

Pneumatically Operated Valve

Type 487 DN 65 - 200 (2 1/2" - 8")

Type 487 pneumatically operated valve, normally closed (NC), normally open (NO) and double acting (DA).

The valves are designed with a maintenance free diaphragm actuator.

There are a wide range of actuators which has to be chosen depending on max working- and/or control pressure.

Various accessories are available for adjustments, control and regulation which can be assembled in the factory or almost all on the job site afterwards.

Features

- Process media can be neutral and aggressive liquid and gaseous, dependent upon material selection of body and diaphragm
- Flow can be in either direction
- Insensitive to dirty or contaminated media
- Excellent flow characteristics
- Bubble tight sealing
- Installation can be in any position
- Eliminates water hammer
- Maintenance free non corrosive actuator

Technical specifications	
Design	Diaphragm Valve
Size range	DN 65 - 200
Diaphragm size see page 11	MA 65 - 200
Body material	S.G. iron EN-GJS-400-18-LT (GGG40.3)-PP-Lined S.G. iron EN-GJS-400-18-LT (GGG40.3)-PFA-Lined Cast iron EN-GJL-250 (GG 25) Cast iron EN-GJL-250 (GG 25)-Hard-Rubber-Lined
End connection standards see page 8-9	Flange: EN 1092 PN10/16, ANSI Class 125/150
Diaphragm material	EPDM, PTFE, NBR, FPM
Max. working pressure	See table page 39.
Temperature range	-10 °C to +150 °C, depending on diaphragm and body material
Control functions	Single acting (NC or NO) and double-acting (DA) pneumatic diaphragm actuator

Note: Possible actuator and valve body combinations see page 7.
Ordering key see page 60.

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The robust design of the **diaphragm actuator** is ideal for application where chemical resistance and mechanical properties are required.

Technical specifications - pneumatic actuator	
Design	Diaphragm Actuator
Actuator material	Robust plastic housing, Actuator size 3,5,7 Robust metal housing 4,6,8,9
Max. control air pressure	See table below and diagram on the following pages
Control media	Dry or lubricated filtered compressed air. If using other fluids, contact the SED service center
Filling volume	Actuator size: 3, 5, 7 = 2,5 NL Actuator size: 4, 6, 8 = 6,8 NL Actuator size: 9, 6/2, 8/2 = 13,6 NL
Control media temperature	Max. 40 °C
Ambient temperature	-20 °C to +50 °C
Accessories	See page 54

Technical Data

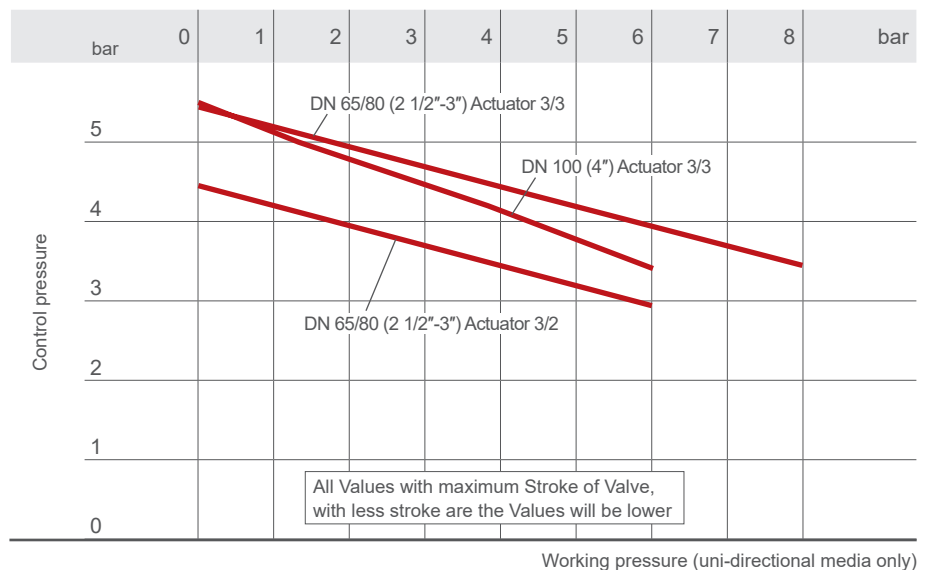
DN	MA	Normally Closed NC - Code 1				Normally Open NO - Code 2				Double acting DA - Code 3			
		Actuator size	Working pressure bar		Control pressure bar	Actuator size	Working pressure bar		Control pressure bar	Actuator size	Working pressure bar		Control pressure bar
		Code	EPDM/FPM	PTFE		Code	EPDM/FPM	PTFE		Code	EPDM/FPM	PTFE	
65	65	3/1	0 - 3	0 - 2	2,6 - 7,0	5	0 - 10	0 - 6	max. 4,5	7	0 - 10	0 - 6	max. 4,0
		3/2	0 - 6	0 - 4	4,5 - 7,0								
		3/3	0 - 10	0 - 6	5,5 - 7,0								
65	80	3/1	0 - 3	0 - 2	4,5 - 7,0	5	0 - 10	0 - 6	max. 5,5	7	0 - 10	0 - 6	max. 4,0
		3/2	0 - 7	0 - 5	5,6 - 7,0								
		3/3	0 - 10	0 - 6	3,5 - 7,0								
80	80	3/2	0 - 3	0 - 2	4,5 - 7,0	5	0 - 10	0 - 6	max. 5,5	7	0 - 10	0 - 6	max. 5,0
		3/3	0 - 7	0 - 5	5,6 - 7,0								
		4/2	0 - 10	0 - 6	3,5 - 7,0								
100	100	3/3	0 - 6	0 - 4	6,2 - 7,0	5	0 - 6	0 - 4	max. 5,0	7	0 - 6	0 - 4	max. 4,5
		4/3	0 - 10	0 - 6	4,5 - 7,0	6	0 - 10	0 - 7	max. 3,5	8	0 - 10	0 - 6	max. 3,0
125	125	4/2	0 - 5	0 - 3	4,0 - 7,0	6	0 - 10	0 - 7	max. 4,5	8	0 - 10	0 - 6	max. 4,0
		4/3	0 - 8	0 - 5	5,5 - 7,0								
150	150	4/3	0 - 6	0 - 4	5,5 - 7,0	6	0 - 8	0 - 5	max. 4,5	8	0 - 8	0 - 5	max. 4,0
		9/2	0 - 6	0 - 4	3,5 - 7,0								
		9/3	0 - 8	0 - 6	4,0 - 7,0								
200	200	4/3	0 - 3	N/A	5,5 - 7,0	6	0 - 3	N/A	max. 4,5	8	0 - 3	N/A	max. 4,0
		9/3	0 - 6	0 - 4	4,0 - 7,0	6/2	0 - 6	0 - 4		8/2	0 - 6	0 - 4	

Pneumatically Operated Valve

Type 487 - Technical Data

Control pressure according to Working pressure Type 487 Actuator 3 NC

Minimum control pressure according to working pressure with EPDM, FPM diaphragm

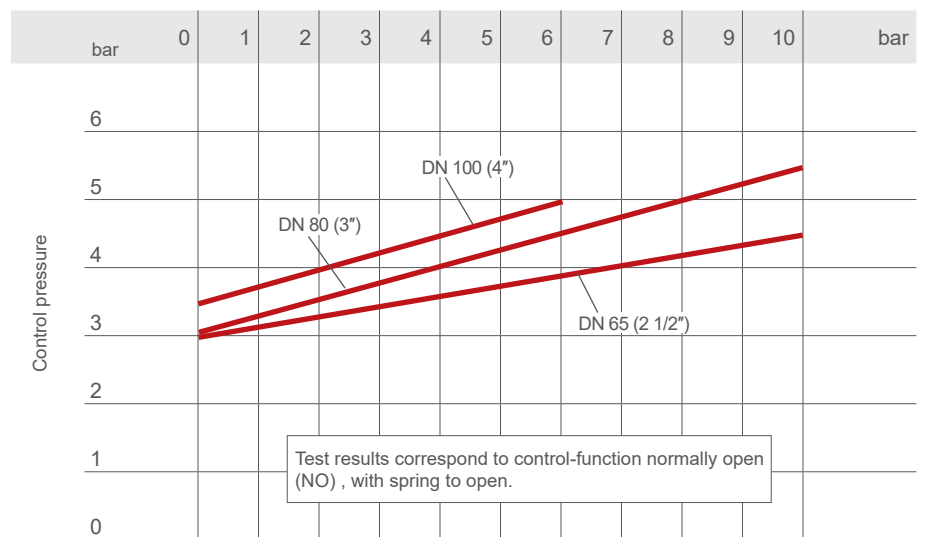


Working pressure (uni-directional media only)

Control pressure according to Working pressure Type 487 Actuator 5 NO Type 487 Actuator 7 DA

Minimum control pressure according to working pressure with EPDM, FPM diaphragm.

Higher control pressure than required may affect the lifetime of the working diaphragm.



Working pressure (uni-directional media only)

K_v100 flow coefficient

The K_v100 flow coefficient is the Q flow rate of cubic meter per hour of water at a temperature of 20°C that will generate Δp = 1 bar pressure drop at a certain valve position.

The K_v100 values shown in the table are calculated with the valve completely open.

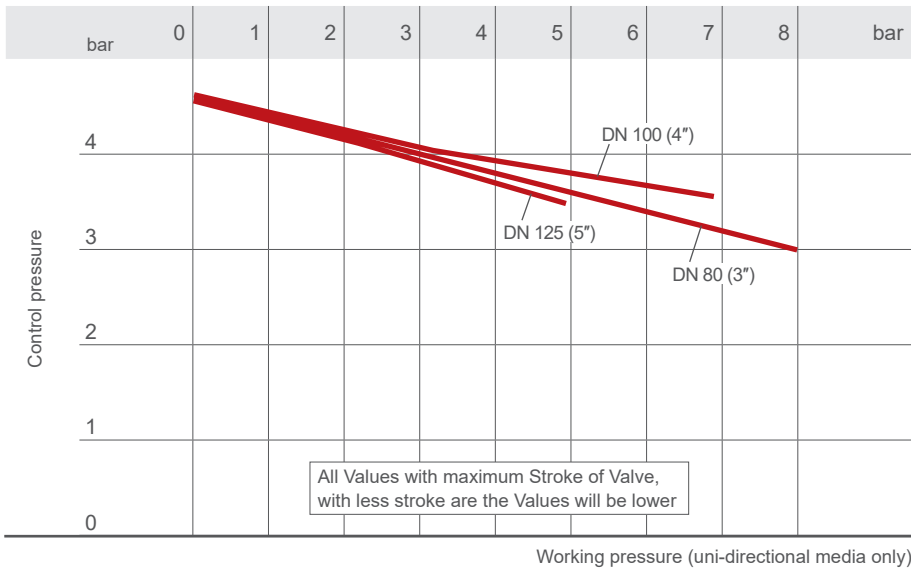
DN	MA	Unlined		Hard rubber lined		Plastic lined	
		Kv m ³ /h	Cv gpm	Kv m ³ /h	Cv gpm	Kv m ³ /h	Cv gpm
65	65	88	103	75	88	-	-
65	80	-	-	-	-	72	84
80	80	154	180	113	132	110	129
100	100	217	254	190	222	175	205
125	125	280	328	240	281	214	250
150	150	478	559	395	462	365	427
200	200	840	983	730	854	730	854

Pneumatically Operated Valve

Type 487 - Technical Data

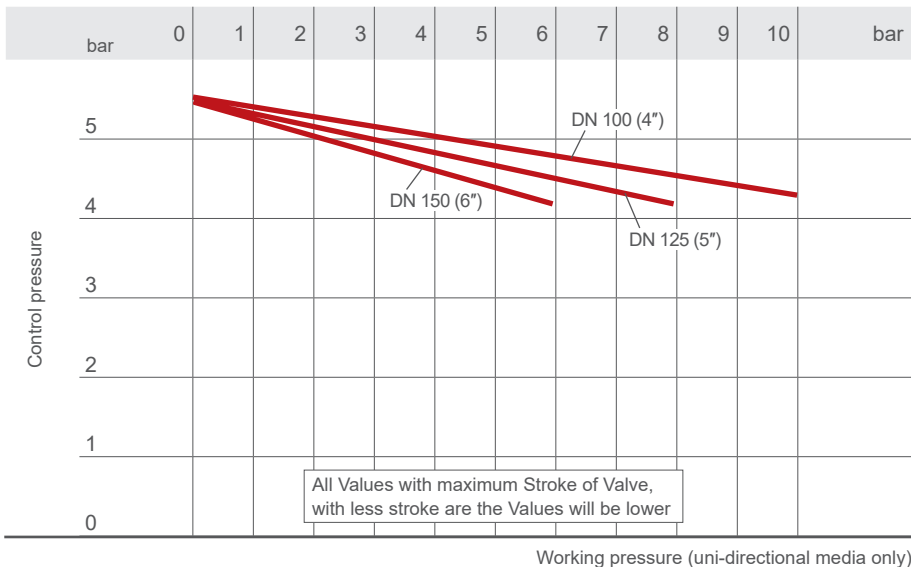
Control pressure according to Working Pressure Type 487 Actuator 4/2 NC

Minimum control pressure according to working pressure with EPDM, FPM diaphragm



Control pressure according to Working Pressure Type 487 Actuator 4/3 NC

Minimum control pressure according to working pressure with EPDM, FPM diaphragm



Pneumatically Operated Valve

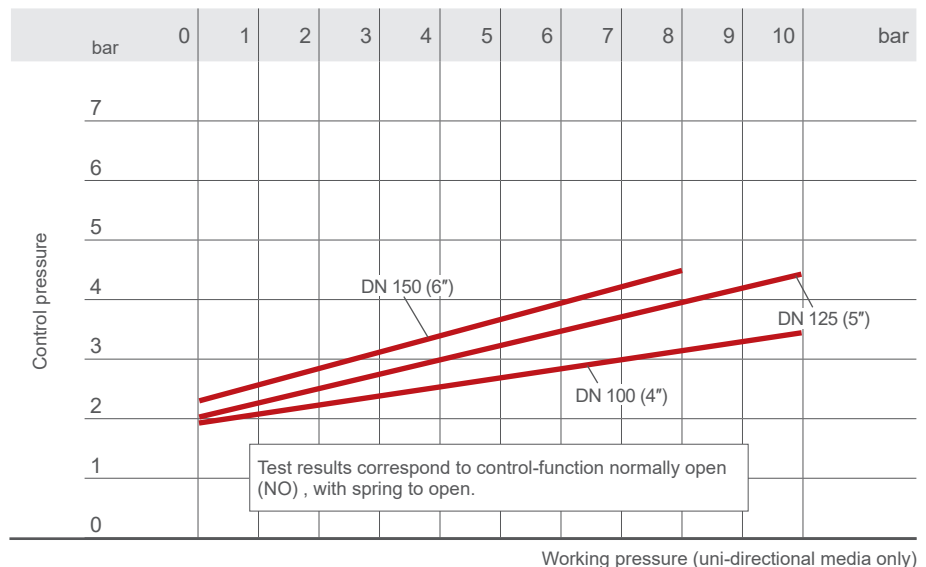
Type 487 - Technical Data

Control pressure according to Working Pressure

Type 487 Actuator 6 NO Type 487 Actuator 8 DA

Minimum control pressure according to working pressure with EPDM, FPM diaphragm.

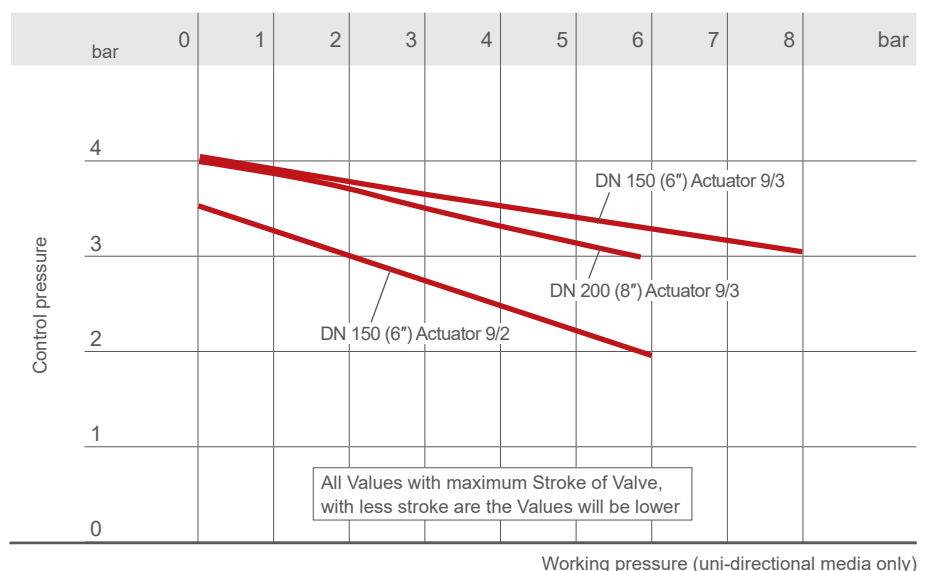
Higher control pressure than required may affect the lifetime of the working diaphragm.



Control pressure according to Working Pressure

Type 487 Actuator 9 NC

Minimum control pressure according to working pressure with EPDM, FPM diaphragm

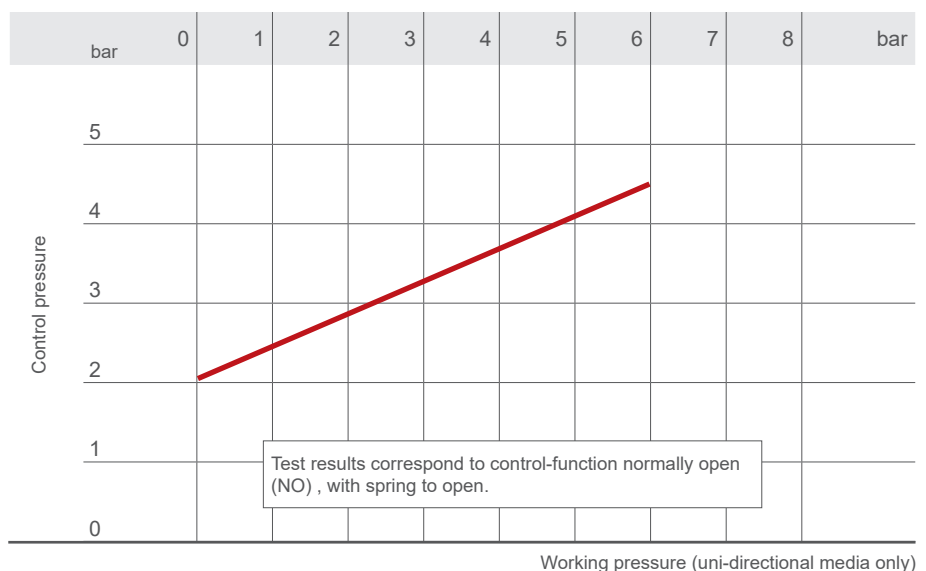


Control pressure according to Working Pressure

Type 487 Actuator 6/2 NO Type 487 Actuator 8/2 DA

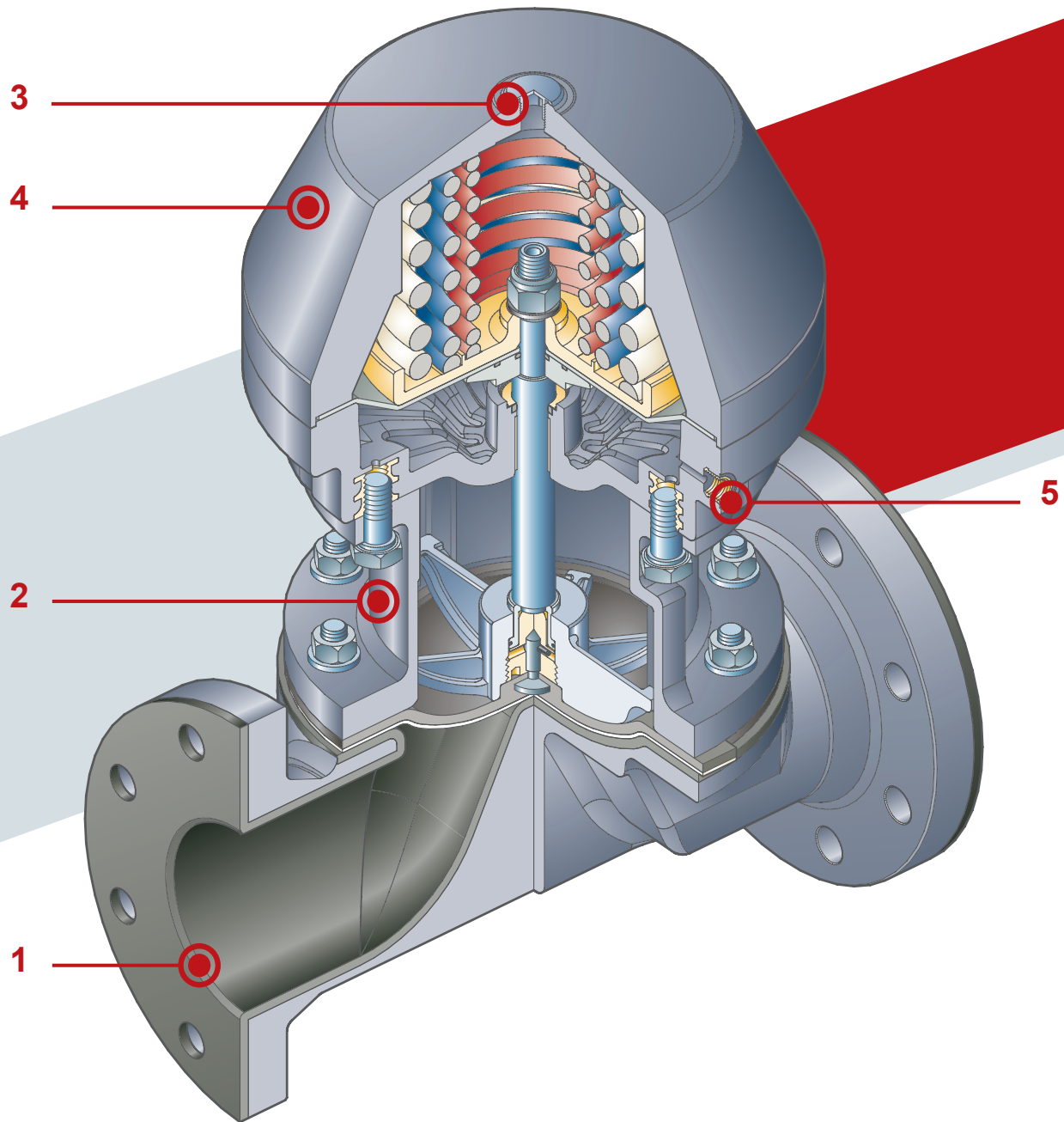
Minimum control pressure according to working pressure with EPDM, FPM diaphragm.

Higher control pressure than required may affect the lifetime of the working diaphragm.



Pneumatically Operated Valve

Type 487 - Actuator Size 3, NC



1 Cast iron EN-GJL-250 **hard rubber lined valve body**. Various other linings are available (e.g. PFA, PP, etc.)

2 Cast iron **distance piece** for high temperature applications

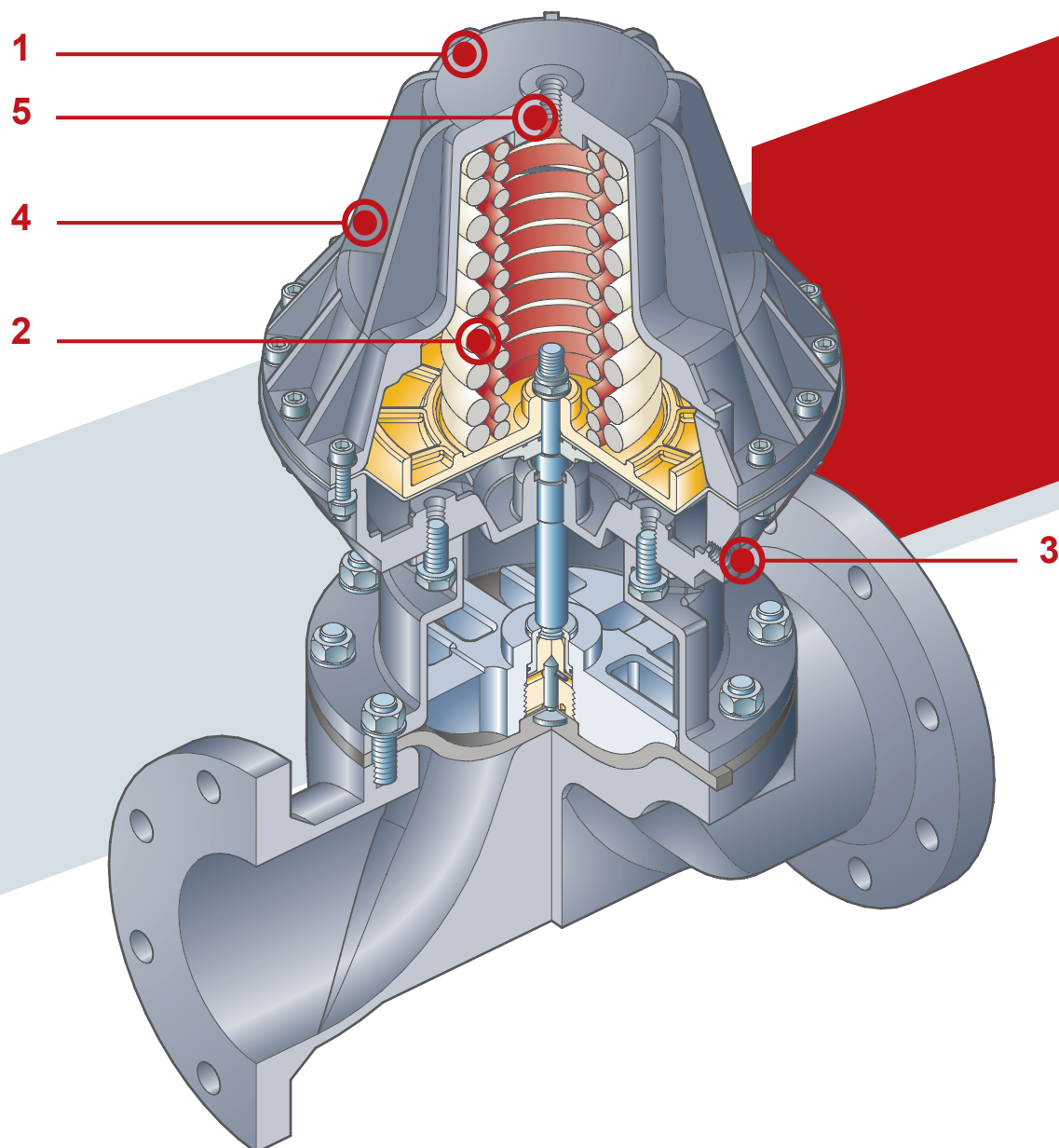
3 Connection thread for assembly of **valve control equipment**

4 **Robust diaphragm actuator** with high chemical resistance. Available for control function Normally closed, Normally open and Double acting.

5 **Control air connector G1/4"** for control function "Normally closed"

Pneumatically Operated Valve

Type 487 - Actuator Size 4, NC



1 Robust metal housing

2 Flexible spring sets cover a wide range of operating pressures

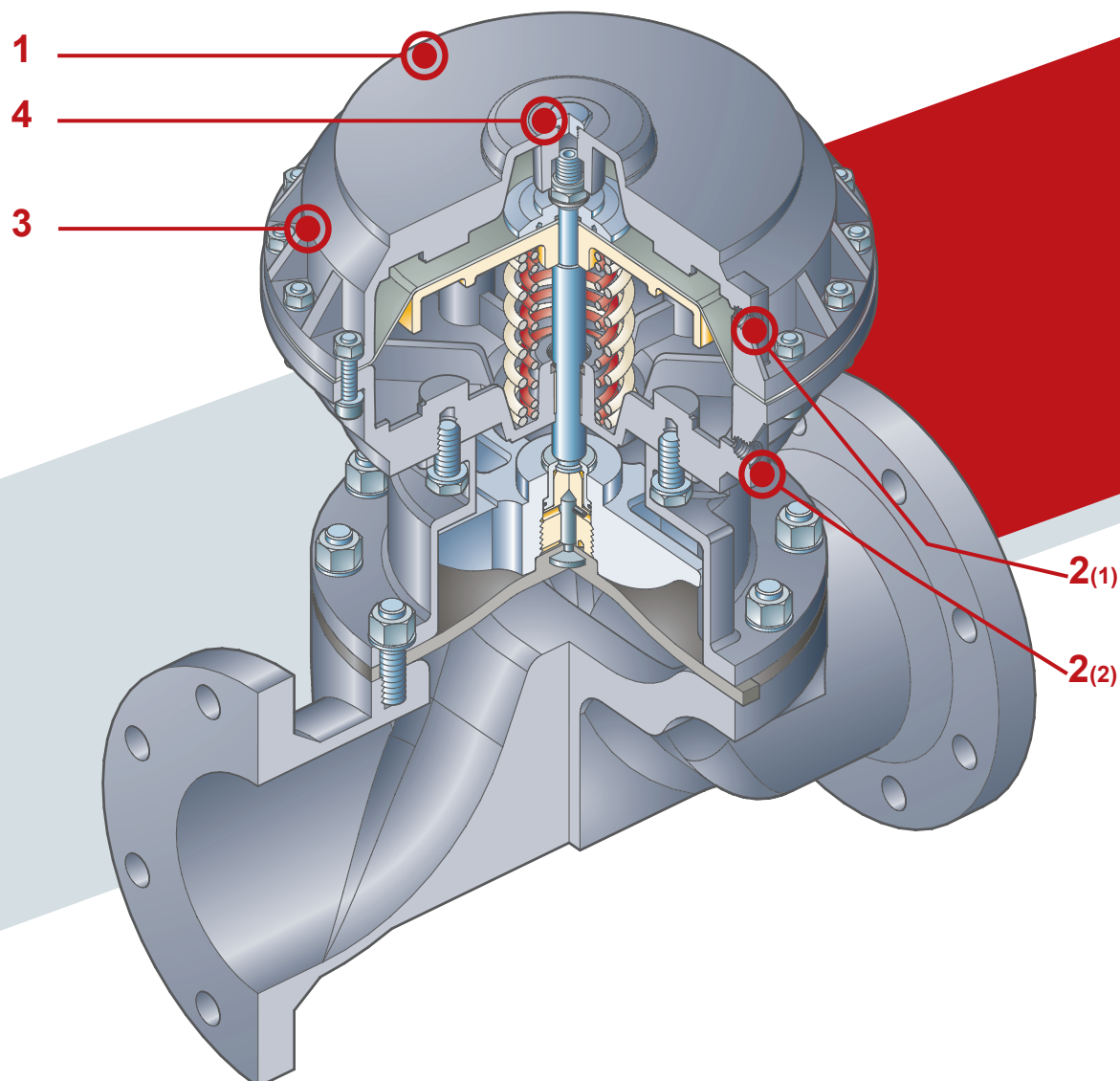
3 Control air connector G1/4" for control function "Normally closed"

4 Robust diaphragm actuator with high chemical resistance. Available for control function Normally closed, Normally open and Double acting.

5 Connection thread for assembly of valve control equipment

Pneumatically Operated Valve

Type 487 - Actuator Size 6, NO



1 Robust metal housing

2 Control air connector G1/4"

2(1) for control function "Normally open"

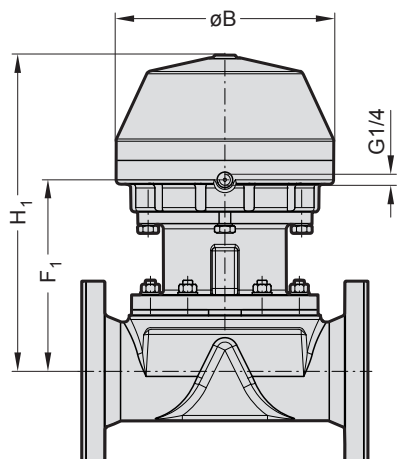
2(1) + 2(2) for control function "Double acting", no spring in the actuator

3 Robust diaphragm actuator with high chemical resistance. Available for control function Normally closed, Normally open and Double acting.

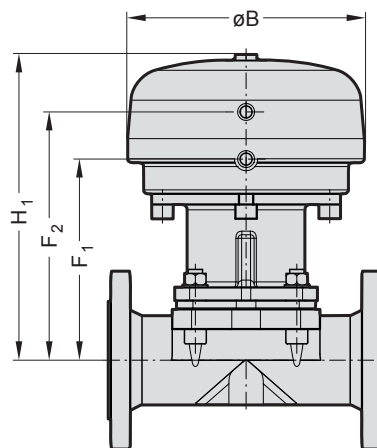
4 Connection thread for assembly of valve control equipment

Pneumatically Operated Valve

Type 487 - Dimensions



Actuator 3 NC
DN 65 - DN 100
Valve normally closed



Actuator 5 NO DN 65 - 100
Actuator 7 DA DN 65 - 100

Dimensions (mm)

DN	MA	Actuator size 3				Actuator size 5 / 7				Actuator size 5 Weight kg	Actuator size 7 Weight kg
		ØB	F ₁	H ₁	Weight kg	ØB	F ₁	F ₂	H ₁		
65 ¹	65	266	210	365	33	266	217	271	332	30	29
65	80	266	242	395	33	266	230	283	346	30	29
80	80	266	237	390	34	266	245	298	362	31	30
100 ²	100	266	257	410	42	266	230	281	347	39	38

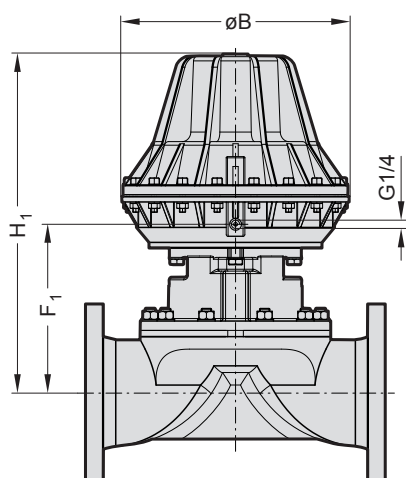
Note: Valve body face to face (FTF) and flange dimensions see page 8.

¹ Only valid for Hard Rubber Lined and Unlined Valves.

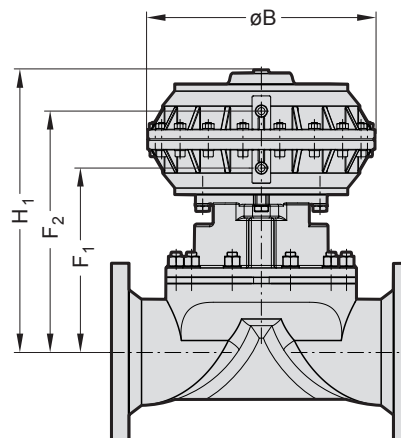
² Dimensions also valid for Type 385 see page 28.

Pneumatically Operated Valve

Type 487 - Dimensions



Actuator 4 NC
DN 80 - DN 200
Valve normally closed



Actuator 6 NO DN 100 - 200
Actuator 8 DA DN 100 - 200

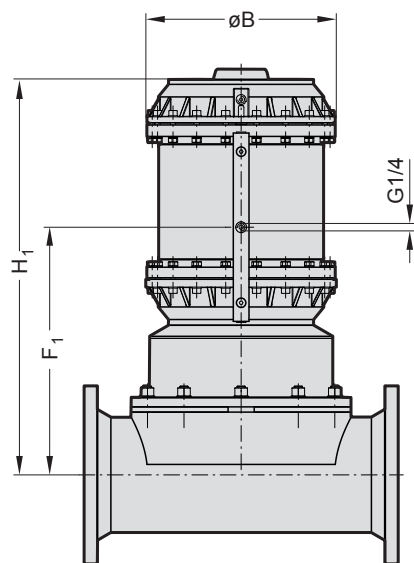
Dimensions (mm)

DN	MA	Actuator size 4				Actuator size 6 / 8				Actuator size 6 Weight kg	Actuator size 8 Weight kg
		ØB	F ₁	H ₁	Weight kg	ØB	F ₁	F ₂	H ₁		
80	80	360	231	494	73	-	-	-	-	-	-
100	100	360	243	506	81	360	232	322	385	71	70
125	125	360	270	533	91	360	267	357	420	81	80
150	150	360	289	552	104	360	278	368	431	94	93
200	200	360	344	607	130	360	333	423	486	172	170

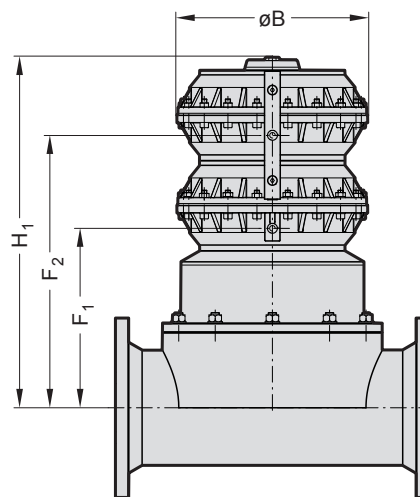
Note: Valve body face to face (FTF) and flange dimensions see page 8.

Pneumatically Operated Valve

Type 487 - Dimensions



Actuator 9/2 NC
DN 150 - DN 200
Valve normally closed



Actuator 6/2 NO DN 150 - 200
Actuator 8/2 DA DN 150 - 200

Dimensions (mm)

DN	MA	Actuator size 9/2				Actuator size 9/3				Actuator size 8/2				
		ØB	F ₁	H ₁	Weight kg	ØB	F ₁	H ₁	Weight kg	ØB	F ₁	F ₂	H ₁	Weight kg
150	150	360	540	780	196	360	540	780	207	360	470	560	621	178
200	200	-	-	-	-	360	600	835	236	360	570	665	720	204

Note: Valve body face to face (FTF) and flange dimensions see page 8.