

Diaphragm Valve MV 310 - manual - good control characteristics, visual position indicator



Advantage

- as standard with visual position indicator

Application

- chemical plants
- industrial plants
- water treatment
- electroplating plants

Utilisation

- for shut-off and control purposes in technical processing plants

Flow Media

- Neutral and aggressive fluid or gaseous media, also with abrasive constituents, provided that the valve components coming into contact with the media are resistant at the operating temperature in accordance with the ASV resistance guide.
- For nitric acid or sulfuric acid please specify the precise operating conditions of the application.

Testing

- Requirements and tests/inspections according to DIN 3441, 3442, 8063 and 16962. DIN EN 12266, leakage rate A tested.

Nominal Pressure (H₂O, 20°C)

- PN 10

Fluid Temperature

- see pressure/temperature diagram

Operating Pressure

- see pressure/temperature diagram

Size

- DN 15 - DN 100

Valve Body

- PVC-U
- PVC-C
- PP
- PVDF

Diaphragm

- EPDM
- FPM on request
- PTFE (EPDM diaphragm with PTFE coating on the surfaces coming into contact with the medium)

Bonnet

- PP, glass fibre reinforced

Spindle

- DN 15 - DN 50: made of thermoplastic (PA)
- DN 65 - DN 100: made of steel (C1)

Spindle Nut

- made of thermoplastic (PA)

Handwheel

- made of thermoplastic (PA)

Sealing

- FPM
- EPDM

Actuation

- manually by means of an ergonomically shaped non-rising handwheel

Connection

- DN 15 - DN 50: union DIN 8063
- GFR flange DIN 2501, PN 10/16, with DIN face-to-face dimension
- PP/steel flange DIN 2501, PN 10/16, with DIN face-to-face dimension
- union socket end for solvent welding DIN ISO (PVC-U)
- union socket end for solvent welding DIN ISO (PVC-C)
- union socket end for fusion welding DIN ISO (PP)
- union socket end for fusion welding DIN ISO (PVDF)
- union end acc. to BS, ANSI or JIS on request
- spigot end for solvent welding DIN ISO (PVC-U)
- spigot end for solvent welding DIN ISO (PVC-C)
- fusion spigot end DIN ISO (PP)
- fusion spigot end DIN ISO (PVDF)

Mounting

- as required

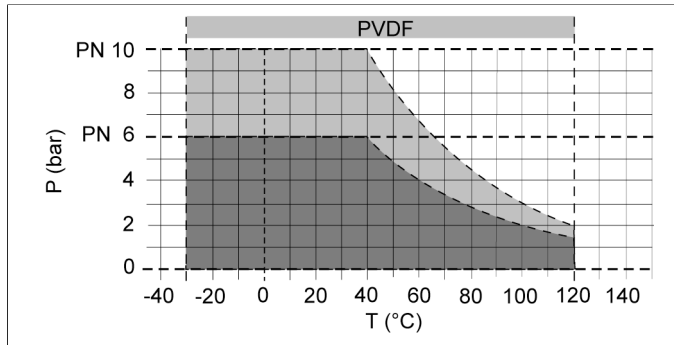
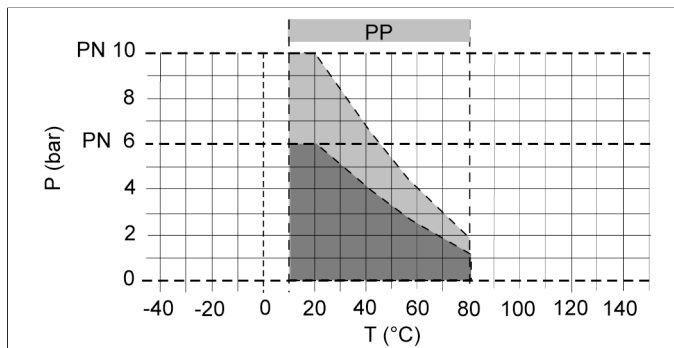
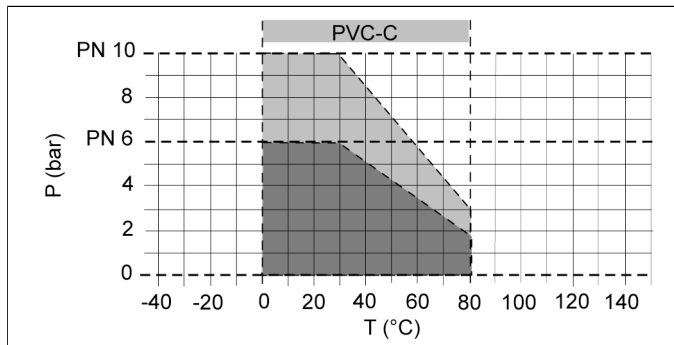
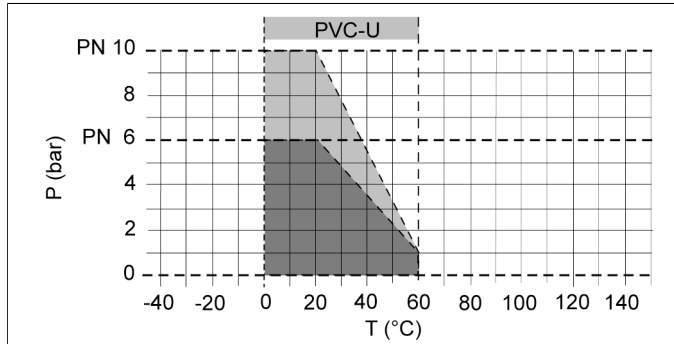
Fastening

- via threaded inserts (metal inserts) in the valve body

Colour

- body: PVC-U, grey, RAL 7011
- body: PVC-C, grey, RAL 7001
- body: PP, grey, RAL 7032
- body: PVDF, opaque, yellowish-white
- bonnet: orange, RAL 2004
- GFR Flanges: black, RAL 9011
- PP/Steel Flanges: black, RAL 9011

Pressure/temperature diagram



P = operating pressure

T = temperature

The pressure/temperature limits are applicable for the stated nominal pressures and a computed operating life factor of 25 years. These are standard values for harmless media (DIN 2403), to which the valve material is resistant.

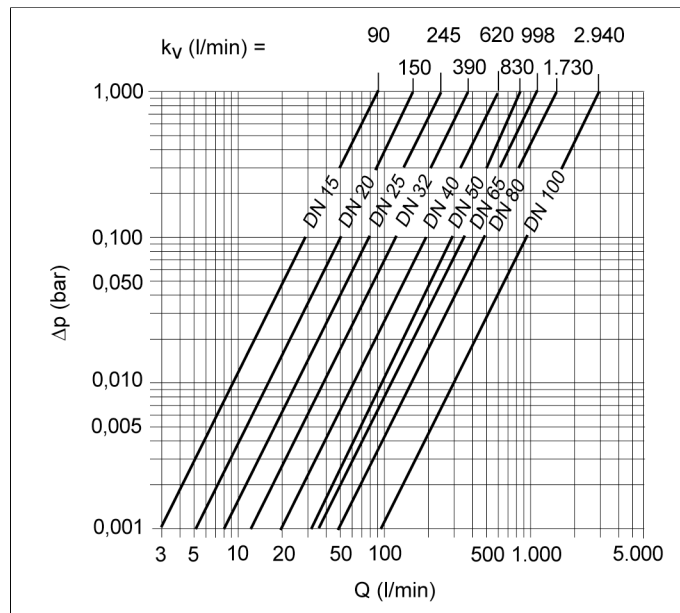
For other media please refer to the ASV resistance guide.

The durability of wear parts depends on the operating conditions of the application.

For temperatures below 0°C (PP < +10°C) please specify the precise operating conditions of the application.

The rated pressure depends on the valve size and material. For the corresponding rated pressure value of the valve, please refer to the »Order table«.

Pressure loss curve (standard values for H₂O, 20°C)



ΔP = pressure loss

Q = flow

pressure loss and k_v value

The diagram shows the pressure loss ΔP in relation to the flow Q .

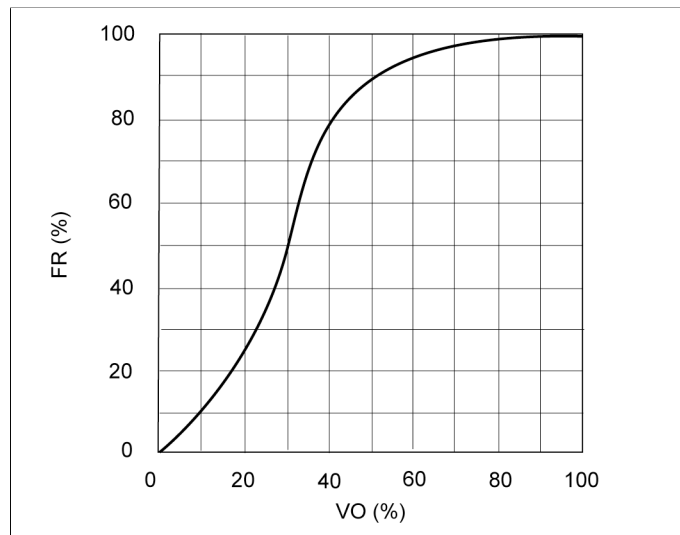
Conversion aid:

$$c_v = k_v \times 0.07; f_v = k_v \times 0.0585$$

Units:

k_v [l/min]; c_v [gal/min] US; f_v [gal/min] GB

Flow characteristic



VO = valve opening

$FR = K_v \text{ value}$

Diaphragm Valve MV 310 - manual -

Maintenance note

Screw tightening torque (Nm)

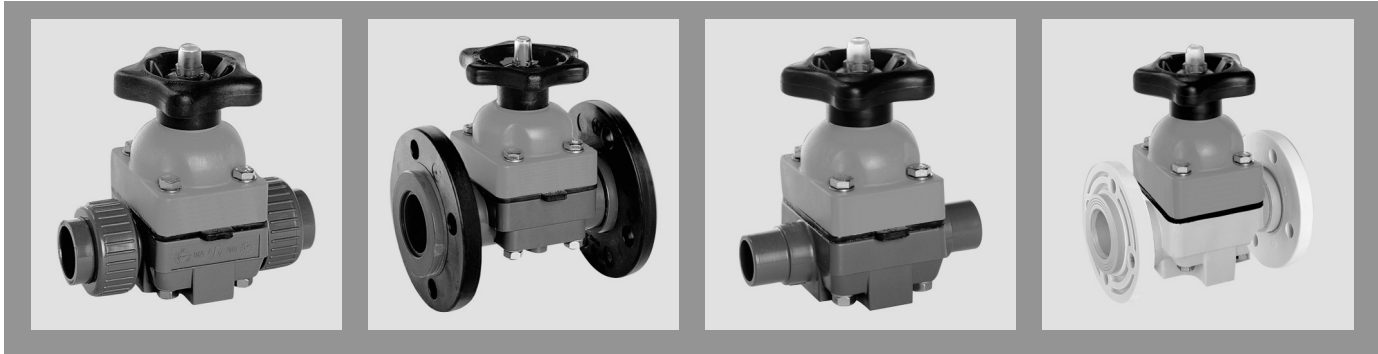
d (mm)		20	25	32	40	50	63
Md (Nm) EPDM		6	6	10	10	18	18
Md (Nm) PTFE		8	8	12	12	20	20
<hr/>							
d (mm)					75	90	110
Md (Nm) EPDM					18	18	20
Md (Nm) PTFE					20	20	22

Check the tightening torque of the body screws at certain intervals in case of setting of the diaphragms and/or temperature fluctuations.

Operating note

Safe operation of the valve can only be ensured if it is properly installed, operated, serviced or repaired by qualified personnel according to its intended use while observing the accident prevention regulations, safety regulations, relevant standards, directives/technical regulations or codes of practice such as e.g. DIN, DIN EN, DIN ISO and DVS*. *DVS = German Welding Society
 The intended use includes adhering to specified limit values for pressure and temperature, as well as checking the resistance. This requires all components coming into contact with the medium to be "resistant" in accordance with the ASV resistance guide.
 Please take into account that the material PTFE is classified as resistant against many media, however, PTFE is not diffusion tight when used as a film, e.g. for the ASV membranes. Please contact us for limit cases (nitric acid or sulfuric acid).

Diaphragm Valve MV 310 - manual -, [d20 - d63]



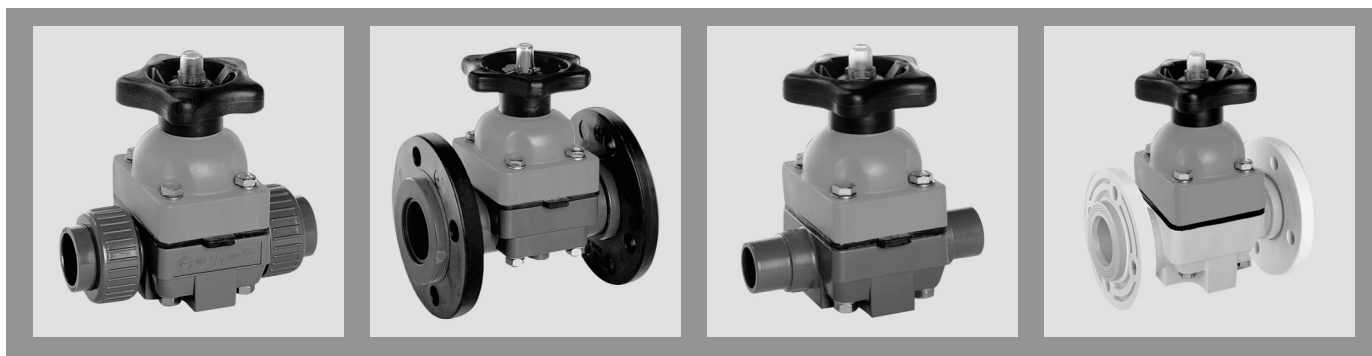
body PVC-U

size	d(mm)							
	20	25	32	40	50	63		
pressure range	DN(mm)							
	15	20	25	32	40	50		
	DN(inch)							
	1/2	3/4	1	1 1/4	1 1/2	2		
	PN(bar)							
	10	10	10	10	10	10		
Connection	diaphragm	sealing	ident No.					
PVC-U socket end DIN ISO	EPDM	EPDM	114793	114794	113396	113397	113398	114798
	PTFE	FPM	114799	114800	114801	114802	114803	114804
	weight		0.50 kg	0.50 kg	1.10 kg	1.20 kg	2.10 kg	2.50 kg
PVC-U spigot end DIN ISO	EPDM	EPDM	62275	62276	62277	62278	62279	62280
	PTFE	FPM	65992	65993	65994	65995	65996	65997
	weight		0.38 kg	0.40 kg	0.83 kg	0.90 kg	1.80 kg	1.90 kg
GFR flange DIN 2501	EPDM	EPDM	65021	65022	65023	65024	65025	65026
	PTFE	FPM	69896	69897	69898	69899	69900	69901
	weight		0.84 kg	0.96 kg	1.61 kg	2.28 kg	3.64 kg	4.60 kg

body PVC-C

size	d(mm)							
	20	25	32	40	50	63		
pressure range	DN(mm)							
	15	20	25	32	40	50		
	DN(inch)							
	1/2	3/4	1	1 1/4	1 1/2	2		
	PN(bar)							
	10	10	10	10	10	10		
Connection	diaphragm	sealing	ident No.					
PVC-C socket end DIN ISO	EPDM	EPDM	131078	131079	131080	131081	131082	131083
	PTFE	FPM	131085	131086	131087	131088	131089	131090
PVC-C spigot end DIN ISO	EPDM	EPDM	131058	131059	131060	131061	131062	131063
	PTFE	FPM	131068	131069	131070	131071	131072	131073
	weight		0.38 kg	0.40 kg	0.83 kg	0.90 kg	1.80 kg	1.90 kg
PP / steel flange DIN 2501	EPDM	EPDM	131092	131093	131094	131095	131096	131097
	PTFE	FPM	131103	131104	131105	131106	131107	131108
	weight		0.82 kg	1.06 kg	1.63 kg	2.20 kg	3.20 kg	3.50 kg

Diaphragm Valve MV 310 - manual -, [d20 - d63]



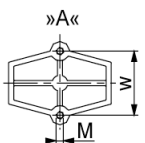
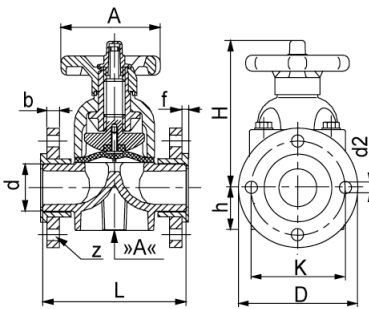
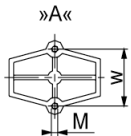
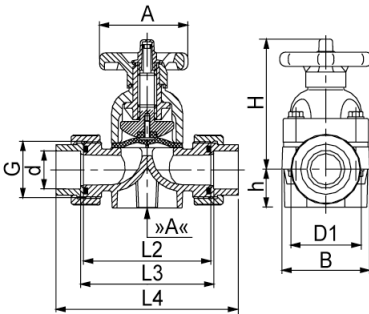
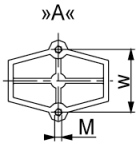
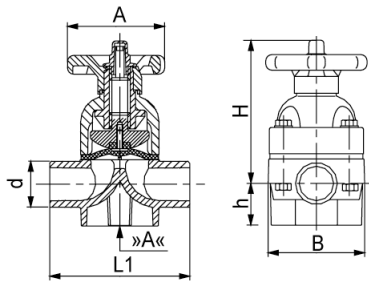
body PP

<i>size</i>	d(mm)			20	25	32	40	50	63
	<i>pressure range</i>			15	20	25	32	40	50
				1/2	3/4	1	1 1/4	1 1/2	2
				10	10	10	10	10	10
<i>Connection</i>	<i>diaphragm</i>	<i>sealing</i>	<i>ident No.</i>						
PP socket end DIN ISO	EPDM	EPDM	114805	114806	113399	113400	114809	114810	
	PTFE	FPM	114811	114812	114813	114814	114815	114816	
	<i>weight</i>		0.44 kg	2.39 kg	0.93 kg	1.06 kg	1.88 kg	2.12 kg	
PP spigot end DIN ISO	EPDM	EPDM	62281	62282	62283	62284	62285	62286	
	PTFE	FPM	67000	67001	67002	67003	67004	67005	
	<i>weight</i>		0.38 kg	0.40 kg	0.82 kg	2.36 kg	1.68 kg	1.74 kg	
GFR flange DIN 2501	EPDM	EPDM	65039	65040	65041	65042	65043	65044	
	PTFE	FPM	69902	69903	69904	69905	69906	69907	
	<i>weight</i>		0.52 kg	0.62 kg	1.08 kg	1.41 kg	2.22 kg	2.50 kg	

body PVDF

<i>size</i>	d(mm)			20	25	32	40	50	63
	<i>pressure range</i>			15	20	25	32	40	50
				1/2	3/4	1	1 1/4	1 1/2	2
				10	10	10	10	10	10
<i>Connection</i>	<i>diaphragm</i>	<i>sealing</i>	<i>ident No.</i>						
PVDF socket end DIN ISO	PTFE	FPM	114823	114824	114825	114826	114827	114828	
	<i>weight</i>		0.50 kg	0.55 kg	1.07 kg	1.26 kg	2.44 kg	2.80 kg	
PVDF spigot end DIN ISO	PTFE	FPM	67006	67007	67008	67009	67010	67011	
	<i>weight</i>		0.44 kg	0.47 kg	0.97 kg	1.10 kg	2.20 kg	2.30 kg	
PP / steel flange DIN 2501	PTFE	FPM	67726	67727	67728	67729	67730	67731	
	<i>weight</i>		0.87 kg	1.11 kg	1.75 kg	1.80 kg	3.64 kg	3.98 kg	

Diaphragm Valve MV 310 - manual -, [d20 - d63]



dimensions

d(mm)	20	25	32	40	50	63
DN(mm)	15	20	25	32	40	50
DN(inch)	1/2	3/4	1	1 1/4	1 1/2	2
dimensions(mm)						
A	90	90	100	100	130	130
PP/PVC-U	b	12	14	15	17	18
PVC-C/PVDF	b	13	14.5	15.5	17.5	19
B	72	72	92	92	119	119
d2	14	14	14	18	18	18
D	95	105	115	140	150	165
PP	D1	46	56	66	79	107
PVC-C/PVC-U	D1	41	50	58	72	98
PVDF	D1	47	57	64	78	109
f	6	7	7	8	8	9
h	26	26	26	40	40	40
H	98	102	131	135	169	175
K	65	75	85	100	110	125
L	130	150	160	180	200	230
L1	124	144	154	174	194	224
L2	90	108	116	134	154	184
L3	96	114	122	140	160	190
PP	L4	125	146	158	181	207
PVC-C/PVC-U	L4	128	152	166	192	222
PVDF	L4	128	150	162	184	210
M	M6	M6	M6	M8	M8	M8
PP/PVDF	t	16	19	21	23	30
PVC-C/PVC-U	t	16	19	22	26	31
w	26	26	26	45	45	45
z	4	4	4	4	4	4

Diaphragm Valve MV 310 - manual -, [d75 - d110]



body PVC-U

<i>size</i>	d(mm)		75	90	110
	DN(mm)		65	80	100
	DN(inch)		2 1/2	3	4
	PN(bar)		10	10	10
<i>pressure range</i>	diaphragm				
	sealing				
	ident No.				
Connection	diaphragm	sealing			
PVC-U spigot end DIN ISO	EPDM	EPDM	45176	45177	45178
	PTFE	FPM	45194	45195	45196
	<i>weight</i>		6.10 kg	6.50 kg	9.50 kg
GFR flange DIN 2501	EPDM	EPDM	46422	46423	46424
	PTFE	FPM	46428	46429	46430
	<i>weight</i>		8.60 kg	9.40 kg	12.70 kg

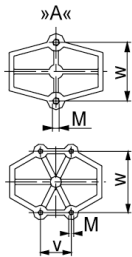
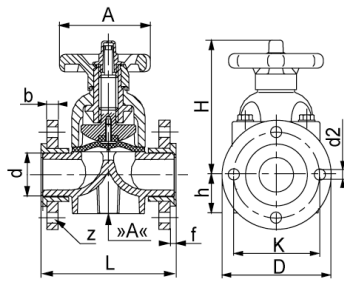
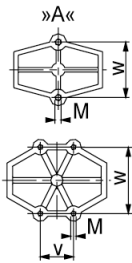
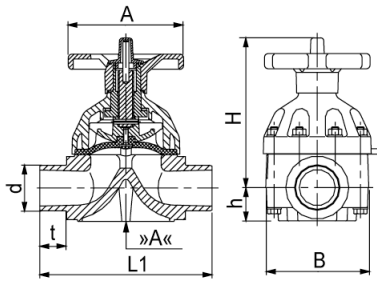
body PP

<i>size</i>	d(mm)		75	90	110
	DN(mm)		65	80	100
	DN(inch)		2 1/2	3	4
	PN(bar)		10	10	10
<i>pressure range</i>	diaphragm				
	sealing				
	ident No.				
Connection	diaphragm	sealing			
PP spigot end DIN ISO	EPDM	EPDM	45212	45213	45214
	PTFE	FPM	45230	45231	45232
	<i>weight</i>		5.20 kg	5.60 kg	8.20 kg
GFR flange DIN 2501	EPDM	EPDM	46434	46435	46436
	PTFE	FPM	46440	46441	46442
	<i>weight</i>		7.70 kg	8.60 kg	11.40 kg

body PVDF

<i>size</i>	d(mm)		75	90	110
	DN(mm)		65	80	100
	DN(inch)		2 1/2	3	4
	PN(bar)		10	10	10
<i>pressure range</i>	diaphragm				
	sealing				
	ident No.				
Connection	diaphragm	sealing			
PVDF spigot end DIN ISO	PTFE	FPM	45266	45267	45268
	<i>weight</i>		7.70 kg	8.60 kg	11.40 kg
PP / steel flange DIN 2501	PTFE	FPM	46449	46453	46454
	<i>weight</i>		9.40 kg	10.20 kg	13.90 kg

Diaphragm Valve MV 310 - manual -, [d75 - d110]



dimensions

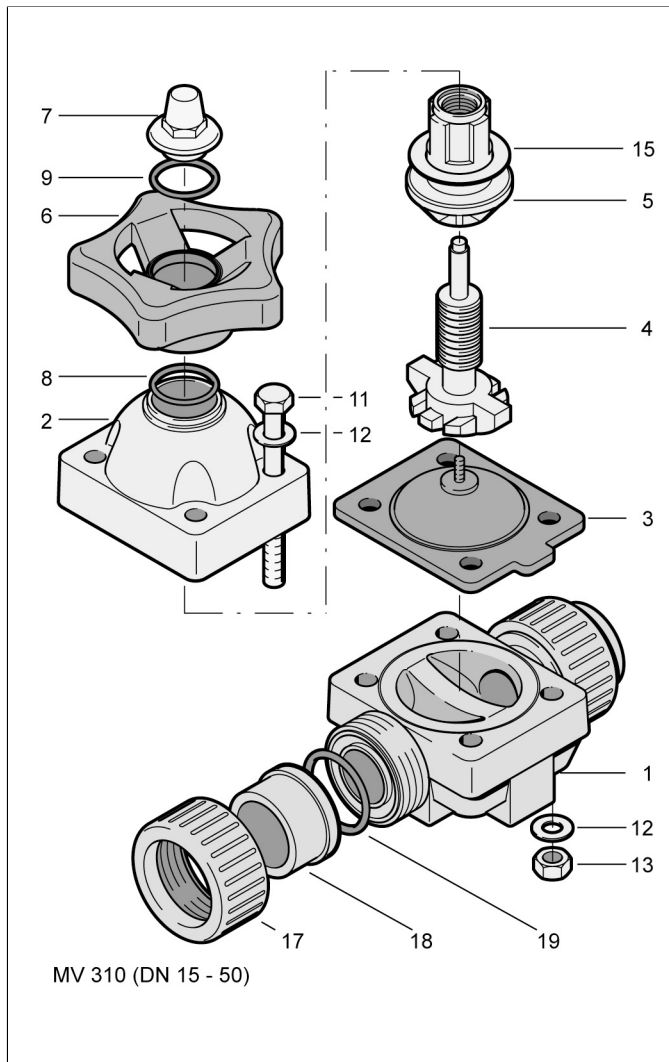
d(mm)	75	90	110
DN(mm)	65	80	100
DN(inch)	2 1/2	3	4

dimensions(mm)

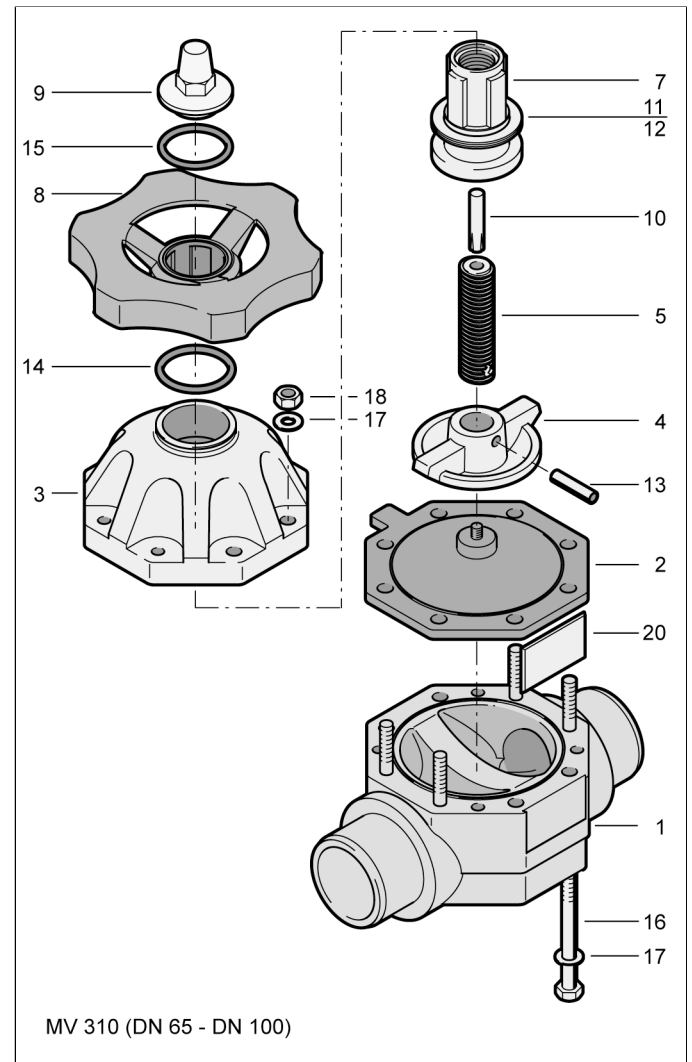
	A	190	190	240
PP/PVC-U	b	18	20	20
PVDF	b	19	21	22
	B	177	177	217
	d2	18	18	18
	D	185	200	220
	f	10	11	12
	h	54	54	64
	H	245	245	285
	K	145	160	180
	L	290	310	350
	L1	284	300	340
	M	M12	M12	M10
PP/PVDF	t	33.5	38	45
PVC-U	t	44	52	61
	v	-	-	60
	w	100	100	120
	z	4	8	8

Diaphragm Valve MV 310 - manual -

parts lists



position	quantity	designation
1	1	valve body
2	1	bonnet
3	1	diaphragm
4	1	spindle
5	1	spindle nut
6	1	handwheel
7	1	indicator cap
8	1	O-ring
9	1	O-ring
11	4	hexagon bolt
12	8	disc
13	4	hexagon nut
15	1	bearing ring
17	1	union nut
18	1	union end
19	1	O-ring



position	quantity	designation
1	1	valve body
2	1	diaphragm
3	1	bonnet
4	1	pressure piece
5	1	spindle
7	1	spindle nut
8	1	handwheel
9	1	indicator cap
10	1	indicator pin
11	1	axial bearing
12	2	axial bearing disc
13	1	spring dowel sleeve
14	1	O-ring
15	1	O-ring
16	4	hexagon bolt
17	8/12	disc
18	4/8	hexagon nut
20	1	name plate

