



DK DN 15÷65
PP-H

DIALOCK® 2-way diaphragm valve

DK DN 15÷65

The new DK DIALOCK® 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 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.

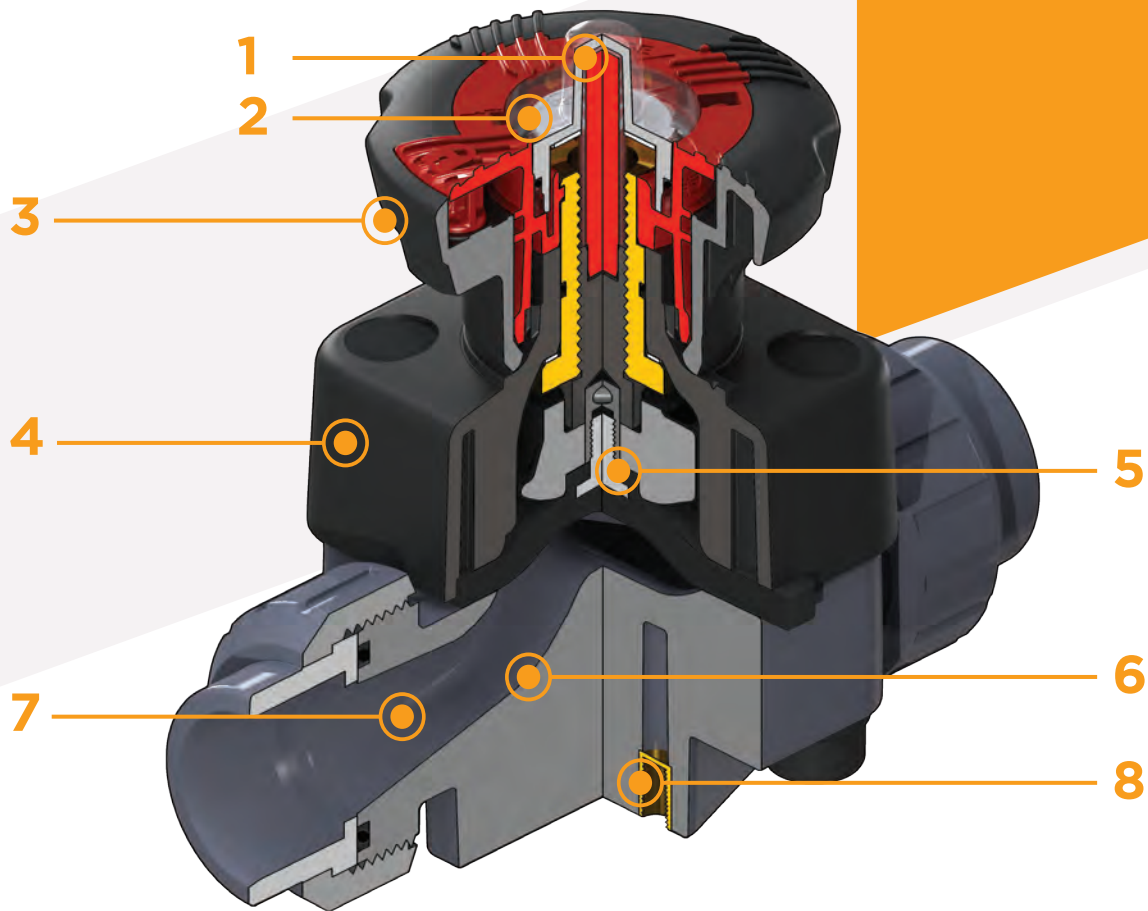
Dialock®

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
- **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

Construction	Diaphragm valve with maximized flow rate and DIALOCK® lockable handwheel
Size range	DN 15 ÷ 65
Nominal pressure	PN 10 with water at 20° C
Temperature range	0 °C ÷ 100 °C
Coupling standards	Welding: EN ISO 15494. Can be coupled to pipes according to EN ISO 15494 Thread: ISO 228-1, DIN 2999 Flanging system: ISO 7005-1, EN 1092-1, EN ISO 15494, EN 558-1, DIN 2501, ANSI B16.5 cl.150
Reference standards	Construction criteria: EN ISO 16138, EN ISO 15494 Test methods and requirements: ISO 9393 Installation criteria: DVS 2202-1, DVS 2207-11, DVS 2208-1, UNI 11318
Valve material	Body: PP-H Bonnet and handwheel: PP-GR Position indicator cap: PVC
Diaphragm material	EPDM, FPM, PTFE (on request NBR)
Control options	Manual control; pneumatic actuator

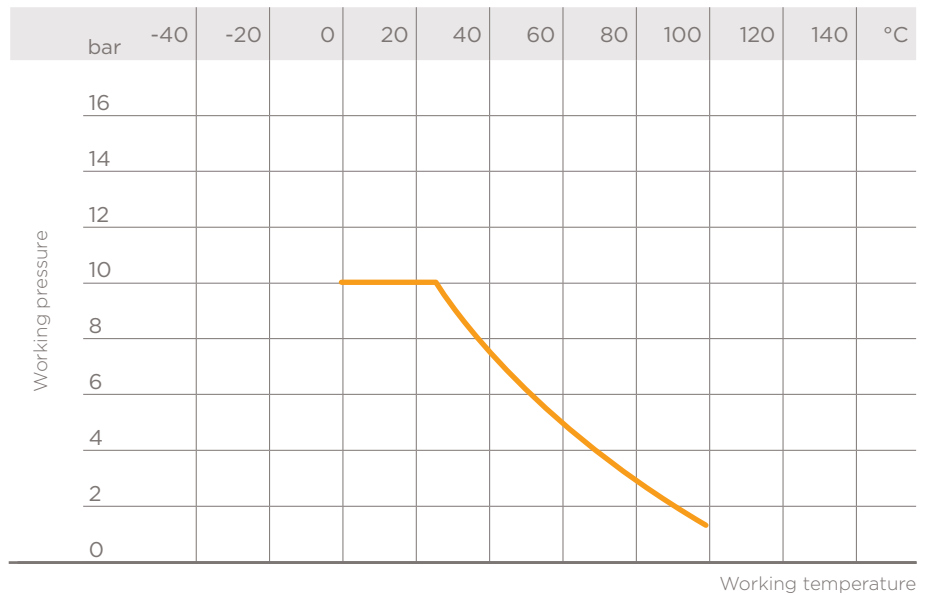


- 1 High visibility graduated optical position indicator** protected by a transparent cap with seal O-Ring
- 2 Customisation plate:** the customisation lets you identify the valve on the system according to specific needs
- 3 DIALOCK® SYSTEM:** innovative handwheel with a patented immediate and ergonomic 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)

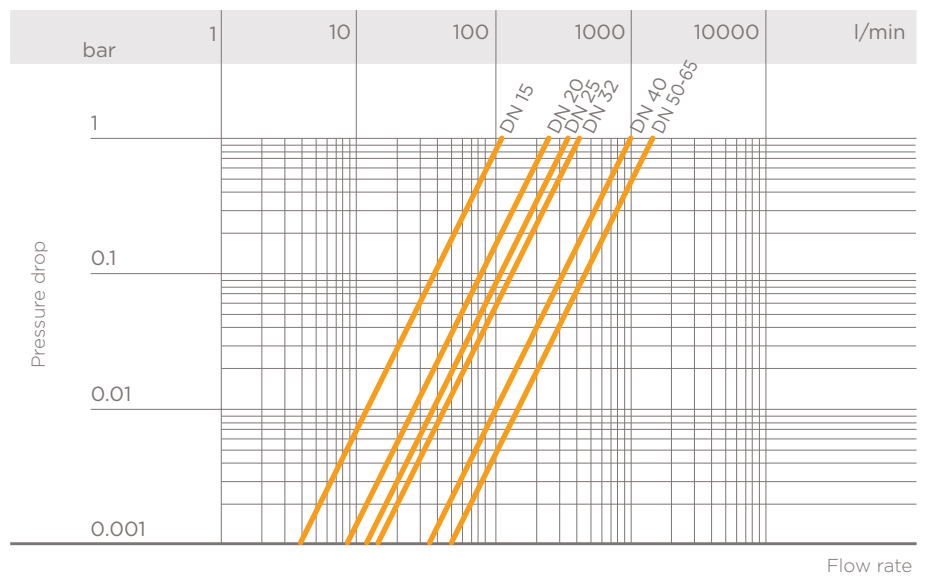
TECHNICAL DATA

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_v100 FLOW COEFFICIENT

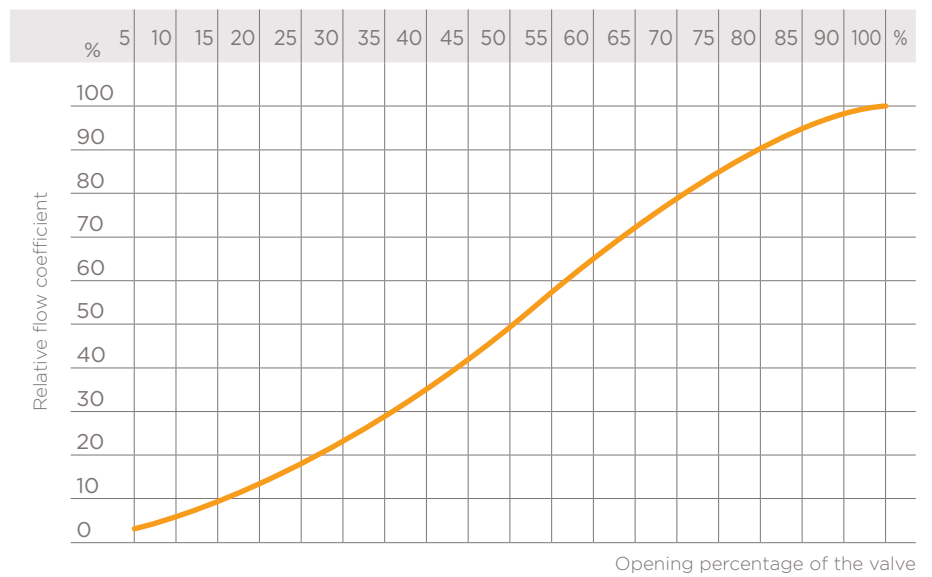
The K_v100 flow coefficient is the Q flow rate of litres per minute of water at a temperature of 20°C that will generate Δp= 1 bar pressure drop at a certain valve position.

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

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

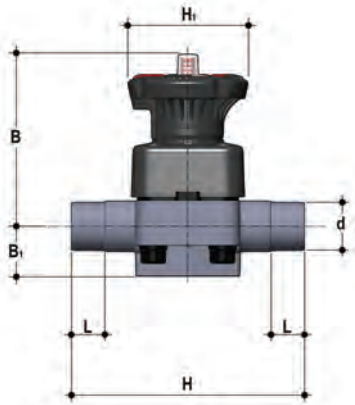
RELATIVE FLOW COEFFICIENT GRAPH

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



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.

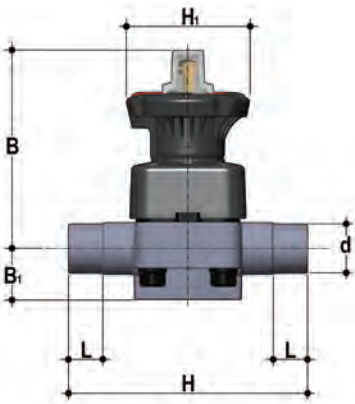
DIMENSIONS



DKDM

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

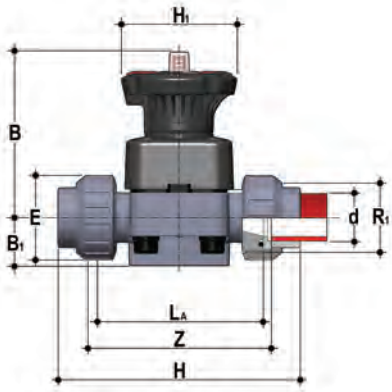
d	DN	PN	B	B ₁	H	H ₁	L	g	EPDM Code	FPM Code	PTFE Code
20	15	10	102	25	124	80	16	430	DKDM020E	DKDM020F	DKDM020P
25	20	10	105	30	144	80	19	445	DKDM025E	DKDM025F	DKDM025P
32	25	10	114	33	154	80	22	620	DKDM032E	DKDM032F	DKDM032P
40	32	10	119	30	174	80	26	650	DKDM040E	DKDM040F	DKDM040P
50	40	10	147	35	194	120	31	1380	DKDM050E	DKDM050F	DKDM050P
63	50	10	172	46	224	120	38	2135	DKDM063E	DKDM063F	DKDM063P
75	65	10	172	46	284	120	44	2225	DKDM075E	DKDM075F	DKDM075P



DKLDM

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

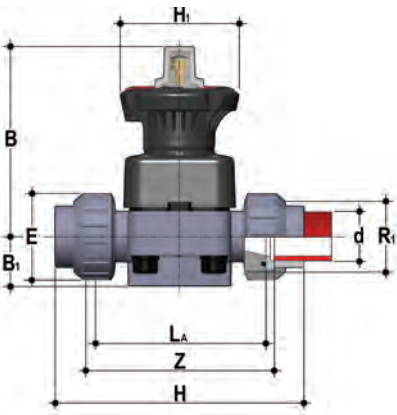
d	DN	PN	B	B ₁	H	H ₁	L	g	EPDM Code	FPM Code	PTFE Code
20	15	10	115	25	124	80	16	460	DKLDM020E	DKLDM020F	DKLDM020P
25	20	10	118	30	144	80	19	475	DKLDM025E	DKLDM025F	DKLDM025P
32	25	10	127	33	154	80	22	650	DKLDM032E	DKLDM032F	DKLDM032P
40	32	10	132	30	174	80	26	680	DKLDM040E	DKLDM040F	DKLDM040P
50	40	10	175	35	194	120	31	1440	DKLDM050E	DKLDM050F	DKLDM050P
63	50	10	200	46	224	120	38	2195	DKLDM063E	DKLDM063F	DKLDM063P
75	65	10	200	46	284	120	44	2285	DKLDM075E	DKLDM075F	DKLDM075P



DKUIM

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

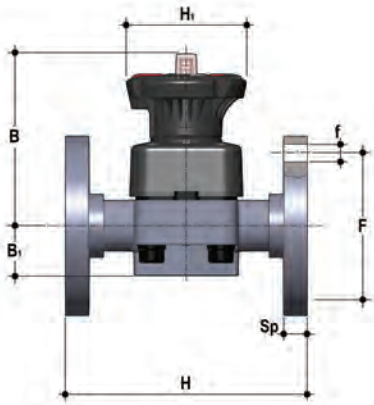
d	DN	PN	B	B ₁	E	H	H ₁	L _A	R ₁	Z	g	EPDM Code	FPM Code	PTFE Code
20	15	10	102	25	41	128	80	90	1"	101	457	DKUIM020E	DKUIM020F	DKUIM020P
25	20	10	105	30	50	150	80	108	1" 1/4	119	500	DKUIM025E	DKUIM025F	DKUIM025P
32	25	10	114	33	58	163	80	116	1" 1/2	127	695	DKUIM032E	DKUIM032F	DKUIM032P
40	32	10	119	30	72	184	80	134	2"	145	781	DKUIM040E	DKUIM040F	DKUIM040P
50	40	10	147	35	79	210	120	154	2" 1/4	165	1526	DKUIM050E	DKUIM050F	DKUIM050P
63	50	10	172	46	98	248	120	184	2" 3/4	195	2410	DKUIM063E	DKUIM063F	DKUIM063P



DKLUIM

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

d	DN	PN	B	B ₁	E	H	H ₁	L _A	R ₁	Z	g	EPDM Code	FPM Code	PTFE Code
20	15	10	115	25	41	128	80	90	1"	101	487	DKLUIM020E	DKLUIM020F	DKLUIM020P
25	20	10	118	30	50	150	80	108	1" 1/4	119	530	DKLUIM025E	DKLUIM025F	DKLUIM025P
32	25	10	127	33	58	163	80	116	1" 1/2	127	725	DKLUIM032E	DKLUIM032F	DKLUIM032P
40	32	10	132	30	72	184	80	134	2"	145	811	DKLUIM040E	DKLUIM040F	DKLUIM040P
50	40	10	175	35	79	210	120	154	2" 1/4	165	1586	DKLUIM050E	DKLUIM050F	DKLUIM050P
63	50	10	200	46	98	248	120	184	2" 3/4	195	2470	DKLUIM063E	DKLUIM063F	DKLUIM063P

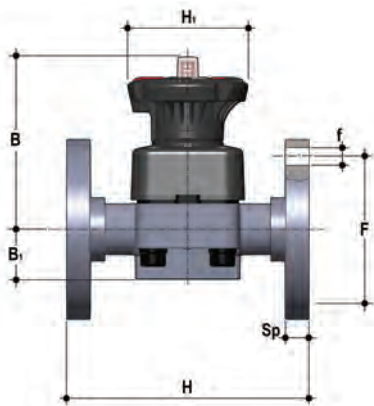


DKOM

DIALOCK® diaphragm valve with fixed flanges, drilled PN10/16. Face to face according to EN 558-1

d	DN	PN	B	B ₁	f	F	H	H ₁	Sp	U	g	EPDM Code	FPM Code	PTFE Code
20	15	10	102	25	14	65	130	80	13.5	4	588	DKOM020E	DKOM020F	DKOM020P
25	20	10	105	30	14	75	150	80	13.5	4	645	DKOM025E	DKOM025F	DKOM025P
32	25	10	114	33	14	85	160	80	14	4	910	DKOM032E	DKOM032F	DKOM032P
40	32	10	119	30	18	100	180	80	14	4	1110	DKOM040E	DKOM040F	DKOM040P
50	40	10	147	35	18	110	200	120	16	4	1955	DKOM050E	DKOM050F	DKOM050P
63	50	10	172	46	18	125	230	120	16	4	2905	DKOM063E	DKOM063F	DKOM063P
75	65	10	225	55	18	145	290	120	21	4	3325	DKOM075E	DKOM075F	DKOM075P

DKLOM version available on request



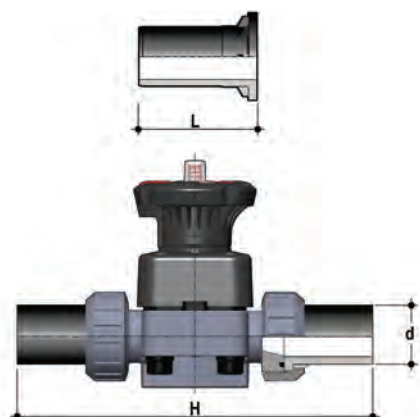
DKOAM

DIALOCK® diaphragm valve with fixed flanges, drilled ANSI B16.5 cl. 150 #FF

Size	DN	PN	B	B ₁	f	F	H	H ₁	Sp	U	g	EPDM Code	FPM Code	PTFE Code
1/2"	15	10	102	25	14	60.3	108	80	13.5	4	572	DKOAM012E	DKOAM012F	DKOAM012P
3/4"	20	10	105	30	15.7	69.9	150	80	13.5	4	645	DKOAM034E	DKOAM034F	DKOAM034P
1"	25	10	114	33	15.7	79.4	160	80	14	4	910	DKOAM100E	DKOAM100F	DKOAM100P
1" 1/4	32	10	119	30	15.7	88.9	180	80	14	4	1110	DKOAM114E	DKOAM114F	DKOAM114P
1" 1/2	40	10	147	35	15.7	98.4	200	120	16	4	1955	DKOAM112E	DKOAM112F	DKOAM112P
2"	50	10	172	46	19	120.7	230	120	16	4	2905	DKOAM200E	DKOAM200F	DKOAM200P
75	65	10	172	46	19	139.7	290	120	21	4	3325	DKOM075E	DKOM075F	DKOM075P

DKLOAM version available on request

ACCESSORIES



Q/BBM-L

Long spigot PP-H end connectors for butt welding

d	DN	L	H	SDR	Code
20	15	95	280	11	QBBML11020
25	20	95	298	11	QBBML11025
32	25	95	306	11	QBBML11032
40	32	95	324	11	QBBML11040
50	40	95	344	11	QBBML11050
63	50	95	374	11	QBBML11063

Q/BBM-C

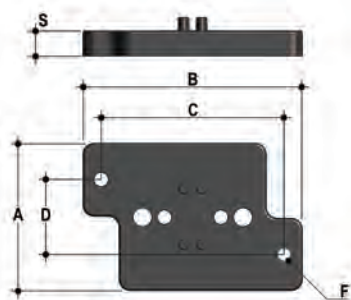
Short spigot PP-H end connectors for butt welding

d	DN	L	H	SDR	Code
20	15	55	200	11	QBBMC11020
25	20	55	218	11	QBBMC11025
32	25	55	226	11	QBBMC11032
40	32	55	244	11	QBBMC11040
50	40	55	264	11	QBBMC11050
63	50	55	294	11	QBBMC11063

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

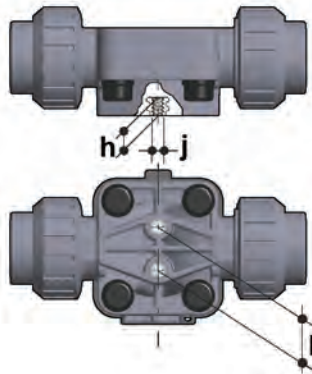


All valves, whether manual or actuated, must be adequately supported in many applications.

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

The PMDK plate also allows the DK valve to be aligned 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

CUSTOMISATION

The DIALOCK® DK DN 15÷65 valve can be customised using a customisation plate in white PVC.

The customisation plate (B), housed in the transparent protection cap (A), can be removed and, once overturned, used for indicating identification serial numbers or service indications on the valves such as, for example, the valve function in the system, the conveyed fluid, but also specific information for customer service, such as the customer name or installation date or location on the valves. The waterproof transparent protection cap with seal O-Ring protect the customisation plate against deterioration.

To access the customisation plate, make sure that the handwheel is in the release position and proceed as follows:

- 1) Rotate the transparent protection cap fully anticlockwise (fig. 1) and remove it by pulling upwards. If necessary, insert a screwdriver in slot (C) to make the operation easier (fig. 2).
- 2) Remove the plate from inside the transparent protection cap and customise as required (fig. 3).
- 3) Re-assemble everything making sure that the transparent protection cap O-Ring remains in its seating (fig. 4).

Fig. 1



Fig. 2



Fig. 3

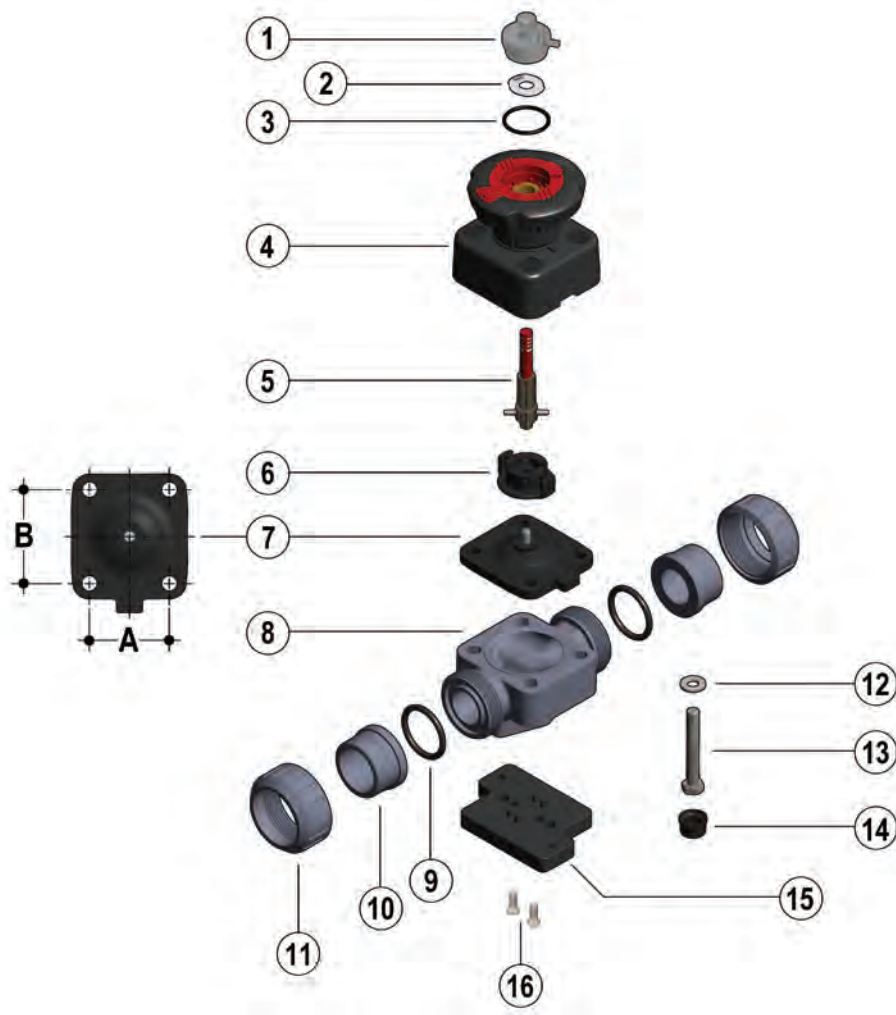


Fig. 4



COMPONENTS

EXPLODED VIEW DN 15÷50



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** · Transparent protection cap (PVC - 1)*
- 2** · Customisation plate (PVC-U - 1)
- 3** · O-Ring (EPDM - 1)
- 4** · Operating mechanism (PP-GR / PVDF - 1)
- 5** · Threaded stem - Indicator (Stainless steel - 1)

- 6** · Compressor (IXEF® - 1)
- 7** · Diaphragm seal (EPDM, FPM, PTFE - 1)*
- 8** · Valve body (PP-H - 1)*
- 9** · Socket seal O-ring (EPDM-FPM - 2)*
- 10** · End connector (PP-H - 2)*
- 11** · Union nut (PP-H - 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) If necessary, release the handwheel by pressing downwards (fig.5) and rotating anticlockwise to fully open the valve.
- 3) Unscrew the union nuts (11) and extract the valve sideways.
- 4) Remove the protection plugs (14) and bolts (13) with the relative washers (12).
- 5) Separate the valve body (8) from the internal components (4).
- 6) Rotate the handwheel clockwise to free the threaded stem (5), compressor (6) and diaphragm (7)
- 7) Unscrew the diaphragm (7) and remove the shutter (6).

ASSEMBLY

- 1) Insert the compressor (6) on the threaded stem (5) aligning it correctly with the reference pin on the stem.
- 2) Screw the diaphragm (7) on the threaded stem (5).
- 3) Lubricate the threaded stem (5), insert it in the operating mechanism (4) and rotate the handwheel anticlockwise until the stem is fully screwed in (5).
Make sure that the compressor (6) and diaphragm are correctly aligned with the housings in the operating mechanism (4) (fig. 7).
- 4) Fit the operating mechanism (4) on the valve body (8) and tighten the bolts (13) with the relative washers (12).
- 5) Tighten the bolts (13) evenly (diagonally) to the tightening torque suggested on the relative instruction sheet.
- 6) Replace the protection plugs (14)
- 7) Position the valve body 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.
- 8) If necessary, block the handwheel by grasping it and pulling it upwards (fig. 6).



Note: during assembly, it is advisable to lubricate the threaded stem. Mineral oils are not recommended for this task as they react aggressively with EPDM rubber.

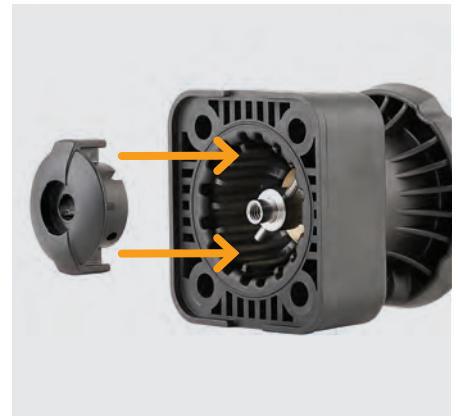
Fig. 5



Fig. 6



Fig. 7



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 FIP pipe clips or by means of the carrier built into the valve itself (see paragraph "Fastening and supporting").

⚠ Note: Before putting the valve into service, check that the bolts on the valve body (13) are tightened correctly at the suggested torque.

Fig. 9



LOCKING DEVICE



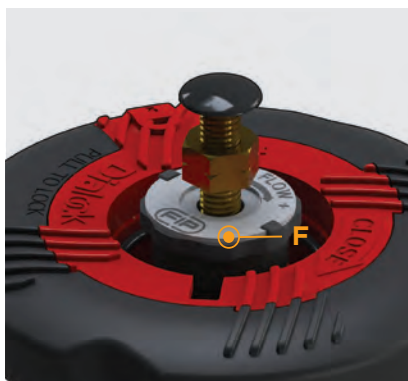
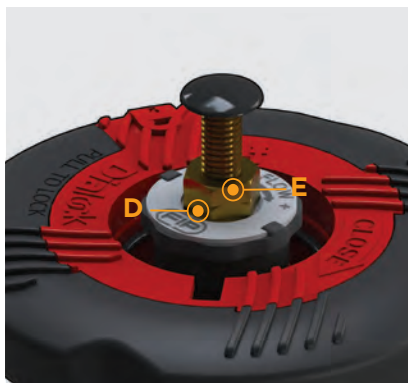
The DK valve is equipped with a DIALOCK® handwheel locking system that prevents the valve from being operated.

The system can be engaged by simply lifting the handwheel once the required position has been reached (fig. 8).

To release the operating mechanism, simply return the handwheel to its previous position by pushing it downwards (fig. 6).

When the system is in the locked position, a lock can be installed to protect the plant against unwanted interference (fig. 9).

STROKE LIMITER



The DKL version of the diaphragm valve is equipped with a handwheel stroke control system which allows the minimum and maximum flows to be preset and the diaphragm to be preserved from an excessive compression during closing.

The system allows the valve stroke to be modified using the two independent adjusting screws, which determine the mechanical limits of the valve during opening and closing.

The valve is sold with the stroke limiters positioned such that does not limit the opening or closing stroke.

To access and set the adjusting screws, remove the transparent protection cap (A) as previously described (see chapter "Customisation").

Travel stop adjustment. Minimum flow rate or closed valve.

- 1) Rotate the handwheel clockwise until the required minimum flow rate is reached.
- 2) Screw in nut (D) as far as it will go and lock it in this position by tightening the lock-nut (E).
To deactivate the function of limiting the closing stroke, completely unscrew nuts (D and E). In this way, the valve will fully close.
- 3) Re-assemble the transparent protection cap making sure that the seal O-Ring remains in its seating.

Stroke limiter adjustment. Maximum flow rate

- 1) Rotate the handwheel anticlockwise until the required maximum flow rate is reached.
- 2) Rotate knob (F) anticlockwise as far as the stop. The plate indicates the direction of rotation of the wheel required to obtain a higher or lower maximum flow rate. If the opening stroke does not need to be limited, rotate the knob (F) clockwise a number of times. In this way, the valve will fully open.
- 3) Re-assemble the transparent protection cap making sure that the seal O-Ring remains in its seating.



VM DN 15÷100
PP-H

Diaphragm valve

VM

DN 15÷100

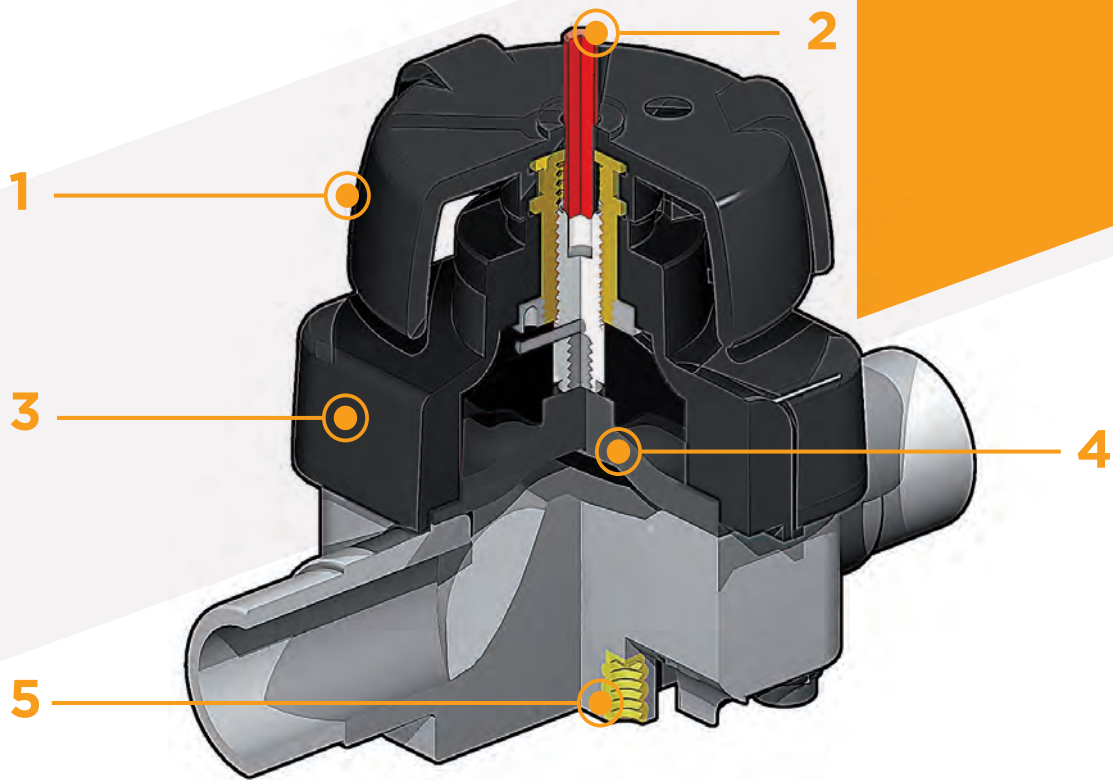
The VM is particularly suitable for shutting off and regulating abrasive or dirty fluids.

The handwheel control and diaphragm seal provide precise and effective control, while reducing the risk of water hammer to a minimum.

DIAPHRAGM VALVE

- Connection system for weld, threaded and flanged joints
- Compact and lightweight construction
- High flow coefficient and minimum pressure drop
- **Internal components in metal totally isolated from the conveyed fluid**, with anti-friction disk to reduce friction to a minimum
- **Modularity of the range:** only 5 diaphragm and bonnet sizes for 9 different valve sizes
- Handwheel that stays at the same height during rotation
- Bonnet fastening screws that screw into the built-in bush preventing the deposit of dirt or impurities
- **Innovative CDSA** (Circular Diaphragm Sealing Angle) system used up to DN50, offering the following advantages:
 - uniform distribution of shutter pressure on the diaphragm seal
 - 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	
Construction	Single wear diaphragm valve
Size range	DN 15 ÷ 100
Nominal pressure	PN 10 with water at 20° C
Temperature range	0 °C ÷ 100 °C
Coupling standards	Welding: EN ISO 15494. Can be coupled to pipes according to EN ISO 15494 Thread: ISO 228-1, DIN 2999 Flanging system: ISO 7005-1, EN 1092-1, EN ISO 15494, EN 558-1, DIN 2501, ANSI B16.5 cl.150
Reference standards	Construction criteria: EN ISO 16138, EN ISO 15494 Test methods and requirements: ISO 9393 Installation criteria: DVS 2202-1, DVS 2207-11, DVS 2208-1, UNI 11318
Valve material	Body: PP-H Bonnet and handwheel: PP-GR
Diaphragm material	EPDM, FPM, PTFE (on request NBR)
Control options	Manual control; pneumatic actuator



1 Handwheel in (PP-GR) with high mechanical strength and **ergonomic grip for optimum manageability**

2 Optical position indicator supplied as standard

3 Full protection bonnet in PP-GR, no protruding bolts, no areas where impurities can accumulate.

Internal circular and symmetrical diaphragm sealing area

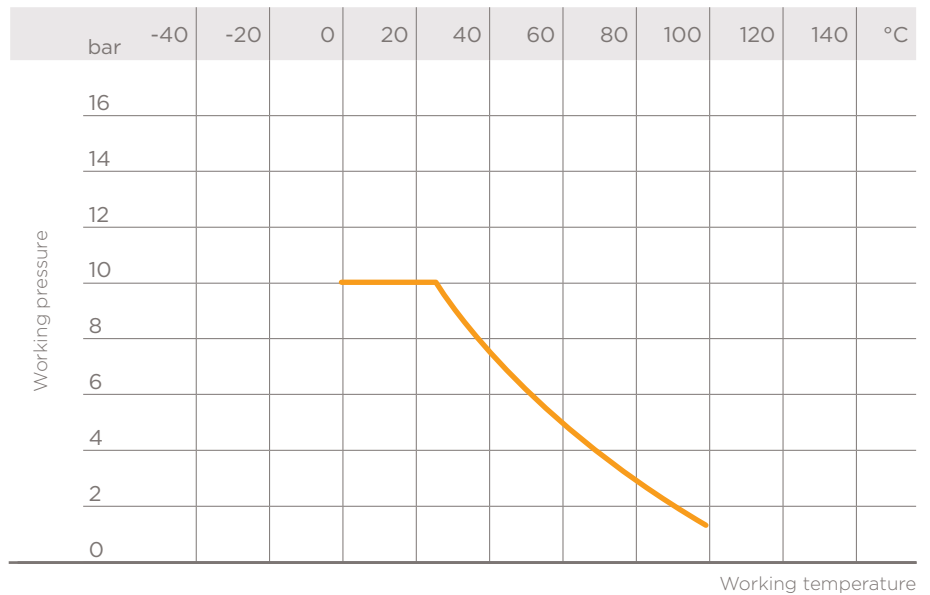
4 Diaphragm seal available in EPDM, FPM, PTFE (NBR on request) and easy to replace

5 Threaded metal inserts for anchoring the valve

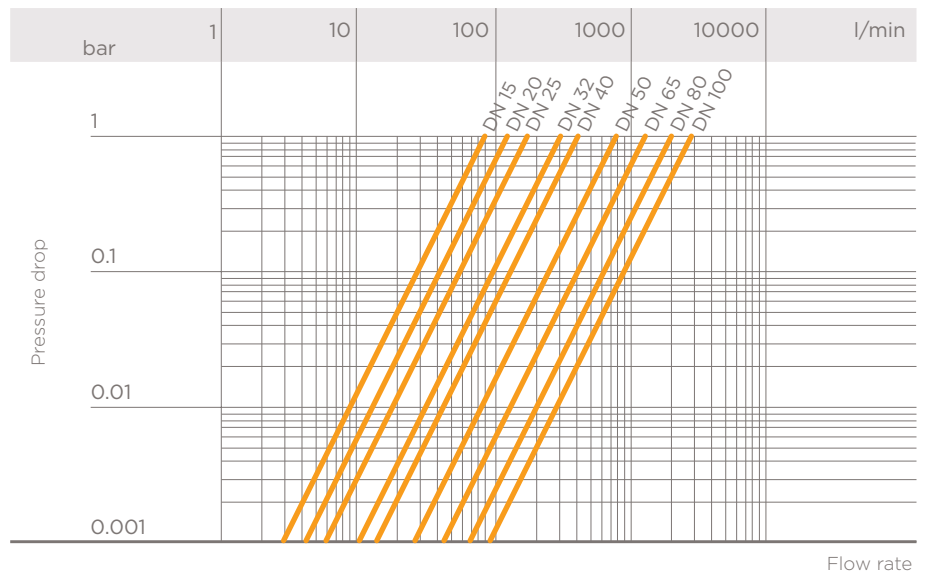
TECHNICAL DATA

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_v100 FLOW COEFFICIENT

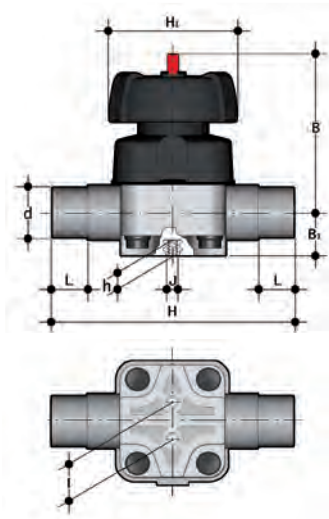
The K_v100 flow coefficient is the Q flow rate of litres per minute of water at a temperature of 20°C that will generate Δp= 1 bar pressure drop at a certain valve position.

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

DN	15	20	25	32	40	50	65	80	100
K _v 100 l/min	93	136	175	300	416	766	1300	2000	2700

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DIMENSIONS

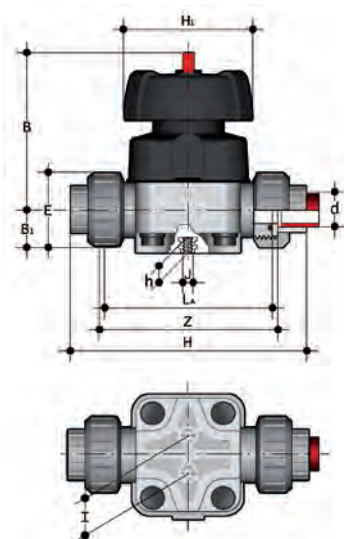


VMDM

Diaphragm valve with male ends for socket welding, metric series

d	DN	PN	B	B ₁	H	h	H ₁	l	J	L	g	EPDM Code	FPM Code	PTFE Code
20	15	10	95	26	124	12	90	25	M6	16	600	VMDM020E	VMDM020F	VMDM020P
25	20	10	95	26	144	12	90	25	M6	19	600	VMDM025E	VMDM025F	VMDM025P
32	25	10	95	26	154	12	90	25	M6	22	600	VMDM032E	VMDM032F	VMDM032P
40	32	10	126	40	174	18	115	45	M8	26	1200	VMDM040E	VMDM040F	VMDM040P
50	40	10	126	40	194	18	115	45	M8	31	1200	VMDM050E	VMDM050F	VMDM050P
63	50	10	148	40	224	18	140	45	M8	38	1900	VMDM063E	VMDM063F	VMDM063P
75	65	*10	225	55	284	23	200	100	M12	44	6000	VMDM075E	VMDM075F	VMDM075P
90	80	*10	225	55	300	23	200	100	M12	51	6000	VMDM090E	VMDM090F	VMDM090P
110	100	*10	295	69	340	23	250	120	M12	61	9000	VMDM110E	VMDM110F	VMDM110P

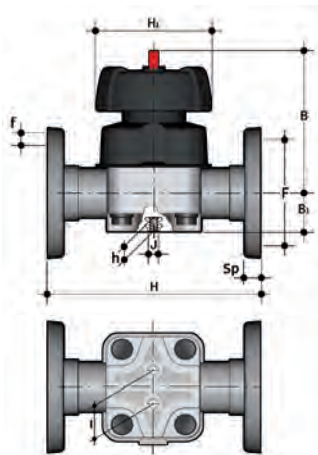
*PTFE PN6



VMUIM

Diaphragm valve with female union ends for socket welding, metric series

d	DN	PN	B	B ₁	E	H	h	H ₁	l	J	L _A	Z	g	EPDM Code	FPM Code	PTFE Code
20	15	10	95	26	52	158	12	90	25	M6	116	130	710	VMUIM020E	VMUIM020F	VMUIM020P
25	20	10	95	26	62	162	12	90	25	M6	116	130	750	VMUIM025E	VMUIM025F	VMUIM025P
32	25	10	95	26	70	166	12	90	25	M6	116	130	780	VMUIM032E	VMUIM032F	VMUIM032P
40	32	10	126	40	82	210	16	115	45	M8	154	170	1420	VMUIM040E	VMUIM040F	VMUIM040P
50	40	10	126	40	91	216	16	115	45	M8	154	170	1460	VMUIM050E	VMUIM050F	VMUIM050P
63	50	10	148	40	106	254	16	140	45	M8	184	200	2380	VMUIM063E	VMUIM063F	VMUIM063P

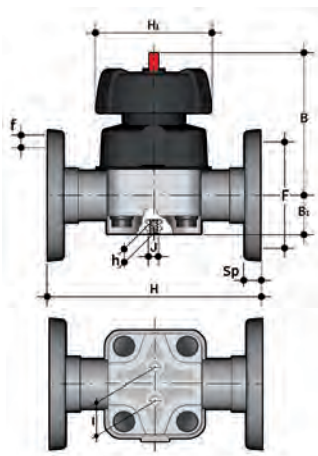


VMOM

Diaphragm valve with fixed flanges, drilled EN/ISO/DIN PN10/16.
Face to face according to EN 558-1

d	DN	PN	B	B ₁	F	f	H	H ₁	l	J	Sp	U	g	EPDM Code	FPM Code	PTFE Code
20	15	10	95	26	65	14	130	90	25	M6	11	4	740	VMOM020E	VMOM020F	VMOM020P
25	20	10	95	26	75	14	150	90	25	M6	14	4	800	VMOM025E	VMOM025F	VMOM025P
32	25	10	95	26	85	14	160	90	25	M6	14	4	890	VMOM032E	VMOM032F	VMOM032P
40	32	10	126	40	100	18	180	115	45	M8	14	4	1660	VMOM040E	VMOM040F	VMOM040P
50	40	10	126	40	110	18	200	115	45	M8	16	4	1775	VMOM050E	VMOM050F	VMOM050P
63	50	10	148	40	125	18	230	140	45	M8	16	4	2670	VMOM063E	VMOM063F	VMOM063P
75	65	*10	225	55	145	18	290	200	100	M12	21	4	7100	VMOM075E	VMOM075F	VMOM075P
90	80	*10	225	55	160	18	310	200	100	M12	22	8	7500	VMOM090E	VMOM090F	VMOM090P
110	100	*10	295	69	180	18	350	250	120	M12	23	8	11350	VMOM110E	VMOM110F	VMOM110P

*PTFE PN6



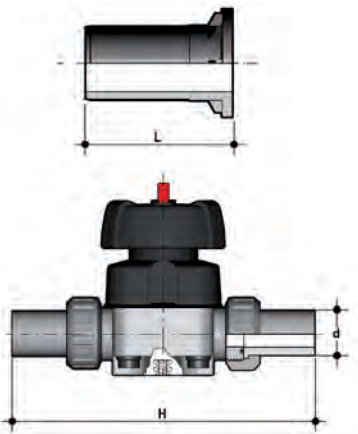
VMOAM

Diaphragm valve with fixed flanges, drilled ANSI B16.5 cl.150 #FF

Size	PN	B	B ₁	F	f	H	H ₁	l	J	Sp	U	g	EPDM Code	FPM Code	PTFE Code
1/2"	10	95	26	60.3	16	130	90	25	M6	11	4	740	VMOAM012E	VMOAM012F	VMOAM012P
3/4"	10	95	26	69.9	16	150	90	25	M6	14	4	800	VMOAM034E	VMOAM034F	VMOAM034P
1"	10	95	26	79.4	16	160	90	25	M6	14	4	890	VMOAM100E	VMOAM100F	VMOAM100P
1 1/4"	10	126	40	88.9	16	180	115	45	M8	14	4	1660	VMOAM114E	VMOAM114F	VMOAM114P
1 1/2"	10	126	40	98.4	16	200	115	45	M8	16	4	1775	VMOAM112E	VMOAM112F	VMOAM112P
2"	10	148	40	120.7	19	230	140	45	M8	16	4	2670	VMOAM200E	VMOAM200F	VMOAM200P
2 1/2"	*10	225	55	139.7	19	290	200	100	M12	21	4	7100	VMOM075E	VMOM075F	VMOM075P
3"	*10	225	55	152.4	19	310	200	100	M12	22	4	7500	VMOAM300E	VMOAM300F	VMOAM300P
4"	*10	295	69	190.5	19	350	250	120	M12	23	8	11350	VMOAM110E	VMOAM110F	VMOAM110P

*PTFE PN6

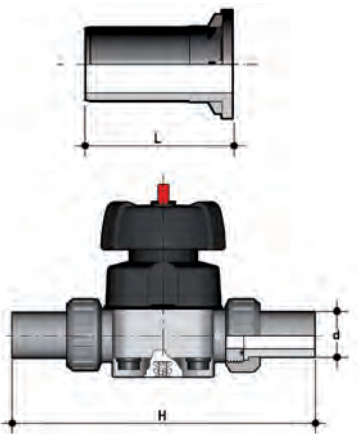
ACCESSORIES



CVDEBIM

Long spigot end connector in PE100 for butt welding or electrofusion PN10

d	DN	PN	L	H	SDR	Code
20	15	10	95	298	11	CVDEBIM11020
25	20	10	95	298	11	CVDEBIM11025
32	25	10	95	314	11	CVDEBIM11032
40	32	10	95	330	11	CVDEBIM11040
52	40	10	95	350	11	CVDEBIM11050
63	50	10	95	380	11	CVDEBIM11063



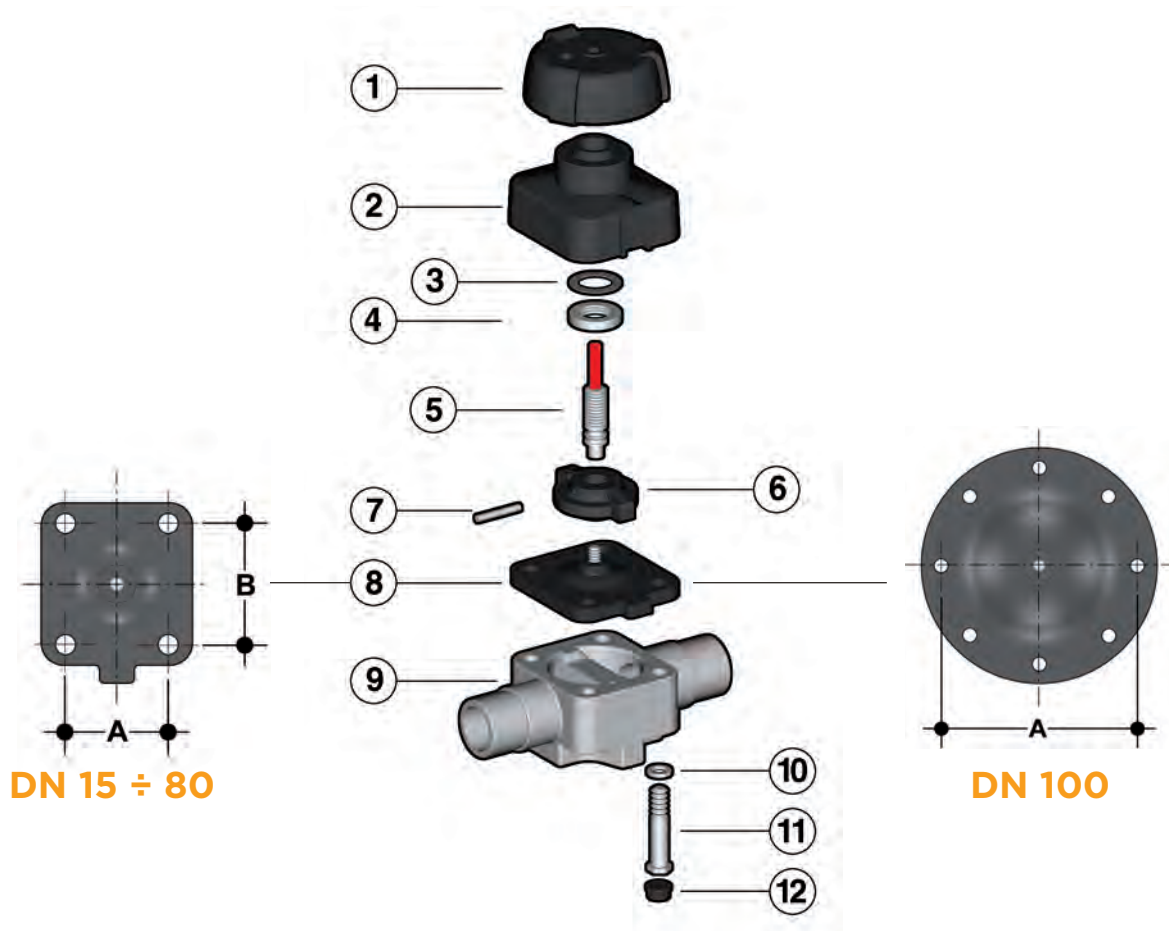
CVDMBIM

Long spigot PP-H end connector for butt welding PN 10

d	DN	PN	L	H	SDR	Code CVDMBIM
20	15	10	95	298	11	CVDMBIM11020
25	20	10	95	298	11	CVDMBIM11025
32	25	10	95	314	11	CVDMBIM11032
40	32	10	95	330	11	CVDMBIM11040
52	40	10	95	350	11	CVDMBIM11050
63	50	10	95	380	11	CVDMBIM11063

COMPONENTS

EXPLODED VIEW DN 15÷50



DN	15	20	25	32	40	50	65	80	100
A	46	46	46	65	65	78	114	114	193
B	54	54	54	70	70	82	127	127	-

1 · Handwheel (PP-GR - 1)

2 · Bonnet (PP-GR - 1)

3 · Anti-friction disk
(POM - 1)

4 · Lock nut
(Brass - 1)

5 · Indicator stem
(STAINLESS steel - 1)

6 · Shutter (PBT - 1)

7 · Pin (STAINLESS steel - 1)

8 · Diaphragm seal
(EPDM, FPM, PTFE - 1)

9 · Body (PP-H - 1)

10 · Washer (Zinc plated steel - 4)

11 · Hexagonal screw
(Zinc plated steel - 4)

12 · Protection plug (PE - 4)

The material of the component and the quantity supplied are indicated between brackets

DISASSEMBLY

If the valve is already installed on the line, shut-off the fluid flow upstream and make sure that there is no pressure. If necessary, fully drain the system downstream. If there are hazardous fluids present, drain and ventilate the valve.

The diaphragm constitutes the part of the valve more subject to mechanical and chemical stress from the fluid. Consequently,

the condition of the diaphragm must be checked at regular intervals in accordance with the service conditions. To do this, it must be disconnected from the handwheel and from the valve body.

- 1) Unscrew the four screws (11) and separate the body (9) from the internal components.
- 2) Unscrew the diaphragm (8) from the shutter (6). Rotate the handwheel clockwise to free the stem-shutter unit.
- 3) If necessary, clean or replace the diaphragm (8).
- 4) If necessary, lubricate the stem (5).

ASSEMBLY

- 1) Insert the handwheel in the bonnet (2)
- 2) The anti-friction disk (3) must be positioned on the handwheel sleeve over the bonnet. Fully tighten the lock nut (4). To ensure a perfect seal, use a liquid sealing compound such as Loctite.
- 3) Subsequently, the shutter (6) must be removed from the stem (5) and fixed using the pin. Warning: the pin must be well secured in the seating hole in the stem.
- 4) The stem (5) must now be screwed to the threaded handwheel sleeve. Warning: left-hand thread. The shutter (6) must be oriented such that the guide pins correspond with the grooves in the bonnet.
- 5) The shutter (5) must be fully tightened on the bonnet by rotating the handwheel. Then, the diaphragm seal (8) must be screwed fully into the bonnet and then rotated in the opposite direction until the holes in the diaphragm coincides with the holes in the bonnet.
- 6) Place the bonnet with the diaphragm in the correct position in the body (9). Fix the protection plugs (12) using the hexagonal screws and washers (10). Tighten evenly (cross-like).

INSTALLATION

The valve can be installed in any position and in any direction.

When starting up the plant, make sure that there are no leaks from between the diaphragm and the valve body. If necessary, tighten the fastening screws (11).



CM DN 12÷15
PP-H

Compact diaphragm valve

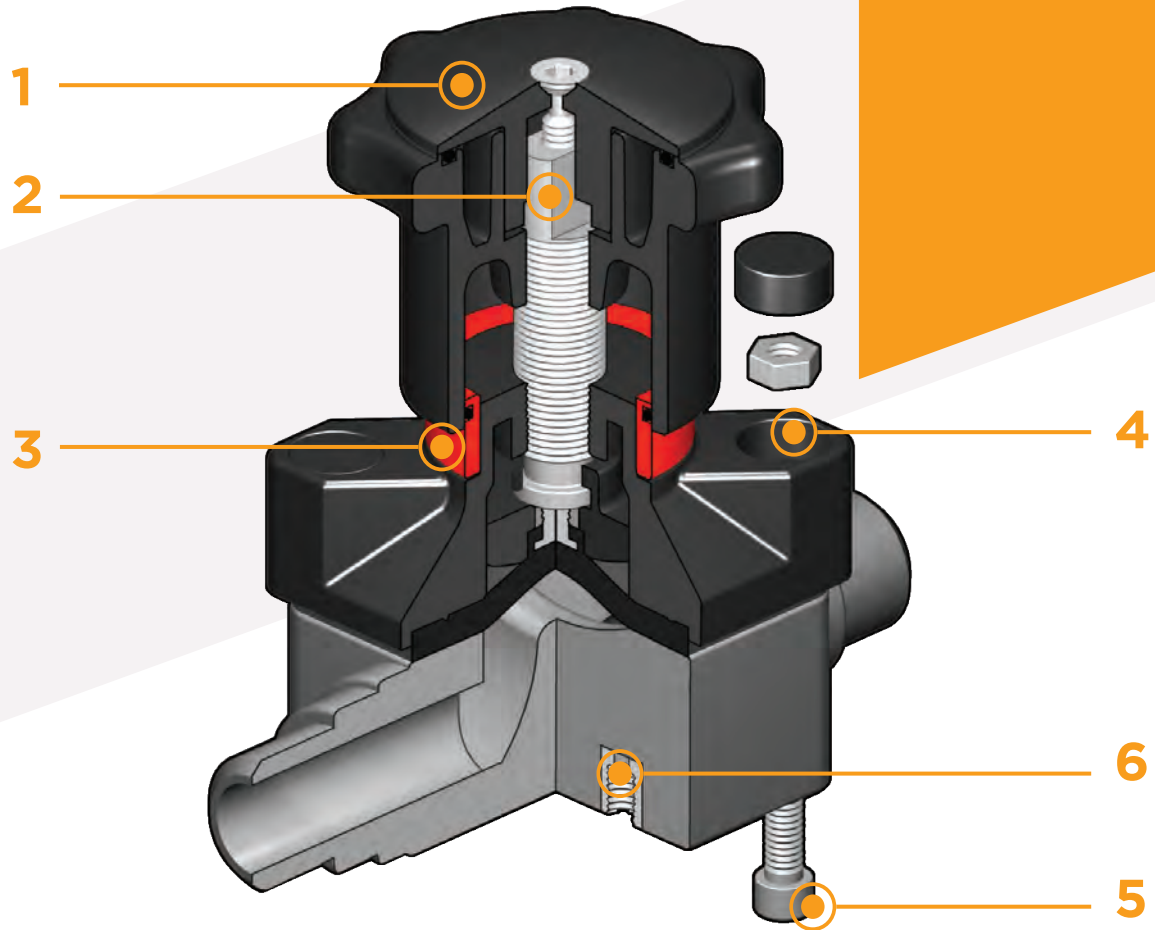
CM DN 12÷15

The CM is a manually operated diaphragm valve of reduced dimensions and particularly compact structure, ideal for use in confined spaces.

COMPACT DIAPHRAGM VALVE

- Connection system for weld and threaded joints
- Extremely compact construction
- **Internal operating components in metal totally isolated from the conveyed fluid**
- Valve stem in STAINLESS steel
- **Compressor with floating diaphragm support**
- Easy to replace diaphragm seal
- Corrosion-proof internal components
- **Innovative CDSA** (Circular Diaphragm Sealing Angle) system offering the following advantages:
 - uniform distribution of shutter pressure on the diaphragm seal
 - 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	
Construction	Compact single wear diaphragm valve
Size range	DN 12÷15
Nominal pressure	PN 6 with water at 20° C
Temperature range	0 °C ÷ 100 °C
Coupling standards	Welding: EN ISO 15494. Can be coupled to pipes according to EN ISO 15494 Thread: ISO 228-1, DIN 2999 Flanging system: ISO 7005-1, EN 1092-1, EN ISO 15494, EN 558-1, DIN 2501, ANSI B16.5 cI.150
Reference standards	Construction criteria: EN ISO 16138, EN ISO 15494 Test methods and requirements: ISO 9393 Installation criteria: DVS 2202-1, DVS 2207-11, DVS 2208-1, UNI 11318
Valve material	Body: PP-H Bonnet and handwheel: PA-GR
Diaphragm material	EPDM, FPM, PTFE
Control options	Manual control; pneumatic actuator



- 1 Handwheel in PA-GR, completely sealed**, high mechanical strength with ergonomic grip for optimum manageability
- 2 Integrated adjustable torque limiter** designed to prevent excessive compression of the diaphragm and always guarantee a minimum fluid flow

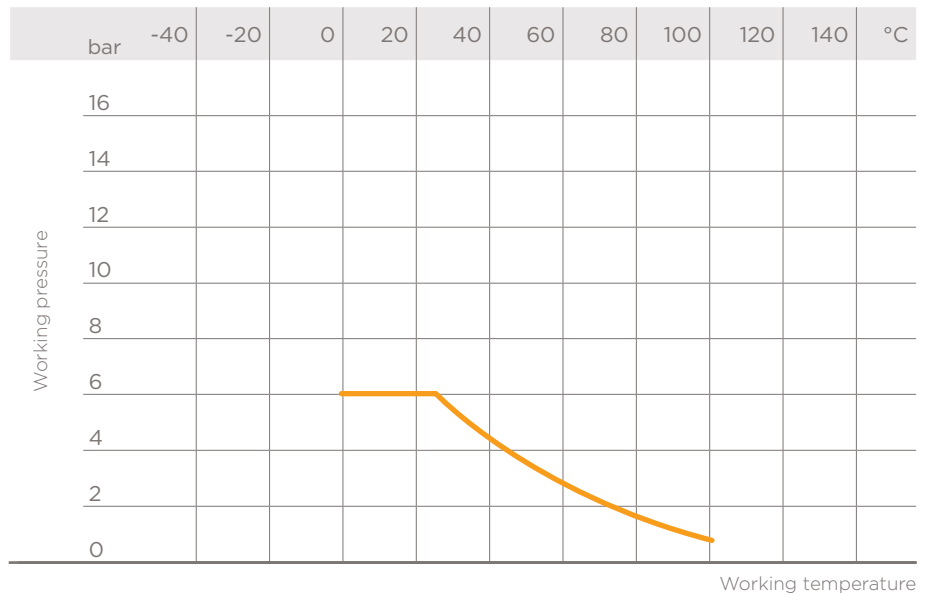
- 3 Optical position indicator** supplied as standard
- 4 Bonnet in PA-GR with STAINLESS steel nuts** fully protected by plastic plugs to eliminate zones where impurities may accumulate. Internal circular and symmetrical diaphragm sealing area

- 5 STAINLESS steel bolts**, can also be inserted from above
- 6 Threaded metal inserts** for anchoring the valve

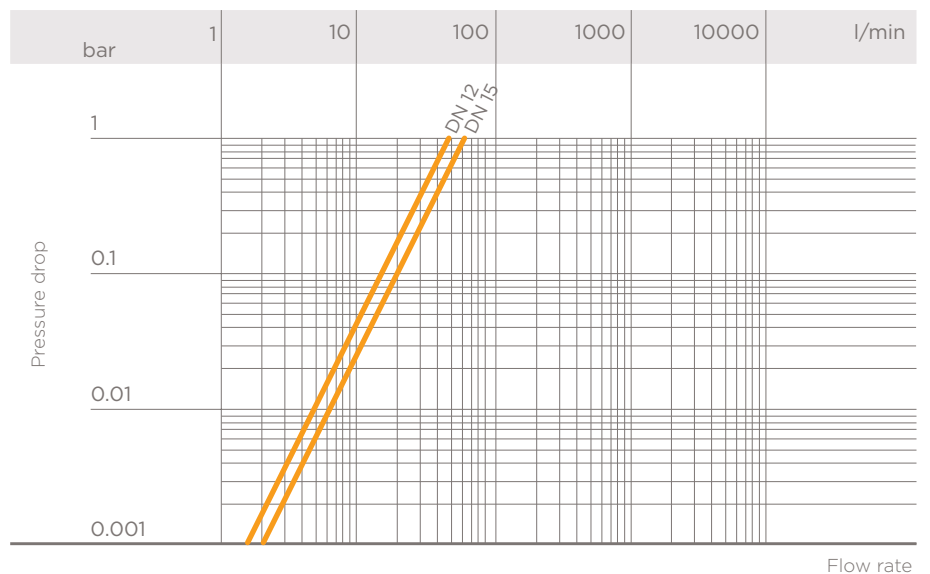
TECHNICAL DATA

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_v100 FLOW COEFFICIENT

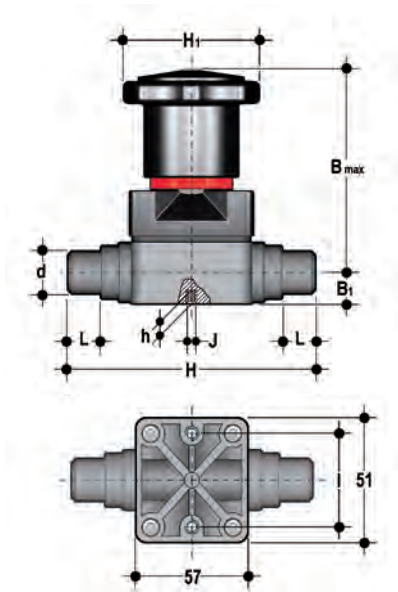
The K_v100 flow coefficient is the Q flow rate of litres per minute of water at a temperature of 20°C that will generate $\Delta p = 1$ bar pressure drop at a certain valve position.

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

DN	12	15
K _v 100 l/min	47	60

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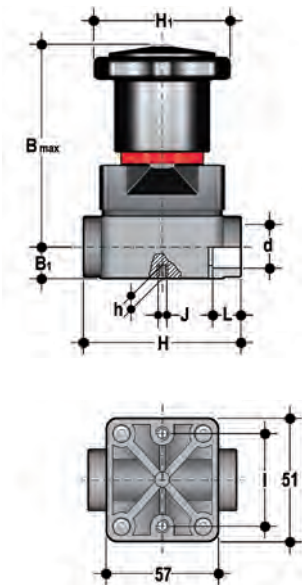
DIMENSIONS



CMDM

Compact diaphragm valve with male ends for socket welding, metric series

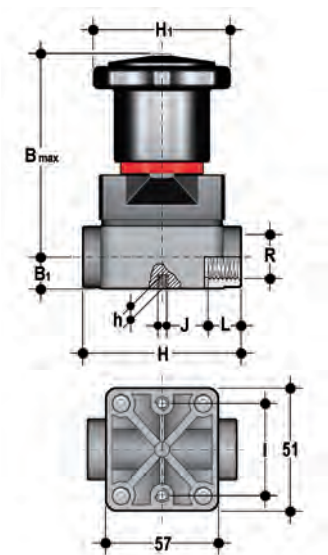
d	DN	PN	B max	B ₁	H	h	H ₁	I	J	L	g	EPDM Code	FPM Code	PTFE Code
20	15	6	86	15	124	8	59	35	M5	17	270	CMDM020E	CMDM020F	CMDM020P



CMIM

Compact diaphragm valve with female ends for socket welding, metric series

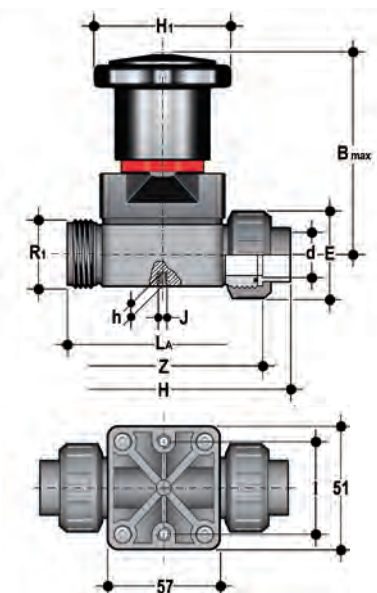
d	DN	PN	B max	B ₁	H	h	H ₁	I	J	L	g	EPDM Code	FPM Code	PTFE Code
16	12	6	86	15	75	8	59	35	M5	14	240	CMIM016E	CMIM016F	CMIM016P
20	15	6	86	15	75	8	59	35	M5	16	240	CMIM020E	CMIM020F	CMIM020P



CMFM

Compact diaphragm valve with BSP threaded female ends

R	DN	PN	B max	B ₁	H	h	H ₁	I	J	L	g	EPDM Code	FPM Code	PTFE Code
3/8"	12	6	86	15	75	8	59	35	M5	12	240	CMFM038E	CMFM038F	CMFM038P
1/2"	15	6	86	15	75	8	59	35	M5	15	240	CMFM012E	CMFM012F	CMFM012P



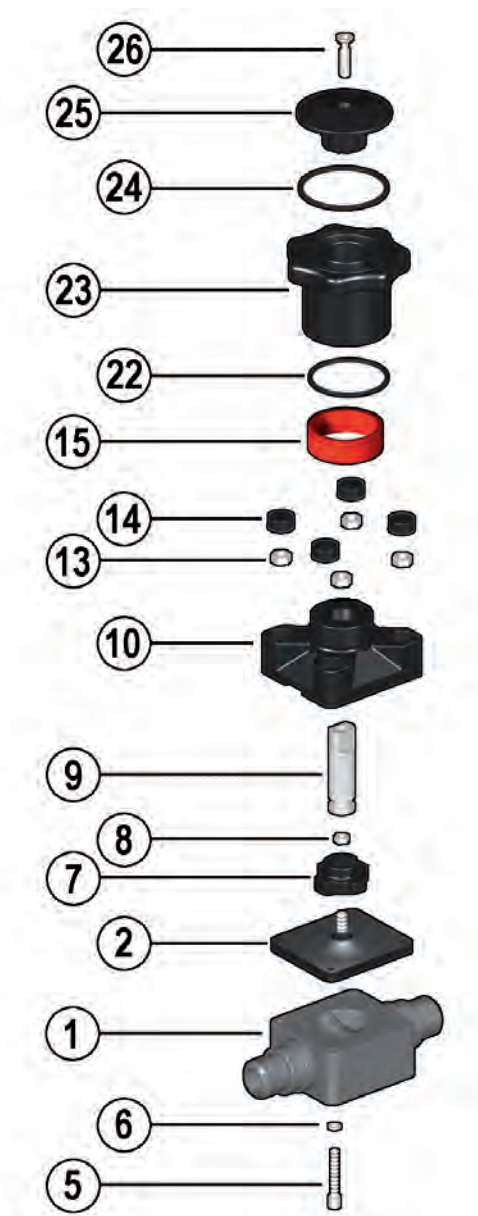
CMUIM

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

d	DN	PN	B max	E	H	h	H ₁	I	J	L _A	R ₁	Z	g	EPDM Code	FPM Code	PTFE Code
20	15	6	86	47.5	130	8	59	35	M5	90	1"	98	255	CMUIM020E	CMUIM020F	CMUIM020P

COMPONENTS

EXPLODED VIEW



1 • Body (PP-H - 1)

2 • Diaphragm seal
(EPDM, FPM, PTFE - 1)

5 • Fastening screw
(STAINLESS steel - 4)

6 • Washer (STAINLESS steel - 4)

7 • Shutter (PA-GR - 1)

8 • Nut (STAINLESS steel - 1)

9 • Stem (STAINLESS steel - 1)

10 • Bonnet (PA-GR - 1)

13 • Nut (STAINLESS steel - 4)

14 • Protection plug
(POM - 4)

15 • Optical position indicator
(PVDF - 1)

22 • O-Ring (NBR - 1)

23 • Handwheel (PA-GR - 1)

24 • O-Ring (NBR - 1)

25 • Bonnet (PA-GR - 1)

26 • Fastening screw
(STAINLESS steel - 1)

The material of the component and the quantity supplied are indicated between brackets

DISASSEMBLY

If the valve is already installed on the line, shut-off the fluid flow upstream and make sure that there is no pressure. If necessary, fully drain the system downstream. If there are hazardous fluids present, drain and ventilate the valve.

The diaphragm constitutes the part of the valve more subject to mechanical and chemical stress from the fluid. Consequently, the condition of the diaphragm must be checked at regular intervals in accordance with the service conditions. To do this, it must be disconnected from the handwheel and from the valve body.

- 1) Unscrew the four screws (5) and separate the body (1) from the operating mechanism.
- 2) Unscrew the diaphragm (2) from the shutter (7).
- 3) If necessary, clean or replace the diaphragm (2).
- 4) If necessary, lubricate the stem (9).

ASSEMBLY

- 1) The diaphragm seal (2) must be screwed fully into the compressor (7) in a clockwise direction. If necessary, unscrew slightly in an anticlockwise direction to centre the screw holes.
- 2) Fix the bonnet (10) to the body (1) using screws (5). Tighten the screws, making sure not to over-compress the diaphragm.

INSTALLATION

The valve can be installed in any position and in any direction.

When starting up the plant, make sure that there are no leaks from between the diaphragm and the valve body. If necessary, tighten the fastening screws (5).

SETTING

The valve is factory set to guarantee a permanent seal without requiring any further intervention. To adjust the setting, rotate the handwheel to the required minimum opening position, remove screw (26) using a hex key.

Remove the bonnet (25) and rotate the handwheel (23) clockwise until a resistance to the rotation is felt.

If necessary, replace the O-Ring (24) in its seating and re-insert the bonnet (25) in the handwheel: the double D connection must fit over the stem (9) and, with a slight twisting action, align the ribs in the bonnet with those in the handwheel.

Tighten screw (26) to a sufficiently high torque value.

Each turn of the handwheel corresponds to 1.75mm travel.

