

94115 Vacuum Vent (Side Mounted)

The Shand & Jurs 94115 Vacuum Vent has been designed utilizing over 90 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.



Features

- 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

Materials of Construction:

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

| Service | Pallet Stem | Diaphragm | Spacer | Cover Gaskets | Size Guides | Hardware |
|---------------|-------------|-----------|--------|---------------|-------------|-----------------|
| Normal Alum | ***Aluminum | FEP | N-8090 | N-8090 | 316 SS | Stainless Steel |
| Severe Iron | 316 SS | FEP | N-8090 | N-8090 | 316 SS | 316 SS |
| Severe Steel | 316 SS | FEP | N-8090 | N-8090 | 316 SS | Stainless Steel |
| Severe 316 SS | 316 SS | FEP | N-8090 | N-8090 | 316 SS | 316 SS |

*** 316 SS for elevated settings > 2.9 oz/in²

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.

Standard Max Pressure (PSIG)

| Size | Aluminum 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.

STD Vacuum Setting:

0.5 oz/in² (2" Stainless Steel Pallets .608 oz/in²)

Max. STD Vacuum Setting:

16 oz/in²

*Higher settings available. Consult Factory

Principle of Operation:

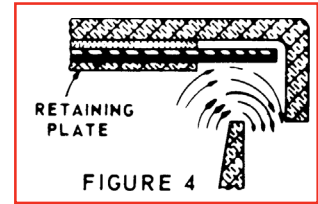
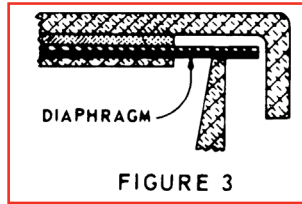
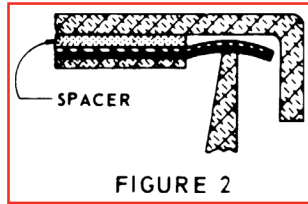
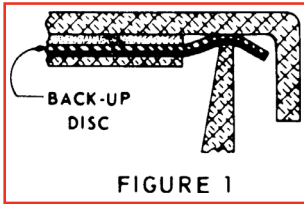


Figure 1 shows the relation of the vacuum pallet assembly to the seat when atmospheric and tank pressures are equal. The "wrap around" effect of the resilient diaphragm on the edge of the seat and the resulting high ratio of seating force to seating area affords a tight seal.

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

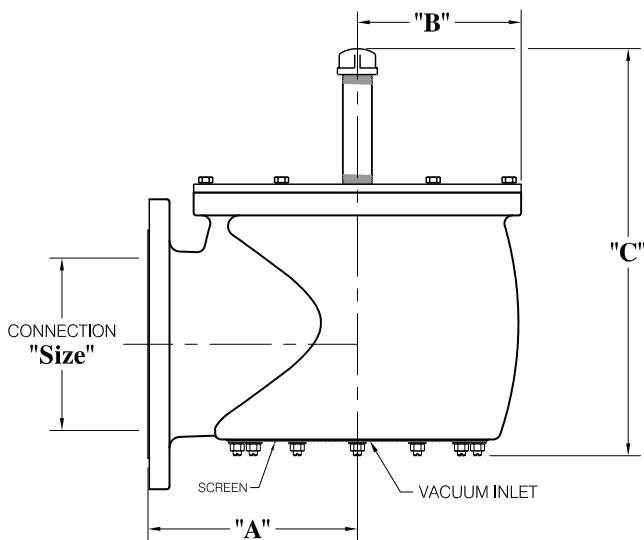
As increasing vacuum continues to lift the pallet (see

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.

Dimensions:



| Vent Size | "A" | "B" | "C" |
|-----------|----------------|---------------|--------------|
| 2" | 4 1/4 (108) | 2 13/16 (72) | 8 3/4 (222) |
| 3" | 5 1/4 (133) | 3 17/32 (90) | 10 1/2 (267) |
| 4" | 6 1/2 (165) | 5 7/16 (138) | 16 (406) |
| 6" | 8 3/8 (213) | 6 1/8 (156) | 16 1/4 (413) |
| 8" | 9 3/4 (248) | 7 19/32 (193) | 20 1/4 (514) |
| 10" | 11 18/32 (294) | 9 (229) | 23 (584) |
| 12" | 12 13/16 (325) | 10 1/2 (267) | 25 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.