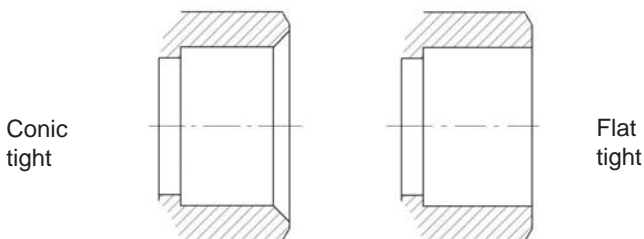


AVAILABLE MODELS

Valve models	Kvs direct way m3/h	Kvs angle way m3/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	G1/2M
VMX10P	0,4	0,4		
VMX11P	0,6	0,6		
VMX12P	1	0,6		
VMX13 VMX13P	1,6	1		
VMX21 VMX21P	2,5	1,6	1,5	G3/4M
Three-way valves with built-in by-pass (4 ports)				
VTX09P	0,25	0,25	2,5	G1/2M
VTX10P	0,4	0,4		
VTX11P	0,6	0,6		
VTX12P	1	0,6		
VTX13 VTX13P	1,6	1		
VTX09P4	0,25	0,25		
VTX10P4	0,4	0,4		
VTX11P4	0,6	0,6		
VTX12P4	1	0,6		
VTX13P4	1,6	1		
VTX21 VTX21P	2,5	1,6	1,5	G3/4M

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



VSX-VMX-VTX

Actuator model	Power supply	Control	Action
MVX21R	110-230 V	ON/OFF	Direct ⁽¹⁾
MVX41R	24 V	ON/OFF	
MVX57		0-10 V proportional	
MVR230V	110-230 V	ON/OFF	Reverse ⁽²⁾
MVR230MV ⁽³⁾			
MVR24V	24 V	ON/OFF	Reverse ⁽²⁾
MVR24MV ⁽³⁾			

- 1) 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.
- 2) 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.
- 3) MVR230MV and MVR24MV actuators are supplied with an auxiliary microswitch, having closed contact when the actuator is unpowered.**

OPERATION

Micra are valves with tight close-off on both direct and angle way. A 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 plug operation is carried out by the electrothermic actuator which applies a 90N thrust.

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 (CW617N)
 Stem Stainless steel
 Stem Tight Double OR ring in EDPM
 Seat Reinforced Technopolymer

ACTUATORS

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

Consumption:

	MVX21R MVR230V 230 Vac	MVX21R MVR230V 110 Vac	MVX41R 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

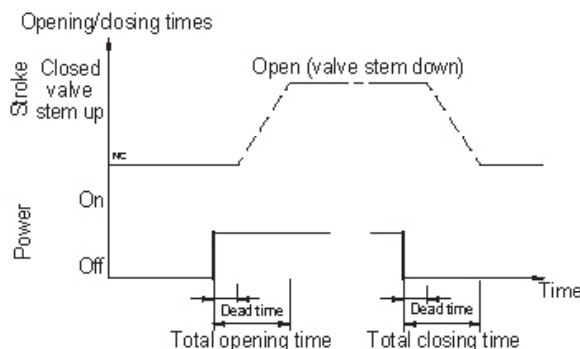
Protection degree IP44 (for vertical mounting)
 Temperature
 - working 2T50 °C
 - storage -10T60 °C
 Force 90N

Starting time:

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.



Power cable 2m bipolar (0,35 mm²) for MVX21R-41R
 2m three-pole cable (0,35 mm²) for MVX57
 65 cm. bipolar cable (0,35 mm²) for MVR230V and MVR24V
 65 cm. four-pole (0,35 mm²) for MVR230MV and MVR24MV
 Material Technopolymer fire-resistant case: class V0



Actuator timing details (approx.)

Actuator	Supply voltage	Valve opening		Valve closing (after 5' power on)		Valve closing (after 30' power on)	
		Dead time	Total time	Dead time	Total time	Dead time	Total time
MVX21R MVR230V MVR230MV	230	1min 20 sec	3 min 50 sec	2 min 20 sec	6 min 30 sec	2 min 30 sec	6 min 40 sec
	110	1 min 40 sec	6 min 20 sec	1min 20 sec	5 min 30 sec	1min 20 sec	5 min 30 sec
MVX41R-MVX57 MVR24V MVR24MV	24	2 min 30 sec	5 min 50 sec	2 min 20 sec	6 min 30 sec	2 min 30 sec	6 min 40 sec

Product conforms, for CE marking, to the following directives:
 EMC 2004/108/CE according to the EN 61326-1 standard.
 LVD 2006/95/CE according to the EN 61010-1 standard for the products powered 110-230 V.

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 MVX and MVR.V electro-thermal actuators.

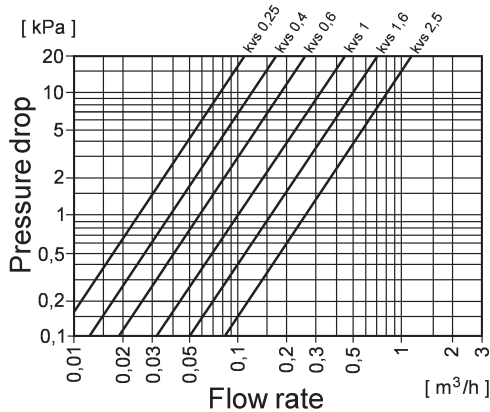
Micra valves extremely reduced dimensions enable an easy mounting on terminal unit coils.

SPECIAL APPLICATIONS

Thermal insulation for cool water applications is available on request.

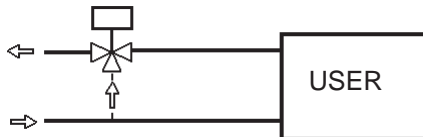
Moreover, it is possible to order a kit for fan coil installation, which can be customized according to the various vendors' requirements. For further information, please contact our Technical Support.

PRESSURE DROP DIAGRAM

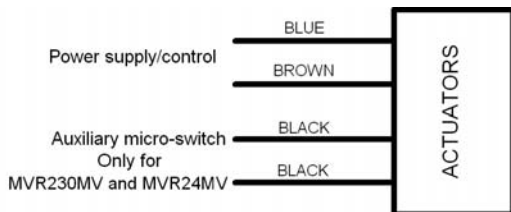


APPLICATION DIAGRAMS FOR VALVES MOUNTED AS MIXING

Three-way valves



WIRING DIAGRAM



N3136

SAFETY PRESCRIPTIONS

230 V products

- 1) Install on the power supply line a screening device to avoid short circuits (fuse or magneto-thermic) according to the specifications in force.
- 2) In case of actuator removing from skilled staff, be sure that the power supply is disconnected.
- 3) The products are maintenance free.

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 declared protection degree (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.

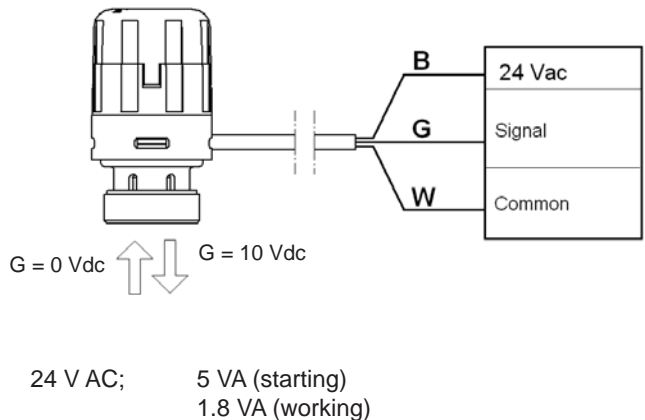
ACCESSORIES

VXC

Manual control.



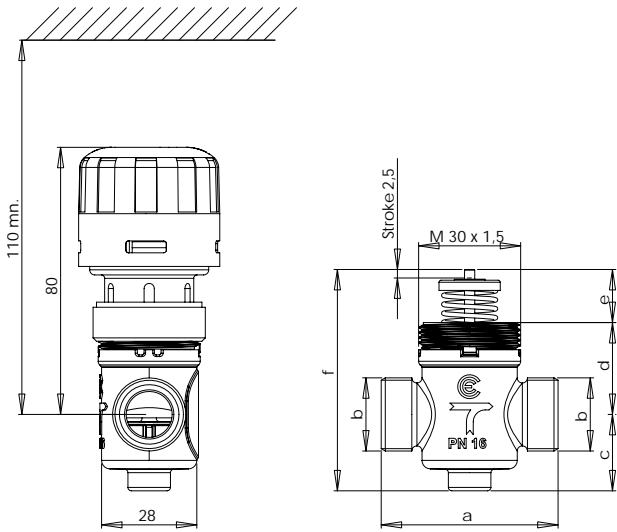
WIRING DIAGRAM (MVX57)



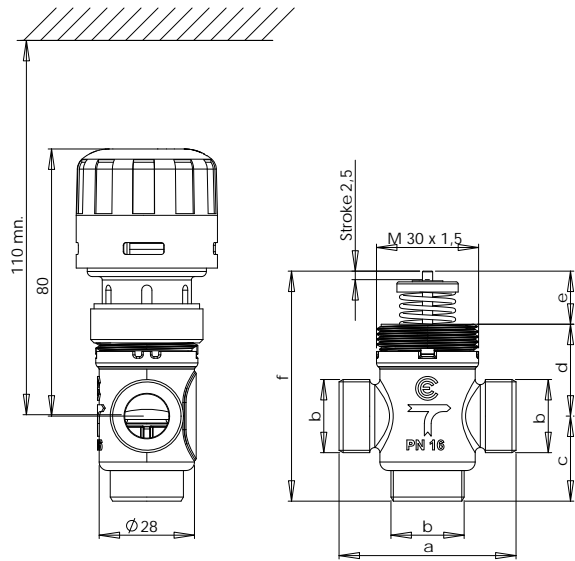
B = Brown
G = Green
W = White

OVERALL DIMENSIONS (mm)

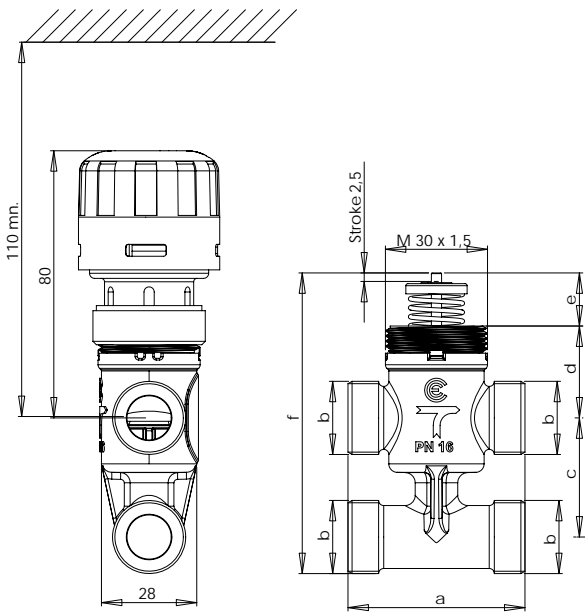
VSX-MVX21/41



VMX-MVX21/41



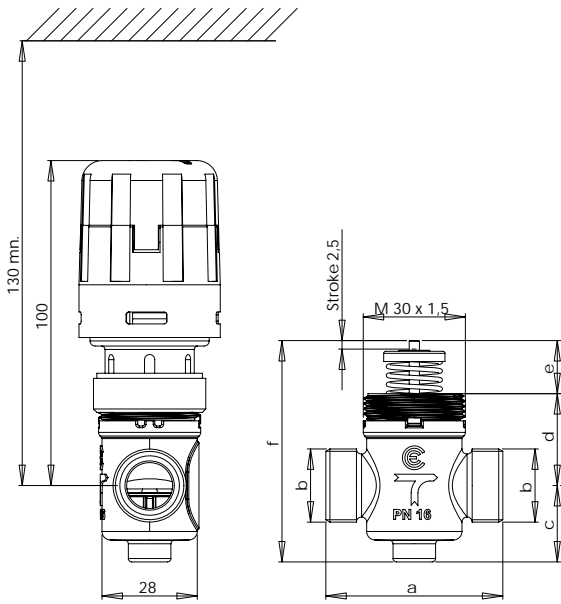
VTX-MVX21/41



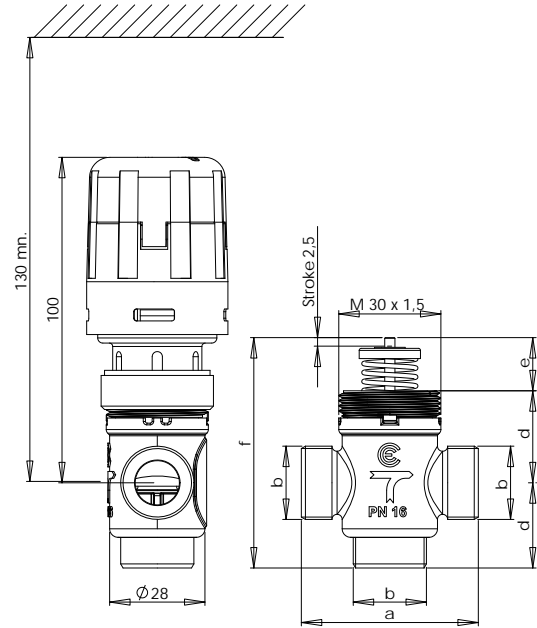
Valve+actuator dimensions	DN	A	B	C	D	E
VSX09P-VSX10P VSX11P-VSX12P VSX13P-VSX13 +MVX21R/41R	1/2"	52	95,5	19,5	28	76
VSX21-VSX21P +MVX21R/41R	3/4"	56	95,5	19,5		
VMX09P-VMX10P VMX11P-VMX12P VMX13P-VMX13 +MVX21R/41R	1/2"	52	101	25		
VMX21-VMX21P +MVX21R/41R	3/4"	56	110	34		
VTX09P-VTX10P VTX11P-VTX12P VTX13P-VTX13 +MVX21R/41R	1/2"	52	122	35		
VTX09P4-VTX10P4 VTX11P4-VTX12P4 VTX13P4 +MVX21R/41R	1/2"	52	127	40		
VTX21-VTX21P +MVX21R/41R	3/4"	56	139	50		

OVERALL DIMENSIONS (mm)

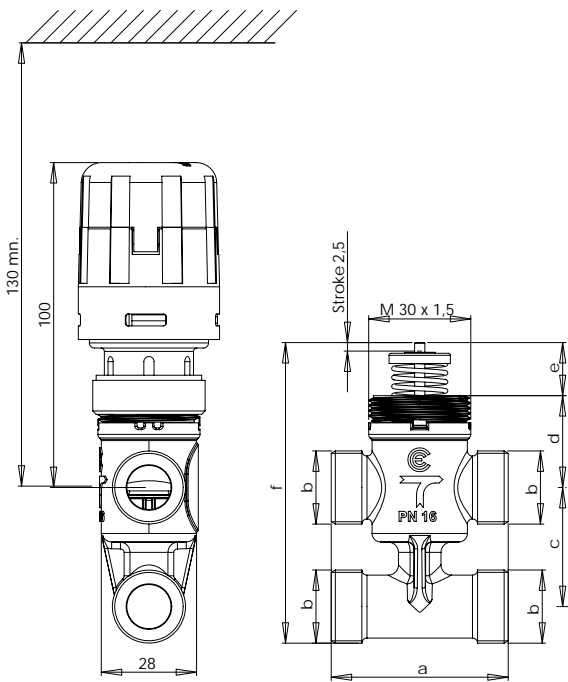
VSX-MVX57



VMX-MVX57



VTX-MVX57



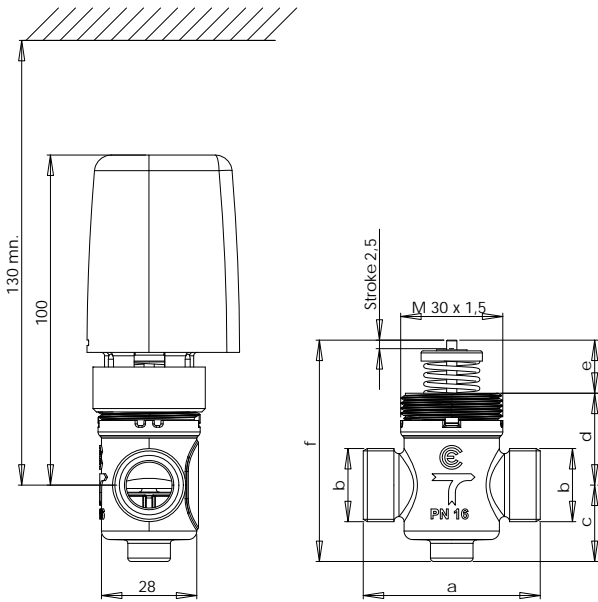
Valve	Actuator	a	b	c	d	e	f
VSX09P - VSX10P VSX11P - VSX12P VSX13P - VSX13	MVX57	52	G1/2"A	22,5	27	15,6	65
VSX21 - VSX21P		56	G3/4"A	23,6	25,8		

Valve	Actuator	a	b	c	d	e	f
VMX09P - VMX10P VMX11P - VMX12P VMX13P - VMX13	MVX57	52	G1/2"A	25	27	15,6	65
VMX21 - VMX21P		56	G3/4"A	34	25,8		

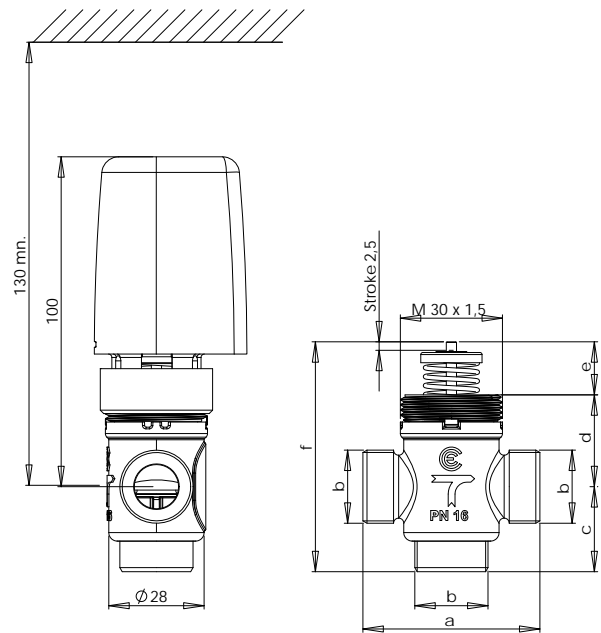
Valve	Actuator	a	b	c	d	e	f
VTX09P - VTX10P VTX11P - VTX12P VTX13P - VTX13	MVX57	52	G1/2"A	35	27	15,6	88,4
VTX09P4 - VTX10P4 VTX11P4 - VTX12P4 VTX13P4 - VTX13P4		56	G1/2"A	40			93,4
VTX21 - VTX21P		56	G3/4"A	50	25,8		98,4

OVERALL DIMENSIONS (mm)

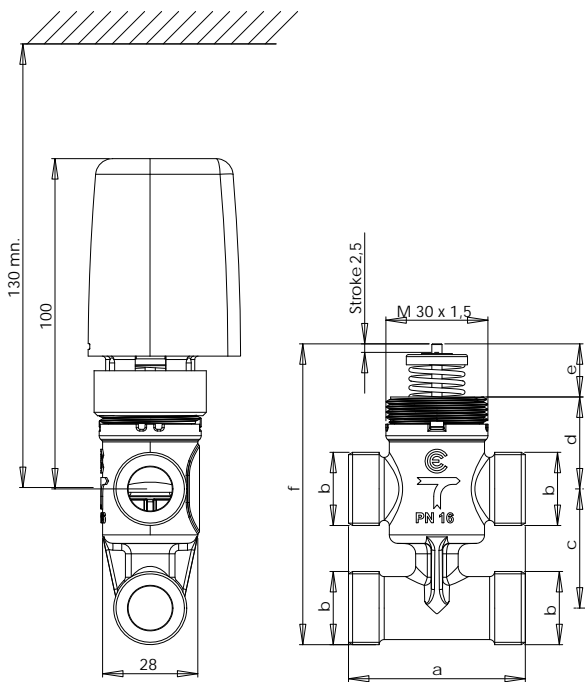
VSX-MVR.V



VMX-MVR.V



VTX-MVR.V



Valve	Actuator	a	b	c	d	e	f
VSX09P - VSX10P VSX11P - VSX12P VSX13P - VSX13	MVR24/230M	52	G1/2"A	22,5	27	15,6	65
VSX21 - VSX21P		56	G3/4"A	23,6	25,8		

Valve	Actuator	a	b	c	d	e	f
VMX09P - VMX10P VMX11P - VMX12P VMX13P - VMX13	MVR24/230M	52	G1/2"A	25	27	15,6	65
VMX21 - VMX21P		56	G3/4"A	34	25,8		

Valve	Actuator	a	b	c	d	e	f
VTX09P - VTX10P VTX11P - VTX12P VTX13P - VTX13	MVR24/230M	52	G1/2"A	35	27	15,6	88,4
VTX09P4 - VTX10P4 VTX11P4 - VTX12P4 VTX13P4 - VTX13P4		56	G1/2"A	40			
VTX21 - VTX21P		56	G3/4"A	50	25,8	98,4	

The performances stated in this sheet can be modified without any prior notice due to design improvements