

## 94306 Vertical Flame Arrester

The Shand & Jurs Flame Arresters are designed to provide a positive flame stop on low pressure tanks, storage tanks and anaerobic digesters containing flammable liquids, solvents or gases having a low flash point. The 94306 not only provides exceptional protection against fire from external ignition, but also offers maximum flow capacity.

Shand & Jurs Flame Arresters are generally installed with pressure-vacuum vents, or in-line free vent to atmosphere. The tube bank design consisting of a spiral-wound crimped ribbon around a solid core, maximize flow capacity with minimum pressure drop. This unique design meets FM Factory Mutual approval for all sizes and material options.

Standard construction includes light weight cast aluminum, cast iron, cast steel, 304 stainless steel and 316 stainless steel body materials suitable for most environments. Tube bank is available in aluminum, 304 stainless steel and 316 stainless steel as standard. For highly corrosive and severe conditions, special materials and coatings are available.

Available with flat face flanges for aluminum or raised face flanges for cast steel and stainless steel to match ANSI, EN1092-1, or JIS 10K specifications.

Periodic inspection, maintenance and replacement of the tube bank is easily accomplished by simply removing tie-bolts and expanding the remaining jack screws. Once the upper and lower body sections are expanded, the tube bank and shell are easily removed with the aid of a handle.

For in-line deflagration arrester, see the Shand & Jurs 94406.



### Features

- Unitized tube bank design
- Maximum protection and efficiency with minimum pressure drop
- Wide range of standard construction materials
- Easy inspection and maintenance, due to simple removal of tube bank on site
- FM Approval, 2" to 12" inclusive
- NEC Group D gas applications
- Location within 10 pipe diameters of potential atmosphere ignition source

## Specifications

### Sizes:

2", 3", 4", 6", 8", 10" and 12"

### Max. Static Pressure:

5 PSIG

### Max. Pressure Drop:

1 PSIG

### Flange Rating:

To match drilling of ANSI 125/150 lb. flat face or 150 lb. raised face (cast aluminum body option available with flat face only). EN1092-1 and JIS options.

### Approval/Gas Application:

FM (Factory Mutual), NEC Group D Gas

## Materials of Construction

### Body:

Cast Iron, Cast Steel, Cast Aluminum, 304 Stainless Steel or 316 Stainless Steel

### Hardware:

18-8 Stainless Steel Standard, 316 Stainless Steel

### Tube Bank:

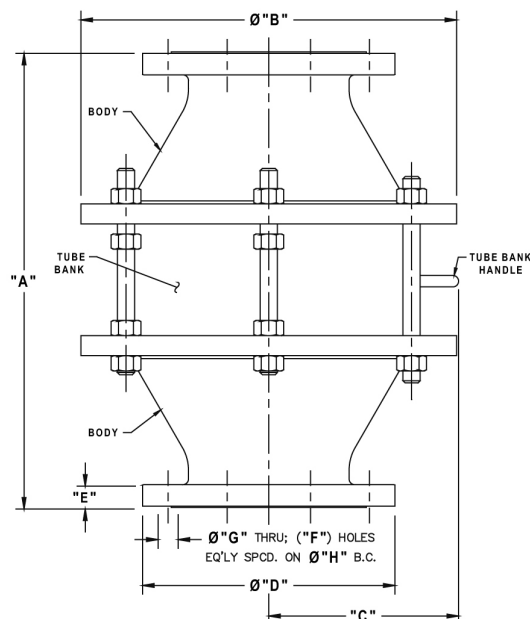
Aluminum with Aluminum Shell;  
304 Stainless Steel with Steel Shell;  
304 Stainless Steel with 304 Stainless Steel Shell;  
316 Stainless Steel with 316 Stainless Steel Shell

## Outline Dimensions

Dimensions in Inches									Approximate Shipping Wt. (lbs)	
Vent Size	"A"	Diameter "B"	"C"	Diameter "D"	"E"	Holes "F"	Diameter "G"	Diameter "H"	Alum.	Iron
2"	13 3/8	8 1/2	7 7/16	6	5/8	4	3/4	4 3/4	15	43
3"	15 5/8	10 1/2	8 5/16	7 1/2	3/4	4	3/4	6	25	65
4"	17 7/8	12 3/8	6 1/2	9	15/16	8	3/4	7 1/2	45	120
6"	19 7/8	16 3/8	8 1/4	11	1	8	7/8	9 1/2	69	207
8"	24 1/2	20 1/2	10 3/8	13 1/2	1 1/8	8	7/8	11 3/4	93	280
10"	28 7/8	24 1/2	12 1/4	16	1 3/16	12	1	14 1/4	165	480
12"	32 7/8	28 3/4	14 3/8	19	1 1/4	12	1	17	200	610

ANSI Connection shown. Other Connection Sizes Available.

Installation Note: Locate flame arrester within 10 pipe diameters of potential atmospheric ignition source.



All designs subject to change. Certified dimensions and specifications available upon request.

## 94306 Ordering Guide

### Model Number Selection

The model number will consist of a base number **94306** followed by 6 digit numbers. These digits will represent 2 option tables.

**94306 - AB - CD - EF**

### Ordering Information

Specify:

1. Model 94306 Vertical Flame Arrester
2. Size and Body Material

3. Tube Bank and Shell Material
4. Type of Flange Option
5. Special Materials or Coatings, If Required

#### Table AB - Size and Body\*

#### Table CD - Tube Bank and Shell\*

Option AB	Size (Inches)	Body Material	Option CD*	Tube Bank Material	Shell Material
12	2	Cast Aluminum	11 (12)	Aluminum	Aluminum
12	2	Cast Aluminum	66 (67)	304 Stainless Steel	Carbon Steel
12	2	Cast Aluminum	22 (23)	316 Stainless Steel	316 Stainless Steel
12	2	Cast Aluminum	44 (45)	304 Stainless Steel	304 Stainless Steel
14	3	Cast Aluminum	11 (12)	Aluminum	Aluminum
14	3	Cast Aluminum	66 (67)	304 Stainless Steel	Carbon Steel
14	3	Cast Aluminum	22 (23)	316 Stainless Steel	316 Stainless Steel
14	3	Cast Aluminum	44 (45)	304 Stainless Steel	304 Stainless Steel
15	4	Cast Aluminum	11 (12)	Aluminum	Aluminum
15	4	Cast Aluminum	66 (67)	304 Stainless Steel	Carbon Steel
15	4	Cast Aluminum	22 (23)	316 Stainless Steel	316 Stainless Steel
15	4	Cast Aluminum	44 (45)	304 Stainless Steel	304 Stainless Steel
16	6	Cast Aluminum	11 (12)	Aluminum	Aluminum
16	6	Cast Aluminum	66 (67)	304 Stainless Steel	Carbon Steel
16	6	Cast Aluminum	22 (23)	316 Stainless Steel	316 Stainless Steel
16	6	Cast Aluminum	44 (45)	304 Stainless Steel	304 Stainless Steel
17	8	Cast Aluminum	11 (12)	Aluminum	Aluminum
17	8	Cast Aluminum	66 (67)	304 Stainless Steel	Carbon Steel
17	8	Cast Aluminum	22 (23)	316 Stainless Steel	316 Stainless Steel
17	8	Cast Aluminum	44 (45)	304 Stainless Steel	304 Stainless Steel
18	10	Cast Aluminum	11 (12)	Aluminum	Aluminum
18	10	Cast Aluminum	66 (67)	304 Stainless Steel	Carbon Steel
18	10	Cast Aluminum	22 (23)	316 Stainless Steel	316 Stainless Steel
18	10	Cast Aluminum	44 (45)	304 Stainless Steel	304 Stainless Steel
19	12	Cast Aluminum	11 (12)	Aluminum	Aluminum
19	12	Cast Aluminum	66 (67)	304 Stainless Steel	Carbon Steel
19	12	Cast Aluminum	22 (23)	316 Stainless Steel	316 Stainless Steel
19	12	Cast Aluminum	44 (45)	304 Stainless Steel	304 Stainless Steel
32, 62	2	Cast Iron, Ductile Iron	66 (67)	304 Stainless Steel	Carbon Steel
32, 62	2	Cast Iron, Ductile Iron	22 (23)	316 Stainless Steel	316 Stainless Steel
32, 62	2	Cast Iron, Ductile Iron	44 (45)	304 Stainless Steel	304 Stainless Steel
52	2	Cast Steel	66 (67)	304 Stainless Steel	Carbon Steel

HARDWARE: 18-8 SS Standard; Use CD (XX) option for 316 SS; 316 SS Standard for 316 SS Body

### Table AB - Size and Body\*

### Table CD - Tube Bank and Shell\*

Option AB	Size (Inches)	Body Material	Option CD*	Tube Bank Material	Shell Material
52	2	Cast Steel	22 (23)	316 Stainless Steel	316 Stainless Steel
52	2	Cast Steel	44 (45)	304 Stainless Steel	304 Stainless Steel
42	2	Cast 316 Stainless Steel	22	316 Stainless Steel	316 Stainless Steel
34, 64	3	Cast Iron, Ductile Iron	66 (67)	304 Stainless Steel	Carbon Steel
34, 64	3	Cast Iron, Ductile Iron	22 (23)	316 Stainless Steel	316 Stainless Steel
34, 64	3	Cast Iron, Ductile Iron	44 (45)	304 Stainless Steel	304 Stainless Steel
54	3	Cast Steel	66 (67)	304 Stainless Steel	Carbon Steel
54	3	Cast Steel	22 (23)	316 Stainless Steel	316 Stainless Steel
54	3	Cast Steel	44 (45)	304 Stainless Steel	304 Stainless Steel
44	3	Cast 316 Stainless Steel	22	316 Stainless Steel	316 Stainless Steel
35, 65	4	Cast Iron, Ductile Iron	66 (67)	304 Stainless Steel	Carbon Steel
35, 65	4	Cast Iron, Ductile Iron	22 (23)	316 Stainless Steel	316 Stainless Steel
35, 65	4	Cast Iron, Ductile Iron	44 (45)	304 Stainless Steel	304 Stainless Steel
55	4	Cast Steel	66 (67)	304 Stainless Steel	Carbon Steel
55	4	Cast Steel	22 (23)	316 Stainless Steel	316 Stainless Steel
55	4	Cast Steel	44 (45)	304 Stainless Steel	304 Stainless Steel
45	4	Cast 316 Stainless Steel	22	316 Stainless Steel	316 Stainless Steel
36, 66	6	Cast Iron, Ductile Iron	66 (67)	304 Stainless Steel	Carbon Steel
36, 66	6	Cast Iron, Ductile Iron	22 (23)	316 Stainless Steel	316 Stainless Steel
36, 66	6	Cast Iron, Ductile Iron	44 (45)	304 Stainless Steel	304 Stainless Steel
56	6	Cast Steel	66 (67)	304 Stainless Steel	Carbon Steel
56	6	Cast Steel	22 (23)	316 Stainless Steel	316 Stainless Steel
56	6	Cast Steel	44 (45)	304 Stainless Steel	304 Stainless Steel
46	6	Cast 316 Stainless Steel	22	316 Stainless Steel	316 Stainless Steel
37, 67	8	Cast Iron, Ductile Iron	66 (67)	304 Stainless Steel	Carbon Steel
37, 67	8	Cast Iron, Ductile Iron	22 (23)	316 Stainless Steel	316 Stainless Steel
37, 67	8	Cast Iron, Ductile Iron	44 (45)	304 Stainless Steel	304 Stainless Steel
57	8	Cast Steel	66 (67)	304 Stainless Steel	Carbon Steel
57	8	Cast Steel	22 (23)	316 Stainless Steel	316 Stainless Steel
57	8	Cast Steel	44 (45)	304 Stainless Steel	304 Stainless Steel
47	8	Cast 316 Stainless Steel	22	316 Stainless Steel	316 Stainless Steel
38, 68	10	Cast Iron, Ductile Iron	66 (67)	304 Stainless Steel	Carbon Steel
38, 68	10	Cast Iron, Ductile Iron	22 (23)	316 Stainless Steel	316 Stainless Steel
38, 68	10	Cast Iron, Ductile Iron	44 (45)	304 Stainless Steel	304 Stainless Steel
58	10	Cast Steel	66 (67)	304 Stainless Steel	Carbon Steel
58	10	Cast Steel	22 (23)	316 Stainless Steel	316 Stainless Steel
58	10	Cast Steel	44 (45)	304 Stainless Steel	304 Stainless Steel
48	10	Cast 316 Stainless Steel	22	316 Stainless Steel	316 Stainless Steel
39, 69	12	Cast Iron, Ductile Iron	66 (67)	304 Stainless Steel	Carbon Steel
39, 69	12	Cast Iron, Ductile Iron	22 (23)	316 Stainless Steel	316 Stainless Steel
39, 69	12	Cast Iron, Ductile Iron	44 (45)	304 Stainless Steel	304 Stainless Steel
59	12	Cast Steel	66 (67)	304 Stainless Steel	Carbon Steel
59	12	Cast Steel	22 (23)	316 Stainless Steel	316 Stainless Steel
59	12	Cast Steel	44 (45)	304 Stainless Steel	304 Stainless Steel
49	12	Cast 316 Stainless Steel	22	316 Stainless Steel	316 Stainless Steel

HARDWARE: 18-8 SS Standard; Use CD (XX) option for 316 SS; 316 SS Standard for 316 SS Body

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**Table EF - Flange Type and Drain Plugs\***

Flange Style	No Drain Plugs Option EF	With Drain Plugs Option EF
ANSI 125/150 lb. FF	77	71
ANSI 125/150 lb. RF*	87	81
EN1092 PN16 FF	27	21
EN1092 PN16 RF*	37	31
JIS 10K FF	47	41
JIS 10K RF*	57	51

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

\*Raised Face Flanges not available with Aluminum bodies.

### Tube Banks Only

Parts Number	Size (Inches)	Tube Bank Materials	Shell Material	Shipping Weight (lbs.)
9430-10150	2	Aluminum	Aluminum	9
091211	2	304 Stainless Steel	Carbon Steel	22
9430-11120	2	304 Stainless Steel	304 Stainless Steel	25
9430-11110	2	316 Stainless Steel	316 Stainless Steel	25
9430-10151	3	Aluminum	Aluminum	14
091212	3	304 Stainless Steel	Carbon Steel	30
9430-11121	3	304 Stainless Steel	304 Stainless Steel	35
9430-11111	3	316 Stainless Steel	316 Stainless Steel	35
9430-10152	4	Aluminum	Aluminum	20
091213	4	304 Stainless Steel	Carbon Steel	55
9430-11122	4	304 Stainless Steel	304 Stainless Steel	60
9430-11112	4	316 Stainless Steel	316 Stainless Steel	60
9430-10153	6	Aluminum	Aluminum	35
9430-11070	6	304 Stainless Steel	Carbon Steel	90
9430-11123	6	304 Stainless Steel	304 Stainless Steel	100
9430-11113	6	316 Stainless Steel	316 Stainless Steel	100
9430-10154	8	Aluminum	Aluminum	55
9430-11071	8	304 Stainless Steel	Carbon Steel	145
9430-11124	8	304 Stainless Steel	304 Stainless Steel	160
9430-11114	8	316 Stainless Steel	316 Stainless Steel	160
9430-10155	10	Aluminum	Aluminum	85
9430-11072	10	304 Stainless Steel	Carbon Steel	225
9430-11125	10	304 Stainless Steel	304 Stainless Steel	240
9430-11115	10	316 Stainless Steel	316 Stainless Steel	240
9430-10156	12	Aluminum	Aluminum	120
9430-11073	12	304 Stainless Steel	Carbon Steel	310
9430-11126	12	304 Stainless Steel	304 Stainless Steel	320
9430-11116	12	316 Stainless Steel	316 Stainless Steel	320