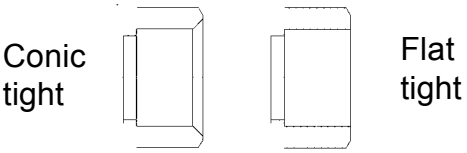
PN 16 Motorized Fan Coil Valves

MICRA

CE

Valve models	Kvs direct way [m^3/h]	Kvs angle way [m^3/h]	Close-off [bar]	Connections (*)
Two-way valves				
VSX09P	0,25	--	2,5	G1/2M
VSX10P	0,4			
VSX11P	0,6			
VSX12P	1			
VSX13 VSX13P	1,6			
VSX21 VSX21P	2,5		1,5	G3/4M
Three-way valves				
VMX09P	0,25	0,25	2,5	G 1/2 M
VMX10P	0,4	0,4		
VMX11P	0,6	0,6		
VMX12P	1	0,8		
VMX13P VMX13	1,6	1		
VMX21 VMX21P	2,5	1,6	1,5	G 3/4 M
Three-way valves with built-in by-pass (4 ports)				
VTX09P	0,25	0,25	2,5	G 1/2 M
VTX10P	0,4	0,4		
VTX11P	0,6	0,6		
VTX12P	1	0,8		
VTX13P VTX13	1,6	1		
VTX09P4	0,25	0,25		
VTX10P4	0,4	0,4		
VTX11P4	0,6	0,6		
VTX12P4	1	0,8		
VTX13P4	1,6	1		
VTX21 VTX21P	2,5	1,6	1,5	G 3/4 M

(*) The connections of models having "P" ending are suitable for flat gasket tight; the others for conic tight.



Actuator model	Power supply	Action
MVX21	110-230 V	ON/OFF
MVX41	24 V	ON/OFF
MVX57		0-10V Proportional
MVR230V	110-230 V	ON/OFF
MVR230MV		
MVR24V	24 V	
MVR24MV		

MVR230MV and MVR24MV actuators are supplied with a auxiliary microswitch, having contact closed and actuator unpowered.

Valves motorised with MVX

If the actuator is unpowered the 2-way valve is closed and for the 3-way valve is closed the direct way.

Valves motorised with MVR.V

If the actuator is unpowered the 2-way valve is open and for the 3-way valve is open the direct way.

Note 1: In case of motorized valves it is necessary to add to the model name the suffix **M2** for MVX21, **M4** for MVX41and **M5** for MVX57, **R2** for MVR230V, **R2M** for MVR230MV, **R4** for MVR24V, **R4M** for MVR24MV (E.g. VMX13M2).

Note 2: MVX21 and MVX41 actuators are available also with 0,35 mm^2 cable instead of 0,75 mm^2 cable (230V version is CE mark free).
In this case, for the order, it is necessary to add to the model name the suffix R (ex. MVX21R-MVX41R).
MVR.V actuators are available only with 0,35 mm^2 cable (Models: MVR230V, MVR230MV and MVR24MV are CE mark free).

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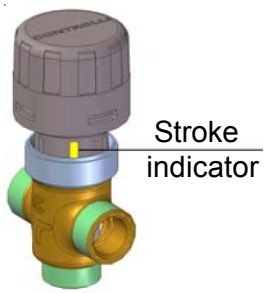
OPERATION

Micra are valves with tight close-off on both direct and angle way. An soft tight between seat and plug ensures high performances; the action of the spring located on the valve, ensures tight close-off in compliance with the values above, even with disassembled actuator.
The actuator operation is carried out by a built-in wax thermostatic element. When this component is heated (by a PTC powered from the control signal) a small piston comes out, starting the valve stroke.

The actuator-valve assembly is easily made thanks to its threaded ring nut, which allows a comfortable cable positioning. All models are provided with a yellow stroke indicator (see below).
The actuators are available in the ON-OFF (230V and 24V) and only for MVX models in modulating (24V) with 0-10V signal versions.



TECHNICAL CHARACTERISTICS

VALVES

Operating pressure	16 bar
Stroke	2,5 mm
Max fluid speed	3 m/s
Allowed fluids	Water, water+glycol (30% max)
Temperature	5T95°C
Leakage	0 (tight close-off on direct and angle way)

Material

Valve body	Brass
Stem	Stainless steel
Stem Tight	Double OR ring in Viton

ACTUATORS

Power supply	110 - 230V / 24 V
Frequency	50/60Hz
Auxiliary switch	2 (0,1) A 250 Vac (only for MVR230M and MVR24M)

Starting time
(1st movement at 20°C) 60 s (for 230V power supply)
Consumption:

	MVX21 MVR230V 230 Vac	MVX21 MVR230V 110 Vac	MVX41 MVR24V 24 Vac	MVX57 24 Vac
Starting	50 VA	12 VA	4 VA	5 VA
Working	1.8 VA	1.8 VA	1.8 VA	1.8 VA

Protection degree	IP44 (for vertical mounting)
Temperature	
- working	2T50 °C
- storage	-10T60 °C
Force	90N
Power cable	2m bipolar (0,75 mm^2) for MVX21-41 2m bipolar (0,35 mm^2) for MVX21R-41R 2m three-pole cable (0,35 mm^2) for MVX57 65 cm. bipolar cable (0,35 mm^2) for MVR230V and MVR24V 65 cm. four-pole (0,35 mm^2) for MVR230MV and MVR24MV
Material	Fire-resistant case: class V0

APPLICATIONS AND USE

Micra valves are employed for the control of chilled and heated water in heating and air-conditioning plants; they are motorized by the MVX and MVR.V electro-thermal actuators.

Micra valves extremely reduced dimensions enable an easy mounting on terminal unit coils.

Moreover, it is possible to order a kit for fan coil installation, which can be customized according to the various vendors' requirements. For further information, please contact our Technical Support.

INSTALLATION AND MOUNTING

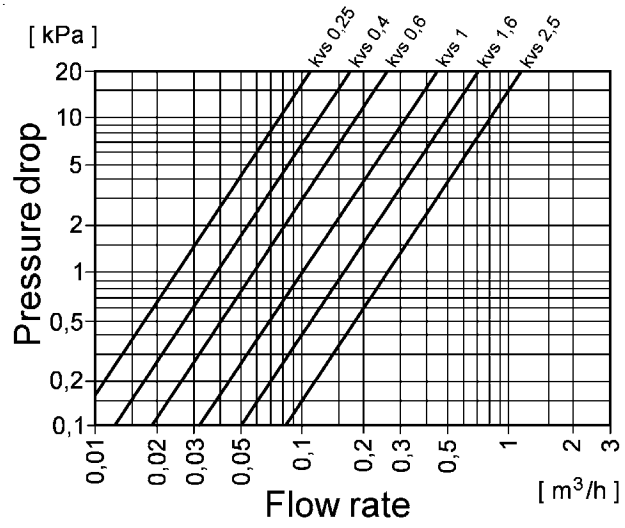
Before mounting, make sure pipes are clean, free from weld slag, perfectly aligned with the valve body and not subjected to vibrations.

The protection degree declared (IP44) is granted if the valve is mounted with the actuator upwards. The actuator is able to operate in any mounting position, but it is advisable not to install it downwards.

Three-way valves should be preferably used as mixing valves. In case they are mounted as diverting (i.e. an inlet and two outlets) the max differential pressure for normal operation must be reduced to one third of the specified value.

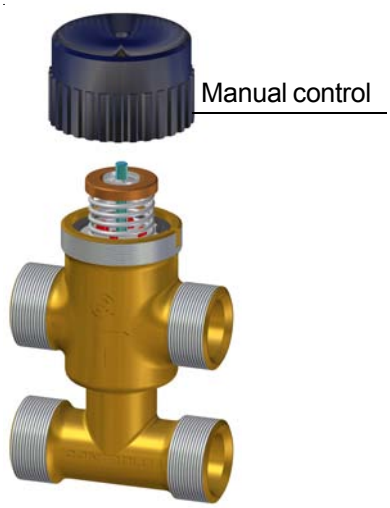
While mounting, respect the fluid directions indicated by the arrows on the valve body.

PRESSURE DROP DIAGRAM



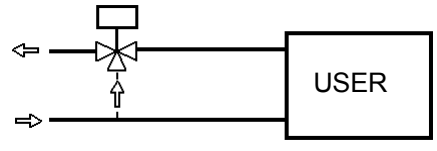
ACCESSORIES

VXC Manual control.



APPLICATION DIAGRAMS FOR VALVES MOUNTED AS MIXING

Three-way valves



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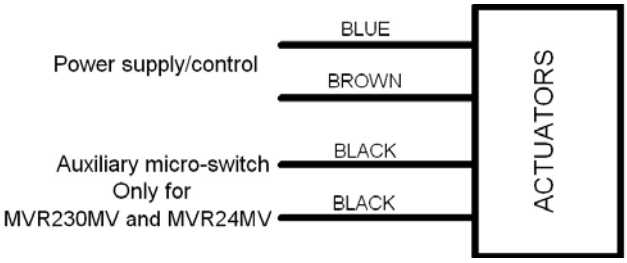
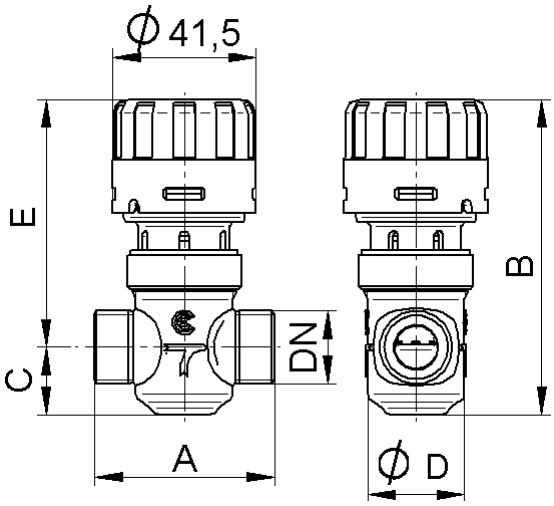
WIRING DIAGRAM

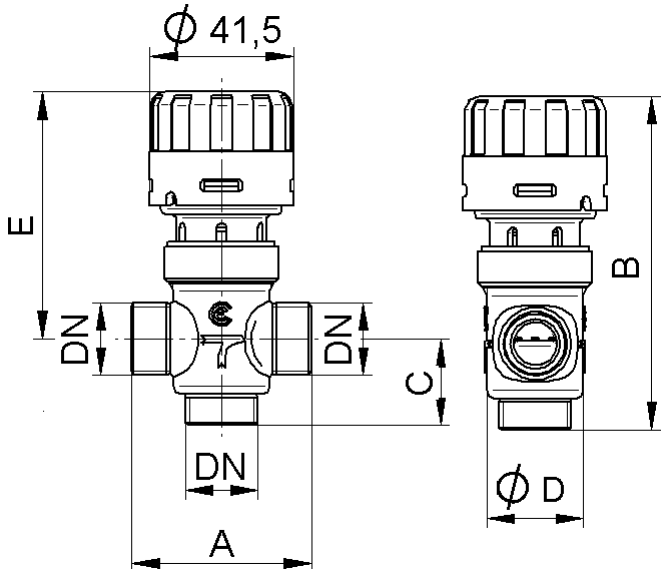


OVERALL DIMENSIONS (mm)

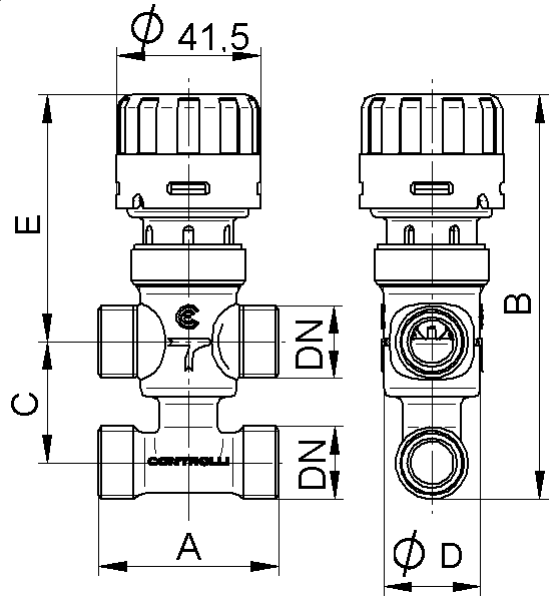
VSX-MVX21/41



VMX-MVX21/41



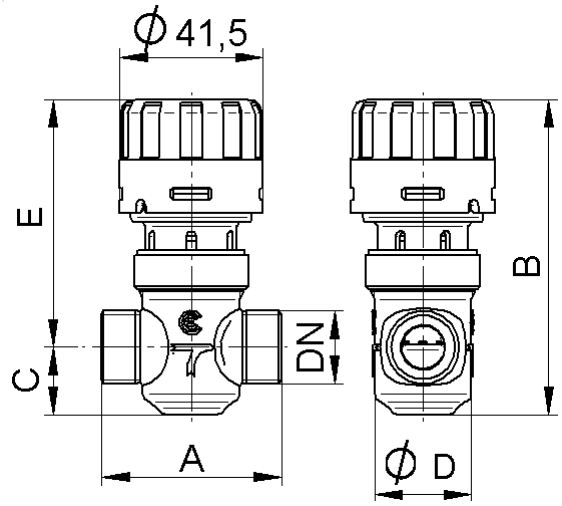
VTX-MVX21/41



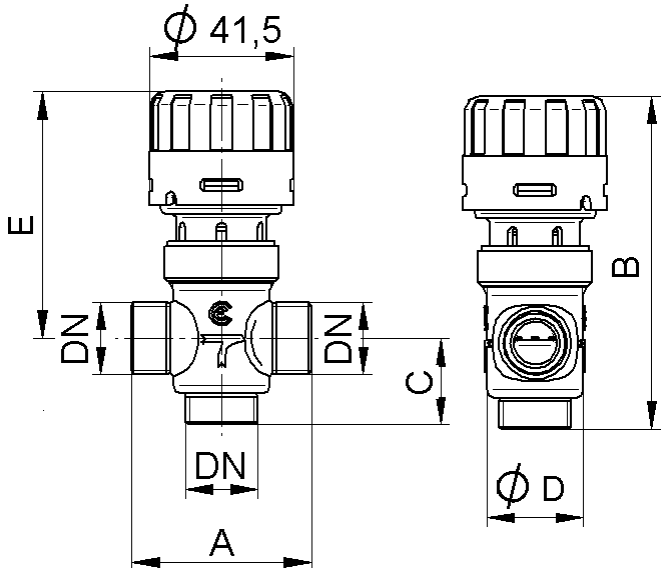
Valve+actuator dimensions	DN	A	B	C	D	E
VSX09P-VSX10P VSX11P-VSX12P VSX13P-VSX13 + MVX21/41	1/2"	52	95,5	19,5	28	76
VSX21-VSX21P + MVX21/41	3/4"	56	95,5	19,5		
VMX09P-VMX10P VMX11P-VMX12P VMX13P-VMX13 + MVX21/41	1/2"	52	101	25	28	76
VMX21-VMX21P + MVX21/41	3/4"	56	110	34		
VTX09P-VTX10P VTX11P-VTX12P VTX13P-VTX13 + MVX21/41	1/2"	52	122	35	28	76
VTX09P4-VTX10P4 VTX11P4-VTX12P4 VTX13P4 + MVX21/41	1/2"	52	127	40		
VTX21-VTX21P + MVX21/41	3/4"	56	139	50		

DIMENSIONS (mm)

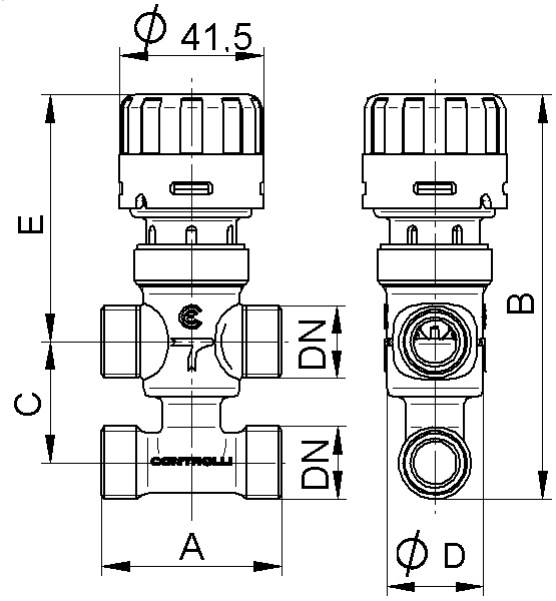
VSX-MVX57



VMX-MVX57

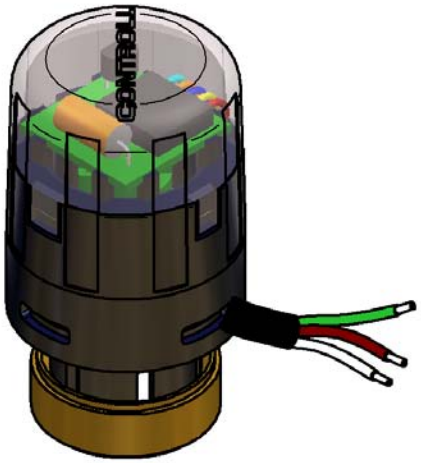


VTX-MVX57



Valve+actuator dimensions	DN	A	B	C	D	E
VSX09P-VSX10P VSX11P-VSX12P VSX13P-VSX13 + MVX21/41	1/2"	52	95,5	19,5	28	76
VSX21-VSX21P + MVX21/41	3/4"	56	95,5	19,5		
VMX09P-VMX10P VMX11P-VMX12P VMX13P-VMX13 + MVX21/41	1/2"	52	101	25	28	76
VMX21-VMX21P + MVX21/41	3/4"	56	110	34		
VTX09P-VTX10P VTX11P-VTX12P VTX13P-VTX13 + MVX21/41	1/2"	52	122	35	28	76
VTX09P4-VTX10P4 VTX11P4-VTX12P4 VTX13P4 + MVX21/41	1/2"	52	127	40		
VTX21-VTX21P + MVX21/41	3/4"	56	139	50		

WIRING CONNECTIONS (MVX57)



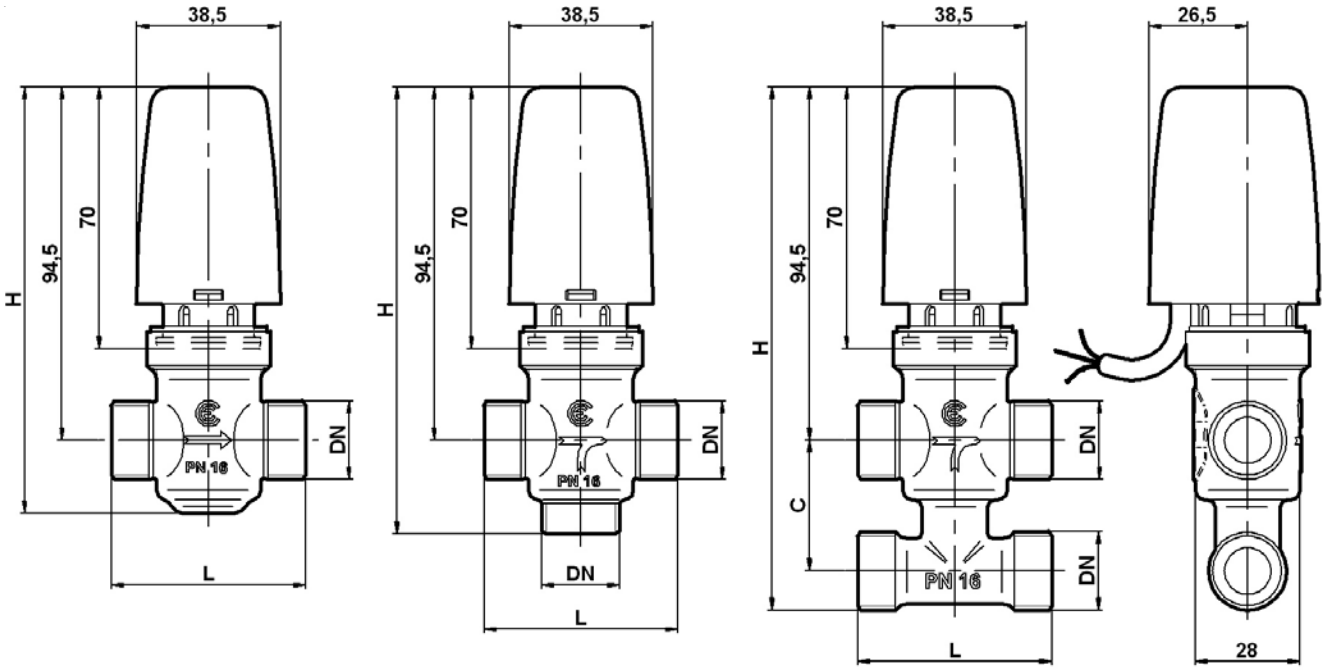
Green = Control signal (0-10V)

Brown = 24 V 50/60 Hz

White = Common

DIMENSIONS (mm)

VSX-MVR.V **VMX-MVR.V** **VTX-MVR.V**



Valve models	DN	L	C	H
VSX09P-VSX10P-VSX11P-VSX12P-VSX13P-VSX13	1/2"	52	-	114
VSX21-VSX21P	3/4"	56	-	114
VMX09P-VMX10P-VMX11P-VMX12P-VMX13P-VMX13	1/2"	52	-	120
VMX21-VMX21P	3/4"	56	-	128,5
VTX09P-VTX10P-VTX11P-VTX12P-VTX13P-VTX13	1/2"	52	35	140
VTX09P4-VTX10P4VTX11P4-VTX12P4-VTX13P4	1/2"	52	40	145
VTX21-VTX21P	3/4"	56	50	158