



**PENTAIR
HYGIENIC PROCESS VALVES
(FORMERLY KEYSTONE)**

F269B+

HYGIENIC BALANCED DOUBLE SEAL VALVES

REVERSIBLE ACTUATOR TYPE

PENTAIR HYGIENIC PROCESS VALVES (Formerly Keystone)

HYGIENIC BALANCED DOUBLE SEAL VALVES

The F269B+ is a balanced double seal mix-proof valve, used for product isolation, where safe separation of process and C.I.P. fluids is required.

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 position)
Maximum pressure, valve body:	10bar fluid pressure
Maximum pressure, valve seat:	See separate plug lifting chart
Minimum pressure:	Full vacuum
Operating air pressure:	4 to 8bar max.
Air connections:	R $\frac{1}{8}$ " (BSP)
Surface finish:	Internal < 0.8 Ra, external hairline/buffed
Length tolerance between ends:	0.5mm ~ ±1.0mm
Parallelism or squareness of ends:	0.5° or less

FEATURES

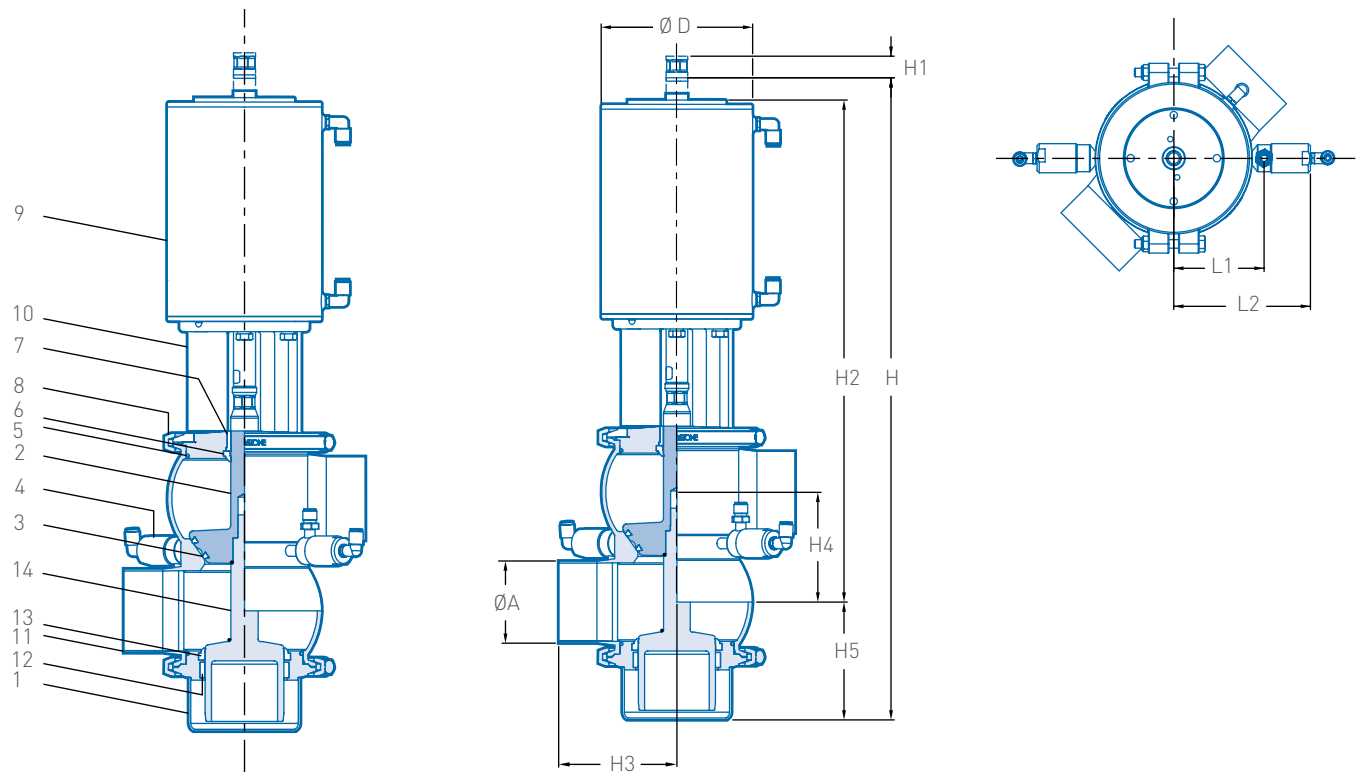
- Lower balancer for increased product security and reduced water hammer effect.
- Product contact parts manufactured from high quality 316L or 304L S/S bar.
- Heavy walled body construction.
- Semi-bright external surface finish.
- Compact, light weight design.
- Heavy duty cast body clamps (bolted 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 (standard). Other end connections available on request.
- Swage/Crimp type fluid connectors to CIP poppet valves provided with valve.

OPTIONS

- Upper balancer
- Mirror polished internals
- Clamp and thread end connections
- Booster / Damper / 3-Position actuator
- Quick release body clamps

PENTAIR BALANCED DOUBLE SEAL VALVES F269B+ (REVERSIBLE) HYGIENIC PROCESS VALVES

TECHNICAL SPECIFICATIONS



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, NBR, PTFE, FKM	FDA
4	CIP/leak detect valves	316L S/S	ASTM A276
5	Body seal	EPDM, NBR, FKM	FDA
6	Stem seal	Santoprene® EPDM, NBR, FKM	FDA
7	Shaft bush	PTFE, UHMWPE	Commercial
8	Body clamp	304 CF8 S/S	ASTM A743 CF8
9	Actuator assembly	304 S/S	Various
10	Sight housing	304 CF8 S/S	ASTM A743 CF8
11	Bottom cover	T304	ASTM A276
12	Balancer guide	PETP	Commercial
13	Balancer seal	EPDM, NBR, FKM	FDA
14	Balancer shaft	316L S/S	ASTM A276

DIMENSIONS (mm)

Size	Size	ØA x t	ØA x t		H	H1	H2	H3	H3	H4	H5	L1	L2
Inch OD	Metric	Inch OD	Metric	ØD				Inch OD	Metric				
1.0"	025	25.4 x 1.6	29.5 x 1.6	102	352	6.0	277	55.0	54.0	46.0	45.5	55	98
1.5"	040	38.1 x 1.6	41.5 x 1.6	102	389	14.0	314	74.5	73.5	58.7	75.0	68	112
2.0"	050	50.8 x 1.6	53.5 x 1.6	102	436	25.3	336	77.0	76.0	75.0	81.3	68	112
2.5"	065	63.5 x 1.6	69.5 x 1.6	141	557	38.0	436	92.5	91.5	86.7	103.0	84	127
3.0"	080	76.2 x 1.6	84.5 x 1.6	141	586	38.0	458	109.0	108.0	102.0	107.0	84	127
4.0"	100	101.6 x 1.6	103.5 x 1.6	168	700	39.0	558	141.0	140.0	130.5	123.0	99	142
5.0"	125	129.0 x 2.0	130.0 x 2.0	219	762	50.0	413	156.0	155.0	185.0	150.0	128	171
6.0"	150	152.4 x 2.0	155.0 x 2.0	219	762	50.0	413	156.0	155.0	185.0	150.0	128	171

NOTE:

Metric bodies are created from standard Inch OD bodies by fitting eccentric reducers.

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PENTAIR BALANCED DOUBLE SEAL VALVES F269B+ (REVERSIBLE) HYGIENIC PROCESS VALVES

WORKING PRINCIPLE

The PENTAIR F269B+ valve is driven by an all stainless steel spring return linear actuator and is configured as standard Spring-To-Close although it can easily be switched to Spring-To-Open if required. The valve is designed with a robust one piece fully machined stainless steel body*. Along with heavy duty cast body clamps, the valve is capable of withstanding pressure spikes well beyond the recommended maximum 10 bar pressure rating - conventional mix proof valves are vulnerable to uncontrollable pressure

spikes within the process. 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, causing the two smaller valves to 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. While the valve is in the closed position, one side of the valve can be CIP cleaned while product remains on the other side fully protected from possible contamination by the double seals and leakage chamber.

* Larger sizes can be fabricated on special request.

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 (60)	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.
















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

CIP flow rate: 3.5 - 4.0l/min at 1.5bar inlet pressure

CIP velocity: 1.5m/s (minimum)

VALVE TYPE

Type	Configuration				
Type 11	 11 00-18	 11 00-90	 11 00-27	 11 00-00	 11 18-27
Type 12	 12 0018-90	 12 0018-00	 12 0018-18	 12 0018-27	
Type 21	 21 00-9027	 21 18-9027	 21 00-0018	 21 90-0018	
Type 22	 22 0018-9027	 22 0018-0018			

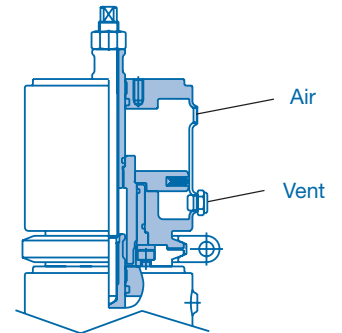
PENTAIR BALANCED DOUBLE SEAL VALVES

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3-POSITION ACTUATOR

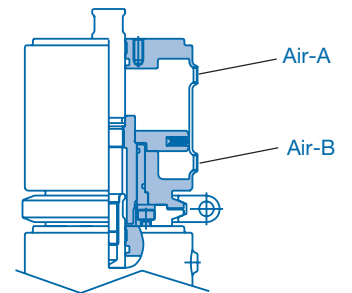
The 3-position actuator can be used to provide a mid-position for an adjusted flow control at any position throughout the valves entire stroke.

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.



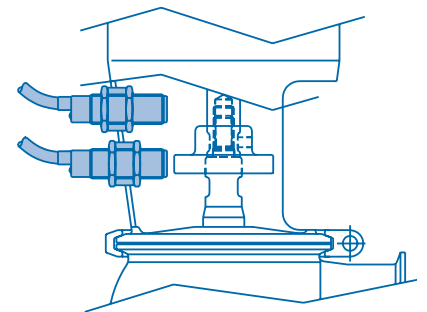
BOOSTER ACTUATOR

The booster/damper 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 Ø18mm barrel type proximity sensors can be center mounted, in the special slot provided within the sighthousing cone, and a target can be easily fitted to the plug shaft.



PENTAIR BALANCED DOUBLE SEAL VALVES

F269B+ (REVERSIBLE) HYGIENIC PROCESS VALVES

SELECTION GUIDE

Example:		AA -	F269B+	A	SE	SSE	L	M	6S	V	V	V	X
Upper/Lower body size													
Inch OD		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													
F269B+ Balanced Double Seal valve													
Valve style:													
A	STD (std)												
D	Other												
Actuator type													
SSE	Spring Extend (std)												
SDA	Double Air/Acting												
SSR	Spring Retract												
End connection													
B	Butt weld (standard)			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	LT	TL	LL	TT								
Actuator accessory													
M	Metric 6mm Air fittings (standard)												
I	Inch 1/4" Air fittings												
X	None												
Material type/finish, welded parts													
6S	316L Stainless Steel (Semi bright) (standard)												
6P	316L Stainless Steel (Polished)												
4S	304L Stainless Steel (Semi bright)												
4P	304L Stainless Steel (Polished)												
Body seal materials													
E	EPDM (standard)												
N	NBR												
V	FKM												
Plug seal materials													
E	EPDM (standard)												
N	NBR												
V	FKM												
Stem seal materials													
S	Santoprene® Wiper type (standard)			F	FKM O-ring type								
V	FKM Wiper type			E	EPDM								
D	Diaphragm (only available on some sizes)			N	NBR								
Optional extras													
T	3-Position actuator			D	Damper actuator								
U	Booster actuator			X	None								



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