

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

**F250D/F251D  
HYGIENIC  
BUTTERFLY VALVES**

DOUBLE BLOCK AND BLEED STYLE BUTTERFLY VALVES



## PENTAIR HYGIENIC PROCESS VALVES (Formerly Keystone)

# HYGIENIC BUTTERFLY VALVES

DOUBLE BLOCK AND BLEED (DBB) STYLE

The F250D and 251D DBB valves are used for in-line safe separation of incompatible fluids.

### GENERAL APPLICATIONS

- CIP/process separation
- Non-compatible fluid separation
- Seat integrity monitoring

### Typical industries

- Dairies
- Breweries
- Wineries
- Food processing
- Pharmaceutical
- Chemical

### TECHNICAL DATA

Sizes:	DN 25 to DN 150 (Inch OD 1.0" to 6.0")
Max product pressure at 20°C:	1000kPa (10bar)
Rec. working pressure at 20°C:	600 kPa (6 bar)
Min. product pressure at 20°C:	Full vacuum
Temperature range:	-10°C to 95°C
End connections:	BW, clamp, RJT, wafer flange, others on request

### FEATURES

- PENTAIR proven valve and actuator technology
- Failsafe pneumatic interlocks
- Fully machined 316L or 304L stainless steel body
- Linkage driven, with only one actuator required
- Linkage safety guard fitted as standard
- Overlapping discs to minimize leakage cavity volume on larger sizes
- Travel limited actuator to stop disc contact on larger sizes
- Full range of seats materials available
- Optional end connections
- Full range of optional accessories



- F250D for inch OD tubing
- F251D for metric tubing

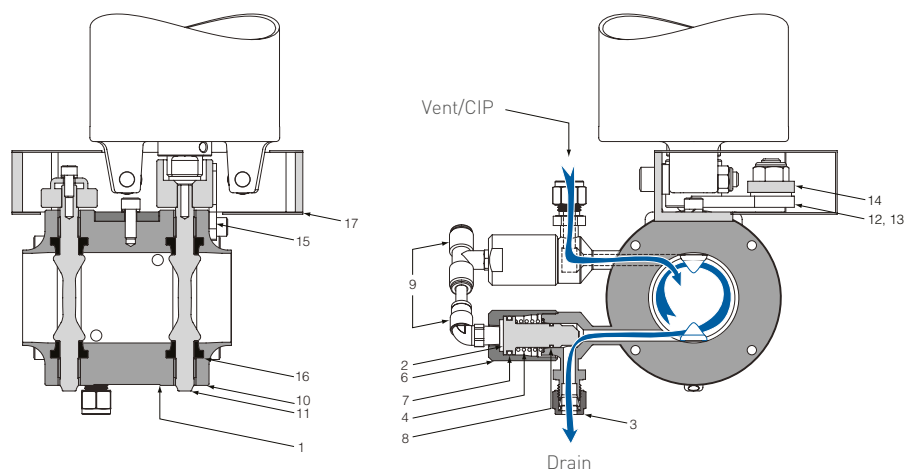
# PENTAIR HYGIENIC BUTTERFLY VALVES

## F250D/251D DOUBLE BLOCK AND BLEED STYLE (DBB)

### PRODUCT INFORMATION

#### OPERATING PRINCIPLE

The PENTAIR F250D double block and bleed butterfly valve consists of two sets of standard F250 butterfly valve components arranged in series, within a single integral valve body, to provide an inline separation valve body when both valves are in the closed position. This inline separation of products is used to isolate non-compatible fluids (i.e. CIP/product.) The separation cavity has two pneumatically interlocked poppet valves, tangentially opposed to provide for the introduction and draining of CIP or flushing liquids. Their position provides for a turbulent circular washing action plus facilitates a drain to atmosphere should either of the separate valve seats fail. The valve's twin discs are connected by a linkage arrangement to the pneumatic actuator that simultaneously operates the pneumatic poppet valves.



**NOTE**  
Sectional view

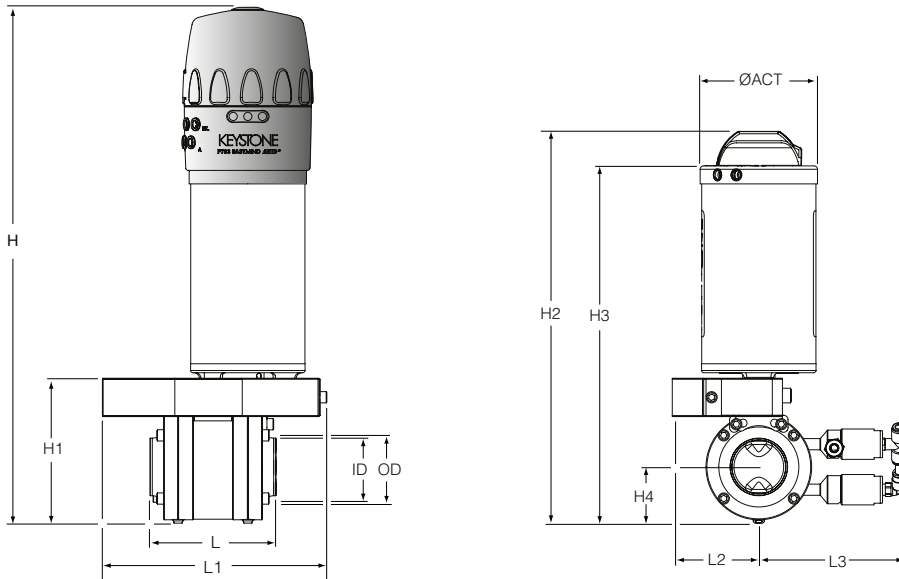
#### PARTS LIST

No.	Description	Material	Standard
1	Body spacer	316L, 304L Stainless Steel	ASTM A276
2	CIP piston	PTFE	Commercial
3	Nut and ferrule	316L, 304L Stainless Steel	ASTM A276
4	Spring	302 Stainless Steel	ASTM A313
5	CIP valve body	316L, 304L Stainless Steel	ASTM A276
6	CIP valve cylinder	316L, 304L Stainless Steel	ASTM A276
7	O-ring	NBR	-
8	O-ring	FKM	-
9	Air fittings	NP bronze	-
10	Valve body	316L, 304L Stainless Steel	ASTM A276
11	Disc	316L Stainless Steel	ASTM A276
12	Arm driven	304 Stainless Steel	ASTM A276
13	Arm driving	304 Stainless Steel	ASTM A276
14	Arm linkage	304 Stainless Steel	ASTM A276
15	Mounting bracket	304 Stainless Steel	ASTM A276
16	Seat	VMQ (white) EPDM (black) NBR (black) FKM (red)	FDA FDA FDA FDA
17	Guard assembly	304 Stainless Steel	ASTM A276

# PENTAIR HYGIENIC BUTTERFLY VALVES

## F250D/251D DOUBLE BLOCK AND BLEED STYLE (DBB)

### PRODUCT INFORMATION



#### NOTE

F250D with F257 actuator and control head

#### F250D WITH F257 ACTUATOR DIMENSIONS (mm)

Valve size		L			L1	L2	L3	H	H1	H2	H3	H4	OD	ID	ØACT
DN	Inch OD	(B/W)	(Clamp)	(BSM)											
25	1.0"	112	142	142	200	77	124	434	104	324	293	34.5	25.8	22.3	104
40	1.5"	112	142	142	200	77	126	444	114	334	303	39.5	38.5	35.0	104
50	2.0"	112	142	142	200	77	131	459	129	349	318	47.0	51.2	47.7	104
65	2.5"	112	142	162	200	77	134	468	138	358	327	52.0	63.9	60.4	104
80	3.0"	125	145	157	232	98	143	591	178	493	462	62.0	76.6	73.1	141
100	4.0"	135	157	169	232	98	149	618	205	520	489	75.5	102.0	98.5	141

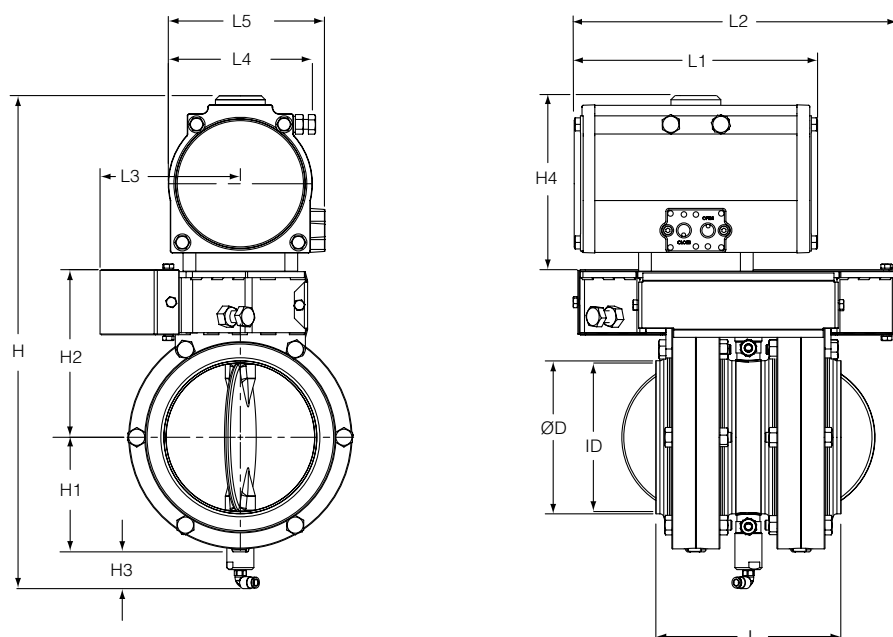
#### F251D WITH F257 ACTUATOR DIMENSIONS (mm)

Valve size		L		L1	L2	L3	H	H1	H2	H3	H4	OD	ID	ØACT
DN	Metric	(B/W)	(Clamp)											
25	25	112	130	200	77	124	434	104	324	293	34.5	25.8	26.0	104
32	32	112	130	200	77	126	444	124	334	303	34.5	35.2	32.0	104
40	40	112	130	200	77	126	444	114	334	303	39.5	35.2	32.0	104
50	50	112	130	200	77	131	459	129	349	318	47.0	54.5	50.0	104
65	65	115	139	200	77	134	468	138	358	327	52.0	70.4	66.0	104
80	80	119	147	232	98	143	591	178	493	462	62.0	85.4	81.0	141
100	100	119	147	232	98	149	618	205	520	489	75.5	104.4	100.0	141

# PENTAIR HYGIENIC BUTTERFLY VALVES

## F250D/251D DOUBLE BLOCK AND BLEED STYLE (DBB)

### PRODUCT INFORMATION



#### NOTES

F250D with MRP/Premiair actuator  
 F79U/E option also available

#### F250D WITH MRP/F79U ACTUATOR DIMENSIONS (mm)

Valve size	L															
	Inch OD	(BW)	(Clamp)	(BSM)	L1	L2	L3	L4	L5	H	H1	H2	H3	H4	OD	ID
125*	5.0"	179	205	-	242	325	140	144	155	469	99	155	35	282	132.4	125
125**	5.0"	179	205	-	242	325	140	144	155	469	99	155	35	282	132.4	125
150*	6.0"	185	215	236	242	325	140	144	155	493	115	167	37	282	153	148.4
150**	6.0"	185	215	236	242	325	140	144	155	493	115	167	37	282	153	148.4

#### F251D WITH MRP/F79U ACTUATOR DIMENSIONS (mm)

Valve size	L															
	Metric	(BW)	(Clamp)	(BSM)	L1	L2	L3	L4	L5	H	H1	H2	H3	H4	OD	ID
125*	125	179	205	173	242	325	140	144	155	469	99	155	35	282	129.4	125
125**	125	179	205	173	242	325	140	144	155	469	99	155	35	282	129.4	125
150*	150	185	215	181	242	325	140	144	155	493	115	167	37	282	154.4	150
150**	150	185	215	181	242	325	140	144	155	493	115	167	37	282	154.4	150

#### NOTES

\* Dims with MRP/Premiair actuators

\*\* Dims with F79U/E actuators

# PENTAIR HYGIENIC BUTTERFLY VALVES

## F250D/251D DOUBLE BLOCK AND BLEED STYLE

### PRODUCT INFORMATION

#### SELECTION GUIDE

Example:		050	F250D	255	CLP/RJT	398
<b>Valve size</b>	<b>Metric</b>	<b>Inch OD</b>				
025	25mm	1.0"				
032	32mm	-				
040	40mm	1.5"				
050	50mm	2.0"				
065	65mm	2.5"				
080	80mm	3.0"				
100	100mm	4.0"				
125	125mm	5.0"				
150	150mm	6.0"				
<b>Figure</b>						
<b>F250D</b>	Double block and bleed for inch OD tubing					
<b>F251D</b>	Double block and bleed for metric tubing					
<b>Trim</b>	<b>Seat</b>	<b>Body</b>	<b>Disc</b>	<b>Bearing</b>		
255	EPDM	304	316	PVDF		
256	VMQ	304	316	PVDF		
252	NBR	304	316	PVDF		
258	FKM	304	316	PVDF		
259	FKM	316	316	PVDF		
262	EPDM	316	316	PVDF		
263	VMQ	316	316	PVDF		
253	NBR	316	316	PVDF		
<b>End connections</b>						
<b>Weld ends</b>			<b>Thread ends</b>			
<b>BW</b>	Butt weld (Std.)		<b>DIN</b>	DIN thread (fabricated)		
<b>BWD</b>	Butt weld DIN tube		<b>RJF</b>	RJT male part (fabricated)		
			<b>RJT</b>	RJT male part (machined)		
			<b>SMS</b>	SMS male part, external thread 6 TPI		
<b>Clamp ends</b>						
<b>CLP</b>	Clamp (machined)					
<b>CLF</b>	ISO clamp ends (fabricated)					
<b>Extended definer</b>						
<b>NB</b>	Double block and bleed with no bleed					
<b>F257</b>	Supplied c/w F257, drive stem and mount brackets for valve rated actuator					
<b>F79U</b>	Supplied c/w F79U drive stem and mount brackets for valve rated actuator (no actuator supplied)					



#### PENTAIR FLOW CONTROL PACIFIC PTY LTD

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