



**DKD/CP DN 15÷65**  
PVC-U

Direct action pneumatically actuated 2-way diaphragm valve

# DKD/CP DN 15÷65

The DKD/CP diaphragm valve is particularly suitable for shutting off very dirty and/or highly viscous fluids. The new internal geometry of the body optimises fluid dynamic efficiency by increasing the flow rate. The DKP/CP is extremely compact and very light.

## DIRECT ACTION PNEUMATICALLY ACTUATED 2-WAY DIAPHRAGM VALVE

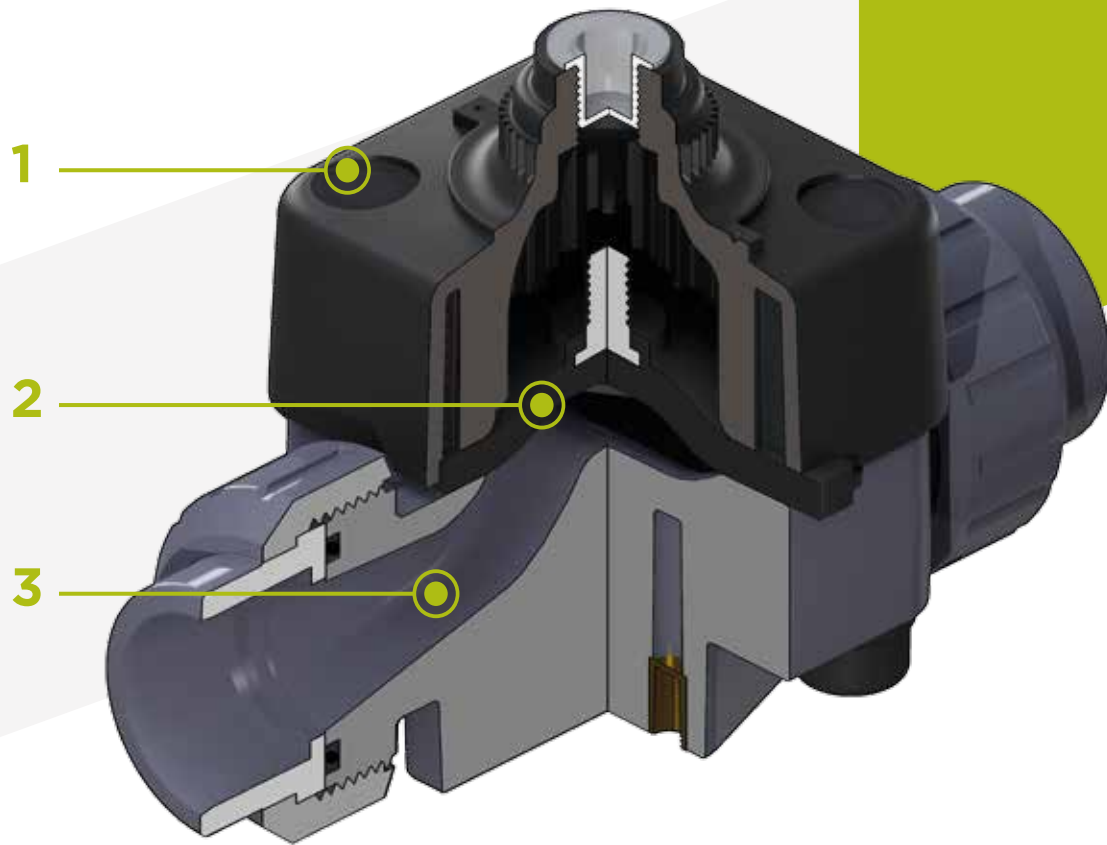
- Connection system for solvent weld and threaded joints
- **Optimised fluid dynamic design:** maximum output flow rate thanks to the optimised efficiency of the fluid dynamics that characterise the new internal geometry of the body
- In the Standard version, equipped with textile fibre reinforced diaphragm
- Bonnet fastening screws in AISI 316 steel protected against the external environment by PE plugs
- Easy to clean valve interior
- Low risk of the accumulation of deposits, contamination or damage to the diaphragm due to crystallisation
- Easy to replace diaphragm seal

Technical specifications	
<b>Construction</b>	Direct action pneumatically actuated diaphragm valve with body at maximized flow rate
<b>Size range</b>	DN 15 ÷ 65
<b>Nominal pressure</b>	PN 8 with water at 20° C
<b>Temperature range</b>	0 °C ÷ 60 °C
<b>Coupling standards</b>	<b>Solvent welding:</b> EN ISO 1452, EN ISO 15493, DIN 8063. Can be coupled to pipes according to EN ISO 1452, DIN 8062 <b>Thread:</b> ISO 228-1, DIN 2999
<b>Reference standards</b>	<b>Construction criteria:</b> EN ISO 16138, EN ISO 1452, EN ISO 15493 <b>Test methods and requirements:</b> ISO 9393 <b>Installation criteria:</b> DVS 2204, DVS 2221, UNI 11242
<b>Valve material</b>	PVC-U
<b>Diaphragm material</b>	EPDM On request NBR
<b>Control options</b>	Pneumatic actuator

The valve comprises three elements: body, diaphragm and sealing bonnet. Due to the action of the compressed air in the bonnet, the diaphragm is pressed against the body saddle interrupting the flow.

This simplified operating principle and the lower number of components guarantees high reliability and durability.

Technical specifications - Pneumatic actuator	
<b>Construction</b>	Direct action pneumatic actuator (NO)
<b>Actuator material</b>	<b>Bonnet:</b> PP-GR
<b>Control fluid pressure</b>	<b>Minimum:</b> 0.5 - 1.5 bar <b>Maximum:</b> 10 bar
<b>Power supply</b>	Neutral and clean fluid, free from mineral based lubricants, which are aggressive on EPDM rubber. If using other fluids, contact the FIP service centre
<b>Control fluid temperature</b>	Max 50 °C
<b>Working temperature</b>	-20 °C ÷ 50 °C
<b>Accessories</b>	• Pilot solenoid valves 3/2 ways for direct or manifold mounting



**1** Sealing bonnet in **PP-GR** marked by **high construction strength**. The **absence of metal parts exposed to the external environment** prevents any risk of corrosion.

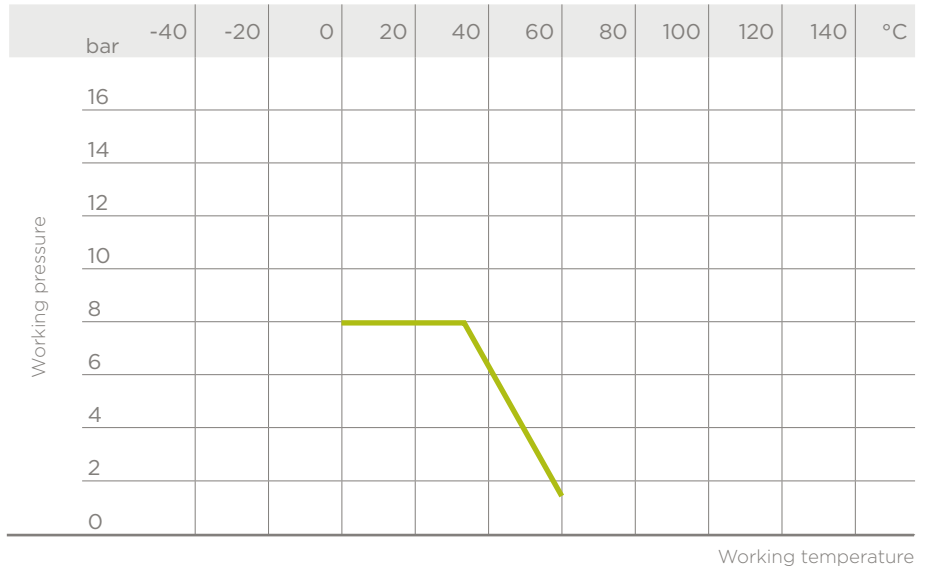
**2** The special **sealing diaphragm** reinforced with textile fibres allows longer operation to be reached without showing any signs of wear.

**3** **New valve body internal design.** **Substantially higher flow coefficient** and lower pressure drops. The efficiency reached has also **allowed the size and weight of the valve to be reduced.**

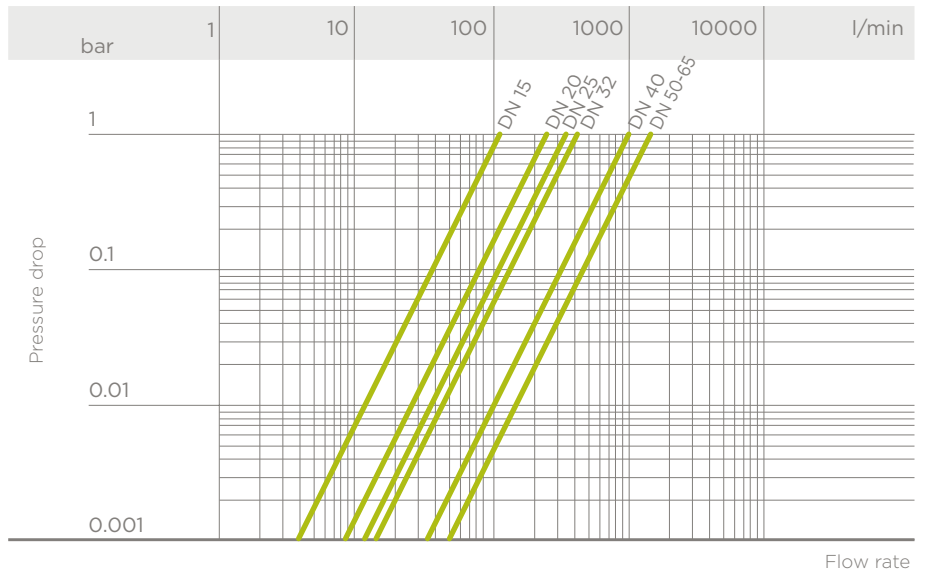
# TECHNICAL DATA

## PRESSURE VARIATION ACCORDING TO TEMPERATURE

For water and non-hazardous fluids 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 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.

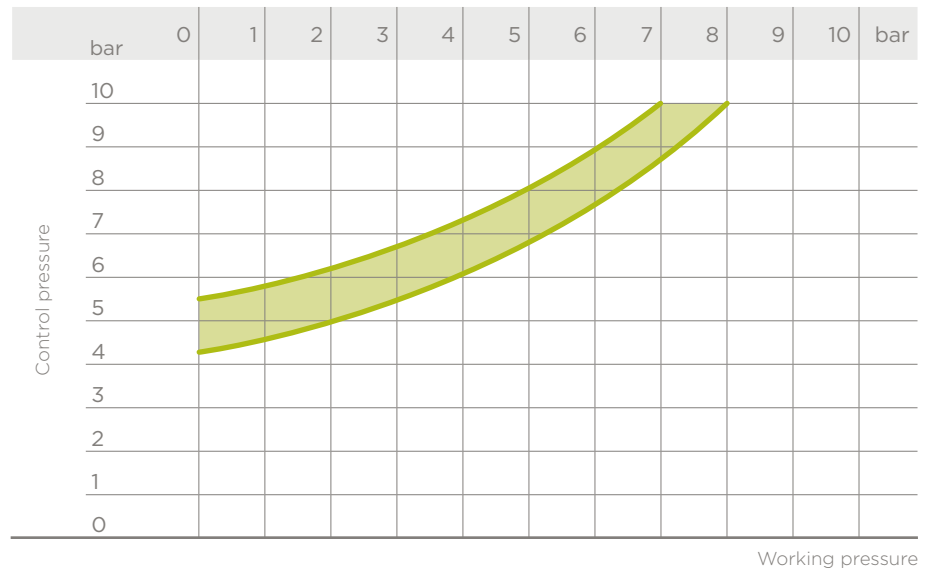
The K<sub>v</sub>100 values shown in the table are calculated with the valve completely open.

DN	15	20	25	32	40	50	65
K <sub>v</sub> 100 l/min	112	261	445	550	1087	1648	1600

# TECHNICAL DATA

## CONTROL PRESSURE ACCORDING TO WORKING PRESSURE DKD/CP NO

Minimum control pressure according to working pressure with EPDM diaphragm



## FUNCTIONAL CHARACTERISTICS

Function type	Single-acting (SA)
Valve opening	Normally Open (NO)
Valve closing	pressure of fluid flow air

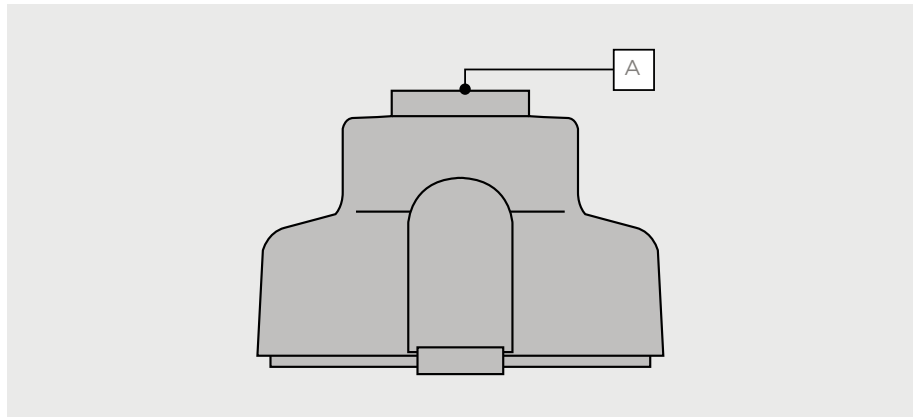
## ACTUATOR CAPACITY

NI: Normal-liter  
Volume at atmospheric

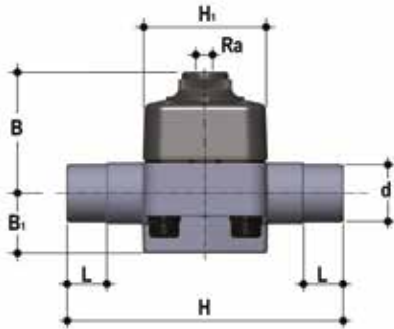
DN	15	20	25	32	40	50	65
NO	0.13 NI	0.13 NI	0.28 NI	0.28 NI	0.50 NI	0.50 NI	0.50 NI

## COMPRESSED AIR CONNECTIONS

Function type	Normally open (NO)
Valve opening	-
Valve closing	Inlet A



# DKD/CP RANGE DIMENSIONS



## DKDDV/CP

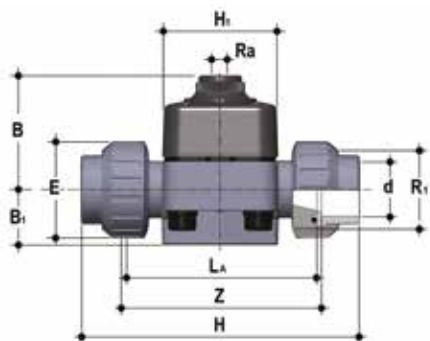
Pneumatically actuated diaphragm valve, Normally Open, with male ends, metric series PVC-U

d	DN	PN	B	B <sub>1</sub>	H	h	H <sub>1</sub>	L	Ra	g
20	15	10	58	25	124	12	65	16	1/4"	270
25	20	10	61	29.5	144	12	65	19	1/4"	292
32	25	10	70	33	154.5	12	70	22	1/4"	492
40	32	10	72	30	174.5	12	70	26	1/4"	536
50	40	10	87	35	195.5	16	99	31	1/4"	1100
63	50	10	109	46	225	16	114	38	1/4"	1924
75	65	10	109	46	284	16	114	44	1/4"	2045

## Codes DKD/CP NO

d	DN	DKDDV/CP PVC-U EPDM
20	15	DKDDVNO020E
25	20	DKDDVNO025E
32	25	DKDDVNO032E
40	32	DKDDVNO040E
50	40	DKDDVNO050E
63	50	DKDDVNO063E
75	65	DKDDVNO075E





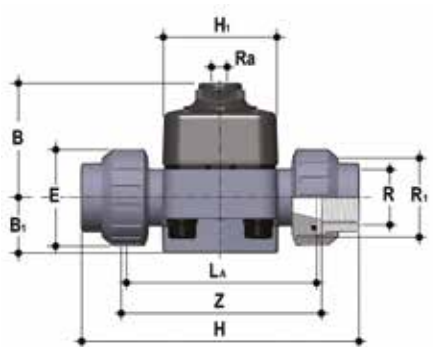
## DKDUIV/CP

Pneumatically actuated diaphragm valve, Normally Open, with female union ends, metric series PVC-U

d	DN	PN	B	B <sub>1</sub>	E	H	h	H <sub>1</sub>	La	R <sub>1</sub>	R <sub>a</sub>	Z	g
20	15	10	58	25	41	129	12	65	90	1"	1/4"	100	310
25	20	10	61	29.5	50	154	12	65	108	1" 1/4	1/4"	116	372
32	25	10	70	33	58	168	12	70	116	1" 1/2	1/4"	124	600
40	32	10	72	30	72	192	12	70	134	2"	1/4"	140	726
50	40	10	87	35	79	222	16	99	154	2" 1/4	1/4"	160	1312
63	50	10	109	46	98	266	16	114	184	2" 3/4	1/4"	190	2320

## Codes DKD/CP NO

d	DN	DKDUIV/CP PVC-U EPDM
20	15	DKDUIVNO020E
25	20	DKDUIVNO025E
32	25	DKDUIVNO032E
40	32	DKDUIVNO040E
50	40	DKDUIVNO050E
63	50	DKDUIVNO063E



## DKDUFV/CP

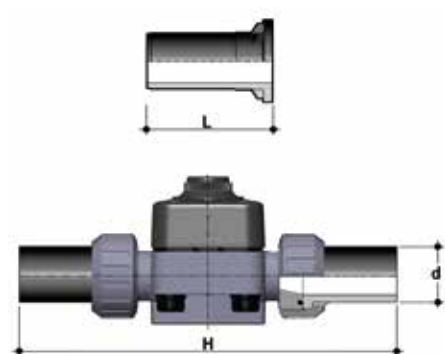
Pneumatically actuated diaphragm valve, Normally Open, with BSP threaded female union ends, PVC-U series

R	DN	PN	B	B <sub>1</sub>	E	H	h	H <sub>1</sub>	La	R <sub>1</sub>	R <sub>a</sub>	Z	g NC
1/2"	15	10	58	25	41	131	12	65	90	1"	1/4"	97	310
3/4"	20	10	61	29.5	50	151	12	65	108	1" 1/4	1/4"	118	372
1"	25	10	70	33	58	165	12	70	116	1" 1/2	1/4"	127	600
1" 1/4	32	10	72	30	72	188	12	70	134	2"	1/4"	145	726
1" 1/2	40	10	87	35	79	208	16	99	154	2" 1/4	1/4"	165	1312
2"	50	10	109	46	98	246	16	114	184	2" 3/4	1/4"	195	2320

## Codes DKD/CP NO

R	DN	DKDUFV/CP PVC-U EPDM
1/2"	15	DKDUFVNO012E
3/4"	20	DKDUFVNO034E
1"	25	DKDUFVNO100E
1" 1/4	32	DKDUFVNO114E
1" 1/2	40	DKDUFVNO112E
2"	50	DKDUFVNO200E

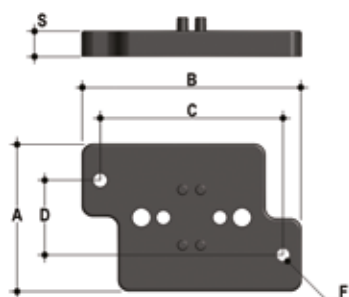
# ACCESSORIES



## Q/BBE-L

Long spigot PE100 end connectors for electrofusion or butt welding

d	DN	L	H	SDR	Code
20	15	95	280	11	QBBEL11020
25	20	95	298	11	QBBEL11025
32	25	95	306	11	QBBEL11032
40	32	95	324	11	QBBEL11040
50	40	95	344	11	QBBEL11050
63	50	95	374	11	QBBEL11063



## PMDK

Wall mounting plate

d	DN	A	B	C	D	F	S	Code
20	15	65	97	81	33	5.5	11	PMDK1
25	20	65	97	81	33	5.5	11	PMDK1
32	25	65	97	81	33	5.5	11	PMDK1
40	32	65	97	81	33	5.5	11	PMDK2
50	40	65	144	130	33	6.5	11	PMDK2
63	50	65	144	130	33	6.5	11	PMDK2
75	65	65	144	130	33	6.5	11	PMDK2

# FASTENING AND SUPPORTING

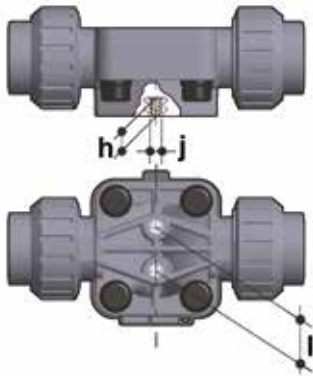


All valves, whether manual or actuated, must be adequately supported in many applications.

The DK 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 or panel installation, dedicated PMDK mounting plates which are available as accessories can be used. These plates should be fastened to the valve before wall installation.

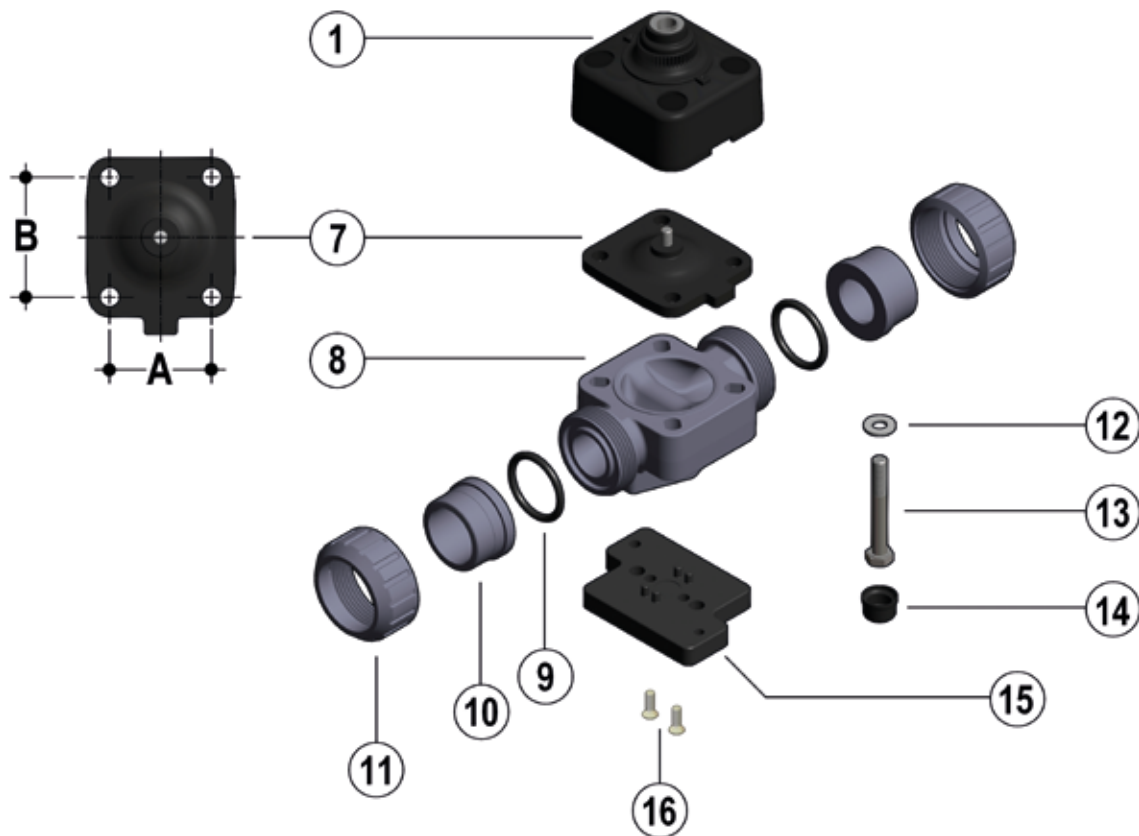
PMDK plates also allow DK valve alignment with FIP ZIKM pipe clips.



d	DN	h	l	J
20	15	10	25	M6
25	20	10	25	M6
32	25	10	25	M6
40	32	10	25	M6
50	40	13	44.5	M8
63	50	13	44.5	M8
75	65	13	44.5	M8

# COMPONENTS

## EXPLODED VIEW DKD/CP-NO DN 15÷65



DN	15	20	25	32	40	50	65
A	40	40	46	46	65	78	78
B	44	44	54	54	70	82	82

**1.** Sealing bonnet (PP-GR - 1)\*

**7.** Diaphragm (EPDM - 1)\*

**8.** Valve body (PVC-U - 1)\*

**9.** Socket seal O-Ring (EPDM - 2)\*

**10.** End connector (PVC-U - 2)\*

**11.** Union nut (PVC-U - 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 component material and quantity supplied are indicated in the parentheses.

## DISASSEMBLY

- 1) Isolate the valve from the line (release the pressure and empty the pipeline).
- 2) Disconnect the valve from the pneumatic and electrical connections.
- 3) Unscrew the union nuts (11) and extract the valve.
- 4) Remove the protection plugs (14) and remove the bolts (13) with the relative washers (12).
- 5) Separate the valve body (8) from the sealing bonnet (1) and from the diaphragm (7).

## ASSEMBLY

- 1) Rest the diaphragm (7) on the valve body (8)
- 2) Assemble the sealing bonnet (1) on the diaphragm (7) and tighten the bolts (13) with the relative washers (12).
- 3) Tighten the bolts (13) evenly (diagonally) to the tightening torque suggested on the relative instruction sheet.
- 4) Replace the protection plugs (14)
- 5) 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.
- 6) Reconnect the valve to the pneumatic and electrical connections



**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: (instructions refer to versions with union ends). 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 the socket seal O-Rings (9) do not exit the seats.
- 5) Completely tighten the union nuts (11).
- 6) If necessary, support the pipework with FIP 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.



**Aliaxis**  
UTILITIES & INDUSTRY

**FIP - Formatura Iniezione Polimeri**

Loc. Pian di Parata, 16015 Casella Genova Italy

Tel. +39 010 9621.1

Fax +39 010 9621.209

info.fip@aliaxis.com

[www.fipnet.com](http://www.fipnet.com)



Cod. LEVAUTO