# 485 - NC
# 285 - NO/DA
# **DN 25-100**

The 485/285 diaphragm valve is particularly suitable for shutting off and regulating abrasive or dirty fluids. The new internal geometry of the body optimises fluid dynamic efficiency by increasing the flow rate and ensuring an optimum linearity of the flow adjustment curve. The 485/285 is extremely compact and very light.

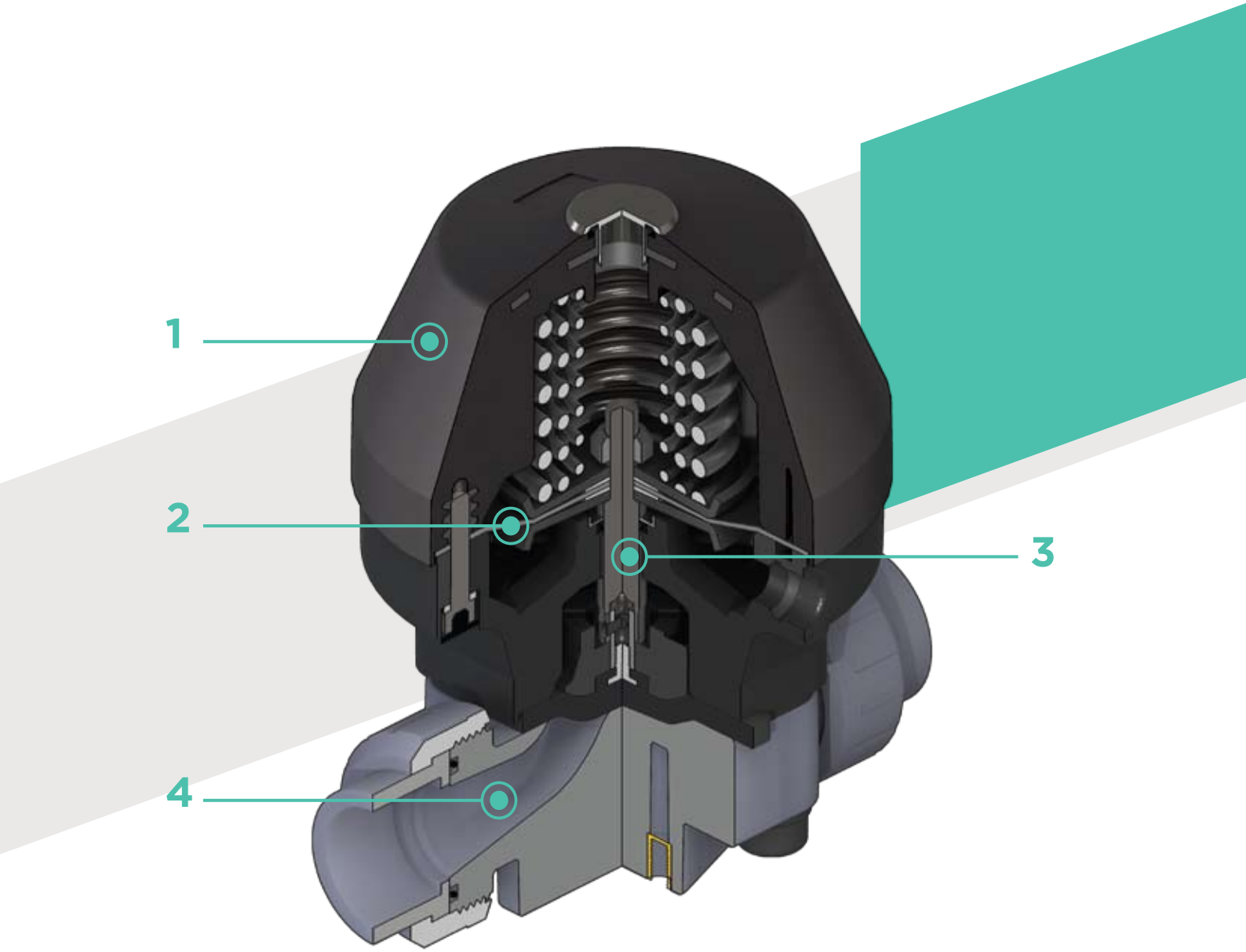
## PNEUMATICALLY ACTUATED 2-WAY DIAPHRAGM VALVE

- Connection system for solvent weld, threaded and flanged joints
- **Optimised fluid dynamic design:** maximum output flow rate thanks to the optimised efficiency of the fluid dynamics that characterise the new internal geometry of the body
- Robust and reliable diaphragm actuator in PP-GR **ideal for heavy-duty applications in chemically aggressive environments**
- **Modularity of the range: only 3 actuators and diaphragms for 5 different valve sizes**
- Bonnet fastening screws in AISI 316 steel protected against the external environment by PE plugs.
- **CDSA (Circular Diaphragm Sealing Angle) system that, thanks to the uniform distribution of shutter pressure on the diaphragm seal, offers the following advantages**:
  - reduction in the tightening torque of the screws fixing the actuator to the valve body
  - reduced mechanical stress on all valve components (actuator, body and diaphragm)
  - easy to clean valve interior
  - low risk of the accumulation of deposits, contamination or damage to the diaphragm due to crystallisation

| **Technical specifications** | |
|---|---|
| **Construction** | Pneumatically actuated diaphragm valve with body at maximized flow rate |
| **Size range** | DN 25 - 100 |
| **Nominal pressure** | PN 10 with water at 20 °C, DN 15 - 65<br>PN 6 with water at 20 °C, DN 80 - 100 |
| **Temperature range** | **PVC-U:** 0 °C - 60 °C - **PVC-C:** 0 °C - 100 °C<br>**PP-H:** 0 °C - 100 °C - **PVDF:** -20 °C - 120 °C<br>**ABS:** -20 °C - 80 °C |
| **Coupling standards** | **Solvent welding/Welding** EN ISO 1452, EN ISO 15493, EN ISO 15494, EN ISO 10931, BS 4346-1, DIN 8063, NF T54-028, ASTM D 2467, ASTM F 439. Can be coupled to pipes according to EN ISO 1452, EN ISO 15493, EN ISO 15494, EN ISO 10931, DIN 8062, NF T54-016, ASTM D 1785, ASTM F 441 |
| | **Thread:** ISO 228-1, DIN 2999, ASTM D 2464 |
| | **Flanging system:** ISO 7005-1, EN ISO 1452, EN ISO 15493, EN 1092-1, EN ISO 15494, EN ISO 10931, EN 558-1, DIN 2501, ANSI B16.5 Cl.150, JIS B2220 |
| **Reference standards** | **Construction criteria:** EN ISO 16138, EN ISO 1452, EN ISO 15493, EN ISO 15494, EN ISO 10931 |
| | **Test methods and requirements:** ISO 9393 |
| | **Installation criteria:** DVS 2204, DVS 2221, DVS 2202-1, DVS 2201-1, DVS 2207-11, DVS 2207-15, DVS 2208-1, UNI 11242, UNI 11318 |
| **Valve material** | PVC-U / PVC-C / PP-H / PVDF / ABS |
| **Diaphragm material** | EPDM, FPM, PTFE (on request NBR) |
| **Control options** | Pneumatic actuator |

The diaphragm actuator in PP-GR is characterized by its robust construction, making 485/285 the ideal choice for demanding and chemically aggressive applications.

| Technical specifications - pneumatic actuator | |
|---|---|
| **Construction** | Single-acting (NC-NO) and double-acting (DA) pneumatic piston actuator |
| **Actuator Material** | **Body and bonnet:** PP-GR |
| **Control air pressure** | **Minimum:** according to the working pressure and operation of the actuator (see detailed graphs)<br>**Maximum:** NC: 6 bar - NO: 5 bar - DA: 5 bar |
| **Power supply** | Dry or lubricated filtered compressed air.<br>If using other fluids, contact the FIP service centre |
| **Control fluid temperature** | Max 40 °C |
| **Working temperature** | -20 °C - 50 °C |
| **Accessories** | • Optical position indicator<br>• Stroke limiter with position indicator<br>• Stroke limiter with position indicator and emergency manual override<br>• Limit switch boxes<br>• Electro-pneumatic positioner<br>• Pilot solenoid valves 3/2 ways for direct or manifold mounting<br>• Distance plate |




**1** **Diaphragm actuator in PP-GR characterized by its robust construction**. In the configuration Normally Closed, the upper part is equipped with steel reinforcement. Absence of metal parts exposed to the external environment prevents any risk of corrosion.

**2** The special **control diaphragm** reinforced with fibres can reach up to 10 million drives without showing 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** **New design of valve body interior.**

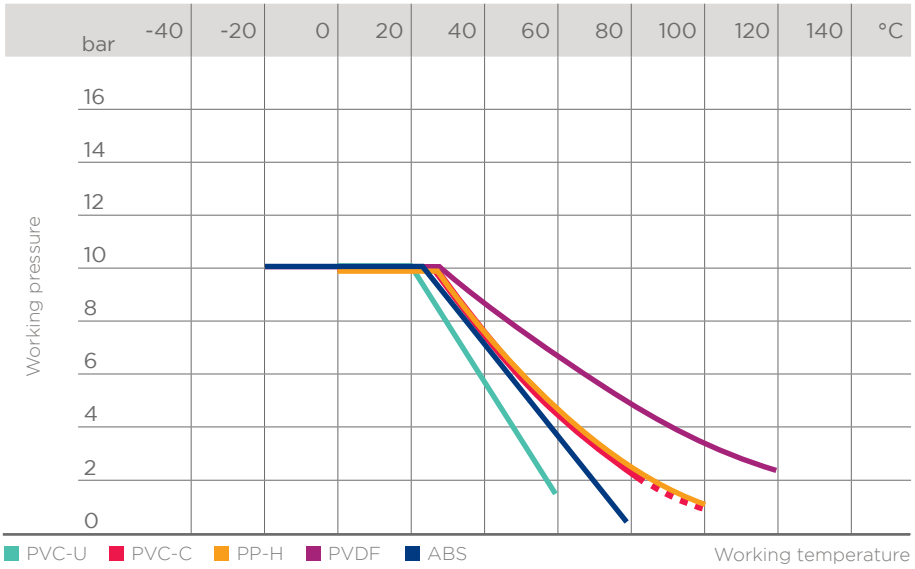
**Substantially increased flow coefficient and reduced pressure drop.** The degree of efficiency reached has also enabled the size and weight of the valve to be reduced.

**Adjustment linearity:** the internal profiles of the valve also greatly improve its characteristic curve, resulting in extremely sensitive and precise adjustment along the entire stroke of the shutter.

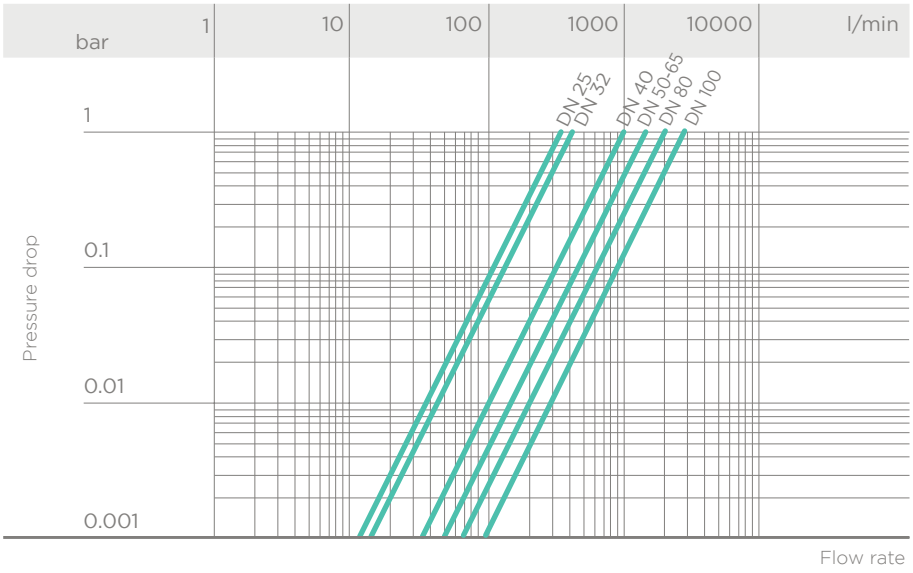
# TECHNICAL DATA

## PRESSURE VARIATION ACCORDING TO TEMPERATURE

For water and non-hazardous fluids with regard to which the material is classified as CHEMICALLY RESISTANT. In other cases, a reduction of the nominal pressure PN is required (25 years with safety factor).




## PRESSURE DROP GRAPH




## $K_v$100 FLOW COEFFICIENT

The $K_v$100 flow coefficient is the Q flow rate of litres per minute of water at a temperature of 20 °C that will generate Δp= 1 bar pressure drop at a certain valve position.

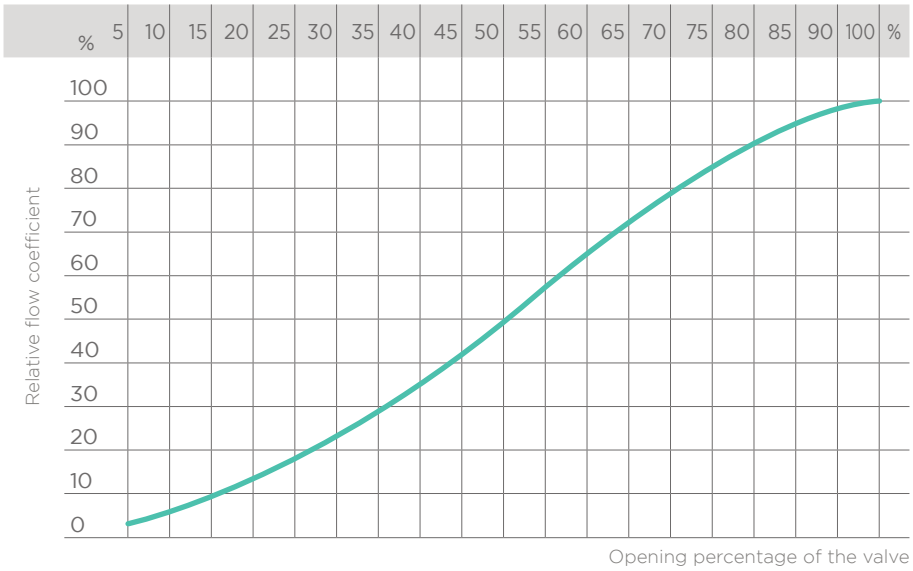
The $K_v$100 values shown in the table are calculated with the valve completely open.

| DN | 25 | 32 | 40 | 50 | 65 | 80 | 100 |
|---|---|---|---|---|---|---|---|
| $K_v$100 l/min | 445 | 550 | 1087 | 1648 | 1600 | 2000 | 2700 |

# TECHNICAL DATA

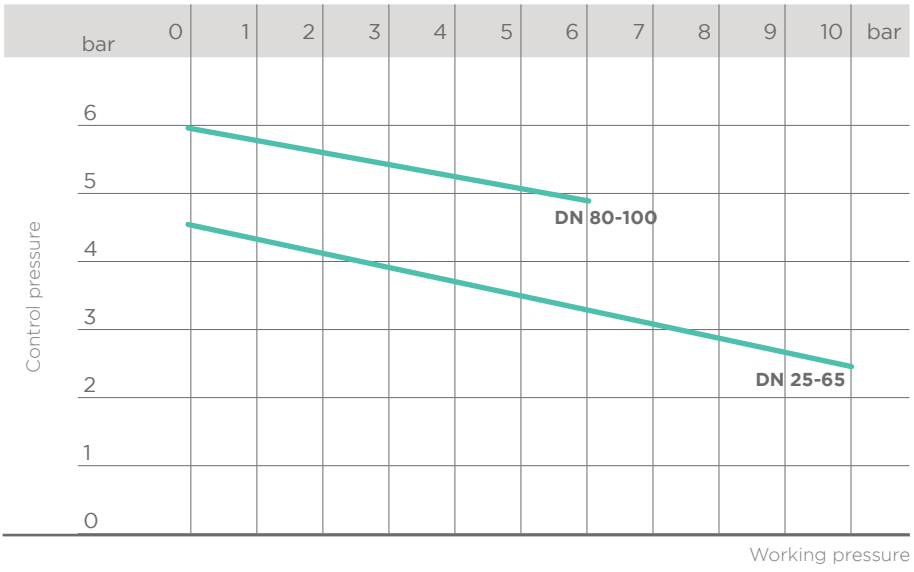
## RELATIVE FLOW COEFFICIENT GRAPH

The relative flow coefficient refers to the variation in the flow rate as a function of the valve opening stroke.



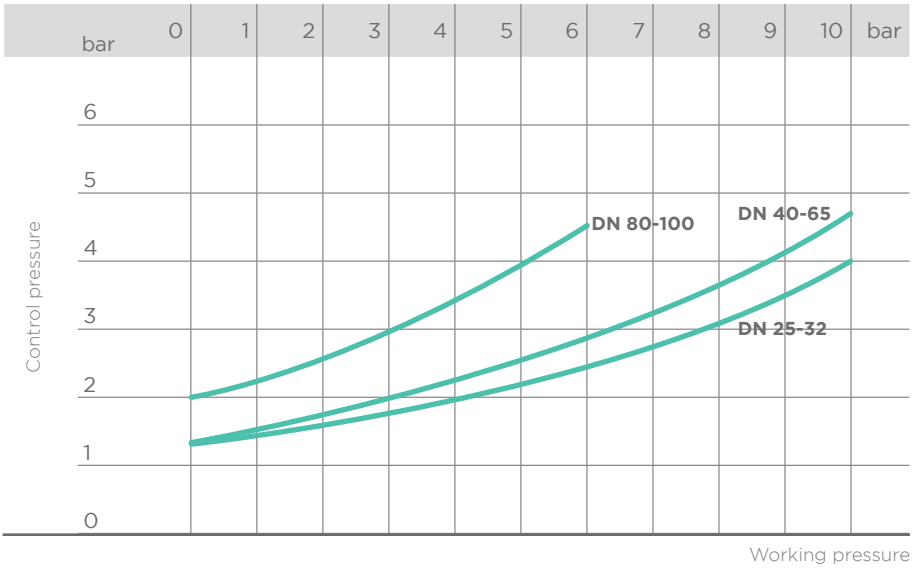

## CONTROL PRESSURE ACCORDING TO WORKING PRESSURE 485 NC

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




## CONTROL PRESSURE ACCORDING TO WORKING PRESSURE 285 NO-DA

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



## FUNCTIONAL CHARACTERISTICS

| | Double-acting (DA) | Single-acting (SA) | |
|---|---|---|---|
| Function type | double-acting | normally closed (NC) | normally open (NO) |
| Valve opening | air | air | spring |
| Valve closing | air | spring | air |

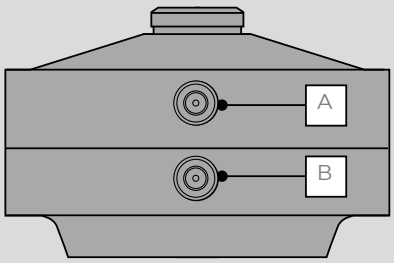
## ACTUATOR CAPACITY

NI: Normal-liter
Volume at atmospheric pressure

| DN | 25 | 32 | 40 | 50 | 65 |
|---|---|---|---|---|---|
| NC | 0.16 Nl | 0.16 Nl | 0.36 Nl | 1.15 Nl | 1.15 Nl |
| NO | 0.13 Nl | 0.13 Nl | 0.28 Nl | 0.50 Nl | 0.50 Nl |
| DA | 0.13 Nl | 0.13 Nl | 0.28 Nl | 0.50 Nl | 0.50 Nl |

## COMPRESSED AIR CONNECTIONS

| Function type | Normally open (NO) | Double-acting (DA) |
|---|---|---|
| Valve opening | - | Inlet B |
| Valve closing | Inlet A | Inlet A |

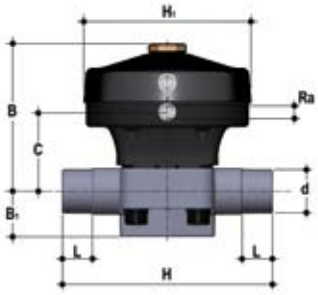


# DIMENSIONS - 485/285


Pneumatically actuated diaphragm valve, Normally Closed, with **male ends** for solvent respectively socket welding, **metric series**, code 39, PVC-U, PVC-C, PP-H, PVDF

| DN | MA | PN | B | $B_1$ | C | H | $H_1$ | L | Ra | Weight (g) NC |
|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 25 | 10 | 150 | 33 | 65 | 154 | 126 | 22 | 1/4" | 1942 |
| 32 | 25 | 10 | 152 | 30 | 69 | 174 | 126 | 26 | 1/4" | 1986 |
| 40 | 40 | 10 | 246 | 35 | 106 | 194 | 155 | 31 | 1/4" | 3900 |
| 50 | 50 | 10 | 254 | 46 | 113 | 224 | 210 | 38 | 1/4" | 7724 |
| 65 | 50 | 10 | 254 | 46 | 113 | 284 | 210 | 44 | 1/4" | 7854 |
| 80 | 80 | 6 | 325 | 55 | 187 | 300 | 258 | 51 | 1/4" | 15000 |
| 100 | 100 | 6 | 355 | 69 | 268 | 340 | 258 | 61 | 1/4" | 20000 |

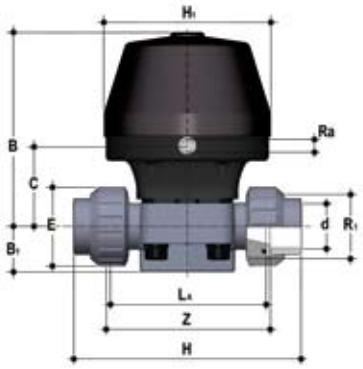
Figures for PVC-U version




Pneumatically actuated diaphragm valve, Normally Open - Double-Acting, with **male ends** for solvent respectively socket welding, **metric series**, code 39, PVC-U, PVC-C, PP-H, PVDF

| DN | MA | PN | B | $B_1$ | C | H | $H_1$ | L | Ra | Weight (g) NO-DA |
|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 25 | 10 | 119 | 33 | 60 | 154 | 126 | 22 | 1/4" | 1472 |
| 32 | 25 | 10 | 123 | 30 | 64 | 174 | 126 | 26 | 1/4" | 1516 |
| 40 | 40 | 10 | 160 | 35 | 94 | 194 | 155 | 31 | 1/4" | 3320 |
| 50 | 50 | 10 | 200 | 46 | 123 | 224 | 218 | 38 | 1/4" | 5624 |
| 65 | 50 | 10 | 200 | 46 | 123 | 284 | 218 | 44 | 1/4" | 5754 |
| 80 | 80 | 6 | 305 | 55 | 252 | 300 | 258 | 51 | 1/4" | 12000 |
| 100 | 100 | 6 | 330 | 69 | 268 | 340 | 258 | 61 | 1/4" | 17000 |

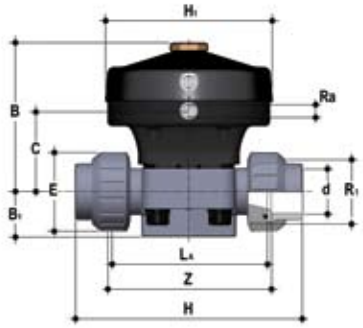
Figures for PVC-U version




Pneumatically actuated diaphragm valve, Normally Closed, with **female union ends** for solvent respectively socket welding, **metric series**, code 30, PVC-U, PVC-C, PP-H, PVDF, ABS

| DN | MA | PN | B | $B_1$ | C | E | H | $H_1$ | La | $R_1$ | $R_a$ | Z | Weight (g) NC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 25 | 10 | 150 | 33 | 65 | 58 | 168 | 126 | 116 | 1" 1/2 | 1/4" | 124 | 2050 |
| 32 | 25 | 10 | 152 | 30 | 69 | 72 | 192 | 126 | 134 | 2" | 1/4" | 140 | 2176 |
| 40 | 40 | 10 | 246 | 35 | 106 | 79 | 222 | 155 | 154 | 2" 1/4 | 1/4" | 160 | 4112 |
| 50 | 50 | 10 | 254 | 46 | 113 | 98 | 266 | 210 | 184 | 2" 3/4 | 1/4" | 190 | 8120 |

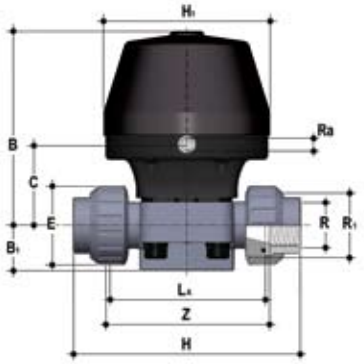
Figures for PVC-U version




Pneumatically actuated diaphragm valve, Normally Open - Double-Acting, with **female union ends** for solvent respectively socket welding, **metric series**, code 30, PVC-U, PVC-C, PP-H, PVDF, ABS

| DN | MA | PN | B | $B_1$ | C | E | H | $H_1$ | La | $R_1$ | $R_a$ | Z | Weight (g) NO-DA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 25 | 10 | 119 | 33 | 60 | 58 | 168 | 126 | 116 | 1" 1/2 | 1/4" | 124 | 1580 |
| 32 | 25 | 10 | 123 | 30 | 64 | 72 | 192 | 126 | 134 | 2" | 1/4" | 140 | 1706 |
| 40 | 40 | 10 | 160 | 35 | 94 | 79 | 222 | 155 | 154 | 2" 1/4 | 1/4" | 160 | 3532 |
| 50 | 50 | 10 | 200 | 46 | 123 | 98 | 266 | 218 | 184 | 2" 3/4 | 1/4" | 190 | 6020 |

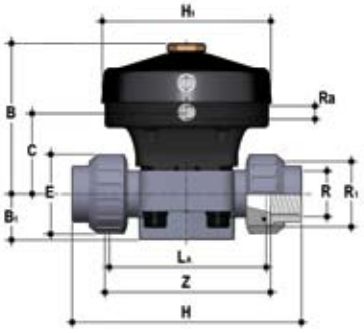
Figures for PVC-U version




Pneumatically actuated diaphragm valve, Normally Closed, with **BSP threaded female union ends**, code 33, PVC-U, PVC-C

| DN | MA | PN | B | $B_1$ | C | E | H | $H_1$ | La | $R_1$ | $R_a$ | Z | Weight (g) NC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 25 | 10 | 150 | 33 | 65 | 58 | 165 | 126 | 116 | 1" 1/2 | 1/4" | 127 | 2050 |
| 32 | 25 | 10 | 152 | 30 | 69 | 72 | 188 | 126 | 134 | 2" | 1/4" | 145 | 2176 |
| 40 | 40 | 10 | 246 | 35 | 106 | 79 | 208 | 155 | 154 | 2" 1/4 | 1/4" | 165 | 4112 |
| 50 | 50 | 10 | 254 | 46 | 113 | 98 | 246 | 210 | 184 | 2" 3/4 | 1/4" | 195 | 8120 |

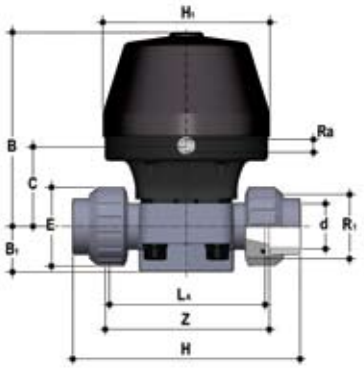
Figures for PVC-U version




Pneumatically actuated diaphragm valve, Normally Open - Double-Acting, with **BSP threaded female union ends**, code 33, PVC-U, PVC-C

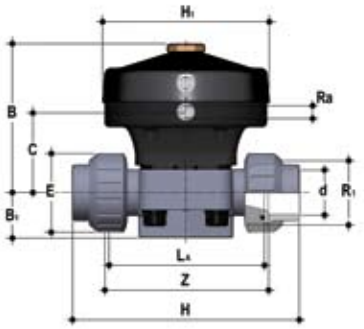
| DN | MA | PN | B | $B_1$ | C | E | H | $H_1$ | La | $R_1$ | $R_a$ | Z | Weight (g) NO-DA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 25 | 10 | 119 | 33 | 60 | 58 | 165 | 126 | 116 | 1" 1/2 | 1/4" | 127 | 1580 |
| 32 | 25 | 10 | 123 | 30 | 64 | 72 | 188 | 126 | 134 | 2" | 1/4" | 145 | 1706 |
| 40 | 40 | 10 | 160 | 35 | 94 | 79 | 208 | 155 | 154 | 2" 1/4 | 1/4" | 165 | 3532 |
| 50 | 50 | 10 | 200 | 46 | 123 | 98 | 246 | 218 | 184 | 2" 3/4 | 1/4" | 195 | 6020 |

Figures for PVC-U version




Pneumatically actuated diaphragm valve, Normally Closed, with **female union ends** for solvent welding, **ASTM series**, code 32, PVC-U, PVC-C

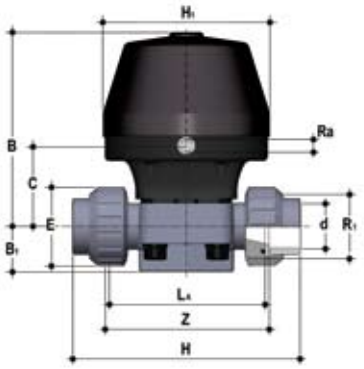
| DN | MA | PN | B | $B_1$ | C | E | H | $H_1$ | La | $R_1$ | $R_a$ | Z | Weight (g) NC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 25 | 10 | 150 | 33 | 65 | 58 | 180 | 126 | 116 | 1" 1/2 | 1/4" | 122 | 2050 |
| 32 | 25 | 10 | 152 | 30 | 69 | 72 | 208 | 126 | 134 | 2" | 1/4" | 144 | 2176 |
| 40 | 40 | 10 | 246 | 35 | 106 | 79 | 234 | 155 | 154 | 2" 1/4 | 1/4" | 164 | 4112 |
| 50 | 50 | 10 | 254 | 46 | 113 | 98 | 272 | 210 | 184 | 2" 3/4 | 1/4" | 195 | 8120 |




Pneumatically actuated diaphragm valve, Normally Open - Double-Acting, with **female union ends** for solvent welding, **ASTM series**, code 32, PVC-U, PVC-C

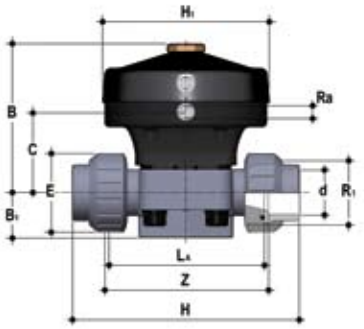
| DN | MA | PN | B | $B_1$ | C | E | H | $H_1$ | La | $R_1$ | $R_a$ | Z | Weight (g) NO-DA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 25 | 10 | 119 | 33 | 60 | 58 | 180 | 126 | 116 | 1" 1/2 | 1/4" | 122 | 1580 |
| 32 | 25 | 10 | 123 | 30 | 64 | 72 | 208 | 126 | 134 | 2" | 1/4" | 144 | 1706 |
| 40 | 40 | 10 | 160 | 35 | 94 | 79 | 234 | 155 | 154 | 2" 1/4 | 1/4" | 164 | 3532 |
| 50 | 50 | 10 | 200 | 46 | 123 | 98 | 272 | 218 | 184 | 2" 3/4 | 1/4" | 195 | 6020 |

Figures for PVC-U version



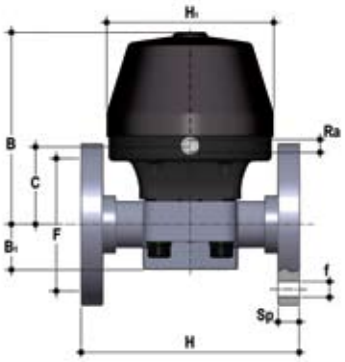

Pneumatically actuated diaphragm valve, Normally Closed, with **female union ends** for solvent welding, **BS series**, code 31, PVC-U

| DN | MA | PN | B | $B_1$ | C | E | H | $H_1$ | La | $R_1$ | $R_a$ | Z | Weight (g) NC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 25 | 10 | 150 | 33 | 65 | 58 | 166 | 126 | 116 | 1" 1/2 | 1/4" | 121 | 2050 |
| 32 | 25 | 10 | 152 | 30 | 69 | 72 | 194 | 126 | 134 | 2" | 1/4" | 142 | 2176 |
| 40 | 40 | 10 | 246 | 35 | 106 | 79 | 222 | 155 | 154 | 2" 1/4 | 1/4" | 162 | 4112 |
| 50 | 50 | 10 | 254 | 46 | 113 | 98 | 266 | 210 | 184 | 2" 3/4 | 1/4" | 194 | 8120 |




Pneumatically actuated diaphragm valve, Normally Open - Double-Acting, with **female union ends** for solvent welding, **BS series**, code 31, PVC-U

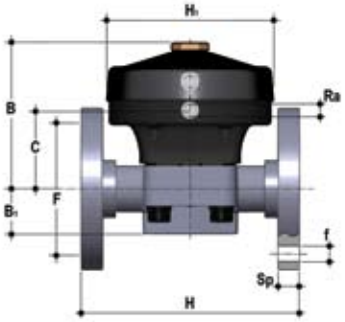
| DN | MA | PN | B | $B_1$ | C | E | H | $H_1$ | La | $R_1$ | $R_a$ | Z | Weight (g) NO-DA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 25 | 10 | 119 | 33 | 60 | 58 | 166 | 126 | 116 | 1" 1/2 | 1/4" | 166 | 1580 |
| 32 | 25 | 10 | 123 | 30 | 64 | 72 | 194 | 126 | 134 | 2" | 1/4" | 194 | 1706 |
| 40 | 40 | 10 | 160 | 35 | 94 | 79 | 222 | 155 | 154 | 2" 1/4 | 1/4" | 222 | 3532 |
| 50 | 50 | 10 | 200 | 46 | 123 | 98 | 266 | 218 | 184 | 2" 3/4 | 1/4" | 266 | 6020 |




Pneumatically actuated diaphragm valve, Normally Closed, with **fixed flanges drilled PN10/16**. Face to face according to EN 558-1, code 81, PVC-U, PVC-C, PP-H, PVDF

| DN | MA | PN | B | $B_1$ | C | F | Øf | H | $H_1$ | Ra | U | Sp | Weight (g) NC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 25 | 10 | 150 | 33 | 65 | 85 | 14 | 160 | 126 | 1/4” | 4 | 14 | 2232 |
| 32 | 25 | 10 | 152 | 30 | 69 | 100 | 18 | 180 | 126 | 1/4” | 4 | 14 | 2446 |
| 40 | 40 | 10 | 246 | 35 | 106 | 110 | 18 | 200 | 155 | 1/4” | 4 | 16 | 4475 |
| 50 | 50 | 10 | 254 | 46 | 113 | 125 | 18 | 230 | 210 | 1/4” | 4 | 16 | 8494 |
| 65 | 50 | 10 | 254 | 46 | 113 | 145 | 18 | 290 | 210 | 1/4” | 4 | 21 | 8954 |
| 80 | 80 | 6 | 325 | 55 | 187 | 160 | 18 | 310 | 258 | 1/4” | 8 | 21.5 | 17000 |
| 100 | 100 | 6 | 355 | 69 | 268 | 180 | 18 | 350 | 258 | 1/4” | 8 | 22.5 | 22000 |

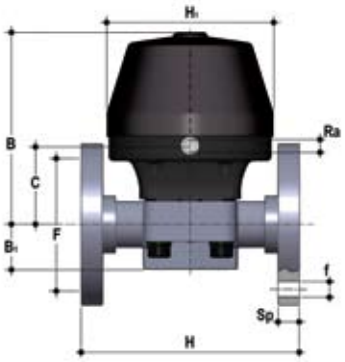
Figures for PVC-U version




Pneumatically actuated diaphragm valve, Normally Open - Double-Acting, with **fixed flanges, drilled PN10/16**. Face to face according to EN 558-1, code 81, PVC-U, PVC-C, PP-H, PVDF

| DN | MA | PN | B | $B_1$ | C | F | Øf | H | $H_1$ | Ra | U | Sp | Weight (g) NO-DA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 25 | 10 | 119 | 33 | 60 | 85 | 14 | 160 | 126 | 1/4” | 4 | 14 | 1762 |
| 32 | 25 | 10 | 123 | 30 | 64 | 100 | 18 | 180 | 126 | 1/4” | 4 | 14 | 1976 |
| 40 | 40 | 10 | 160 | 35 | 94 | 110 | 18 | 200 | 155 | 1/4” | 4 | 16 | 3895 |
| 50 | 50 | 10 | 200 | 46 | 123 | 125 | 18 | 230 | 218 | 1/4” | 4 | 16 | 6394 |
| 65 | 50 | 10 | 200 | 46 | 123 | 145 | 18 | 290 | 218 | 1/4” | 4 | 21 | 6854 |
| 80 | 80 | 6 | 305 | 55 | 252 | 160 | 18 | 310 | 258 | 1/4” | 8 | 21.5 | 13000 |
| 100 | 100 | 6 | 330 | 69 | 268 | 180 | 18 | 350 | 258 | 1/4” | 8 | 22.5 | 19000 |

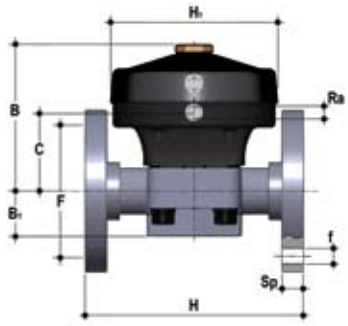
Figures for PVC-U version




Pneumatically actuated diaphragm valve, Normally Closed, with **fixed flanges, drilled ANSI B16.5 cl. 150 #FF**. Face to face according to EN 558-1, code 88, PVC-U, PVC-C, PP-H, PVDF

| DN | MA | PN | B | $B_1$ | C | F | Øf | H | $H_1$ | Ra | U | Sp | Weight (g) NC |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 25 | 10 | 150 | 33 | 65 | 79.4 | 15.9 | 160 | 126 | 1/4” | 4 | 14 | 2232 |
| 32 | 25 | 10 | 152 | 30 | 69 | 88.9 | 15.9 | 180 | 126 | 1/4” | 4 | 14 | 2446 |
| 40 | 40 | 10 | 246 | 35 | 106 | 98.4 | 15.9 | 200 | 155 | 1/4” | 4 | 16 | 4475 |
| 50 | 50 | 10 | 254 | 46 | 113 | 120.7 | 19.1 | 230 | 210 | 1/4” | 4 | 16 | 8494 |
| 65 | 50 | 10 | 254 | 46 | 113 | 139.7 | 19.1 | 290 | 210 | 1/4” | 4 | 21 | 8954 |
| 80 | 80 | 6 | 325 | 55 | 187 | 152.4 | 19.1 | 310 | 258 | 1/4” | 4 | 21.5 | 17000 |
| 100 | 100 | 6 | 355 | 64 | 268 | 190.5 | 19.1 | 350 | 258 | 1/4” | 8 | 22.5 | 22000 |

Figures for PVC-U version

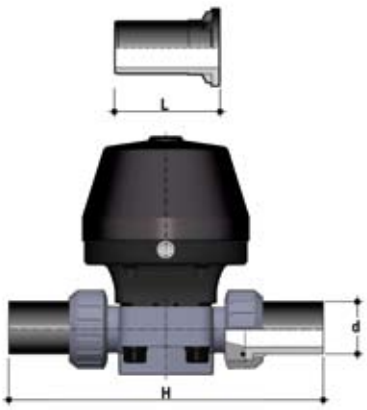



Pneumatically actuated diaphragm valve, Normally Open - Double-Acting, with fixed flanges, drilled ANSI B16.5 cl. 150 #FF. Face to face according to EN 558-1, code 88, PVC-U, PVC-C, PP-H, PVDF

| DN | MA | PN | B | $B_1$ | C | F | Øf | H | $H_1$ | Ra | U | Sp | Weight (g) NO-DA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 25 | 25 | 10 | 119 | 33 | 60 | 79.4 | 15.9 | 160 | 126 | 1/4” | 4 | 14 | 1762 |
| 32 | 25 | 10 | 123 | 30 | 64 | 88.9 | 15.9 | 180 | 126 | 1/4” | 4 | 14 | 1976 |
| 40 | 40 | 10 | 160 | 35 | 94 | 98.4 | 15.9 | 200 | 155 | 1/4” | 4 | 16 | 3895 |
| 50 | 50 | 10 | 200 | 46 | 123 | 120.7 | 19.1 | 230 | 218 | 1/4” | 4 | 16 | 6394 |
| 65 | 50 | 10 | 200 | 46 | 123 | 139.7 | 19.1 | 290 | 218 | 1/4” | 4 | 21 | 6854 |
| 80 | 80 | 6 | 305 | 55 | 252 | 152.4 | 19.1 | 310 | 258 | 1/4” | 4 | 21.5 | 13000 |
| 100 | 100 | 6 | 330 | 69 | 268 | 190.5 | 19.1 | 350 | 258 | 1/4” | 8 | 22.5 | 19000 |

Figures for PVC-U version

# ACCESSORIES




**Long spigot PE100** end connectors for electrofusion or butt welding, code 36

| d | DN | L | H | SDR |
|---|---|---|---|---|
| 32 | 25 | 95 | 306 | 11 |
| 40 | 32 | 95 | 324 | 11 |
| 50 | 40 | 95 | 344 | 11 |
| 63 | 50 | 95 | 374 | 11 |

**Long spigot PP-H** end connectors for butt welding, code 35

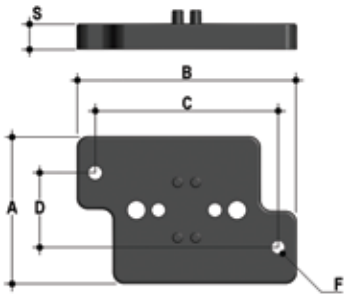
| d | DN | L | H | SDR |
|---|---|---|---|---|
| 32 | 25 | 95 | 306 | 11 |
| 40 | 32 | 95 | 324 | 11 |
| 50 | 40 | 95 | 344 | 11 |
| 63 | 50 | 95 | 374 | 11 |

**Short spigot PP-H** end connectors for butt welding

| d | DN | L | H | SDR |
|---|---|---|---|---|
| 32 | 25 | 55 | 226 | 11 |
| 40 | 32 | 55 | 244 | 11 |
| 50 | 40 | 55 | 264 | 11 |
| 63 | 50 | 55 | 294 | 11 |

**Long spigot PVDF** end connectors for butt welding, code 30 - S1209

| d | DN | L | H | SDR |
|---|---|---|---|---|
| 32 | 25 | 95 | 306 | 21 |
| 40 | 32 | 95 | 324 | 21 |
| 50 | 40 | 95 | 344 | 21 |
| 63 | 50 | 95 | 374 | 21 |




**Wall mounting plate PVC-U**

| d | DN | A | B | C | D | F | S |
|---|---|---|---|---|---|---|---|
| 32 | 25 | 65 | 97 | 81 | 33 | 5.5 | 11 |
| 40 | 32 | 65 | 97 | 81 | 33 | 5.5 | 11 |
| 50 | 40 | 65 | 144 | 130 | 33 | 6.5 | 11 |
| 63 | 50 | 65 | 144 | 130 | 33 | 6.5 | 11 |
| 75 | 65 | 65 | 144 | 130 | 33 | 6.5 | 11 |

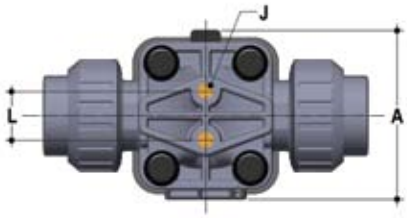
# FASTENING AND SUPPORTING

All valves, whether manual or actuated, must be adequately supported in many applications.

The valve series is therefore provided with an integrated bracket that permits direct anchoring of the valve body without the need of other components.

For wall installation, dedicated wall mounting plates which are available as accessories can be used. These plates should be fastened to the valve before wall installation.

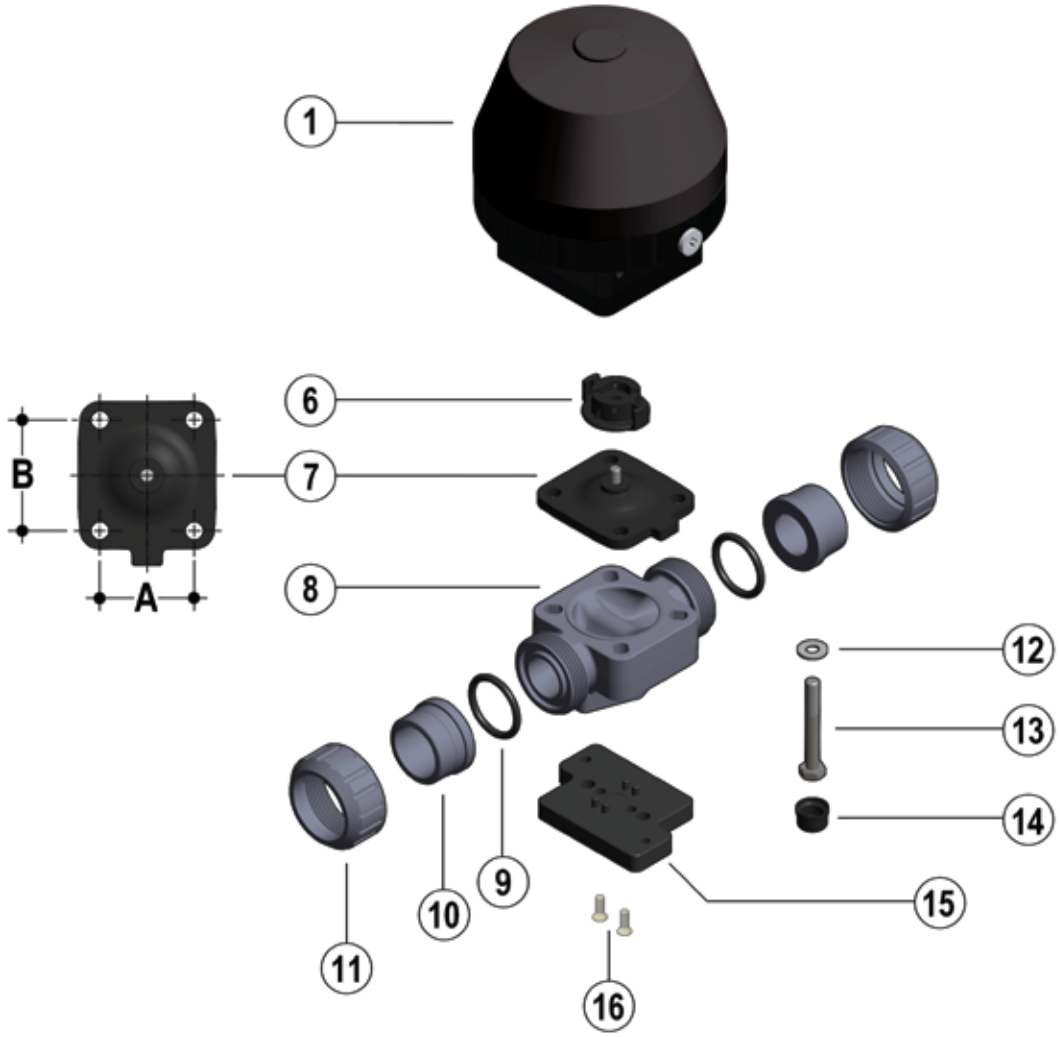
The wall plate also allows the valve to be aligned with pipe clips.




| d | DN | A | L | J |
|---|---|---|---|---|
| 32 | 25 | 87 | 25 | M6 x 10 |
| 40 | 32 | 87 | 25 | M6 x 10 |
| 50 | 40 | 114 | 44.5 | M8 x 14 |
| 63 | 50 | 136 | 44.5 | M8 x 14 |
| 75 | 65 | 136 | 44.5 | M8 x 14 |

# COMPONENTS

## EXPLODED VIEW 485 NC DN 25-65

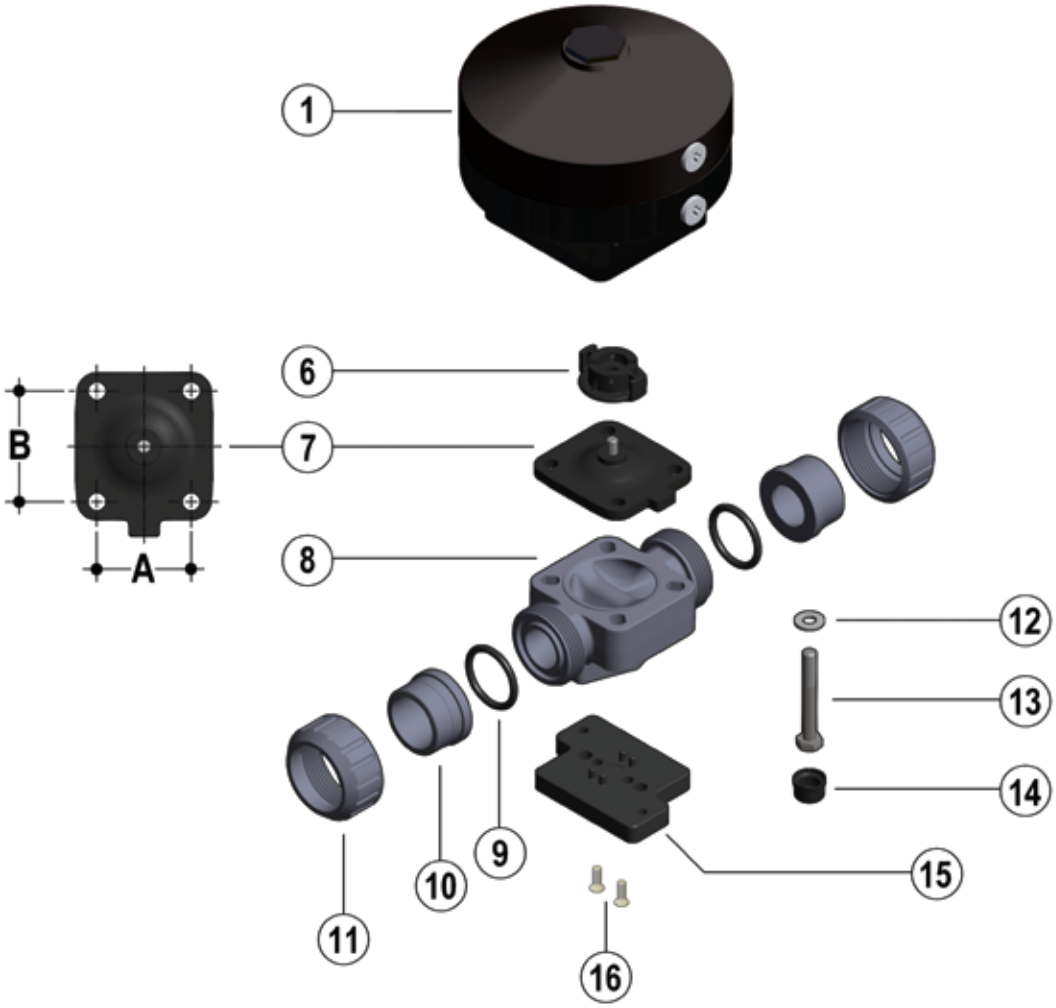



| DN | 25 | 32 | 40 | 50 | 65 |
|---|---|---|---|---|---|
| A | 46 | 46 | 65 | 78 | 78 |
| B | 54 | 54 | 70 | 82 | 82 |

**1** · Actuator (PP-GR - 1)*
**6.** Compressor (IXEF - 1)
**7.** Diaphragm seal (EPDM, FPM, PTFE - 1)*
**8.** Valve body (PVC-U, PVCC, PPH, PVDF – 1)*
**9.** Socket seal O-ring (EPDM-FPM - 2)*
**10.** End connector (PVC-U, PVCC, PPH, PVDF – 2)*
**11.** Union nut (PVC-U, PVCC, PPH, PVDF – 2)*
**12.** Washer (Stainless steel - 4)
**13.** Bolt (Stainless steel - 4)
**14.** Protection plug (PE - 4)
**15.** Distance plate (PP-GR - 1)**
**16.** Screw (Stainless steel - 2)**

* Spare parts
** Accessories
The material of the component and the quantity supplied are indicated between brackets

## EXPLODED VIEW 285 NO-DA DN 25-65




| DN | 25 | 32 | 40 | 50 | 65 |
|---|---|---|---|---|---|
| A | 46 | 46 | 65 | 78 | 78 |
| B | 54 | 54 | 70 | 82 | 82 |

**1 ·** Actuator (PP-GR - 1)*
**6.** Compressor (IXEF - 1)
**7.** Diaphragm seal (EPDM, FPM, PTFE - 1)*
**8.** Valve body (PVC-U, PVCC, PPH, PVDF – 1)*
**9.** Socket seal O-ring (EPDM-FPM - 2)*
**10.** End connector (PVC-U, PVCC, PPH, PVDF – 2)*
**11.** Union nut (PVC-U, PVCC, PPH, PVDF – 2)*
**12.** Washer (Stainless steel - 4)
**13.** Bolt (Stainless steel - 4)
**14.** Protection plug (PE - 4)
**15.** Distance plate (PP-GR - 1)**
**16.** Screw (Stainless steel - 2)**

* Spare parts
** Accessories
The material of the component and the quantity supplied are indicated between brackets

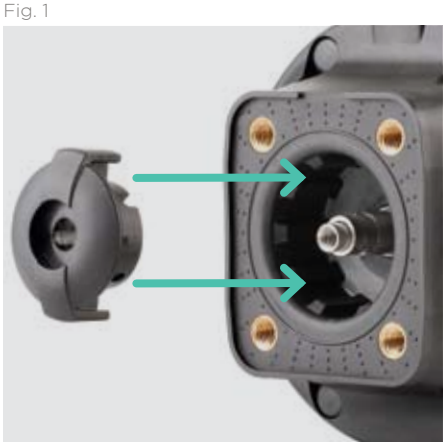
## DISASSEMBLY

1) Isolate the valve from the line (release the pressure and empty the pipeline).
2) Open the valve with compressed air (NC-DA) to drain any residual liquid from the valve.
3) Disconnect the valve from the pneumatic and electrical connections.
4) Fully unscrew the union nuts (11) and extract the valve sideways.
5) Remove the protection plugs (14) and bolts (13) with the relative washers (12). This operation will be made easier if the actuator is pressurised (NC).
6) Separate the valve body (8) from the actuator (1).
7) Unscrew the diaphragm (7) and remove the compressor (6). This operation will be made easier if the actuator is not pressurised (NC).

## ASSEMBLY

1) Insert the compressor (6) on the actuator stem (1) aligning it correctly in its housing (fig. 1).
2) Screw the diaphragm (7) onto the stem, aligning it correctly with its housing on the actuator.
3) Fit the actuator (1) on the valve body (8) and tighten the bolts (13) with the relative washers (12). This operation will be made easier if the actuator is pressurised (NC).
4) Tighten the bolts (13) evenly (diagonally) to the tightening torque suggested on the relative instruction sheet.
5) Replace the protection plugs (14)
6) Position the valve between the end connectors (10) and tighten the union nuts (11), making sure that the socket seal O-rings (9) do not exit their seats.
7) Reconnect the valve to the pneumatic and electrical connections

Fig. 1



⚠ **Note:** All operations on equipment under pressure or containing compressed springs must be carried out under safe conditions for the operator.

# INSTALLATION

Before proceeding with installation, please follow these instructions carefully: (these instructions refer to union end versions). The valve can be installed in any position and in any direction.

1) Check that the pipes to be connected to the valve are aligned in order to avoid mechanical stress on the threaded joints.
2) Unscrew the union nuts (11) and insert them on the pipe segments.
3) Solvent weld or screw the end connectors (10) onto the pipe ends.
4) Position the valve body between the end connectors, making sure that the socket seal O-rings (9) do not exit their seats.
5) Fully tighten the union nuts (11).
6) If necessary, support the pipework with pipe clips or by means of the carrier built into the valve itself (see paragraph “Fastening and supporting”).
7) Connect the compressed air as indicated in paragraph “Compressed air connections”. For valves with electric accessories, refer to the specific technical manual supplied with the accessory.

⚠ **Note:** before putting the valve into service, check that the bolts on the valve body (8) are tightened correctly at the suggested torque.