

## KEYSTONE FIGURE 269J+ (REVERSIBLE) HYGIENIC PROCESS VALVES

### DOUBLE SEAL PISTON VALVE

The Figure 269J+ is a double seal mix-proof piston valve, used for product isolation, where safe separation of process and C.I.P. fluids is required



#### FEATURES

- Product contact parts manufactured from high quality 316L S/S bar.
- Heavy walled body construction.
- Semi bright external surface finish.
- Compact, lightweight design.
- Heavy duty cast body clamps (bolted type).
- Various sealing options available.
- Seat material FPM.
- Metal plug stop, protects seat seals from wear or damage.
- Resilient seated for positive isolation.
- Free draining design, eliminates product puddling and air pockets.
- Smooth ball shaped bodies, reduces turbulence and improves flow.
- Smooth internal surfaces for ease of cleaning.
- Maintenance friendly design.
- Reversible actuator.
- Leakage chamber between seals.
- Clamped body style offers full 360° orientation of actuator.
- Butt weld end connections.
- Swage/crimp type fluid connectors to CIP poppet valves provided with valve.

#### GENERAL APPLICATIONS

- Dairy factories
- Breweries and beverage plants
- Wineries
- Canneries and food processing plants
- Pharmaceutical
- Chemical processing

#### TECHNICAL DATA

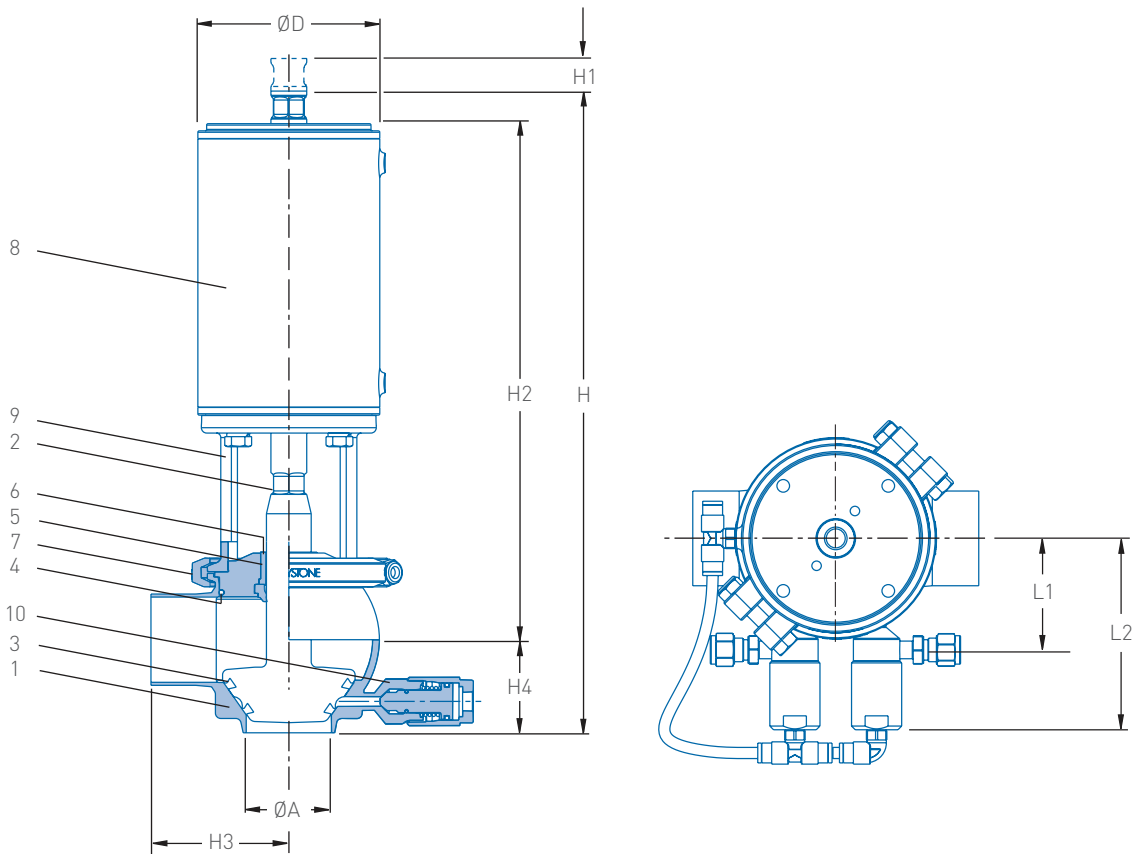
Working temperature:	-5 to +100°C (-5 to 120°C for static condition)
Sterilizing temperature:	Up to 140°C for 30 min's (Steam for static condition)
Max. pressure, valve body:	10 bar fluid pressure
Max. pressure, valve seat:	See separate plug lifting chart
Minimum pressure:	Full vacuum
Operating air pressure:	4 to 8 bar max.
Air connections:	R $\frac{1}{8}$ " (BSP)
CIP/detect line connections:	8 mm OD tube
Surface finish:	Internal < 0.8 Ra, external hairline / buffed
Length tolerance between ends:	±0.5 mm ~ ±1.0 mm
Parallelism or squareness of ends:	±0.5° or less

#### Options

- Mirror polished internals
- Clamp and thread end connections
- 3-Position actuator
- Booster actuator
- Manual operator
- Quick release body clamps



**KEYSTONE** FIGURE 269J+ (REVERSIBLE) HYGIENIC PROCESS VALVES  
DOUBLE SEAL PISTON VALVE



**PARTS LIST**

No.	Description	Material	Standards
1	Body	316L S/S, 304L S/S	ASTM A276
2	Plug/shaft	316L S/S	ASTM A276
3	Seat seal	EPDM, Nitrile, PTFE, FPM	FDA
4	Body seal	EPDM, Nitrile, FPM	FDA
5	Stem seal	Santoprene®, EPDM, Nitrile, FPM	FDA
6	Shaft bush	PTFE, UHMWPE	Commercial
7	Body clamp	304 CF8 S/S	ASTM A743 CF8
8	Actuator assembly	304 S/S	-
9	Sight housing	304 CF8 S/S	ASTM A743 CF8
10	CIP/Leak detect valves	316L S/S	ASTM A276

**DIMENSIONS**

Size Imperial	Size Metric	ØA x t		ØD	H	H1	H2	H3		H4	L1	L2
		Imperial	Metric					Imperial	Metric			
1.0"	025	1.0" x 1/16	29.5 x 1.6	4.0"	13.81"	0.40"	9.09"	2.16"	2.12"	2.16"	1.75"	3.71"
1.5"	040	1.5" x 16#	41.5 x 1.6	4.0"	12.71"	0.55"	10.03"	2.93"	2.89"	1.94"	2.36"	4.05"
2.0"	050	2.0" x 16#	53.5 x 1.6	4.0"	13.07"	0.55"	10.27"	3.03"	2.99"	2.05"	2.36"	4.05"
2.5"	065	2.5" x 16#	69.5 x 1.6	4.0"	17.12"	1.50"	13.74"	4.04"	3.60"	2.68"	2.97"	4.66"
3.0"	080	3.0" x 16#	84.5 x 1.6	5.5"	17.71"	1.50"	14.01"	4.29"	4.25"	2.91"	2.97"	4.66"
4.0"	100	4.0" x 16#	103.5 x 1.6	6.6"	21.22"	1.53"	16.85"	5.59"	5.51"	3.64"	3.48"	5.18"
5.0"	125	5.0" x 14#	130.0 x 2.0	8.6"	25.47"	1.97"	16.26"	6.14"	6.10"	4.53"	3.99"	5.69"
6.0"	150	6.0" x 14#	155.0 x 2.0	8.6"	25.47"	1.97"	16.26"	6.14"	6.10"	4.53"	3.99"	5.69"

**NOTE:**

Metric bodies are created from standard inch bodies by expanding the ports to suit.  
Santoprene® is the registered trademark of Exxon Mobil.

# KEYSTONE FIGURE 269J+ (REVERSIBLE) HYGIENIC PROCESS VALVES

## DOUBLE SEAL PISTON VALVE

### WORKING PRINCIPLE

The F269J+ valves are operated by compressed air, via a linear pneumatic actuator, that can be supplied with or without spring return.

The at-rest position of the valve, although normally closed (down position), can also be provided in the normally open (up position), this is determined by the actuator mode being either Spring Extend (SE) or Spring Retract (SR) respectively as selected at time of order. The mode can also be easily changed on site by simply inverting actuator assembly. (See separate Repair and Maintenance Instructions for details).

When air pressure is applied to the cylinder, two small pneumatic normally open (NO) poppet valves, a leak detecting and a CIP valve instantly close and the main valve plug moves through its entire stroke changing the valve from the closed to open position.

When the air is removed or vented from the cylinders the main valve closes, following which the two smaller valves open, thereby venting and draining the leakage chamber to atmosphere.

With the main valve in the closed position the leakage chamber can be flushed with water or CIP to clean away product residues.

Whilst the valve is in the closed position, one side of the valve can be CIP cleaned while product remains on the opposite side fully protected from possible contamination by the double seals and leakage chamber.

### AIR CONSUMPTION FOR SINGLE ACTING ACTUATORS (litres of free air)

Supply pressure bar/(psi)	Valve size (Actuator size)				
	025 (100S)	040-050 (100)	065-080 (140)	100 (170)	125-150 (200)
4.1 (50)	0.031	0.043	0.115	0.166	0.315
6.2 (90)	0.044	0.060	0.162	0.233	0.442
8.3 (120)	0.057	0.078	0.209	0.300	0.569

### RECOMMENDED SEAT FLUSHING CIP FLOW/VELOCITY INFORMATION

With the main valve in the closed position, it is recommended the leakage chamber be flushed with water or CIP solutions to clean away any product residues after each valve operation.

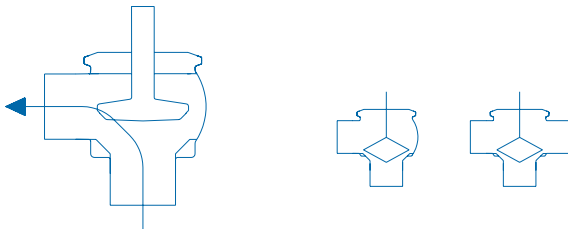
Also for the most effective clean, the main valve should be pulsed open during entire systems cleaning cycle.

**CIP flow rate:** 3.5 - 4.0 L/min at 1.5 bar inlet pressure.

**CIP velocity:** 1.5 m/sec (minimum).

### VALVE TYPE

Type	Configuration	
F269J+ STD Standard flow	L	T



# KEYSTONE FIGURE 269J+ (REVERSIBLE) HYGIENIC PROCESS VALVES

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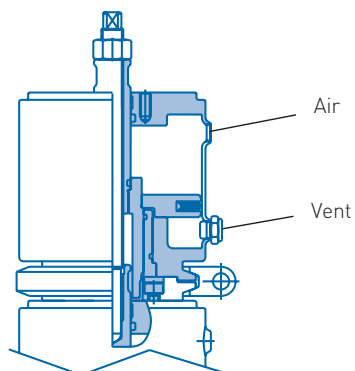
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### 3-POSITION ACTUATOR

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The 3-position actuator can be used for an adjusted flow control at any position throughout the valves entire stroke.

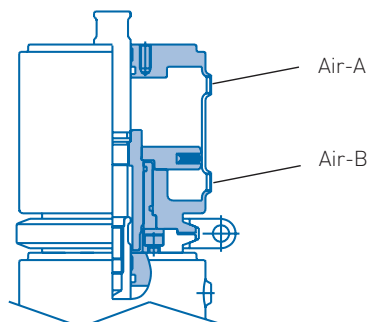
For example on dosing or filling to give optional full flow or partial flows, for topping up, or varying flow between product or CIP duties.



### BOOSTER ACTUATOR

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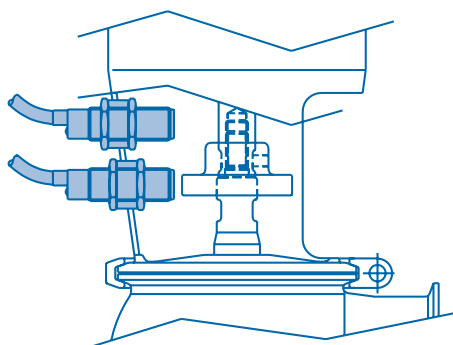
The booster actuator can be used where extra force is required to hold seal tightness under extra high line pressures, or for opening valves against high line pressures.



### POSITION SENSORS

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Standard Ø18 mm barrel type proximity sensors can be centre mounted, in the special slot provided within the sight-housing cone, and a target can be easily fitted to the plug shaft.



# KEYSTONE FIGURE 269J+ (REVERSIBLE) HYGIENIC PROCESS VALVES

## DOUBLE SEAL PISTON VALVE

### SELECTION GUIDE

Example:	A--	F269J+	A	SSE	B	T	M	6S	V	V	V	X
<b>Upper/lower body size</b>												
<b>Imperial</b>												
<b>A</b>	1"											
<b>B</b>	1.5"											
<b>C</b>	2"											
<b>D</b>	2.5"											
<b>E</b>	3"											
<b>F</b>	4"											
<b>G</b>	5"											
<b>H</b>	6"											
<b>Metric</b>												
<b>M</b>	025											
<b>O</b>	040											
<b>P</b>	050											
<b>Q</b>	065											
<b>R</b>	080											
<b>S</b>	100											
<b>T</b>	125											
<b>U</b>	150											
<b>Figure number</b>												
<b>F269J+</b>	Double seal piston valve											
<b>Valve style</b>												
<b>A</b>	STD (std)											
<b>D</b>	Other											
<b>Actuator type</b>												
<b>SSE</b>	Spring extend (std)											
<b>SSR</b>	Spring retract											
<b>SDA</b>	Double air/acting											
<b>MO</b>	Manual operator											
<b>End connection</b>												
<b>B</b>	Butt weld (std)											
<b>C</b>	Clamp ISO											
<b>J</b>	Male thread RJT											
<b>I</b>	Male thread IDF											
<b>S</b>	Male thread SMS											
<b>M</b>	Male thread RJT modified											
<b>D</b>	Male thread DIN 11851											
<b>E</b>	Other											
<b>Port configuration</b>												
<b>L</b>	L-port design											
<b>T</b>	T-port design											
<b>Actuator accessory</b>												
<b>M</b>	Metric 6 mm air fittings (std)											
<b>I</b>	Imperial 1/4" air fittings											
<b>X</b>	None											
<b>Material type/finish, welded parts</b>												
<b>6S</b>	316L SS (semi bright) (std)											
<b>6P</b>	316L SS (polished)											
<b>4S</b>	304L SS (semi bright)											
<b>4P</b>	304L SS (polished)											
<b>Body seal materials</b>												
<b>E</b>	EPDM (std)											
<b>N</b>	Nitrile											
<b>V</b>	FPM											
<b>Plug seal materials</b>												
<b>E</b>	EPDM (std)											
<b>N</b>	Nitrile											
<b>V</b>	FPM											
<b>Stem seal materials</b>												
<b>S</b>	Santoprene® wiper type (std)											
<b>D</b>	Diaphragm (only available on some sizes)											
<b>E</b>	EPDM											
<b>V</b>	FPM wiper type											
<b>F</b>	FPM o-ring type											
<b>N</b>	Nitrile											
<b>Optional extras</b>												
<b>T</b>	3-position actuator											
<b>D</b>	Damper actuator											
<b>3</b>	3A compliant											
<b>U</b>	Booster actuator											
<b>X</b>	None											



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