



# VM/CP DN 80÷100

PVC-U/PVC-C/PP-H/PVDF

PNEUMATICALLY ACTUATED DIAPHRAGM VALVE



# VM/CP DN 80÷100

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

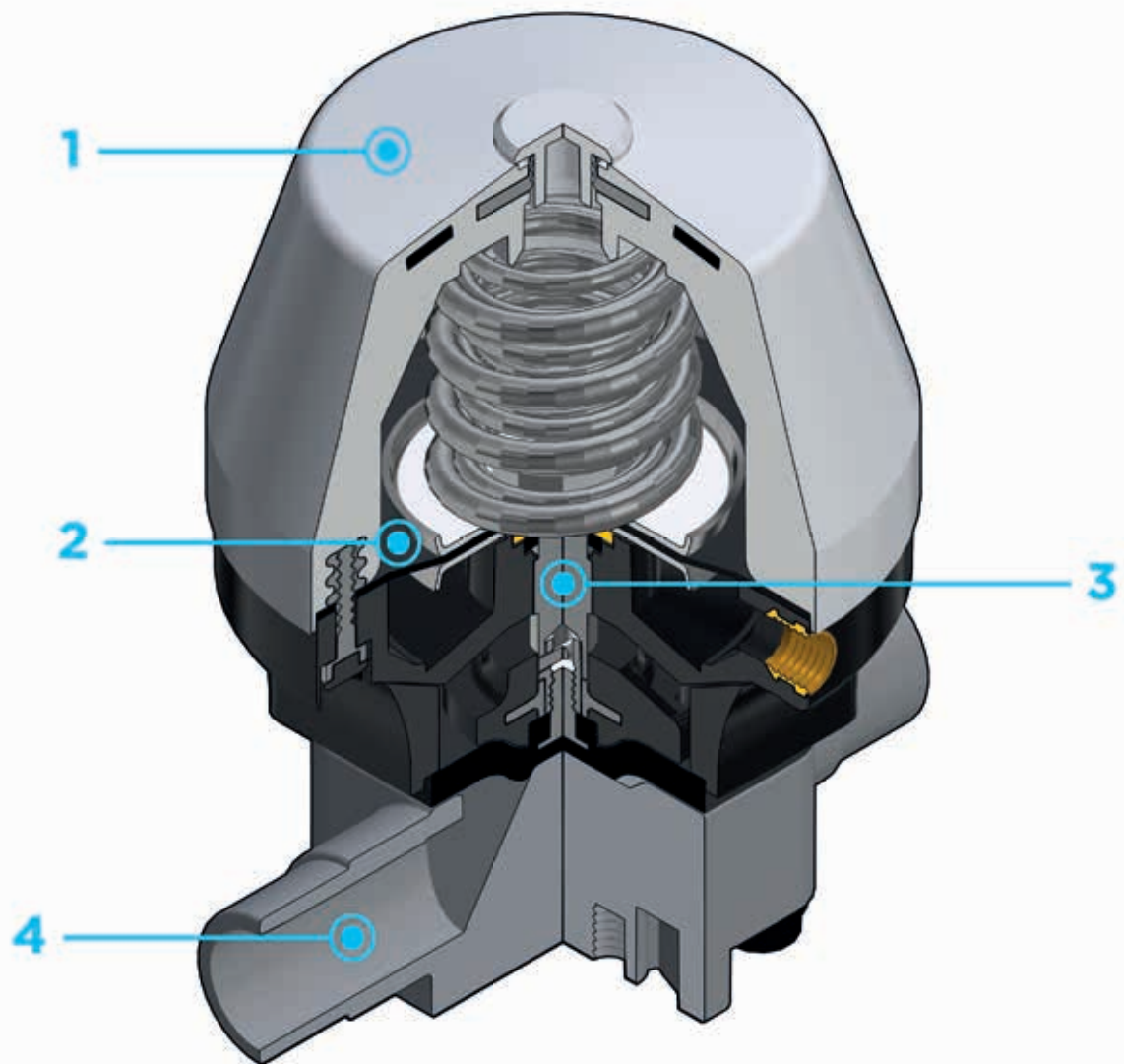
## PNEUMATICALLY ACTUATED DIAPHRAGM VALVE

- Connection system using solvent welded 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 **PP-GR diaphragm actuator** suited to be used in severe environmental and chemically aggressive conditions
- Bonnet fastening screws in STAINLESS steel protected against the external environment by PE plugs
- **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 of joints between the body and flanges, greatly reduces mechanical stress and increases system performance.

Technical specifications - VM	
<b>Construction</b>	Single wear diaphragm valve
<b>Size range</b>	DN 80 ÷ 100
<b>Nominal pressure</b>	<b>EPDM/FKM:</b> PN6 with water at 20 °C <b>PTFE:</b> PN10 with water at 20 °C
<b>Temperature range</b>	<b>PVC-U:</b> 0 °C ÷ 60 °C <b>PVC-C:</b> 0 °C ÷ 100 °C <b>PP-H:</b> 0 °C ÷ 100 °C <b>PVDF:</b> -20 °C ÷ 120 °C
<b>PVC-U coupling standards</b>	<b>Solvent welding:</b> EN ISO 1452, EN ISO 15493, BS 4346-1, DIN 8063, NF T54-028, ASTM D 2467, JIS K 6743. Can be coupled to pipes according to EN ISO 1452, EN ISO 15493. <b>Flanging system:</b> ISO 7005-1, EN ISO 1452, EN ISO 15493, EN 558-1, DIN 2501, ANSI B.16.5 cl. 150.
<b>PVC-C coupling standards</b>	<b>Solvent welding:</b> EN ISO 15493, ASTM F 439. Can be coupled to pipes according to EN ISO 15493. <b>Flanging system:</b> ISO 7005-1, EN ISO 15493, EN 558-1, DIN 2501, ANSI B.16.5 cl. 150.
<b>PP-H coupling standards</b>	<b>Welding:</b> EN ISO 15494. Can be coupled to pipes according to EN ISO 15494. <b>Flanging system:</b> ISO 7005-1, EN 1092-1, EN ISO 15494, EN 558-1, DIN 2501, ANSI B.16.5 cl. 150.
<b>PVDF coupling standards</b>	<b>Welding:</b> EN ISO 10931. Can be coupled to pipes according to EN ISO 10931. <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>PVC-U construction criteria:</b> EN ISO 16138, EN ISO 1452, EN ISO 15493 <b>PVC-C construction criteria:</b> EN ISO 16138, EN ISO 15493 <b>PP-H construction criteria:</b> EN ISO 16138, EN ISO 15494 <b>PVDF construction criteria:</b> EN ISO 16138, EN ISO 10931 <b>Test methods and requirements:</b> ISO 9393 <b>PVC-U/PVC-C installation criteria:</b> DVS 2204, DVS 2221, UNI 11242 <b>PP-H installation criteria:</b> DVS 2202-1, DVS 2207-11, DVS 2208-1, UNI 11318 <b>PVDF installation criteria:</b> DVS 2201-1, DVS 2207-15, DVS 2208-1
<b>Valve material</b>	PVC-U / PVC-C / PP-H / PVDF
<b>Seal material</b>	EPDM, FKM, PTFE (on request NBR)
<b>Control options</b>	Pneumatic actuator

The PP-GR diaphragm actuator is characterised by significant construction strength and makes VM the ideal choice for heavy-duty and chemically aggressive applications.

Technical specifications - Pneumatic actuator	
<b>Construction</b>	Single-acting (NC-NO) and double-acting (DA) pneumatic diaphragm actuator
<b>Actuator material</b>	<b>Body and bonnet:</b> PP-GR
<b>Control air pressure</b>	<b>Minimum:</b> according to working pressure and actuator function (see graphs) <b>Maximum:</b> NC: 6 bar - NO: 5 bar - DA: 5 bar
<b>Power supply</b>	Dry or lubricated filtered compressed air. If using other fluids, contact the FIP service centre
<b>Control fluid temperature</b>	Max 40 °C
<b>Temperature range</b>	-20 °C ÷ 50 °C
<b>Accessories</b>	<ul style="list-style-type: none"> <li>• Optical position indicator</li> <li>• Stroke limiter</li> <li>• Stroke limiter with position indicator</li> <li>• Stroke limiter with position indicator and emergency manual override</li> <li>• Limit switch boxes</li> <li>• Electro-pneumatic positioner</li> <li>• Pilot solenoid valves 3-5/2 ways for direct or manifold mounting</li> </ul>



**1** **PP-GR diaphragm actuator** marked by **high construction strength**. The upper part is reinforced in steel in the Normally closed configuration. **The absence of metal parts exposed to the external environment** prevents any risk of corrosion.

**2** The special **control diaphragm** reinforced with textile fibres allows

for up to 10 million operating cycles without showing any signs of wear.

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

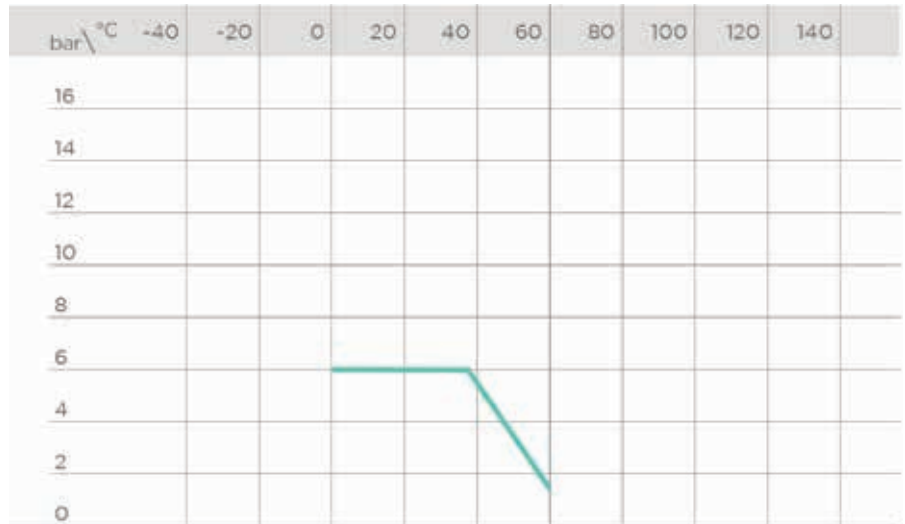
**4** **New valve body internal design**. Substantially higher flow coefficient and lower pressure drops. Improved adjustment curve for efficient and precise flow regulation.

# TECHNICAL DATA

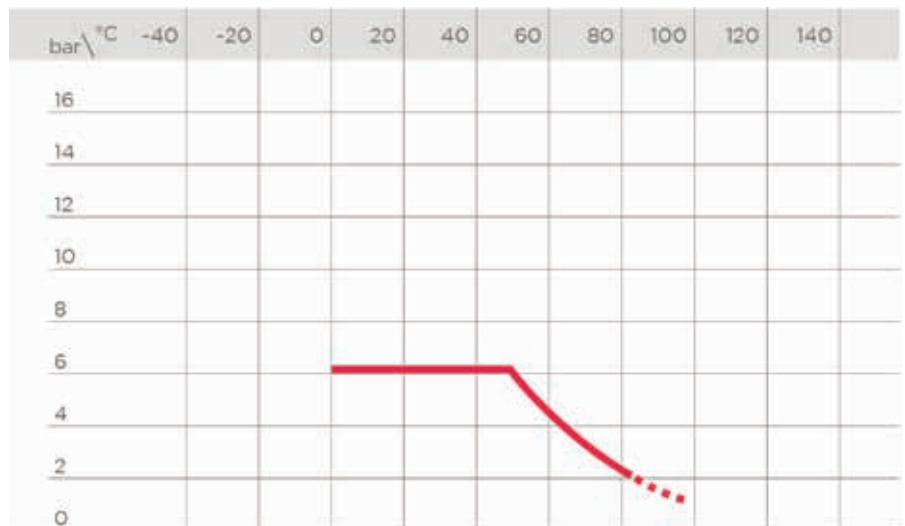
## PRESSURE VARIATION ACCORDING TO TEMPERATURE

### PVC-U BODY

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).



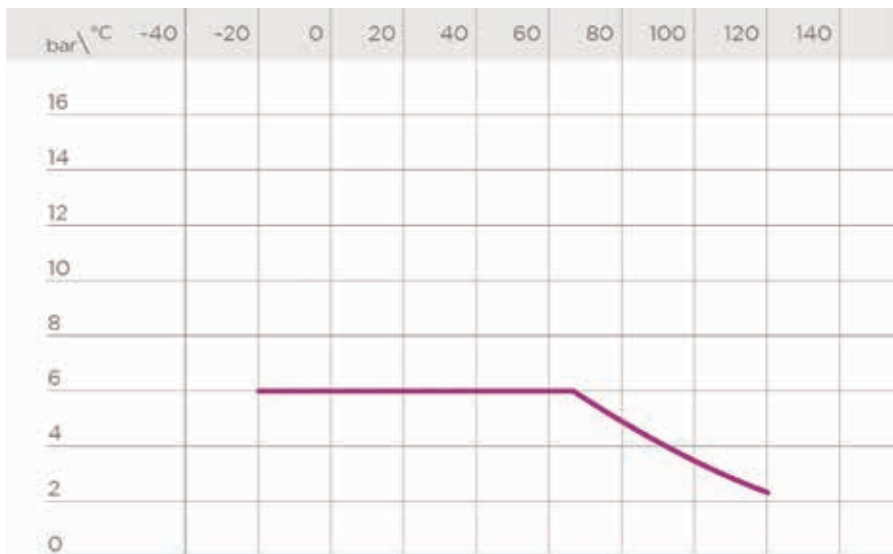
### PVC-C BODY



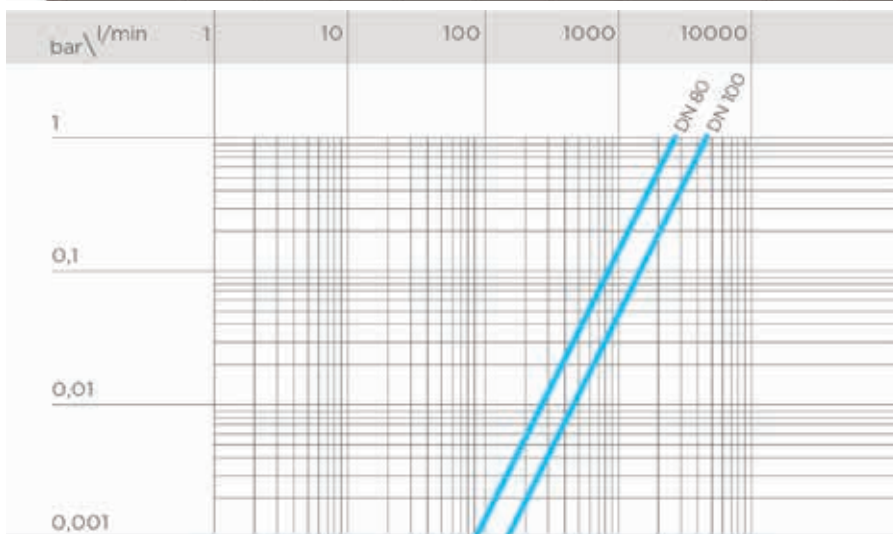
### PP-H BODY



## PVDF BODY



## 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 for the monolythic version valve completely open.

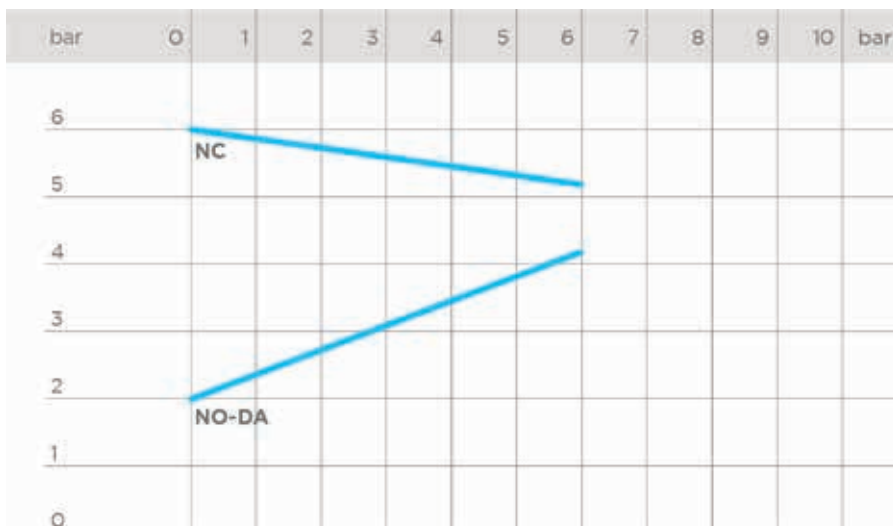
DN	80	100
Kv100 l/min	2910	4620

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

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

X axis: Working pressure

Y axis: Control pressure



# PNEUMATIC ACTUATOR DATA

## FUNCTIONAL CHARACTERISTICS

Function type	double-acting	Normally closed (NC)	Normally Open (NO)
Valve opening	air	air	spring
Valve closing	air	spring	air

## ACTUATOR CAPACITY

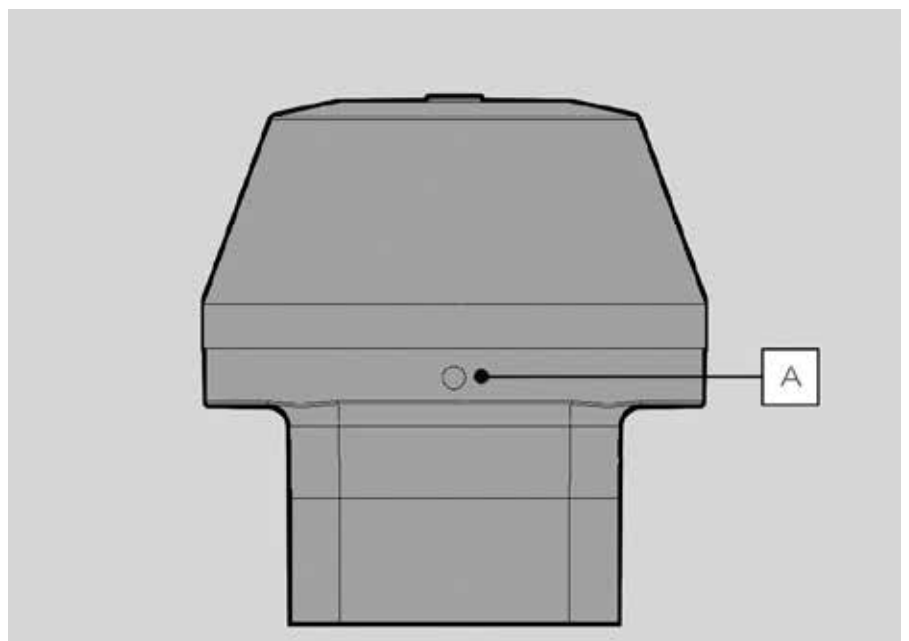
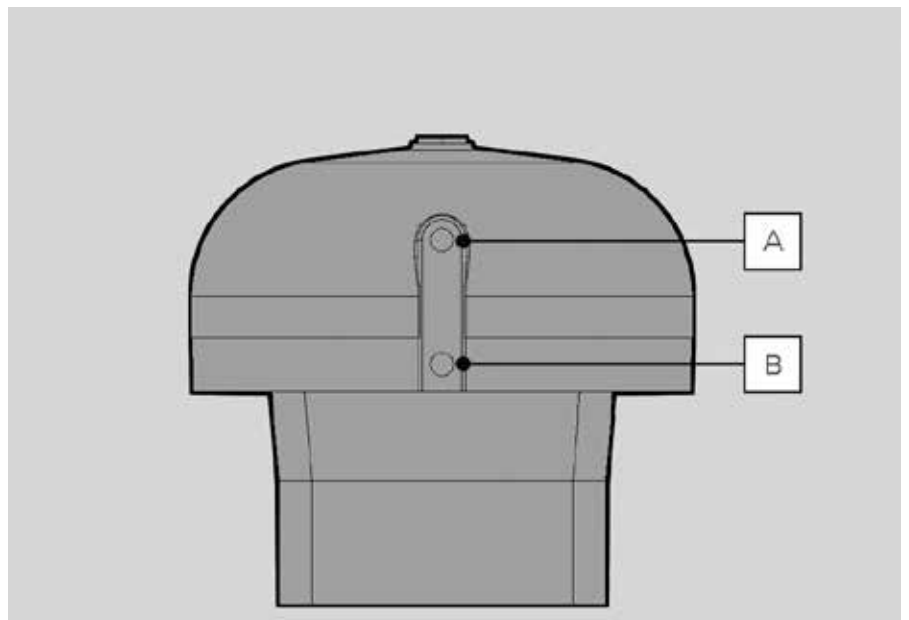
L: litre, equivalent to  $10^{-3} \text{ m}^3$

Air consumption in normal litres (or normal cubic metres) per operating cycle can be calculated by correcting according to operating conditions such as control air pressure.

DN	80	100
NC	2.1 L	2.5 L
NO	2.2 L	2.5 L
DA	4.3 L	5 L

## COMPRESSED AIR CONNECTIONS

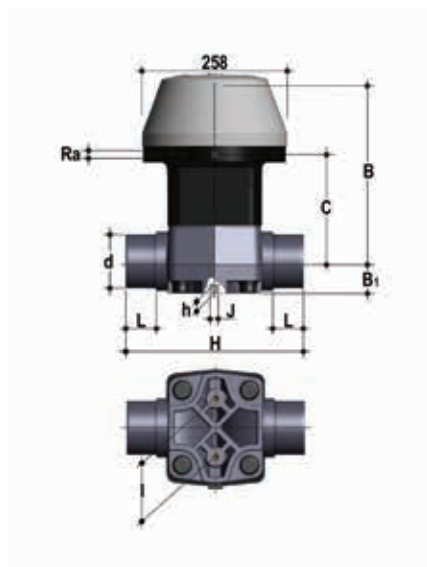
Function type	Double-acting (DA)	Normally closed (NC)	Normally Open (NO)
Valve opening	Inlet A	Inlet A	-
Valve closing	Inlet B	-	Inlet B





# DIMENSIONS

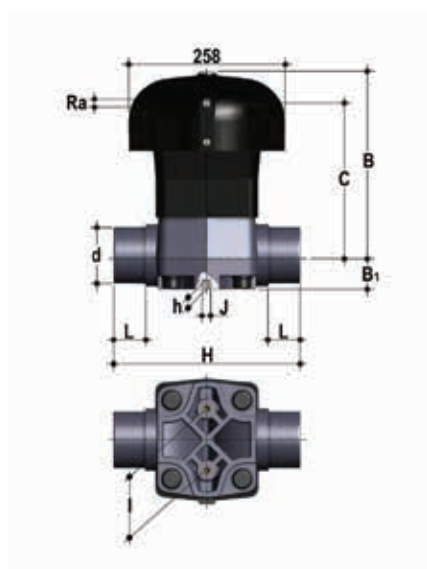
## VM/CP DN 80÷100 PVC-U



### VMDV/CP NC

Diaphragm valve with male ends for solvent welding, pneumatically actuated metric series, Normally Closed function

d	DN	PN	B	B <sub>1</sub>	C	H	h	l	J	L	R <sub>o</sub>	g	EPDM Code	FKM Code	PTFE Code
90	80	6	317	64	179	300	23	100	M12	51	1/4"	15500	VMDVNC090E	VMDVNC090F	VMDVNC090P
110	100	6	347	72	260	340	23	120	M12	61	1/4"	25500	VMDVNC110E	VMDVNC110F	VMDVNC110P



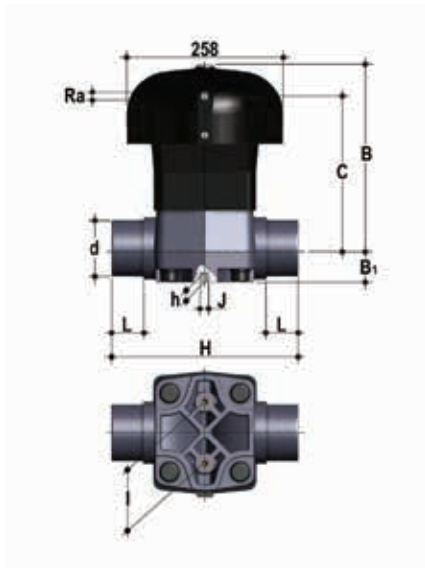
### VMDV/CP NO

Diaphragm valve with male ends for solvent welding, pneumatically actuated metric series, Normally Open function

d	DN	PN	B	B <sub>1</sub>	C	H	h	l	J	L	R <sub>o</sub>	g	EPDM Code	FKM Code	PTFE Code
90	80	6	297	64	244	300	23	100	M12	51	1/4"	13000	VMDVNO090E	VMDVNO090F	VMDVNO090P
110	100	6	322	72	260	340	23	120	M12	61	1/4"	22000	VMDVNO110E	VMDVNO110F	VMDVNO110P

# DIMENSIONS

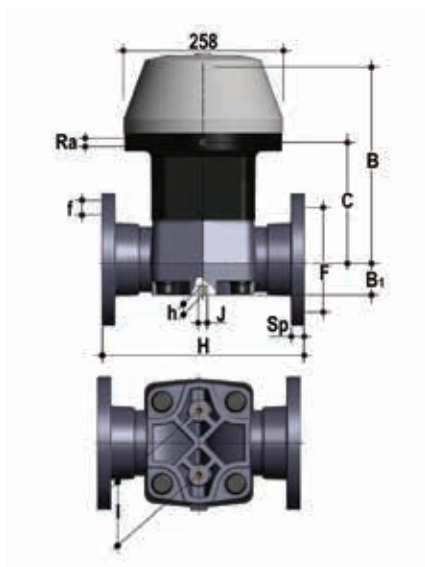
## VM/CP DN 80÷100 PVC-U



### VMDV/CP DA

Diaphragm valve with male ends for solvent welding, pneumatically actuated metric series, Double-Acting function

d	DN	PN	B	B <sub>1</sub>	C	H	h	l	J	L	R <sub>o</sub>	g	EPDM Code	FKM Code	PTFE Code
90	80	6	297	64	244	300	23	100	M12	51	1/4"	13000	VMDVDA090E	VMDVDA090F	VMDVDA090P
110	100	6	322	72	260	340	23	120	M12	61	1/4"	22000	VMDVDA110E	VMDVDA110F	VMDVDA110P



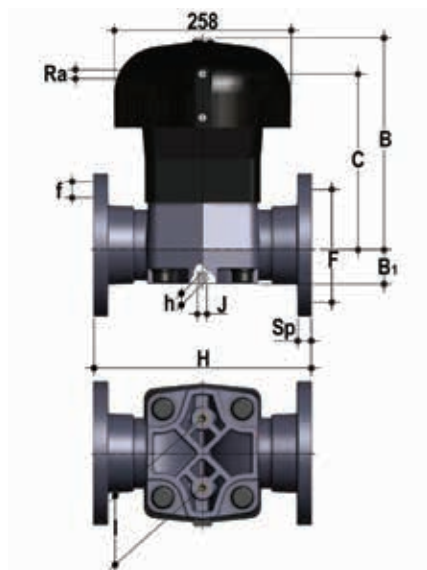
### VMOV/CP NC

Diaphragm valve with monolithic flanged body, drilled PN10/16. Pneumatically actuated face to face according to EN 558-1, Normally Closed function

d	DN	PN	B	B <sub>1</sub>	C	H	h	R <sub>o</sub>	l	J	F	Φf	U	Sp	g	EPDM Code	FKM Code	PTFE Code
90	80	6	317	64	179	310	23	1/4"	100	M12	160	18	8	21.5	17000	VMOVNC090E	VMOVNC090F	VMOVNC090P
110	100	6	347	72	260	350	23	1/4"	120	M12	180	18	8	22.5	27900	VMOVNC110E	VMOVNC110F	VMOVNC110P

# DIMENSIONS

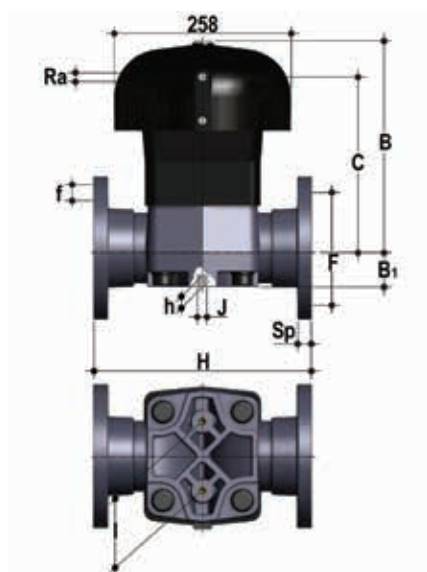
## VM/CP DN 80÷100 PVC-U



### VMOV/CP NO

Diaphragm valve with monolithic flanged body, drilled PN10/16. Pneumatically actuated face to face according to EN 558-1, Normally Open function

d	DN	PN	B	B <sub>1</sub>	C	H	h	R <sub>o</sub>	I	J	F	Φ <sub>f</sub>	U	Sp	g	EPDM Code	FKM Code	PTFE Code
90	80	6	297	64	244	310	23	1/4"	100	M12	160	18	8	21.5	14500	VMOVNO090E	VMOVNO090F	VMOVNO090P
110	100	6	322	72	260	350	23	1/4"	120	M12	180	18	8	22.5	27900	VMOVNO110E	VMOVNO110F	VMOVNO110P



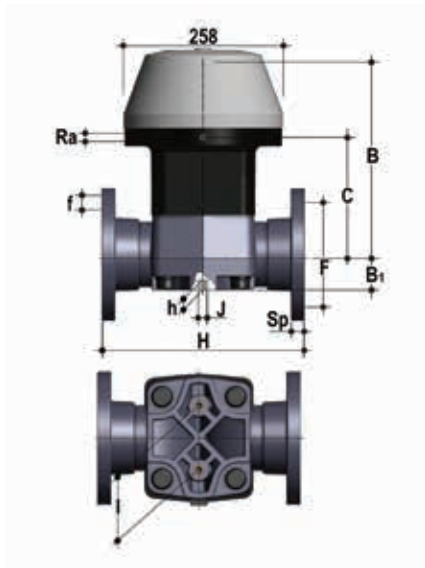
### VMOV/CP DA

Diaphragm valve with monolithic flanged body, drilled PN10/16. Pneumatically actuated face to face according to EN 558-1, Double-Acting function

d	DN	PN	B	B <sub>1</sub>	C	H	h	R <sub>o</sub>	I	J	F	Φ <sub>f</sub>	U	Sp	g	EPDM Code	FKM Code	PTFE Code
90	80	6	297	64	244	310	23	1/4"	100	M12	160	18	8	21.5	14500	VMOVDA090E	VMOVDA090F	VMOVDA090P
110	100	6	322	72	260	350	23	1/4"	120	M12	180	18	8	22.5	27900	VMOVDA110E	VMOVDA110F	VMOVDA110P

# DIMENSIONS

## VM/CP DN 80÷100 PVC-U

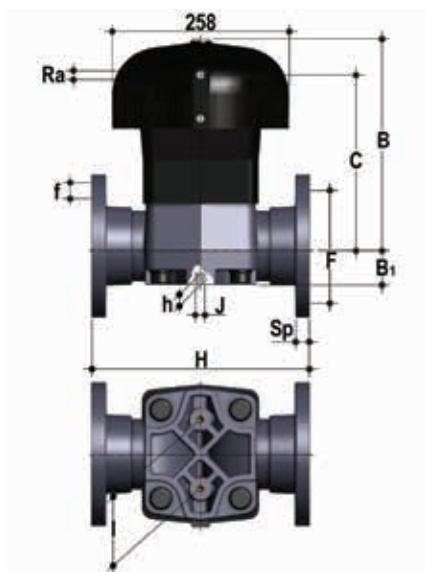


### VMOAV/CP NC

Pneumatically actuated diaphragm valve with monolithic flanged body, drilled ANSI B16.5 cl. 150 #FF, Normally Closed function

d	DN	PN	B	B <sub>1</sub>	C	H	h	R <sub>o</sub>	I	J	F	Φf	U	Sp	g	EPDM Code	FKM Code	PTFE Code
3"	80	6	317	64	179	263	23	1/4"	100	M12	152.4	19.1	4	21.5	17000	VMOAVNC300E	VMOAVNC300F	VMOAVNC300P
4"	100	6	347	72	260	328	23	1/4"	120	M12	190.5	19.1	8	22.5	27900	VMOAVNC400E	VMOAVNC400F	VMOAVNC400P

For installations prior to October 2017, contact FIP technical support



### VMOAV/CP NO

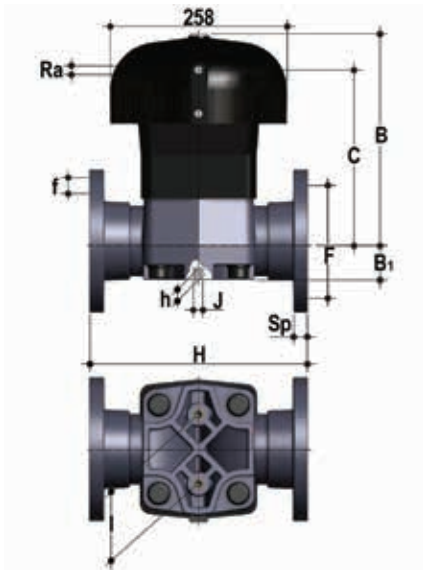
Pneumatically actuated diaphragm valve with monolithic flanged body, drilled ANSI B16.5 cl. 150 #FF, Normally Open function

d	DN	PN	B	B <sub>1</sub>	C	H	h	R <sub>o</sub>	I	J	F	Φf	U	Sp	g	EPDM Code	FKM Code	PTFE Code
3"	80	6	297	64	244	263	23	1/4"	100	M12	152.4	19.1	4	21.5	14500	VMOAVNO300E	VMOAVNO300F	VMOAVNO300P
4"	100	6	322	72	260	328	23	1/4"	120	M12	190.5	19.1	8	22.5	24400	VMOAVNO400E	VMOAVNO400F	VMOAVNO400P

For installations prior to October 2017, contact FIP technical support

# DIMENSIONS

## VM/CP DN 80÷100 PVC-U



### VMOAV/CP DA

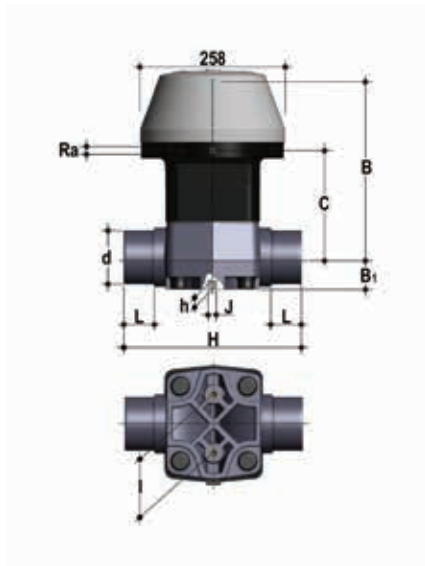
Pneumatically actuated diaphragm valve with monolithic flanged body, drilled ANSI B16.5 cl. 150 #FF, Double-Acting function

d	DN	PN	B	B <sub>1</sub>	C	H	h	R <sub>0</sub>	I	J	F	Φf	U	Sp	g	EPDM Code	FKM Code	PTFE Code
3"	80	6	297	64	244	263	23	1/4"	100	M12	152.4	191	4	21.5	14500	VMOAVDA300E	VMOAVDA300F	VMOAVDA300P
4"	100	6	322	72	260	328	23	1/4"	120	M12	190.5	191	8	22.5	24400	VMOAVDA400E	VMOAVDA400F	VMOAVDA400P

For installations prior to October 2017, contact FIP technical support

# DIMENSIONS

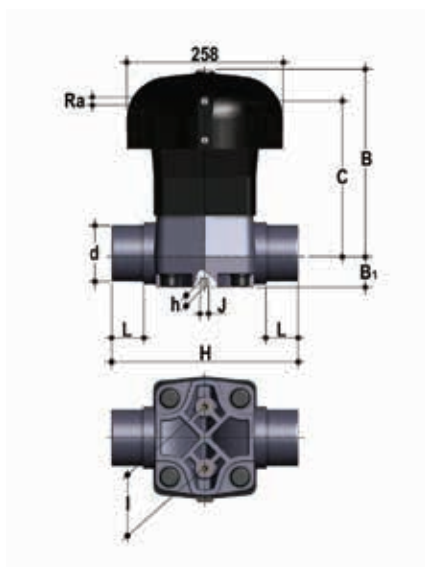
## VM/CP DN 80÷100 PVC-C



### VMDC/CP NC

Diaphragm valve with male ends for solvent welding, pneumatically actuated metric series, Normally Closed function

d	DN	PN	B	B <sub>1</sub>	C	H	h	l	J	L	R <sub>o</sub>	g	EPDM Code	FKM Code	PTFE Code
90	80	6	317	64	179	300	23	100	M12	51	1/4"	15790	VMDCNC090E	VMDCNC090F	VMDCNC090P
110	100	6	347	72	260	340	23	120	M12	61	1/4"	25900	VMDCNC110E	VMDCNC110F	VMDCNC110P



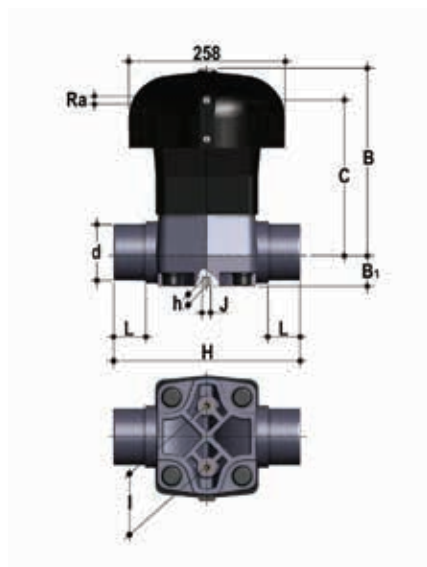
### VMDC/CP NO

Diaphragm valve with male ends for solvent welding, pneumatically actuated metric series, Normally Open function

d	DN	PN	B	B <sub>1</sub>	C	H	h	l	J	L	R <sub>o</sub>	g	EPDM Code	FKM Code	PTFE Code
90	80	6	297	64	244	300	23	100	M12	51	1/4"	13290	VMDCNO090E	VMDCNO090F	VMDCNO090P
110	100	6	322	72	260	340	23	120	M12	61	1/4"	22400	VMDCNO110E	VMDCNO110F	VMDCNO110P

# DIMENSIONS

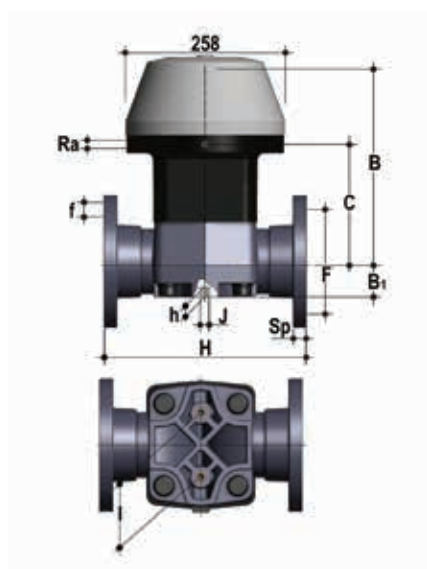
## VM/CP DN 80÷100 PVC-C



### VMDC/CP DA

Diaphragm valve with male ends for solvent welding, pneumatically actuated metric series, Double-Acting function

d	DN	PN	B	B <sub>1</sub>	C	H	h	l	J	L	R <sub>o</sub>	g	EPDM Code	FKM Code	PTFE Code
90	80	6	297	64	244	300	23	100	M12	51	1/4"	13290	VMDCDA090E	VMDCDA090F	VMDCDA090P
110	100	6	322	72	260	340	23	120	M12	61	1/4"	22400	VMDCDA110E	VMDCDA110F	VMDCDA110P



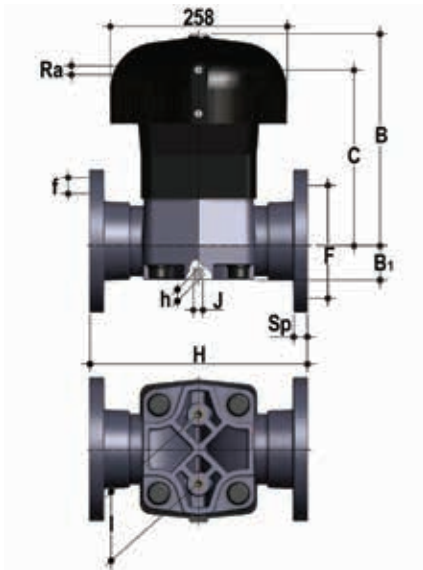
### VMOC/CP NC

Diaphragm valve with monolithic flanged body, drilled PN10/16. Pneumatically actuated face to face according to EN 558-1, Normally Closed function

d	DN	PN	B	B <sub>1</sub>	C	H	h	R <sub>o</sub>	l	J	F	Φf	U	Sp	g	EPDM Code	FKM Code	PTFE Code
90	80	6	317	64	179	310	23	1/4"	100	M12	160	18	8	21.5	17640	VMOCNC090E	VMOCNC090F	VMOCNC090P
110	100	6	347	72	260	350	23	1/4"	120	M12	180	18	8	22.5	28620	VMOCNC110E	VMOCNC110F	VMOCNC110P

# DIMENSIONS

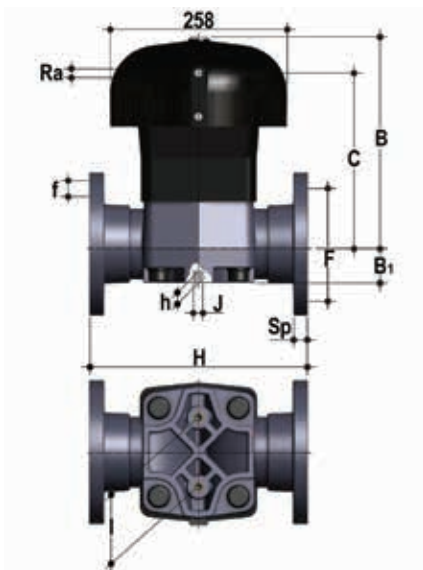
## VM/CP DN 80÷100 PVC-C



### VMOC/CP NO

Diaphragm valve with monolithic flanged body, drilled PN10/16. Pneumatically actuated face to face according to EN 558-1, Normally Open function

d	DN	PN	B	B <sub>1</sub>	C	H	h	R <sub>o</sub>	I	J	F	Φf	U	Sp	g	EPDM Code	FKM Code	PTFE Code
90	80	6	297	64	244	310	23	1/4"	100	M12	160	18	8	21.5	15140	VMOCNO090E	VMOCNO090F	VMOCNO090P
110	100	6	322	72	260	350	23	1/4"	120	M12	180	18	8	22.5	25120	VMOCNO110E	VMOCNO110F	VMOCNO110P



### VMOC/CP DA

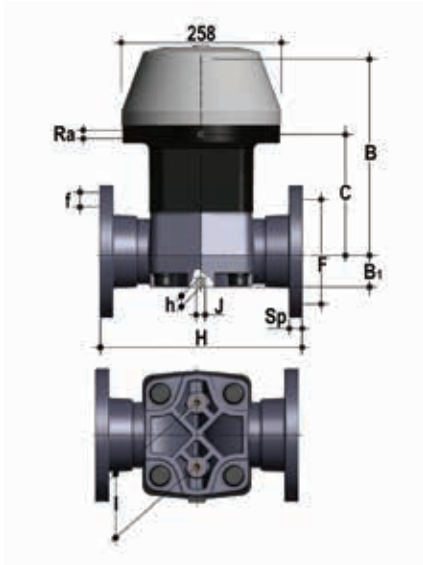
Diaphragm valve with monolithic flanged body, drilled PN10/16. Pneumatically actuated face to face according to EN 558-1, Double-Acting function

d	DN	PN	B	B <sub>1</sub>	C	H	h	R <sub>o</sub>	I	J	F	Φf	U	Sp	g	EPDM Code	FKM Code	PTFE Code
90	80	6	297	64	244	310	23	1/4"	100	M12	160	18	8	21.5	15140	VMOCDA090E	VMOCDA090F	VMOCDA090P
110	100	6	322	72	260	350	23	1/4"	120	M12	180	18	8	22.5	25120	VMOCDA110E	VMOCDA110F	VMOCDA110P



# DIMENSIONS

## VM/CP DN 80÷100 PVC-C

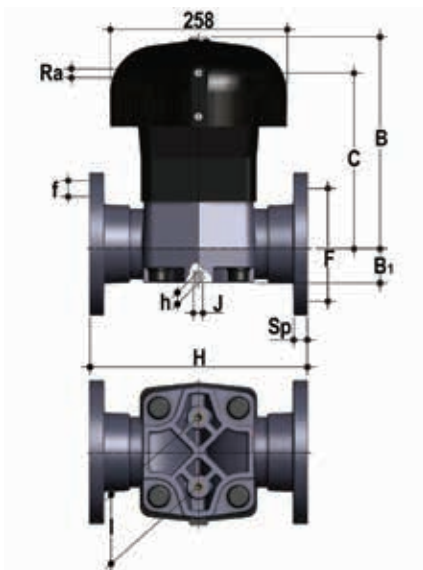


### VMOAC/CP NC

Pneumatically actuated diaphragm valve with monolithic flanged body, drilled ANSI B16.5 cl. 150 #FF, Normally Closed function

d	DN	PN	B	B <sub>1</sub>	C	H	h	R <sub>o</sub>	I	J	F	Φf	U	Sp	g	EPDM Code	FKM Code	PTFE Code
3"	80	6	317	64	179	263	23	1/4"	100	M12	152.4	19.1	4	21.5	17640	VMOACNC300E	VMOACNC300F	VMOACNC300P
4"	100	6	347	72	260	328	23	1/4"	120	M12	190.5	19.1	8	22.5	28620	VMOACNC400E	VMOACNC400F	VMOACNC400P

For installations prior to October 2017, contact FIP technical support



### VMOAC/CP NO

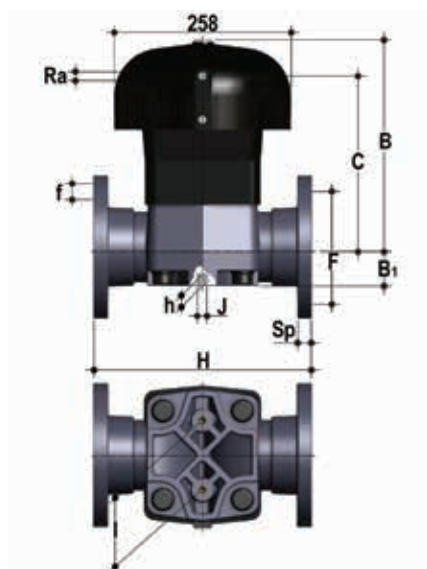
Pneumatically actuated diaphragm valve with monolithic flanged body, drilled ANSI B16.5 cl. 150 #FF, Normally Open function

d	DN	PN	B	B <sub>1</sub>	C	H	h	R <sub>o</sub>	I	J	F	Φf	U	Sp	g	EPDM Code	FKM Code	PTFE Code
3"	80	6	297	64	244	263	23	1/4"	100	M12	152.4	19.1	4	21.5	15140	VMOACNO300E	VMOACNO300F	VMOACNO300P
4"	100	6	322	72	260	328	23	1/4"	120	M12	190.5	19.1	8	22.5	25120	VMOACNO400E	VMOACNO400F	VMOACNO400P

For installations prior to October 2017, contact FIP technical support

# DIMENSIONS

## VM/CP DN 80÷100 PVC-C



### VMOAC/CP DA

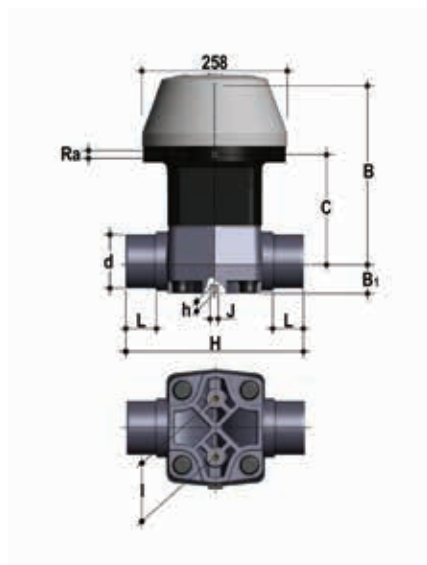
Pneumatically actuated diaphragm valve with monolithic flanged body, drilled ANSI B16.5 cl. 150 #FF, Double-Acting function

d	DN	PN	B	B <sub>1</sub>	C	H	h	R <sub>0</sub>	I	J	F	Φf	U	Sp	g	EPDM Code	FKM Code	PTFE Code
3"	80	6	297	64	244	263	23	1/4"	100	M12	152.4	191	4	21.5	15140	VMOACDA300E	VMOACDA300F	VMOACDA300P
4"	100	6	322	72	260	328	23	1/4"	120	M12	190.5	191	8	22.5	25120	VMOACDA400E	VMOACDA400F	VMOACDA400P

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# DIMENSIONS

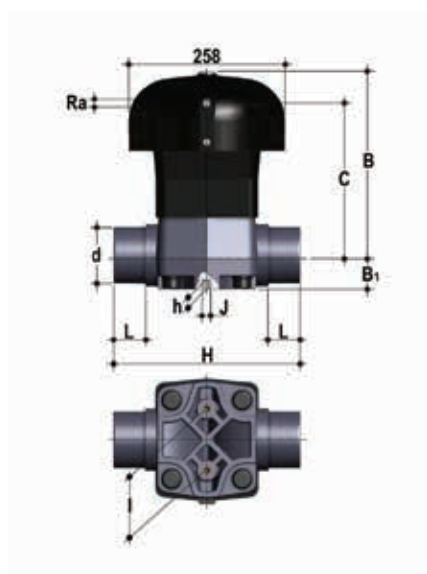
## VM/CP DN 80÷100 PP-H



### VMDM/CP NC

Diaphragm valve with male ends for pneumatically actuated socket welding, Normally Closed function

d	DN	PN	B	B <sub>1</sub>	C	H	h	l	J	L	R <sub>o</sub>	g	EPDM Code	FKM Code	PTFE Code
90	80	6	317	64	179	300	23	100	M12	51	1/4"	14540	VMDMNC090E	VMDMNC090F	VMDMNC090P
110	100	6	347	72	260	340	23	120	M12	61	1/4"	24160	VMDMNC110E	VMDMNC110F	VMDMNC110P



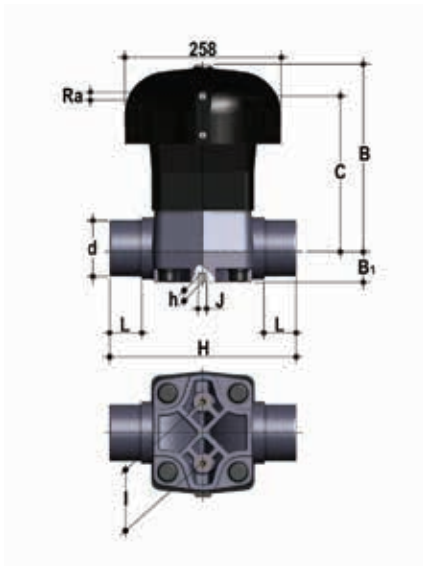
### VMDM/CP NO

Diaphragm valve with male ends for pneumatically actuated socket welding, Normally Open function

d	DN	PN	B	B <sub>1</sub>	C	H	h	l	J	L	R <sub>o</sub>	g	EPDM Code	FKM Code	PTFE Code
90	80	6	297	64	244	300	23	100	M12	51	1/4"	12040	VMDMNO090E	VMDMNO090F	VMDMNO090P
110	100	6	322	72	260	340	23	120	M12	61	1/4"	20660	VMDMNO110E	VMDMNO110F	VMDMNO110P

# DIMENSIONS

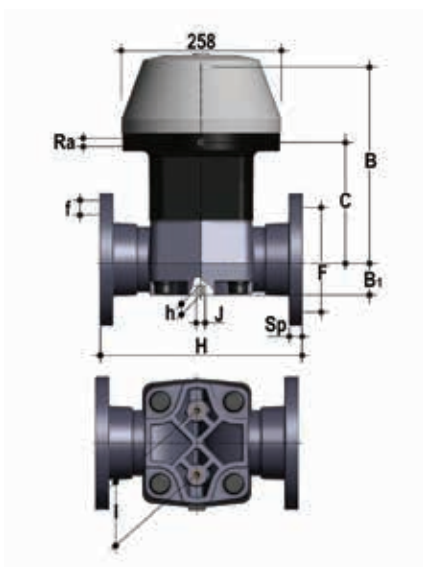
## VM/CP DN 80÷100 PP-H



### VMDM/CP DA

Diaphragm valve with male ends for pneumatically actuated socket welding, Double-Acting function

d	DN	PN	B	B <sub>1</sub>	C	H	h	l	J	L	R <sub>o</sub>	g	EPDM Code	FKM Code	PTFE Code
90	80	6	297	64	244	300	23	100	M12	51	1/4"	12040	VMDMDA090E	VMDMDA090F	VMDMDA090P
110	100	6	322	72	260	340	23	120	M12	61	1/4"	20660	VMDMDA110E	VMDMDA110F	VMDMDA110P



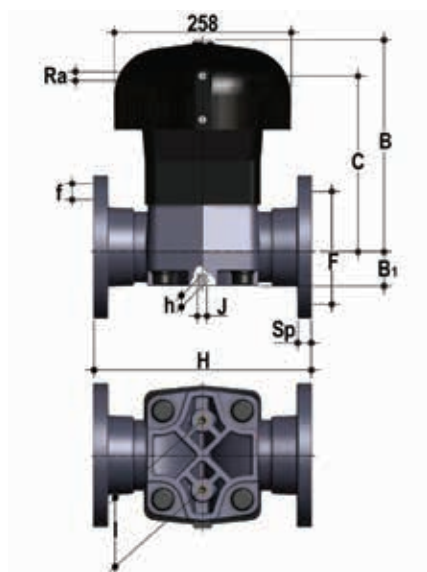
### VMOM/CP NC

Pneumatically actuated diaphragm valve with monolithic flanged body, drilled EN/ISO/DIN PN10/16. Face to face according to EN 558-1. Normally Closed function

d	DN	PN	B	B <sub>1</sub>	C	H	h	R <sub>o</sub>	l	J	F	Φf	U	Sp	g	EPDM Code	FKM Code	PTFE Code
90	80	6	317	64	179	310	23	1/4"	100	M12	160	18	8	21.5	16000	VMOMNC090E	VMOMNC090F	VMOMNC090P
110	100	6	347	72	260	350	23	1/4"	120	M12	180	18	8	22.5	25980	VMOMNC110E	VMOMNC110F	VMOMNC110P

# DIMENSIONS

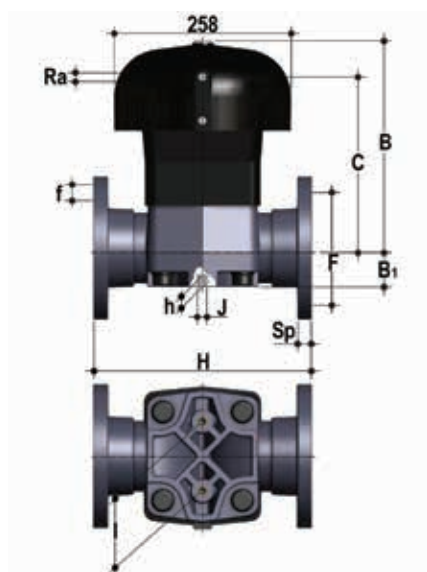
## VM/CP DN 80÷100 PP-H



### VMOM/CP NO

Pneumatically actuated diaphragm valve. Normally Open function with monolithic flanged body drilled EN/ISO/DIN PN10/16. Face to face according to EN 558-1.

d	DN	PN	B	B <sub>1</sub>	C	H	h	R <sub>0</sub>	I	J	F	Φf	U	Sp	g	EPDM Code	FKM Code	PTFE Code
90	80	6	297	64	244	310	23	1/4"	100	M12	160	18	8	21.5	13500	VMOMNO090E	VMOMNO090F	VMOMNO090P
110	100	6	322	72	260	350	23	1/4"	120	M12	180	18	8	22.5	22480	VMOMNO110E	VMOMNO110F	VMOMNO110P



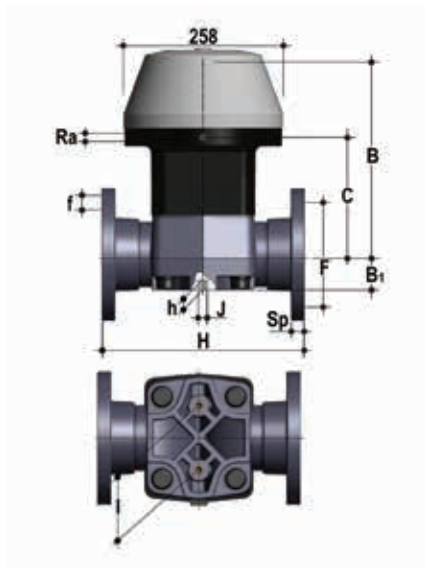
### VMOM/CP DA

Pneumatically actuated diaphragm valve. Double-Acting function with monolithic flanged body drilled EN/ISO/DIN PN10/16. Face to face according to EN 558-1.

d	DN	PN	B	B <sub>1</sub>	C	H	h	R <sub>0</sub>	I	J	F	Φf	U	Sp	g	EPDM Code	FKM Code	PTFE Code
90	80	6	297	64	244	310	23	1/4"	100	M12	160	18	8	21.5	13500	VMOMDA090E	VMOMDA090F	VMOMDA090P
110	100	6	322	72	260	350	23	1/4"	120	M12	180	18	8	22.5	22480	VMOMDA110E	VMOMDA110F	VMOMDA110P

# DIMENSIONS

## VM/CP DN 80÷100 PP-H

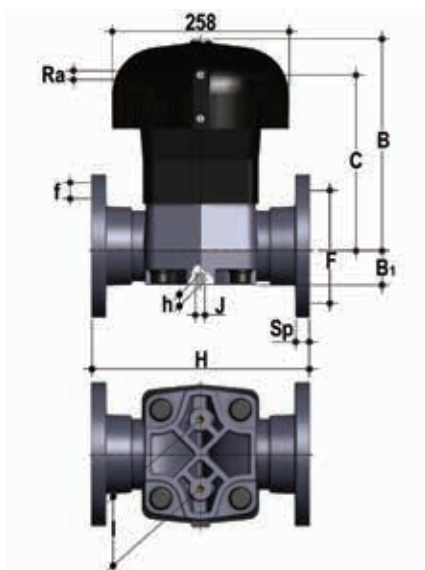


### VMOAM/CP NC

Pneumatically actuated diaphragm valve. Normally Closed function with monolithic flanged body ANSI B16.5 cl.150 #FF\*

d	DN	PN	B	B <sub>1</sub>	C	H	h	R <sub>a</sub>	I	J	F	Φf	U	Sp	g	EPDM Code	FKM Code	PTFE Code
3"	80	6	317	64	179	263	23	1/4"	100	M12	152.4	19.1	4	21.5	16000	VMOAMNC300E	VMOAMNC300F	VMOAMNC300P
4"	100	6	347	72	260	328	23	1/4"	120	M12	190.5	19.1	8	22.5	25980	VMOAMNC400E	VMOAMNC400F	VMOAMNC400P

For installations prior to October 2017, contact FIP technical support



### VMOAM/CP NO

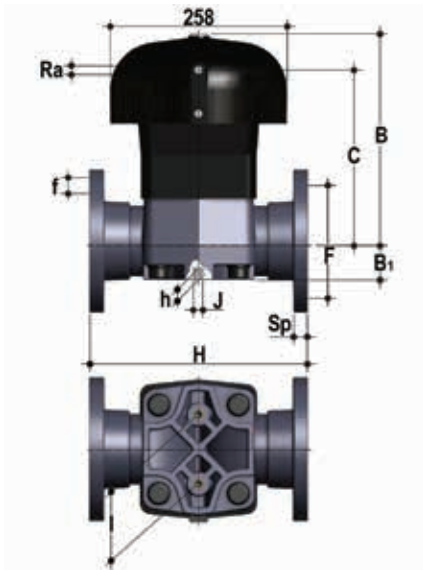
Pneumatically actuated diaphragm valve. Normally Open function with monolithic flanged body ANSI B16.5 cl.150 #FF\*

d	DN	PN	B	B <sub>1</sub>	C	H	h	R <sub>a</sub>	I	J	F	Φf	U	Sp	g	EPDM Code	FKM Code	PTFE Code
3"	80	6	297	64	244	263	23	1/4"	100	M12	152.4	19.1	4	21.5	13500	VMOAMNO300E	VMOAMNO300F	VMOAMNO300P
4"	100	6	322	72	260	328	23	1/4"	120	M12	190.5	19.1	8	22.5	22480	VMOAMNO400E	VMOAMNO400F	VMOAMNO400P

For installations prior to October 2017, contact FIP technical support

# DIMENSIONS

## VM/CP DN 80÷100 PP-H



### VMOAM/CP DA

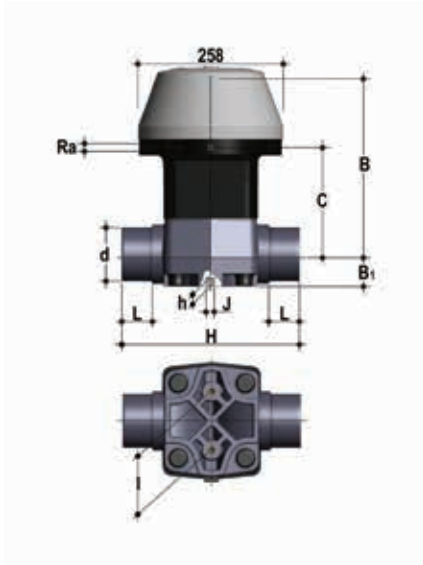
Pneumatically actuated diaphragm valve. Double-Acting function with monolithic flanged body  
ANSI B16.5 cl.150 #FF\*

d	DN	PN	B	B <sub>1</sub>	C	H	h	R <sub>0</sub>	I	J	F	Φf	U	Sp	g	EPDM Code	FKM Code	PTFE Code
3"	80	6	297	64	244	263	23	1/4"	100	M12	152.4	19.1	4	21.5	13500	VMOAMDA300E	VMOAMDA300F	VMOAMDA300P
4"	100	6	322	72	260	328	23	1/4"	120	M12	190.5	19.1	8	22.5	22480	VMOAMDA400E	VMOAMDA400F	VMOAMDA400P

For installations prior to October 2017, contact FIP technical support

# DIMENSIONS

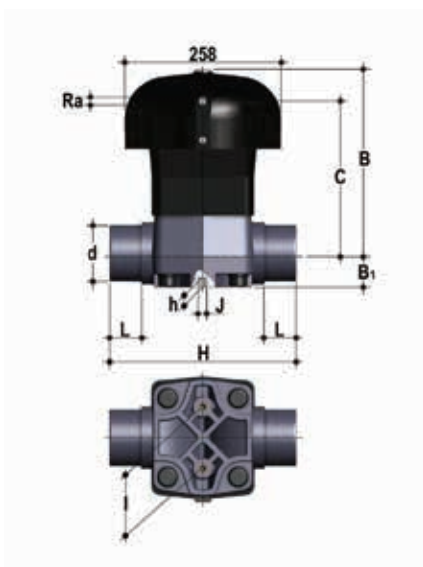
## VM/CP DN 80÷100 PVDF



### VMDF/CP NC

Diaphragm valve with male ends for pneumatically actuated socket welding, Normally Closed function

d	DN	PN	B	B <sub>1</sub>	C	H	h	I	J	L	R <sub>0</sub>	g	EPDM Code	FKM Code	PTFE Code
90	80	6	317	64	179	300	23	100	M12	51	1/4"	16340	VMDFNC090E	VMDFNC090F	VMDFNC090P
110	100	6	347	72	260	340	23	120	M12	61	1/4"	26670	VMDFNC110E	VMDFNC110F	VMDFNC110P



### VMDF/CP NO

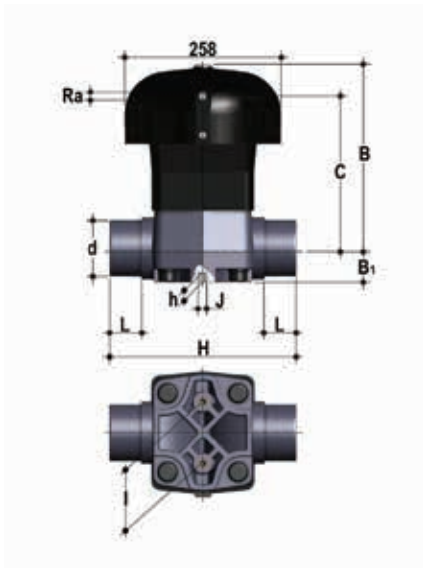
Diaphragm valve with male ends for pneumatically actuated socket welding, Normally Open function

d	DN	PN	B	B <sub>1</sub>	C	H	h	I	J	L	R <sub>0</sub>	g	EPDM Code	FKM Code	PTFE Code
90	80	6	297	64	244	300	23	100	M12	51	1/4"	13840	VMDFNO090E	VMDFNO090F	VMDFNO090P
110	100	6	322	72	260	340	23	120	M12	61	1/4"	23170	VMDFNO110E	VMDFNO110F	VMDFNO110P



# DIMENSIONS

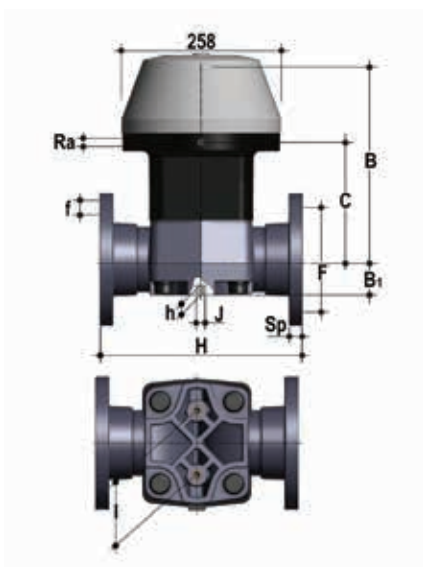
## VM/CP DN 80÷100 PVDF



### VMDF/CP DA

Diaphragm valve with male ends for pneumatically actuated socket welding, Double-Acting function

d	DN	PN	B	B <sub>1</sub>	C	H	h	I	J	L	R <sub>0</sub>	g	EPDM Code	FKM Code	PTFE Code
90	80	6	297	64	244	300	23	100	M12	51	1/4"	13840	VMDFDA090E	VMDFDA090F	VMDFDA090P
110	100	6	322	72	260	340	23	120	M12	61	1/4"	23170	VMDFDA110E	VMDFDA110F	VMDFDA110P



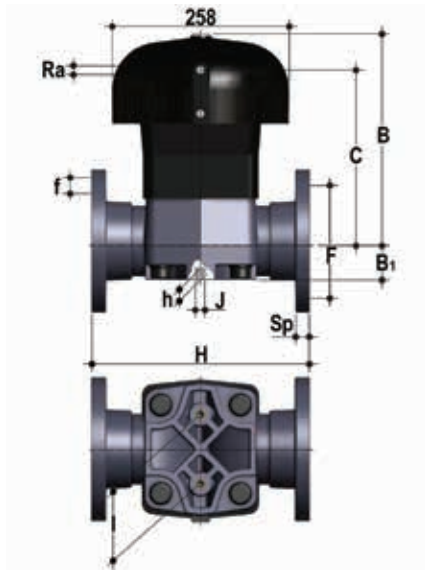
### VMOF/CP NC

Pneumatically actuated diaphragm valve. Normally Closed function with monolithic flanged body drilled EN/ISO/DIN PN10/16. Face to face according to EN 558-1.

d	DN	PN	B	B <sub>1</sub>	C	H	h	R <sub>0</sub>	I	J	F	Φf	U	Sp	g	EPDM Code	FKM Code	PTFE Code
90	80	6	317	64	179	310	23	1/4"	100	M12	160	18	8	21.5	18520	VMOFNC090E	VMOFNC090F	VMOFNC090P
110	100	6	347	72	260	350	23	1/4"	120	M12	180	18	8	22.5	29790	VMOFNC110E	VMOFNC110F	VMOFNC110P

# DIMENSIONS

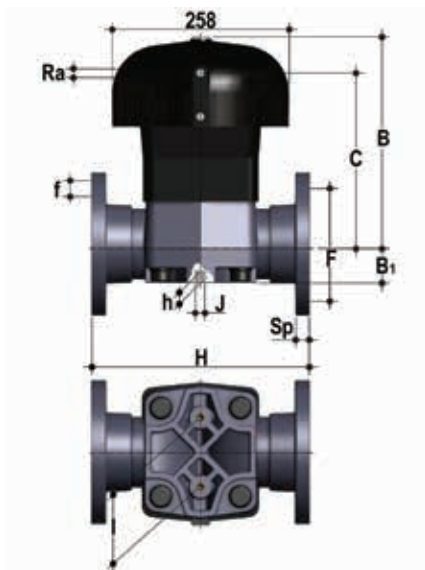
## VM/CP DN 80÷100 PVDF



### VMOF/CP NO

Pneumatically actuated diaphragm valve. Normally Open function with monolithic flanged body drilled EN/ISO/DIN PN10/16. Face to face according to EN 558-1.

d	DN	PN	B	B <sub>1</sub>	C	H	h	R <sub>a</sub>	I	J	F	Φ <sub>f</sub>	U	Sp	g	EPDM Code	FKM Code	PTFE Code
90	80	6	297	64	244	310	23	1/4"	100	M12	160	18	8	21.5	16020	VMOFNO090E	VMOFNO090F	VMOFNO090P
110	100	6	322	72	260	350	23	1/4"	120	M12	180	18	8	22.5	26290	VMOFNO110E	VMOFNO110F	VMOFNO110P



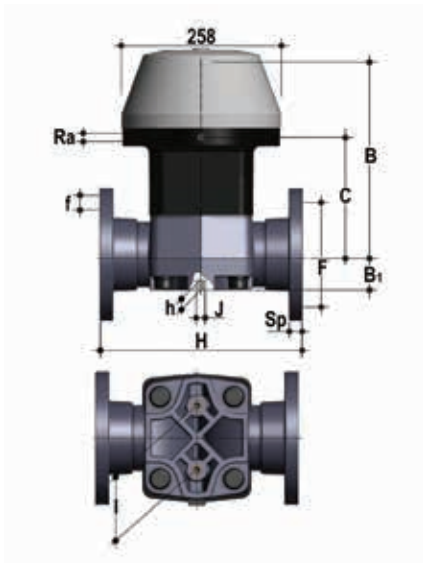
### VMOF/CP DA

Pneumatically actuated diaphragm valve. Double-Acting function with monolithic flanged body drilled EN/ISO/DIN PN10/16. Face to face according to EN 558-1.

d	DN	PN	B	B <sub>1</sub>	C	H	h	R <sub>a</sub>	I	J	F	Φ <sub>f</sub>	U	Sp	g	EPDM Code	FKM Code	PTFE Code
90	80	6	297	64	244	310	23	1/4"	100	M12	160	18	8	21.5	16020	VMOFDA090E	VMOFDA090F	VMOFDA090P
110	100	6	322	72	260	350	23	1/4"	120	M12	180	18	8	22.5	26290	VMOFDA110E	VMOFDA110F	VMOFDA110P

# DIMENSIONS

## VM/CP DN 80÷100 PVDF

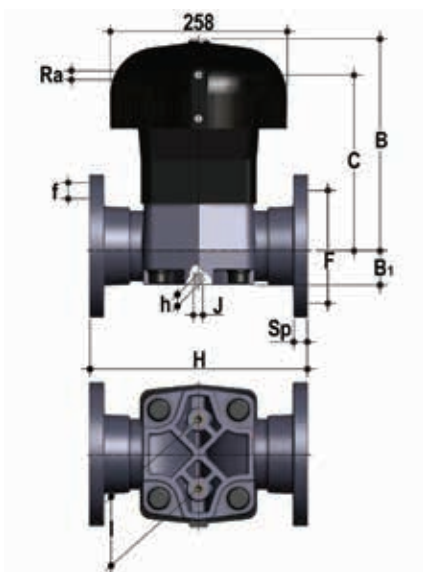


### VMOAF/CP NC

Pneumatically actuated diaphragm valve. Normally Closed function with monolithic flanged body ANSI B16.5 cl.150 #FF\*

d	DN	PN	B	B <sub>1</sub>	C	H	h	R <sub>o</sub>	I	J	F	Φ <sub>f</sub>	U	Sp	g	EPDM Code	FKM Code	PTFE Code
3"	80	6	317	64	179	263	23	1/4"	100	M12	152.4	19.1	4	21.5	18520	VMOAFNC300E	VMOAFNC300F	VMOAFNC300P
4"	100	6	347	72	260	328	23	1/4"	120	M12	190.5	19.1	8	22.5	29790	VMOAFNC400E	VMOAFNC400F	VMOAFNC400P

For installations prior to October 2017, contact FIP technical support



### VMOAF/CP NO

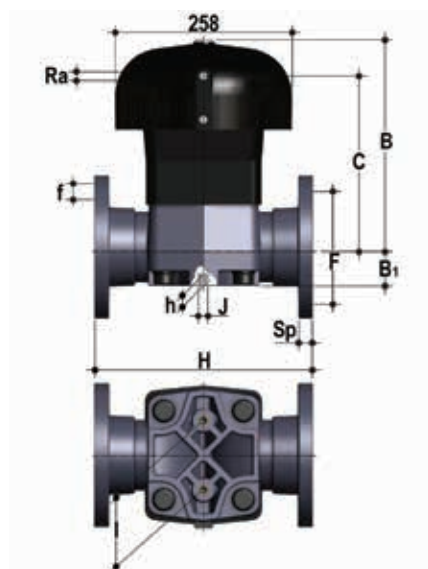
Pneumatically actuated diaphragm valve. Normally Open function with monolithic flanged body ANSI B16.5 cl.150 #FF\*

d	DN	PN	B	B <sub>1</sub>	C	H	h	R <sub>o</sub>	I	J	F	Φ <sub>f</sub>	U	Sp	g	EPDM Code	FKM Code	PTFE Code
3"	80	6	297	64	244	263	23	1/4"	100	M12	152.4	19.1	4	21.5	16020	VMOAFNO300E	VMOAFNO300F	VMOAFNO300P
4"	100	6	322	72	260	328	23	1/4"	120	M12	190.5	19.1	8	22.5	26290	VMOAFNO400E	VMOAFNO400F	VMOAFNO400P

For installations prior to October 2017, contact FIP technical support

# DIMENSIONS

## VM/CP DN 80÷100 PVDF



### VMOAF/CP DA

Pneumatically actuated diaphragm valve. Double-Acting function with monolithic flanged body  
ANSI B16.5 cl.150 #FF\*

d	DN	PN	B	B <sub>1</sub>	C	H	h	R <sub>2</sub>	I	J	F	Φ <sub>f</sub>	U	Sp	g	EPDM Code	FKM Code	PTFE Code
3"	80	6	297	64	244	263	23	1/4"	100	M12	152.4	19.1	4	21.5	16020	VMOAFDA300E	VMOAFDA300F	VMOAFDA300P
4"	100	6	322	72	260	328	23	1/4"	120	M12	190.5	19.1	8	22.5	26290	VMOAFDA400E	VMOAFDA400F	VMOAFDA400P

For installations prior to October 2017, contact FIP technical support

# COMPONENTS

## EXPLODED VIEW



DN	80	100
A	114	193
B	127	-

- |   |  |                                     |
|---|--|-------------------------------------|
| <b>1</b> Actuator (PP-GR - 1)*                      | <b>9</b> Body (PVC-U/PVC-C/PP-H/PVDF - 1)*     | <b>12</b> Protection plug (PE - 4)* |
| <b>6</b> Shutter (PA-GR - 1)                        | <b>10</b> Washer (Zinc plated steel** - 4)*    |                                     |
| <b>8</b> Seal diaphragm (EPDM, FKM, NBR, PTFE - 1)* | <b>11</b> Hex screw (Zinc plated steel** - 4)* |                                     |

\* Spare parts

\*\*Stainless steel for PVDF valves

The material the component is made of and the quantity supplied are shown in 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) Remove the protection plugs (12) and remove the bolts (11) with the relative washers (10). This operation will be made easier if the actuator is pressurised (NC).
- 5) Separate the valve body (9) from the actuator (1).
- 6) Unscrew the diaphragm (8) 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.
- 2) Screw the diaphragm (8) onto the stem, aligning it correctly with its housing on the actuator.
- 3) Mount the actuator (1) on the valve body (9) and screw in the bolts (11) with the relative washers (10). This operation will be made easier if the actuator is pressurised (NC).
- 4) Tighten the bolts (11) evenly (diagonally) to the tightening torque suggested on the relative instruction sheet.
- 5) Replace the protection plugs (12).
- 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

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

Before proceeding with installation, please follow these instructions carefully:

- 1) Check that the pipes to be connected to the valve are aligned in order to avoid mechanical stress.
- 2) Glue and weld.
- 3) if necessary, support pipes with FIP pipe clips.
- 4) Connect the compressed air as indicated in "Compressed air connections" For valves with electric accessories, refer to the specific technical manual supplied with the accessory.

## WARNINGS

**Note:** before putting the valve into service, check that the bolts on the valve body (11) are tightened correctly at the torque indicated in the instruction sheet.