

**tyco**

*Flow Control*

KEYSTONE

**Features**

- Keystone technology.
- Quarter turn operation.
- Isolation or regulation control.
- Equal percentage characteristics.
- Bi-directional capability.
- Fully machined 316L stainless steel body.
- Optional end connections.
- One-piece disc and stem assembly.
- High Cv slim profile disc.
- Integral valve position indicator.
- High grade seat material options.
- 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.
- Maintenance friendly.
- Site repairable.
- Full range of optional accessories.

**Stainless steel hygienic butterfly valves.**

- F250 for imperial tubing.
- F251 for metric tubing.

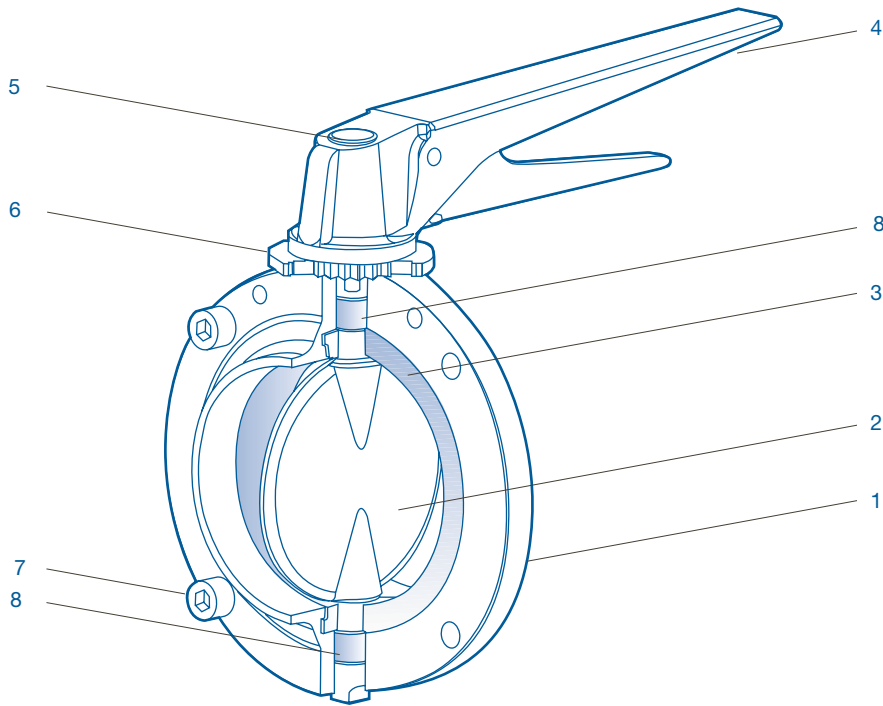


**General Applications**

A universal valve for isolation and control, in the food, dairy, brewing, pharmaceutical, beverage and chemical industries.

The Figure 250 and 251 are designed to be easily automated with any of Keystone's actuators and controls. From the Figure 257 Vertical Actuator and Figure 783 Electronic Control Head, to the Figure 790 or Figure 79S actuator.





## Technical Data

**Max Product Pressure @ 20°C**  
1000 kPa (10 bar).

**Recommended Working Pressure @ 20°C**  
600kPa (6 bar).

**Min Product Pressure @ 20°C**  
Full Vacuum.

**General Temperature Range:**  
Minus 10°C to 95°C

**Max Static Temperature**

Silicon: 240°C

EPDM: 120°C

Nitrile: 100°C

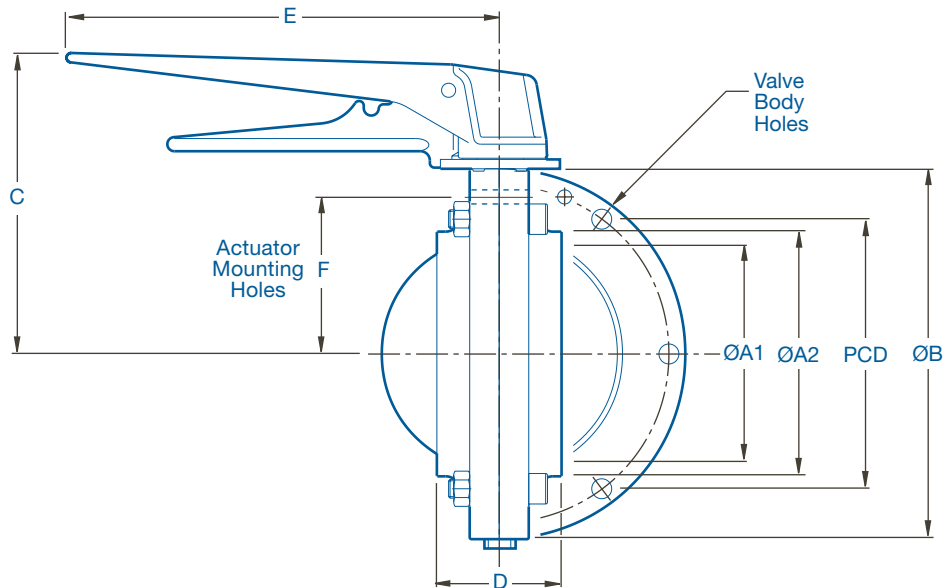
Viton: 230°C

**Note:**

Although the various seat materials available can withstand temperatures above the 95° stated, for short periods of time, such as for sterilisation and certain applications, the servicability 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.

## Parts List

No.	Description	Material	Standard
1	Body	316L S/S	ASTM A276
2	Disc Stem	316 S/S	ASTM A743 CF8M
3	Seat	Silicon (White)	FDA
		EPDM (Black)	FDA
		Nitrile (Black)	FDA
		Viton (Red)	-
4	Handle Assembly	High Impact Glass Reinforced Polymer or 304 S/S	-
5	Handle Plug/Screw	Santoprene / 304 S/S	Commercial
6	Notch Plate	304 S/S	ASTM A743 CF8
7	Body Fasteners	304 S/S	ASTM A276
8	Bearings	PVDF	Commercial



F250 Imperial Valve Dimensions (mm)

Valve Size		ØA1	ØA2	ØB	C	D	E	F	PCD	No. Holes	Hole Dia	Stem Conn.	Mass (kg)	Kv (Fully open)
DN	Imperial													
25	1"	22.3	25.8	69	83.5	50	185	26.5	59	4	6	8mm sq.	0.7	17
40	1½"	35.0	38.5	79	88.5	50	185	31.5	69	4	6	8mm sq.	0.8	64
50	2"	47.7	51.2	94	96.0	50	185	38.0	84	4	6	8mm sq.	1.1	131
65	2½"	60.4	63.9	104	101.0	50	185	43.0	95	4	6	8mm sq.	1.5	220
80	3"	73.1	76.6	124	112.0	60	185	50.0	111	4	8	10mm sq.	2.0	333
100	4"	98.5	102.0	151	125.5	70	185	63.5	139	6	8	12mm sq.	3.3	726
125	5"	125.0	123.0	127	198.0	71	266	90.4	177	6	10	15mm sq.	7.5	1370
150	6"	148.4	153.0	223	183.5	80	266	98.5	207	6	10	15mm sq.	8.2	2050

F251 Metric Valve Dimensions (mm)

Valve Size		ØA1	ØA2	ØB	C	D	E	F	PCD	No. Holes	Hole Dia	Stem Conn.	Mass (kg)	Kv (Fully open)
DN	Imperial													
25	1"	26	29.9	74	86.0	50	185	29.0	63	4	6	8mm sq.	0.8	19
32	1¼"	32	35.2	79	88.5	50	185	31.5	69	4	6	8mm sq.	0.7	41
40	1½"	38	41.2	87	92.5	50	185	35.5	76	4	6	8mm sq.	0.9	69
50	2"	50	54.4	99	98.5	50	185	40.5	89	4	6	8mm sq.	1.4	137
65	2½"	66	70.4	123	111.5	50	185	49.5	109	4	8	10mm sq.	2.5	263
80	3"	81	85.4	138	119.0	54	185	57.0	124	4	8	10mm sq.	3.0	381
100	4"	100	104.4	158	129.0	54	185	67.0	144	6	8	12mm sq.	4.5	689
125	5"	125	132.4	198	166.0	74	266	90.4	177	6	10	15mm sq.	7.5	1370
150	6"	150	156.4	223	183.5	80	266	98.5	207	6	10	15mm sq.	8.2	2050

**Note:**

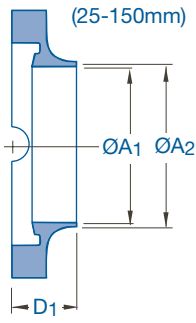
Dimensions 'D' and 'A2', shown above, are for the Butt weld configuration only. For other types of connections, refer to attached End Connection data.

Dimension 'E' is the maximum clearance length for either handle.

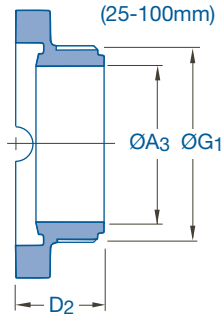
Masses shown are for bare shafted butt weld valves only.

# Hygienic Products – Figure 250 & 251

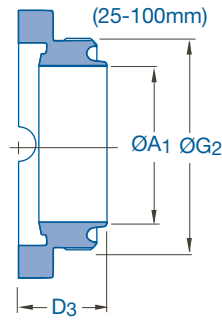
## F250 Imperial Valve - Available End Connections



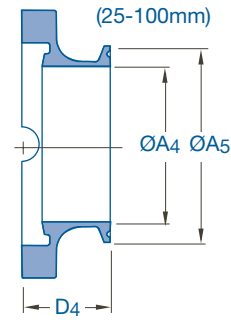
Butt weld (std) for inch tubing (O.D. tubes)  
ISO 2037/BS 4825-1/AS 1528-1



IDF/FIL male part connection  
ISO 2853/BS4825-4



RJT/BSM male part connection  
BS 4825-5



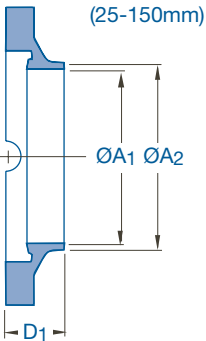
Clamp connection  
ISO 2852

### Dimensions (mm)

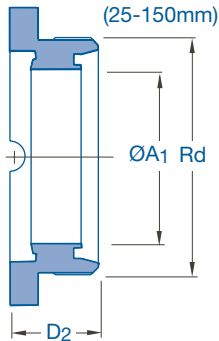
DN	Imperial	ØA1	ØA2	ØA3	ØA4	ØA5	ØG1	ØG2	D1	D2	D3	D4
25	1"	22.3	25.8	23.0	23.0	50.5	IDF 1"	RJT 1"	25	40	40	40
40	1½"	35.0	38.5	35.6	35.6	50.5	IDF 1½"	RJT 1½"	25	40	40	40
50	2"	47.7	51.2	47.7	47.7	64.0	IDF 2"	RJT 2"	25	40	40	40
65	2½"	60.4	63.9	59.4	60.4	77.5	IDF 2½"	RJT 2½"	25	50	50	40
80	3"	73.1	76.6	72.2	73.1	91.0	IDF 3"	RJT 3"	30	50	46	40
100	4"	98.5	102.0	98.5	98.0	119.0	IDF 4"	RJT 4"	35	52	52	46
150	6"	148.4	153.0	-	153.0	-	-	-	40	-	-	55

**Note:** BSM modified version is available upon request, deduct 4.7mm from dimension D3.

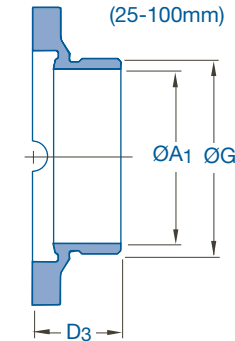
## F251 Metric Valve - Available End Connections



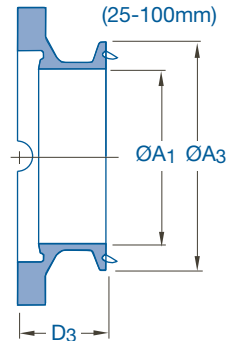
Butt weld (std) for tubing  
DIN 11850, sheet 1-3



Connection male part  
DIN 11851/11887



BSP male  
DIN ISO 228



Clamp Connection  
DIN 32676

### Dimensions (mm)

DN	Imperial	ØA1	ØA2	ØA3	ØG	D1	D2	D3	Rd
25	1"	26	29.2	50.5	G 1"	25	37	34	Rd 52 x 1/8"
32	1¼"	32	35.2	50.5	G 1¼"	25	37	34	Rd 58 x 1/8"
40	1½"	38	41.2	50.5	G 1½"	25	37	34	Rd 65 x 1/8"
50	2"	50	54.4	64	G 2"	25	37	34	Rd 78 x 1/8"
65	2½"	66	70.4	91	G 2½"	25	41	37	Rd 95 x 1/8"
80	3"	81	85.4	106	G 3"	27	45	41	Rd 110 x 1/4"
100	4"	100	104.4	119	G 4"	27	45	41	Rd 130 x 1/4"
125	5"	125	132.4	155	-	37	58	50	Rd 160 x 1/4"
150	6"	150	156.4	183	-	40	66	55	Rd 190 x 1/4"

# Hygienic Products – Figure 250 & 251

## Typical Specifying Sequence - Valves

<b>Valve (Bare)</b>	<b>50</b>	<b>F250</b>	<b>263</b>	<b>BW</b>
	Valve Size	Figure Number	Trim Code	End Connections

Trim	Body	Disc Stem	Seat	Bearing
<b>259</b>	316L S/S	316 S/S	Viton	PVDF
<b>262</b>	316L S/S	316 S/S	EPDM	PVDF
<b>263</b>	316L S/S	316 S/S	Silicon	PVDF
<b>264</b>	316L S/S	316 S/S	Nitrile	PVDF

## Typical Specifying Sequence - Handles

<b>Handle</b>	<b>F397</b>	<b>08SQ</b>	<b>P</b>
	Figure Number	Stem Connection	Material Code

Code	Material
<b>P</b>	Polymer
<b>S</b>	304 S/S

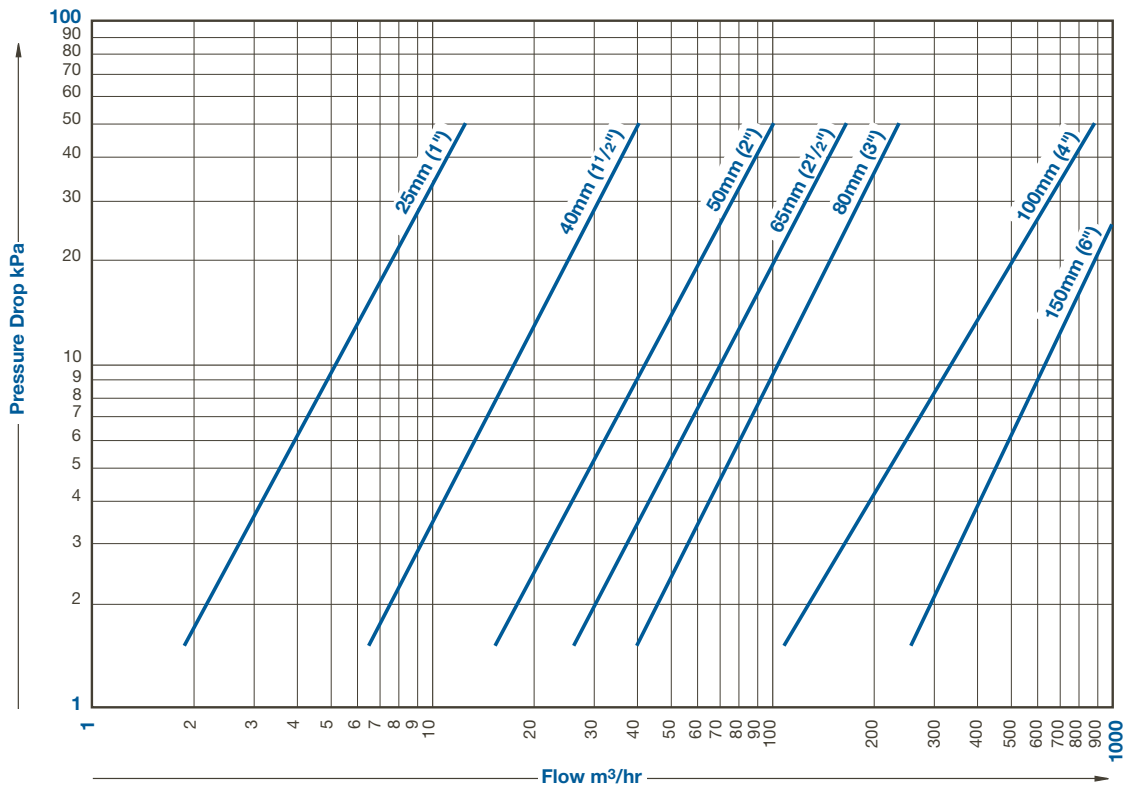
### End Connections:

F250: Butt Weld (std) ISO 2037	F251: Butt Weld (std) DIN 11850
Thread - IDF ISO 2853/BS 4825-4 (male)	Thread - DIN 11851/11887 (male)
Thread - RJT/BSM BS 4825 (male)	Thread - BSP ISO 228 (male)
Clamp - ISO 2852 (ferrule)	Clamp - DIN 32676 (ferrule)

### Notes

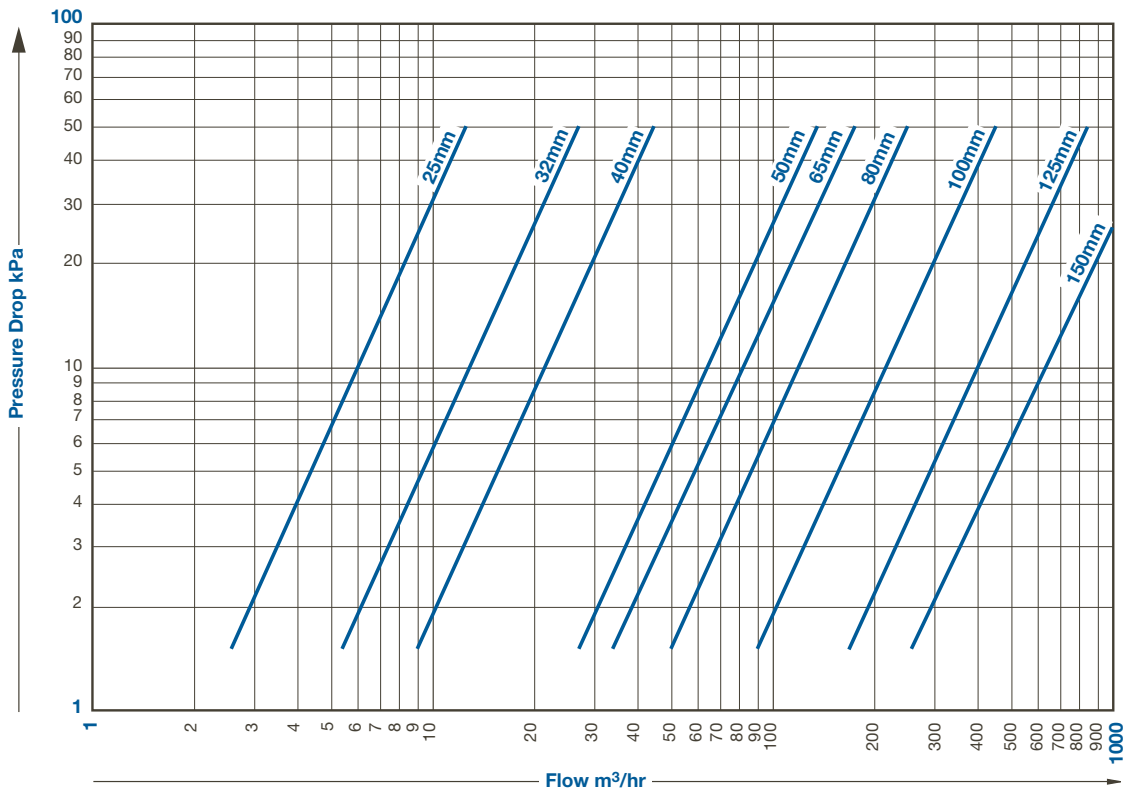
For information on the Wafer Style Valve refer separate literature sheet.

## F250 Pressure Drop / Flowrates Graph



**Note:**  
This chart is based on an F250 valve fully open, using water @ 20°C.

## F251 Pressure Drop / Flowrates Graph



**Note:**  
This chart is based on an F251 valve fully open, using water @ 20°C.