

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

# F250/F251 HYGIENIC BUTTERFLY VALVES

WAFER TYPE



## PENTAIR HYGIENIC PROCESS VALVES (Formerly Keystone)

# HYGIENIC BUTTERFLY VALVES

## WAFER TYPE

The F250 and 251 butterfly valves are used for in-line isolation or control of process or C.I.P. fluids .

### GENERAL APPLICATIONS

With PENTAIR's unique wafer flanged valve, removing the valve from the pipeline is as quick and easy as undoing the jacking bolts and lifting out the valve – that's maintenance friendly.

This unique valve is ideal for isolation and control, particularly in situations where only minimal pipe separation is possible.

#### Typical applications

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

### TECHNICAL DATA

Max. product pressure at 20°C: 10bar (1000kPa)

Min. product pressure at 20°C: Full vacuum

Recommended operating pressure at 20°C: 6bar (600kPa)

Recommended temperature range: -5°C to 95°C

### FEATURES

- This unique stainless steel wafer flanged valve allows easy removal from the pipeline without having to cut the piping
- Incorporates two stainless steel jacking bolts for safe and easy valve change-out while maintaining pipe alignment and flange separation
- Offers huge potential savings by greatly reducing maintenance time
- Available to suit both imperial and metric tubing
- Food grade seat and seal material options to ensure product integrity
- Quarter turn operation
- Suitable for both isolation or flow control functions
- Equal percentage characteristics
- Bi-directional capability
- Fully machined 316L stainless steel body
- One-piece mirror polished disc and stem assembly
- High Cv slim profile disc
- Integral valve position indicator
- Combination dual or multi-position handle assembly
- High impact reinforced polymer handle with a stainless steel drive (full stainless steel option available)
- Integral padlocking as standard on manual valves
- Eight radial mounting positions
- Full range of optional accessories

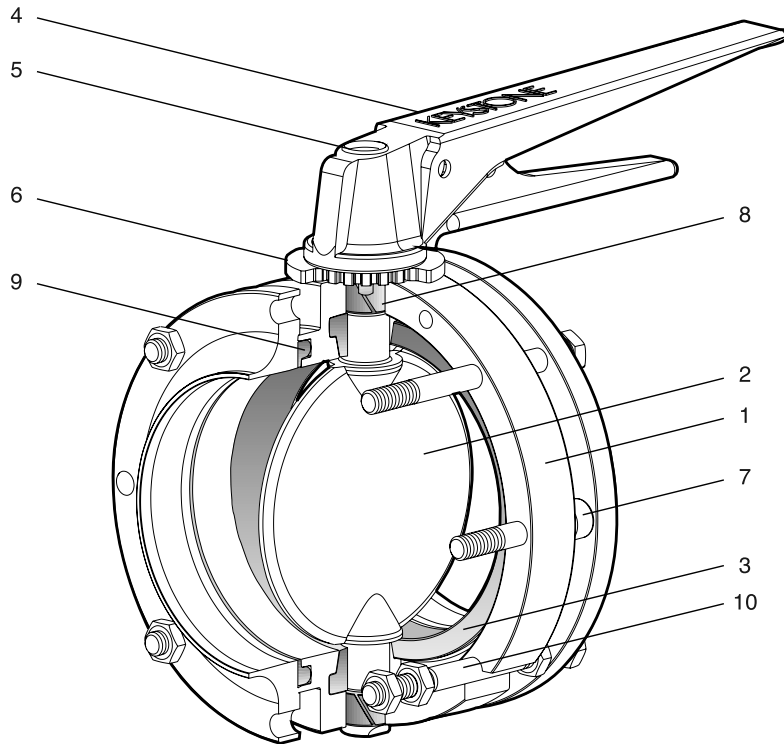


- F250 for inch OD tubing
- F251 for metric tubing

# PENTAIR HYGIENIC BUTTERFLY VALVES

## F250/251 WAFER TYPE

### PRODUCT INFORMATION



### PARTS LIST

No.	Description	Material	Standard
1	Body	316L Stainless Steel	ASTM A276
2	Disc stem	316L Stainless Steel	ASTM A743 CF8M
3	Seat	VMQ (white)	FDA
		EPDM (black)	FDA
		NBR (black)	FDA
		HNBR (black)	FDA
		FKM (red)	FDA
4	Handle assembly	High impact glass reinforced polymer or 304 Stainless steel	-
5	Handle plug/screw	TPR / 304 Stainless steel	-
6	Notch plate	304 Stainless steel	ASTM A743 CF8
7	Body fasteners	304 Stainless steel	ASTM A276
8	Bearings	PVDF	Commercial
9	Flange seal	EPDM (Other materials on application)	FDA
10	Jacking bolt	304 Stainless steel	ASTM A276

### TECHNICAL DATA

#### Max static temperature

VMQ	150°C
EPDM	120°C
NBR	100°C
HNBR	150°C
FKM	150°C

### NOTE

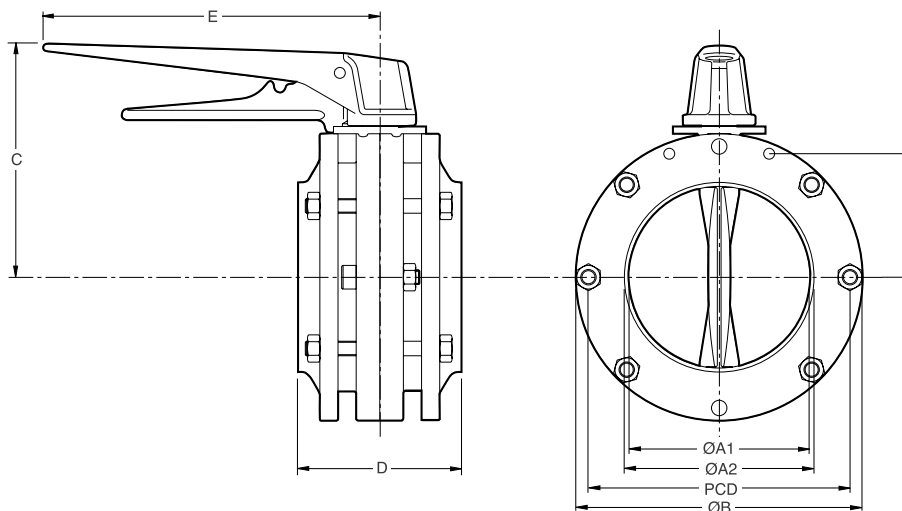
Although the various seat materials available can withstand temperatures above the max. recommended operating temperature for short periods of time, such as for sterilisation and certain

applications, the serviceability of these seats at elevated temperatures does vary depending on the media, pressure and other variables. Therefore, this is best determined from experience gained with the application concerned.

# PENTAIR HYGIENIC BUTTERFLY VALVES

## F250/251 WAFER TYPE

### PRODUCT INFORMATION



**F250 WAFER FLANGE INCH OD VALVE DIMENSIONS (mm)**

Valve size		ØA1	ØA2	ØB	C	D	E	F	PCD	No. holes	Hole dia.	Stem conn.	Mass (kg)	K <sub>v</sub> (Fully open)
DN	Inch OD													
25	1.0"	22.3	25.4	69	83.5	88	156	26.5	59	8	6	8 x 8	1.3	17
40	1.5"	35.0	38.1	79	88.5	88	156	31.5	69	8	6	8 x 8	1.5	64
50	2.0"	47.7	50.8	94	96.0	88	156	38.0	84	8	6	8 x 8	2.0	131
65	2.5"	60.4	63.5	104	101.0	88	156	43.0	95	8	6	8 x 8	2.3	220
80	3.0"	73.1	76.2	124	112.0	100	185	50.0	111	8	8	10 x 10	3.0	333
100	4.0"	98.0	101.6	151	125.5	110	185	64.5	139	8	8	12 x 12	5.0	726
125	5.0"	123.0	127.0	198	171.0	122	266	90.4	177	8	10	15 x 15	10.8	1370
150	6.0"	148.4	152.4	223	183.5	130	266	99.5	203	8	10	15 x 15	15.5	2050

Weld connection suits the following tube standards: ISO 2037, BS 4825-1, AS 1528-1 and ASME BPE

**F251 WAFER FLANGE METRIC VALVE DIMENSIONS (mm)**

Valve size		ØA1	ØA2	ØB	C	D	E	F	PCD	No. holes	Hole dia.	Stem conn.	Mass (kg)	K <sub>v</sub> (Fully open)
DN	Metric													
25	025	26.0	29.0	74	86.0	88	156	29.0	63	8	6	8 x 8	1.5	19
32	032	32.0	35.0	79	88.5	88	156	31.5	69	8	6	8 x 8	1.6	41
40	040	38.0	41.0	87	92.5	88	156	35.5	76	8	6	8 x 8	1.7	69
50	050	50.0	54.0	99	98.5	88	156	40.5	89	8	6	8 x 8	2.4	206
65	065	66.0	70.0	123	111.5	90	185	49.5	109	8	8	10 x 10	3.0	263
80	080	81.0	85.0	138	119.0	90	185	57.5	124	8	8	10 x 10	4.0	381
100	100	100.0	104.0	158	129.0	90	185	68.0	144	8	8	12 x 12	5.5	689
125	125	125.0	129.0	198	171.0	122	266	90.4	177	8	10	15 x 15	10.8	1370
150	150	150.0	154.0	223	183.5	130	266	99.5	203	8	10	15 x 15	15.5	2050

Weld connection suits the following tube standard: DIN 11850 1-3

#### NOTE

- Dimension 'E' is the maximum clearance length for either handle.
- Masses shown are for bare shafted valves only.

### OTHER SPECIALITY HYGIENIC BUTTERFLY VALVE OPTIONS

#### F250D/1D DOUBLE BLOCK AND BLEED BUTTERFLY VALVE

For safe separation of incompatible fluids.



#### F250/1 HANDLE EXTENSIONS

For extension of valve stem, where extra handle clearance is needed for insulated pipes etc.



#### F250T/1 PROXIMITY KITS

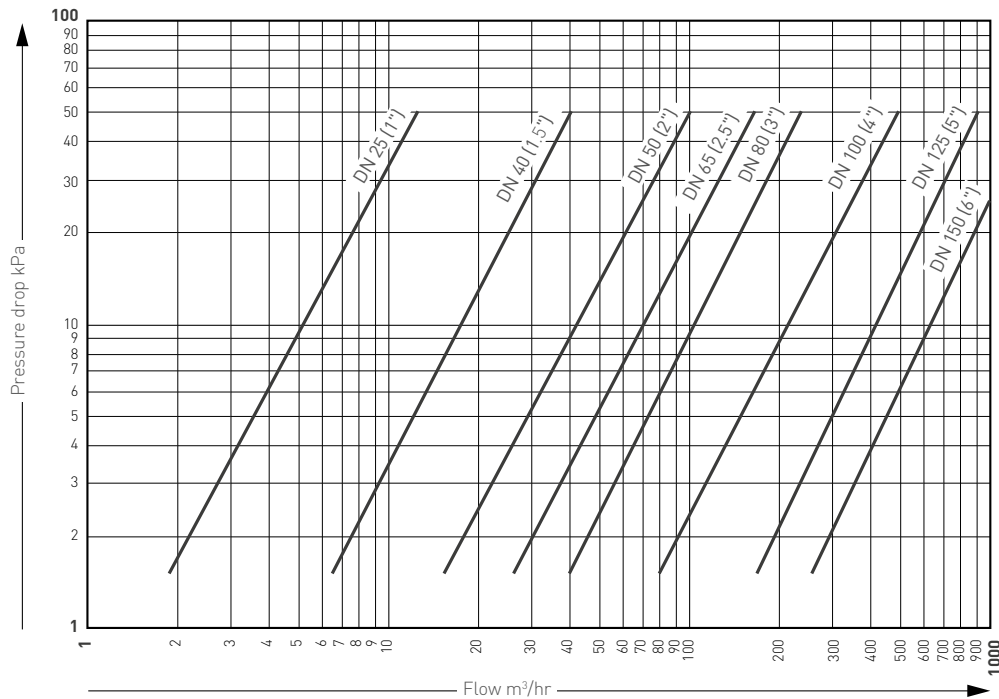
For feedback indication on manual valves.



# PENTAIR HYGIENIC BUTTERFLY VALVES F250/251 WAFER TYPE

## PRODUCT INFORMATION

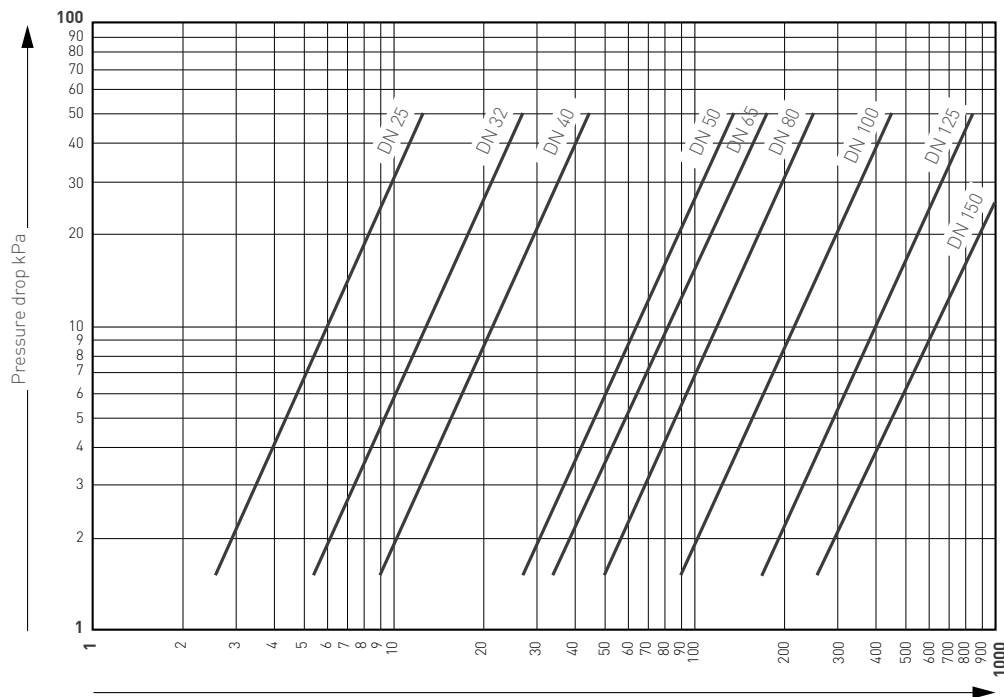
F250 PRESSURE DROP / FLOW RATES GRAPH



**NOTE:**

This chart is based on a F250 valve fully open, using water at 20°C.

F251 PRESSURE DROP / FLOW RATES GRAPH



**NOTE:**

This chart is based on a F251 valve fully open, using water at 20°C.

# PENTAIR HYGIENIC BUTTERFLY VALVES

## F250/251 WAFER TYPE

### PRODUCT INFORMATION

#### SELECTION GUIDE

Example:			050	F250	255	WAF	ACT	PL
<b>Valve size</b>	<b>Inch OD</b>	<b>Metric</b>						
025	1.0"	25						
032	1.25"	32						
040	1.5"	40						
050	2.0"	50						
065	2.5"	65						
080	3.0"	80						
100	4.0"	100						
125	5.0"	125						
150	6.0"	150						
<b>Figure:</b>								
<b>F250</b>	Inch OD tubing butterfly valve							
<b>F251</b>	Metric tubing butterfly valve							
<b>Trim</b>	<b>Seat</b>	<b>Body</b>	<b>Disc</b>	<b>Bearing</b>				
255	EPDM	304L	316L	PVDF				
256	VMQ	304L	316L	PVDF				
252	HNBR	304L	316L	PVDF				
258	FKM	304L	316L	PVDF				
259	FKM	316L	316L	PVDF				
262	EPDM	316L	316L	PVDF				
263	VMQ	316L	316L	PVDF				
253	HNBR	316L	316L	PVDF				
<b>End connections</b>								
<b>Weld ends</b>								
<b>WAF</b>	Wafer valve and BW flanges	-*	-*					
<b>WAO</b>	Wafer valve without flanges							
<b>Extended definer</b>								
<b>ACT</b>	Pneumatic Actuator							
<b>397</b>	F397 Manual Operator/Handle							
<b>398</b>	F398 Manual Operator/Handle							
<b>Actuator details if specified above:</b>								
<b>SR</b>	Pneumatic Actuator Spring Return							
<b>DA</b>	Pneumatic Actuator Double Acting							
<b>SS</b>	Manual Operator/Handle in 304 stainless steel							
<b>PL</b>	Manual Operator/Handle in Glass Reinforced Plastic							

#### NOTES

\* For information on the standard F250/251 butterfly valve with other end connections please refer to the separate literature sheet.



#### PENTAIR FLOW CONTROL PACIFIC PTY LTD

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