Wafer Style Butterfly Valve
Type 567

General

- **Size**: 2"–12"
- **Outer Body**: Glass-filled PP
- **Material**: PVC, CPVC, PROGEF® Standard PP, ABS, SYGEF® Standard PVDF
- **Seals**: EPDM, FPM, PTFE/FPM
- **Stem**: 316 stainless steel
- **Operation**: Bare shaft, lever, gear
- **Connection**: Both ANSI 150 and DIN 2501
- **Standard Pack Quantity**: 1 valve

Key Certifications

- **NSF 61**: PVC and CPVC
- **FDA CFR 21 177.1520**: PP and PVDF
- **FDA CFR 21 177.2600**: EPDM and FPM
- **FDA CFR 21 177.1550**: PTFE
- **USP Class VI (physiological non-toxic)**: EPDM, FPM, PTFE, PP and PVDF

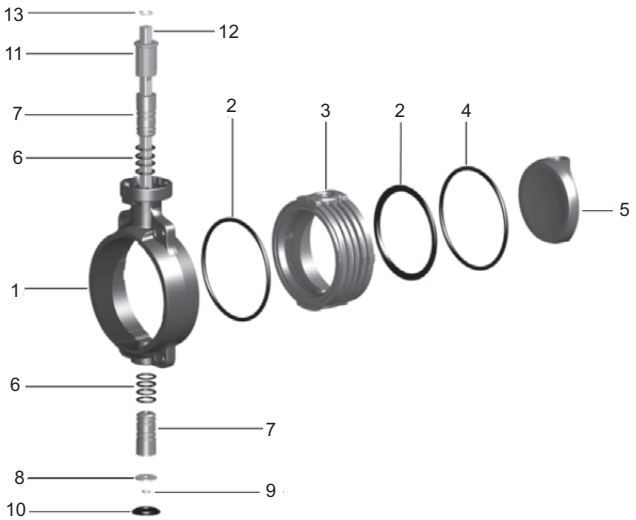
Sample Specification

The Type 567 Butterfly Valve shall be wafer style compatible with both ANSI B16.5 150 lb and DIN 2501 flange patterns. The disk operation shall utilize double eccentric design principles. The shaft shall be non-wetted by a bushing assembly with double O-ring seals and fixed at both ends. The face seal shall be a Q-ring compatible with flat and serrated flange adapters. The face, disk and shaft seals shall operate independently. The wetted body and disk shall be of like materials. Valves shall be rated for bidirectional use. The handle shall be lockable with standard adjustment increments of 5 degrees. The operator mounting flange shall be comply with ISO standards. All valves shall be tested in accordance to ISO9393 and designed to ISO16136 standards. All valves shall be manufactured under ISO9001 for Quality and ISO14001 for Environmental Management. Following assembly, every valve shall be tested and certified bubble tight exceeding Class VI standards.

Material Specification

PVC valves shall meet ASTM D1784 cell classification 12454 standards. CPVC valves shall meet ASTM D1784 cell classification 23447-B standards. PP valves shall meet ASTM D5847-14 cell classification PP0510B66851 standards. ABS valves shall meet ASTM D3965 cell classification 42222 standards. PVDF valves shall be type 1, grade 2 according to ASTM D3222 standards. Valves of all materials shall be RoHS compliant.

Components



Optional Features

- **Actuation**: Electric, pneumatic
- **Limit Switches**: Mechanical, inductive
- **Handle**: Find adjustment lever (1°)
- **Stem Extension**: Two piece stainless steel
- **Shaft**: Titanium, Hastelloy-C
- **Operation**: Chain operator, square operating nut
- **Gear Operator**: Stainless steel housing
- **Hardware**: Alternatives available upon request
- **Cleaned**: Silicone free/oil free

Valve Components

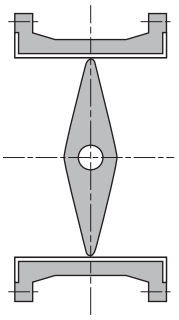
Part	Description	Material
1	Outer body	Glass filled PP
2	Face seal	EPDM or FPM
3	Inner body	PVC, CPVC, PP, ABS or PVDF
4	Disk seal	EPDM, FPM or PTFE/FPM
5	Disk	PVC, CPVC, PP, ABS or PVDF
6	Shaft seal	EPDM or FPM
7	Shaft bushing	PVC, CPVC, PP, or PVDF
8	Washer	304 stainless steel
9	Lower retaining clip	304 stainless steel
10	Shaft cap	Glass filled PP
11	End stop	Glass filled PP
12	Shaft	316 stainless steel
13	Upper retaining clip	304 stainless steel

Material Availability

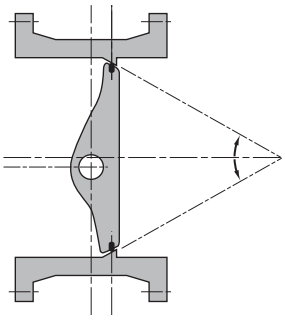
Material	Range (inch)	Range (mm)
PVC	2-16	63-400
CPVC	2-12	63-315
PP	2-24	63-630
ABS	2-12	63-315
PVDF	2-12	63-315

It is not possible to use inner housings with disks of different material. Valves of all sizes and materials are available with both EPDM and FPM seals. Only CPVC, PP and PVDF valves are available with PTFE encapsulated FPM disc seals. GF does not offer disc seals that deviate from their standard product offering.

Key Design Features



Centric



Double Eccentric

Double Eccentric Design Principle

The Type 567 Butterfly Valve is designed using the double eccentric disc principle. When opening and closing, the disc is not in contact with the seat, significantly reducing component wear. This design principle greatly reduces the operating torque and required elastomeric sealing material. The reduction in sealing material decreases the impact of elastomeric swelling. The benefits of double eccentric valves include ease of manual usage, reduction in required actuator torque and extended valve lifetime.

Key Design Features

Seals

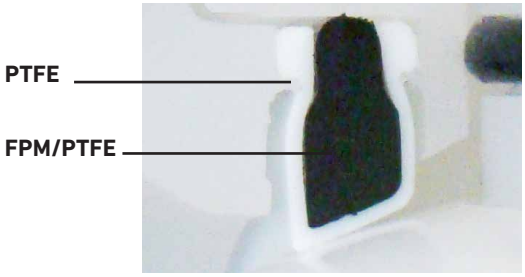
The Type 567 Butterfly Valve features a truly non-wetted shaft design. The shaft is sealed with a bushing assembly on either side of the disc. Each bushing utilizes a double o-ring seal totalling eight shaft seals in every valve.

Alternative o-ring shaft sealing designs are commonly found in competitive boot style thermoplastic butterfly valves. However, these solutions often rely upon elastomer on elastomer seals which can be unreliable, especially in chemical process applications or when working temperatures deviate from standard conditions. The Type 567 shaft seal design eliminates the need elastomer on elastomer seals, providing an industry tested dynamic double o-ring seal against a ridged thermoplastic surface.

The shaft, disc and face seals all operate independently from one another. This eliminates issues common to booted style centric valves such as crimping, where the compression of the valve between two flanges causes the boot to ripple. This can lead to increased operating torque and wear, ultimately reducing the useful life of the valve.

PTFE Disc Seal

The Type 567 Butterfly Valve is available with a PTFE encapsuled FPM disc seal. The FPM core provides flexibility to the PTFE shell and allows for a reliable seal. The double eccentric design limits the amount of PTFE required. The face and shaft seals are FPM blended with approximately 15% PTFE.

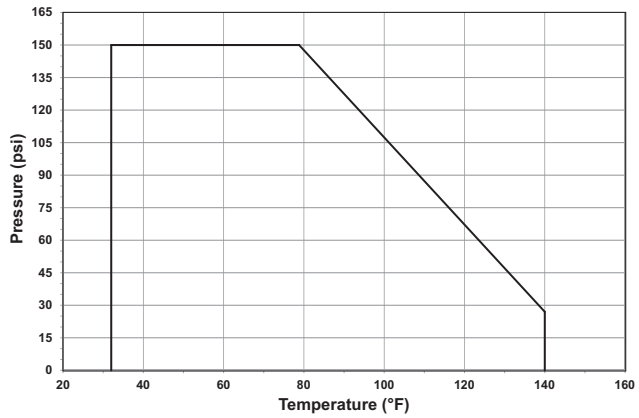


Technical Data

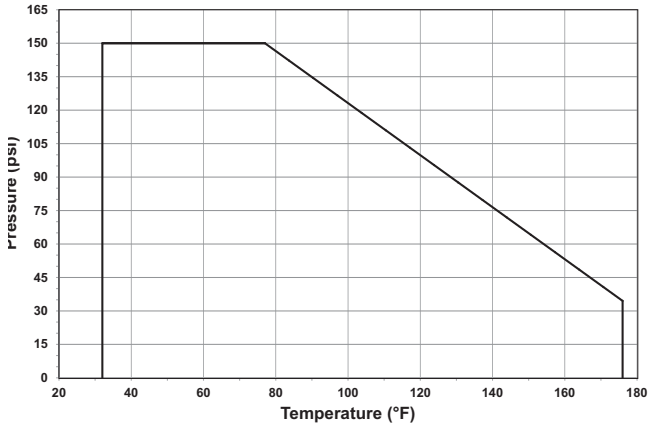
Pressure-Temperature Curves

The following graphs are based on a lifetime of 25 years of water or similar media applications

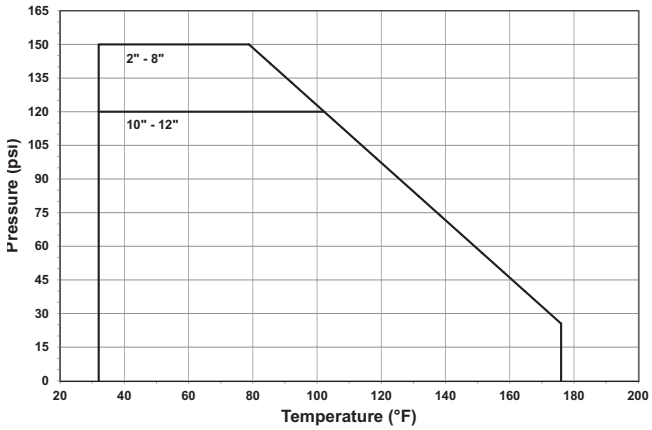
PVC



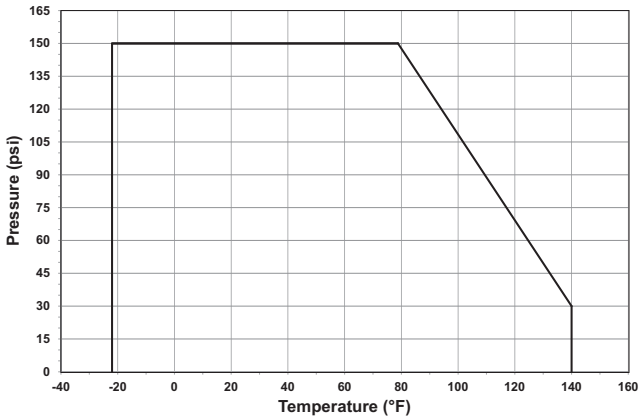
CPVC



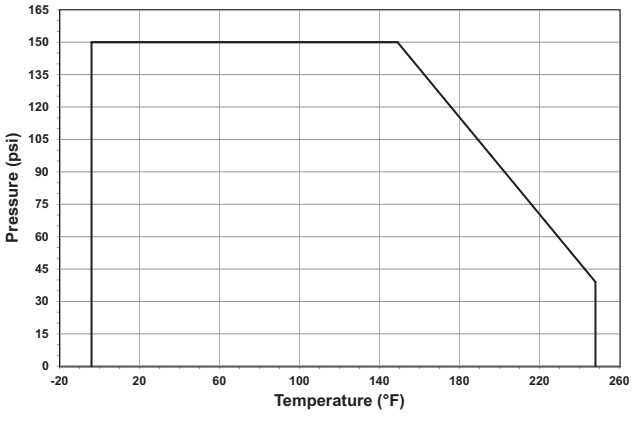
PP



ABS



PVDF



Pressure-Temperature

Material	Temperature Range (°F)	Max Pressure (psi)
PVC	32 to 140	150
CPVC	32 to 176	150
PP	32 to 176	150*
ABS	-40 to 140	150
PVDF	-4 to 284	150

*Dependant on size as shown in P-T curves

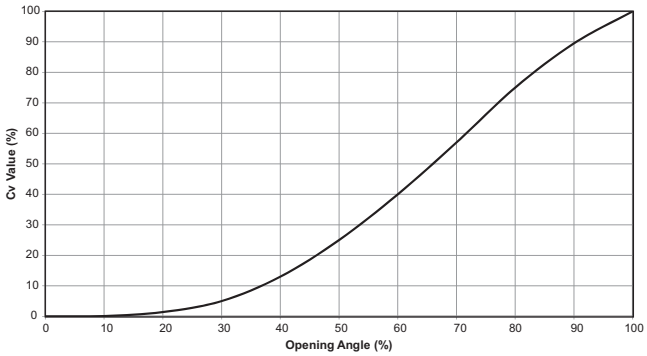
Vacuum Service

The Type 567 is rated for full vacuum service. Maximum differential pressure of 15psi at 122°F.

Flow

The following graphs are based on a lifetime of 25 years of water or similar media applications

Flow Characteristics



Cv Value

Size (inch)	d (mm)	Cv (gal/min)
2	63	103
2½	75	154
3	90	210
4	110	455
5	140	805
6	160	1162
8	225	2772
10	280	3570
12	315	5110

Breakaway Torque

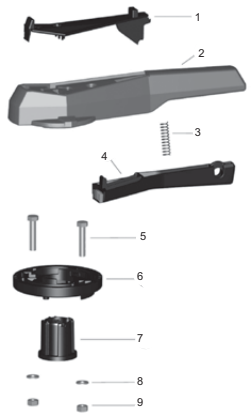
The following tables show average values at nominal pressure

Size (inch)	d (mm)	At 75psi Torque (ft-lb)	At 150psi Torque (ft-lb)
2	63	10	25
2½	75	10	30
3	90	20	45
4	110	30	60
5	140	40	75
6	160	50	90
8	225	75	120
10	280	100	170
12	315	130	220

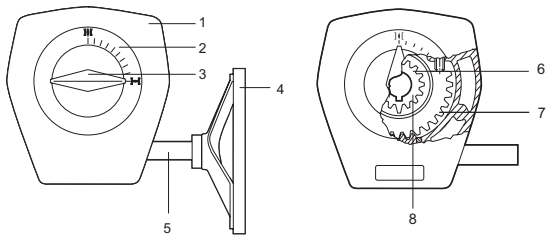
For non-GF actuators, a safety factor should be used in calculating the required actuator torque. This safety factor can vary depending on the application conditions and end user's preference. (e.g. control time, medium, temperature, etc.).

Operator Components

Lever



Gear Operator



Lever Components

Part	Description	Material
1	Handle clip	Glass-filled PP
2	Handle	Glass-filled PP
3	Spring	304 Stainless steel
4	Lever	Glass-filled PP
5	Bolts	304 Stainless steel
6	Index plate	Glass-filled PP
7	Turn limiter	Glass-filled PP
8	Washers	304 Stainless steel
9	Nuts	304 Stainless steel

Gear Components

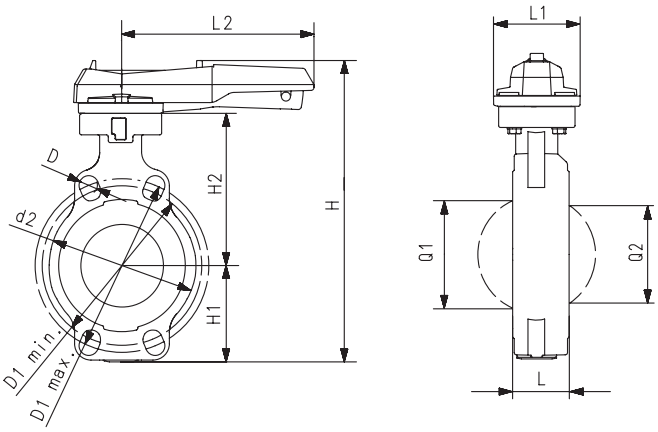
Part	Description	Material
1	Housing	Aluminum
2	Indicator cap	PE
3	Indicator	PE
4	Handle	Aluminum
5	Wormshaft	Nitempered steel
6	Drive bushing	Sintered copper steel
7	Quadrant	Sintered copper steel
8	Thrust bearing	Type AXK

Dimensions

The following tables are shown in millimeters unless otherwise specified

Bare Shaft

Size (inch)	ISO	D3	D4	H3	H4	H5
2	F07	70	90	27	23	11
2½	F07	70	90	27	23	11
3	F07	70	90	27	23	11
4	F07	70	90	16	23	14
5	F07	70	90	16	23	14
6	F07	70	90	19	23	17
8	F07	70	90	19	23	17
10	F10	102	125	40	23	22
12	F10	102	125	40	23	22



Lever

Size (inch)	d (mm)	d2	D	D1 min	D1 max	D2	H	H1	H2	L	L1	L2	Q1	Q2
2	63	104	19	120	125	104	264	77	134	45	106	205	40	-
2½	75	115	19	140	145	115	277	83	140	46	106	205	54	35
3	90	131	19	150	160	131	289	89	146	49	106	205	67	50
4	110	161	19	175	191	161	325	104	167	56	106	255	88	74
5	140	187	23	210	216	187	352	117	181	64	106	255	113	97
6	160	215	24	241	241	215	373	130	189	72	106	255	139	123
8	225	267	23	290	295	267	435	158	210	73	140	408	178	169
10	280	329	25	353	362	329	554	205	264	113	149	408	210	207
12	315	379	25	400	432	379	598	228	285	113	149	408	256	253

Gear

Size (inch)	d (mm)	D3	H3	L1	L2	L3
2	63	160	62	78	112	179
2½	75	160	62	78	112	179
3	90	160	62	78	112	179
4	110	160	62	78	112	179
5	140	160	62	78	112	179
6	160	160	62	78	112	179
8	225	160	62	78	112	179
10	280	200	69	97	130	198
12	315	200	69	97	130	198