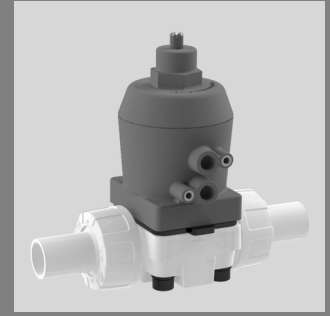
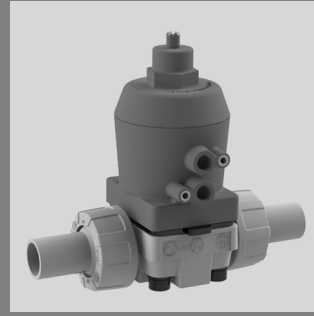


# Diaphragm Valve MV 309



## Benefits

- compact designed pneumatically operated valve
- standard with visual position indicator
- common installation length
- air connections acc. to NAMUR

## Application

- chemical and industrial plants

## Intended Use

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

## Testing

- Requirements and tests/inspections according to DIN EN ISO 16138 and ISO 9393. DIN EN 12266, leakage rate A tested.

## Nominal Pressure (H<sub>2</sub>O, 20°C)

- PN 6

## Fluid Temperature

- see pressure-/temperature diagram

## Operating Pressure

- see pressure-/temperature diagram

## Size

- DN 15 - DN 32

## Valve Body

- PVC-U
- PP
- PVDF

## Bonnet

- PP, glass fibre reinforced

## Diaphragm

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

## Sealing

- FPM
- EPDM

## Actuation

- with pneumatic lift actuator

## Control Function

- NC (normally closed)
- NO (normally open)
- DA (double acting)

## Control Pressure

- NC, NO: max. 6 bar
- DA: max. 4 bar

## Connection

- union DIN 8063
- union socket end for solvent welding DIN ISO (PVC-U)
- union socket end for fusion welding DIN ISO (PP)
- union socket end for fusion welding DIN ISO (PVDF)
- union spigot end for fusion welding DIN ISO (PP)
- union spigot end for fusion welding DIN ISO (PVDF)

## Mounting Position

- as required, preferably bonnet at the top

## Fastening

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

## Colour

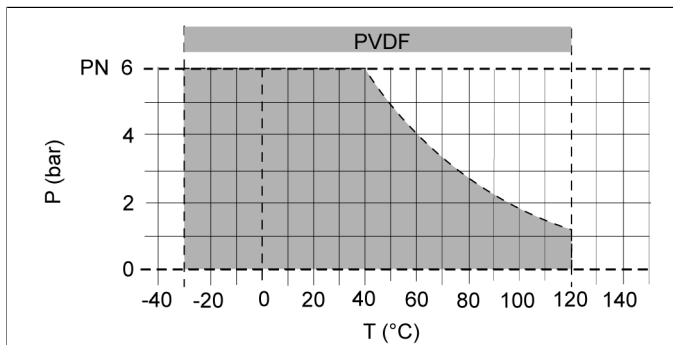
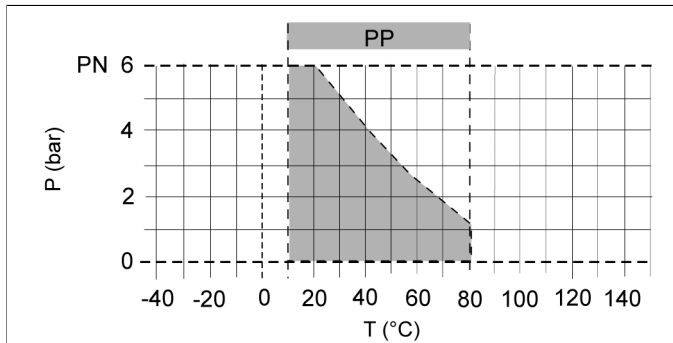
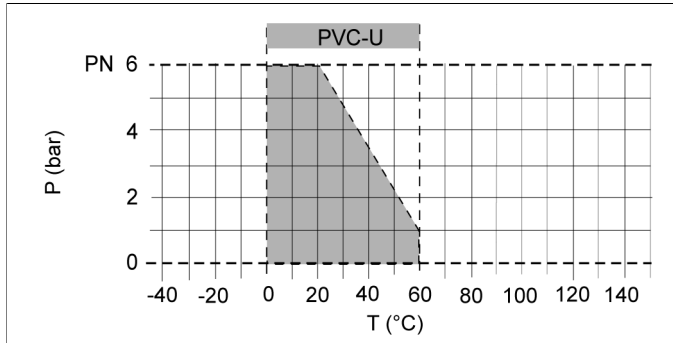
- bonnet: orange, RAL 2004
- valve body: PVC-U, grey, RAL 7011
- valve body: PP, grey, RAL 7032
- valve body: PVDF, opaque, yellowish-white

## Accessories

- limit switch unit
- pilot solenoid valve

## Diaphragm Valve MV 309

### 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.

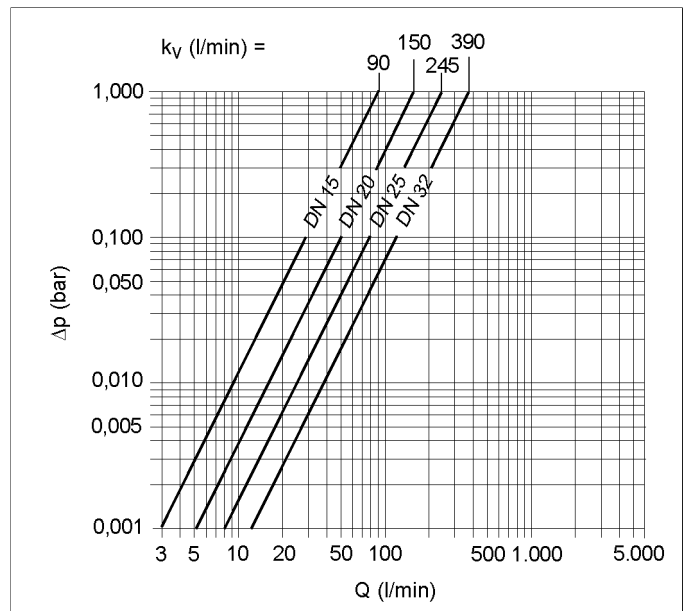
For other media please refer to the ASV resistance guide.

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 H<sub>2</sub>O, 20°C)



$\Delta P$  = pressure loss

$Q$  = flow

#### pressure loss and $k_v$ value

The diagram shows the pressure loss  $\Delta P$  in relation to the flow  $Q$ .

#### Conversion aid:

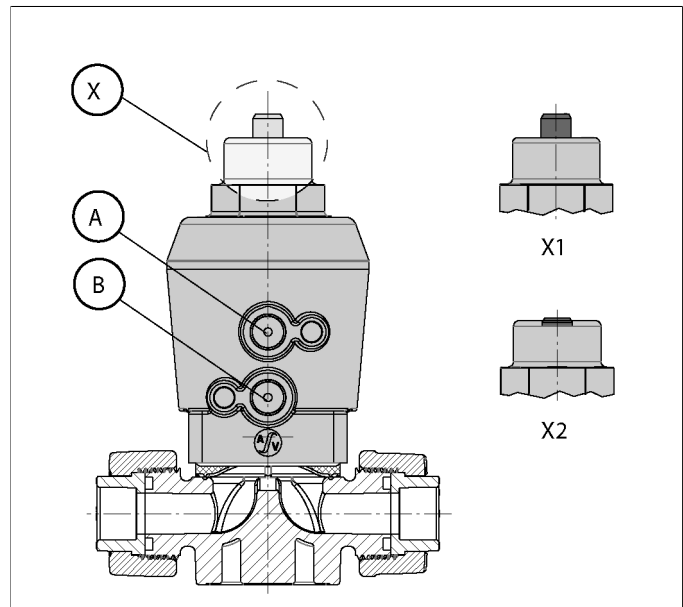
$$c_v = k_v \times 0.07; f_v = k_v \times 0.0585$$

#### Units:

$$k_v \text{ [l/min]}; c_v \text{ [gal/min] US}; f_v \text{ [gal/min] GB}$$

#### Pressure connection

Connection acc. NAMUR



control pressure to connection »A«, valve closed

control pressure to connection »B«, valve open

visual position indicator

X1: valve is open

X2: valve is closed

## Diaphragm Valve MV 309

### Maintenance note

Screw tightening torque (Nm)

d (mm)	20	25	32	40
Md (Nm)	5	5	8	8

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

### Control volume (standard liters)

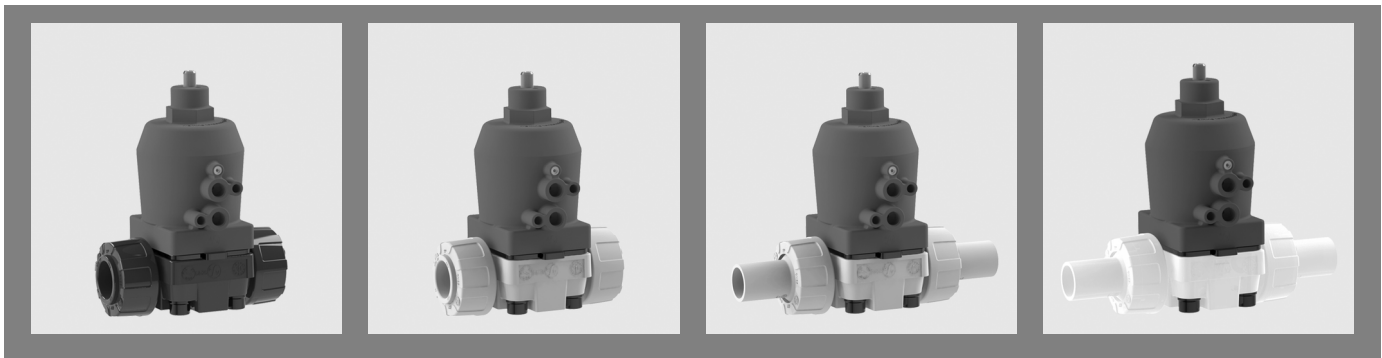
d (mm)	20	25	32	40
NC	0,049	0,049	0,072	0,072
NO	0,087	0,087	0,176	0,176
DA (1)	0,049	0,049	0,072	0,072
DA (2)	0,087	0,087	0,176	0,176

1 = opening

2 = closing



## Diaphragm Valve MV 309, pneumatic

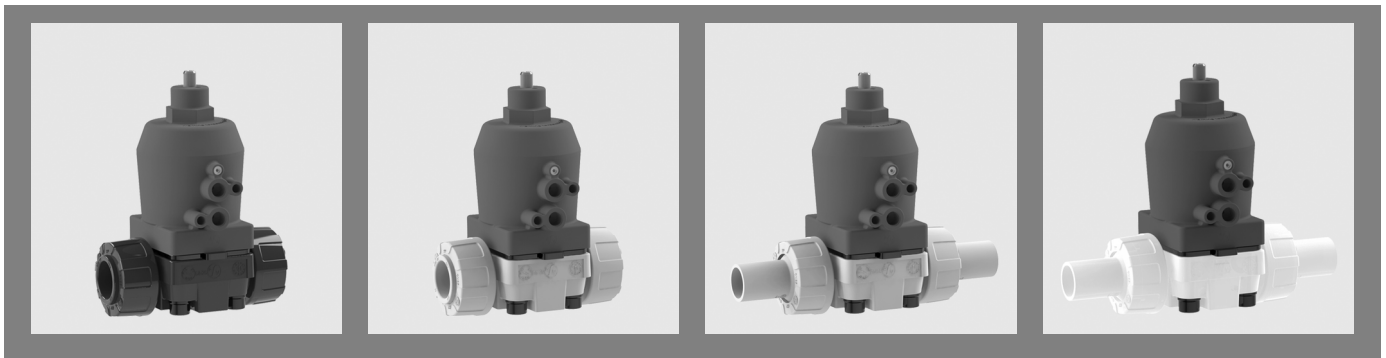


Actuator variant NC		body PVC-U				
size pressure range	d(mm)		20	25	32	40
	DN(mm)		15	20	25	32
	DN(inch)		1/2	3/4	1	1 1/4
	PN(bar)		6	6	6	6
Connection	diaphragm	sealing	ident No.			
PVC-U socket DIN		EPDM	212302	212303	212304	212305
		FPM	212310	212311	212312	212313

Actuator variant NO		body PVC-U				
size pressure range	d(mm)		20	25	32	40
	DN(mm)		15	20	25	32
	DN(inch)		1/2	3/4	1	1 1/4
	PN(bar)		6	6	6	6
Connection	diaphragm	sealing	ident No.			
PVC-U socket DIN		EPDM	212534	212535	212536	212537
		FPM	212542	212543	212544	212545

Actuator variant DA		body PVC-U				
size pressure range	d(mm)		20	25	32	40
	DN(mm)		15	20	25	32
	DN(inch)		1/2	3/4	1	1 1/4
	PN(bar)		6	6	6	6
Connection	diaphragm	sealing	ident No.			
PVC-U socket DIN		EPDM	212070	212071	212072	212073
		FPM	212078	212079	212080	212081

## Diaphragm Valve MV 309, pneumatic

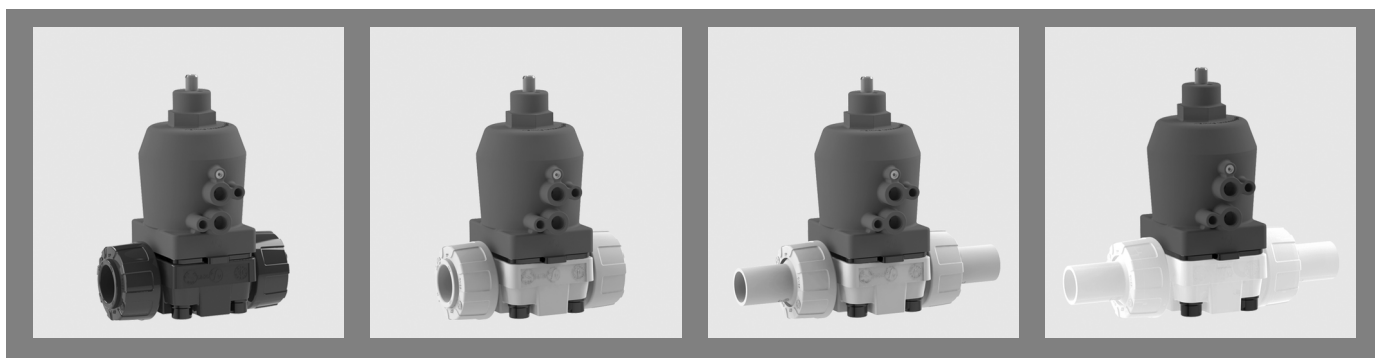


Actuator variant NC		body PP					
size pressure range	d(mm)			20	25	32	40
	DN(mm)			15	20	25	32
	DN(inch)			1/2	3/4	1	1 1/4
	PN(bar)			6	6	6	6
Connection	diaphragm	sealing	ident No.				
	PP	EPDM	212434	212435	212436	212437	
socket DIN	FPM	212442	212443	212444	212445		
PP	EPDM	212458	212459	212460	212461		
spigot DIN	FPM	212466	212467	212468	212469		

Actuator variant NO		body PP					
size pressure range	d(mm)			20	25	32	40
	DN(mm)			15	20	25	32
	DN(inch)			1/2	3/4	1	1 1/4
	PN(bar)			6	6	6	6
Connection	diaphragm	sealing	ident No.				
	PP	EPDM	212666	212667	212668	212669	
socket DIN	FPM	212674	212675	212676	212677		
PP	EPDM	212690	212691	212692	212693		
spigot DIN	FPM	212698	212699	212700	212701		

Actuator variant DA		body PP					
size pressure range	d(mm)			20	25	32	40
	DN(mm)			15	20	25	32
	DN(inch)			1/2	3/4	1	1 1/4
	PN(bar)			6	6	6	6
Connection	diaphragm	sealing	ident No.				
	PP	EPDM	212202	212203	212204	212205	
socket DIN	FPM	212210	212211	212212	212213		
PP	EPDM	212226	212227	212228	212229		
spigot DIN	FPM	212234	212235	212236	212237		

## Diaphragm Valve MV 309, pneumatic



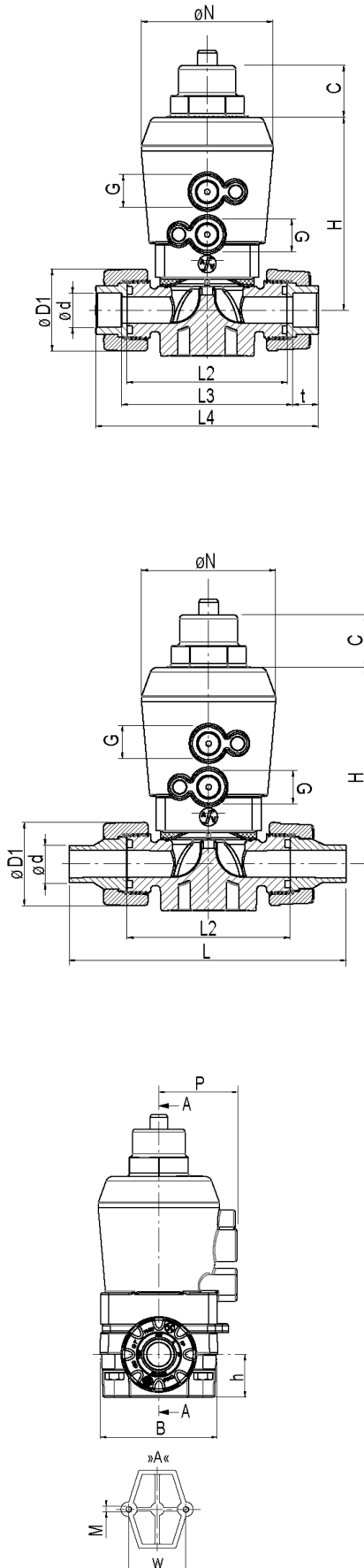
Actuator variant NC		body PVDF				
<i>size</i> <i>pressure range</i>	d(mm)		20	25	32	40
	DN(mm)		15	20	25	32
	DN(inch)		1/2	3/4	1	1 1/4
	PN(bar)		6	6	6	6
<i>Connection</i>	<i>diaphragm</i>	<i>sealing</i>	<i>ident No.</i>			
		FPM	212518	212519	212520	212521
		FPM	212522	212523	212524	212525

Actuator variant NO		body PVDF				
<i>size</i> <i>pressure range</i>	d(mm)		20	25	32	40
	DN(mm)		15	20	25	32
	DN(inch)		1/2	3/4	1	1 1/4
	PN(bar)		6	6	6	6
<i>Connection</i>	<i>diaphragm</i>	<i>sealing</i>	<i>ident No.</i>			
		FPM	212750	212751	212752	212753
		FPM	212754	212755	212756	212757

Actuator variant DA		body PVDF				
<i>size</i> <i>pressure range</i>	d(mm)		20	25	32	40
	DN(mm)		15	20	25	32
	DN(inch)		1/2	3/4	1	1 1/4
	PN(bar)		6	6	6	6
<i>Connection</i>	<i>diaphragm</i>	<i>sealing</i>	<i>ident No.</i>			
		FPM	212286	212287	212288	212289
		FPM	212290	212291	212292	212293

# Diaphragm Valve MV 309, pneumatic

## dimensions



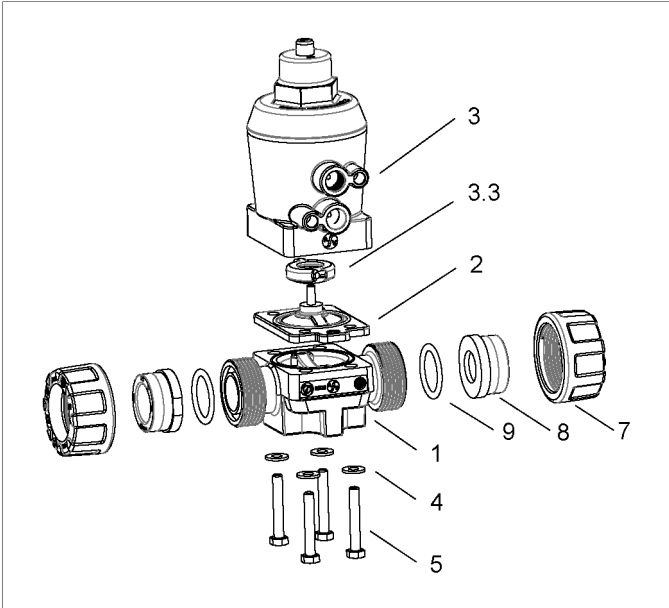
d(mm)	20	25	32	40
DN(mm)	15	20	25	32
DN(inch)	1/2	3/4	1	1 1/4

## dimensions(mm)

	B	72	72	92	92
	C	29	29	29	29
PP	D1	46	56	66	79
PVC-U	D1	41	50	58	72
PVDF	D1	47	57	64	78
	G	1/4	1/4	1/4	1/4
	h	26	26	26	40
	H	108	110	127	131.5
	L	196	220	234	260
	L2	90	108	116	134
	L3	96	114	122	140
PP	L4	125	146	158	181
PVC-U	L4	128	152	166	192
PVDF	L4	128	150	162	184
	M	M6	M6	M6	M8
	N	74	74	90	90
	P	47.5	47.5	55.5	55.5
PP/PVDF	t	16	19	21	23
PVC-U	t	16	19	21	26
	w	26	26	26	45

## Diaphragm Valve MV 309

### parts lists



position	quantity	designation
1	1	valve body
2	1	diaphragm
3.3	1	pressure piece
3	1	actuator upper part
4	4	washer
5	4	hexagon bolt
7	2	union nut
8	2	union end
9	2	O-ring