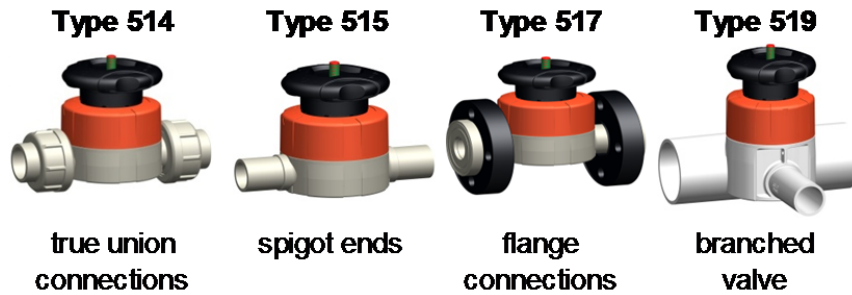


Datasheet Diaphragm Valves Type 514, 515, 517 and 519



Advantages

- The uniform expansion with temperature changes of the plastic-plastic connection prevents leaks
- An optimized flow geometry with soft transitions and radii doubles the flow rate
- The valve body geometry results in a linear flow characteristic, clearly simplifying valve control
- 90° turnable air connection for a flexible installation
- The unique design provides maximum hygienic with minimized dead space



Type 514
true union connections

Type 515
spigot ends

Type 517
flange connections

Type 519
branched valve

Dimensions		
Type 514: d20DN 15 – d63DN50, 1/2"-2"	Type 515: d20DN 15 – d63DN50, 1/2"-2"	
Type 517: d20DN 15 – d63DN50, 1/2"-2"	Type 519: d20DN15 – d20DN15, 1/2"; d110DN100-d63DN50, 4"- 2"	
Materials valve body		
Type 514: PVC-U, PVC-C, ABS, PP-H, PVDF, PVDF-HP	<th>Materials housing nut</th>	Materials housing nut
Type 515: PVC-U, PVC-C, ABS, PP-H, PP-n, PVDF, PVDF-HP		PPGF 30 for PN10 PPSGF40 for PN 16 (Water use only)
Type 517: PVC-U, PVC-C, PP-H, PVDF, PVDF-HP		Sealing-/ Diaphragm Material
Type 519: PP-H, PP-N, PVDF-HP		EPDM, PTFE/EPDM, FPM (except Typ 519), PTFE/FPM, FFPM
Connection types		Pressure rates
Type 514: Sockets, Spigots, Threaded sockets	PN16: PVC-U, PVDF, PVDF-HP (dependant from insert)	
Type 515: Spigots	PN 10: PVC-U, PVC-C, ABS, PP-H, PP-n, PVDF, PVDF-HP	
Type 517: Flanges	Actuation	
Type 519: Butt-fusion spigots	Hand operated Pneumatically operated see type Diastar	
	Approvals	
	ACS, FDA, DIBt,	

kv 100-Values

Type 514 - 517					
d mm	DN mm	Zoll Inch	kv 100 l/min $\Delta p = 1\text{bar}$	Cv 100 gal/min $\Delta p = 1\text{psi}$	kv 100 m ³ /h $\Delta p = 1\text{bar}$
20	15	1/2	125	9	8
25	20	3/4	271	19	16
32	25	1	481	33	29
40	32	1 1/4	759	52	45
50	40	1 1/2	1263 (960*)	87	76
63	50	2	1728 (1181*)	119	104

* DIASTAR SIX

Type 519								
d mm	DN mm	Zoll Inch	d1 mm	DN1 mm	Zoll Inch	kv 100 [l/min] $\Delta p = 1\text{bar}$	Cv 100 [gal/min] $\Delta p = 1\text{psi}$	kv 100 [m ³ /h] $\Delta p = 1\text{bar}$
20	15	1/2"	20	15	1/2"	57	4	3
25	20	3/4"	20	15	1/2"	89	6	5
25	20	3/4"	25	20	3/4"	118	8	7
32	25	1"	20	15	1/2"	80	6	5
32	25	1"	25	20	3/4"	105	7	6
32	25	1"	32	25	1"	231	16	14
40	32	1 1/4"	20	15	1/2"	85	6	5
40	32	1 1/4"	25	20	3/4"	119	8	7
40	32	1 1/4"	32	25	1"	153	11	9
40	32	1 1/4"	40	32	1 1/4"	187	13	11
50	40	1 1/2"	20	15	1/2"	86	6	5
50	40	1 1/2"	25	20	3/4"	160	11	10
50	40	1 1/2"	32	25	1"	206	14	12
50	40	1 1/2"	40	32	1 1/4"	524	36	31
50	40	1 1/2"	50	40	1 1/2"	667	46	40
63	50	2"	20	15	1/2"	84	6	5
63	50	2"	25	20	3/4"	150	11	9
63	50	2"	32	25	1"	184	13	11
63	50	2"	40	32	1 1/4"	471	32	28
63	50	2"	50	40	1 1/2"	610	42	37
63	50	2"	63	50	2"	747	52	45
90	80	3"	20	15	1/2"	82	6	5
90	80	3"	25	20	3/4"	103	7	6
90	80	3"	32	25	1"	129	9	8
90	80	3"	50	40	1 1/2"	623	43	37
90	80	3"	63	50	2"	696	48	42
110	100	4"	20	15	1/2"	78	5	4
110	100	4"	25	20	3/4"	103	7	6
110	100	4"	32	25	1"	131	9	8
110	100	4"	50	40	1 1/2"	604	42	36
110	100	4"	63	50	2"	661	46	40

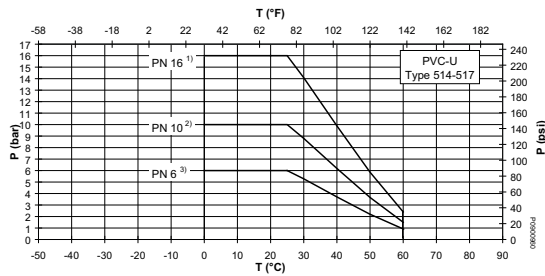
Design



1. Valve body	6. Spindle assembly incl. diaphragm holder
2. Union end	7. Inner housing
3. Union nut	8. Housing nut
4. Diaphragm	9. Hand wheel
5. Compressor	10. Hand wheel locking device

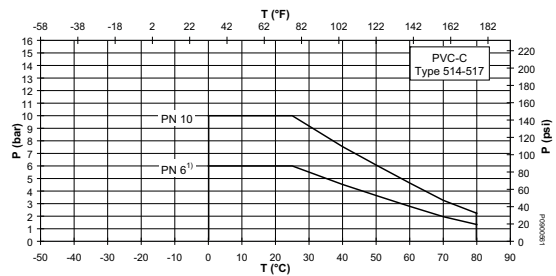
P / T-Diagrams

PVC-U



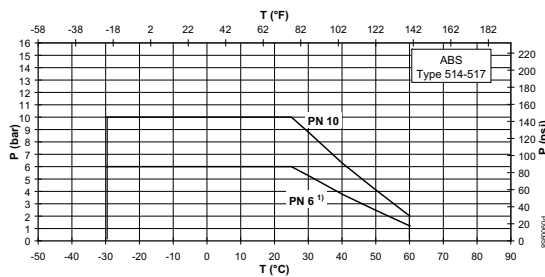
P: Permissible pressure in bar, psi, T: Temperature in °C, °F
 1) Only with black PPS housing nut
 2) Depending on the connection type and actuator, the nominal pressure is reduced to PN10
 3) Depending on the connection type and actuator, the nominal pressure is reduced to PN6

PVC-C



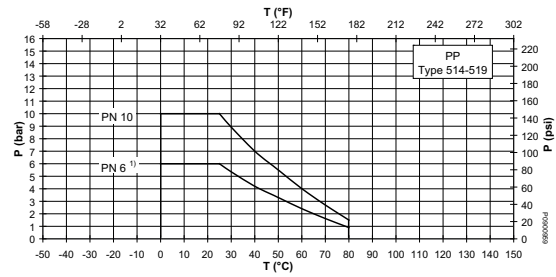
P: Permissible pressure in bar, psi, T: Temperature in °C, °F
 1) Depending on the connection type and actuator, the nominal pressure is reduced to PN6P

ABS



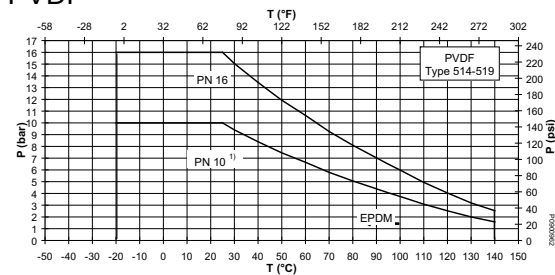
P: Permissible pressure in bar, psi, T: Temperature in °C, °F
 1) Depending on the connection type and actuator, the nominal pressure is reduced to PN6

PP



P: Permissible pressure in bar, psi, T: Temperature in °C, °F
 1) Depending on the connection type and actuator, the nominal pressure is reduced to PN6

PVDF

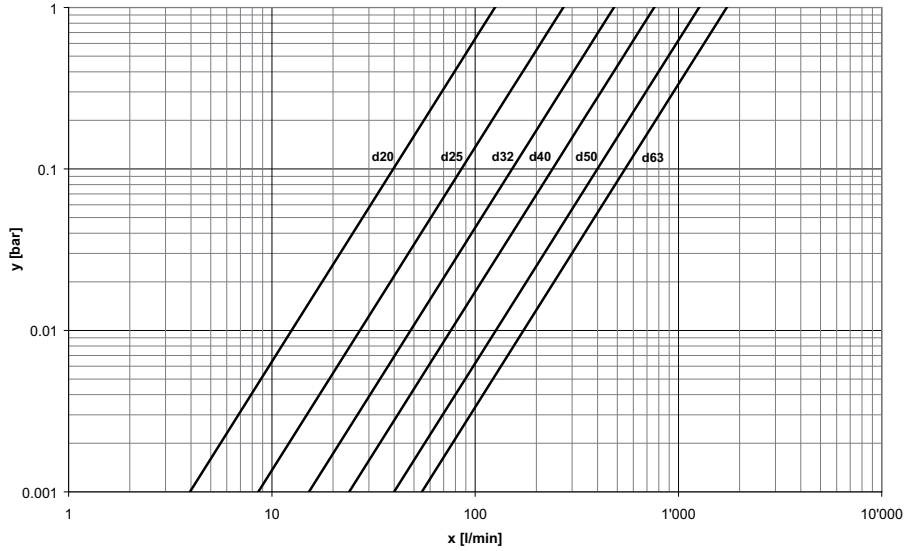


P: Permissible pressure in bar, psi, T: Temperature in °C, °F

These pressure temperature diagrams are based on a lifetime of 25 years and the medium water or similar media.

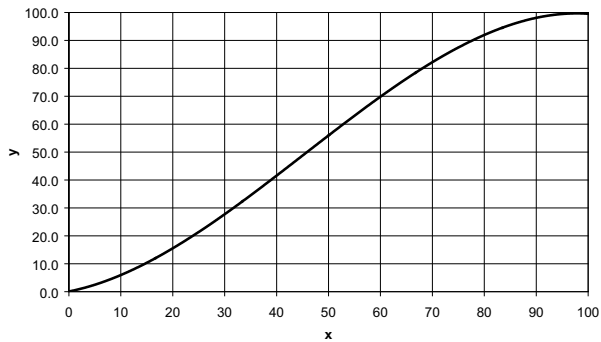
1) Depending on the connection type and actuator, the nominal pressure is reduced to PN6

Pressure loss diagram Type 514 - 517

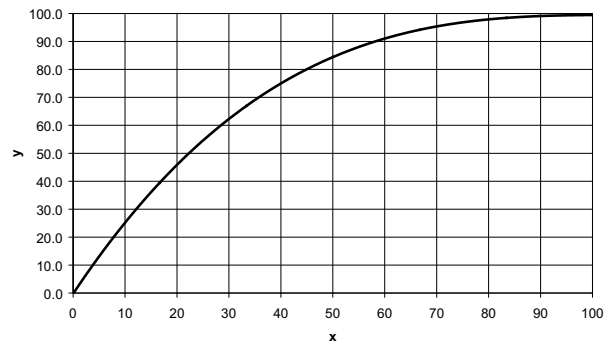


Media: water, 20 °C, X: Flow rate (l/min), (US gal./min), Y: Pressure loss Δp (bar), (psi)

Flow characteristics Type 514-517



Flow characteristics Type 519



X: Open angle (%), Y: Flow factor kv, cv (%)

Dimensions

Type 514																		
d	DN	Zoll	D	D2	D3	L(1)	L(2)	L(3)	L(4)	L2	H	H1	H2	M	z	LE	z für	Hx
mm	mm	Inch	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		mm	mm	mm	mm
20	15	1/2"	65	65	43	128	128	128	196	25	73	14	12	M6	96	90	100	7
25	20	3/4"	80	65	51	152	152	150	221	25	81	18	12	M6	114	108	118	10
32	25	1"	88	87	58	166	166	162	234	25	107	22	12	M6	122	116	126	13
40	32	1 1/4"	101	87	72	192	192	184	260	45	115	26	15	M8	140	134	144	15
50	40	1 1/2"	117	135	83	222	222	210	284	45	148	32	15	M8	160	154	164	19
63	50	2"	144	135	100	266	266	248	321	45	166	39	15	M8	190	184	194	25

Type 515													
d	DN	Zoll	D	D2	L(5)	L(6)	L(7)	L2	H	H1	H2	M	Hx
mm	mm	Inch	mm	mm	mm	mm	mm	mm	mm	mm	mm		mm
20	15	1/2"	65	65	124	124	124	25	73	14	12	M6	7
25	20	3/4"	80	65	144	144	144	25	81	18	12	M6	10
32	25	1"	88	87	155	154	154	25	107	22	12	M6	13
40	32	1 1/4"	101	87	176	174	174	45	115	26	15	M8	15
50	40	1 1/2"	117	135	193	194	194	45	148	32	15	M8	19
63	50	2"	144	135	233	224	223	45	166	39	15	M8	25

Type 517														
d	DN	Zoll	D	D2	D3	D4	D5	L(8)	L2	H	H1	H2	M	Hx
mm	mm	Inch	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		mm
20	15	1/2"	65	65	95	65	14	130	25	73	14	12	M6	7
25	20	3/4"	80	65	105	75	14	150	25	81	18	12	M6	10
32	25	1"	88	87	115	85	14	160	25	107	22	12	M6	13
40	32	1 1/4"	101	87	140	100	18	180	45	115	26	15	M8	15
50	40	1 1/2"	117	135	150	110	18	200	45	148	32	15	M8	19
63	50	2"	144	135	165	125	18	230	45	166	39	15	M8	25

Type 519																
d	d1	DN	Zoll	DN1	Zoll 1	DN2	Zoll 2	D	D2	L(5)	L1	L3	L4	H	H1	Hx
mm	mm	mm	Inch	mm	Inch	mm	Inch	mm	mm	mm	mm	mm	mm	mm	mm	mm
20	20	15	1/2"	15	1/2"	15	1/2"	65	65	117	96	162	12	75	14	7
25	20	20	3/4"	15	1/2"	20	3/4"	80	65	133	108	162	16	80	18	10
25	25	20	3/4"	20	3/4"	20	3/4"	80	65	133	108	162	16	80	18	10
32	20	25	1"	15	1/2"	20	3/4"	80	65	142	120	162	19	84	22	10
32	25	25	1"	20	3/4"	20	3/4"	80	65	142	120	162	19	84	22	10
32	32	25	1"	25	1"	25	1"	88	87	145	120	160	19	107	22	13
40	20	32	1 1/4"	15	1/2"	25	1"	88	87	149	128	180	23	115	22	13
40	25	32	1 1/4"	20	3/4"	25	1"	88	87	149	128	180	23	115	22	13
40	32	32	1 1/4"	25	1"	25	1"	88	87	149	128	180	23	115	22	13
40	40	32	1 1/4"	32	1 1/4"	25	1"	88	87	174	153	180	23	115	22	13
50	20	40	1 1/2"	15	1/2"	20	3/4"	80	65	160	134	180	27	97	18	10
50	25	40	1 1/2"	20	3/4"	25	1"	88	87	160	134	180	28	120	22	13
50	32	40	1 1/2"	25	1"	25	1"	88	87	160	134	180	28	120	22	13
50	40	40	1 1/2"	32	1 1/4"	50	2"	144	135	209	169	209	33	164	32	25
50	50	40	1 1/2"	40	1 1/2"	50	2"	144	135	209	169	209	33	164	32	25
63	20	50	2"	15	1/2"	20	2"	80	65	177	144	180	33	104	18	10
63	25	50	2"	20	3/4"	25	1"	88	87	177	144	180	35	127	22	13
63	32	50	2"	25	1"	25	1"	88	87	177	144	180	35	127	22	13
63	40	50	2"	32	1 1/4"	50	2"	144	135	225	192	220	39	170	39	25
63	50	50	2"	40	1 1/2"	50	2"	144	135	225	192	220	39	170	39	25
63	63	50	2"	50	2"	50	2"	144	135	225	192	220	39	170	39	25
90	20	80	3"	15	1/2"	25	1"	88	87	205	159	190	47	140	22	13
90	25	80	3"	20	3/4"	25	1"	88	87	205	159	190	47	140	22	13
90	32	80	3"	25	1"	25	1"	88	87	205	159	190	47	140	22	13
90	50	80	3"	40	1 1/2"	50	2"	144	135	254	207	250	51	184	39	25
90	63	80	3"	50	2"	50	2"	144	135	254	207	250	51	184	39	25
110	20	100	4"	15	1/2"	25	1"	88	87	227	171	190	56	149	22	13
110	25	100	4"	20	3/4"	25	1"	88	87	227	171	190	56	149	22	13
110	32	100	4"	25	1"	25	1"	88	87	227	171	190	56	149	22	13
110	50	100	4"	40	1 1/2"	50	2"	144	135	276	219	250	60	194	39	25
110	63	100	4"	50	2"	50	2"	144	135	276	219	250	60	194	39	25

Specifications

Diaphragm Valves d20 to d63

All diaphragm Valves, metric sized from d20 to d63, shall be either:

- true double union design, DN15 to 50
- spigot design, DN15 to 50
- flange design, DN15 to 50

All diaphragm Valves shall be manufactured in accordance with EN ISO 16138. The upper body shall be PPGF (polypropylene glass fibre reinforced) connected to the lower body with a central union avoiding exposed screws. A two coloured position indicator integrated into the hand wheel must be present to determine diaphragm position. The hand wheel shall have an integrated locking mechanism. Diaphragms are to be EPDM, FPM, NBR, PTFE with EPDM or FOM supporting diaphragm.

Following options shall be available:

- PN16 pressure rating
- Electrical feedback unit with either AgNi or AU contacts
- Pressure proof housing

The diaphragm valve shall have following KV values:

d mm	DN mm	Zoll Inch	kv 100 l/min $\Delta p = 1\text{bar}$	Cv 100 gal/min $\Delta p = 1\text{psi}$	kv 100 m ³ /h $\Delta p = 1\text{bar}$
20	15	1/2	125	9	8
25	20	3/4	271	19	16
32	25	1	481	33	29
40	32	1 1/4	759	52	45
50	40	1 1/2	1263 (960*)	87	76
63	50	2	1728 (1181*)	119	104

Diaphragm Valves d75 to d110

All diaphragm valves, metric sized, shall be flanged design, DN 15-150. All diaphragm valves shall be in accordance with EN ISO 16138. The upper body shall be PPGF (polypropylene glass fibre reinforced) connected to the lower body with exposed stainless steel bolts. A position indicator integrated into the hand wheel must be present to determine diaphragm position. Diaphragms shall be EPDM, FPM, NBR, or PTFE with EPDM or FPM supporting diaphragm.

Planning Fundamentals

The following link will lead you to the Georg Fischer Planning Fundamentals. These detailed documents will support you by choosing the right valve for your application.

http://www.gfps.com/content/gfps.com/en/support_and_services/planning_assistance/planning_fundamentals.html?lang=en