

Internal Safety Shutoff & Operating Valve

The Shand & Jurs 96330 Internal Safety Shutoff and Operating Valve provides automatic, foolproof, quick acting shutoff of product flow in tanks and manifold lines. Extremely versatile, it can be mounted in the tank or in line. This valve is used most effectively as a safety shutoff or operating valve in manifold lines. Its action is bi-directional with respect to flow and pressure, and its balanced piston design resists opening due to tank or line pressure.

This valve also is ideally suited for "switch service" of LP-GAS, anhydrous ammonia and similar products. Alternate materials of construction may be specified to meet other product requirements and operating temperatures in the range of -50° to +150°F.

The 96330 Internal Safety Valve is designed to be held in a normally closed or open position by a spring-loaded balanced type piston. The valve checks closed in either direction when hydraulic operating pressure is removed.

Several unique items are incorporated providing the most reliable quick-closing shutoff valve available.

A) The piston seal is sensitive to pressure differential to seal fluid in either direction. It is self adjusting to pressure conditions, and the configuration provides ideal wiping and bearing action.

B) The plunger seal is spring-loaded to adjust to wear and thermal conditions.

C) Easy Maintenance-New one piece seals greatly improve maintainability.

D) Optional redundant springs - either capable of closing the valve.



Features

- One piece self-adjusting seals greatly improve maintainability
- Fusible plugs automatically release operating pressure when temperature exceeds its melting point
- Fail safe under all conditions, unaffected by tank or line pressure
- Adaptable to ambient fluid products such as LP-Gas and/or Ammonia
- Efficient as an operational valve or on-off service with flow and pressure in either direction
- Maximum 1.0 SCFM air leakage @ 100 psig between tank and line.
- Bubble tight from product to hydraulic system
- Optional Redundant Dual Springs provide added protection

Specifications:

Pilot Operating Data:

Operating Pressure:
Range: 450 to 1000 PSIG

Operating Fluid:
Mineral Oil or Synthetic Fire Resistant Fluid

Valve Size:

2"-10" with Various Mounting Flange Sizes,
ANSI B16.5 Class Raised Face (Full Flange or Partial
"J" Flange) 150 lb. or 300 lb.

Main Valve Data:

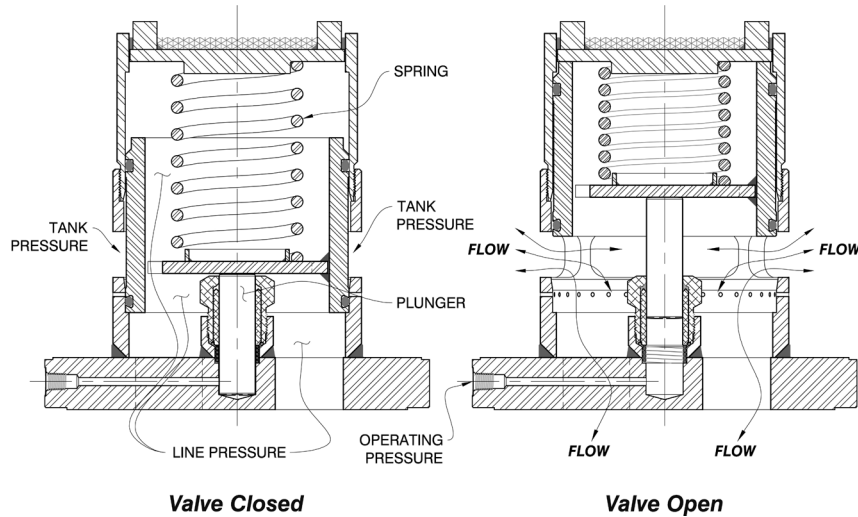
Type of Service:
LP - Gas, Ammonia and similar

Maximum Product Pressure:
*250/375 PSIG (See Table AB)

Product Temperature Range:
-20°F to +150°F. (Standard)
-50°F to +150°F. (Special)

Tank Valve Size Inches	Tank Mtg.	In-Line Mtg.
	CV	
2	75	68
3	165	123
3 x 4	165	142
4	290	245
4 x 6	290	267
6	635	493
6 x 8	635	571
8	1120	878
8 x 10	1120	938
8 x 12	1120	943
8 x 14	1120	952
8 x 16	1120	960
8 x 20	1120	966
10	1612	1264
10 x 12	1612	1362
10 x 14	1612	1372
10 x 16	1612	1383
10 x 18	1612	1395

Principle of Operation:



To open the valve, hydraulic fluid pressure is applied to the plunger which moves to open the normally closed piston.

Quick shutoff is accomplished by the following remote controlled mechanism:

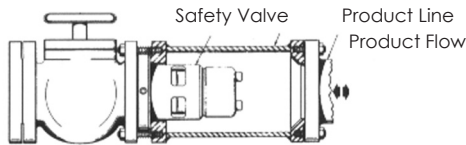
1. Fusible plug(s) in the operating hydraulic line which release at a predetermined temperature;
2. Frangible element(s) which can be quickly snapped off by hand;
3. A quick manual release on the hydraulic operating fluid source;
4. Fail-safe pneumatic operator for remote valve closure.
5. Remote through special solenoid valve.

Operating pressure to fully open valve ranges from 450 to 1100 psig depending on product pressure and valve size. Valves are provided with raised face flanges as standard to match ANSI 300 lb. Optional oversize flanges are available when required.

Typical Safety Valve Installation:

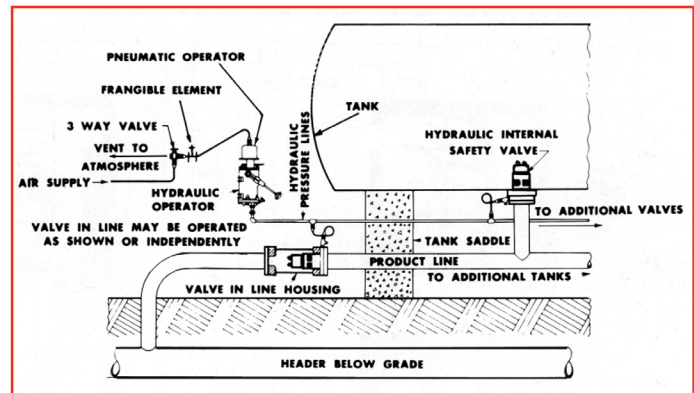
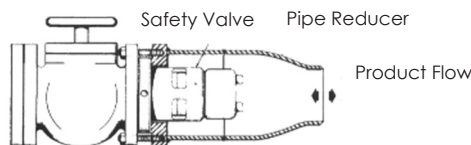
Filling And Discharge Installation Using Shut-Off Valve And In-Line Housing

Positive Shut-Off Valve Is Required When Used As Filling And Discharge Connection



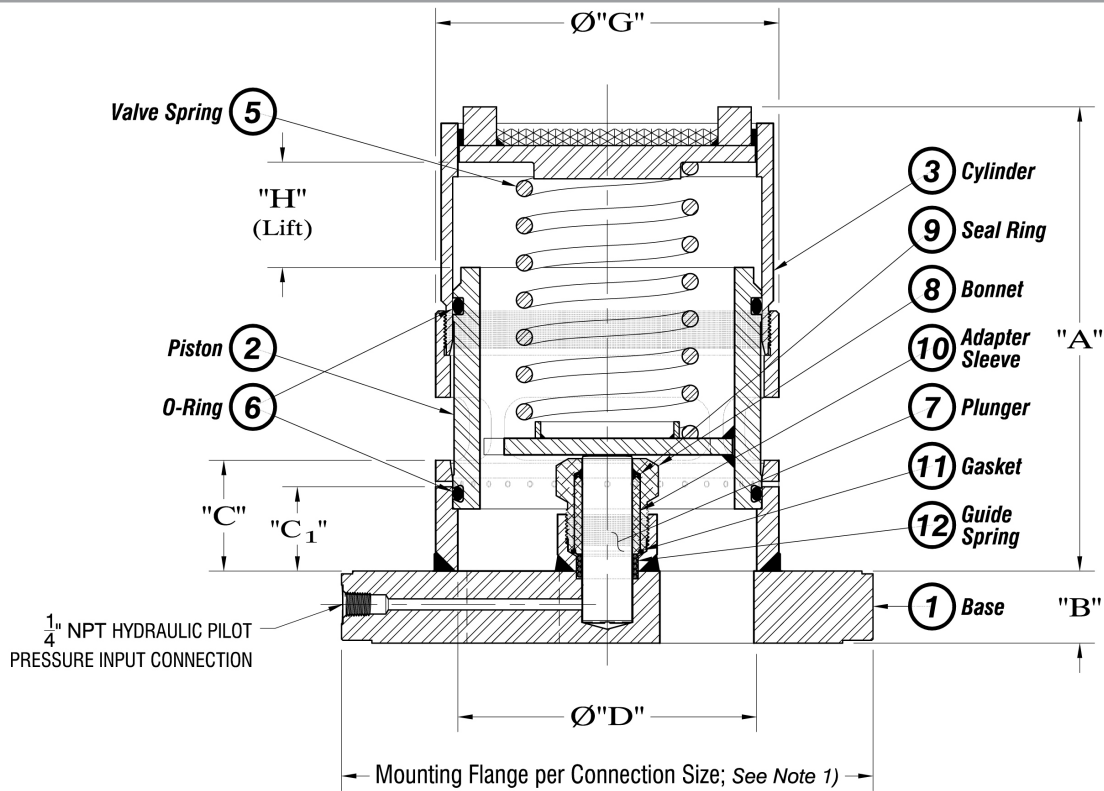
Filling And Discharge Installation Using Shut-Off Valve And Pipe Reducer

Positive Shut-Off Valve Is Required When Used As Filling And Discharge Connection



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

Dimensions:



Size	A	B	C	C1	D	G	H	Net Weight lb.
2"	8 7/8"	7/8"	1 15/16"	1 9/16"	2 7/16"	3 5/8"	1 1/2"	16
3"	7 13/16"	1 1/8"	1 7/8"	1 7/16"	3 5/8"	4 11/32"	1 1/2"	18
3" x 4"	7 13/16"	1 1/8"	1 7/8"	1 7/16"	3 5/8"	4 11/32"	1 1/2"	23
4"	9 1/8"	1 1/4"	2 21/32"	2 1/8"	4 5/8"	5 13/16"	1 5/8"	34
4" x 6"	9 1/8"	1 7/16"	2 21/32"	2 1/8"	4 5/8"	5 13/16"	1 5/8"	48
6"	10 9/16"	1 5/8"	2 1/2"	1 7/8"	6 5/8"	7 27/32"	2 1/4"	62
6" x 8"	10 9/16"	1 5/8"	2 1/2"	1 7/8"	6 5/8"	7 27/32"	2 1/4"	78
8"	12 9/16"	1 5/8"	2 5/8"	2"	7 15/16"	9 1/2"	3 1/4"	115
8" x 10"	12 9/16"	1 7/8"	2 5/8"	2"	7 15/16"	9 1/2"	3 1/4"	142
8" x 12"	12 9/16"	2"	2 5/8"	2"	7 15/16"	9 1/2"	3 1/4"	230
8" x 14"	12 9/16"	2 1/8"	2 5/8"	2"	7 15/16"	9 1/2"	3 1/4"	235
8" x 16"	12 9/16"	2 1/8"	2 5/8"	2"	7 15/16"	9 1/2"	3 1/4"	240
8" x 20"	12 9/16"	2 1/8"	2 5/8"	2"	7 15/16"	9 1/2"	3 1/4"	245
10"	14 11/16"	1 7/8"	3 1/2"	2 5/8"	10"	11 1/2"	4"	250
10" x 12"	14 11/16"	1 7/8"	3 1/2"	2 5/8"	10"	11 1/2"	4"	260
10" x 14"	14 11/16"	2 1/8"	3 1/2"	2 5/8"	10"	11 1/2"	4"	280
10" x 16"	14 11/16"	2 1/4"	3 1/2"	2 5/8"	10"	11 1/2"	4"	300
10" x 18"	14 11/16"	2 1/4"	3 1/2"	2 5/8"	10"	11 1/2"	4"	320

Mounting Flange	"J" 300 Lb	"J" 150 Lb	"Full" 300 Lb
2"	4 1/4"	4"	6 1/2"
3"	5 3/4"	5 1/4"	8 1/4"
3" x 4"	7"	6 3/4"	10"
4"	7"	6 3/4"	10"
4" x 6"	9 3/4"	8 5/8"	12 1/2"
6"	9 3/4"	8 5/8"	12 1/2"
6" x 8"	12"	10 5/8"	15"
8"	12"	10 5/8"	15"
8" x 10"	14 1/8"	13 1/4"	17 1/2"
8" x 12"	16 1/2"	16"	20 1/2"
8" x 14"	19"	17 5/8"	23"
8" x 16"	21 1/8"	20 1/8"	25 1/2"
8" x 20"	25 5/8"	23 3/4"	30 1/2"
10"	14 1/8"	13 1/4"	17 1/2"
10" x 12"	16 1/2"	16"	20 1/2"
10" x 14"	19"	17 5/8"	23"
10" x 16"	21 1/8"	20 1/8"	25 1/2"
10" x 18"	23 3/8"	21 1/2"	28"

NOTE 1. Sizes with standard "J" flanges are furnished without bolt holes. Outside diameter of flange matches inner circle of bolt holes "F" or "FF". Full size flanges "K" are furnished with bolt holes and meet ANSI dimension standards (not shown).

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

96330 Ordering Guide

Model Number Selection

The model number will consist of a base number **96330** followed by 8 digit numbers. These digits will represent 6 option tables.

96330 AB - CD - EF - GH

Ordering Information

Specify:

1. Model 96330 Internal Safety Shutoff and Operating Valve
2. Valve Size and Flange Size
3. Type of Product
4. Temperature Range of Product
5. Maximum Pressure of Product
6. Type and Maximum Pressure of Operating Fluid
7. Accessories, As Required



Table AB - Size

Option AB	Valve x Flange Description
09	2" x 2"
11	3" x 3"
12	3" x 4"
13	4" x 4"
14	4" x 6"
15	6" x 6"
16	6" x 8"
17	8" x 8"
18	8" x 10"
19	8" x 14"
20	8" x 12"
21	8" x 16"
22	8" x 20"
23	8" x 18"
26	10" x 10"
27	10" x 12"
28	10" x 14"
29	10" x 16"
30	10" x 18"
37*	8" x 8"
40*	8" x 12"
46*	10" x 10"

NOTE: Standard Maximum Line Pressure is 250 PSIG.
 *Maximum Line Pressure is 375 PSIG.

Table C - Hydraulic & Valve Seal

Option C	Seal Ring and Gasket (Hydraulic)	O-Rings (Valve Seal)	Service
2	Teflon	HNBR (BUNA)	LPG/Propane
3	Teflon	EPDM	Ammonia

Table D - Redundant Spring & Leakage

Option D	Description
0	Standard Leakage
1	Zero Leakage*
2	Standard Leakage Redundant Springs
3	Zero Leakage Redundant Springs*

*Hermetic; zero leakage to full pres., special tests and reports
 HNBR = Carboxylated Buna

Table E - Flange Type

Option E	Description
0	Standard "J" Flange 300 lb.
1	Full Size Flange 300 lb.
2	Standard "J" Flange 150 lb.

Table F - Flange Finish

Option F	Description
0	Standard Raised Face Cold Finish
1	Serrated Raised Face

Table GH - Materials of Construction

Option GH	Service	Base	Cylinder	Piston	Adapter Sleeve	Bonnet	Main Spring	Plunger, Spring (Hydraulic)	Hydraulic Seals	Valve Seal
00	Standard -20°F to +150°F	Steel Weldment Nickel Plated			Aluminum	Aluminum	Spring Steel	Stainless Steel	Teflon	See Table C
01	Special -50°F to +150°F	316 Stainless Steel			Aluminum	316 Stainless Steel	17-7 PH Stainless Steel	316 Stainless Steel	Teflon	See Table C
02	Special -50°F to +150°F	304 Stainless Steel			Aluminum	304 Stainless Steel	17-7 PH Stainless Steel	316 Stainless Steel	Teflon	See Table C

Use Pressure/Flange Table below for X values:

In-Line Housing (-20° To +150°F Temperature Range)

Part Number	Valve Size	Flange Size (R.F.) Matches ANSI	Chamber ID Diameter	For Use with Option Number
	Size	Size		
9606-1024X	2"	2"	4.75"	09
9606-1025X	3"	3"	5.75"	11
9606-1026X	3"	4"	8"	12
9606-1027X	4"	4"	7.62"	13
9606-1028X	4"	6"	8"	14
9606-1029X	6"	6"	9.75"	15
9606-1030X	6"	8"	13"	16
9606-1031X	8"	8"	13"	17
9606-1032X	8"	10"	13"	18
9606-1036X	8"	14"	14"	19
9606-1034X	8"	12"	13"	20
9606-1033X	8"	16"	16"	21
9606-1022X	8"	20"	19"	22
9606-1070X	10"	10"	15"	26

Pressure/Flange (X)	
Option Number	Description
0	Max. Pressure 250 PSIG, 300 lb.
1	Max. Pressure 375 PSIG, 300 lb.
2	Max. Pressure 250 PSIG, 150 lb.

Part Number	Accessories Description
091531	Fusible Plug [Releases @ 212°F (100°C)] & Strainer Assembly ¼ Inch NPT (Female) Connection
JA7086-1	Fusible Plug [Releases @ 212°F (100°C)] ½ Inch NPT Connection
JA7088-1	Frangible Element (Breaks @ 60 Inch/lbs.) ½ Inch NPT Connection
LA547-5-1	Fusible Plug [Releases @ 165°F (75°C)] ½ NPT Connection
LA547-5-2	Fusible Plug [Releases @ 165°F (75°C)] 75°F ¼ NPT Connection

Part Number BA7086-002 replaced by LA547-5-1