

## 97141 Flame Trap Assembly (Plate Flame Arrester)

The S&J 97141 Flame Trap Assembly combines the 97130 thermal operated valve with the 94309 plate flame arrester to effectively inhibit flame propagation in low pressure gas lines.

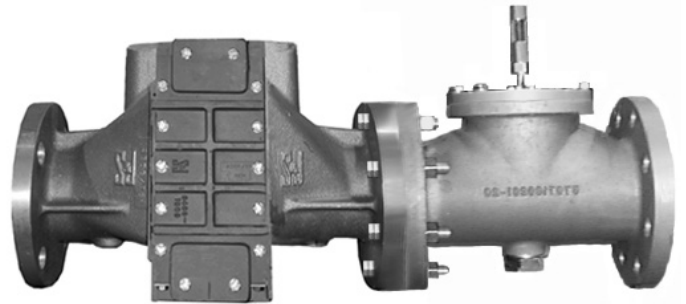
The flame arrester quenches the flame front by cooling the flame below its ignition temperature. The flame front enters the arrester and the flame is intercepted by the arrester element which is specifically designed to provide a precision path for the flame to follow. The flame front temperature is 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.

The spring loaded thermal valve quickly closes when the fusible link is melted in the presence of fire. This shuts off the flow of gas to prevent catastrophic damage.

The fusible element is easily replaced without disassembling the valve. Other valve elements are also easy to replace which simplifies maintenance.

An optional proximity switch is available that can be mounted to the visual indicator and will send a signal once the pallet has closed.

Its aluminum and stainless steel components withstand the severest of process environments. The S&J 97141 is especially designed for hydrogen sulfide and hot, wet methane which are the main components of digester gas streams in municipal waste water treatment facilities.



### Features

- Positive Emergency Shutoff
- Inhibits Flame Propagation
- 255°F Fusible Link
- Sizes 2" Through 12"
- Horizontal or Vertical Mounting Options
- Optional Proximity Switch and Insulation Jackets available

# 97141

## Flame Trap Assembly



### Standard Materials of Construction:

#### Valve Body, Arrester Housing, Frame & Pallet:

Low Copper Aluminum or Stainless Steel

#### Isolated Sight Glass:

Heat Resistant Pyrex with Buna-N Gaskets

#### Valve Internals :

Stainless Steel

#### Fusible Element:

Lead; 255°F Standard

#### Flame Arrester Sheets:

Aluminum or Stainless Steel

### Specifications:

#### Flanged Connections:

125 lb. ANSI FF Flange

#### Gas Application:

NEC Group D

#### Drain Connection:

1/2" NPT Connection

#### Installation:

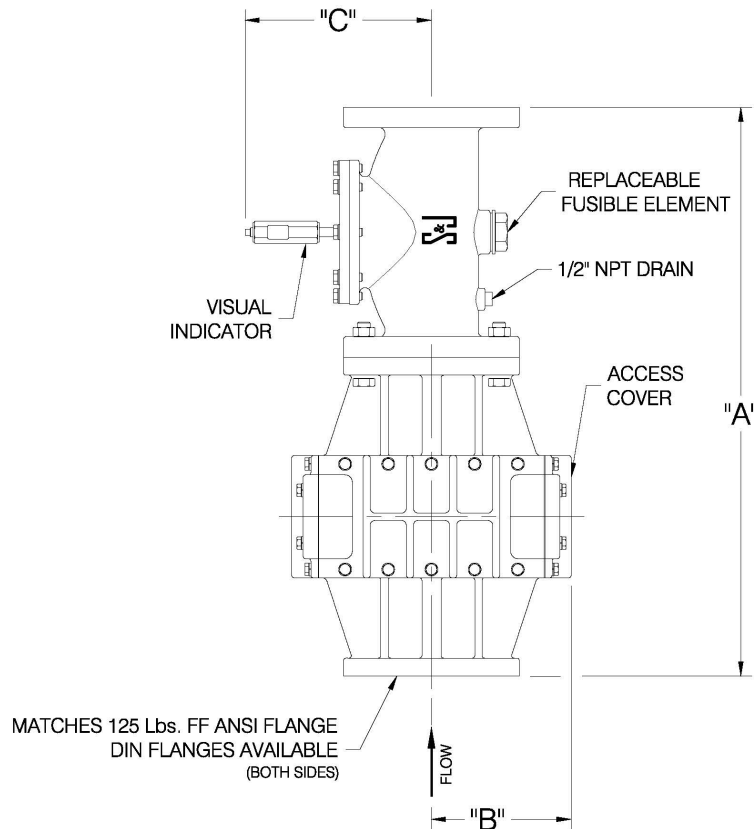
Locate 97141 within 10 pipe diameters of a potential atmospheric ignition source

#### Pressure Rating:

5 psi Standard

10 psi Optional

### Vertical Dimensions

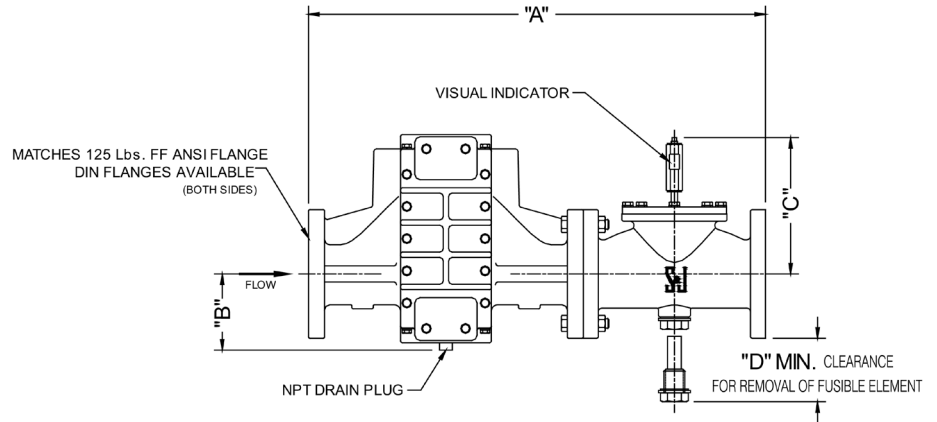


Line Diameter	"A"	"B"	"C"
2" [50]	21 3/8 [543]	5 1/6 [129]	8 7/8 [225]
3" [75]	23 7/8 [606]	6 [150]	9 1/2 [241]
4" [100]	28 [711]	7 1/4 [184]	9 1/2 [241]
6" [150]	36 1/2 [927]	9 3/8 [238]	11 7/8 [302]
8" [200]	49 1/2 [1257]	11 1/8 [283]	13 7/8 [352]
10" [250]	56 3/16 [1427]	13 [330]	14 7/8 [378]
12" [300]	67 3/8 [1711]	14 1/16 [373]	20 1/2 [521]



## Horizontal Dimensions

Line Diameter	"A"	"B"	"C"	"D"
2" [50]	23 1/4" [591]	4" [100]	8 7/8" [225]	2" [50]
3" [75]	26" [660]	4 3/8" [111]	9 1/2" [241]	2" [50]
4" [100]	31 3/8" [797]	5 7/16" [138]	9 1/2" [241]	2" [50]
6" [150]	39 3/8" [1000]	6 7/8" [175]	11 7/8" [302]	4" [100]
8" [200]	54 3/8" [1381]	8" [200]	13 7/8" [352]	5 1/2" [140]
10" [250]	63 5/16" [1608]	9 9/16" [232]	14 7/8" [378]	5 1/2" [140]
12" [300]	67 3/8" [1711]	14 1/16" [373]	20 1/2" [521]	8" [200]



## Air Flow Capacity in Standard Cubic Feet per Hour x 1000 @ 60°F

Pressure Inches W.C.	Line Diameter						
	2"	3"	4"	6"	8"	10"	12"
1	1.1	2.7	5.0	11.3	20.1	28.0	46.0
2	1.6	4.0	7.6	16.5	29.9	47.0	66.4
3	2.0	4.9	9.3	20.8	37.6	60.0	89.6
4	2.5	5.9	10.9	24.1	44.3	70.0	103
5	2.9	6.8	12.2	27.1	50.2	80.0	120
6	3.2	7.3	13.6	30.0	55.4	89.0	132
7	3.6	8.0	14.8	32.6	60.5	96.0	145
8	3.9	8.5	15.9	35.1	65.0	104	158
9	4.1	9.1	17.0	37.3	68.9	110	167
10	4.3	9.6	17.7	39.6	73.0	117	179
11	4.5	10.1	18.8	41.6	77.4	123	189
12	4.7	10.7	19.7	43.5	81.0	130	198
13	5.0	11.2	20.6	45.4	86.0	135	206
14	5.2	11.6	21.2	47.1	90.0	142	215
15	5.4	12.0	22.0	48.6	94.1	147	222
16	5.6	12.4	22.9	50.5	96.8	153	229
17	5.7	12.8	23.8	52.1	100	157	235
18	5.9	13.1	24.3	53.7	104	163	240
19	6.2	13.6	25.0	55.5	108	167	245
20	6.4	14.0	25.6	56.9	112	174	250

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