

George Fischer Diaphragm Valve Type 315/315 HTR



Diaphragm valves are especially suitable for flow control applications. Also suitable for slurries and abrasive media.

- "Snap-on" handwheel - easy to remove
- Option: lockable handle
- Position indicator, improved robustness
- Can also be used in vacuum applications
- The HTR valve offers improved performance with wide temperature changes

General

Manual, weir type diaphragm valve Type 315 with spigot ends in sizes 1/2" through 2" (20 mm through 63 mm) in CPVC, polypropylene, natural polypropylene, SYGEF-PVDF, and SYGEF-PVDF HP. Special High Temperature Resistant (HTR) valves in SYGEF-PVDF HP with IR/butt fusion ends are also available.

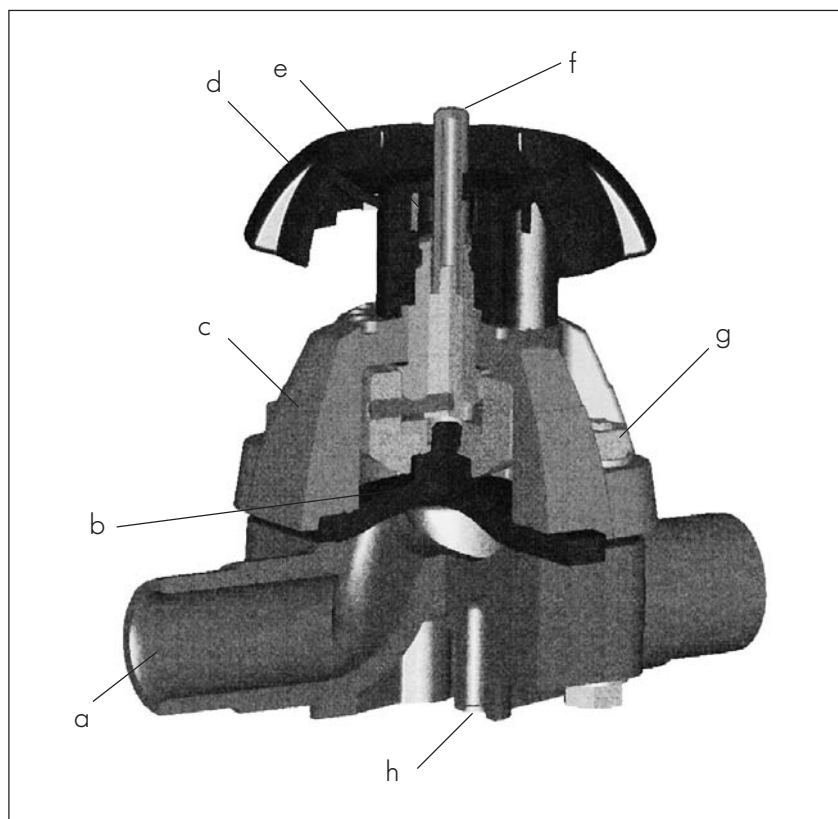
Standard overall length in accordance with DIN 3202.

Flow in either direction irrespective of installation position. Bracketing facility incorporated in the valve.

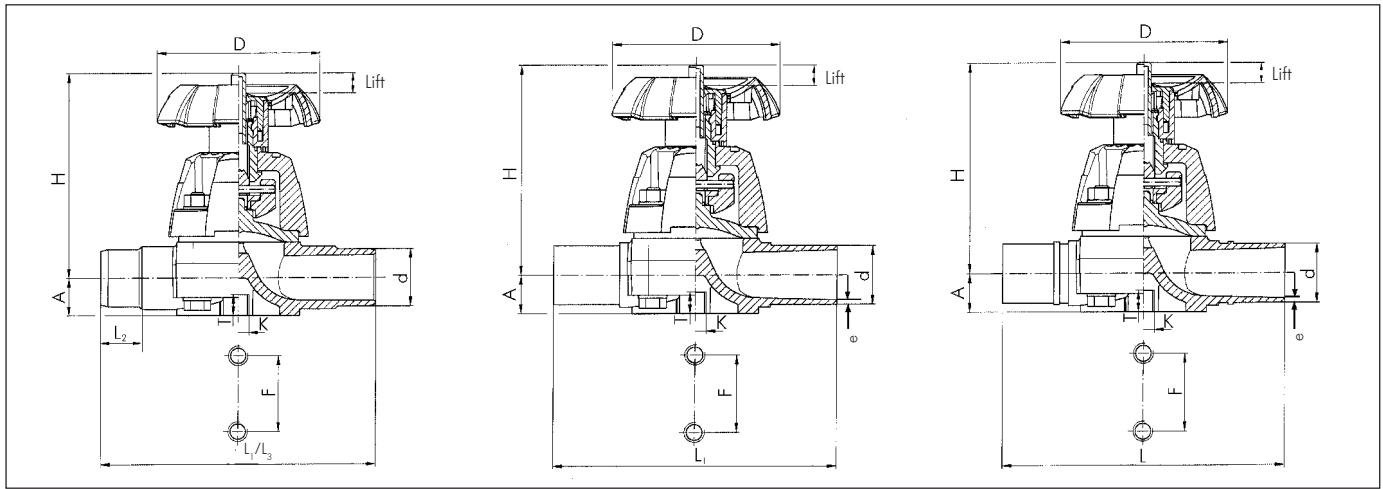
Also available pneumatically actuated, see +GF+ DIASTAR information.

Technical Features

- a) • CPVC: plain spigots for solvent cement joining (inch sizes)
 - Polypropylene, natural polypropylene, SYGEF-PVDF: plain spigots for socket fusion joining (mm sizes)
 - Polypropylene and SYGEF IR: IR/butt fusion ends for IR/butt fusion joining (mm sizes)
 - SYGEF BCF ends for Bead and Crevice free joining
- b) EPDM or PTFE diaphragms for valves with CPVC and polypropylene bases. PTFE diaphragms for SYGEF-PVDF valves
- c) PP GF 30 (glass-fiber reinforced polypropylene) topworks
- d) PP handwheel
- e) PE handwheel seal
- f) PE position indicator
- g) Stainless steel (304) assembly bolts
- h) Stainless steel threaded bushing facilitates bracketing of valve



Dimensions for Type 315 Diaphragm Valve



Metric size	e PVDF	e PP	A	D	F	K	H	L ₁ PP-n, PP, PVDF	L ₂	L ₃ CPVC	L BCF	T	Lift	Weight CPVC	Weight PP/PVDF	Closest Inch Size
d mm	mm	mm	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	inch	lbs.	lbs.	Inch
20	1.9	1.9	0.55	3.15	0.98	M6	3.54	4.88	0.75	5.62	5.24	0.47	0.31	0.66	0.64	1/2
25	1.9	2.3	0.69	3.15	0.98	M6	4.02	5.67	0.83	6.30	5.67	0.47	0.43	0.95	0.97	3/4
32	2.4	3.0	0.83	3.70	0.98	M6	4.67	6.06	0.91	6.83	6.06	0.47	0.51	1.63	1.57	1
40	2.4	3.7	1.00	4.61	1.77	M8	4.96	6.85	0.98	7.40	7.83	0.59	0.63	2.05	2.20	1 1/4
50	3.0	4.6	1.28	4.61	1.77	M8	5.47	7.64	1.10	8.07	8.07	0.59	0.83	2.77	2.87	1 1/2
63	3.0	5.8	1.53	5.98	1.77	M8	6.77	8.82	1.26	8.86	8.82	0.59	1.10	5.22	5.07	2

L BCF ends (PVDF valves only)

L₁ spigot end connections for socket fusion and IR/butt fusion ends for IR/butt fusion (also PP-n for BCF and IR/butt fusion)

L₃ for CPVC solvent cement spigot ends

Part Numbers for Type 315 Diaphragm Valve



CPVC

Inch size	solvent cement spigot	
	EPDM	PTFE (Teflon®)
1/2	163 315 717	163 315 732
3/4	163 315 718	163 315 733
1	163 315 719	163 315 734
1-1/4	163 315 720	163 315 735
1-1/2	163 315 721	163 315 736
2	163 315 722	163 315 737

CPVC Silicone Free

Inch size	solvent cement spigot	
	EPDM	PTFE (Teflon®)
1/2	163 315 817	163 315 832
3/4	163 315 818	163 315 833
1	163 315 819	163 315 834
1-1/4	163 315 820	163 315 835
1-1/2	163 315 821	163 315 836
2	163 315 822	163 315 837

Handwheel with built-in locking mechanism



Inch Size	Part Number
1/2	167 481 943
3/4	167 481 943
1	167 481 944
1-1/4	167 481 945
1-1/2	167 481 945
2	167 481 946

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Part Numbers for Type 315 Diaphragm Valve

Polypropylene (PP)



OD d mm	ID DN mm	metric fusion spigots for socket fusion		IR/butt fusion ends		Inch size
		EPDM	PTFE (Teflon®)	EPDM	PTFE (Teflon®)	
20	15	167 315 417	167 315 432	167 315 517	167 315 532	1/2
25	20	167 315 418	167 315 433	167 315 518	167 315 533	3/4
32	25	167 315 419	167 315 434	167 315 519	167 315 534	1
40	32	167 315 420	167 315 435	167 315 520	167 315 535	1-1/4
50	40	167 315 421	167 315 436	167 315 521	167 315 536	1-1/2
63	50	167 315 422	167 315 437	167 315 522	167 315 537	2

PP Silicone Free

OD d mm	ID DN mm	metric fusion spigots for socket fusion		IR/butt fusion ends		Inch size
		EPDM	PTFE (Teflon®)	EPDM	PTFE (Teflon®)	
20	15	167 315 477	167 315 462	167 315 577	167 315 562	1/2
25	20	167 315 478	167 315 463	167 315 578	167 315 563	3/4
32	25	167 315 479	167 315 464	167 315 579	167 315 564	1
40	32	167 315 480	167 315 465	167 315 580	167 315 565	1-1/4
50	40	167 315 481	167 315 466	167 315 581	167 315 566	1-1/2
63	50	167 315 482	167 315 467	167 315 582	167 315 567	2

SYGEF-PVDF



OD d mm	ID DN mm	metric fusion spigots for socket fusion	IR/butt fusion ends	Inch size
		PTFE (Teflon®)	PTFE (Teflon®)	
20	15	175 315 432	175 315 532	1/2
25	20	175 315 433	175 315 533	3/4
32	25	175 315 434	175 315 534	1
40	32	175 315 435	175 315 535	1-1/4
50	40	175 315 436	175 315 536	1-1/2
63	50	175 315 437	175 315 537	2

SYGEF-PVDF HP

OD d mm	ID DN mm	metric fusion spigots for socket fusion	IR/butt fusion ends	BCF fusion ends	HTR* with IR/ butt fusion ends	Inch size
		PTFE (Teflon®)	PTFE (Teflon®)	PTFE (Teflon®)	PTFE (Teflon®)	
20	15	175 315 462	175 315 562	175 315 362	175 315 602	1/2
25	20	175 315 463	175 315 563	175 315 363	175 315 603	3/4
32	25	175 315 464	175 315 564	175 315 364	175 315 604	1
40	32	175 315 465	175 315 565	175 315 365	175 315 605	1-1/4
50	40	175 315 466	175 315 566	175 315 366	175 315 606	1-1/2
63	50	175 315 467	175 315 567	175 315 367	175 315 607	2

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* HTR = High Temperature Resistant

Part Numbers for Type 315 Diaphragm Valve

PP-n Natural Polypropylene



OD d mm	ID DN mm	IR-Butt / BCF fusion ends		Inch size
		PTFE (Teflon®)	EPDM	
20	15	168 315 532	168 315 517	1/2
25	20	168 315 533	168 315 518	3/4
32	25	168 315 534	168 315 519	1
40	32	168 315 535	168 315 520	1-1/4
50	40	168 315 536	168 315 521	1-1/2
63	50	168 315 537	168 315 522	2

Product Specifications

Type 315 CPVC Diaphragm Valve

CPVC diaphragm valve 1/2" through 2" shall be of spigot end connection. Upper body shall be of glass-filled polypropylene material connected to lower body with exposed stainless steel bolts. All interior metal parts are to be sealed from outside influence. A position indicator must be present to determine diaphragm position. Diaphragms to be either EPDM or PTFE with EPDM elastomer backing. Metal threaded bushings shall be molded into lower body to facilitate mounting. CPVC body material shall meet or exceed the requirements of Class 23447-B of ASTM D-1784. Valve to be equipped with spigot type connections with dimensions conforming to ASTM F441 (formerly D-1785). The valve Type 315 shall carry a pressure rating of 150 psi at 68°F as supplied by George Fischer, Inc., Tustin, CA 92780.

Type 315 PP Diaphragm Valve

Polypropylene diaphragm valve 1/2" through 2" shall be of spigot end connection. Upper body shall be of glass-filled polypropylene material connected to lower body with exposed stainless steel bolts. All interior metal parts are to be sealed from outside influence. A position indicator must be present to determine diaphragm position. Diaphragms to be either EPDM or PTFE with EPDM elastomer backing. Metal threaded bushings shall be molded into lower body to facilitate mounting. PP body material shall meet or exceed the requirements of ASTM D-4101 as pertains to type I homopolymer compound having a minimum tensile strength of 4350 psi/300 bar at 73°F/20°C when tested in accordance with ASTM D-638 and shall have a melt point which initiates at 316°F/158°C. The melt flow index (at 374°F/190°C/50N) shall be 0.4 - 0.8 grams per 10 minutes in accordance with ASTM D-1238. End connections shall be as outlined in ASTM D-2657 for fusion socket joining, and shall be compatible with metric pipe and fittings as manufactured by George Fischer, Inc. The valve Type 315 shall carry a pressure rating of 150 psi at 68°F as supplied by George Fischer, Inc., Tustin, CA 92780.

Product Specification

Type 315 PVDF Diaphragm Valve

PVDF diaphragm valve 1/2" through 2" shall be of spigot end connection. Upper body shall be of glass-filled polypropylene material connected to lower body with exposed stainless steel bolts. All interior metal parts are to be sealed from outside influence. A position indicator must be present to determine diaphragm position. Diaphragms to be either EPDM or PTFE with EPDM elastomer backing. Metal threaded bushings shall be molded into lower body to facilitate mounting. PVDF body material shall meet or exceed the requirements of ASTM D-3222 as pertains to a natural, unpigmented, virgin, noncompounded polyvinylidene fluoride compound having a minimum tensile strength of 7800 psi/538 bar at 73°F/20°C when tested in accordance with ASTM D-638 and shall have a flexural strength of 10,700 psi/738 bar at 73°F/20°C when tested according to ASTM D-790. End connections shall be as outlined in ASTM D-2657 for fusion socket joining, and shall be compatible with metric pipe and fittings as manufactured by George Fischer, Inc. The valve Type 315 shall carry a pressure rating of 150 psi at 68°F as supplied by George Fischer, Inc., Tustin, CA 92780.

Type 315-HTR SYGEF-PVDF HP IR Diaphragm Valve

High temperature resistant PVDF diaphragm valves in dimensional sizes 20 mm (1/2") through 63 mm (2") shall be IR Type 315-HTR PVDF Diaphragm Valves as manufactured by George Fischer. All IR Type 315-HTR PVDF Diaphragm Valves shall be compatible with the George Fischer IR Plus™ (Infrared) fusion technology and made from virgin, unpigmented PVDF material.

All IR Type 315-HTR PVDF Diaphragm Valves shall be weir style with PTFE diaphragm seals backed with EPDM. All PVDF valves shall be precleaned for ultrapure service and double bagged in Nylon 6/PE packaging.

Type 315 PP-n Natural PP, BCF/IR Diaphragm Valve

Natural Polypropylene diaphragm valves 1/2" through 2" shall be of spigot end connection for IR and BCF joining. Upper body shall be of glass-filled polypropylene material connected to lower body with exposed stainless steel bolts. All interior metal parts are to be sealed from outside influence. A position indicator must be present to determine diaphragm position. Diaphragms to be either EPDM or PTFE with EPDM elastomer backing. Metal threaded bushings shall be molded into lower body to facilitate mounting. PP body material shall meet or exceed the requirements of ASTM D 4101 as pertains to group 02, random copolymer compound having a minimum tensile strength of 3771 psi/260 bar at 73°F/23°C when tested in accordance with ASTM D 638 and shall have a melt point which initiates at 320°F/160°C. The melt flow index (at 230°C and 2.16 kg) shall be 0.3 grams per 10 minutes in accordance with ASTM D 1238. End connections shall be as outlined in ASTM D 2657 for fusion joining, and shall be compatible with metric pipe and fittings as manufactured by George Fischer, Inc. The valve, Type 315, shall carry a pressure rating of 150 psi at 68°F as supplied by George Fischer, Inc., Tustin, CA 92780.

George Fischer Diaphragm Valve Type 317



Diaphragm valves are especially suitable for flow control applications. Also suitable for use with slurries and abrasive media as well as for flanged requirements in a UPW system.

1/2" – 2 1/2" sizes feature an easily removable handwheel
 • option: lockable handle

General

Manually operated diaphragm valve Type 317 with flanges. Available with PVC, CPVC (through 4"), polypropylene, natural polypropylene, SYGEF-PVDF, or SYGEF-PVDF HP bodies in sizes 1/2" through 6" (20 mm through 160 mm). Flow in either direction irrespective of installation position.

Bracketing facility incorporated in the valve.

Position indicator.

Easy replacement of diaphragm without removal of the body from the pipeline.

Also available pneumatically actuated, see +GF+ DIASTAR information.

10

Technical Features

- a) Flanges drilled to ANSI Class 150 pattern
- b) Diaphragm in EPDM or PTFE for PVC, CPVC, and polypropylene valves. PTFE diaphragm for SYGEF-PVDF valves
- c) PP GF 30 (glass-fiber reinforced polypropylene) topworks
- d) PP handwheel (PVC for 3" and 4", PPTSG for 6")
- e) PE handwheel seal
- f) PE position indicator
- g) Stainless steel (304) assembly bolts
- h) Stainless steel threaded bushing facilitates bracketing of valve

