

Data sheet diaphragm valve type 514, 515, 517 and 519



GEORG FISCHER
PIPING SYSTEMS

1. Product features

- No corrosion as there are no metal screws
- Increased leak-tightness at temperature changes due to identical temperature behavior of the materials used
- Due to the innovative design the flow rate could be doubled over all dimensions
- The valve body geometry results in a linear flow characteristic, clearly simplifying valve control
- New diaphragm geometry leads to a longer lifetime
- Integrated hand wheel locking device
- The new design enables positioning of the weir rather close to the pipe wall. This produces a zero static branch valve that gives no chance to impurities and growth of bacteria

2. Materials

- Valve body:
 - PVC-U, PVC-C, ABS, PP-H, PP-n, PVDF, PVDF-HP
- Diaphragm:
 - EPDM, PTFE/EPDM, PTFE/FPM, FPM, NBR
- Housing nut:
 - PP GF30 for PN10
 - PPS GF40 for PN16
- Hand wheel: PP GF30
- Inner housing: PP GF30
- Position indicator: PP
- Compressor: PPS GF40 / PP GF30
- Diaphragm holder: CuZn40Pb2
- Spindle: X12CrMoS17
- Spindle nut: PPS GF40

3. Dimensions

d20 mm [DN15] ... d63 mm [DN50]

4. Types



Type 514 Type
True Union Design



515
Spigot ends



Type 517
Flanges



Type 519
Branched type

5. Pressure range

- PN16 for PVC-U as a configuration and for PVDF as standard
- PN10 for all other materials

6. Standards

ISO, BS, ASTM, ANSI and JIS

7. Exploded drawing – as an example type 514



8. Indicator for diaphragm material

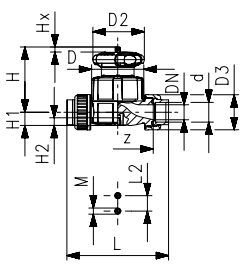


Friction lock on the valve body - colour shows type of diaphragm material:

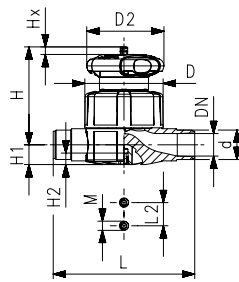
black	EPDM diaphragm
white	PTFE/EPDM diaphragm
green	PTFE/FPM diaphragm
red	FPM diaphragm
blue	NBR diaphragm

9. Dimensions

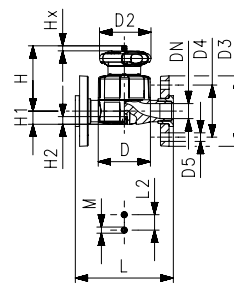
Type 514



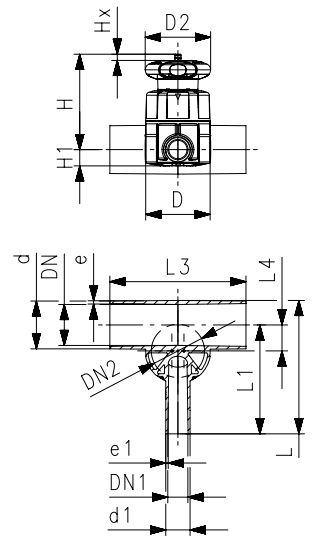
Type 515



Type 517



Type 519



Legend

- L(1) Union with cemented socket, metric
- L(2) Union with threaded socket, metric
- L(3) Union with fusion socket
- L(4) Union with butt fusion spigot
- L(5) Butt fusion spigot
- L(6) Cemented spigot, metric
- L(7) Socket fusion spigot
- L(8) Backing flange, metric

All data in millimeter [mm].

Type 514

d	DN	D	D2	D3	L(1)	L(2)	L(3)	L(4)	L2	H	H1	H2	M	z	Hx
20	15	65	65	43	128	128	128	224	25	73	14	12	M6	96	7
25	20	80	65	51	152	152	150	250	25	81	18	12	M6	114	10
32	25	88	87	58	166	166	162	262	25	107	22	12	M6	122	13
40	32	101	87	72	192	192	184	296	45	115	26	15	M8	140	15
50	40	117	135	83	222	222	210	328	45	148	32	15	M8	160	19
63	50	144	135	100	266	266	248	370	45	166	39	15	M8	190	25

Type 515

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

Type 517

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

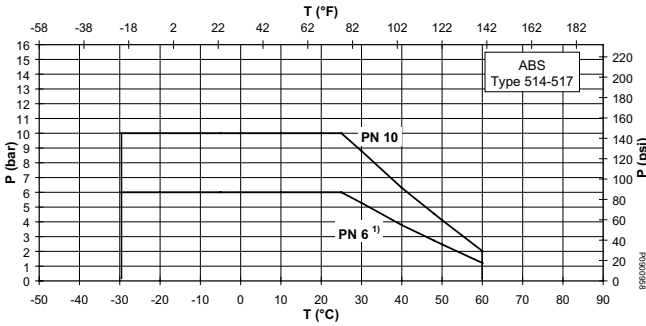
Type 519

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

10. Pressure-Temperature Diagram

The following Pressure-Temperature Diagrams are based on a lifetime of 25 years with water or similar media.

ABS

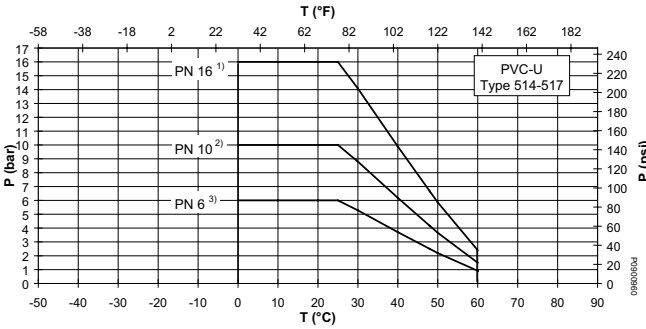


P Permissible pressure in bar, psi

T Temperature in °C, °F

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

PVC-U



P Permissible pressure in bar, psi

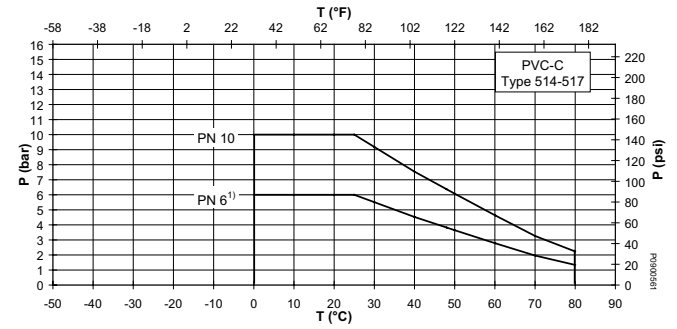
T Temperature in °C, °F

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

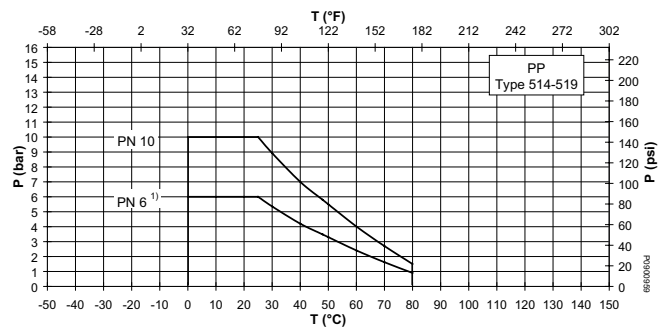


P Permissible pressure in bar, psi

T Temperature in °C, °F

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

PP

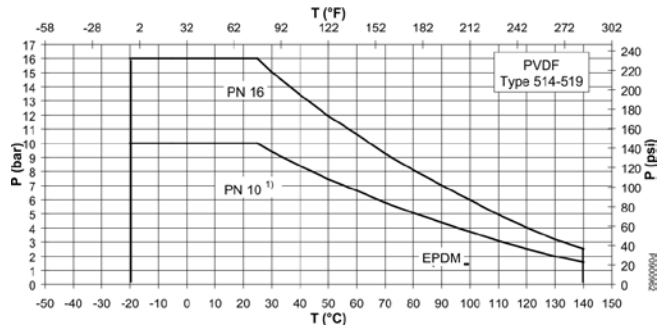


P Permissible pressure in bar, psi

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

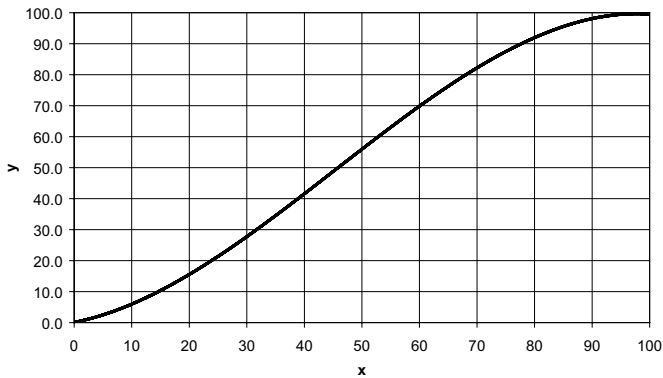
T Temperature in °C, °F

1) Depending on the connection type and actuator, the nominal pressure is reduced to PN10

PN16 only with black PPS housing nut

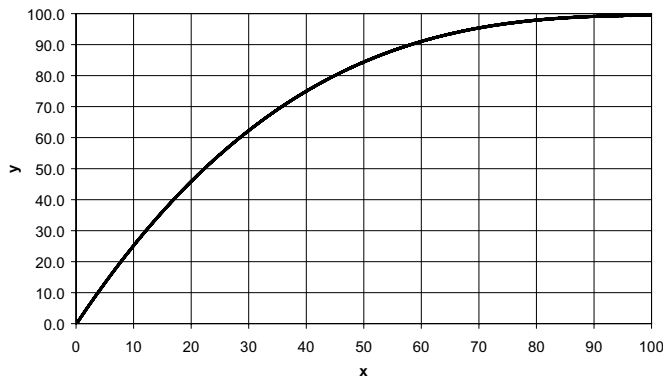
11. Flow characteristics

Type 514...517



x Stroke in %
y kv, Cv value in %

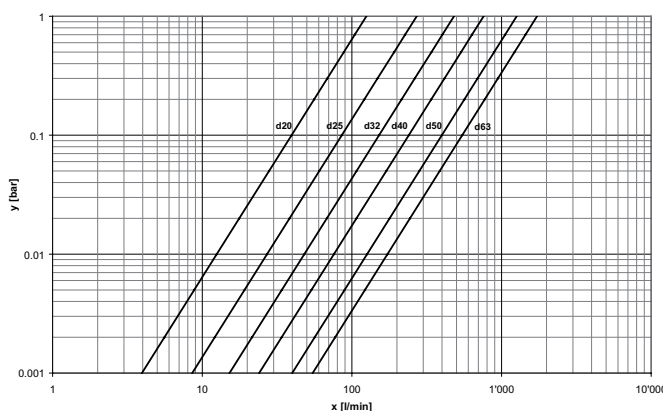
Type 519



x Stroke in %
y kv, Cv value in %

12. Pressure loss

Type 514...517



x Flow rate in l/min
y Pressure loss $\Delta p = 1 \text{ bar}$

13. kv 100 values

The kv values for each intermediate valve position can be determined by using the flow value characteristic and the kv 100 values.

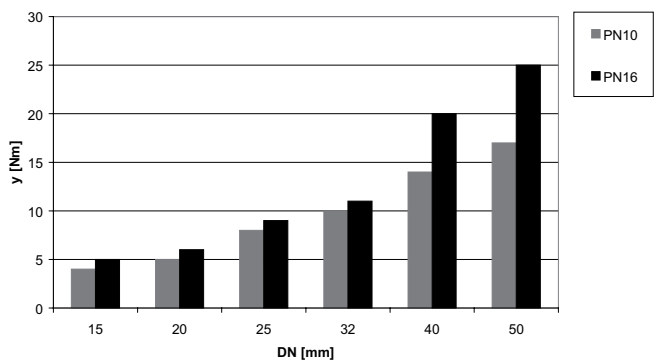
Type 514 - 517

d [mm]	DN [mm]	Kv[l/min] $\Delta p = 1 \text{ bar}$
20	15	125
25	20	271
32	25	481
40	32	759
50	40	1263
63	50	1728

Type 519

d [mm]	d1 [mm]	DN [mm]	DN1 [mm]	Kv[l/min] $\Delta p = 1 \text{ bar}$
20	20	15	15	57
25	20	20	15	89
25	25	20	20	118
32	20	25	15	80
32	25	25	20	105
32	32	25	25	231
40	20	32	15	85
40	25	32	20	119
40	32	32	25	153
40	40	32	32	187
50	20	40	15	86
50	25	40	20	160
50	32	40	25	206
50	40	40	32	524
50	50	40	40	667
63	20	50	15	84
63	25	50	20	150
63	32	50	25	184
63	40	50	32	471
63	50	50	40	610
63	63	50	50	747

14. Operating torque



15. Accessories and options

- Electrical feedback with limit switches
AgNi, Au
- Modification set for pressure tight housing