

Aliaxis



**DK DN 15÷65**

PVDF

DIALOCK® 2-way diaphragm valve

# DK DN 15÷65

The DK DIALOCK® diaphragm valve is particularly suitable for shutting off and regulating abrasive or dirty fluids. The new internal geometry of the body increases flow coefficient, reduce pressure drop and allows a sensitive and precise adjustment along the entire stroke of the shutter. The DK is extremely compact and very light. The innovative handwheel is equipped with a patented immediate and ergonomic operating locking device that allows it to be adjusted and locked in any position.

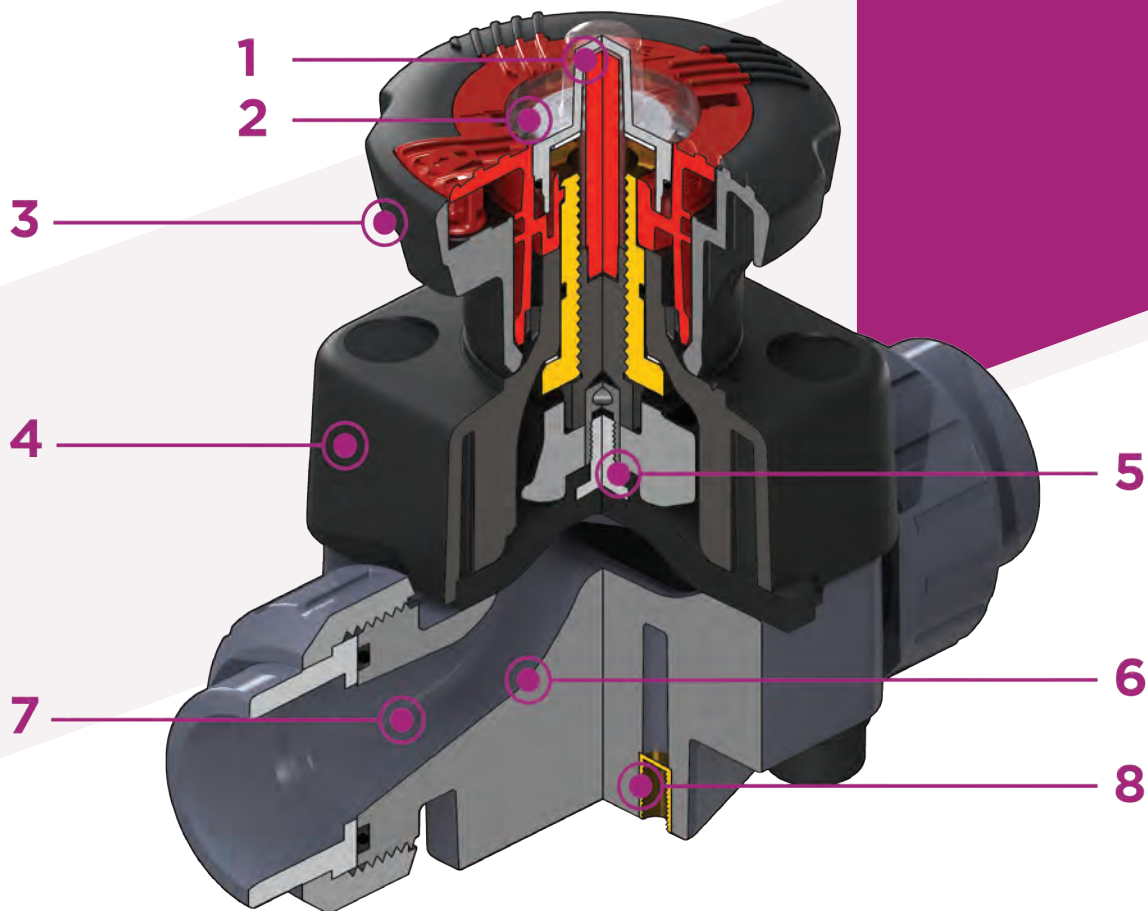


## DIALOCK® 2-WAY DIAPHRAGM VALVE

- 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
- **Internal components in metal, totally isolated from the fluid** and external environment
- **Modularity of the range:** only 2 handwheel and 4 diaphragm and bonnet sizes for 7 different valve sizes
- Non-rising handwheel that stays at the same height during rotation, equipped with a graduated optical indicator protected by a transparent PVC cap with seal O-Ring
- Bonnet fastening screws in stainless steel protected against the external environment by PE plugs. Absence of metal parts exposed to the external environment to prevent any risk of corrosion
- **New flanged bodies:** the new bodies, characterised by a monolithic flanged structure, are available in PVC-U, PVC-C, PP-H and PVDF. This design, free from body and flange joints, greatly reduces mechanical stress and increases system performance.
- **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
  - operating torque reduction

### Technical specifications

|                            |   |
|----------------------------|---|
| <b>Construction</b>        | Diaphragm valve with maximized flow rate and DIALOCK® lockable handwheel  |
| <b>Size range</b>          | DN 15 ÷ 65  |
| <b>Nominal pressure</b>    | PN 10 with water at 20° C   |
| <b>Temperature range</b>   | -20 °C ÷ 120 °C   |
| <b>Coupling standards</b>  | <b>Welding:</b> EN ISO 10931. Can be coupled to pipes according to EN ISO 10931.<br><b>Flanging system:</b> ISO 7005-1, EN 10931, EN 558-1, DIN 2501, ANSI B.16.5 cl.150        |
| <b>Reference standards</b> | <b>Construction criteria:</b> EN ISO 16138, EN ISO 10931<br><b>Test methods and requirements:</b> ISO 9393<br><b>Installation criteria:</b> DVS 2202-1, DVS 2207-15, DVS 2208-1 |
| <b>Valve material</b>      | <b>Body:</b> PVDF<br><b>Bonnet and handwheel:</b> PP-GR<br><b>Position indicator cap:</b> PVC   |
| <b>Seal material</b>       | EPDM, FKM, PTFE   |
| <b>Control options</b>     | Manual control; pneumatic actuator  |



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

**2 Customisation plate:** the customisation lets you identify the valve on the system according to specific needs

**3 DIALOCK® 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

**6 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**

**7 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

**8 Valve anchoring bracket integrated in the body,** with threaded metal inserts allowing **simple panel or wall mounting** using the PMDK mounting plate (supplied as an accessory)

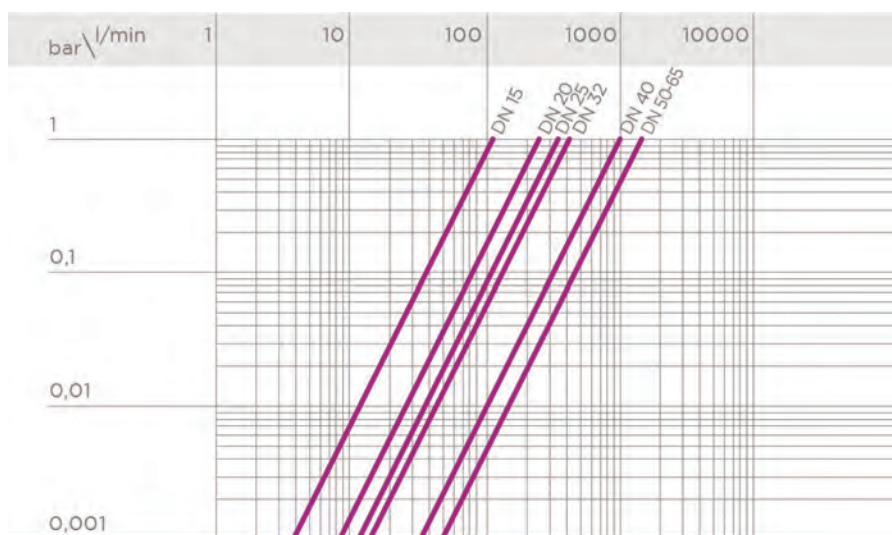
# TECHNICAL DATA

## 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<sub>v</sub>100 FLOW COEFFICIENT

The K<sub>v</sub>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 Kv100 values shown in the table are calculated with the valve completely open.

| DN          | 15  | 20  | 25  | 32  | 40   | 50   | 65   |
|-------------|-----|-----|-----|-----|------|------|------|
| Kv100 l/min | 112 | 261 | 445 | 550 | 1087 | 1648 | 1600 |

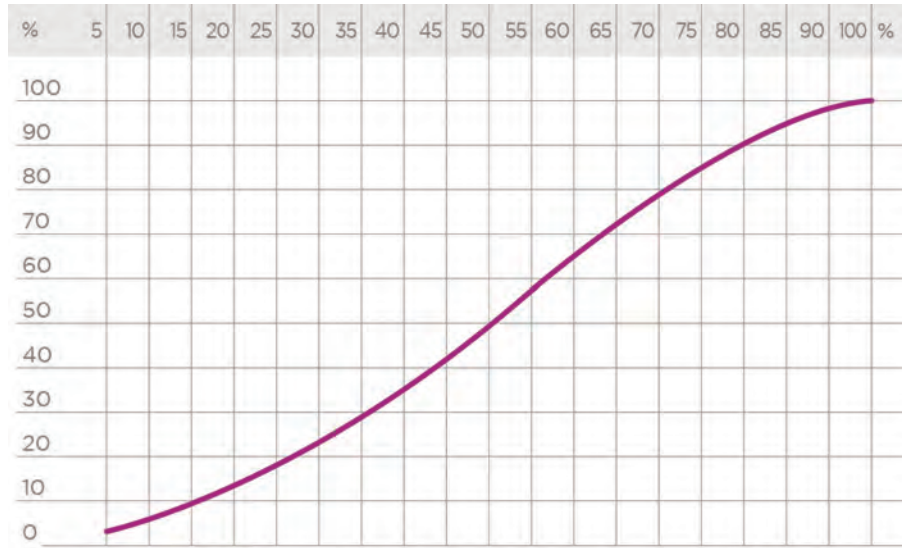


## RELATIVE FLOW COEFFICIENT GRAPH

The relative flow coefficient is the flow rate through the valve as a function of the degree of valve opening.

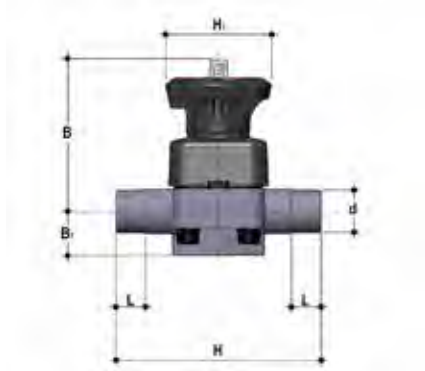
Horizontal axis: Opening percentage of the valve

Vertical axis: Relative flow coefficient



The information in this leaflet is provided in good faith. No liability will be accepted concerning technical data that is not directly covered by recognised international standards. FIP reserves the right to carry out any modification. Products must be installed and maintained by qualified personnel.

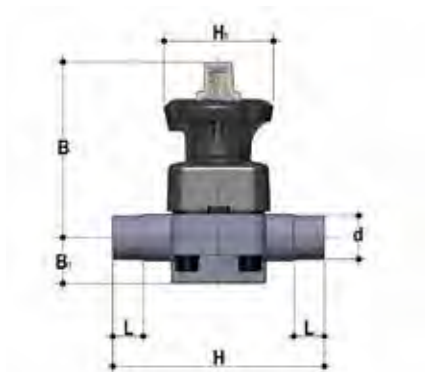
# DIMENSIONS



## DKDF

DIALOCK® diaphragm valve with male ends for socket welding, metric series

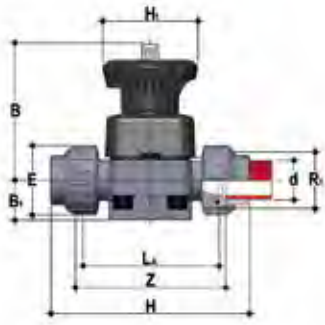
| d  | DN | PN | B   | B <sub>1</sub> | H   | H <sub>1</sub> | L  | g    | EPDM code | FKM code | PTFE code |
|----|----|----|-----|----------------|-----|----------------|----|------|-----------|----------|-----------|
| 20 | 15 | 10 | 102 | 25             | 124 | 80             | 16 | 497  | DKDF020E  | DKDF020F | DKDF020P  |
| 25 | 20 | 10 | 105 | 30             | 144 | 80             | 19 | 527  | DKDF025E  | DKDF025F | DKDF025P  |
| 32 | 25 | 10 | 114 | 33             | 154 | 80             | 22 | 756  | DKDF032E  | DKDF032F | DKDF032P  |
| 40 | 32 | 10 | 119 | 30             | 174 | 80             | 26 | 817  | DKDF040E  | DKDF040F | DKDF040P  |
| 50 | 40 | 10 | 149 | 35             | 194 | 120            | 31 | 1700 | DKDF050E  | DKDF050F | DKDF050P  |
| 63 | 50 | 10 | 172 | 46             | 224 | 120            | 38 | 2693 | DKDF063E  | DKDF063F | DKDF063P  |
| 75 | 65 | 10 | 172 | 46             | 284 | 120            | 44 | 2871 | DKDF075E  | DKDF075F | DKDF075P  |



## DKLDF

DIALOCK® diaphragm valve with stroke limiter and male ends for socket welding, metric series

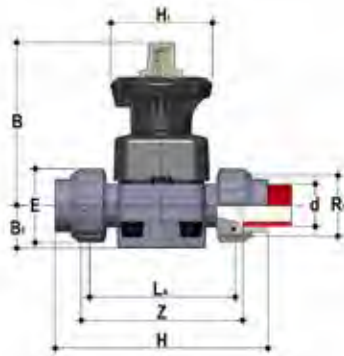
| d  | DN | PN | B   | B <sub>1</sub> | H   | H <sub>1</sub> | L  | g    | EPDM code | FKM code  | PTFE code |
|----|----|----|-----|----------------|-----|----------------|----|------|-----------|-----------|-----------|
| 20 | 15 | 10 | 115 | 25             | 124 | 80             | 16 | 527  | DKLDF020E | DKLDF020F | DKLDF020P |
| 25 | 20 | 10 | 118 | 30             | 144 | 80             | 19 | 557  | DKLDF025E | DKLDF025F | DKLDF025P |
| 32 | 25 | 10 | 127 | 33             | 154 | 80             | 22 | 786  | DKLDF032E | DKLDF032F | DKLDF032P |
| 40 | 32 | 10 | 132 | 30             | 174 | 80             | 26 | 847  | DKLDF040E | DKLDF040F | DKLDF040P |
| 50 | 40 | 10 | 175 | 35             | 194 | 120            | 31 | 1760 | DKLDF050E | DKLDF050F | DKLDF050P |
| 63 | 50 | 10 | 200 | 46             | 224 | 120            | 38 | 2753 | DKLDF063E | DKLDF063F | DKLDF063P |
| 75 | 65 | 10 | 200 | 46             | 284 | 120            | 44 | 2931 | DKLDF075E | DKLDF075F | DKLDF075P |



## DKUIF

DIALOCK® diaphragm valve with female union ends for socket welding, metric series

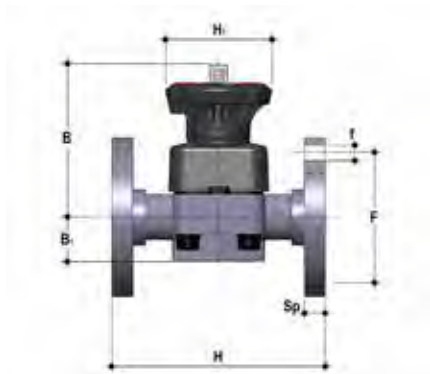
| d  | DN | PN | B   | B <sub>1</sub> | E  | H   | H <sub>1</sub> | La  | R <sub>1</sub> | Z   | g    | EPDM code | FKM code  | PTFE code |
|----|----|----|-----|----------------|----|-----|----------------|-----|----------------|-----|------|-----------|-----------|-----------|
| 20 | 15 | 10 | 102 | 25             | 41 | 129 | 80             | 90  | 1"             | 100 | 551  | DKUIF020E | DKUIF020F | DKUIF020P |
| 25 | 20 | 10 | 105 | 30             | 50 | 154 | 80             | 108 | 1 1/4"         | 116 | 636  | DKUIF025E | DKUIF025F | DKUIF025P |
| 32 | 25 | 10 | 114 | 33             | 58 | 168 | 80             | 116 | 1 1/2"         | 124 | 905  | DKUIF032E | DKUIF032F | DKUIF032P |
| 40 | 32 | 10 | 119 | 30             | 72 | 192 | 80             | 134 | 2"             | 140 | 1077 | DKUIF040E | DKUIF040F | DKUIF040P |
| 50 | 40 | 10 | 149 | 35             | 79 | 222 | 120            | 154 | 2 1/4"         | 160 | 1989 | DKUIF050E | DKUIF050F | DKUIF050P |
| 63 | 50 | 10 | 172 | 46             | 98 | 266 | 120            | 184 | 2 3/4"         | 190 | 3235 | DKUIF063E | DKUIF063F | DKUIF063P |



## DKLUIF

DIALOCK® diaphragm valve with stroke limiter and female union ends for socket welding, metric series

| d  | DN | PN | B   | B <sub>1</sub> | E  | H   | H <sub>1</sub> | La  | R <sub>1</sub> | Z   | g    | EPDM code  | FKM code   | PTFE code  |
|----|----|----|-----|----------------|----|-----|----------------|-----|----------------|-----|------|------------|------------|------------|
| 20 | 15 | 10 | 115 | 25             | 41 | 129 | 80             | 90  | 1"             | 100 | 581  | DKLUIF020E | DKLUIF020F | DKLUIF020P |
| 25 | 20 | 10 | 118 | 30             | 50 | 154 | 80             | 108 | 1 1/4"         | 116 | 666  | DKLUIF025E | DKLUIF025F | DKLUIF025P |
| 32 | 25 | 10 | 127 | 33             | 58 | 168 | 80             | 116 | 1 1/2"         | 124 | 935  | DKLUIF032E | DKLUIF032F | DKLUIF032P |
| 40 | 32 | 10 | 132 | 30             | 72 | 192 | 80             | 134 | 2"             | 140 | 1107 | DKLUIF040E | DKLUIF040F | DKLUIF040P |
| 50 | 40 | 10 | 175 | 35             | 79 | 222 | 120            | 154 | 2 1/4"         | 160 | 2049 | DKLUIF050E | DKLUIF050F | DKLUIF050P |
| 63 | 50 | 10 | 200 | 46             | 98 | 266 | 120            | 184 | 2 3/4"         | 190 | 3295 | DKLUIF063E | DKLUIF063F | DKLUIF063P |

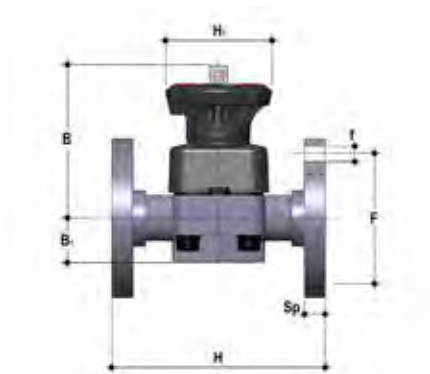


## DKOF

DIALOCK® diaphragm valve with flanged monolithic body, drilled PN10/16. Face to face according to EN 558-1

| d  | DN | PN | B   | B <sub>1</sub> | F   | f  | H   | H <sub>1</sub> | Sp | U    | g    | EPDM code | FKM code | PTFE code |
|----|----|----|-----|----------------|-----|----|-----|----------------|----|------|------|-----------|----------|-----------|
| 20 | 15 | 10 | 102 | 25             | 65  | 14 | 130 | 80             | 4  | 13.5 | 1011 | DKOF020E  | DKOF020F | DKOF020P  |
| 25 | 20 | 10 | 105 | 30             | 75  | 14 | 150 | 80             | 4  | 13.5 | 1102 | DKOF025E  | DKOF025F | DKOF025P  |
| 32 | 25 | 10 | 114 | 33             | 85  | 14 | 160 | 80             | 4  | 13.5 | 1212 | DKOF032E  | DKOF032F | DKOF032P  |
| 40 | 32 | 10 | 119 | 30             | 100 | 18 | 180 | 80             | 4  | 14   | 1486 | DKOF040E  | DKOF040F | DKOF040P  |
| 50 | 40 | 10 | 149 | 35             | 110 | 18 | 200 | 120            | 4  | 16   | 2479 | DKOF050E  | DKOF050F | DKOF050P  |
| 63 | 50 | 10 | 172 | 46             | 125 | 18 | 230 | 120            | 4  | 16   | 3454 | DKOF063E  | DKOF063F | DKOF063P  |
| 75 | 65 | 10 | 172 | 46             | 145 | 18 | 290 | 120            | 4  | 21   | 4223 | DKOF075E  | DKOF075F | DKOF075P  |

DKLOF version available on request



## DKOAF

DIALOCK® diaphragm valve with flanged monolithic body, drilled ANSI B16.5 cl. 150 #FF

| d      | DN | PN | B   | B <sub>1</sub> | F    | f    | H   | H <sub>1</sub> | Sp   | U | g    | EPDM code | FKM code  | PTFE code |
|--------|----|----|-----|----------------|------|------|-----|----------------|------|---|------|-----------|-----------|-----------|
| 1/2"   | 15 | 10 | 102 | 25             | 60.3 | 14   | 108 | 80             | 13,5 | 4 | 1011 | DKOAF012E | DKOAF012F | DKOAF012P |
| 3/4"   | 20 | 10 | 105 | 30             | 70   | 15.7 | 120 | 80             | 13,5 | 4 | 1102 | DKOAF034E | DKOAF034F | DKOAF034P |
| 1"     | 25 | 10 | 114 | 33             | 80   | 15.7 | 131 | 80             | 13,5 | 4 | 1212 | DKOAF100E | DKOAF100F | DKOAF100P |
| 1" 1/4 | 32 | 10 | 119 | 30             | 89   | 15.7 | 162 | 80             | 14   | 4 | 1486 | DKOAF114E | DKOAF114F | DKOAF114P |
| 1" 1/2 | 40 | 10 | 149 | 35             | 99   | 15.7 | 180 | 120            | 16   | 4 | 2479 | DKOAF112E | DKOAF112F | DKOAF112P |
| 2"     | 50 | 10 | 172 | 46             | 121  | 19   | 210 | 120            | 16   | 4 | 3454 | DKOAF200E | DKOAF200F | DKOAF200P |
| 2" 1/2 | 65 | 10 | 172 | 46             | 140  | 19   | 250 | 120            | 21   | 4 | 4223 | DKOAF212E | DKOAF212F | DKOAF212P |

DKLOAF version available on request  
For installation prior to october 2017 please contact Fip Technical Support