

- Internal Sense Tap  
(External Sense Tap Optional)
- Positive Emergency Shutoff
- Maintain Upstream Pressure
- 255°F Fusible Link
- Sizes 2" Through 12"
- Solenoid shutoff option for flare systems

## The Shand & Jurs 97161 Pressure Relief/Flame Trap Assembly

The S&J 97161 Pressure Relief and Flame Trap Assembly combines the 97150 back pressure regulator, a thermal operated valve and the 94309 horizontal flame arrester to maintain upstream pressure and effectively inhibit flame propagation in low pressure gas lines.

The back pressure regulator maintains a preset upstream pressure, the flame arrester effectively quenches internal flames, and the fusible element positively shuts off flow in emergency flame conditions. Standard materials of construction include an Aluminum Body and BUNA-N diaphragm. The large diameter diaphragm reduces line bounce for smoother gas flow.

The 97161 has simple spring loaded settings for easy field adjustment and the components are easy to access providing for simplified cleaning and maintenance.

Its aluminum and stainless steel components withstand the severest of process environments. The S&J 97161 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.

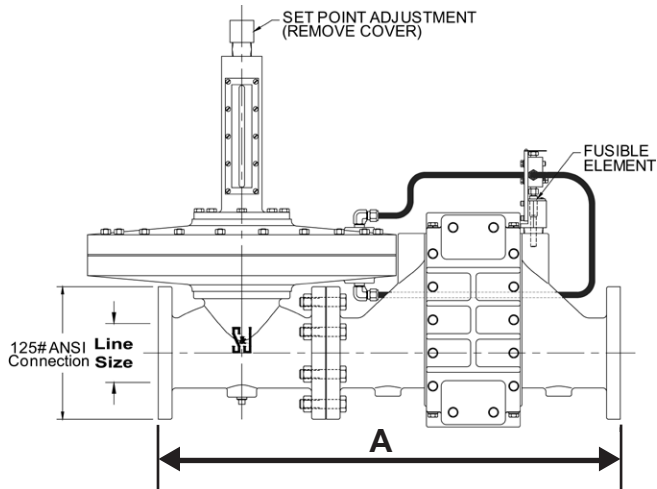
The 97161 is 100% U.S. made.

## Applications

**Anaerobic digester gas train**  
**Fermentation off gas piping systems**  
**Low pressure vent lines**

### DIMENSIONS

Line Diameter	A
2"	23 3/8"
3"	26 1/16"
4"	31 7/16"
6"	39 7/16"
8"	54 7/16"
10"	63 5/16"
12"	67 3/8"



### 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	2.5	4.9	11.3	20.0	26.3	42.7
2	1.7	4.0	7.5	16.4	29.8	43.5	66.8
3	2.1	4.9	9.4	20.8	38.0	56.7	87.2
4	2.4	5.6	10.9	24.3	44.5	68.3	104
5	2.8	6.4	12.2	27.4	50.6	78.2	120
6	3.1	7.2	13.6	30.4	55.6	87.2	134
7	3.4	7.9	14.7	32.9	60.2	95.5	144
8	3.7	8.5	15.9	35.3	64.8	103	157
9	3.9	9.0	16.8	37.6	69.1	111	167
10	4.1	9.6	18.0	39.6	73.3	118	176
11	4.3	10.2	19.0	41.9	77.0	125	185
12	4.6	10.6	19.8	43.9	80.6	131	194
13	4.8	11.0	20.8	45.5	84.0	137	202
14	5.0	11.4	21.5	47.4	87.4	143	210
15	5.2	11.9	22.3	49.0	91.0	148	217
16	5.4	12.3	23.1	50.8	93.7	153	224
17	5.6	12.7	23.8	52.1	96.7	158	231
18	5.8	13.1	24.5	53.7	100	162	238
19	6.0	13.6	25.1	55.3	102	166	244
20	6.1	14.0	25.8	56.8	105	170	250

### HOW TO ORDER:

## 97161 - AB - CD - EF - GH

#### (A)- Setting/Sense

- 0 = Standard / Internal
- 1 = Extended / Internal
- 2 = Standard / External
- 3 = Extended / External

#### (B)- Config./Solenoid\*\*

- 0 = Horizontal
- 1 = Horizontal w/Drain
- 2 = Horizontal w/Solenoid
- 3 = Horizontal w/Drain & Solenoid \*\* Solenoid- 120VAC, NEMA 7

#### (C)- Flange Type\*

- 0 = ANSI FF
  - 1 = ANSI RF
  - 2 = DIN 2633 FF
  - 3 = DIN 2633 RF
- \* RF Flanges not Available with Aluminum Bodies

#### (D)- Size

- 2 = 2"
- 3 = 3"
- 4 = 4"
- 6 = 6"
- 8 = 8"
- 0 = 10"
- 1 = 12"

#### (EF)- Housing, Bank Assembly Frame, and Element

- 01 = AL, AL, AL
- 02 = AL, AL, 316 SS
- 03 = AL, 316 SS, 316 SS

#### (GH)- Hardware Material

- 00 = Zn plated steel (std)
- 01 = Stainless Steel

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.