94020 Open Conservation Vent (Pressure & Vacuum)

The Shand & Jurs Model 94020 Conservation Vent is designed utilizing over 100 years of experience in producing high quality and dependable conservation fittings. Continued design improvements provide these vents with high efficiency, maximum flow capacity and minimum leakage. The easily serviceable configuration and lightweight construction reduces maintenance and installation costs.

A variety of construction materials are available as part of the standard design which are ideally suited for highly corrosive and toxic product applications. Aluminum, 316 Stainless Steel or Carbon Steel body vents comes standard with integral seats.

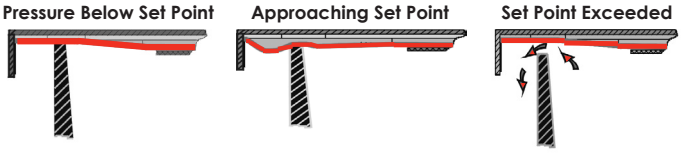
The standard FEP diaphragm is "Air Cushion Seated" for high resistance to adhesion of ice and gum formation thus assuring protection against pallet sticking to the seating surface. The body is self-draining towards the inlet which keep condensates from the seating surfaces. The carefully engineered body, seat, and pallet assembly results in a superior combination of tight sealing and high capacity at low over-pressure with minimal blow down.

94020 vents are open vent. Refer to 94021/94022 data sheet for close vent (pipe-away) option.

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 0.5 SCFH of air at 95% of the set point. Minimum set point for "Expanda-Seal" is 1.5 oz/in^2.



Features

- Suitable materials available for corrosive/extreme temperature service
- Pallet reaction lip for smooth lift and reseating
- Vertical lift pallets assure reliable operation and maximum flow
- Floating diaphragm results in a positive seal and minimal blow-down
- "All weather" coating, insulation jackets and steam jacketing options available
- Capacity certified to API Standards

Conservation Vent Specifications:

Sizes:
2'', 3'', 4'', 6'', 8'', 10" & 12"

Settings:
Standard Pressure & Vacuum: 0.5 oz/in^2
(.865 in. W.C.)

Expanda-Seal Pressure Setting:
1.5 oz/in^2 Minimum

Temperature Range:
Process Temperature ranges for body material:
-50^{O}F to 250^{O}F (Aluminum)
-50^{O}F to 350^{O}F (316 Stainless Steel)
-20^{O}F to 220^{O}F (Carbon Steel)

Type of Flange Connection:
Flanged for: All sizes
Raised face flange available, except for aluminum body material.

Options Available:
Flame Snuffer for all sizes (open vent) and material. Cleaning for LOX/LIN service. Limit Switch (Pressure & Vacuum), Steam Jacket, LOX Cleanup, Incremental Weights and Cryogenic Hood.

Standard Materials of Construction

Body:
Cast Aluminum, Cast Steel or 316 Stainless Steel

Vacuum Cover:
Aluminum, Steel or Stainless Steel

Hood:
Aluminum or Stainless Steel

Pallet/Retainer:
316 Stainless Steel

Integral Seats (same as body):
Aluminum, Steel with 316 Stainless Steel Overlay or 316 Stainless Steel

Stem:
316 Stainless Steel

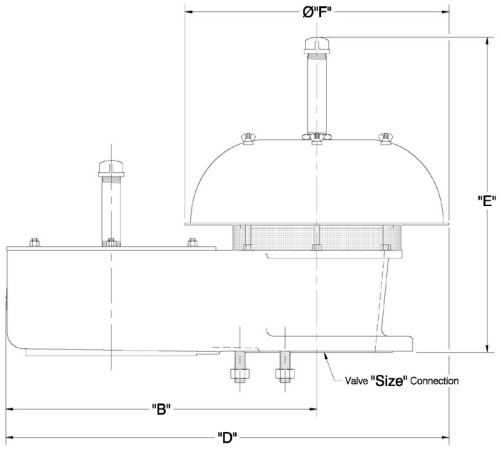
Hardware:
316 Stainless Steel

Stem Guide:
316 Stainless Steel

Screen:
Stainless Steel

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

94020 Open Vent



Valve Size	"B"	"D"	"E"	Diameter "F"
2"	9	15 ¼	11 ⅛	12 ⅞
3"	11 ⅛	17 15⁄16	13 ¾	13 9⁄16
4"	13 ½	21 ½	15 ¾	15 15⁄16
6"	17 15⁄16	28 ½	18 ¾	18 ⅝
8"	21 ⅞	31 3⁄16	21 ¼	18 ⅝
10"	26 ¼	40 ⅝	28 ⅛	25 9⁄16
12"	30 9⁄16	44 ⅝	32 ¼	29 ⅞

NOTES:
1. Connection size matches ANSI, EN1092-1.
2. **Mounting Holes straddle centerline except: 2" & 3" sizes; holes are on centerline.**
3. Dimensions expressed in inches within +/- 1/8.
4. Raised faced flanges with smooth finish are standard. For optional serrated raised faced flanges, consult factory.

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

94020 Ordering Guide

Conservation Vents provide tank venting and breathing with high efficiency, maximum flow capacity and minimum leakage. Standard materials of construction include low copper aluminum, cast steel, and 316 Stainless Steel.

Benefits

- Low copper aluminum alloy construction reduces need for special materials in corrosive and extreme temperature service
- Capacity certified in accordance with API standards
- Expanda-Seal diaphram for reduced leakage
- Unique floating diaphragm construction assures positive seal and minimal blowdown, thus conserving valuable tank content
- Peripheral and stem guided pressure pallet assures smooth lift and closure

Model Number Selection

The model number will have a base number 94020 followed by 6 digit numbers.

94020 - A - B - C - D - E - F

***NOTE:** If ATEX (A) Unit is required, please use 94020A AB CD EF GH.
If CE (C) Unit is required, please use 94020C AB CD EF GH.

Ordering Information

Specify:

1. Model 94020 Conservation Vent
2. Size and Body Material
3. Type of Cleaning (if for oxygen service)
4. To Specify CE for Ordinary EU Locations use 94020C AB CD EF GH
5. To Specify ATEX Certification for II 1 G Ex h II B T1...T6 Ga EU Locations use 94020A AB CD EF GH. ATEX Certification includes CE Mark.

Table A - Size

Table A	Size
2	2"
3	3"
4	4"
6	6"
8	8"
0	10"
1	12"

Table B - Body (Casting) Material & Flange Type

Table B	Body Material	Flange Type
A	Aluminum I-ST	ANSI-FF 150#
B	Cast Steel I-ST	ANSI-FF 150#
C	Cast Steel I-ST	ANSI-RF 150#
D	316SS I-ST	ANSI-FF 150#
E	316SS I-ST	ANSI-RF 150#
F	Aluminum I-ST	EN1092-1 PN16 FF
G	Cast Steel I-ST	EN1092-1 PN16 FF
H	Cast Steel I-ST	EN1092-1 PN16 RF
I	316SS I-ST	EN1092-1 PN16 FF
J	316SS I-ST	EN1092-1 PN16 RF
K	Aluminum R-ST / 316 Seat	ANSI-FF 150#
L	Aluminum R-ST / 316 Seat	EN1092-1 PN16 FF
M	Aluminum R-ST (Teflon Coat)	ANSI-FF 150#
N	Cast Steel I-ST (Teflon Coat)	ANSI-FF 150#
O	Cast Steel I-ST (Teflon Coat)	ANSI-RF 150#
P	316SS I-ST (Teflon Coat)	ANSI-FF 150#
Q	316SS I-ST (Teflon Coat)	ANSI-RF 150#
R	Aluminum I-ST (Teflon Coat)	EN1092-1 PN16 FF
S	Cast Steel I-ST (Teflon Coat)	EN1092-1 PN16 FF
T	Cast Steel I-ST (Teflon Coat)	EN1092-1 PN16 RF
U	316SS I-ST (Teflon Coat)	EN1092-1 PN16 FF
V	316SS I-ST (Teflon Coat)	EN1092-1 PN16 RF
W	Aluminum R-ST / 316 Seat (Teflon Coat)	ANSI-FF 150#
X	Aluminum R-ST / 316 Seat (Teflon Coat)	EN1092-1 PN16 FF

Table C - Size (Setting, Pallet & Wgt)

Table C	Pallet Type
2	2"
3	3"
4	4"
6	6"
7	8"
0	10"
1	12"

Table D - Setting & Pallet Type & Weight

Table D	Pallet Type
A	LOW / Standard / Lead
B	MED / Standard / Lead
C	HIGH / Standard / Lead
D	LOW / Standard / 316
E	MED / Standard / 316
F	HIGH / Standard / 316
G	LOW / Expanda/ Lead
H	MED / Expanda/ Lead
I	HIGH / Expanda/ Lead
J	LOW / Expanda / 316
K	MED / Expanda / 316
L	HIGH / Expanda/ 316
M	LOW / Standard / Lead (Teflon Coat)
N	MED / Standard / Lead (Teflon Coat)
O	HIGH / Standard / Lead (Teflon Coat)
P	LOW / Standard / 316 (Teflon Coat)
Q	MED / Standard / 316 (Teflon Coat)
R	HIGH / Standard / 316 (Teflon Coat)
S	LOW / Expanda/ Lead (Teflon Coat)
T	MED / Expanda/ Lead (Teflon Coat)
U	HIGH / Expanda/ Lead (Teflon Coat)
V	LOW / Expanda / 316 (Teflon Coat)
W	MED / Expanda / 316 (Teflon Coat)
X	HIGH / Expanda/ 316 (Teflon Coat)

LOW (Standard) = 0.5 oz/in2 to 3 oz/in2
LOW (Expanda) = 1.5 oz/in2 to 3 oz/in2
MEDIUM = 3.01 oz/in2 to 8 oz/in2
HIGH = 8.01 oz/in2 to 16 oz/in2

Option "CD" kits come with FEP diaphragm and N8090 / Buna-N Softgoods as Standard

Table E - Certification

Table E	Description
1	Standard
2	ATEX

Table F - Size (Setting, Pallet & Wgt)

Table F	Description
0	None
1	Limit Switch - Pressure
2	Limit Switch - Vacuum
3	Steam Jacket
4	LOX Cleaning
5	Incremental Weights