

94270



Shand & Jurs Co.

A COGNESENSE BRAND

Vapor Guard Tank Blanketing Valve

The Shand & Jurs® Model 94270 Vapor Guard Tank Blanketing Valve maintains a controlled inert gas blanket in pressure-tight storage tanks, preventing air ingress and vapor contamination during pump-out and thermal contraction. The valve modulates the blanketing gas flow whenever the tank pressure falls below the setpoint, maintaining minimum tank pressure without continuous gas discharge.

A balanced piston-operated main valve and pilot diaphragm assembly provides proportional flow control, maintaining a tight operating band across the full range of inlet supply pressures. The set pressure remains virtually unchanged regardless of supply pressure fluctuations. Rather than cycling on and off, the valve modulates to match actual tank demand, reducing VOC emissions and product loss, minimizing nitrogen consumption, and avoiding pressure overshoot associated with on/off regulators. Setpoints are adjustable from 0.5 in. W.C. to 15 psig.

Installed directly on the tank, the 94270 replaces multi-component blanketing arrangements with a single modulating valve, reducing the number of components and potential leak paths while maintaining vapor space protection and conserving blanketing gas. A field test connection allows set point verification without removing the valve from service.

System cleanliness is maintained through upstream filtration and material selection rather than reliance on factory cleaning specifications, supporting consistent pilot performance in field conditions.



Key Features

Balanced piston main valve

Maintains a constant set pressure independent of variations in inlet supply pressure.

Modulating pilot control

Proportionally meters blanketing gas instead of cycling fully open and closed.

Integrated single-valve design

Combines sensing and flow control into one device mounted directly on the tank.

Adjustable spring setpoint

Allows pressure selection from 0.5 in. W.C. to 15 psig.

Flow control port selection

Matches the gas supply capacity to the calculated API 2000 in-breathing demand.

Field test connection

Allows set point verification on-tank without removing the valve from service.



Benefits



CONTROLLED BLANKETING FLOW

Prevents over-injection of nitrogen, reduces VOC emissions and product loss, and reduces continuous consumption of blanketing gas.



STABLE VAPOR SPACE PRESSURE

Prevents air ingress, oxidation, and moisture contamination of stored product.



MODULATING OPERATION

Eliminates regulator chatter and reduces wear compared to on/off blanketing devices.



SINGLE VALVE INSTALLATION

Reduces the number of piping connections and leak paths, lowering installation and maintenance costs.



SUPPLY PRESSURE TOLERANCE

Maintains protection even with fluctuating plant nitrogen header pressure.



PRODUCT PRESERVATION

Prevents oxidation and moisture ingress that can result in measurable product degradation losses, often equating to thousands of dollars in annual product retention per tank, depending on volatility and operating conditions

Available Options



Sensing configuration

External sense (standard); dip tube external sense for vertical mount remote sensing; internal sense available on 1/2" model (vertical mount only).



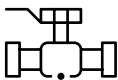
Flow control ports (10–200%)

Matches blanketing capacity to pump-out and thermal contraction demand.



Inlet filter and pilot filter

Protect pilot and piston operation from particulate and condensate, maintaining stable performance in real-world gas supply conditions.



Check valve accessory

Prevents reverse flow into the gas supply header.



Pressure gauges

Provides local monitoring of blanketing performance.



Diaphragm material selection

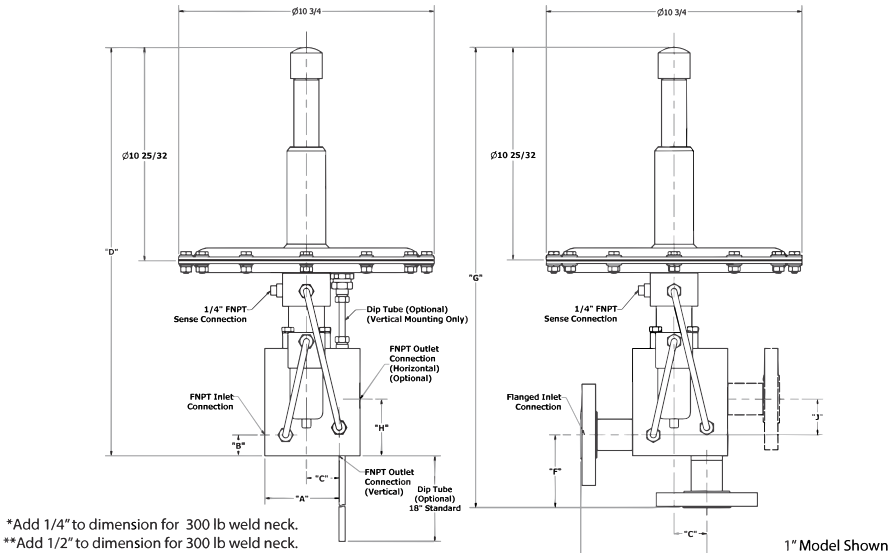
Matches chemical compatibility and temperature service range.

Key Performance Data

Parameter	Value
Set Pressure Range	0.5 in. W.C. – 15 psig
Minimum Inlet Pressure	1/2": 20 psig. 1" and 2": 30 psig
Maximum Inlet Pressure	1/2" and 1": 200 psig (100% flow port). 2": 100 psig (100% flow port)
Control Type	Modulating blanketing regulator
Mounting	Direct tank mounting
Connections	Threaded or flanged
Available Sizes	1/2", 1", and 2"
Temperature Range	-40°F (-40°C) to 250°F (121°C) (NBR and EPDM). +20°F (-7°C) to 350°F (177°C) (FKM and FFKM)
Materials	• Body and Seat: 304 or 316 Stainless Steel. • Trim & Seats: 316 Stainless Steel. • Diaphragm: EPDM, FEP, FKM, or NBR. • Diaphragm Housing: Painted Carbon Steel or 316 Stainless Steel. • Seals: EPDM, FKM, FFKM, or NBR. • Spring: Stainless steel. • Hardware: Stainless steel.

Dimensions

Size	Dimensions in Inches									
	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"	"I"	"J"
1/2"	2 15/16	7/8	1 7/16	14 13/16	5 3/4	3 5/8	17 9/16	2 15/32	7 7/8	1 19/32
1"	3 1/8	7/8	1 3/8	19 15/32	5 5/16	3 1/16*	21 21/32*	2 3/8	8 3/8**	1 1/2
2"	N/A	1 3/8	2 1/2	20 15/32	6 7/8	3 3/4	22 27/32	4 3/16	11 1/4	2 13/16



Model Number Selection

The model number will consist of a base number 94270 followed by 8 digit numbers. These digits will represent 7 option tables.

94270 - AB - CD - EF - GH

Ordering Information

Specify:

1. Model 94270

2. Select Size, Connection & Material

3. Select Diaphragm Type

4. Select Set Point
5. Select Flow Port

6. Select Accessories

7. Specify Inlet Pressure

Table A - Connection

Option A	Flange Type	Thread Type
0	ANSI 150 lb RF	NPT
1	EN1092-1 DN 15 PN16 RF	----
2	EN1092-1 DN 25 PN16 RF	----
3	ANSI 150 lb RF Weld Neck*	----
4	ANSI 300 lb RF Weld Neck*	----

* Weld neck flange only available on 1” and 2” model
Other flange types available upon request.

Table B - Size, Connection and Material

Size	Type of Connection	Material			
		304 SS Body/CS Diaphragm Housing	316 SS Body Diaphragm Housing	316 SS Body Lower Diaphragm Housing / CS Upper Option B	316 SS Body/CS Diaphragm Housing
		Option B	Option B	Option B	Option B
1/2”	Threaded	1	2	9	D
1/2”	Flanged	3	4	A	E
1”	Threaded	5	6	B	F
1”	Flanged	7	8	C	G
2”	Threaded	H	K	M	P
2”	Flanged	J	L	N	R

Table C - Outlet

Option C	Outlet
0	Vertical
1	Horizontal

Table D - Diaphragm & Seals

Option D	Diaphragm	Seals
1	NBR	NBR
2	FKM	FKM
3	FEP	FKM
4	FEP	EPDM
5	FEP	FFKM
7	FEP	NBR

Table E - Accessories

Option E	Accessories
0	*Standard
1	1/2" Zinc Inlet Filter
3	1/2" Stainless Steel Inlet Filter
4	1" & 2" Stainless Steel Pilot Filter
5	1/2" Zinc Inlet Filter with Check Valve
6	1" & 2" Aluminum/Zinc Pilot Filter with Check Valve
7	1/2" Stainless Steel Inlet Filter with Check Valve
8	1" & 2" Stainless Steel Pilot Filter with Check Valve
9	Inlet and outlet Pressure Gauges
A	1" & 2" Aluminum/Zinc Pilot Coalescing Filter

*Standard Construction Includes the following:
1/2" - No Filters or Check Valves,
1" & 2" - Aluminum/Zinc Pilot Filter, No Check Valves

Table E - Accessories

Range	0.5 - 2" W.C.	1.9 - 4" W.C.	3.5 - 10" W.C.	9 - 20" W.C.	18 - 29" W.C.	27 - 39" W.C.	1.3 - 1.8 PSIG	1.7 - 2.3 PSIG	2.2 - 3 PSIG	2.9 - 5 PSIG	4.9 - 10 PSIG	9.9 - 15 PSIG
Option F	1	2	3	4	5	6	7	8	9	A	B	C

Table GH - Size, Sense, & Flow Port

Size	Sense	Option GH						
		% of Standard Flow Port						
		200%	150%	100%	75%	50%	25%	10%
1/2"	External	06	04	01	08	20	23	N/A
1/2"	Dip Tube*	07	05	02	09	21	22	N/A
1/2"	Internal*	N/A	N/A	N/A	N/A	N/A	03	N/A
1"	External	N/A	N/A	11	12	13	14	10
1"	Dip Tube*	N/A	N/A	16	17	18	19	15
2"	External	N/A	N/A	24	25	26	27	28

*Vertical Mount Only

Summary

The Model 94270 maintains a protective inert gas blanket by modulating gas flow to match real tank demand rather than cycling at a fixed rate. This stabilizes tank pressure, prevents contamination, and reduces blanketing gas consumption while simplifying installation into a single mechanical device. The valve provides predictable product protection and operating cost control for pressure-tight storage systems that require continuous vapor-space isolation.

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This document is for information purposes only. All designs subject to change. Certified dimensions, specifications, and performance data available upon request