

Diaphragm Valve MV 310

excellent control characteristics, visual position indicator



Application

- chemical plants
- water treatment

Utilisation

- as shut-off valves as well as for controlling in process plants

Type of fluids

- neutral, aggressive liquids or gaseous media even with abrasive particles provided that the components coming into contact with the medium are resistant at operating temperature according to the ASV resistance guide.

Examinations

- requirements and examinations acc. to DIN 3441, 3442, 8063 and 16 963. DIN EN 12266, leak rate A examined.

Certificate

- DIBt*-approval
*DIBt = Approvals by German Institute for Construction Technology

Nominal pressure (H₂O, 20°C)

- DN 15 - DN 100 PN 10
- DN 150 PN 6

Media temperature

- see pressure/temperature diagram

Operating pressure

- see pressure/temperature diagram

Size

- DN 15 - DN 150

Housing

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

Diaphragm

- EPDM
- PTFE-vulcanised EPDM-diaphragm on fluid side
- FPM on request

Sealings

- EPDM
- FPM

Bonnet

- PP, glas fibre reinforced

Actuation

- with ergonomically designed, non-rising handwheel

Connection

- spigot ends for solvent welding DIN/ISO (PVC-U, PVC-C)
- spigot ends for fusion welding DIN/ISO (PP, PVDF)
- union DIN 8063 (DN 15 - DN 50) with socket ends for solvent welding DIN/ISO (PVC-U, PVC-C)
- union DIN 8063 (DN 15 - DN 50) with socket ends for fusion welding DIN/ISO (PP, PVDF)
- GFR or PP/steel flange DIN 2501 PN 10/16 with DIN face-to-face dimension
- DN 150 with fixed flange
- inserts acc. to BS, ANSI or JIS on request

Mounting

- variable

Option

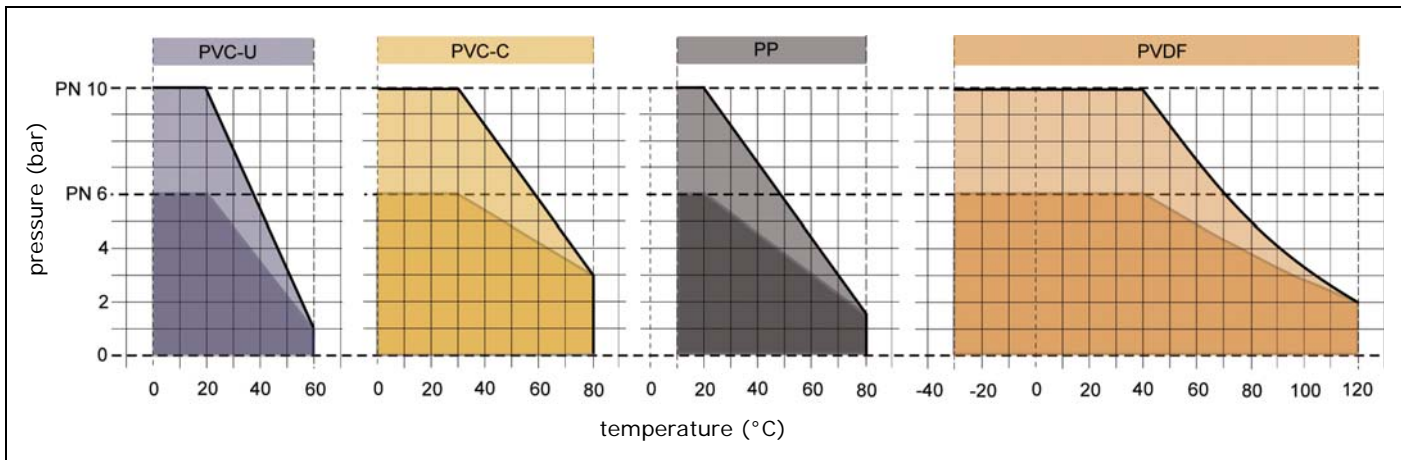
- pneumatically actuated (data sheet 330056/330062)
- electrically actuated (data sheet 330044)

Colour

- housing PVC-U: grey, RAL 7011
PVC-C: grey, RAL 7001
PP: grey, RAL 7032
PVDF: opaque, yellowish-white
- bonnet orange, RAL 2004

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Pressure/temperature diagram



Pressure/temperature diagram

The pressure/temperature limits are applicable for the stated nominal pressures and a computed operating life factor of 25 years.

The values are a guide for harmless media (DIN 2403), to which the material of the valve is resistant.

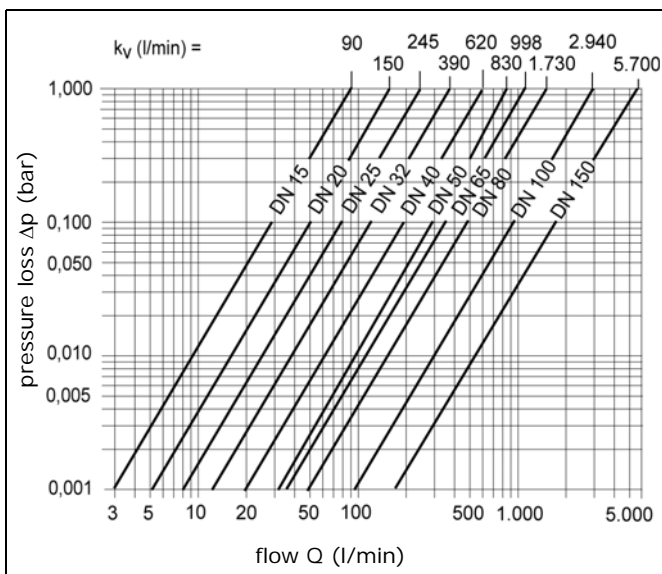
For other media see the ASV resistance guide.

Durability of wear and tear parts depends on the operating conditions of the application.

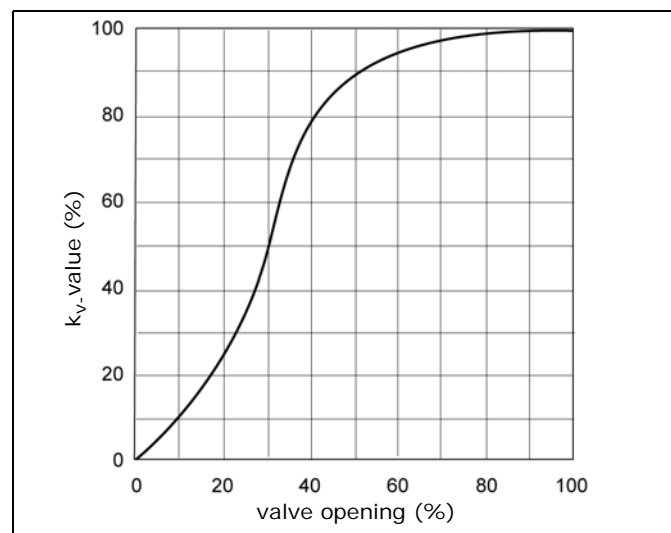
For temperatures below 0 °C (PP < +10 °C) please specify the precise operating conditions of the application.

Pressure loss curve

(standard values for H₂O, 20°C)



Flow characteristic



Torque Nm (standard value)

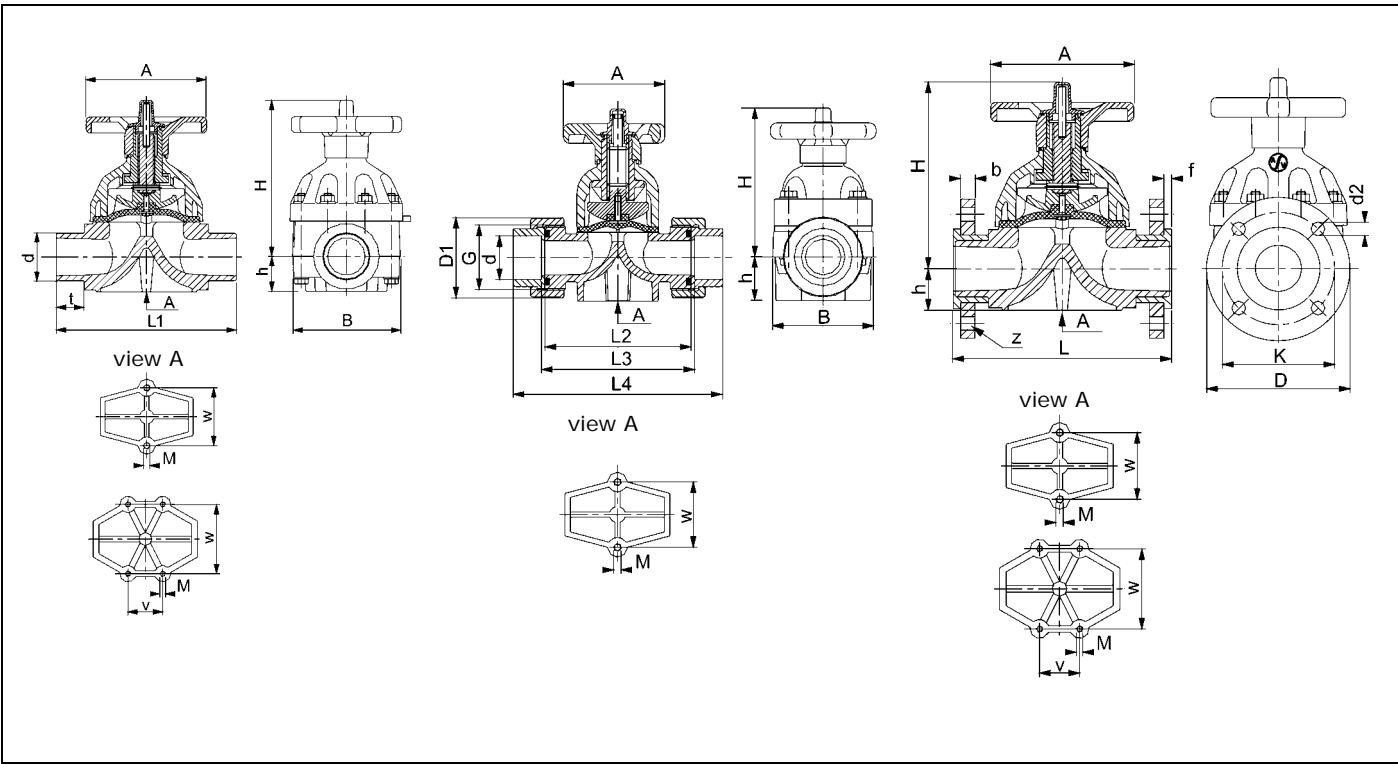
d (mm)	20	25	32	40	50	63
MD (Nm)	4	4	4	5	8	10
d (mm)	75	90	110	160		
MD (Nm)	17	22	40	85		

The stated torques are approximate values.

They have been determined as follows:
Operating pressure p = 10 bar with H₂O, 20°C.

Depending on the fluid the respective value can be higher or lower.

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Dimension

d	(mm)	20	25	32	40	50	63	75	90	110	160
DN	(mm)	15	20	25	32	40	50	65	80	100	150
DN	(inch)	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	6
PN	(bar)	10	10	10	10	10	10	10	10	10	6
	A	90,0	90,0	100,0	100,0	130,0	130,0	190,0	190,0	240,0	410,0
	B	72,0	72,0	92,0	92,0	119,0	119,0	177,0	177,0	217,0	-
GFR-flange	b	12,0	14,0	15,0	17,0	17,0	18,0	18,0	20,0	20,0	28,0
PP/steel-flange	b	13,0	14,5	15,5	17,5	17,5	19,0	19,0	21,0	22,0	27,0
	D	95,0	105,0	115,0	140,0	150,0	165,0	185,0	200,0	220,0	285,0
PVC-U/PVC-C	D1	41,0	50,0	58,0	72,0	79,0	98,0	-	-	-	-
PP	D1	46,0	56,0	66,0	79,0	87,0	107,0	-	-	-	-
PVDF	D1	47,0	57,0	64,0	78,0	89,0	109,0	-	-	-	-
	d2	14,0	14,0	14,0	18,0	18,0	18,0	18,0	18,0	18,0	23,0
	f	6,0	7,0	7,0	8,0	8,0	9,0	10,0	11,0	12,0	-
	H	98,0	102,0	131,0	135,0	169,0	175,0	245,0	245,0	285,0	476,0
	h	26,0	26,0	26,0	40,0	40,0	40,0	54,0	54,0	64,0	-
	K	65,0	75,0	85,0	100,0	110,0	125,0	145,0	160,0	180,0	240,0
	L	130,0	150,0	160,0	180,0	200,0	230,0	290,0	310,0	350,0	480,0
	L1	124,0	144,0	154,0	174,0	194,0	224,0	284,0	300,0	340,0	-
	L2	90,0	108,0	116,0	134,0	154,0	184,0	-	-	-	-
	L3	96,0	114,0	122,0	140,0	160,0	190,0	-	-	-	-
PVC-U/PVC-C	L4	128,0	152,0	166,0	192,0	222,0	266,0	-	-	-	-
PP	L4	125,0	146,0	158,0	181,0	207,0	244,0	-	-	-	-
PVDF	L4	128,0	150,0	162,0	184,0	210,0	248,0	-	-	-	-
	M	M6	M6	M6	M8	M8	M8	M12	M12	M10	-
PVC-U/PVC-C	t	16,0	19,0	22,0	26,0	31,0	38,0	44,0	52,0	61,0	-
PP/PVDF	t	16,0	19,0	21,0	23,0	26,0	30,0	33,5	38,0	45,0	-
	v	-	-	-	-	-	-	-	-	60,0	-
	w	26,0	26,0	26,0	45,0	45,0	45,0	100,0	100,0	120,0	-
	z	4,0	4,0	4,0	4,0	4,0	4,0	4,0	8,0	8,0	8,0

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Weight (kg)

d (mm)	20	25	32	40	50	63	75	90	110	160
PVC spigot	0,38	0,40	0,83	0,90	1,80	1,90	6,10	6,50	9,50	-
PVC socket	0,50	0,50	1,10	1,20	2,10	2,50	-	-	-	-
PVC flange	0,82	1,06	1,63	2,20	3,20	3,50	8,60	9,40	12,70	29,90
PP spigot	0,32	0,34	0,70	0,77	1,50	1,60	5,20	5,60	8,20	-
PP socket	0,40	0,50	0,90	1,00	1,80	2,10	-	-	-	-
PP flange	0,76	1,00	1,50	2,10	2,90	3,20	7,70	8,60	11,40	23,00
PVDF spigot	0,44	0,47	0,97	1,10	2,20	2,30	6,90	7,20	10,70	-
PVDF socket	0,55	0,60	1,25	1,35	2,40	2,80	-	-	-	-
PVDF flange	0,88	1,13	1,77	2,40	3,60	3,90	9,40	10,20	13,90	36,60

Ident number PVC-U

body PVC-U	d (mm)	20	25	32	40	50	63	75	90	110	160
connection	diaphragm										
PVC-U spigot	EPDM	62275	62276	62277	62278	62279	62280	45176	45177	45178	-
PVC-U spigot	PTFE	65992	65993	65994	65995	65996	65997	45194	45195	45196	-
PVC-U socket	EPDM	114793	114794	113396	113397	113398	114798	-	-	-	-
PVC-U socket	PTFE	114799	114800	114801	114802	114803	114804	-	-	-	-
GFR flange ¹⁾	EPDM	65021	65022	65023	65024	65025	65026	46422	46423	46424	123361
GFR flange ¹⁾	PTFE	69896	69897	69898	69899	69900	69901	46428	46429	46430	123362

¹⁾ d 160: connection fixed flange

Ident number PVC-C

body PVC-C	d (mm)	20	25	32	40	50	63	75	90	110	160
connection	diaphragm										
PVC-C-spigot	EPDM	131058	131059	131060	131061	131062	131063	131064	131065	131066	-
PVC-C-spigot	PTFE	131068	131069	131070	131071	131072	131073	131074	131075	131076	-
PVC-C-socket	EPDM	131078	131079	131080	131081	131082	131083	-	-	-	-
PVC-C-socket	PTFE	131085	131086	131087	131088	131089	131090	-	-	-	-
PP/steel-flange	EPDM	131092	131093	131094	131095	131096	131097	131098	131099	131100	-
PP/steel-flange	PTFE	131103	131104	131105	131106	131107	131108	131109	131110	131111	-

Ident number PP

body PP	d (mm)	20	25	32	40	50	63	75	90	110	160
connection	diaphragm										
PP-spigot	EPDM	62281	62282	62283	62284	62285	62286	45212	45213	45214	-
PP-spigot	PTFE	67000	67001	67002	67003	67004	67005	45230	45231	45232	-
PP-socket	EPDM	114805	114806	113399	113400	114809	114810	-	-	-	-
PP-socket	PTFE	114811	114812	114813	114814	114815	114816	-	-	-	-
GFR-flange ¹⁾	EPDM	65039	65040	65041	65042	65043	65044	46434	46435	46436	123363
GFR-flange ¹⁾	PTFE	69902	69903	69904	69905	69906	69907	46440	46441	46442	123364

¹⁾ d 160: connection fixed flange

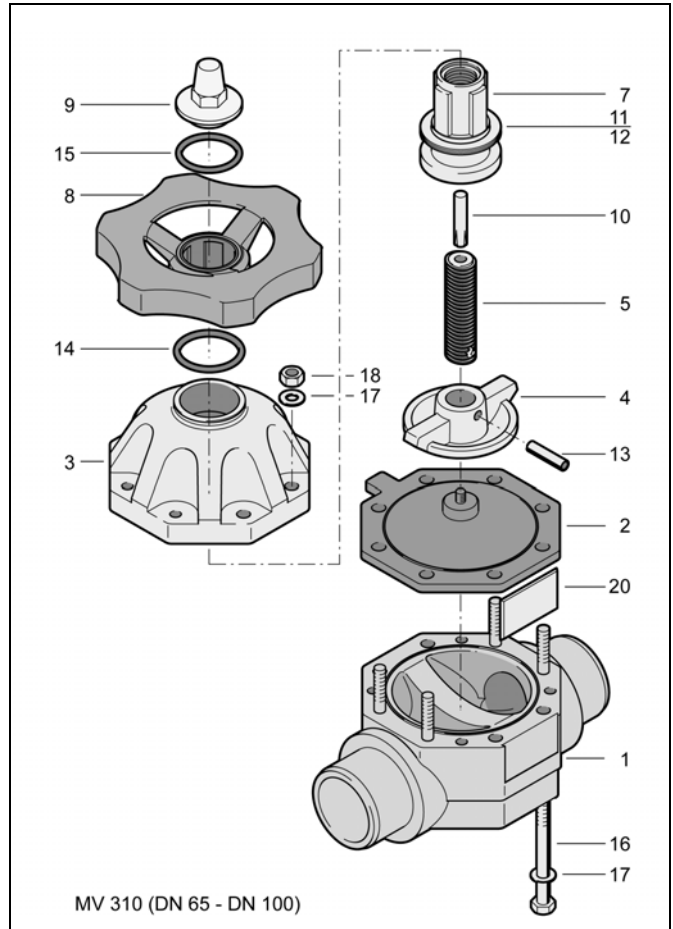
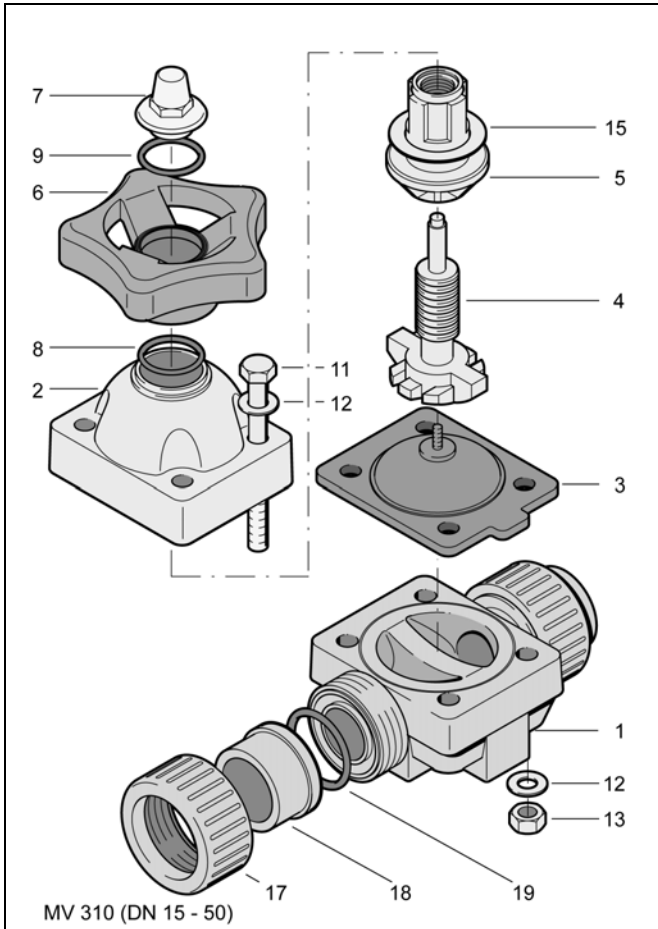
Ident-number PVDF

body PP	d (mm)	20	25	32	40	50	63	75	90	110	160
connection	diaphragm										
PVDF-spigot	PTFE	67006	67007	67008	67009	67010	67011	45266	45267	45268	-
PVDF-socket	PTFE	114823	114824	114825	114826	114827	114828	-	-	-	-
PP/steel-flange ¹⁾	PTFE	67726	67727	67728	67729	67730	67731	46449	46453	46454	123366

¹⁾ d 160: connection fixed flange

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Spare parts list



item	qty.	designation	material
1	1	body	PVC-U, PVC-C, PP, PVDF
2	1	bonnet	PP
3	1	diaphragm	EPDM, EPDM/PTFE
4	1	spindle	PBTP
5	1	spindle nut	PA
6	1	handwheel	PA
7	1	indicator cap	PVC-transparent
8	1	O-ring	NBR
9	1	O-ring	NBR
11	4	hexagonal screw	SS 1.4301
12	8	washer	SS 1.4301
13	4	hexagonal nut	SS 1.4301
15	1	bearing disc	PTFE
17	1	union nut	PVC-U, PVC-C, PP, PVDF
18	1	insert	PVC-U, PVC-C, PP, PVDF
19	1	O-ring	EPDM, FPM

item	qty.	designation	material
1	1	body	PVC-U, PVC-C, PP, PVDF
2	1	diaphragm	EPDM, EPDM/PTFE
3	1	bonnet	PP
4	1	pressure piece	grey cast iron GG 25
5	1	spindle	C1
7	1	spindle nut	grey cast iron GG 25
8	1	handwheel	PA
9	1	indicator cap	PVC-transparent
10	1	indicator pin	PVC-orange
11	1	axial bearing	stainless steel SS
12	2	axial bearing disc	stainless steel SS
13	1	clamping sleeve	SS 1.4301
14	1	O-ring	NBR
15	1	O-ring	NBR
16	4	hexagonal screw	SS 1.4301
17	8/12	washer	SS 1.4301
18	4/8	hexagonal nut	SS 1.4301
20	1	identification plate	PVC-orange

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Operating instructions

ATTENTION



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 and technical regulations or data sheets like DIN, DIN EN, DIN ISO and DVS* for example.

*DVS = German Welding Society ✓

The intended use includes adhering to the specified limit values for pressure and temperature as well as the chemical resistance referring to the operating conditions.

For this purpose, ensure that all components getting in contact with the media are "**resistant**" in accordance with the ASV resistance guide.

The owner/user must inform the authorized qualified personnel instructed to perform the assembly, inspection and/or maintenance work of any potential danger emanating from the machine line/medium, and ensure that suitable safety measures are observed.

This includes also the consideration of local regulations and laws of the territories of use.

The connection of electric or pneumatic actuators and/or accessories to the power/compressed air supply requires special knowledge. Ensure that this work is performed only by authorized qualified personnel according to the operating instruction of the manufacturer.

If the authorized qualified personnel does not have any operating and maintenance instruction this is to be requested prior installation, maintenance or repair.

Non-observance of the specified information and safety instructions may lead to injuries and/or property damages. ✓

NOTE

In case of varying operating temperatures or with setting of diaphragm the torque of the casing bolts - item 11 (DN 15 - DN 50) or item 16 (DN 65 - DN 100) - has to be controlled at certain intervals. ✓

Torques

at casing screws item 11 and item 16

size	EPDM	EPDM/PTFE
d 20	6	8
d 25	6	8
d 32	10	12
d 40	10	12
d 50	18	20
d 63	18	20
d 75	18	20
d 90	18	20
d 110	20	22
d 160	30	33

Subject to technical modifications

