



- Side Mounted
- Wide selection of materials for most corrosive and temperature needs.
- Unique floating diaphragm construction assures tight seal
- Peripheral and stem guided vacuum pallet assures reliable operation
- Pallet design contributes to high flow
- Heavy duty construction, yet compact enough for easy handling

The Shand & Jurs Model 94115 Vacuum Vent

The Shand & Jurs Model 94115 Vacuum Vent has been designed utilizing over 80 years experience in the development of quality safety and conservation fittings. The function of this vent is to relieve vacuum conditions in liquid product storage tanks, and also withstand the pressure of the stored product when not operating under a vacuum.

Vacuum breathing requirements of some products may vary so much from pressure breathing, that it is sometimes desirable and more economical to have separate vents to perform these respective functions.

A minimum number of model options are required to cover the wide variety of fluids and temperatures encountered in the petroleum,

chemical and general process industries. Many trims, body materials and settings are standard options for those few conditions where standard construction is unsuited.

Standard materials of construction include low copper aluminum, steel, stainless steel, cast iron or ductile iron body. Specially designed seats are provided to withstand high pressures to which the vent may be subjected and to provide maximum flow efficiency.

The body is self-draining and drip rings keep condensates from the seating surfaces. The Teflon diaphragm of the pallet has high resistance to adhesion by ice and gum formation, thus preventing sticking to the seat ring.

STANDARD MATERIALS OF CONSTRUCTION

Service	Body	Vacuum Cover	Seat		Pallets	Stem Guides	Screen
			2,3,4	6,8 10 & 12			
Norm. Alum.	Cast Alum.	Alum.	Alum.	Alum.	Alum.	Galv. Iron	Galv. Steel
Severe Iron	Cast Iron	Steel	316SS	316SS	316SS	Galv. Iron	304SS
Severe Steel	Cast Steel	Steel	316SS	316SS	316SS	Galv. Iron	304SS
Severe 316SS	Cast 316SS	316SS	316SS	316SS	316SS	316 SS	316SS

STD MAX PRESSURE (PSIG)

SIZE	ALUM. PALLET	S.S. PALLET
2"	15	17.5
3"	15	8
4"	8.5	4
6"	4.0	2.25
8"	2.3	1.25
10"	1.4	1.2
12"	1.2	1.2

*Higher maximum pressures available.
Consult Factory.

Service	Pallet Stem	Diaph.	Spacer	Cover Gaskets	Side Guides	Hardware
Norm. Alum.	***Al	FEP	N-8090	N-8090	316SS	St. Zinc Plated
Severe Iron	316SS	FEP	N-8090	N-8090	316SS	316SS
Severe Steel	316SS	FEP	N-8090	N-8090	316SS	St. Zinc Plated
Severe 316SS	316SS	FEP	N-8090	N-8090	316SS	316SS

STD Vacuum Setting..... .5 oz/sq. in.
(2" Stainless Steel Pallets .608oz./sq.in.)

Max. STD Vacuum Setting.... .16 oz/sq. in.
*Higher settings available. Consult Factory

*** 316SS for elevated settings > 2.9 oz/sq.in.

N-8090 = Nitrile Fiber Composition Non-asbestos

FEP = Teflon

Materials of construction in this equipment have been selected as representing the most suitable commercially available material for use in the service intended. However, they do not constitute a guarantee against corrosion since processes vary

from plant to plant and concentration of harmful fluids, gasses or solids vary from time to time in a given process. Empirical experience by users should be the final guide and alternate materials based on this are generally available.

Principle of Operation

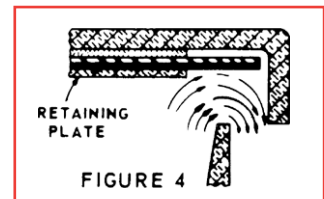
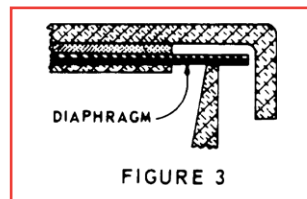
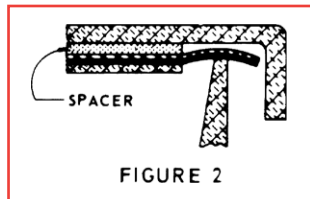
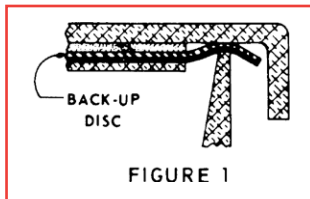


Figure 1 shows the relation of the vacuum pallet assembly to the seat when atmospheric and tank pressures are equal. The "wrap around" effect of the resilient diaphragm on the edge of the seat and the resulting high ratio of seating force to seating area affords a tight seal.

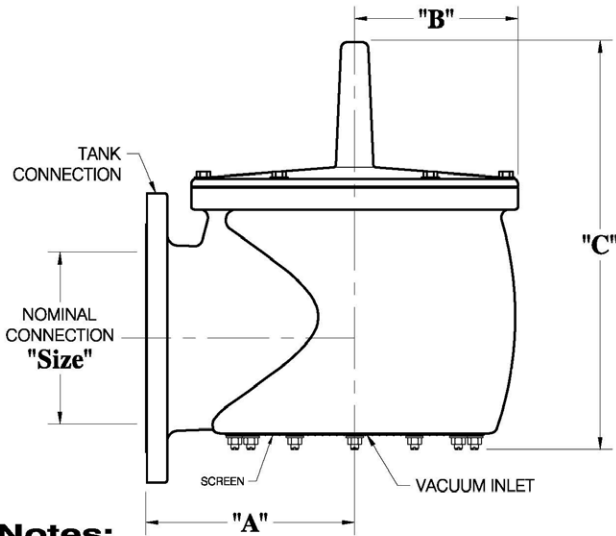
As the vacuum increases, the pallet begins to rise as shown in Figure 2. Because there is still a wraparound effect on the edge of the seat, good sealing is maintained. Teflon diaphragm memory and lapped seating surface further enhance sealing characteristics.

As increasing vacuum continues to lift the pallet (see Figure 3) the diaphragm is held in close proximity to the seat by the flat plane memory of the diaphragm material.

As set vacuum is reached, the diaphragm leaves the seat (see Figure 4) and the in-rushing vapor lifts the pallet even further.

The vacuum pallet lifts vertically permitting incoming air to enter the valve body. This relieves the vacuum condition.

In the closing cycle, incoming air on the pallet holds the Teflon diaphragm close to the pallet surface until peripheral seat contact is very near 100%, causing closure to occur at a value very close to the setting value.



Size	"A"	"B"	"C"
2"	4 $\frac{1}{4}$ [108]	2 $\frac{13}{16}$ [72]	8 $\frac{3}{4}$ [222]
3"	5 $\frac{1}{4}$ [133]	3 $\frac{17}{32}$ [90]	10 $\frac{1}{2}$ [267]
4"	6 $\frac{1}{2}$ [165]	5 $\frac{7}{16}$ [138]	16 [406]
6"	8 $\frac{3}{8}$ [213]	6 $\frac{1}{8}$ [156]	16 $\frac{1}{4}$ [413]
8"	9 $\frac{3}{4}$ [248]	7 $\frac{19}{32}$ [193]	20 $\frac{1}{4}$ [514]
10"	11 $\frac{18}{32}$ [294]	9 [229]	23 [584]
12"	12 $\frac{13}{16}$ [325]	10 $\frac{1}{2}$ [267]	25 $\frac{1}{2}$ [648]

Notes:

- 1) MOUNTING HOLES STRADDLE CENTERLINE.
- 2) DIMENSIONS EXPRESSED IN INCHES [millimeters].

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

MODEL NUMBER SELECTION:

The model number will consist of a base number 94115 followed by eight values which represent the options listed in the following tables.



ORDERING INFORMATION

Specify:

1. Model 94115 Pressure Relief Vent
2. Size and Body Material
3. Flange Type
4. Vacuum Setting Required
5. Cleaning for Oxygen Service or Other Special Cleaning
6. Optional Materials of Construction, If Required
7. To Specify CE for Ordinary EU Locations use 94115C AB CD EF GH
8. Maximum static pressure.



TABLE I - (AB) SIZE/MATERIAL

TABLE I OPTION #	SIZE	BODY MATERIAL
12	2"	ALUM.
32,72	2"	CAST IRON, DI
62	2"	316 SS
52	2"	STEEL
14	3"	ALUM.
34,74	3"	CAST IRON, DI
64	3"	316 SS
54	3"	STEEL
15	4"	ALUM.
35,75	4"	CAST IRON, DI
65	4"	316 SS
55	4"	STEEL
16	6"	ALUM.
36,76	6"	CAST IRON, DI
66	6"	316 SS
56	6"	STEEL
17	8"	ALUM.
37,77	8"	CAST IRON, DI
67	8"	316 SS
57	8"	STEEL
18	10"	ALUM.
38,78	10"	CAST IRON, DI
68	10"	316 SS
58	10"	STEEL
19	12"	ALUM.
39,79	12"	CAST IRON, DI
69	12"	316 SS
59	12"	STEEL

DI = Ductile Iron

TABLE (G) - SEAT & PALLET MATERIAL

OPTION #	SEAT	PALLET
0	STD*	STD*
1	Teflon	
2	AL	
3	Phenolic	
4	SS	
5	Teflon Coated SS	
A	STD*	316SS
B	Teflon	
C	AL	
D	Phenolic	
E	SS	
F	Teflon Coated SS	

* See Standard Materials of Construction

TABLE (CD) - FLANGE TYPE

OPTION #	FLANGE TYPE
00	FF ANSI 150 lb
10	RF ANSI 150 lb*
20	DIN FF PN16
30	DIN RF PN16*
40	JIS 10K FF
50	JIS 10K RF*

*RF not available in aluminum.

TABLE (E) - SEAL TYPE & SOFTGOODS

OPTION #	SEAL TYPE
0	FEP / N8090
1	FEP (all)
2	Viton
3	Buna-N

TABLE (F) - VACUUM RANGE & LOAD WEIGHT MATERIAL

OPTION #	DESCRIPTION	MATERIAL
0	Standard Setting	Lead
1	Standard to 2.9 oz/sq.in.	Lead
2	Over 2.9 oz/sq. in.	Lead
4	Standard Setting	316 SS
5	Over 2.9 oz/sq. in.	316 SS
6	Standard to 2.9 oz/sq.in.	316 SS

*2" Stainless steel pallet .61 oz/sq in. min

TABLE (H) - TRIM

OPTION #	DESCRIPTION
0	STD. TRIM
1	SS TRIM

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