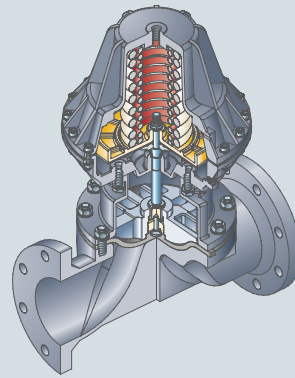


SAMSON

SAMSON SED

CATALOG



Metal Diaphragm Valves  
for industrial applications



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# Introduction Company

**SED** is an internationally operating company, leading in the development, production and worldwide sales of sophisticated valve technologies.

Your Partner for automated process technology equipment for closing, dosing, control and regulation.



Office building

SED FLOW CONTROL was established over 30 years ago with the mission to provide high quality products for the life science and industrial market place.

A clearly defined range of products, our flexibility and our proximity to the clients are factors of considerable importance to our customers.

Our long term strategy and clear objectives keep our employees highly motivated. Their identification with the company and production process leads to high quality and proven reliability of our products.

Product management, engineering, sales, and all the other departments are pleased to work with our customer's challenges. Either it is a big volume order, a short delivery time, or just an opportunity to find the most efficient process valve solution, SED is ready to take the challenge.

In addition, the advantage of belonging to a solid industrial group as an autonomous and compact activity is fully realized through their combined synergy.

This organizational structure provides financial stability and security for our customers and creates the best conditions for the evolution of the business.

## Certified Process Qualification



- Quality Management System ISO 9001
- Environment Management System ISO 14001
- Energy Management System ISO 50001
- Manufacturing Process AD2000 Merkblatt HP0

- Pressure Equipment Directive 2014/68/EU
- Specialised Company for Welding ISO 3834-2
- Qualified Personnel for Material Traceability according §2 Abs.2a Gerätesicherungsgesetz
- ATEX Directive 2014/34/EU



# Introduction

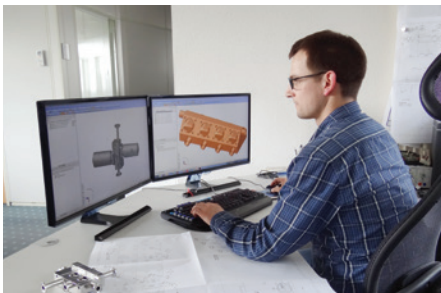
## Production and Quality

The company has installed the most modern machinery and individual production facilities which are fully adapted to current market requirements.

Our employees training and experience over the years have developed an attitude which is characterized by flexibility and meeting our customer's need.

### Specifically:

- The 3D-Cad –Cam network connects all the CAD workstations with the CNC machining facilities, bringing our products from conception to development.
- Injection molding manufacturing, special injection molding machines, and tools adapted to high performance plastics and specific processes.
- Assembly in room facilities with clean environment ultra-sonic clean washing including other automated assembly capabilities.
- State-of-the-art production facilities allows competitive manufacturing and reliable customer service.
- Work stations which are ergonomically designed for the health and safety of our employees.
- Programmable welding machine and polishing work stations for aseptic diaphragm valves in order to guarantee the greatest flexibility and quality.



CAD- CAM working station



CNC machining center



Injection molding

## The fundamental areas of our Quality Policy

### Products and Services:

An accelerated implementation of customized solutions is achieved with personal conversations and direct customer input. This is supported by the specialization of SED through development and production areas with efficient experience and extensive training requirements.

### Suppliers:

The quality of our products is directly dependent on the performance of our suppliers. Through a supplier qualification process, continuous assessments are performed, documented and form the basis of a close customer-supplier-relationship.

### Work Sequences:

For each individual step of the manufacturing process the motto "My colleague is my customer" applies. This means that everybody has to handle their production responsibility in a way that the internal customer is satisfied and that their best work is possible.

### Customers:

Our customer is our employer and should see their visions and wishes realized. This means that our goal is to work together with our customers to develop solutions and implement these solutions with cost effective results.

### Employees:

The greatest asset of our company is our employees. Embracing quality is not the result of an individual but the outcome of successful teamwork. The ability to develop new ideas, to take on responsibility and to show initiative and creativity brings us continuous development and improvement.

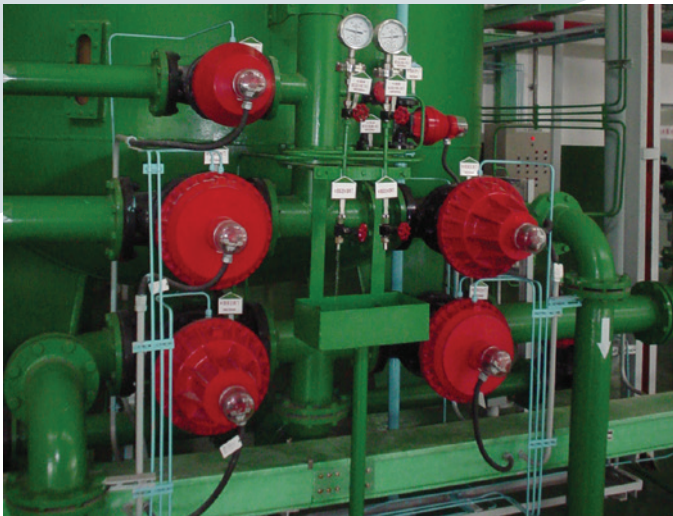
Each level of the company believes in our quality and growth philosophy and this is reinforced with continued education.

# Applications

**Customer Loyalty is More  
Than Just a Good Product**



Boiled water system in coal power station



Desalted water in coal chemical plant



Desalted water in petro chemical plant

## Applications

- Water treatment
- Cement industry
- Aluminium oxide manufacture
- Steelworks, metalwork
- Pickling and surface treatment
- Cellulose, paper
- Mining, ore processing
- Hydrometallurgy
- Copper mining and processing
- Electrolysis
- Nickel ore processing
- Soda/chlorine manufacture
- Titanium ore processing, titanium dioxide manufacture for the paint, paper and plastic industry
- Sugar and alcohol industry
- Fertiliser industry
- Power station
- Petrochemical

# Overview

## Valve Function and Body Design

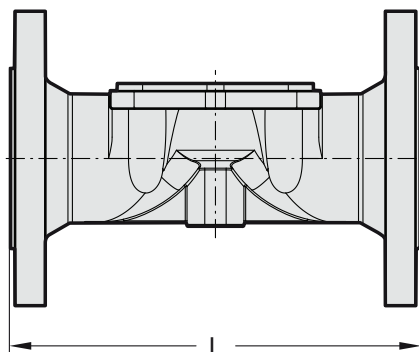
Type	DN	Manual Valve	Pneumatically Operated Valve	Threaded socket, Code 1	Flange EN 1092, PN10/16, length EN 558-1, series 1	Flange ANSI class 125/150, length EN 558-1, series 1	Flange EN 1092, PN10/16, length BS5156	Flange ANSI class 125/150, length BS5156
<b>Valve body material: Stainless steel, investment cast 1.4435/ 316 L, Code 7</b>								
188	12 - 15	-	X	P27	-	-	-	-
289	12 - 15	X	-	P14	-	-	-	-
295	12 - 15	X	-	P14	-	-	-	-
385	15 - 50	-	X	P32	-	-	-	-
402	15 - 50	-	X	P37	-	-	-	-
982	15 - 50	X	-	P17	-	-	-	-
<b>Valve body material: Cast iron, EN-GJL-250 (GG25), Code 8</b>								
385	15 - 100	-	X	P32	P32	P32	P32	P32
402	15 - 50	-	X	P37	P37	P37	P37	P37
487	65 - 200	-	X	-	P46	P46	P46	P46
987	15 - 80	X	-	P20	P20	P20	P20	P20
	100 - 300	X	-	-	P20	P20	P20	P20
<b>Valve body material: S. G. iron EN-GJS-400-18-LT (GGG40.3), PFA-lined, Code 11</b>								
385	15 - 100	-	X	-	P32	P32	P32	P32
487	65 - 200	-	X	-	P46	P46	P46	P46
982	15 - 50	X	-	-	P17	P17	P17	P17
987	15 - 200	X	-	-	P20	P20	P20	P20
<b>Valve body material: S. G. iron EN-GJS-400-18-LT (GGG40.3), PP-lined, Code 12</b>								
385	15 - 100	-	X	-	P32	P32	P32	P32
402	15 - 50	-	X	-	P37	P37	P37	P37
487	65 - 150	-	X	-	P46	P46	P46	P46
982	15 - 50	X	-	-	P17	P17	P17	P17
987	15 - 150	X	-	-	P20	P20	P20	P20
<b>Valve body material: Stainless steel, investment cast 1.4435, PFA-lined, Code 71</b>								
385	15 - 50	-	X	-	P32	P32	-	-
495	15 - 50	-	X	-	P53	P53	-	-
905	15 - 50	X	-	-	P23	P23	-	-
<b>Valve body material: Cast iron, EN-GJL-250 (GG25), hard rubber lined, Code 80</b>								
385	20 - 100	-	X	-	P32	P32	P32	P32
402	20 - 50	-	X	-	P37	P37	P37	P37
487	65 - 200	-	X	-	P46	P46	P46	P46
982	20 - 50	X	-	-	P17	P17	P17	P17
987	20 - 200	X	-	-	P20	P20	P20	P20

P = page

# Diaphragm Valves Metal

## Dimensions

### Flange Body



### Face to Face (FTF)

DN	15	20	25	32	40	50	65	65	80	100	125	150	200		
Size	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	2 1/2"	3"	4"	5"	6"	8"		
MA	25	25	25	40	40	50	65	80	80	100	125	150	200		
<b>EN DIN 558-1, Code 51, 58</b>															
<b>LENGTH (L)</b>	Plastic lined	mm	130	150	160	180	200	230	-	290	310	350	400	480	600
		inch	5.11	5.90	6.29	7.08	7.87	9.05	-	11.41	12.20	13.77	15.74	18.89	23.62
	Hard rubber lined	mm	130	150	160	180	200	230	290	290	310	350	400	480	600
		inch	5.11	5.90	6.29	7.08	7.87	9.05	11,41	11.41	12.20	13.77	15.74	18.89	23.62
	Unlined	mm	130	150	160	180	200	230	290	290	310	350	400	480	600
		inch	5.11	5.90	6.29	7.08	7.87	9.05	11,41	11.41	12.20	13.77	15.74	18.89	23.62
	<b>BS5156, Code 61, 68</b>														
	Plastic lined	mm	-	123	133	-	165	197	-	222	260	311	-	416	527
		inch	-	4.84	5.23	-	6.49	7.76	-	8.74	10.24	12.44	-	13.38	20.75
	Hard rubber lined	mm	-	123	133	-	165	197	222	222	260	313	364	414	529
		inch	-	4.84	5.23	-	6.49	7.76	8.74	8.74	10.24	12.44	14.3	16.30	20.83
	Unlined	mm	-	117	127	-	159	190	216	216	254	305	356	406	521
inch		-	4.61	5.00	-	6.26	7.48	8.50	8.50	10.00	12.01	14.0	15.98	20.51	

Note: Table Flange see page 9

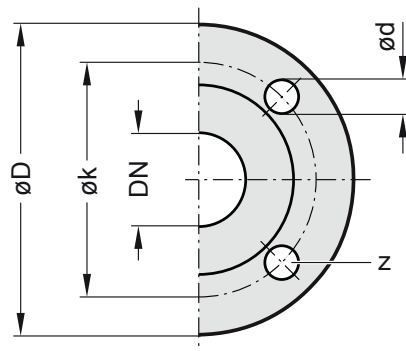


Information concerning valve bodies in stainless steel polished, DN 4-150, you will find in our catalogue "Valves for Aseptic Application - TD TD06 0018".

# Diaphragm Valves Metal

## Dimensions

### Flange Body



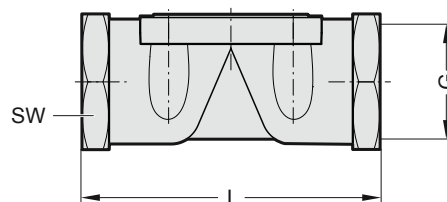
### Flange

DN Size		15 1/2"	20 3/4"	25 1"	32 1 1/4"	40 1 1/2"	50 2"	65 2 1/2"	80 3"	100 4"	125 5"	150 6"	200 8"	
DIN PN10 / 16 Code 51, 61	Ø D	mm inch	95 3.74	105 4.13	115 4.52	140 5.51	150 5.9	165 6.49	185 7.28	200 7.87	220 8.66	250 9.84	285 11.22	340 13.38
	Ø d	mm inch	14 0.55	14 0.55	14 0.55	18 0.70	18 0.70	18 0.70	18 0.70	18 0.70	18 0.70	18 0.70	22 0.86	22 0.86
	Ø k	mm inch	65 2.55	75 2.95	85 3.34	100 3.93	110 4.33	125 4.92	145 5.70	160 6.29	180 7.08	210 8.26	240 9.44	295 11.61
	z		-	4	4	4	4	4	4	8	8	8	8	8

ANSI 150 Code 58, 68	Ø D	mm inch	- -	98,4 3.87	108 4.25	117 4.6	127 5.00	152 5.98	178 7.00	191 7.52	229 9.02	254 10.0	279 10,98	343 13.50
	Ø d	mm inch	- -	16 0.62	16 0.62	16 0.62	16 0.62	19 0.74	19 0.74	19 0.74	19 0.74	19 0.74	19 0.74	19 0.74
	Ø k	mm inch	- -	70 2.75	79 3.11	89 3.50	98 3.85	121 4.76	140 5.51	152 5.98	191 7.51	216 9.0	241 9.49	298 11.73
	z		-	4	4	4	4	4	4	4	8	8	8	8

Note: Table Face to Face (FTF) see page 8

### Threaded Socket Body



DN Size MA		12-15 3/8"-1/2" 10	15 1/2" 25	20 3/4" 25	25 1" 25	32 1 1/4" 40	40 1 1/2" 40	50 2" 50	65 2 1/2" 65	
DIN ISO 228 Code 1	L	mm inch	see page 15	85 3.34	85 3.34	110 4.33	120 4.72	140 5.51	165 6.49	203 8.0
	SW Cast Iron	mm inch	- -	32 1.25	41 1.61	46 1.81	55 2.16	65 2.55	75 2.95	90 3.54
	SW Stainless Steel	mm inch	see page 15	27 1.06	32 1.25	41 1.61	50 1.96	55 2.16	70 2.75	- -
	G		3/8-1/2	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2



# Media Contacted Components

## Diaphragms



Elastomer  
MA25 - 80  
Code 1, 2, 4



PTFE/EPDM two-piece, molded closed  
MA25 - 80  
Code 41, 44



PTFE/EPDM one-piece, molded open  
MA10  
Code 51



Elastomer  
MA100 - 300  
Code 1, 2, 4



PTFE/EPDM two-piece, molded open  
MA100 - 300  
Code 31

The diaphragm is the most important component of the diaphragm valve. Besides the valve body, the diaphragm is the only part which contacts the process medium.

The diaphragm separates the process medium from the actuator or top works and the external atmosphere.

In addition the diaphragm is the dynamic part which the flow rate of the process medium is controlled and stopped.

The developing of formulation of compound is done closely with a specialised company developing, producing and testing compounds since many years together with SED for our market. The SED diaphragms have been developed and tested over years and are subject to stringent testing specification in our own test stands and third party. These tests are continuously performed with different specification to simulate as close as possible different real processes.

The tests result has an influence on the design, composition of the materials, valve body design, actuation and complete valve assemblies. All diaphragms are produced with an embedded stainless steel compressor stud for the engagement at the valve operating mechanism.

All diaphragm materials of the same size have the same engagement with the valve operating mechanism and may be interchanged in the valve without changing the diaphragm compressor and spindle.

### EPDM

Ethylene-propylene elastomer peroxide cured. The SED EPDM is a specifically developed compound reinforced with a vulcanized woven fabric inlay and is always manufactured in the molded open position. This diaphragm construction achieves higher stability for the diaphragm at elevated temperatures and pressures. In addition, the woven fabric inlay is vulcanized over the embedded compressor stud in order to strengthen the elastomer-metal connection. Thus, the EPDM diaphragm is ideal for vacuum applications.

### PTFE (TFM)

These PTFE diaphragms have been designed and offer the highest degree of chemical resistance, increased stability, longer flex life, less porosity, reduced cold flow and superior performance through temperature fluctuations between hot and cold and steam sterilization cycles.

#### MA10

The diaphragm dimension MA10 is designed as a one-piece diaphragm: This means that the EPDM back is bonded with the PTFE.

The diaphragm is always manufactured in the molded open position. These one-piece diaphragms have less surface area and are subject to shorter linear strokes which explain the excellent performance that has proved itself over time.

This feature eliminates the potential for point loading at the center of the diaphragm.

#### MA25 to MA100

The diaphragm dimensions MA25 to MA100 are designed as two-piece diaphragms-consisting of a separate EPDM backing cushion and PTFE diaphragm. The diaphragm is always manufactured in the molded closed position. The advantage of this design for the MA25 to MA100 is that the diaphragm is in its molded shape while in the closed position of the valve. This reduces the force to close the valve and increases the life of the diaphragm.

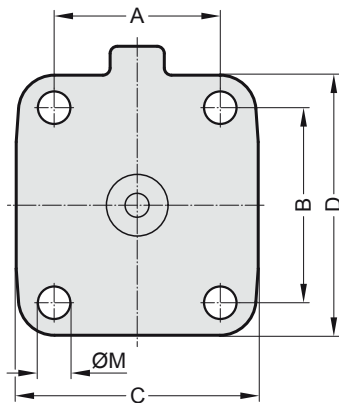
In the two piece diaphragms the threaded stud connection is embedded in the PTFE of the diaphragm. To eliminate the potential of point loading at the center of the diaphragm, a floating suspension connection to the valve operating mechanism is utilized.

**Note:** Other diaphragm materials on request.

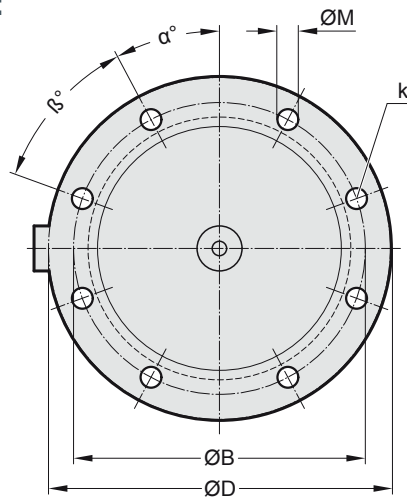
# Media Contacted Components

## Diaphragms

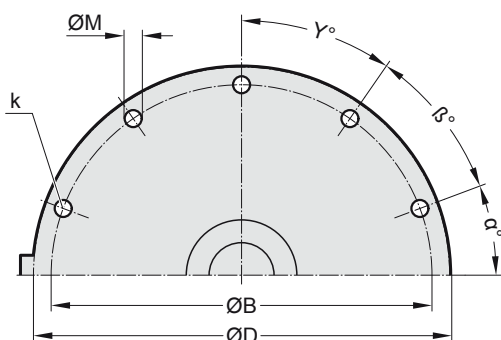
MA 10 - 80:



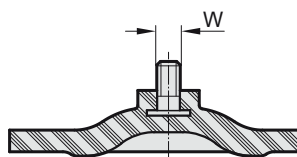
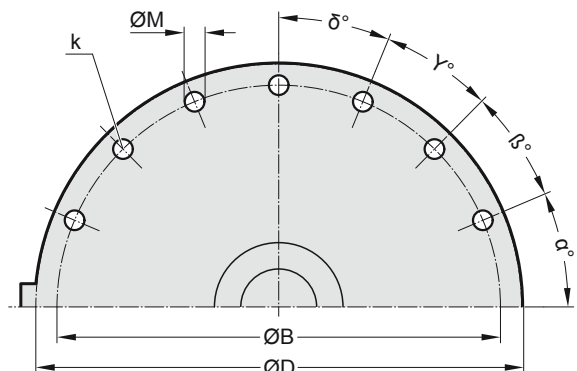
MA 100:



MA 150:



MA 200 - 300:



### Dimensions (mm)

DN	NPS	MA	A	B	C	D	ØM	k	W	α	β	γ	δ
12 - 15	3/8" - 1/2"	10	42.5	37.5	52	47	5.5	4	M4	-	-	-	-
15 - 25	1/2" - 1"	25	46	54	67	72	9	4	1/4"	-	-	-	-
32 - 40	1 1/4" - 1 1/2"	40	65	70	90	100	13.5	4	1/4"	-	-	-	-
50	2"	50	78	82	106	124	13	4	1/4"	-	-	-	-
65	2 1/2"	65	95.3	101.6	131.9	144.4	14.3	4	5/16"	-	-	-	-
65 - 80	2 1/2" - 3"	80	114	127	156	186	18	4	5/16"	-	-	-	-
100	4"	100	-	194	-	228	14.5	8	5/16"	20	42	-	-
125	5"	125	-	222	-	254	17.5	8	3/8"	43.5	43.5	-	-
150	6"	150	-	273	-	298.5	17.5	10	3/8"	35	35	35	-
200	8"	200	-	381	-	412.8	19	14	7/8"	22.5	22.5	27	18
250	10"	250	-	438.2	-	480	22.5	14	7/8"	22.5	22.5	22.5	22.5
300	12"	300	-	508	-	560	24	14	7/8"	24	24	24	18



# Manual Valve

## Type 289 / 295 DN 12 - 15 (3/8" - 1/2")

**Type 289** hand wheel operated actuator in plastic is a compact designed valve ideal for using where space is at a premium.

The smooth contour finish of the plastic cover eliminates accumulation of dirt and is corrosion resistant.

**Type 295** hand wheel operated actuator with stainless steel bonnet is the same compact design as type 289 but with a stainless steel bonnet which allows this valve to be used for higher temperature, depending on the diaphragm material to be used.

### $K_v$ 100 flow coefficient

The  $K_v$ 100 flow coefficient is the Q flow rate of cubic meter per hour of water at a temperature of 20°C that will generate  $\Delta p = 1$  bar pressure drop at a certain valve position.

The  $K_v$ 100 values shown in the table are calculated with the valve completely open.

### Features

- Process media can be neutral or 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 characteristic
- Bubble tight sealing
- Installation can be in any position
- Eliminates water hammer
- Complete with position indicator
- Compact construction
- Maintenance free and non corrosive actuator
- Adjustable internal travel stop

### Technical specifications

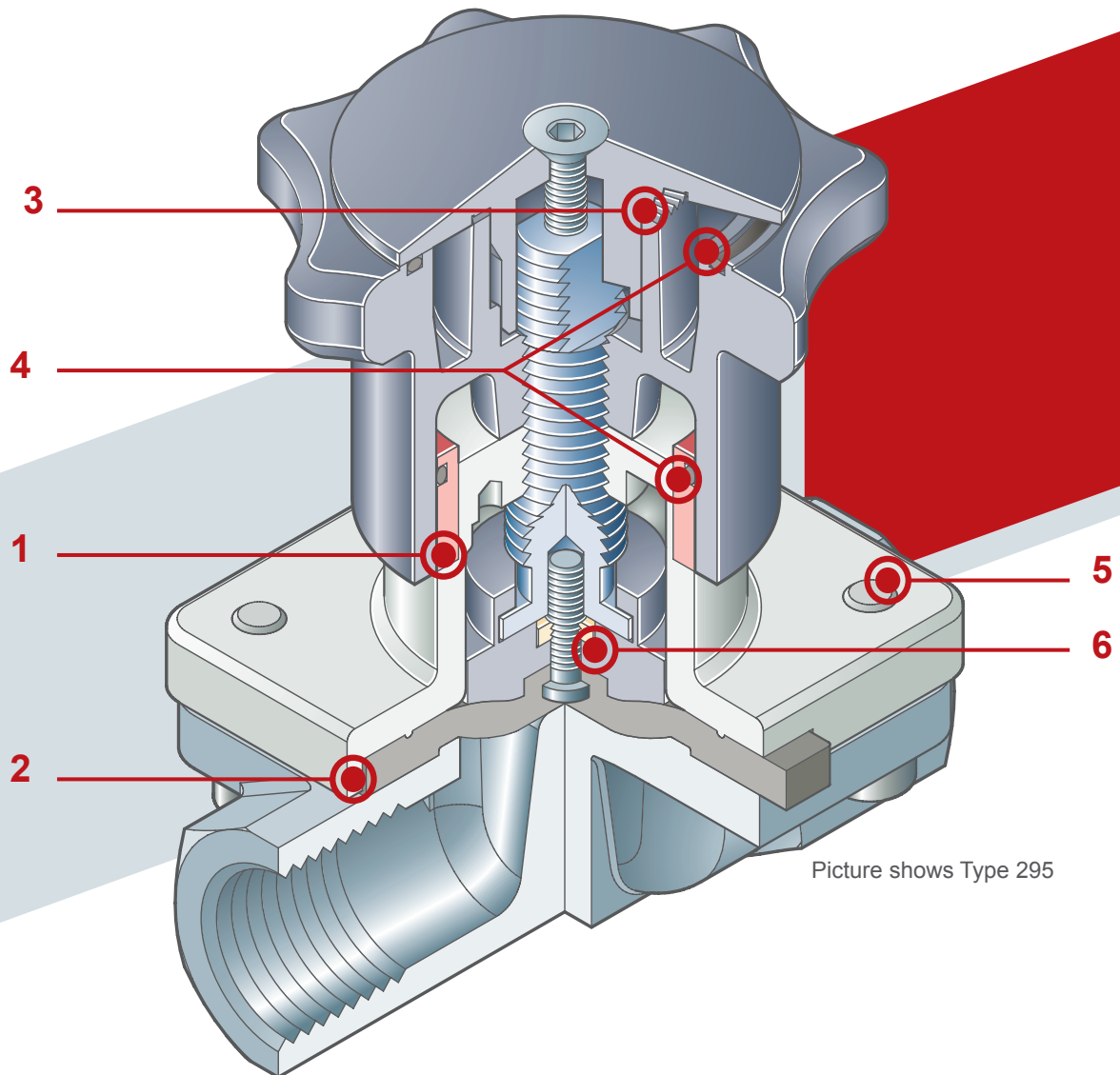
<b>Design</b>	Diaphragm Valve Type 295, Stainless steel bonnet and plastic handwheel Type 289, Plastic bonnet and handwheel
<b>Size range</b>	DN 12 - 15
<b>Diaphragm size see page 11</b>	MA 10
<b>Body material</b>	Investment cast 1.4435/316L
<b>End connection standards see page 8-9</b>	<b>Threaded socket:</b> DIN ISO 228
<b>Diaphragm material</b>	EPDM, PTFE, NBR, FPM
<b>Actuator material</b>	Type 295, Bonnet stainless steel, hand wheel PA-GR, rising handwheel Type 289, PA-GR, rising handwheel
<b>Max. working pressure</b>	10 bar (150 PSI), Type 295 6 bar (87 PSI), Type 289
<b>Temperature range</b>	-10 °C to +150 °C, depending on diaphragm and body material
<b>Control functions</b>	Manual control

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

DN	12	15
$K_v$ m <sup>3</sup> /h	2,8	4,2
$C_v$ gpm	3,3	4,9

# Manual Valve

## Type 289 / 295 DN 12 - 15 (3/8" - 1/2")



**1** Optical position indicator supplied as standard

**3** Adjustable internal travel stop to prevent excessive compression of the diaphragm

**5** Bottom entry stainless steel bolting

**2** Encapsulated diaphragm to prevent the elastomer of the diaphragm from extruding beyond the body bonnet flange

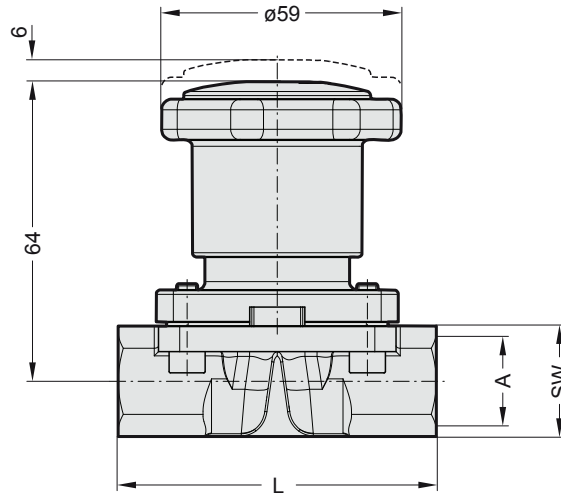
**4** Sealing bonnet assembly

**6** Flexible diaphragm suspension to eliminate point loading at the center of the diaphragm

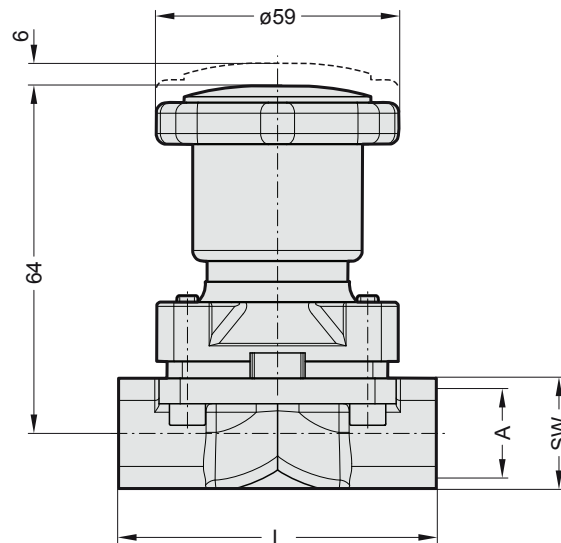
# Manual Valve

## Type 289 / 295 DN 12 - 15 (3/8" - 1/2")

### Type 295



### Type 289



### Dimensions (mm)

DN	MA	A	L	SW	Weight kg 295 / 289
12	10	G3/8"	56	22	0,52 / 0,38
15	10	G1/2"	75	27	0,58 / 0,44

# Manual Valve

## Type 982 DN 15 - 50 (1/2" - 2")

**Type 982** the diaphragm valve is particularly suitable for shutting off and regulating abrasive or dirty fluids.

The valve is extremely compact and very light. The innovative hand wheel is equipped with a patented immediate and ergonomic operating locking device that allows it to be adjusted and locked in any position.

### Features

- Process media can be neutral or 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 characteristic
- Locking device
- Bubble tight sealing
- Installation can be in any position
- Eliminates water hammer
- Complete with position indicator
- Compact construction
- Maintenance free non corrosive actuator

### Technical specifications

<b>Design</b>	Diaphragm Valve Plastic bonnet and handwheel
<b>Size range</b>	DN 15 - 50
<b>Diaphragm size see page 11</b>	MA 25 - 50
<b>Body material</b>	Investment cast 1.4435/316L 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
<b>End connection standards see page 8-9</b>	<b>Threaded socket:</b> DIN ISO 228 <b>Flange:</b> EN 1092 PN10/16, ANSI Class 125/150
<b>Diaphragm material</b>	EPDM, PTFE, NBR, FPM
<b>Actuator material</b>	PP-GR, non rising handwheel
<b>Max. working pressure</b>	10 bar (150 PSI)
<b>Temperature range</b>	-10 °C to +80 °C , depending on diaphragm and body material
<b>Control functions</b>	Manual control

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

### K<sub>v</sub>100 flow coefficient

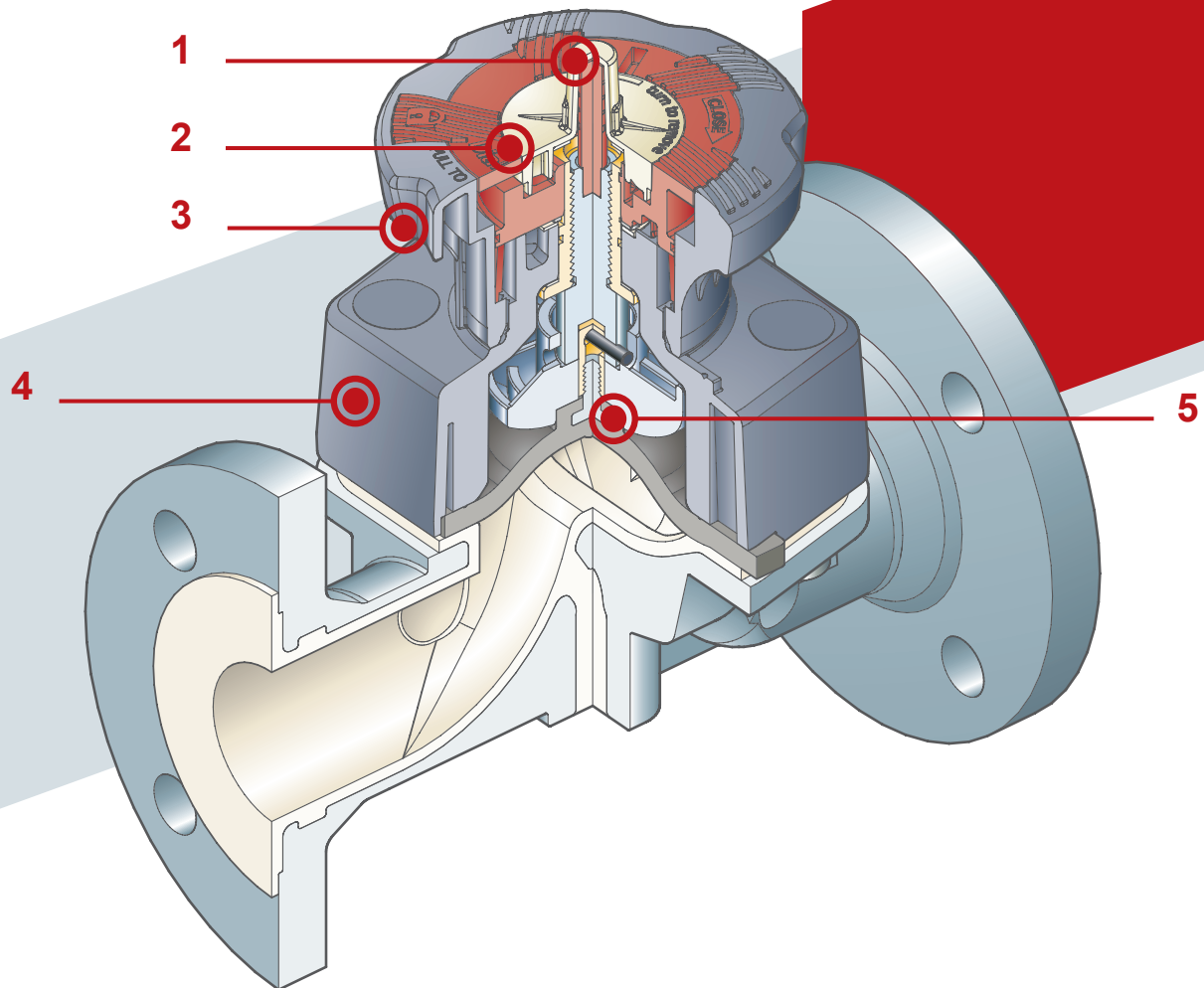
The K<sub>v</sub>100 flow coefficient is the Q flow rate of cubic meter per hour of water at a temperature of 20°C that will generate Δp = 1 bar pressure drop at a certain valve position.

The K<sub>v</sub>100 values shown in the table are calculated with the valve completely open.

DN	MA	Unlined		Hard rubber lined		Plastic lined	
		Kv m <sup>3</sup> /h	Cv gpm	Kv m <sup>3</sup> /h	Cv gpm	Kv m <sup>3</sup> /h	Cv gpm
15	25	7	8	-	-	5	6
20	25	12	14	10	12	9	11
25	25	14	16	14	16	13	15
32	40	-	-	29	34	23	27
40	40	40	47	32	37	26	30
50	50	78	91	51	60	50	59

# Manual Valve

## Type 982 DN 15 - 50 (1/2" - 2")



**1** High visibility graduated optical position indicator protected by a transparent cap with seal O-Ring

**2** Customization plate: the customization lets you identify the valve on the system according to specific needs

**3** Locking system: innovative handwheel with a patented immediate and ergonomic operating locking device that allows it to be adjusted and locked in over 300 positions

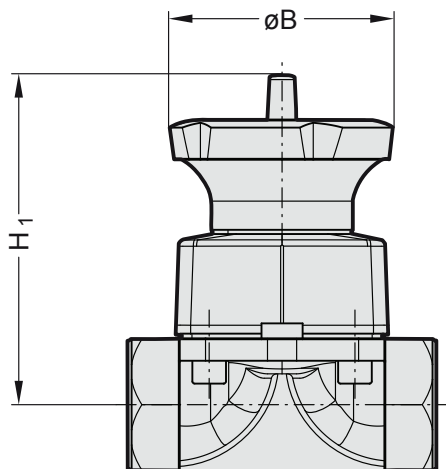
**4** Handwheel and bonnet in high mechanical strength and chemically resistant PP-GR, providing full protection by isolating all internal metal parts from contact with external agents

**5** Floating pin connection between the control screw and diaphragm to prevent concentrated loads, improve the seal and extend its lifetime

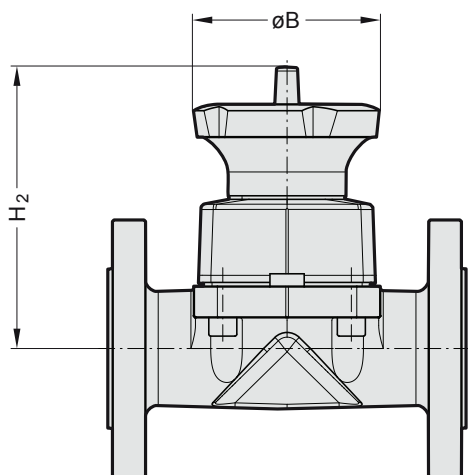
# Manual Valve

## Type 982 DN 15 - 50 (1/2" - 2")

### Threaded Socket



### Flanged



### Dimensions (mm)

DN	MA	$\varnothing B$	Threaded socket version		Flanged Version	
			$H_1$	Weight kg	$H_2$	Weight kg
15	25	100	110	0,77	113	2,5
20	25	100	110	0,81	113	3,3
25	25	100	120	1,03	118	3,8
32	40	140	151	1,54	158	7,0
40	40	140	153	1,78	158	7,0
50	50	140	176	3,1	176	10,0

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

# Manual Valve

## Type 987 DN 15 - 300 (1/2" - 12")

Type 987 manually operated actuator in metal.

This valve with non rising hand wheel has a robust designed metal actuator which allows higher temperatures applications, depending on the diaphragm material to be used

### Features

- Process media can be neutral or 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 characteristic
- Bubble tight sealing
- Installation can be in any position
- Eliminates water hammer
- Complete with position indicator
- Compact construction

### Technical specifications

<b>Design</b>	Diaphragm Valve Metal bonnet and handwheel
<b>Size range</b>	DN 15 - 300
<b>Diaphragm size see page 11</b>	MA 25 - 300
<b>Body material</b>	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
<b>End connection standards see page 8-9</b>	<b>Threaded socket:</b> DIN ISO 228 <b>Flange:</b> EN 1092 PN10/16, ANSI Class 125/150
<b>Diaphragm material</b>	EPDM, PTFE, NBR, FPM
<b>Actuator material</b>	GG25, non rising hand wheel
<b>Max. working pressure</b>	DN15 - 150 , 10 bar (150 PSI) DN200 - 300, 6 bar (87 PSI)
<b>Temperature range</b>	-10 °C to +150 °C, depending on diaphragm and body material
<b>Control functions</b>	Manual control

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

### K<sub>v</sub>100 flow coefficient

The K<sub>v</sub>100 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.

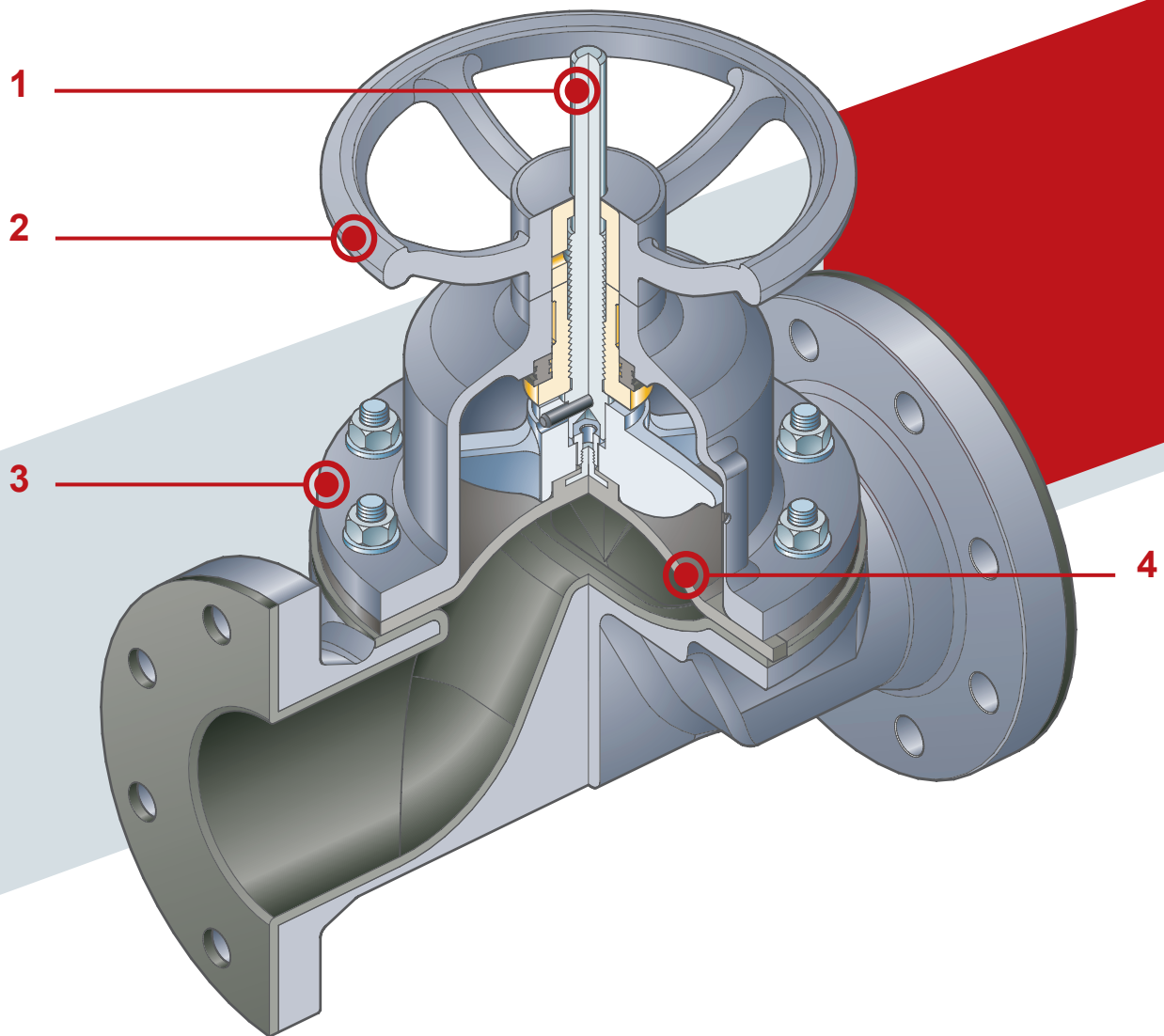
The K<sub>v</sub>100 values shown in the table are calculated with the valve completely open.

DN	MA	Unlined		Hard rubber lined		Plastic lined	
		Kv m <sup>3</sup> /h	Cv gpm	Kv m <sup>3</sup> /h	Cv gpm	Kv m <sup>3</sup> /h	Cv gpm
15	25	7	8	-	-	5	6
20	25	12	14	10	12	9	11
25	25	14	16	14	16	13	15
32	40	-	-	29	34	23	27
40	40	40	47	32	37	26	30
50	50	78	91	51	60	50	59
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	1035	1211	865	1012	865	1012
250	250	1389	1625	1258	1472	1466	1715
300	300	2244	2625	1816	2125	-	-



# Manual Valve

## Type 987 DN 15 - 300 (1/2" - 12")



**1** Optical position indicator supplied as standard

**2** Non-rising ergonomic metal handwheel for easy operation

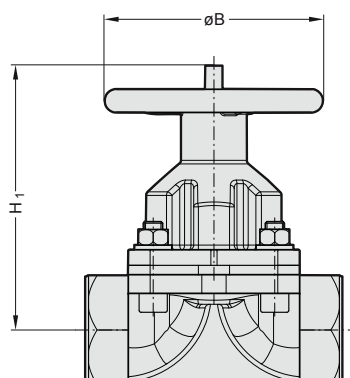
**3** Robust metal bonnet in cast iron EN-GJL-250

**4** Diaphragm which isolates the bonnet from the medium. Available in various materials for different media.

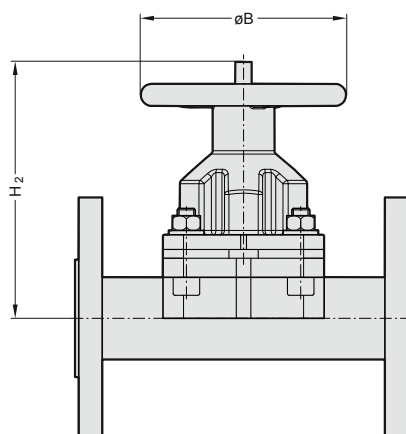
# Manual Valve

## Type 987 DN 15 - 300 (1/2" - 12")

### Threaded Socket



### Flanged



### Dimensions (mm)

DN	MA	ØB	Threaded socket version		Flanged version	
			H <sub>1</sub>	Weight kg	H <sub>2</sub>	Weight kg
15	25	100	102	1,7	111	3,1
20	25	100	105	1,8	111	3,9
25	25	100	109	2,1	115	4,3
32	40	140	153	3,9	157	8,0
40	40	140	156	4,3	163	9,0
50	50	140	172	6,0	176	12,0
65	65	180	173	9,6	206	15,0
65	80	225	-	-	258	21,0
80	80	225	-	-	258	23,0
100	100	225	-	-	292	32,0
125	125	310	-	-	354	68,0
150	150	368	-	-	423	106,0
200	200	471	-	-	576	185,0
250	250	587	-	-	689	275,0
300	300	690	-	-	815	480,0

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

# Manual Valve

## Type 905 DN 15 - 50 (1/2" - 2")

**Type 905** is a new innovative and User-friendly manual diaphragm valve with integrated, beneficial features for our customers and has an attractive design. The valve differentiates from the existing products in the market by offering unique features.

### Features

- Stainless steel bonnet and plastic hand wheel
- Rising hand wheel with optical indicator and stroke indicator
- Sealed bonnet
- Internal travel stop
- Locking device
- Flexible diaphragm suspension
- Encapsulated diaphragm
- Stroke limiter optional

### Technical specifications

<b>Design</b>	Diaphragm Valve Stainless steel bonnet and plastic handwheel
<b>Size range</b>	DN 15 - 50
<b>Diaphragm size see page 11</b>	MA 25 - 50
<b>Body material</b>	Investment cast 1.4435/316L-PFA-Lined
<b>End connection standards see page 8-9</b>	<b>Flange:</b> EN 1092 PN10/16, ANSI Class 125/150
<b>Diaphragm material</b>	EPDM, PTFE, NBR, FPM
<b>Actuator material</b>	PA MXD6-GF, bonnet stainless steel, rising hand wheel
<b>Max. working pressure</b>	10 bar (150 PSI)
<b>Temperature range</b>	-10 °C to +150 °C, depending on diaphragm and body material
<b>Control functions</b>	Manual control

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

### K<sub>v</sub>100 flow coefficient

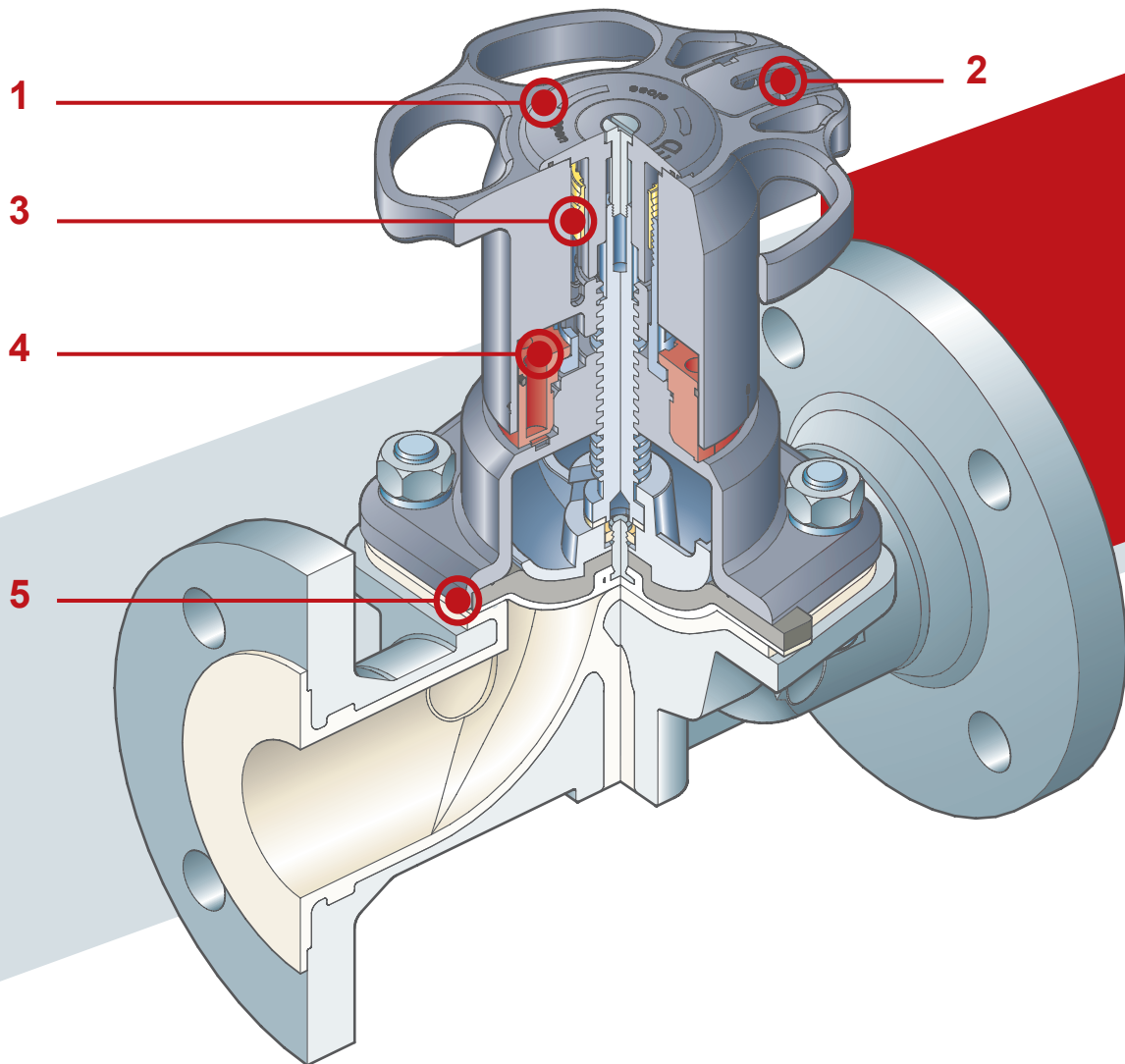
The K<sub>v</sub>100 flow coefficient is the Q flow rate of cubic meter per hour of water at a temperature of 20°C that will generate  $\Delta p = 1$  bar pressure drop at a certain valve position.

The K<sub>v</sub>100 values shown in the table are calculated with the valve completely open.

DN	MA	Plastic lined	
		Kv m <sup>3</sup> /h	Cv gpm
15	25	5	6
20	25	9	11
25	25	13	15
32	40	23	27
40	40	26	30
50	50	50	59

# Manual Valve

## Type 905 DN 15 - 50 (1/2" - 2")



**1** Adjustable internal travel stop to prevent excessive compression of the diaphragm

**2** Locking System, innovative hand wheel with a patent ergonomic operating manual bonnet

**3** Adjustable internal Stroke Limiter to adjust the linear movement of the upper position

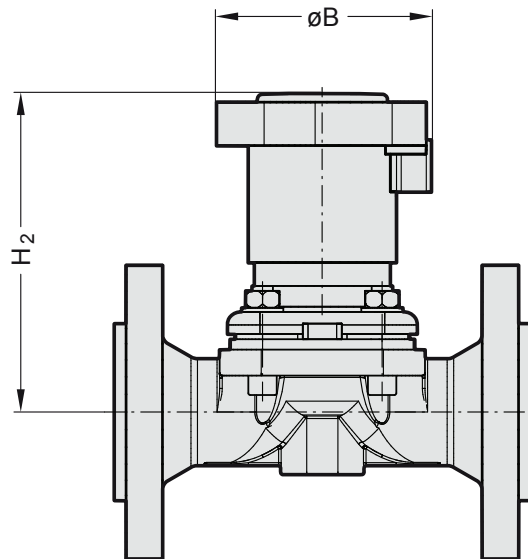
**4** Optical position indicator supplied as standard

**5** Encapsulated diaphragm to prevent the elastomer of the diaphragm from extruding beyond the body bonnet flange

# Manual Valve

## Type 905 DN 15 - 50 (1/2" - 2")

Flanged



### Dimensions (mm)

DN	MA	øB	H <sub>2</sub>	Weight kg
15	25	100	123	3,1
20	25	100	123	3,2
25	25	100	123	4,4
32	40	140	177	8,0
40	40	140	177	8,0
50	50	140	195	11,0

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

# Pneumatically Operated Valve

## Type 188 DN 12 - 15 (3/8" - 1/2")

**Type 188** is a compact designed valve ideal for using where space is at a premium.

The smooth contour finish of the plastic cover eliminates accumulation of dirt and is corrosion resistant.

The actuator is designed in plastic and is a highly efficient piston design.

### Features

- Process media can be neutral or 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
- Complete with position indicator
- Compact construction
- Maintenance free Plastic- Piston actuator non corrosive
- Actuators for different orientated air control connection

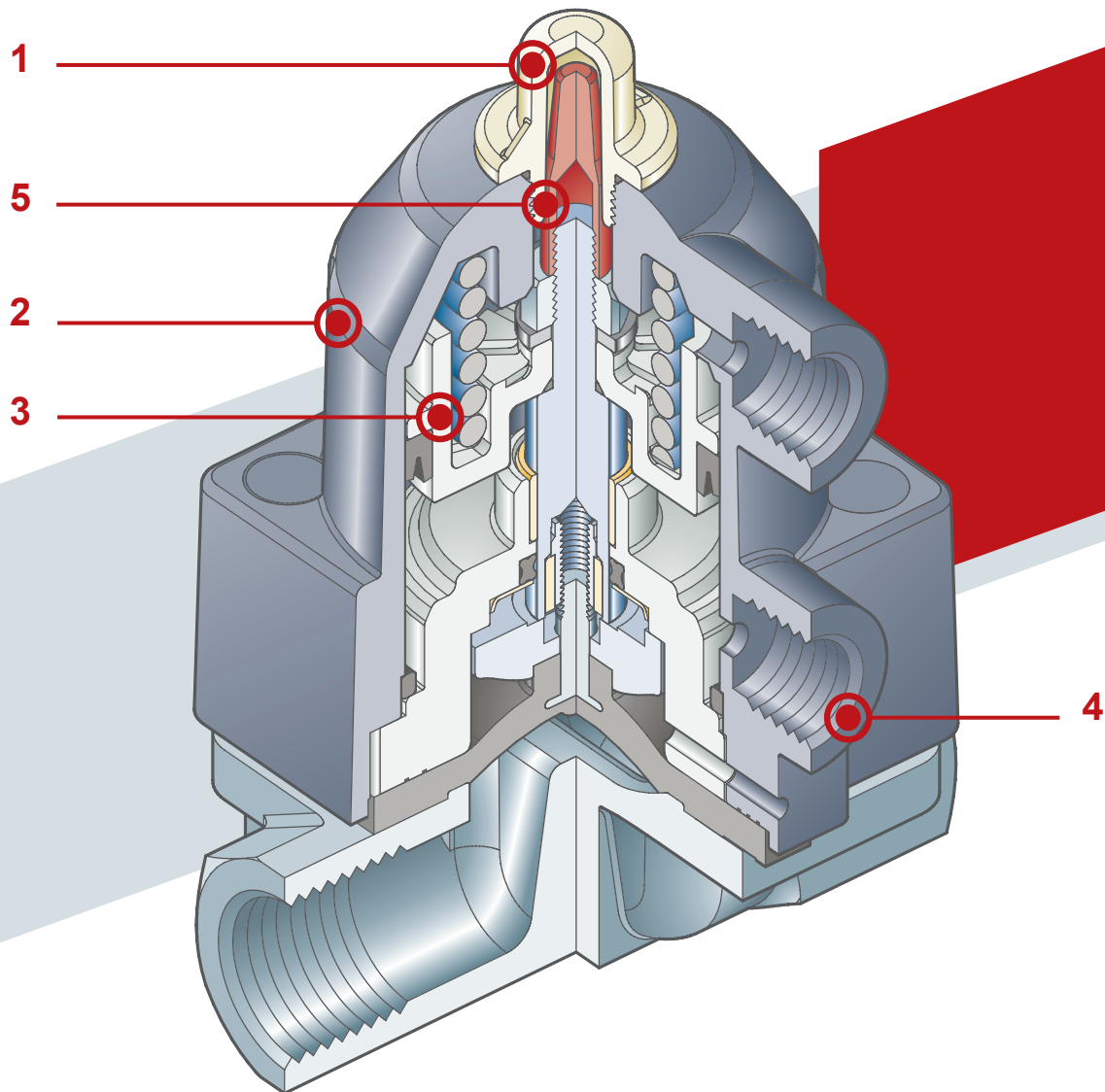
Technical specifications	
<b>Design</b>	Diaphragm Valve
<b>Size range</b>	DN 12 - 15
<b>Diaphragm size see page 11</b>	MA 10
<b>Body material</b>	Investment cast 1.4435/316L
<b>End connection standards see page 8-9</b>	<b>Threaded socket:</b> DIN ISO 228
<b>Diaphragm material</b>	EPDM, PTFE, NBR, FPM
<b>Max. working pressure</b>	6 bar (87 PSI)
<b>Temperature range</b>	Actuator type PS: -10 °C to +80 °C Actuator type HS: -10 °C to +150 °C depending on diaphragm and body material
<b>Control functions</b>	Single acting (NC or NO) and double-acting (DA) pneumatic piston actuator

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

Technical specifications - pneumatic actuator	
<b>Design</b>	Efficient Plastic Piston Actuator
<b>Actuator material</b>	Actuator type PS: PP-GR Actuator type HS: PA MXD6-GF
<b>Max. control air pressure</b>	NC: 6 bar (87 PSI) NO/DA: 5 bar (72 PSI)
<b>Control media</b>	Dry or lubricated filtered compressed air. If using other fluids, contact the SED service center
<b>Filling volume</b>	<b>NC:</b> 0,027 NL, DN 12 - 15 <b>NO/DA:</b> 0,027 NL, DN 12 - 15
<b>Control media temperature</b>	Max. 40 °C
<b>Ambient temperature</b>	-20 °C to +50 °C
<b>Accessories</b>	See page 54

# Pneumatically Operated Valve

## Type 188 DN 12 - 15 (3/8" - 1/2")



- 1** High visibility optical position indicator protected by a transparent cover with O-Ring
- 2** Light and compact piston actuator in PP-GR, ideal for heavy-duty applications in chemically aggressive environments with a **diaphragm perimeter containment system** that ensures the perfect compression of the hard rubber without any lateral expansion

- 3** Piston in high strength PA MXD6-GF. The high quality finish of the surface guarantees perfect slidability over the seal and ensures a long working life without any actuator maintenance
- 4** Easy to install, even in confined spaces: **compressed air inlets with G 1/4" threaded optional available in alignment with the piping**

- 5** Connection thread for assembly of **valve control equipment**

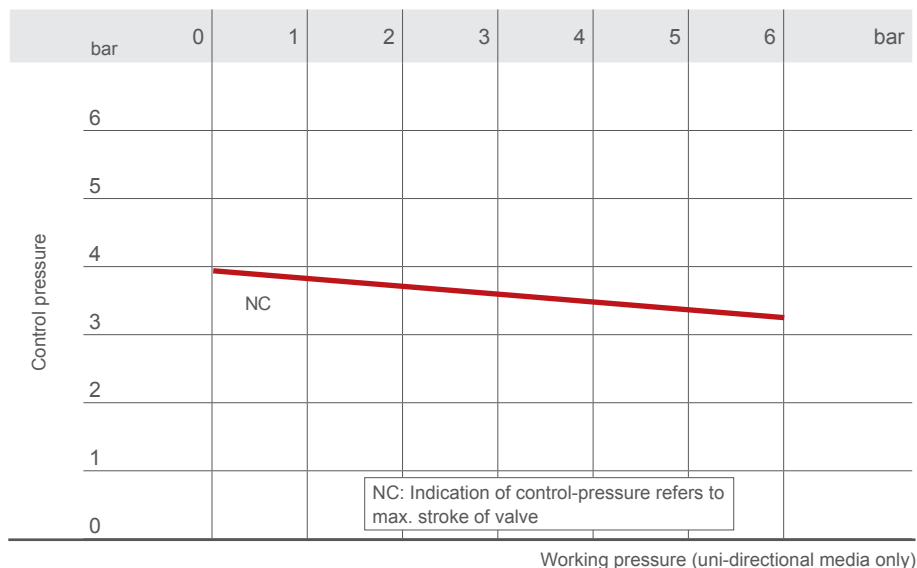


# Pneumatically Operated Valve

## Type 188 - Technical Data

### Control pressure according to Working pressure Type 188 NC

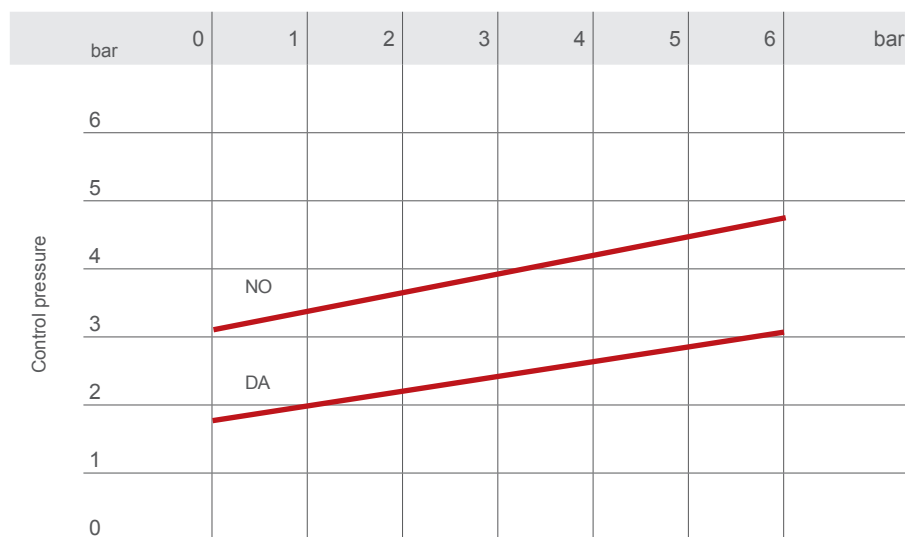
Minimum control pressure according to working pressure with EPDM, FPM diaphragm



Working pressure (uni-directional media only)

### Control pressure according to Working pressure Type 188 NO-DA

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



Working pressure (uni-directional media only)

### $K_v$ 100 flow coefficient

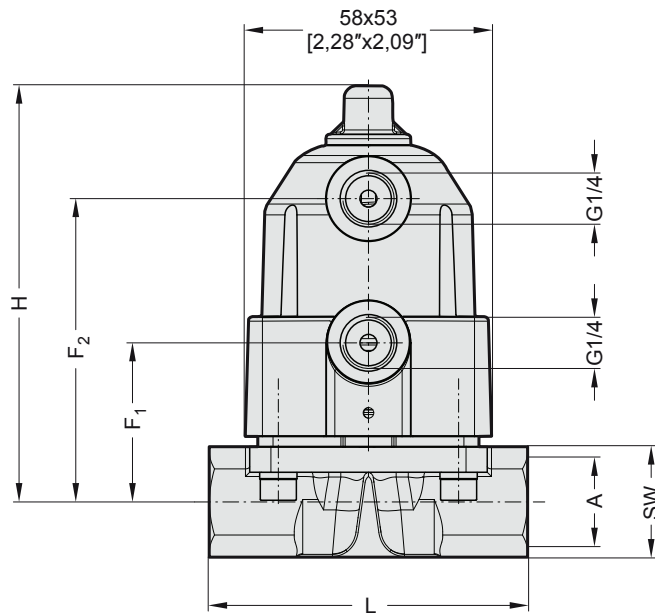
The  $K_v$ 100 flow coefficient is the Q flow rate of cubic meter per hour of water at a temperature of 20°C that will generate  $\Delta p = 1$  bar pressure drop at a certain valve position.

The  $K_v$ 100 values shown in the table are calculated with the valve completely open.

DN	12	15
$K_v$ m <sup>3</sup> /h	2,8	3,5
$C_v$ gpm	3,3	4,0

# Pneumatically Operated Valve Type 188 - Dimensions

## Threaded Socket



## Dimensions (mm)

DN	MA	A	L	SW	H	F <sub>1</sub>	F <sub>2</sub>	Weight kg
12	10	G3/8"	56	22	99	37	71	0,48
15	10	G1/2"	75	27	100	38	72	0,54

# Pneumatically Operated Valve

## Type 385 DN 15 - 100 (1/2" - 4")

**Type 385** pneumatically operated valve with robust plastic actuator normally closed (NC), normally open (NO) or double acting (DA). This compact design and light weight valve has a smooth contour finish on the plastic cover to eliminate accumulation of dirt and is corrosion resistant. The actuator is designed as a maintenance free diaphragm actuator. Various accessories are available for adjustments, control and regulation which can be assembled in the factory or 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
- Compact construction
- Maintenance free non corrosive actuator

Technical specifications	
<b>Design</b>	Diaphragm Valve
<b>Size range</b>	DN 15 - 100
<b>Diaphragm size see page 11</b>	MA 25 - 100
<b>Body material</b>	Investment cast 1.4435/316L Investment cast 1.4435/316L-PFA-Lined 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
<b>End connection standards see page 8-9</b>	<b>Threaded socket:</b> DIN ISO 228 <b>Flange:</b> EN 1092 PN10/16, ANSI Class 125/150
<b>Diaphragm material</b>	EPDM, PTFE, NBR, FPM
<b>Max. working pressure</b>	10 bar (150 PSI), DN 15 - 50 7 bar (100 PSI), DN 65 - 100
<b>Temperature range</b>	-10 °C to +80 °C, depending on diaphragm and body material
<b>Control functions</b>	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.

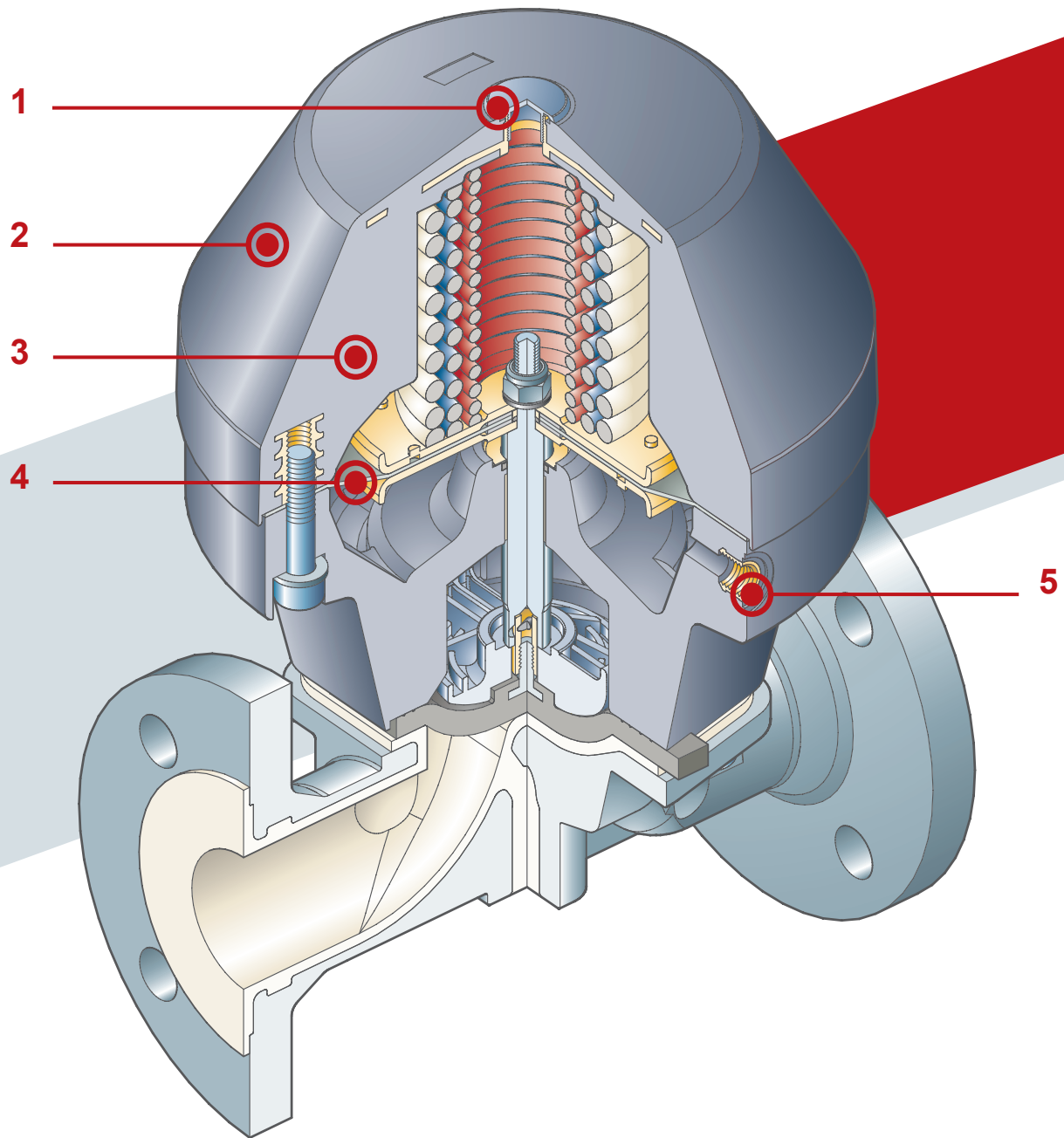
# Pneumatically Operated Valve

## Type 385 DN 15 - 100 (1/2" - 4")

The **diaphragm actuator** in PP-GR is characterized by its robust and compact design, making 385 the ideal choice for demanding and chemically aggressive applications.

Technical specifications - pneumatic actuator	
<b>Design</b>	Diaphragm Actuator
<b>Actuator material</b>	PP-GR
<b>Max. control air pressure</b>	NC: 6 bar (87 PSI) NO/DA: 5 bar (72 PSI)
<b>Control media</b>	Dry or lubricated filtered compressed air. If using other fluids, contact the SED service center
<b>Filling volume</b>	<b>NC:</b> 0,16 NL, DN 15 - 25 0,36 NL, DN 32 - 40 1,15 NL, DN 50 2,1 NL, DN 65 - 80 2,5 NL , DN100 <b>NO/DA:</b> 0,06 NL, DN 15 - 25 0,11 NL, DN 32 - 40 0,32 NL, DN 50 2,2 NL, DN 65 - 80 2,5 NL , DN100
<b>Control media temperature</b>	Max. 40 °C
<b>Ambient temperature</b>	-20 °C to +50 °C
<b>Accessories</b>	See page 54

# Pneumatically Operated Valve Type 385 DN 15 - 100 (1/2" - 4")



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

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

**3** Robust plastic housing

**4** Strong control diaphragm supported by two metal plates which ensures a long life

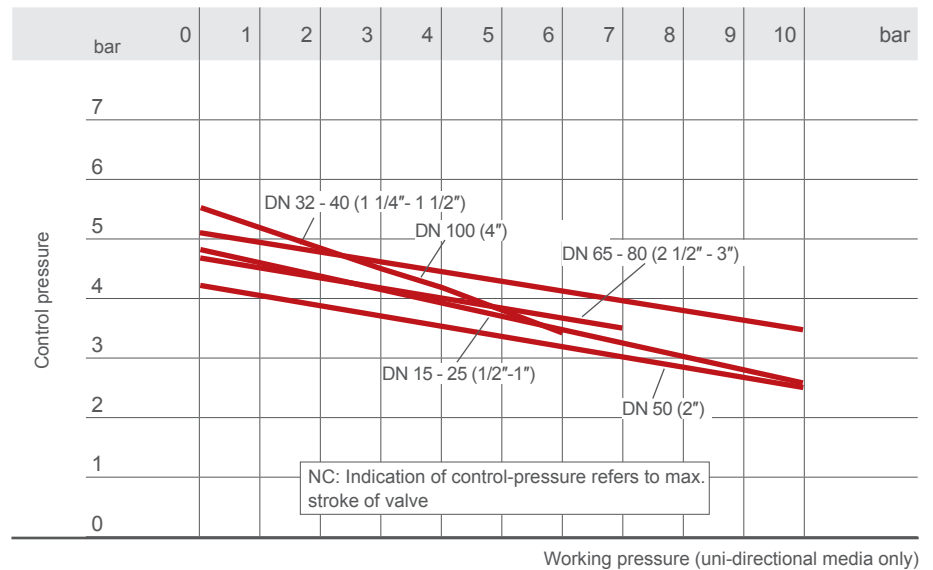
**5** Control air connector G1/4" for control function "Normally closed"

# Pneumatically Operated Valve

## Type 385 - Technical Data

### Control pressure according to Working pressure Type 385 NC

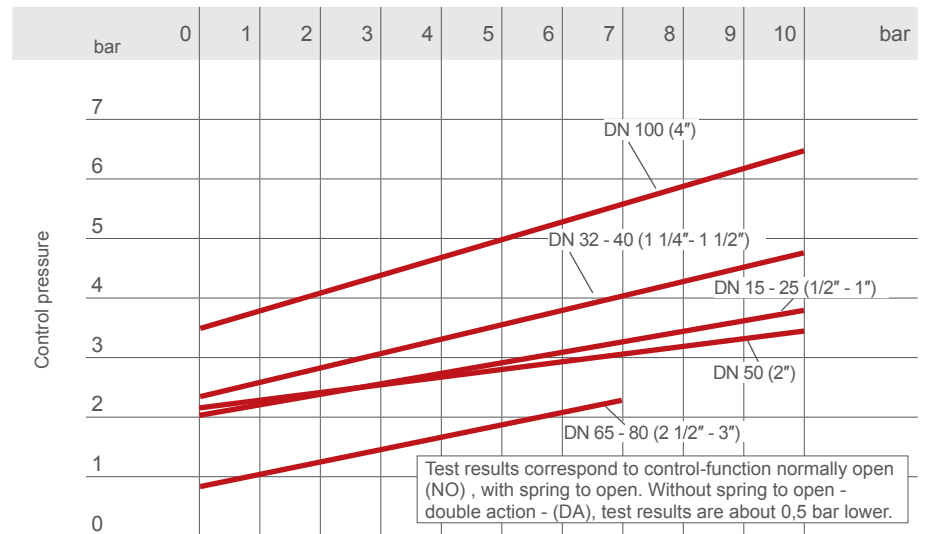
Minimum control pressure according to working pressure with EPDM, FPM diaphragm



Working pressure (uni-directional media only)

### Control pressure according to Working pressure Type 385 NO-DA

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



Working pressure (uni-directional media only)

### $K_v$ 100 flow coefficient

The  $K_v$ 100 flow coefficient is the Q flow rate of cubic meter per hour of water at a temperature of 20°C that will generate  $\Delta p = 1$  bar pressure drop at a certain valve position.

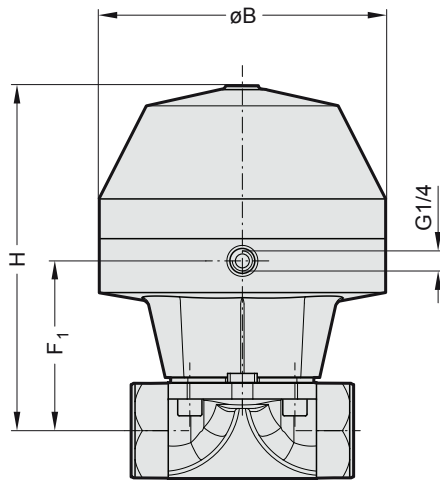
The  $K_v$ 100 values shown in the table are calculated with the valve completely open.

DN	MA	Unlined		Hard rubber lined		Plastic lined	
		$K_v$ m <sup>3</sup> /h	Cv gpm	$K_v$ m <sup>3</sup> /h	Cv gpm	$K_v$ m <sup>3</sup> /h	Cv gpm
15	25	7	8	-	-	5	6
20	25	12	14	10	12	9	11
25	25	14	16	14	16	13	15
32	40	-	-	29	34	23	27
40	40	40	47	32	37	26	30
50	50	78	91	51	60	50	59
65	80	88	103	75	88	72	84
80	80	154	180	113	132	110	129
100	100	217	254	190	222	175	205

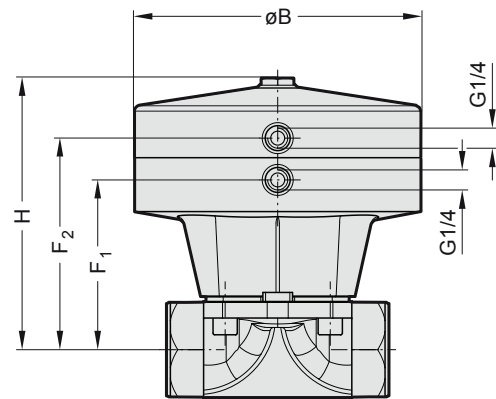
# Pneumatically Operated Valve

## Type 385 DN 15 - 100 (1/2" - 4")

### Threaded Socket



NC



NO / DA

### Dimensions (mm)

DN	MA	ØB	F <sub>1</sub>	Threaded Socket Version					
				NC		NO/DA			
				H	Weight kg	F <sub>1</sub>	F <sub>2</sub>	H	Weight kg
15	25	130	57	151	2,2	86	117	119	1,7
20	25	130	60	154	2,4	89	120	122	1,8
25	25	130	64	154	2,6	89	120	123	2,1
32	40	161	14	204	4,6	130	161	163	3,9
40	40	161	101	206	6,0	127	158	164	4,3
50	50	218	123	259	10,0	155	186	199	7,0

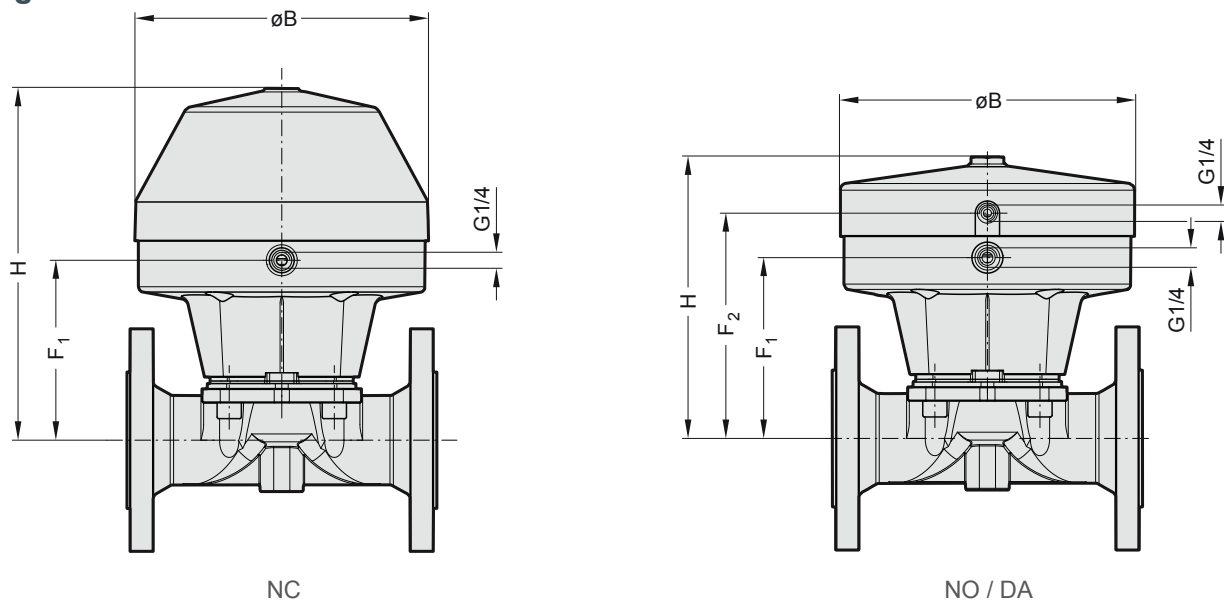
**Note:** Valve body face to face (FTF) and flange dimensions see page 8.



# Pneumatically Operated Valve

## Type 385 DN 15 - 100 (1/2" - 4")

### Flanged



### Dimensions (mm)

DN	MA	ØB	Flanged Version						
			NC			NO/DA			
			F <sub>1</sub>	H	Weight kg	F <sub>1</sub>	F <sub>2</sub>	H	Weight kg
15	25	130	66	160	3,6	95	126	128	3,1
20	25	130	66	160	4,4	95	126	128	3,9
25	25	130	70	160	4,9	95	126	129	4,4
32	40	161	108	208	9,0	134	165	167	8,0
40	40	161	108	213	9,0	134	165	171	9,0
50	50	218	127	263	15,0	159	190	203	13,0
65	80	265	182	330	25,0	225	266	291	22,0
80	80	265	182	330	26,0	225	266	291	23,0

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

Dimensions DN100 see page 46.

# Pneumatically Operated Valve

## Type 402 DN 15 - 50 (1/2" - 2")

**Type 402** pneumatically operated valve with plastic piston actuator normally closed (NC), normally open (NO) or double acting (DA). Various accessories are available for adjustments, control and regulation which can be assembled in the factory or 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
- Compact construction
- Maintenance free non corrosive actuator
- Control air connection in flow direction (optional)

Technical specifications	
<b>Design</b>	Diaphragm Valve
<b>Size range</b>	DN 15 - 50
<b>Diaphragm size see page 11</b>	MA 25 - 50
<b>Body material</b>	Investment cast 1.4435/316L S.G. iron EN-GJS-400-18-LT (GGG40.3)-PP-Lined Cast iron EN-GJL-250 (GG 25) Cast iron EN-GJL-250 (GG 25)-Hard-Rubber-Lined
<b>End connection standards see page 8-9</b>	<b>Threaded socket:</b> DIN ISO 228 <b>Flange:</b> EN 1092 PN10/16, ANSI Class 125/150
<b>Diaphragm material</b>	EPDM, PTFE, NBR, FPM
<b>Max. working pressure</b>	10 bar (150 PSI), DN 15 - 50
<b>Temperature range</b>	-10 °C to +120 °C, depending on diaphragm and body material
<b>Control functions</b>	Single acting (NC or NO) and double-acting (DA) pneumatic diaphragm actuator

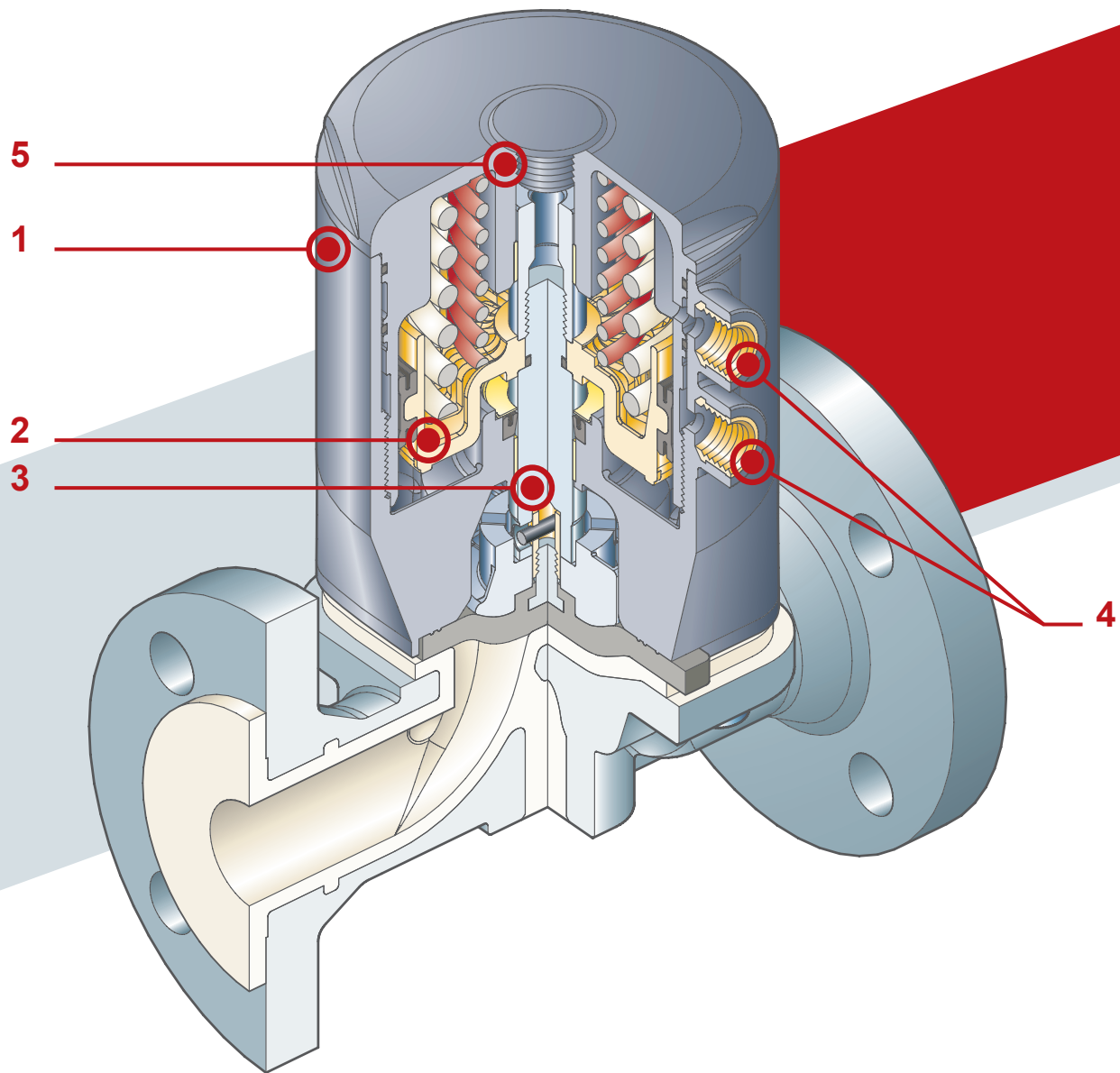
**Note:** Possible actuator and valve body combinations see page 7.  
Ordering key see page 60.

The **piston actuator** in PA MXD6-GF is characterized by its compact construction, making 402 the ideal choice for applications requiring very frequent valve operation and long valve lifetime.

Technical specifications - pneumatic actuator	
<b>Design</b>	Plastic Piston Actuator
<b>Actuator material</b>	PA MXD6-GF
<b>Max. control air pressure</b>	NC: 4,5 - 7 bar (65 - 100 PSI) NO/DA: 4 - 5 bar (60 - 72 PSI)
<b>Control media</b>	Dry or lubricated filtered compressed air. If using other fluids, contact the SED service center
<b>Control media temperature</b>	Max. 40 °C
<b>Ambient temperature</b>	-20 °C to +50 °C
<b>Accessories</b>	See page 54

# Pneumatically Operated Valve

## Type 402 DN 15 - 50 (1/2" - 2")



**1** Light and compact piston actuator in PA MXD6-GF with a diaphragm perimeter containment system that ensures the perfect compression of the hard rubber without any lateral expansions

**2** Piston in high strength PA MXD6-GF equipped with main gasket with lubrication system that allows up to 1 million valve operations to be performed without showing any signs of wear

**3** High strength **stainless steel stem** with floating pin connection between the actuator stem and diaphragm to prevent concentrated loads, improve the seal and extend its lifetime

**4** Easy to install, even in confined spaces: **compressed air inlets with G 1/4" threaded metal connections**, can be supplied in line with the piping

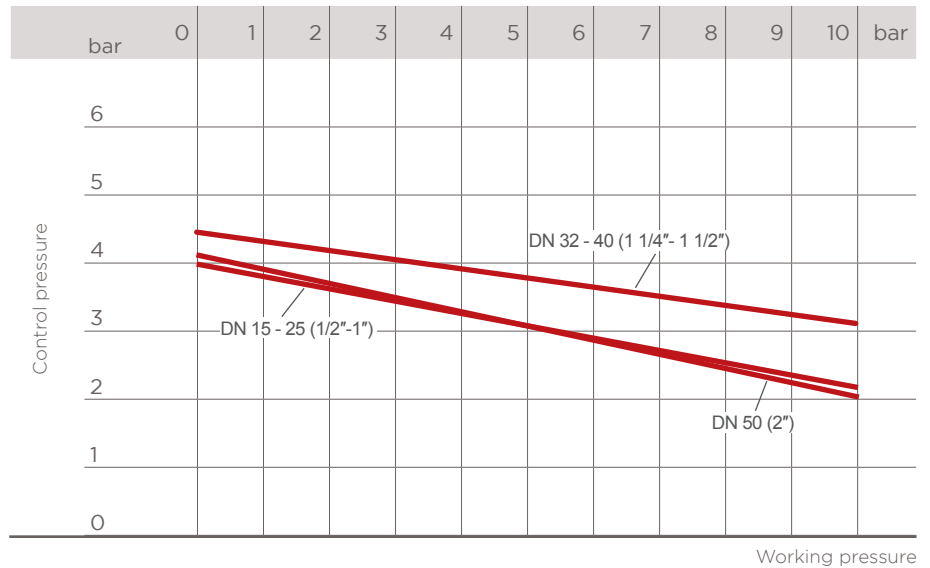
**5** Connection thread for assembly of **valve control equipment**

# Pneumatically Operated Valve

## Type 402 - Technical Data

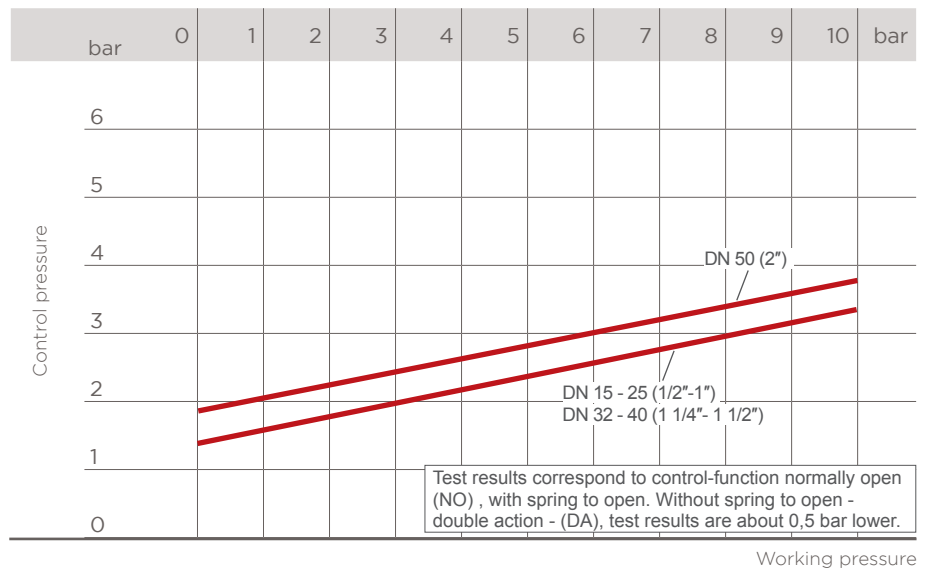
### Control pressure according to Working pressure Type 402 NC

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



### Control pressure according to Working pressure Type 402 NO-DA

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



### K<sub>v</sub>100 flow coefficient

The K<sub>v</sub>100 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.

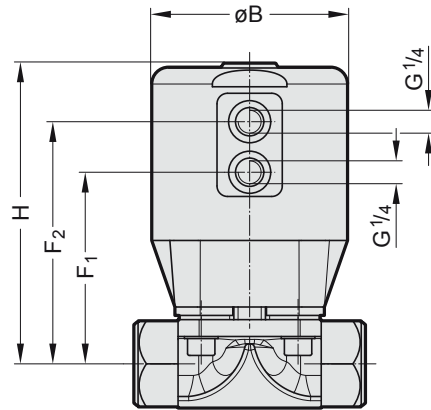
The K<sub>v</sub>100 values shown in the table are calculated with the valve completely open.

DN	MA	Unlined		Hard rubber lined		Plastic lined	
		Kv m <sup>3</sup> /h	Cv gpm	Kv m <sup>3</sup> /h	Cv gpm	Kv m <sup>3</sup> /h	Cv gpm
15	25	7	8	-	-	5	6
20	25	12	14	10	12	9	11
25	25	14	16	14	16	13	15
32	40	-	-	29	34	23	27
40	40	40	47	32	37	26	30
50	50	78	91	51	60	50	59

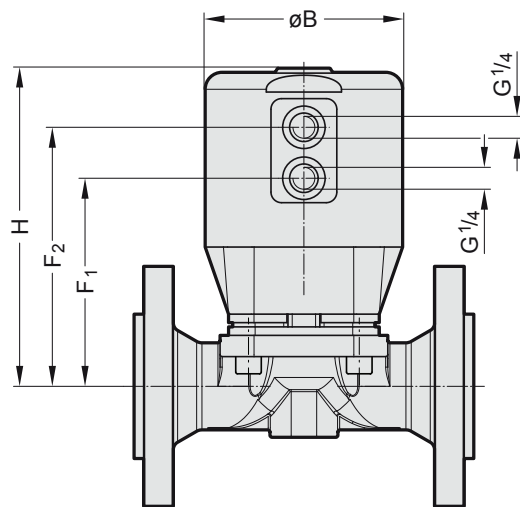
# Pneumatically Operated Valve

## Type 402 DN 15 - 50 (1/2" - 2")

### Threaded Socket



### Flanged



### Dimensions (mm)

DN	MA	ØB	Threaded Socket Version				Flanged Version			
			F <sub>1</sub>	F <sub>2</sub>	H	Weight kg	F <sub>1</sub>	F <sub>2</sub>	H	Weight kg
15	25	95	84	108	136	1,75	93	117	146	3,1
20	25	95	87	111	139	1,86	93	117	146	4,0
25	25	95	91	115	143	2,2	91	115	141	4,5
32	40	115	100	124	162	3,6	96	120	154	8,0
40	40	115	103	127	164	4,1	108	132	169	8,0
50	50	144	147	171	215	7,0	149	173	211	13,0

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

# 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	
<b>Design</b>	Diaphragm Valve
<b>Size range</b>	DN 65 - 200
<b>Diaphragm size see page 11</b>	MA 65 - 200
<b>Body material</b>	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
<b>End connection standards see page 8-9</b>	<b>Flange:</b> EN 1092 PN10/16, ANSI Class 125/150
<b>Diaphragm material</b>	EPDM, PTFE, NBR, FPM
<b>Max. working pressure</b>	See table page 39.
<b>Temperature range</b>	-10 °C to +150 °C, depending on diaphragm and body material
<b>Control functions</b>	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.

# Pneumatically Operated Valve

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

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

Technical specifications - pneumatic actuator	
<b>Design</b>	Diaphragm Actuator
<b>Actuator material</b>	Robust plastic housing, Actuator size 3,5,7 Robust metal housing 4,6,8,9
<b>Max. control air pressure</b>	NC/NO/DA: 7 bar
<b>Control media</b>	Dry or lubricated filtered compressed air. If using other fluids, contact the SED service center
<b>Filling volume</b>	See table below
<b>Control media temperature</b>	Max. 40 °C
<b>Ambient temperature</b>	-20 °C to +50 °C
<b>Accessories</b>	See page 54

### Technical Data

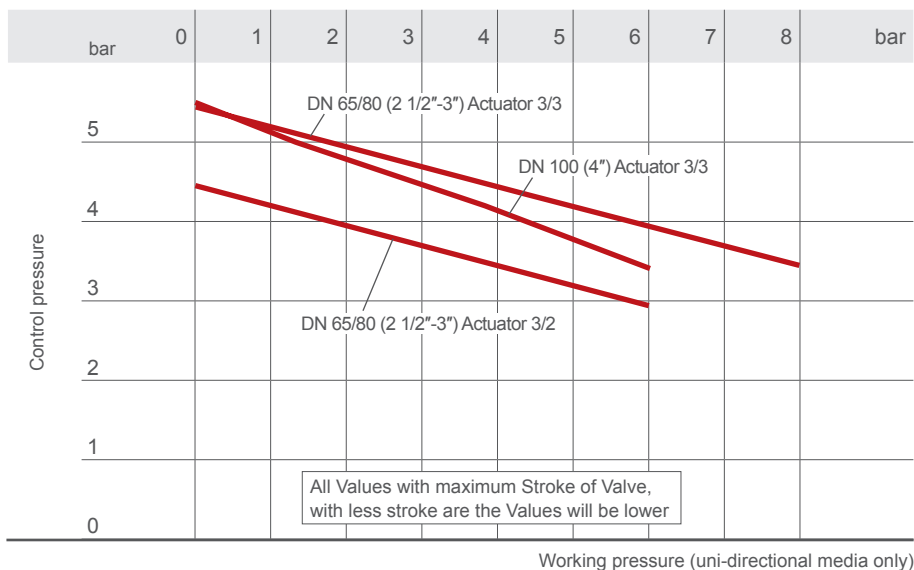
DN	NPS	MA	Normally Closed			Normally Open / Double Acting			
			Actuator size NC	Max. working pressure bar (PSI)	Filling Volume NL	Actuator size		Max. working pressure bar (PSI)	Filling Volume NL
						NO	DA		
65	2 1/2	65	3/1	3 (44)	2,5	5	7	10 (145)	2,5
			3/2	6 (87)	2,5				
			3/3	8 (116)	2,5				
65	2 1/2	80	3/1	3 (44)	2,5	5	7	10 (145)	2,5
			3/2	6 (87)	2,5				
			3/3	8 (116)	2,5				
80	3	80	3/2	6 (87)	2,5	5	7	10 (145)	2,5
			3/3	8 (116)	2,5				
			4/3	10 (145)	6,8				
100	4	100	3/3	6 (87)	2,5	5	7	6 (87)	2,5
			4/3	10 (145)	6,8	6	8	10 (145)	6,8
125	5	125	4/2	5 (73)	6,8	6	8	10 (145)	6,8
			4/3	8 (116)	6,8				
150	6	150	4/3	6 (87)	6,8	6	8	8 (116)	6,8
			9/2	6 (87)	13,6				
			9/3	8 (116)	13,6				
200	8	200	4/3	3 (44)	6,8	6	8	6 (87)	6,8
			9/3	6 (87)	13,6	6/2	8/2	6 (87)	13,6

# Pneumatically Operated Valve

## Type 487 - Technical Data

### Control pressure according to Working pressure Type 487 Actuator 3 NC

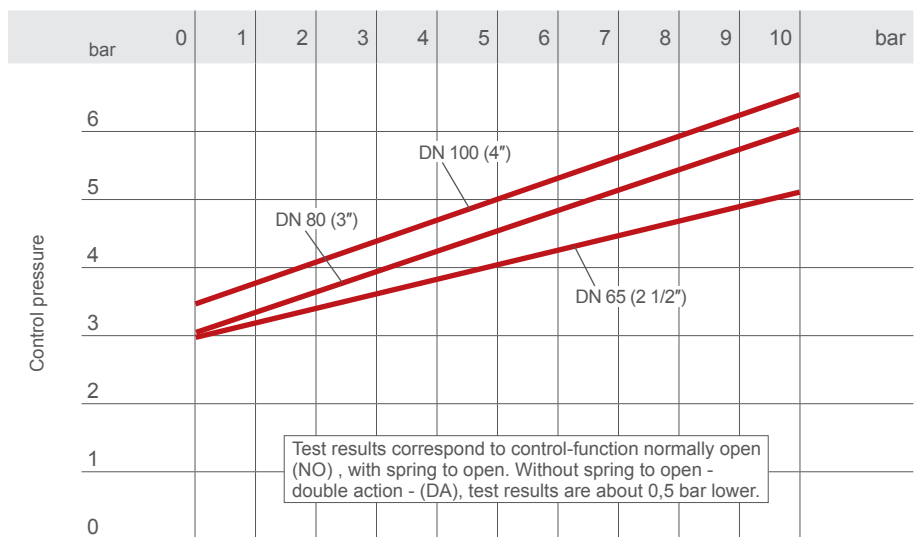
Minimum control pressure according to working pressure with EPDM, FPM diaphragm



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



Working pressure (uni-directional media only)

### $K_v$ 100 flow coefficient

The  $K_v$ 100 flow coefficient is the Q flow rate of cubic meter per hour of water at a temperature of 20°C that will generate  $\Delta p = 1$  bar pressure drop at a certain valve position.

The  $K_v$ 100 values shown in the table are calculated with the valve completely open.

DN	MA	Unlined		Hard rubber lined		Plastic lined	
		Kv m <sup>3</sup> /h	Cv gpm	Kv m <sup>3</sup> /h	Cv gpm	Kv m <sup>3</sup> /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

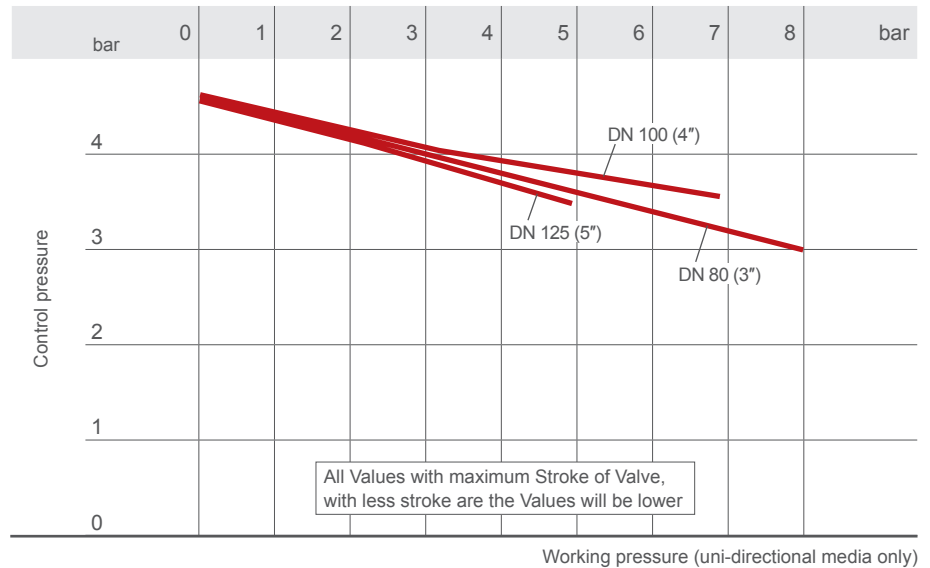


# Pneumatically Operated Valve

## Type 487 - Technical Data

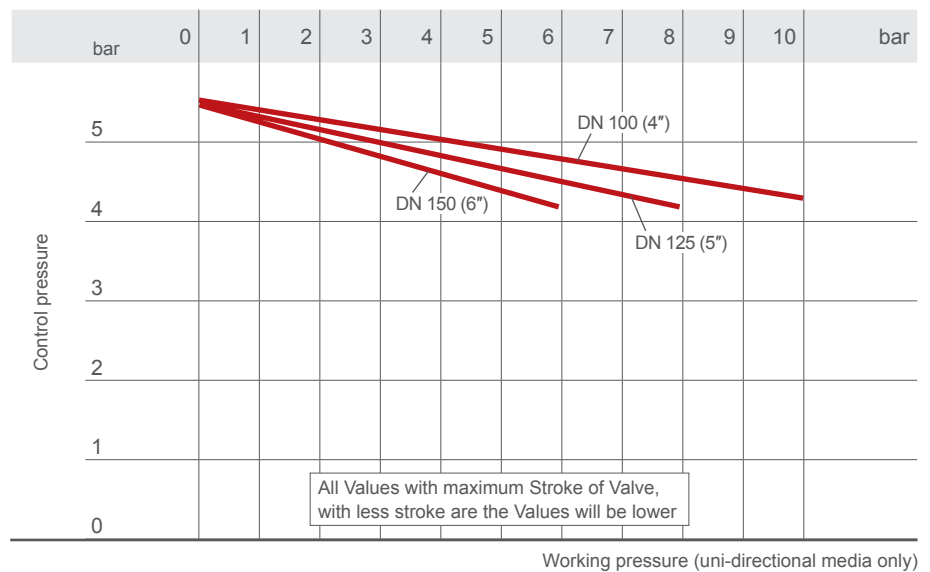
### Control pressure according to Working Pressure Type 487 Actuator 4/2 NC

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

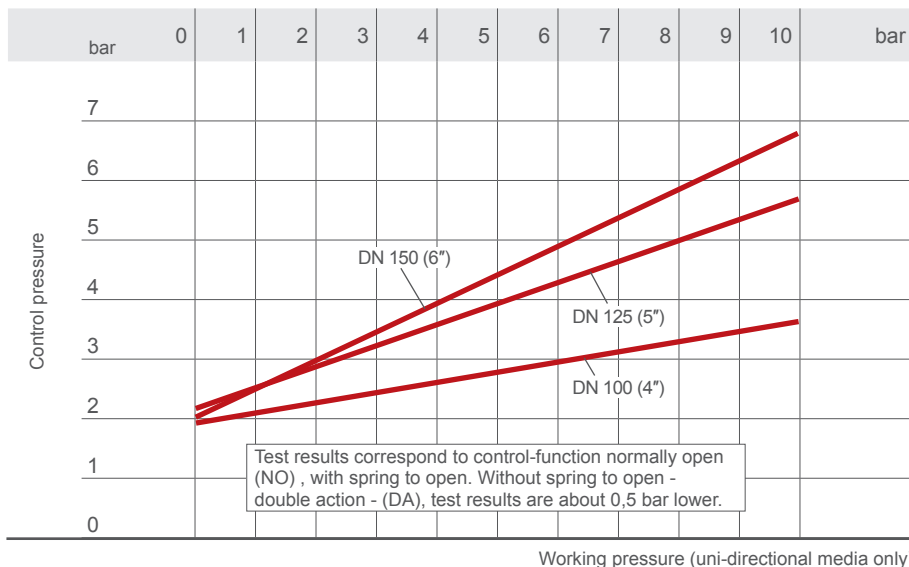


# Pneumatically Operated Valve

## Type 487 - Technical Data

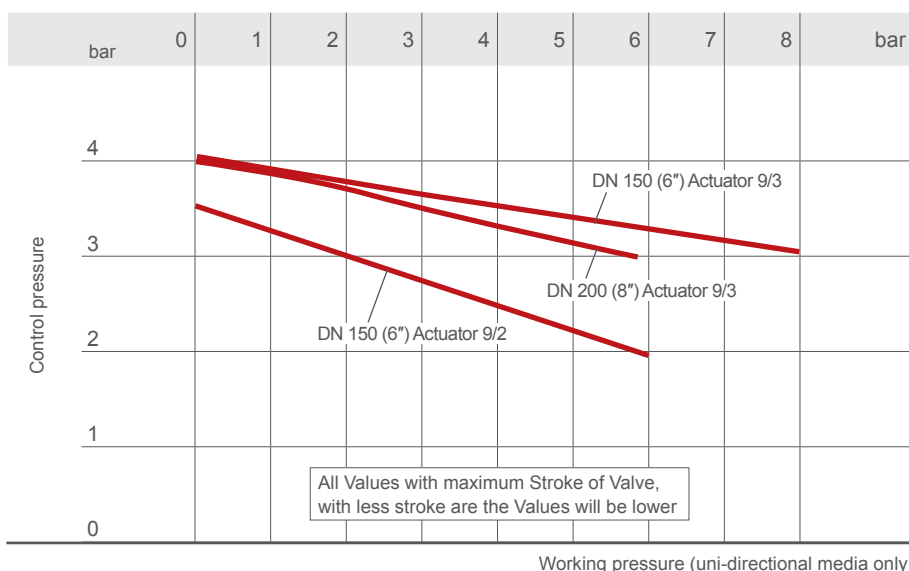
### Control pressure according to Working Pressure Type 487 Actuator 6 NO Type 487 Actuator 8 DA

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



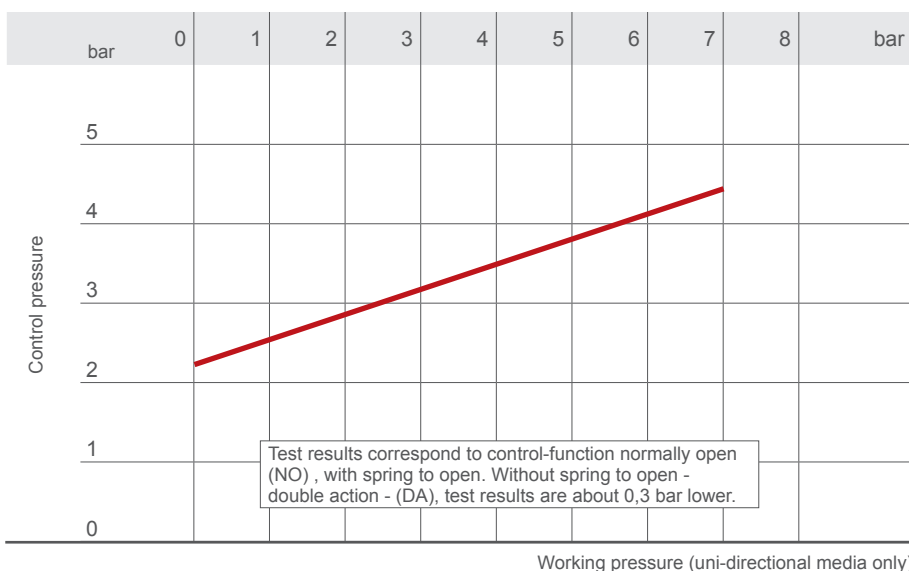
### Control pressure according to Working Pressure Type 487 Actuator 9 NC

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



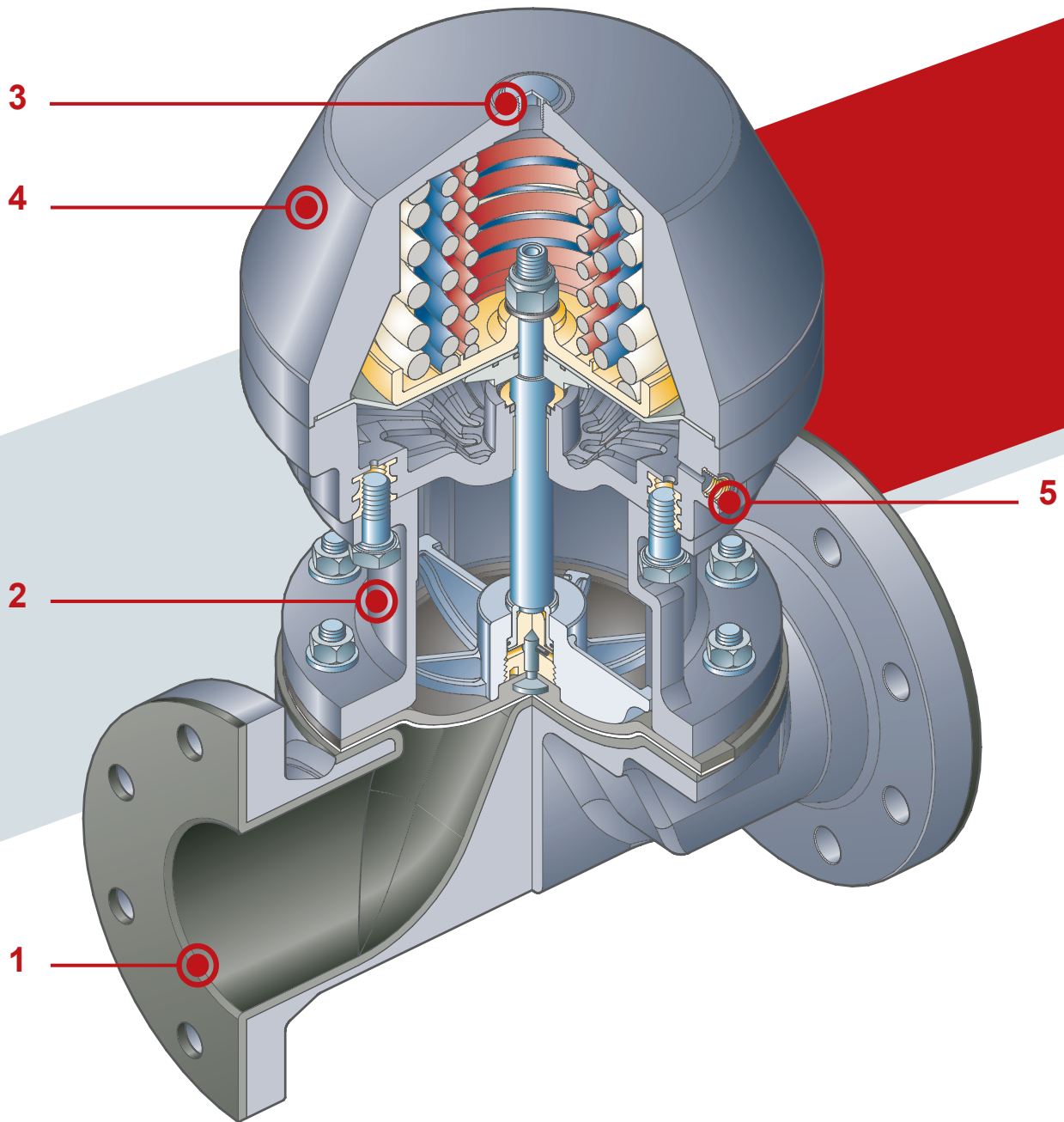
### Control pressure according to Working Pressure Type 487 Actuator 6/2 NO Type 487 Actuator 8/2 DA

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



# 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.)

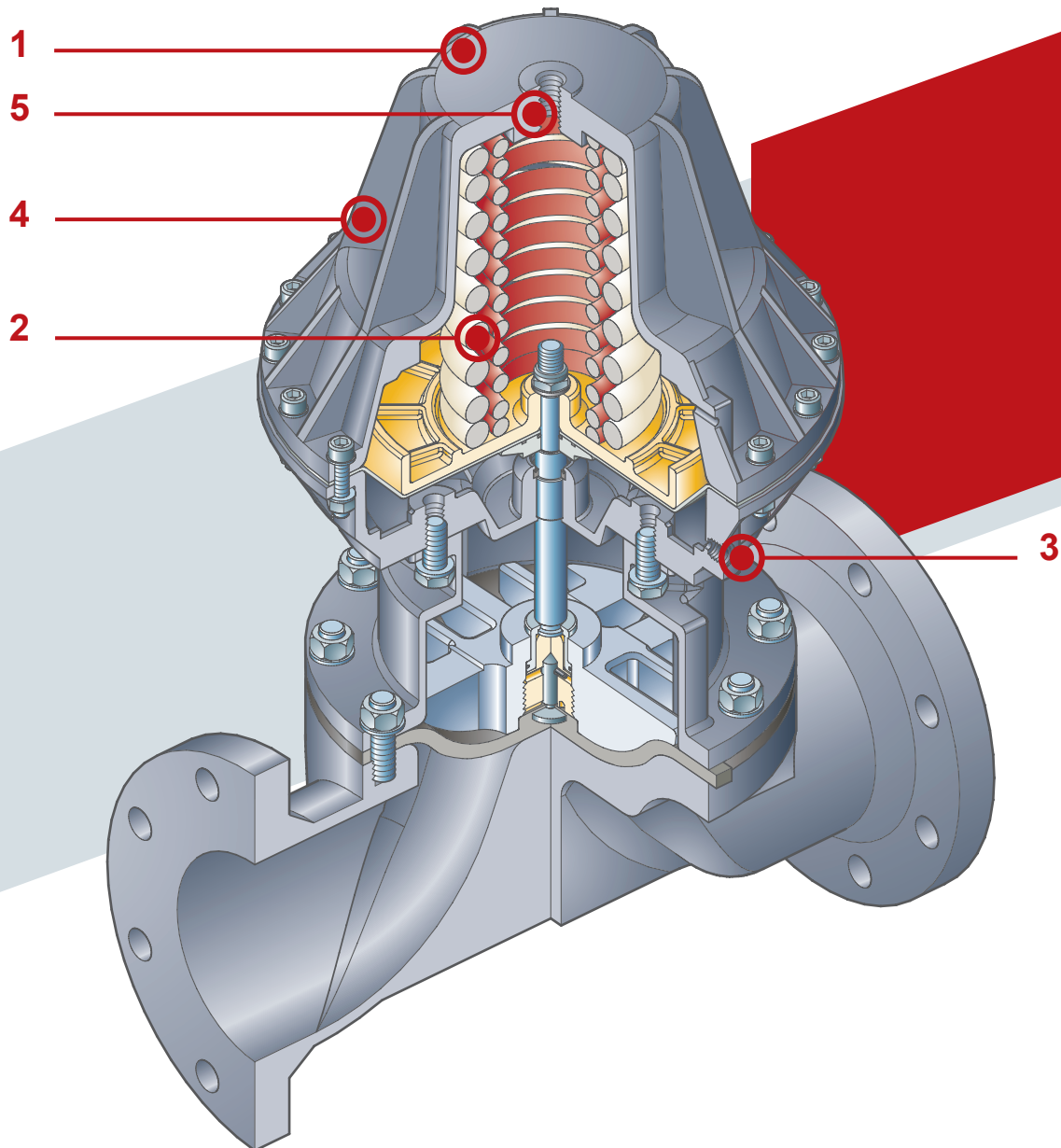
**2** Cast iron **distance piece** for high temperature applications

**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

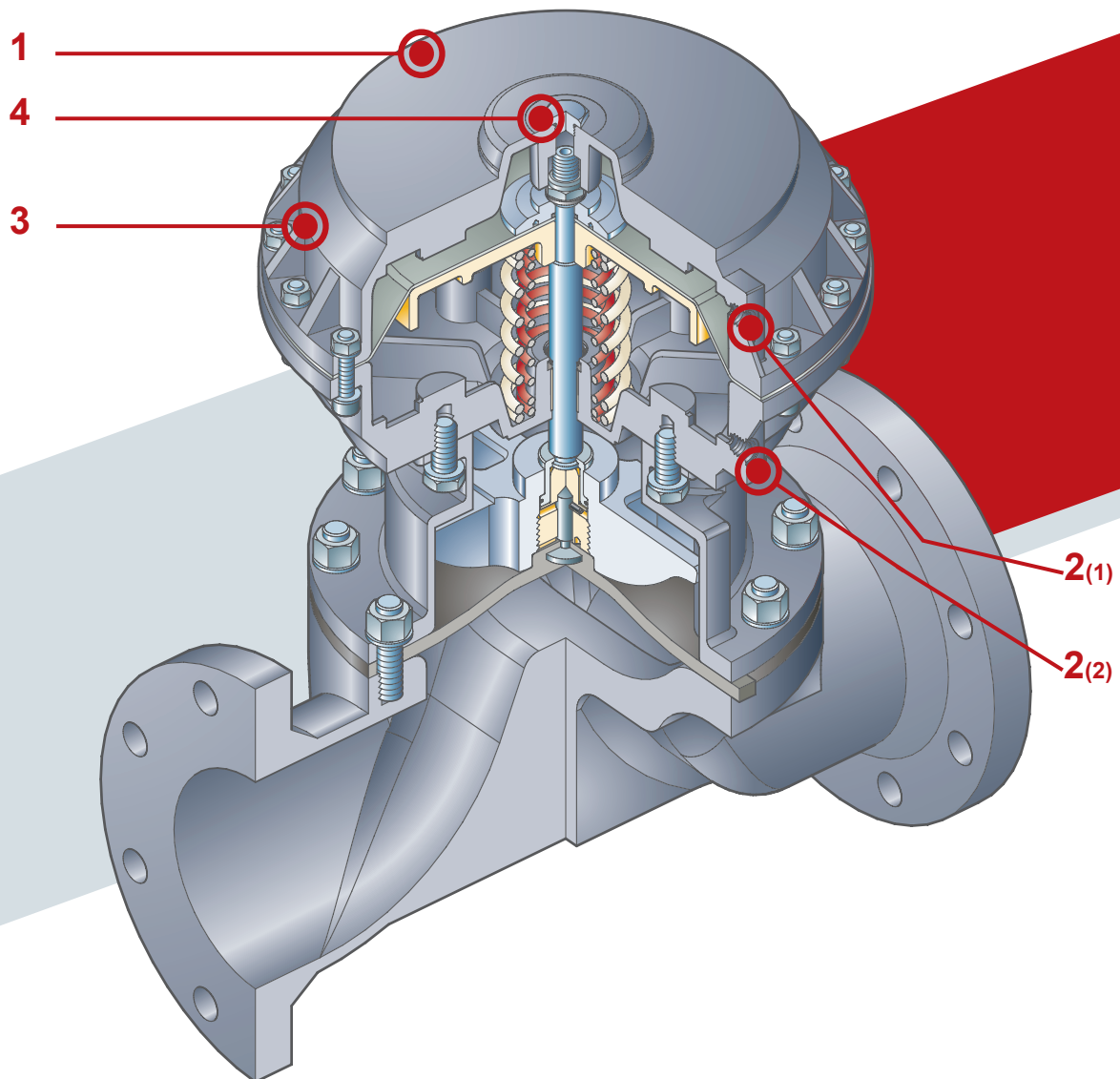
**3** Control air connector G1/4" for control function "Normally closed"

**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"

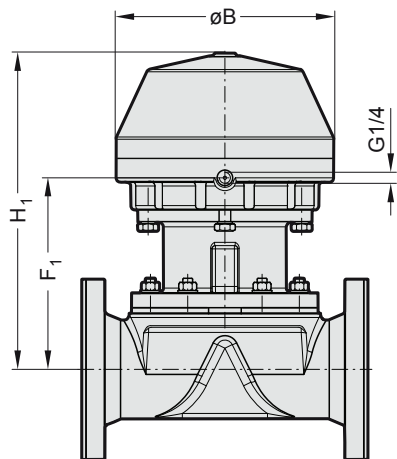
**2(1) + 2(2)** for control function "Double acting", no spring in the actuator

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

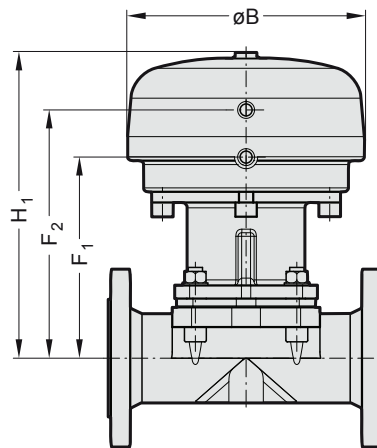
**4** Connection thread for assembly of valve control equipment

# 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 <sub>1</sub>	H <sub>1</sub>	Weight kg	ØB	F <sub>1</sub>	F <sub>2</sub>	H <sub>1</sub>		
65 <sup>1</sup>	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 <sup>2</sup>	100	266	257	410	42	266	230	281	347	39	38

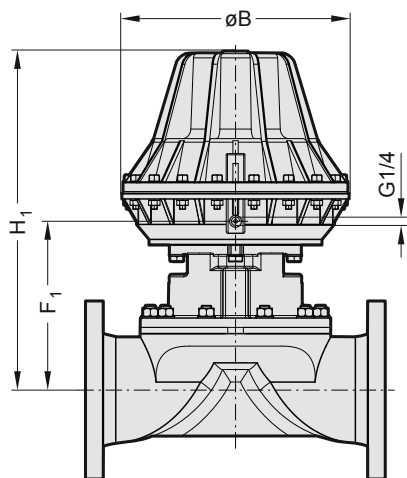
**Note:** Valve body face to face (FTF) and flange dimensions see page 8.

<sup>1</sup> Only valid for Hard Rubber Lined and Unlined Valves.

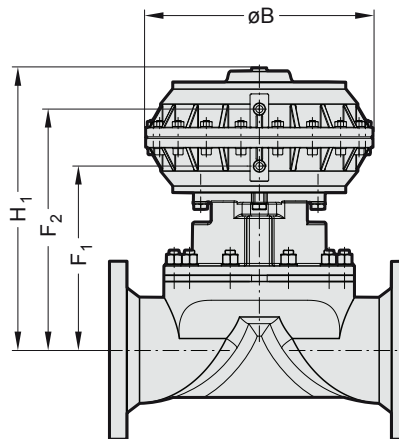
<sup>2</sup> Dimensions also valid for Type 385 see page 28.

# 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

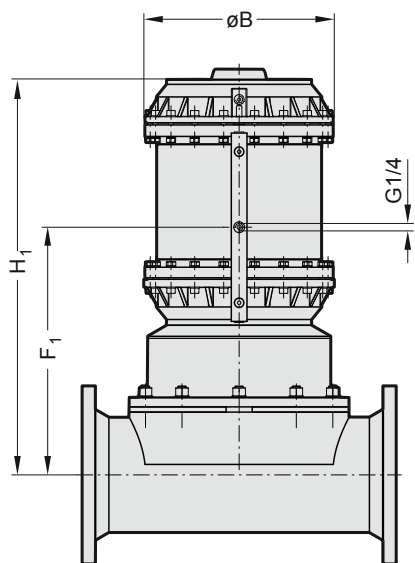
### Dimensions (mm)

DN	MA	Actuator size 4				Actuator size 6 / 8				Actuator size 6 Weight kg	Actuator size 8 Weight kg
		ØB	F <sub>1</sub>	H <sub>1</sub>	Weight kg	ØB	F <sub>1</sub>	F <sub>2</sub>	H <sub>1</sub>		
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

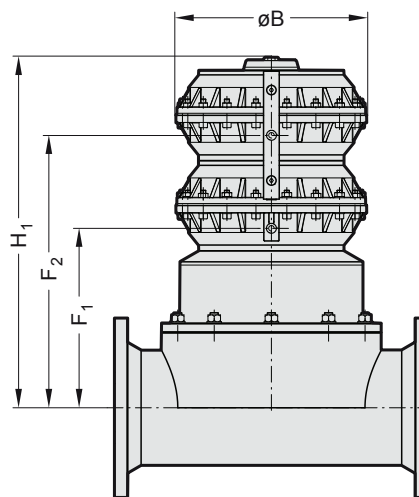
**Note:** Valve body face to face (FTF) and flange dimensions see page 8.

# 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 <sub>1</sub>	H <sub>1</sub>	Weight kg	ØB	F <sub>1</sub>	H <sub>1</sub>	Weight kg	ØB	F <sub>1</sub>	F <sub>2</sub>	H <sub>1</sub>	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.



# Pneumatically Operated Valve

## Type 495 DN 15 - 50 (1/2" - 2")

**Type 495** pneumatically operated valve with plastic actuator normally closed (NC), normally open (NO) or double acting (DA). This compact design and light weight valve has a smooth contour finish on the plastic cover to eliminate accumulation of dirt and is corrosion resistant. The actuator is designed as a maintenance free diaphragm actuator. Various accessories are available for adjustments, control and regulation which can be assembled in the factory or on the job site afterwards.

### Features

- Process media can be neutral or 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 plastic diaphragm actuator non corrosive
- Actuators for different orientated air control connection

Technical specifications	
<b>Design</b>	Diaphragm Valve
<b>Size range</b>	DN 15 - 50
<b>Diaphragm size see page 11</b>	MA 25 - 50
<b>Body material</b>	Investment cast 1.4435/316L-PFA-Lined
<b>End connection standards see page 8-9</b>	<b>Flange:</b> EN 1092 PN10/16, ANSI Class 125/150
<b>Diaphragm material</b>	EPDM, PTFE, NBR, FPM
<b>Max. working pressure</b>	10 bar (150 PSI)
<b>Temperature range</b>	-10 °C to +150 °C, depending on diaphragm and body material
<b>Control functions</b>	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.

# Pneumatically Operated Valve

## Type 495 DN 15 - 50 (1/2" - 2")

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

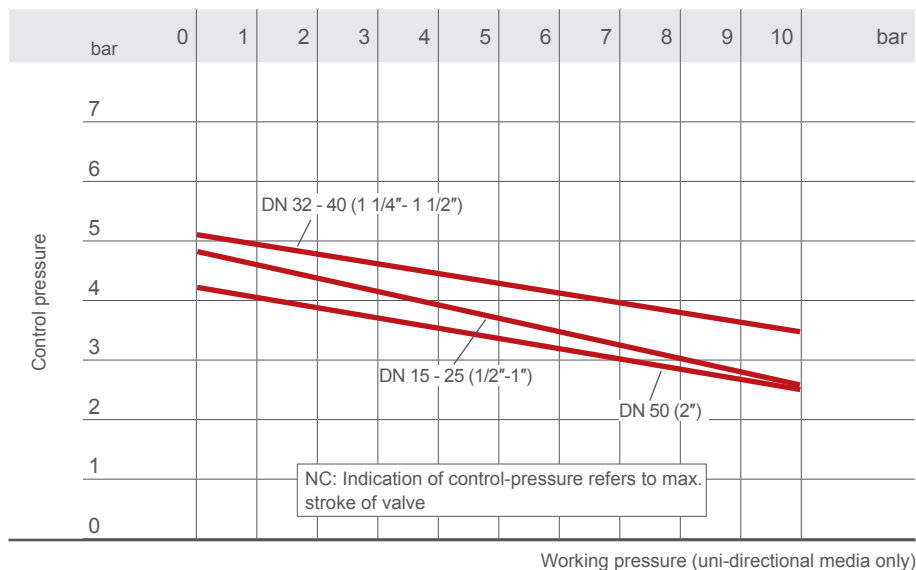
Technical specifications - pneumatic actuator	
<b>Design</b>	Diaphragm Actuator
<b>Actuator material</b>	Robust plastic housing PP-GR with stainless steel distance piece
<b>Max. control air pressure</b>	NC: 7 bar (100 PSI) NO/DA: 5 bar (72 PSI)
<b>Power supply</b>	Dry or lubricated filtered compressed air. If using other fluids, contact the SED service center
<b>Filling volume</b>	<b>NC:</b> 0,16 NL, DN 15 - 25 0,36 NL, DN 32 - 40 1,15 NL, DN 50 <b>NO/DA:</b> 0,06 NL, DN 15 - 25 0,11 NL, DN 32 - 40 0,32 NL, DN 50
<b>Control fluid temperature</b>	Max. 40 °C
<b>Ambient temperature</b>	-20 °C to +50 °C
<b>Accessories</b>	See page 54

# Pneumatically Operated Valve

## Type 495 - Technical Data

### Control pressure according to Working pressure Type 495 NC

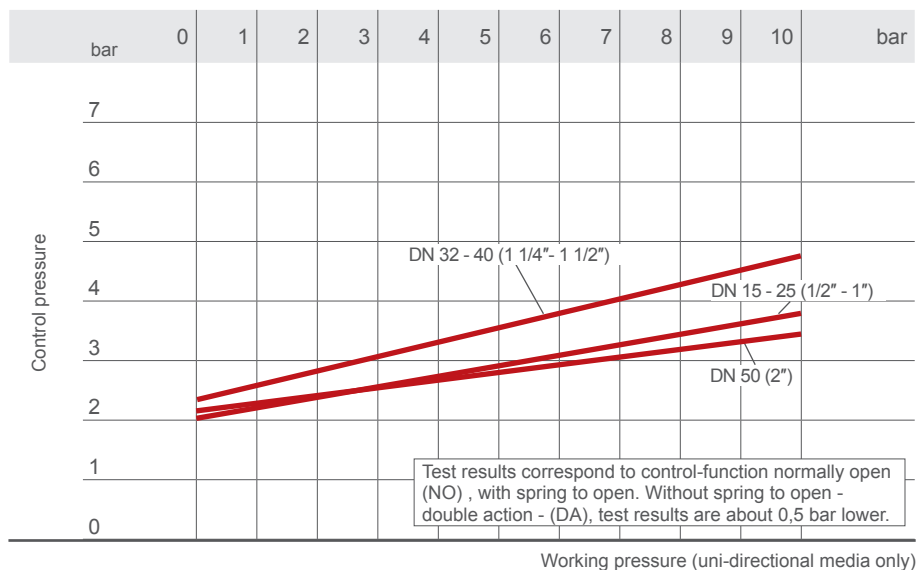
Minimum control pressure according to working pressure with EPDM, FPM diaphragm



Working pressure (uni-directional media only)

### Control pressure according to Working pressure Type 495 NO-DA

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



Working pressure (uni-directional media only)

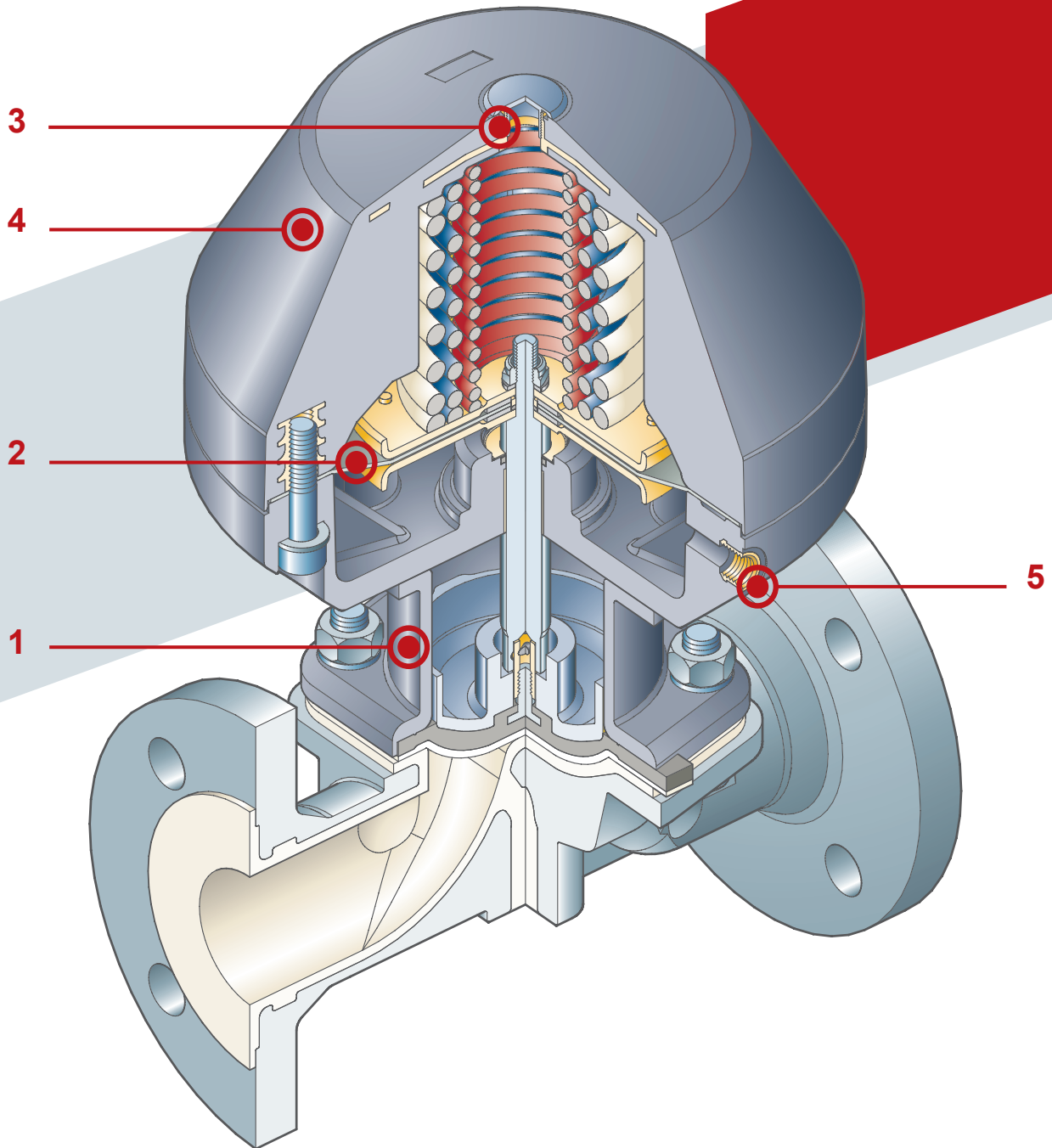
### $K_v$ 100 flow coefficient

The  $K_v$ 100 flow coefficient is the Q flow rate of cubic meter per hour of water at a temperature of 20°C that will generate  $\Delta p = 1$  bar pressure drop at a certain valve position.

The  $K_v$ 100 values shown in the table are calculated with the valve completely open.

DN	MA	Unlined		Hard rubber lined		Plastic lined	
		$K_v$ m <sup>3</sup> /h	Cv gpm	$K_v$ m <sup>3</sup> /h	Cv gpm	$K_v$ m <sup>3</sup> /h	Cv gpm
15	25	7	8	-	-	5	6
20	25	12	14	10	12	9	11
25	25	14	16	14	16	13	15
32	40	-	-	29	34	23	27
40	40	40	47	32	37	26	30
50	50	78	91	51	60	50	59

# Pneumatically Operated Valve Type 495 DN 15 - 50 (1/2" - 2")



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

**2** Strong **control diaphragm** supported by two metal plates which ensures a long life

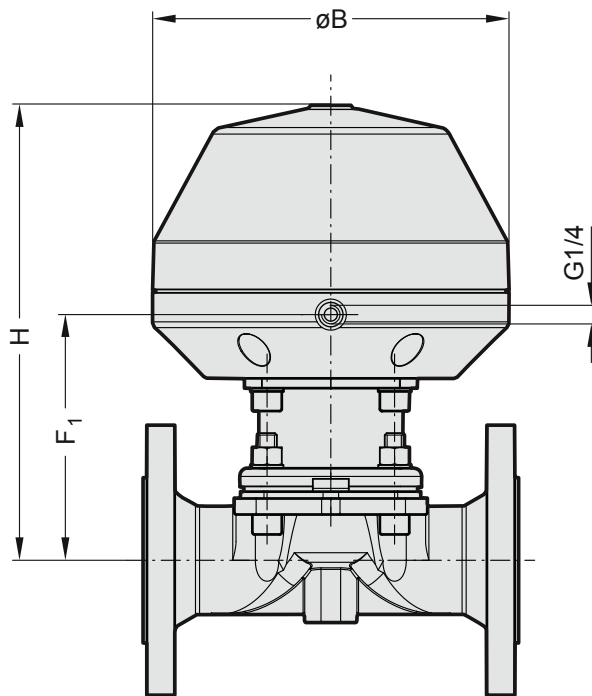
**3** Connection thread for assembly of **valve control equipment**

**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 495 - Dimensions

## Flanged



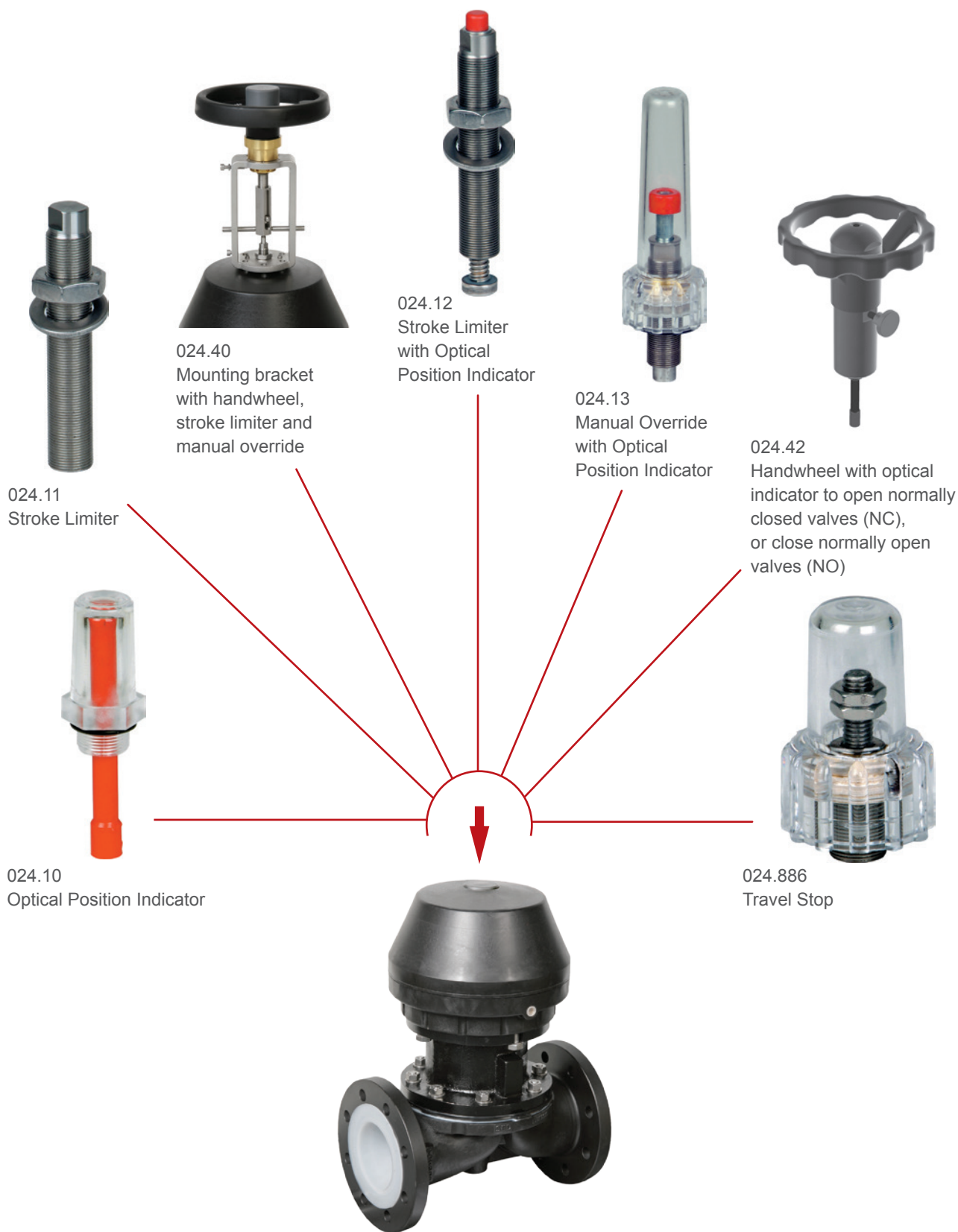
## Dimensions (mm)

DN	MA	$\varnothing B$	$F_1$	Flanged Version	
				H	Weight kg
15	25	130	66	160	3,6
20	25	130	66	160	3,7
25	25	130	70	160	4,9
32	40	161	108	208	10,0
40	40	161	108	213	10,0
50	50	218	127	263	15,0

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

# System Components and Process Automation

## Manual Adjustment - Optical Indication



Upon request combinations of Manual Adjustments with Switch Boxes are available

# System Components and Process Automation

## Electrical Switch Boxes



024.85 - 87  
Electrical Position Indicator



024.50  
Contact - Free Limit Switch  
Optional: ATEX approved Version /  
Stainless Steel Version



024.90  
Limit Switch open position



024.91 - 93  
Electrical Position Indicator  
(For sizes bigger DN25 it is  
preferred to mount indicators  
024.63 - 65 and 024.85 - 87 for  
more convenient assembly.)



024.63-024.65  
Control Head Switch for  
open and close with optical  
indicator catches the eye  
024.89  
AS-Interface Control Head  
Switch for open and close  
position with optical indicator  
catches the eye



Upon request combinations of Manual Adjustments with Switch Boxes are available



# System Components and Process Automation

## Pilot Valves



602  
3/2 Way Pilot Solenoid Valve  
Direct mounting  
Qn 60 l/min



607  
5/2, 5/3 Way Pilot Solenoid Valve  
Qn 1300 l/min



600  
3/2 Way Pilot Solenoid Valve  
Direct Mounting  
Qn 200 l/min



603  
3/2 Way Pilot Solenoid Valve  
Manifold mounting  
Qn 60 l/min



605  
3/2 Way Pilot Solenoid Valve  
Manifold mounting  
Qn 200 l/min



# System Components and Process Automation

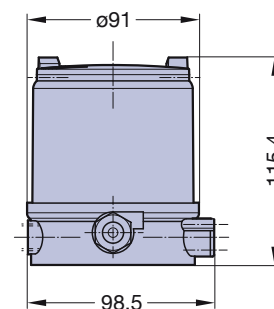
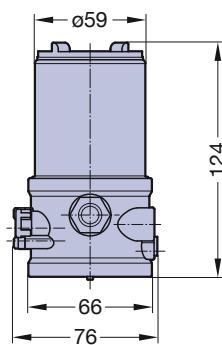
## Electropneumatic Positioners

**ECOCENT 024.16.7**  
for central mounting on  
the top of the process  
control valves

### Main Features

- Compact stainless steel, high performance plastic design
- Contact- free continuous sensor measuring of the valve spindle position
- Easy start up
- Pneumatic positioning for single acting actuators
- High air flow rate for type 024.16.720
- Close tight function

Type	024.16.710	024.16.720
Recommended for valve size	DN 8 - 50	DN 50 - 100



Pictures shows valve assembled with Positioner 024.16.710

Body; Cocer; Sealing	PPS/stainless steel; PC transparent; EPDM	PPS/stainless steel; PC transparent; EPDM
Ambient temperature	0 - 55°C	0 - 55°C
Control medium	Neutral gases, air according DIN ISO 8573-1	Neutral gases, air according DIN ISO 8573-1
Pilot air ports	G 1/8	G 1/8
Supply pressure; Air flow rate	1 - 7 bar <sup>1</sup> ; 7 NI/min	3 - 7 bar <sup>1</sup> ; 130 NI/min
Intrinsic air consumption	0 l/min	0 l/min
Power supply	24 V DC +/- 10%	24 V DC +/- 10%
Power consumption	< 3,5 W	< 3,5 W
Electrical connection	Multipol M12 (8- pins), stainless steel	Multipol M12 (8- pins), stainless steel
Setpoint setting; Output resistance	4 to 20 mA; 180 Ohm	4 to 20 mA; 180 Ohm
Analogue feedback 4 - 20 mA	Optional	Standard
Stroke range valve spindle	3...28 mm	3 - 45 mm
Binary input	0 - 5 V = log "0", 10 - 30 V = log "1"	0 - 5 V = log "0", 10 - 30 V = log "1"
AS-Interface	NO	optional
Operation	2 Key button	2 Key button
Visualisation	2 LEDs	2 LEDs
Protection class	IP65/67 according to EN 60529 (only if cables plugs and sockets have been connected properly and in compliance with the exhaust air concept in chapter "pneumatic connection of positioner")	
Conformity	subject to CE according EMV2004/108/EG	subject to CE according EMV2004/108/EG
Approval	CSA on request.	CSA on request.
Process controller	NO	Optional

<sup>1</sup> Pressure stated in bar: are access to atmosphere; the supply pressure has to be 0,5 - 1 bar above the minimum required pilot pressure for the valve actuator

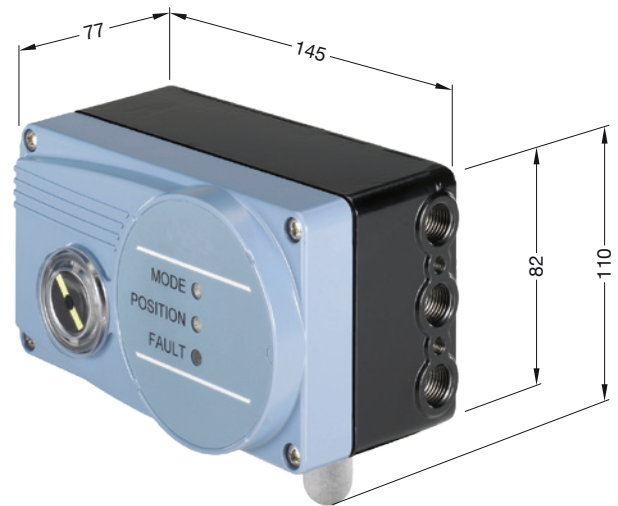
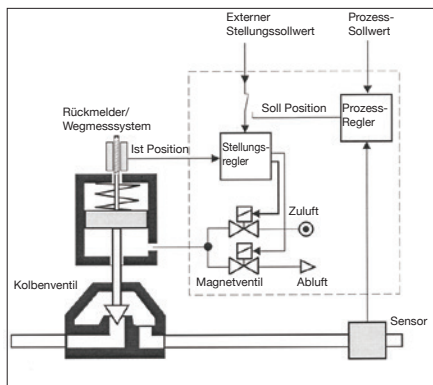
# System Components and Process Automation

## Electropneumatic Positioners

**ECOSIDE 024.16.420** for process valves big stroke range and with remote control installation

### Main Features

- Compact metal housing
- Contact- free continuous sensor measuring of the valve spindle position
- Simple start up using tune function
- Pneumatic positioning for single and double-acting actuators
- High air capacity
- Standardized for assembly according IEC 534-6 / VDI VDE 3845
- Available as remote version with position sensor
- Close tight function
- ATEX-Version available



<b>Type</b>	<b>024.16.420</b>
Recommended for valve size	DN25 - 200
Body; Sealing	Aluminum plastic coated; EPDM
Ambient temperature	0 - 60°C
Control medium	Neutral gases, air according DIN ISO 8573-1
Pilot air ports	G 1/4
Supply pressure	1,4 - 7 bar <sup>1)</sup>
Air flow rate	Single and double-acting up to 150 NI/min ( $Q_{Nn} = 100$ NI/min acc. Definition with decrease in pressure from 7 to 6 bar absolute)
Intrinsic air consumption	0 l/min
Power supply	24 V DC +/- 10%
Power consumption	< 3,5 W
Electrical connection	M12 (8 Pins)
Cable gland	2 x M20 x 1,5 (cable Ø 10 mm) on screw terminal
Remote version	1 x M12 x 1,5 (cable Ø3 to 6,5 mm)
Setting point; input resistance	5 to 20 mA / 180 Ohm (0 - 20 mA adjustable with configuration software)
Binary Input	0 - 5 V = log "0", 10 - 30 V = log "1"
Stroke range valve spindle	Min. 30° on the rotary shaft, depending on lever
Operation	2 Key button
Visualisation	2 LEDs
Protection class	IP65/67 acc. EN 60529
Type of ignition protection	II 3 G nA II B T4 II 3 D tD A22 T135°
Conformity	EMV2004/108/EG
Approval	CSA
Optional	Process controller Analogue feedback 4 - 20 mA AS-Interface

<sup>1)</sup> Pressure stated in bar: are access to atmosphere;  
the supply pressure has to be 0,5 - 1 bar above the minimum required pilot pressure for the valve actuator

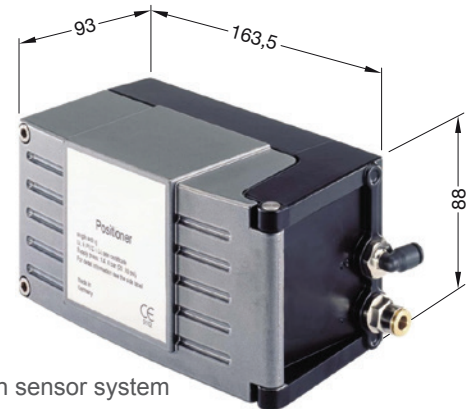
# System Components and Process Automation

## Electropneumatic Positioners

**ECOSIDE 024.16.402** for process valves big stroke range and with remote control installation

### Main Features

- Compact and robust metal housing
- Simple start up using tune function
- Pneumatic positioning for single and double-acting actuators
- High air capacity
- Close tight function
- ATEX approval II 2 (1) G Ex ia IIC T6 Gb



Assembly exclusively with position sensor system

Type	024.16.402
Body; Sealing	Aluminium, hard anodized and plastic coated
Ambient temperature	-25 ... +60 °C <sup>1)</sup>
Control medium	neutral gases, air according DIN ISO 8573-1
Pilot air ports	G 1/4
Supply pressure	1.4 - 6 bar <sup>3)</sup>
Air flow rate	55 l/min at 1.4 bar <sup>3)</sup> 170 l/min at 6 bar <sup>3)</sup> for pressurizing and venting
Intrinsic air consumption	0 l/min
Power supply	via setpoint input 4-20mA
Burden voltage	< 12 VDC
Burden resistance	590 Ω at 20mA and 11.8 VDC
Electrical connection	2 x M20 x 1.5-bushing Clamping range 6 ... 12 mm Screw terminals for 0.14 ... 1.5 mm <sup>2)</sup>
Remote version	available (only with the approved sensor)
Setting point; input resistance	4 ... 20 mA; 590 Ω
Binary Input	mechanical NC/ NO contact
Positioning range	Linear actuator: 3... 130 mm Part-turn actuator: 0... 120 °
Operation	3 operating keys
Visualisation	Plain-text display (internal)
Protection class	IP65 acc. to EN 60529
Type of ignition protection	II 2 (1) G Ex ia IIC T6 Gb acc. to EN 60079-0:2012 and EN 60079-11:2012
Conformity	EMC 2004/108/EC
Approvals	ATEX EEx ia II C T6
Certification	PTB 04 ATEX 2027 / IECEx PTB 04.0016
Optional	Analogue feedback 4 - 20 mA Process value input (4... 20mA) Use in the Ex area (Zone 1)
Assembly	Assembly set required

<sup>1)</sup> Up to +65 °C temperature class T4/T5 or without EEx i approval.

<sup>2)</sup> May be adapted to actuator size with throttle screw.

<sup>3)</sup> Pressure data in bar; overpressure to ambient.

# Ordering Key

1	2	3	4	5	6.1	6.2	7
Type	Size	Valve body material	Valve body connection	Diaphragm material	Actuator control function	Actuator type	Actuator size

Pos.	Description	Code	Specification
1	Type:	188	Plastic piston actuator, pneumatic
		289	Plastic actuator, manual
		295	Stainless steel adaption plastic actuator, manual
		385	Plastic diaphragm actuator, pneumatic
		402	Plastic piston actuator, pneumatic
		487	Plastic- or metal diaphragm actuator, pneumatic
		495	Plastic diaphragm actuator with stainless steel distance piece, pneumatic
		905	Plastic actuator with stainless steel adaption, manual
		982	Plastic actuator, manual
		987	Metal actuator, manual
2	Size:	12 - 300	DN12, 15, 20, 25, 32, 40, 50, 65, 80, 100, 125, 150, 200, 250, 300
3	Valve body material:	7	Stainless steel, investment cast 1.4435/ 316 L, Raised face flange
		8	<b>Cast iron GG25, Raised face flange</b>
		11	<b>S.G. iron GG40.3, PFA-lined, Raised face flange</b>
		12	<b>S.G. iron GG40.3, PP-lined, Raised face flange</b>
		13	S.G. iron GG40.3, PVDF-Lined, Raised face flange
		14	S.G. iron GG40.3, PTFE-Lined, Raised face flange
		15	S.G. iron GG40.3, Butyl-lined, Flat face flange
		16	S.G. iron GG40.3, ETFE-lined, Raised face flange
		18	S.G. iron GG40.3, Hard-Rubber-lined, Flat face flange
		19	S.G. iron GG40.3, EPDM-lined, Flat face flange
		71	<b>Stainless steel, investment cast 1.4435, PFA-lined, Raised face flange</b>
		80	<b>Cast iron GG25, Hard-Rubber-lined, Flat face flange</b>
		81	Cast iron GG25, EPDM-lined, Flat face flange
		85	Cast iron GG25, Butyl-lined, Flat face flange
		90	Cast Steel ASTM A216, Hard-Rubber-lined, Flat face flange
		91	Cast Steel ASTM A216, PFA-lined, Raised face flange
92	Cast Steel ASTM A216, PP-lined, Raised face flange		
95	Cast Steel ASTM A216, Hypalon-lined, Flat face flange		
96	Cast Steel ASTM A216, ETFE-lined, Raised face flange		
4	Valve body end connection: Digit 1, Face to Face length Digit 2, Flange (see table page 8, 9)	1	<b>Threaded socket DIN ISO 228</b>
		51	<b>Flange EN 1092, PN10, length EN 558-1, series 1</b>
		55	Flange JIS 10K, length EN 558-1, series 1
		56	Flange BS Table E, length EN 558-1, series 1
		57	Flange BS Table F, length EN 558-1, series 1
		58	<b>Flange ANSI Klasse 125/150, length EN 558-1, series 1</b>
		61	<b>Flange EN 1092, PN16, length BS5156</b>
		65	Flange JIS 10K, length BS5156
		66	Flange BS Table E, length BS5156
		67	Flange BS Table F, length BS5156
68	<b>Flange ANSI Klasse 125/150, length BS5156</b>		
5	Diaphragm material:	1	EPDM, MA10 to MA300
		2	FPM, MA10 to MA150
		4	NBR, MA10 to MA150
		30	PTFE/EPDM, one-piece, MA25, MA40, MA50
		31	PTFE/EPDM, two-piece, MA65 to MA150
		41	PTFE/EPDM, two-piece, MA25 to MA80
		44	PTFE/EPDM, two-piece, MA25, MA40, MA50
		51	PTFE/EPDM, two-piece, MA10

# Ordering Key

6.1	Actuator control function:	-	Manually operated
		1	Normally closed (NC), orientation 90° to flow direction
		2	Normally open (NO), orientation 90° to flow direction
		3	Double-acting (DA), orientation 90° to flow direction
		4	Normally closed (NC), orientation in flow direction
		5	Normally open (NO), orientation in flow direction
6.2	Actuator type:	S	Plastic- or metal actuator, black
		AS	Stainless steel adaption plastic actuator, black
		PS	Plastic piston actuator, black
		HS	High temperature plastic actuator, black
		S11	Stainless steel bonnet and plastic hand wheel, incl. seal adjuster and locking device
		S12	Stainless steel bonnet and plastic hand wheel, incl. seal adjuster, locking device and stroke limiter
7	Actuator size:	3/1	Actuator control function NC
		3/2	Actuator control function NC
		3/3	Actuator control function NC
		4/1	Actuator control function NC
		4/2	Actuator control function NC
		4/3	Actuator control function NC
		9/2	Actuator control function NC
		9/3	Actuator control function NC
		5	Actuator control function NO
		6	Actuator control function NO
		6/2	Actuator control function NO
		7	Actuator control function DA
		8	Actuator control function DA
8/2	Actuator control function DA		

Preferred standards bold. Other items on request.

Position: **1** **2** **3** **4** **5** **6.1** **6.2** **7**

Article Code: **487** . **80** . **11** . **58** . **41** . **1** **S** . **33**

**Type:** 487  
Plastic diaphragm actuator, pneumatic

**Size:** DN 80

**Valve body material:** S.G. iron GG40.3, PFA-lined, Raised face flange

**Valve body end connection:** Flange ANSI Klasse 125/150, length EN 558-1, series 1

**Diaphragm material:** PTFE/EPDM, two-piece

**Actuator size:** Actuator size 3, Normally closed

**Actuator type:** Plastic actuator, black

**Actuator control function:** Normally closed NC, Control air connection 90° to flowdirection



# Overview Product Range

## Diaphragm Valve



Aseptic Diaphragm Valve



Multiport Diaphragm Valves



Plastic Diaphragm Valve

## Angle Seat Valve



Two-Way Metal Angle Seat Valve

## Aseptic Process Solution



Sterile sampling unit

## System Components



Contact - Free Limit Switch



Control Head



Digital Electropneumatic Positioner

## Flow Measurement



Variable Area Flowmeter



Measuring Sensor

Website



<http://www.sed-flowcontrol.com/en/>

Product Configurator



<http://www.sed-flowcontrol.com/en/konfigurator>

- Easy configuration of products live on the screen
- Automatic creation of CAD- files in various file formats
- Send request and download product descriptions

Manual diaphragm valve type 905



<http://www.sed-flowcontrol.com/en/service/movies>

Contact - Free Limit switch 024.50



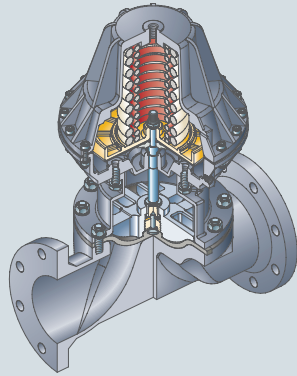
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