steel	316 Stainless Steel	207
80	8	Cast Steel	22	316 Stainless Steel / 316 Stainless Steel	316 Stainless Steel	280
82	8	Cast 316 SS	22	316 Stainless Steel / 316 Stainless Steel	316 Stainless Steel	280
00	10	Cast Steel	22	316 Stainless Steel / 316 Stainless Steel	316 Stainless Steel	480
02	10	Cast 316 SS	22	316 Stainless Steel / 316 Stainless Steel	316 Stainless Steel	480
10	12	Cast Steel	22	316 Stainless Steel / 316 Stainless Steel	316 Stainless Steel	610
12	12	Cast 316 SS	22	316 Stainless Steel / 316 Stainless Steel	316 Stainless Steel	610

***NOTE:**
Aluminum and Cast Iron bodies are only ISO 16852 approved.
Raised Face not available in Aluminum bodies. Other material combinations available.

Table E - Flange Type

Option E	Description
0	ANSI 125/150lb. FF
1	ANSI 125/150lb. RF*
2	EN1092-1 PN10 FF
3	EN1092-1 PN10 RF*
4	EN1092-1 PN16 FF
5	EN1092-1 PN16 RF*

*Raised Face Flanges Not Available in Aluminum.

Note:
Raised faced flanges with smooth finish are standard.
For optional serrated raised faced flanges, consult factory.

Tube Banks Only*

Part Number	Size (Inches)	Tube Bank Material Shell/Element	Shipping Wt. (lbs.)
9440-10010	2	316 SS / 316 SS	25
9440-10011	3	316 SS / 316 SS	35
9440-10012	4	316 SS / 316 SS	60
9440-10013	6	316 SS / 316 SS	100
9440-10014	8	316 SS / 316 SS	160
9440-10015	10	316 SS / 316 SS	240
9440-10016	12	316 SS / 316 SS	325

*Other Material Combinations Available.

Table F - Auxillary Connections

Option F	Description	Quantity
0 ⁽¹⁾	3/4" NPT (Uni-Directional)	1
1	3/4" NPT (Bi-Directional)	2
4	3/4" NPT (U)(2) w/1/2" NPT (Drain)	3 ⁽³⁾

- 1. Flow Direction Label Affixed to Cast Body.
- 2. U = Uni-Directional; B = Bi-Directional.
- 3. Includes two drain connections - one per side.

Summary

The Model 94407 establishes the flame-arresting boundary at the atmospheric discharge of low-pressure vapor systems. By quenching ignition at the outlet while maintaining unrestricted vapor flow, it protects connected tanks and piping without altering normal operation. The horizontal configuration supports reliable arresting performance in condensable vapor service and consistent ignition control over time.

info@cognesense.com

Tel: (708) 236-6000

5911 Butterfield Road Hillside, Illinois 60162 USA

This document is for information purposes only. All designs subject to change. Certified dimensions, specifications, and performance data available upon request