

## 94160 Pressure Relief Vent

The Shand & Jurs 94160 Pressure Relief Vent provides pressure relief for storage tanks and low pressure vessels. Utilizing a flange mounted design, this economical vent provides maximum flow capacity and high efficiency.

The improved vent uses a reduced number of standard components thus minimizing maintenance and replacement costs.

Standard materials of construction include aluminum, cast iron, steel and 316 stainless steel. This selection of materials is suitable for applications in corrosive and toxic product environments.

To ensure alignment and seating, the pressure pallet used is both peripheral and center stem guided. For added reliability and extended service, the diaphragm is "cushion seated" and constructed of FEP, contributing to high resistance to adhesion of ice and gum formation. Seat rings are field replaceable.

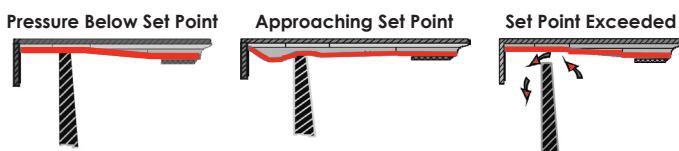
For additional protection, a weatherhood and a coarse mesh screen surrounding the entire valve prevent foreign matter from entering the valve.

A standard flanged base for sizes 2" thru 24" will fit 150 lb. ANSI FF/RF Flanges. Flanged base materials are aluminum, cast iron, cast steel, ductile iron and stainless steel. RF Flange is not available in aluminum.

### Expanda-Seal

Shand & Jurs "Expanda-Seal" option is available on all pressure pallet assemblies. This feature significantly reduces leakage. The ballooning effect of the FEP diaphragm effectively seals the valve.

The "Expanda-Seal" feature ensures less than .5 SCFH of air at 95% of the set point.



### Features

- Designed for high efficiency & economy
- Provides maximum flow capacity
- Reduces maintenance and replacement costs
- Suitable for corrosive and toxic applications
- Standard flange base for 2", 3", 4", 6", 8", 10", 12", 16", 20" and 24" to fit 150 lb. ANSI flanges
- "All Weather" Teflon coating available

## Specifications

### Sizes:

2", 3", 4", 6", 8", 10", 12", 16", 20" and 24"  
(other sizes available upon request)

### Flange Connection:

Matches valve size 150 lb. ANSI, API, EN1092-1 or JIS 10K.

### Standard Setting (Min.):

0.5 oz/in<sup>2</sup> (0.865" W.C.) (See Standard Setting Table)

### Maximum Setting:

16 oz/in<sup>2</sup> (Without modification)  
(higher settings available with modification)

### Temperature Range:

Process Temperature ranges for body material:  
-65°F to 250°F (Aluminum)  
-65°F to 350°F (316 Stainless Steel)  
-20°F to 350°F (Carbon Steel)  
-20°F to 325°F (Iron)

### Diaphragm:

FEP (Fluorinated Ethylene Propylene), FKM (Fluoroelastomer),  
NBR (Nitrile-Butadiene), PFA (Fluoroplastic Film)

### Service and Body Material\*:

Normal: Aluminum  
Severe: Cast Iron, Ductile Iron, Steel, 316 Stainless Steel  
Seats: Normal Service, Aluminum for all sizes, Severe

Service 316 Stainless Steel for all sizes

\* Optional materials of construction available on request.

**NOTE:** 16"-24" sizes not available in Cast or Ductile Iron

## Standard Materials of Construction

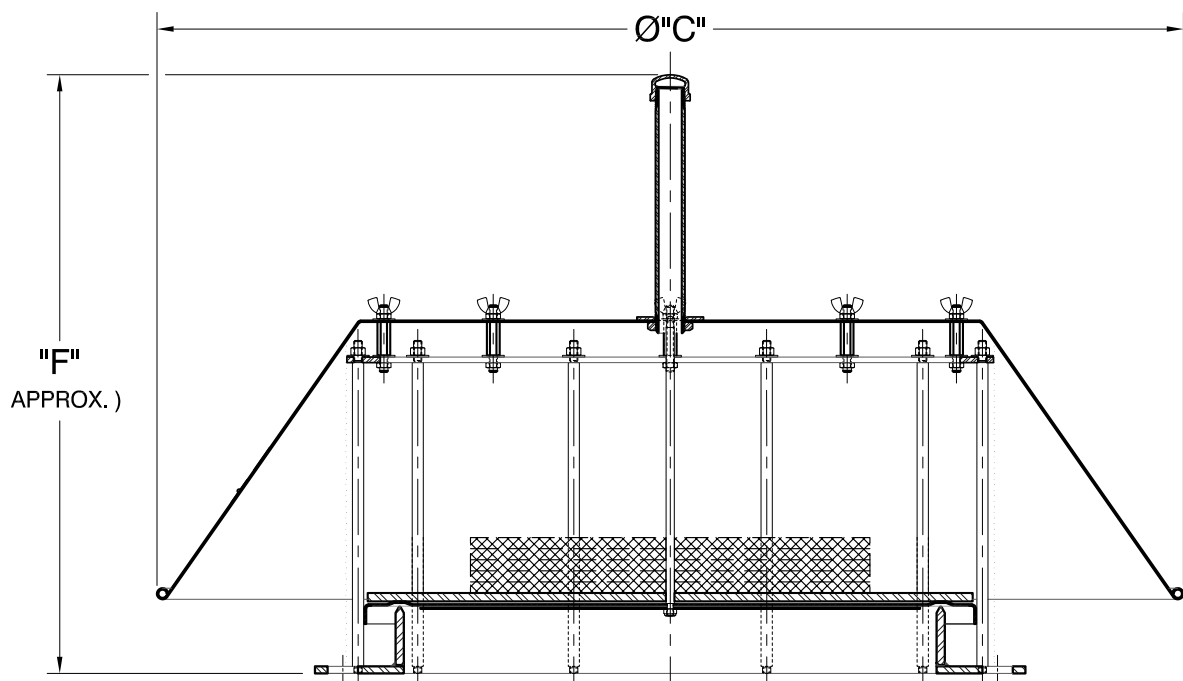
Service	Body	Pallet & Retainer	Seat	Pallet Stem	Pallet Side Guides	Stem Guides	Diaphragm	Screen	Hardware
Norm. Alum.	Alum.	Alum.	Alum.	Alum.*	316 SS	GS	FEP	GS	Stainless Steel
Severe Iron	CI/DI	316 SS	316 SS	316 SS	316 SS	304 SS	FEP	304 SS	316 SS
Severe Steel	CS	316 SS	316 SS	316 SS	316 SS	304 SS	FEP	304 SS	Stainless Steel
Severe 316 SS	316 SS	316 SS	316 SS	316 SS	316 SS	316 SS	FEP	316 SS	316 SS

\* 316 SS pallet stem used in place of aluminum for elevated settings  
HOODS: 2" -10" Sizes - 18-8 Stainless Steel or 316 Stainless Steel  
12" -24" Sizes - Aluminum, Steel, or 316 Stainless Steel

CS = Cast Steel  
CI = Cast Iron  
DI = Ductile Iron

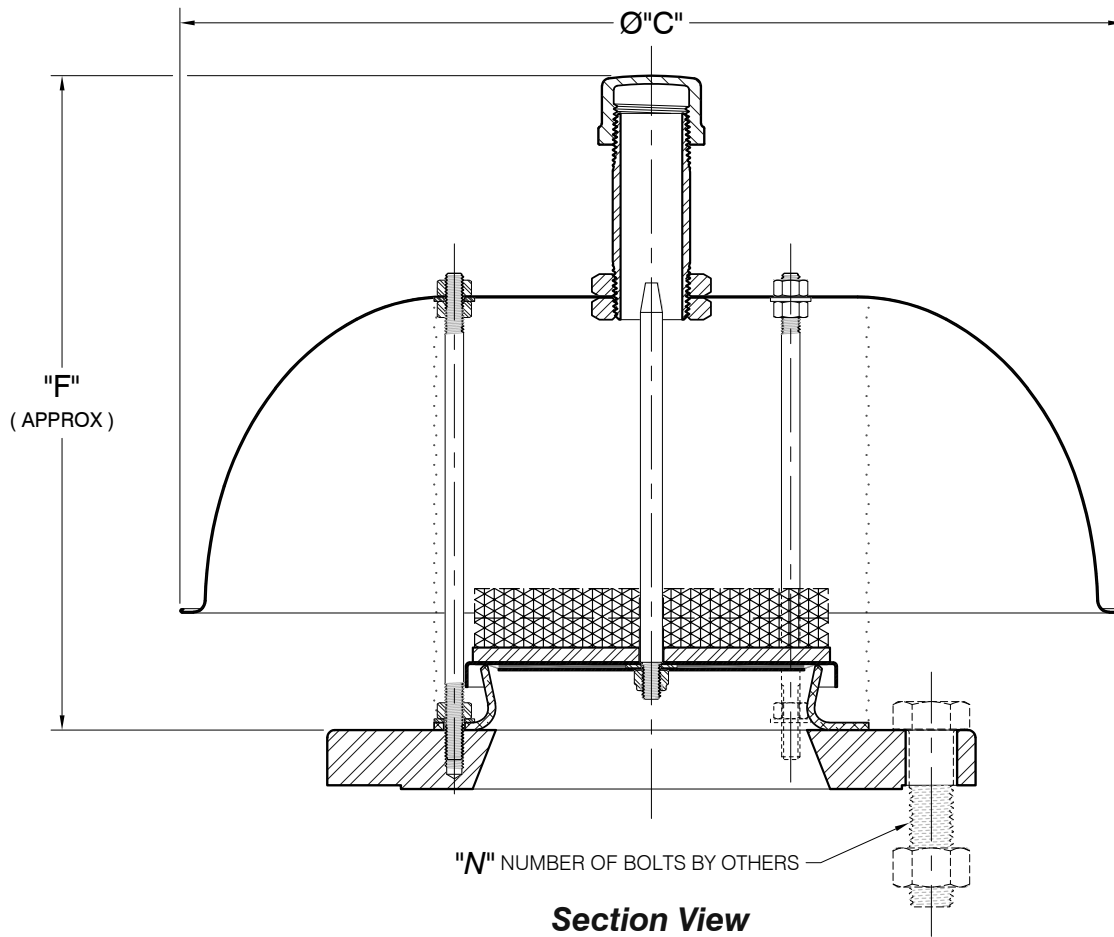
GS = Galvanized Steel

## 16", 20" and 24" Sizes



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

**Dimensions**



Vent Size (In.)	Dimensions in Inches		"N" No. of Bolts*	Net Weight - Lbs.	
	"C"	"F"		Aluminum	Steel
2"	12 7/8	8 1/2	4	4	10
3"	12 7/8	7 3/4	4	5	12
4"	13 5/8	7 3/4	8	7	16
6"	16	10 1/4	8	10	22
8"	18 5/8	14	8	13	34
10"	18 5/8	16	12	19	48
12"	25 1/2	16	12	27	72
16"	46 1/4	28	16	48	128
20"	46 1/4	28	20	75	180
24"	46 1/4	28	20	108	245

\*ANSI Sizes Shown

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

## 94160 Ordering Guide

### Model Number Selection

The model number will consist of a base number **94160** followed by 8 digit numbers. These digits will represent 6 option tables.

**94160 - AB - CD - EF - GH**

### Ordering Information

Specify:

1. Model 94160 Pressure Relief Vent
2. Size and Body Material
3. Pressure Set Point
4. Temperature Range
5. Flange Type
6. Hood Material
7. To Specify CE for Ordinary EU Locations use 94160C AB CD EF GH
8. To Specify ATEX Certification for Group IIB, IIA EU Locations use 94160A AB CD EF GH.



### Table AB - Size & Body Material

Option AB	Size	Body Material
10	2"	Aluminum
40	2"	Cast Steel
50	2"	316 Stainless Steel
12	3"	Aluminum
32, 62	3"	Cast Iron , Ductile Iron
42	3"	Cast Steel
52	3"	316 Stainless Steel
13	4"	Aluminum
33, 63	4"	Cast Iron , Ductile Iron
43	4"	Cast Steel
53	4"	316 Stainless Steel
14	6"	Aluminum
34, 64	6"	Cast Iron , Ductile Iron
44	6"	Cast Steel
54	6"	316 Stainless Steel
15	8"	Aluminum
35, 65	8"	Cast Iron , Ductile Iron
45	8"	Cast Steel

Option AB	Size	Body Material
55	8"	316 Stainless Steel
16	10"	Aluminum
36, 66	10"	Cast Iron , Ductile Iron
46	10"	Cast Steel
56	10"	316 Stainless Steel
17	12"	Aluminum
37, 67	12"	Cast Iron , Ductile Iron
47	12"	Cast Steel
57	12"	316 Stainless Steel
18	16"	Aluminum
48	16"	Cast Steel
58	16"	316 Stainless Steel
19	20"	Aluminum
49	20"	Cast Steel
59	20"	316 Stainless Steel
11	24"	Aluminum
41	24"	Cast Steel
51	24"	316 Stainless Steel

### Table C - Pallet / Seal Type

Option E	Pallet Type	Diaphragm
0	Standard	FEP
1	Expand-Seal	FEP
4	Standard	FKM
5	Expand-Seal	FKM
6	Standard	PFA
7	Expand-Seal	PFA
8	Standard	NBR
9	Expand-Seal	NBR

### Table EF - Flange Type

Option EF	Description
00	ANSI 125/150lb. FF
10	ANSI 125/150lb. RF*
01	EN1092-1 PN16 FF
11	EN1092-1 PN16 RF*
02	JIS 10K FF
12	JIS 10K RF*
03	API 650 (20 & 24" Only)

\* RF not available in Aluminum

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

### Temperature Limits

Diaphragm Material	Temperature Range
FEP	-65 F to 400 F
FKM	-15 F to 400 F
NBR	-40 F to 250 F
PFA	-65 F to 500 F

### Table G - Seat & Pallet Material

Option G	Seat	Pallet
0	Standard*	Standard*
2	Aluminum	Standard*
4	Stainless Steel	Standard*
5	Teflon Coated SS	Standard*
A	Standard*	316 Stainless Steel
C	Aluminum	316 Stainless Steel
E	Stainless Steel	316 Stainless Steel
F	Teflon Coated SS	316 Stainless Steel

**NOTE:** 16" - 24" Sizes have Integral Seats. Options 1-5, B-F not applicable for 16" - 24" sizes. CS bases are constructed with SS seat overlay as standard.

\* Please see Standard Materials of construction  
For ATEX Certified Valve specify H5, H6, or H8

### Table D - Pressure Range & Load Weight Material

Option D	Description	Material
1	*Standard Setting	Lead
2	Over 0.5 to 5 oz/in <sup>2</sup>	Lead
3	Over 5 oz/in <sup>2</sup>	Lead
4	*Standard Setting	316 SS
5	Over 0.5 to 5 oz/in <sup>2</sup>	316 SS
6	Over 5 oz/in <sup>2</sup>	316 SS

\* Standard Setting:

Note: Standard Seal AL/SS 2"-12": 0.5 oz/in<sup>2</sup>  
Standard Seal AL 16": 0.65 oz/in<sup>2</sup>; 20", 24": 0.5 oz/in<sup>2</sup>  
Standard Seal SS 16": 1.2 oz/in<sup>2</sup>; 20", 24": 1.0 oz/in<sup>2</sup>  
Expand Seal AL/SS 2" - 12": 1.5 oz/in<sup>2</sup>  
Expand Seal AL 16", 20": 1.0 oz/in<sup>2</sup>; 24" 1.3 oz/in<sup>2</sup>  
Expand Seal SS 16", 20": 1.3 oz/in<sup>2</sup>; 24" 1.5 oz/in<sup>2</sup>

### Table H - Hood Material & Trim

Option H	Description	Trim
1	Aluminum Hood	Standard
2	316 Stainless Steel Hood	Standard
3	Steel Hood	Standard
4	18-8 Stainless Steel Hood	Standard
5	Aluminum Hood	316 Stainless Steel
6	316 Stainless Steel Hood	316 Stainless Steel
7	Steel Hood	316 Stainless Steel
8	18-8 Stainless Steel Hood	316 Stainless Steel

Trim Includes: Stem, Stem Guides, Side Guides, Nuts, Bolts, and Screen