

KEYSTONE HYGIENIC PROCESS VALVE - FIGURE F273J+ TANK BOTTOM VALVE

SINGLE SEAL PISTON VALVES

The Figure 273J+ is a single seal piston valve tank bottom mounted, used to control process or C.I.P fluids



FEATURES

- Product contact parts are manufactured from high quality 316L stainless steel bar.
- Heavy walled body construction.
- Semi bright external surface finish.
- Compact, lightweight design.
- Heavy duty cast body clamps (bolted type).
- Various sealing options available.
- Metal plug stop, protects seat seals from wear or damage.
- A wide choice of port configurations are available.
- 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.
- Clamped body style offers full 360° orientation of body ports.
- Butt weld end connection.

GENERAL APPLICATIONS

- Dairy factories
- Breweries & Beverage plants
- Wineries
- Canneries & Food processing plants
- Pharmaceutical
- Chemical processing

OPTIONS

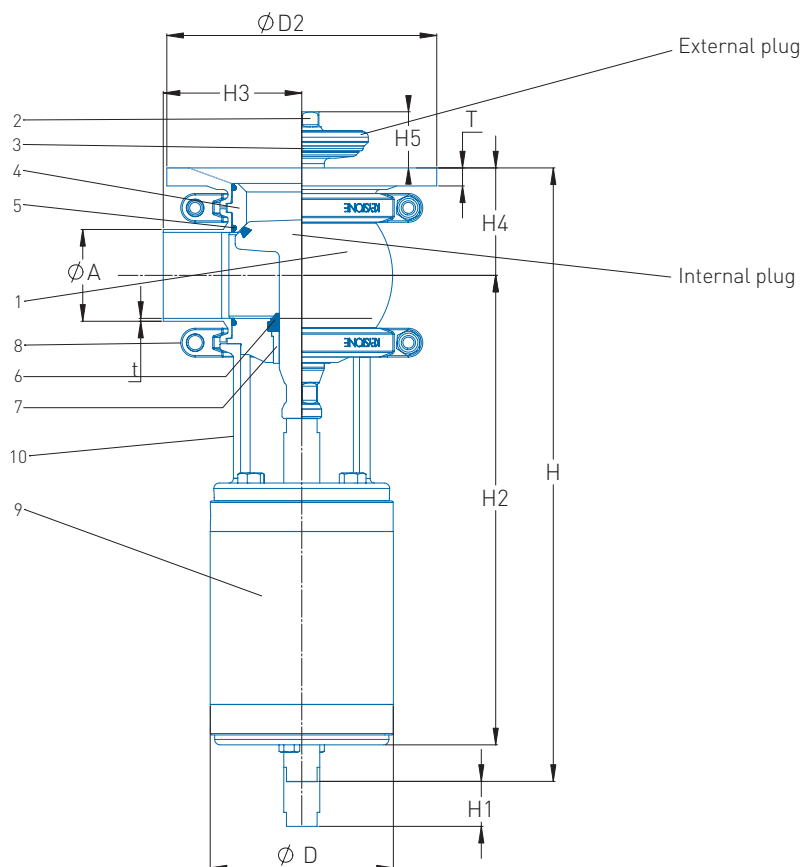
- Mirror polished internals.
- Clamp and thread end connections.
- Manual operating device.
- 3-Position actuator.
- Booster actuator.
- Control head or feed back unit.
- Quick release body clamps.

TECHNICAL SPECIFICATIONS

Working temperature:	-5 to +100°C (-5 to 120°C for static condition)
Sterilising temperature:	Up to 140°C for 30 min's (Steam for static condition)
Maximum pressure, valve body:	10 bar fluid pressure
Maximum pressure, valve seat:	See separate plug lifting chart
Minimum pressure:	Full vacuum
Operating air pressure:	4 to 8 bar max.
Air connections:	R1/8" [BSP]
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

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NOTE: F273J+ Standard (Int./Ext.)

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	Intermediate seal ring	316L S/S	ASTM A276
5	Body seal	EPDM, Nitrile, FPM	FDA
6	Stem seal	Santoprene®, EPDM, Nitrile, FPM	FDA
7	Shaft bush	PTFE, UHMWPE	Commercial
8	Body clamp	304 CF8 S/S	ASTM A743 CF8
9	Actuator assembly	304 S/S	-
10	Sight housing	304 CF8 S/S	ASTM A743 CF8

DIMENSIONS (mm)

Size		ØA x t		ØD	D2	T	H	H1	H2	H3		H4	H5
Imperial	Metric	Imperial	Metric							Imperial	Metric		
1.0"	025	25.4 x 1.6	29.5 x 1.6	102	115	8	311	8	231	55.0	54.0	45.0	25
1.5"	040	38.1 x 1.6	41.5 x 1.6	102	115	8	317	17	237	61.5	60.5	51.5	25
2.0"	050	50.8 x 1.6	53.5 x 1.6	102	150	10	357	26	261	77.0	76.0	60.0	40
2.5"	065	63.5 x 1.6	69.5 x 1.6	102	150	10	374	26	267	88.5	87.5	65.5	40
3.0"	080	76.2 x 1.6	84.5 x 1.6	141	220	12	485	38	356	109.0	108.0	78.5	55
4.0"	100	101.6 x 1.6	103.5 x 1.6	168	250	12	589	38	428	142.0	141.0	95.0	60
5.0"	125	129.0 x 2.0	130.0 x 2.0	219	300	15	576	50	426	156.0	155.0	132.0	75
6.0"	150	152.4 x 2.0	155.0 x 2.0	219	300	15	576	50	413	156.0	155.0	132.0	75

NOTE:

Metric bodies are created from standard inch bodies by expanding the ports to suit.

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WORKING PRINCIPLE

The F273J+ 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 when actuator is fitted with a spring, although normally closed, can also be provided in the normally open position, this is determined by both the plug configuration and the actuator mode combination being used and as selected at time of order. I.E.

Spring Extend (SE) actuator with an Int. plug type will result in a Normally Closed (NC) valve, therefore SE + Ext.= NO,

Spring Retract (SR) actuator with an Int. plug type will result in a Normally Open (NO) valve, therefore SR + Ext.= NC

The mode can also be easily changed on site by simply inverting the actuator assembly. (See separate Installation, Operation and Maintenance Instructions for details).

When air pressure is applied to the cylinder, the valve plug moves through its entire stroke changing from one state to the other. In the case of the F273J+ from open to closed.

These valves have only a few simple moving parts resulting in a very reliable valve in service.

AIR CONSUMPTION FOR SINGLE ACTING ACTUATORS (LITRES OF FREE AIR)

Supply pressure bar/(psi)	Valve size (Actuator size)				
	025-040 (100S)	050-065 (100)	080-100 (140)	*100 (170)	125-150 (200)
4.1 (50)	0.89	1.23	3.28	4.71	8.94
6.2 (90)	1.25	1.72	4.60	6.60	12.54
8.3 (120)	1.61	2.21	5.92	8.50	16.14

* (Option)

100 size valves can also be fitted with the Model 170 actuator as an option. This will boost the pressure holding power if required.



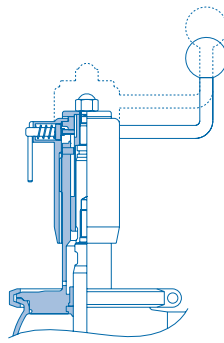
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Manual operator

The manual operator replaces the air driven actuator, and is used where variable control of flow is required or automation is not possible. Flow is fully adjustable throughout the entire stroke of the valve.

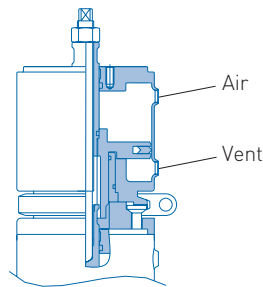
The manual operator comes equipped with a visual position indicator and a locking device that can be engaged at any position. The lever crank allows quick and easy operation of the valve.



3-Position actuator

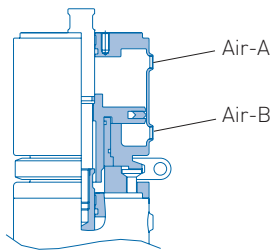
The 3-Position actuator can be used for an adjusted flow control at any position throughout the valves entire stroke.

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.



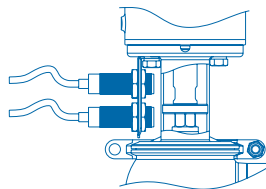
Booster actuator

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

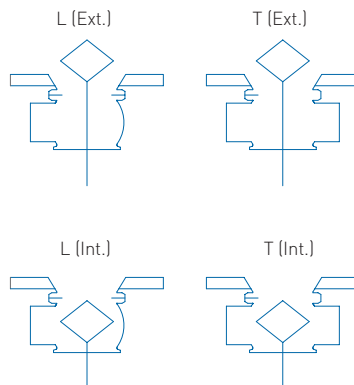
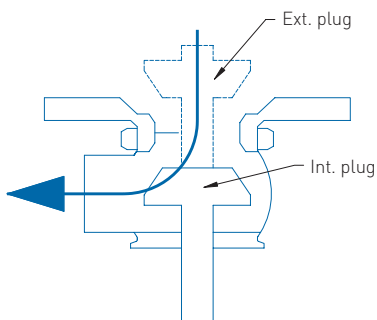
Standard Ø18 mm barrel type proximity sensors can be provided as a kit, complete with mounting bracket and sensor target.



VALVE TYPE

Type	Standard configurations
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F273J+
Standard flow



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SELECTION GUIDE

Example:	AA -	F273J+	A	SSE	B	L - -	M	6S	V	V	V	X
Body size:												
Imperial												
Metric												
A	1.0"	M	025									
B	1.5"	O	040									
C	2.0"	P	050									
D	2.5"	Q	065									
E	3.0"	R	080									
F	4.0"	S	100									
G	5.0"	T	125									
H	6.0"	U	150									
Figure number:												
F273J+	Stop valve											
Valve style:												
A	STD (std)											
B	NS/NC (Extra body)											
C	NWS/NWC (Extra body+Reverse plug)											
D	Other											
Actuator type:												
SSE	Spring Extend (std)											
SSR	Spring Retract											
SSA	Double Air/Acting											
MO	Manual Operator											
End connection:												
B	Butt weld (std)	S	Male thread SMS									
C	Clamp ISO	M	Male thread RJT Modified									
J	Male thread RJT	D	Male thread DIN 11851									
I	Male thread IDF	E	Other									
Port configuration:												
L	T											
Actuator accessory:												
M	Metric 6 mm Air fittings (std)											
I	Imperial 1/4" Air fittings											
X	None											
Material type/finish, welded parts:												
6S	316L SS (Semi bright) (std)											
6P	316L SS (Polished)											
4S	304L SS (Semi bright)											
4P	304L SS (Polished)											
Body seal materials:												
E	EPDM (std)											
N	Nitrile											
V	FPM											
Plug seal materials:												
E	EPDM (std)											
N	Nitrile											
V	FPM											
P	PTFE											
Stem seal materials:												
S	Santoprene® Wiper type (std)	E	EPDM	F	FPM O-ring type							
D	Diaphragm (Only available on some sizes)	V	FPM Wiper type	N	Nitrile							
Actuator optional extras:												
T	3-Position actuator	D	Damper actuator									
U	Booster actuator	X	Consult factory for more options									