

- Easy access to element/frame without affecting piping configuration
- Clean and inspect on site
- High flow rates
- Vertical or horizontal configuration
- Industry standard dimensions
- FM Approved

## The Shand & Jurs Model 94309 Flame Arrester (Plate Element)

### Application:

The S&J Model 94309 Flame Arrester (Plate Element) is designed to stop flame propagation when applied properly in low pressure gas or vapor piping systems, or on storage tanks and digester covers. When NEC Group D vapors or gases are generated from product movement in storage tank or digester operations, the flame arrester effectively quenches a flame front that may develop from external ignition of flammable vapors.

The Model 94309 offers both vertical or horizontal configurations, dependent on specifications. Either configuration can be mounted without affect to flame arresting performance or capability.

### Operation:

The Model 94309 quenches the flame front by cooling the flame to below its ignition temperature. The flame front enters the arrester and the flame is intercepted by the arrester element which is specifically designed to provide a precision path for the flame to follow. The flame front temperature is reduced to below the ignition point of the protected vapors. This is achieved by dissipating the heat of the flame through the arrester elements and body.

### Design Features:

The Model 94309 Flame Arrester is designed to provide maximum flow of vapor or gas with minimal pressure drop. The extensive arrester element surface area also provides for superior continuous burn capability. The Model 94309 incorporates an advanced design, which ensures precise manufacturing of the arrester components that are critical to providing superior safety products for industry.

The Model 94309 design is completely passive which allows for flame quenching capabilities without any operational interfaces typical of active safety devices or systems.

Model 94309 Flame Arresters are designed with ease of field maintenance, as proven by the unique extensible arrester element. The element may be inspected and cleaned in place without disruptive piping. No jacking bolts or piping separations are necessary. The element is easily removed from the flame arrester housing in place, facilitating cleaning or replacement with a spare element.

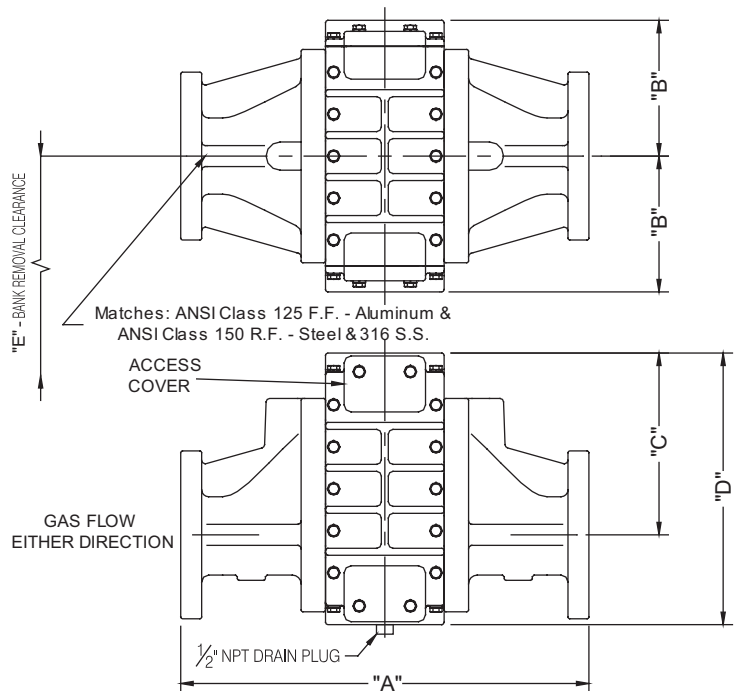
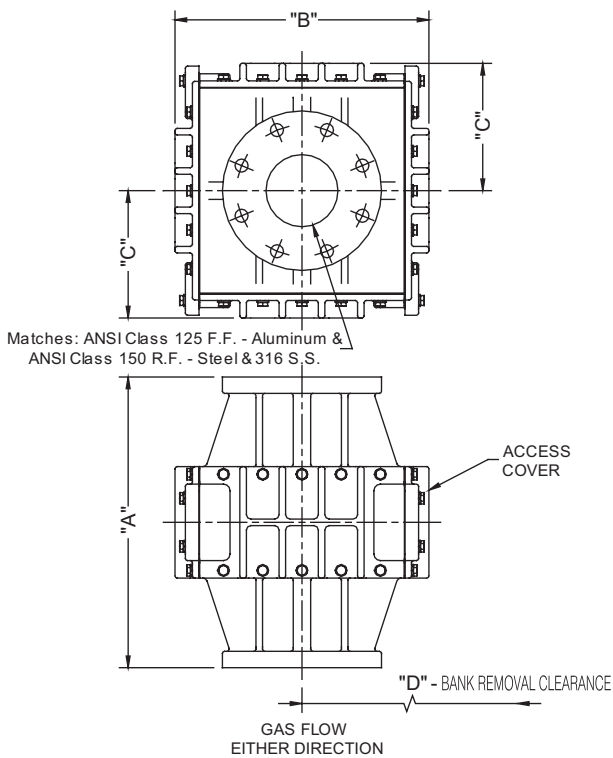
The Model 94309 can be fitted with low point drains for removal of any condensate accumulation. A drip trap is recommended for the safe removal of the condensate.

### SPECIFICATIONS

Sizes:.....2", 3", 4", 6", 8", 10" and 12"  
 Max Static pressure:..... 10 PSIG  
 Pressure drop:..... should not exceed 1 psi  
 Housing Materials:..... Aluminum, Steel, 316 SS  
 Bank Assembly Material .....

Extensible:..... Aluminum with Aluminum  
 or 316 Plates.  
 Fixed:..... 316 SS Construction

Bank Net Free Area:.....3 to 4 times the  
 unit pipe size.  
 Gas Application:.....NEC Group D  
 Approval:.....Factory Mutual  
 Vertical Configuration:.....2" thru 12" all  
 AL construction  
 Horizontal Configuration:..Consult Factory



SIZE	"A"	"B"	"C"	"D"
2"	12 5/8"	9"	5 1/16"	19"
3"	13 7/8"	11 3/4"	6"	23 1/4"
4"	16 5/8"	14 1/2"	7 1/4"	28 1/8"
6"	21 1/2"	16 1/2"	9 3/8"	31 1/8"
8"	27 1/4"	21 5/8"	11 1/8"	38 5/8"
10"	28 3/8"	24"	13"	41 5/8"
12"	34 3/8"	31"	14 1 1/16"	50"

SIZE	"A"	"B"	"C"	"D"	"E"
2"	14 1/2"	5 1/16"	6 1/8"	10 1/8"	18 3/4"
3"	16"	6"	7 5/8"	12"	22 7/8"
4"	20"	7 1/4"	9 1/16"	14 1/2"	27"
6"	24 3/8"	9 3/8"	11 7/8"	18 3/4"	30 3/4"
8"	32 1/8"	11 1/8"	14 1/4"	22 1/4"	38 1/4"
10"	35 1/2"	13"	16 7/8"	26"	41 5/8"
12"	34 3/8"	14 1 1/16"	19 3/16"	29 3/8"	49 1/2"

Installation Note: Locate this equipment within 10 pipe diameters of a potential atmospheric ignition source.

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

**MODEL NUMBER SELECTION:**

The model number will consist of a base number 94309 followed by four 2 digit numbers, which represent the options listed in the following tables.



**TABLE I (AB) - CONFIGURATION**

OPTION "AB"	CONFIGURATION
00	VERTICAL
10	HORIZONTAL
11	HORIZONTAL W/ DRAIN

**TABLE II (C) - FLANGE TYPE**

OPTION "C"	TYPE
0	ANSI FF
1	ANSI RF
2	DIN 2633 FF
3	DIN 2633 RF

Raised Face Flanges Available At No Charge  
 RAISED FACE FLANGES NOT AVAILABLE WITH ALUMINUM BODIES  
 SS 316= Cast 316 Stainless Steel  
 AL= Aluminum

**TUBE BANKS ONLY**

PARTS #	SIZE (INCHES)	MATERIALS		SHIPPING WT. (LBS)
		BANK	FRAME	
9430-16390	2	AL	AL	9
9430-16391	2	SS 316	AL	22
9430-16392	2	SS 316	SS 316	25
9430-16450	3	AL	AL	14
9430-16451	3	SS 316	AL	30
9430-16452	3	SS 316	SS 316	35
9430-16510	4	AL	AL	20
9430-16511	4	SS 316	AL	55
9430-16512	4	SS 316	SS 316	60
9430-16560	6	AL	AL	35
9430-16561	6	SS 316	AL	90
9430-16562	6	SS 316	SS 316	100
9430-16660	8	AL	AL	55
9430-16661	8	SS 316	AL	145
9430-16662	8	SS 316	SS 316	160
9430-16730	10	AL	AL	85
9430-16731	10	SS 316	AL	225
9430-16732	10	SS 316	SS 316	240
9430-16800	12	AL	AL	120
9430-16801	12	SS 316	AL	310
9430-16802	12	SS 316	SS 316	320

AL= Aluminum  
 SS 316= 316 Stainless Steel

**TABLES II & III**

**TABLE II  
(D) - SIZE**

**TABLE III (EF) - HOUSING, BANK  
ASSEMBLY FRAME AND SHEET METAL**

OPTION "D"	SIZE (INCHES)	OPTION "EF"	BODY MATERIAL	SHEET MATERIAL	FRAME MATERIAL
2	2	01	AL	AL	AL
2	2	02	AL	SS 316	AL
2	2	03	CS	SS 316	SS 316
2	2	04	SS 316	SS 316	SS 316
3	3	01	AL	AL	AL
3	3	02	AL	SS 316	AL
3	3	03	CS	SS 316	SS 316
3	3	04	SS 316	SS 316	SS 316
4	4	01	AL	AL	AL
4	4	02	AL	SS 316	AL
4	4	03	CS	SS 316	SS 316
4	4	04	SS 316	SS 316	SS 316
6	6	01	AL	AL	AL
6	6	02	AL	SS 316	AL
6	6	03	CS	SS 316	SS 316
6	6	04	SS 316	SS 316	SS 316
8	8	01	AL	AL	AL
8	8	02	AL	SS 316	AL
8	8	03	CS	SS 316	SS 316
8	8	04	SS 316	SS 316	SS 316
0	10	01	AL	AL	AL
0	10	02	AL	SS 316	AL
0	10	03	CS	SS 316	SS 316
0	10	04	SS 316	SS 316	SS 316
1	12	01	AL	AL	AL
1	12	02	AL	SS 316	AL
1	12	03	CS	SS 316	SS 316
1	12	04	SS 316	SS 316	SS 316

**TABLE IV (GH) - HARDWARE MATERIAL**

OPTION "GH"	MATERIAL
00	ZN PLATED STL
01	S.S.