

Garlock Butterfly Valves Quickstart Guide

Trusted throughout the chemical,
petrochemical & many other industries



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FOR CORROSIVE AND ABRASIVE MEDIA

Butterfly Valves

Garlock Butterfly Valves are renowned throughout the chemical, petrochemical, process and many other industrial sectors for their quality, performance and reliability in arduous conditions. Garlock valves set the standard in TA-Luft compliance, plus the valves are certified with S1L 3 according to EN 61508.

GAR-SEAL

GAR-SEAL valves are used extensively where corrosive, abrasive and toxic media needs to be reliably controlled. They are typically used for accurate control, throttling and shut-off duties in the chemical, petrochemical, chlorine, paper, electroplating and many other industries. GAR-SEAL butterfly valves offer reduced maintenance requirements and increased operational reliability.



GAR-SEAL

MOBILE-SEAL

MOBILE-SEAL valves are used on road tanker vehicles, railway wagons, silos and other transportation and storage containers where high chemical resistance, reliability and special safety requirements are essential. MOBILE-SEAL is EN 14432 approved.



MOBILE-SEAL

SAFETY-SEAL

SAFETY-SEAL valves are used in applications where corrosive, abrasive and toxic media need to be handled and electrostatic charges must be avoided at the same time.



SAFETY-SEAL

Garlock

Leaders in Sealing Integrity

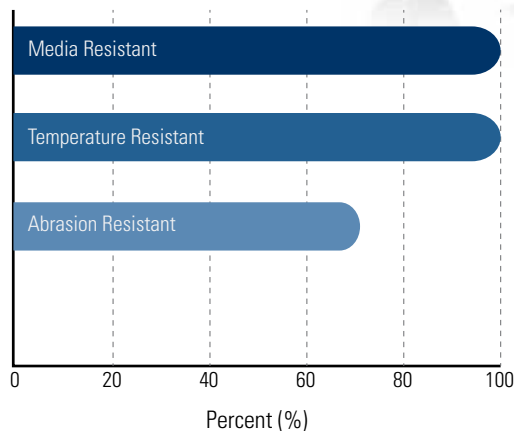
Valve Lining

PTFE

Void-free body liner and disc isostatic molded from virgin PTFE. High material density $>2.16\text{g/cm}^3$. Guaranteed lining thickness of at least 3mm plus high crystallinity. FDA compliant.

OPERATING TEMPERATURE:

-40°F up to +392°F

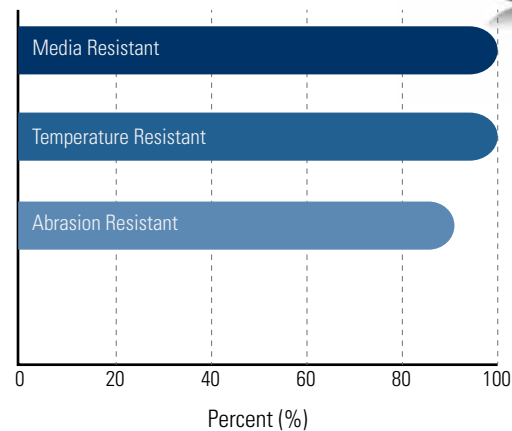


Abrasive PTFE

If the chemical resistance of PTFE is needed along with abrasion resistance, then the use of abrasive service PTFE is recommended. This special PTFE compound is resistant to mechanical wear with almost the same chemical resistance as virgin PTFE.

OPERATING TEMPERATURE:

-40°F up to +392°F

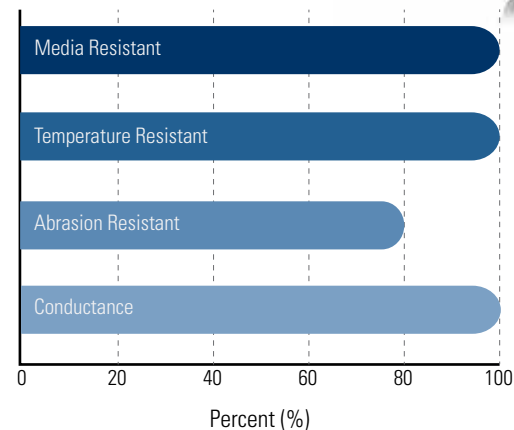


Antistatic PTFE

For explosive environments and medias, this electrostatically conductive lining is available. The service life is comparable to valves lined with PTFE. The material is FDA compliant. TÜV approval. (TÜV 941 F 416 601). Surface resistance $\leq 10^6 \Omega$. Volume resistance $\leq 10^6 \Omega \text{ cm}$.

OPERATING TEMPERATURE:

-40°F up to +392°F

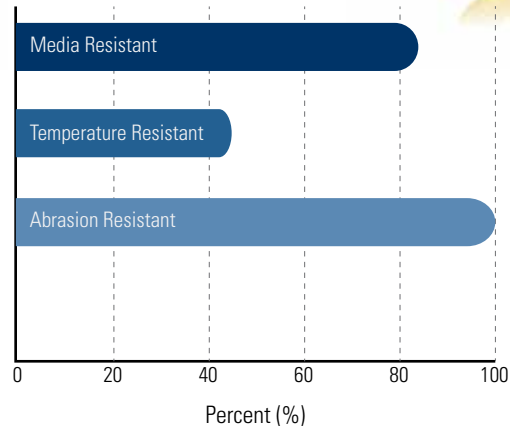


UHMWPE

Used in extremely abrasive media applications while still offering excellent chemical resistance. Garlock offers a complete, ultra high molecular weight PE (UMPE) liner and encapsulated disc.

OPERATING TEMPERATURE:

-40°F up to +185°F



Material Selection

Valve Material						Design Type					
1 Valve Body		2 Body Liner		3 Disc		4 Specific Design Body Liner		5 Valve Type		6 Body Type	
Code	Material	Code	Material	Code	Material	Code	Material	Code	Material	Code	Material
1	Ductile Cast Iron EN-JS 1049 (0.7043)	1	PTFE*	1	PTFE*	A	Antistatic (SAFETY-SEAL)	V	Vacuum	W	WAFER Ring Body
2	Cast Steel GS-C 25 (1.0619)	2	UHMWPE**	2	UHMWPE**	C	abrasive service	SV	Special vacuum	L	LUG Flange-on- Body
3	Stainless Steel (1.4581)										MOBILE-SEAL
										Code	With existing pipe flanges
										W-T	MOBILE-SEAL Wafer
										L-T	MOBILE-SEAL Lug
										W-WT	MOBILE-SEAL Drilling according to DIN 28459

Examples	1	2	3	4	5	6	
GAR-SEAL, WAFER Design	1	1	1	-	-	W	MT
SAFETY-SEAL, LUG Design	3	1	1	A	-	L	MT
MOBILE-SEAL, WAFER Design, acc. to TW standard	1	1	1	-	-	W-WT	MT
SAFETY-SEAL, WAFER Design, antistatic	2	1	1	A	-	W	MT
GAR-SEAL, WAFER Design vacuum lining	1	1	1	-	V	W	MT

Performance Data

2" - 24"

Nominal Pressure

max. 232 psi (<12")

up to full vacuum

(depending upon temperature)

Operating temperature

-40°F to +392/200°F (for PTFE**)

-40°F to +185°F (for UHMWPE***)

MT = GAR-SEAL Butterfly Valves

comply with the TA-Luft regulations.

* Polytetrafluorethylene

** Ultrahighmolecular Polyethylene

All information and recommendations contained in this catalogue are based on many years of experience and the current state of technology. Unknown factors may, however, limit generally accepted knowledge. Binding statements regarding the compatibility of our products are therefore possible only after practical onsite tests under operating conditions. Information contained in our catalog does therefore not constitute or imply any representation of warrantee. While the utmost care has been used in compiling this catalogue, we assume no responsibility for errors. Specifications subject to change without notice. This edition cancels all previous issues. Subject to change without notice.

Applications

GAR-SEAL

GAR-SEAL butterfly valves are used where corrosive, abrasive and toxic media need to be controlled. GAR-SEAL valves are used for controlling, throttling and shutting off purposes in the chemical, petrochemical and chlorine industry as well as in electroplating, the paper industry and many other industries.

DIMENSIONS

- » 2" up to 24"

FLANGE CONNECTION

- » ASME B16.5 class 150 lbs (design RF/FF)
- » EN 1092 PN 10/16 (Design A/B)
(Available upon request)

FACE-TO-FACE DIMENSIONS

- » ISO 5752 Table 5 short
- » ASME B16.10
(2" to 12" Table Narrow
14" to 24" Table Wide)
- » DIN EN 558-1 GR 20
- » MSS-SP 67
(2" to 12" Table Narrow
14" to 24" Table Wide)
- » API 609
(2" to 12" Category A
14" to 24" Category B)

BODY STRENGTH

- » DIN/ EN 12516 T2 (DIN 3840)
- » tested within the scope of the inspection body designate by Module H1

OPERATING PRESSURE

- » 2" - 12" 232 psi
- » above 12" 145 psi (depending on operating temperature)



TESTING

- » EN 12266 P10
- » EN 12266 P11
- » EN 12266 P12 Leak rate A

BODIES

- » Wafer and Lug design with long neck for insulation

VACUUM

- » up to 1 mbar abs. (depending on size and temperature)

TEMPERATURE RANGE

- » -40 °F up to +392 °F (depending on material)

HEAD FLANGE

- » EN ISO 5211
- » NF E 29-402

LINER

- » PTFE
- » Abrasive PTFE
- » UHMWPE

Applications

SAFETY-SEAL

SAFETY-SEAL valves are used in applications where corrosive, abrasive and toxic media need to be insulated against electrostatic charges.

SAFETY-SEAL valves offer long life and reduced maintenance efforts and extra safety.

DIMENSIONS

- » 2" up to 24"

FLANGE CONNECTION

- » ASME B16.5 class 150 lbs (design RF/FF)
- » EN 1092 PN 10/16 (Design A/B)
(Available upon request)

FACE-TO-FACE DIMENSIONS

- » ISO 5752 Table 5 short
- » ASME B16.10
(2" to 12" Table Narrow
14" to 24" Table Wide)
- » DIN EN 558-1 GR 20
- » MSS-SP 67
(2" to 12" Table Narrow
14" to 24" Table Wide)
- » API 609
(2" to 12" Category A
14" to 24" Category B)

BODY STRENGTH

- » DIN/ EN 12516 T2 (DIN 3840)
- » tested within the scope of the inspection body designate by Module H1

OPERATING PRESSURE

- » 2" - 12" 232 psi
- » above 12" 145 psi (depending on operating temperature)



TESTING

- » EN 12266 P10
- » EN 12266 P11
- » EN 12266 P12 Leak rate A

BODIES

- » Wafer and Lug design with long neck for insulation

VACUUM

- » up to 1 mbar abs. (depending on size and temperature)

TEMPERATURE RANGE

- » -40 °F up to +392 °F (depending on material)

HEAD FLANGE

- » EN ISO 5211
- » NF E 29-402

LINER

- » Antistatic PTFE

Applications

MOBILE-SEAL

MOBILE-SEAL valves are used on road tanker vehicles, railway wagons, silos and other transportation and storage containers where high chemical resistance, reliability and special safety requirements are essential.

DIMENSIONS

- » 2" up to 24"

FLANGE CONNECTION

- » ASME B16.5 class 150 lbs (design RF/FF)
- » EN 1092 PN 10/16 (Design A/B)
- » DIN 28459 PN10
(Available upon request)

FACE-TO-FACE DIMENSIONS

- » ISO 5752 Table 5 short
- » ASME B16.10
(2" to 4" Table Narrow)
- » DIN EN 558-1 GR 20
- » MSS-SP 67
(2" to 4" Table Narrow)
- » API 609
(2" to 14" Category A)

BODY STRENGTH

- » DIN/ EN 12516 T2 (DIN 3840)
- » tested within the scope of the inspection body designate by Module H1

OPERATING PRESSURE

- » 2" - 4" 145 psi (depending on operating temperature)

TESTING

- » EN 12266 P10
- » EN 12266 P11
- » EN 12266 P12 Leak rate A



BODIES

- » Wafer and Lug design with long neck for insulation

VACUUM

- » up to 1 mbar abs. (depending on size and temperature)

TEMPERATURE RANGE

- » -40 °F up to +392 °F (depending on material)

HEAD FLANGE

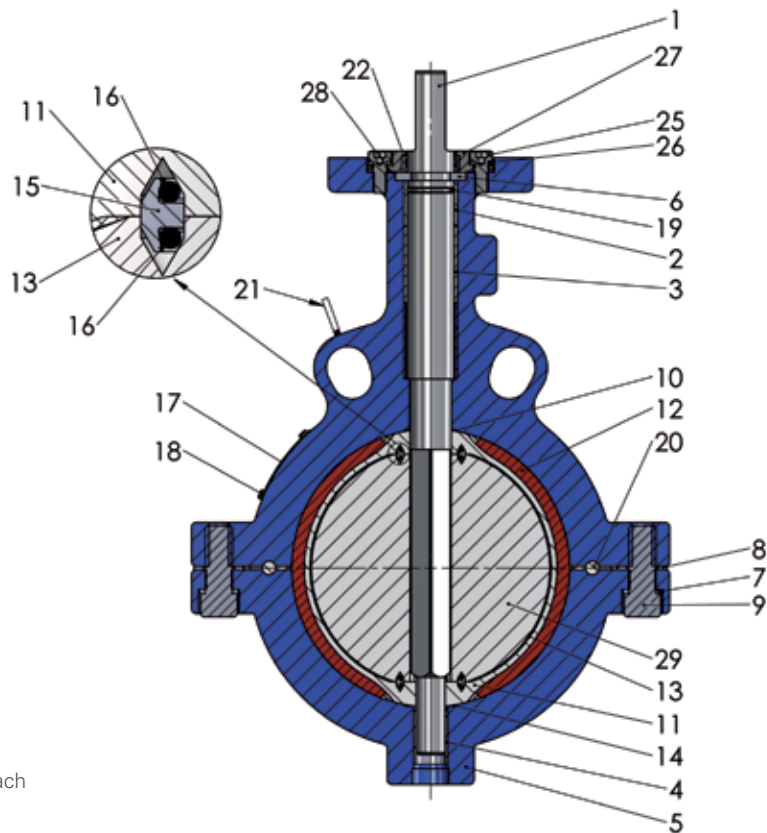
- » EN ISO 5211
- » NF E 29-402

LINER

- » PTFE

Materials

GAR-SEAL, SAFETY-SEAL, MOBILE-SEAL



¹ does not apply above 10"
² Dimensions > 14" - 4 pieces each
³ Special design
⁴ other materials on request

Pos.	Qty	Material	Designation	Pos.	Qty	Material	Designation
1	1	1.4313 up to 12" 1.4021 above 12"	Shaft	15	2	PTFE	Seal ring
2	1	Steel/PTFE	Slide bearing (top)	16	4 ⁴	Viton	O-Ring (seal ring)
3	2	Steel/PTFE	Slide bearing (center)	17	1	Stainless Steel	Nameplate
4	1	Steel/PTFE	Slide bearing (bottom)	18	4	Stainless Steel	Rivet
5	1	see material table	Body	19	1 ⁴	Viton	O-Ring
6	1 ¹	PTFE, carbon reinf.	Retaining ring (split)	20	2	PTFE	Security element
7	2 ²	Stainless Steel	Spring washer	21	1 ³	Steel electrostop	Ground connection
8	2 ²	GYLON®	Washer	22	2 ⁴	Viton	O-Ring (adapter flange)
9	2 ²	Stainless Steel	Body screw				
10	1	GYLON®	Top gasket	25	4	Stainless Steel	Screw
11	1	see material table	Lining	26	4	Stainless Steel	Spring washer
12	2 ⁴	Silicone	Elastomer backup element	27	1	Stainless Steel	Adapter flange
13	1	see material table	Disc	28	1	GYLON®	Seal (adapter flange)
14	1	GYLON®	Bottom gasket	29	1	0.7040 (GGG 40)	Disc insert (only PTFE & UHMWPE lined disc)

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