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Model	Description					
VSX	two-way valve DN 1/2" - 3/4"; Kvs m³/h 0,25 - 6					
VMX	three-way valve DN 1/2" - 3/4"; Kvs m3/h 0,25 - 6 (4 angle way)					
VTX	three-way valve with built in by-pass DN 1/2" - 3/4"; Kvs m3/h 0,25 - 6 (4 angle way)					

### **APPLICATION 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 MCA 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.

#### **MANUFACTURING CHARACTERISTICS**

Brass valve body. Fortron plug with EPDM double OR. Stainless steel stem. Stem packing with EPDM double OR. All models are normally closed, i.e. the action of the valve spring makes the plug move to the upper seat, even with disassembled actuator.

#### **TECHNICAL CHARACTERISTICS**

Operating pressure: 1600kPa Stroke: 2,5mm Max. fluid speed: 3m/s

Allowed fluids: Water, water+glycol (30% max.)

Temperature: 5T95°C

Leakage: 0 (tight close-off on direct and angle

way)

### **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.

Micra® valves can be motorized through MVX and MCA® actuators (on/off or proportional 0-10V, 24 or 230V depending on the models; MCA® can also be equipped with an auxiliary microswitch); the valve/actuator assembly is in any case very easy. For further infomration about actuators please refer to the following data sheets: MVX\_DBL418e and MCA\_DBL400e.



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.

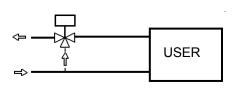
Three-way valves should be preferably used as mixing valves.

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.

N.B.: Micra $^{\oplus}$  if coupled with unpowered MVX actuator are normally closed; if coupled with unpowered MCA actuator are normally open.

# **APPLICATION DIAGRAMS** for valves mounted as mixing



### **ACCESSORIES**

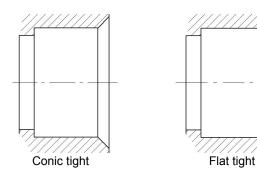




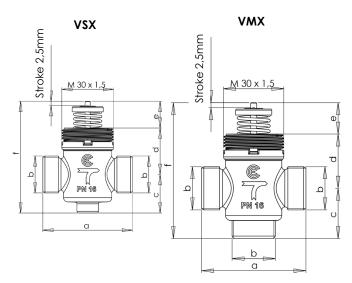
Controlli S.p.A. 16010 Sant'Olcese (GE) Tel. 010 73 06 1 Fax. 010 73 06 870/871 www.controlli.eu

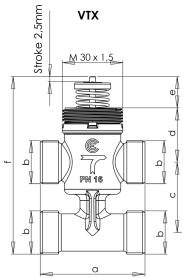


Valve models	Kvs direct way m³/h	Kvs angle way m³/h	Close-off bar	Connections (*)			
Two-way valves							
VSX09P	0,25						
VSX10P	0,4						
VSX11P	0,6		2,5	G1/2M			
VSX12P	1		2,0	,			
VSX13 VSX13P	1 1 6						
VSX21 VSX21P	2,5		1,5	G3/4M			
	Th	ree-way val	ves				
VMX09P	0,25	0,25					
VMX10P	0,4	0,4		G1/2M			
VMX11P	0,6	0,6	2,5				
VMX12P	1	0,6	2,0	01/2/11			
VMX13 VMX13P	1,6	1					
VMX21 VMX21P	2,5	1,6	1,5	G3/4M			
Thre	e-way valve	s with built-i	n by-pass (4 ports)				
VTX09P							
VTX10P	0,4	0,4					
VTX11P	0,6	0,6					
VTX12P	1	0,6					
VTX13 VTX13P	1,6	1	2,5	G1/2M			
VTX09P4	0,25	0,25					
VTX10P4	0,4	0,4 0,4					
VTX11P4	0,6	0,6					
VTX12P4	1	0,6					
VTX13P4	1,6	1					
VTX21 VTX21P VTX21P4	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.



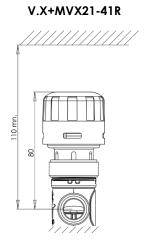


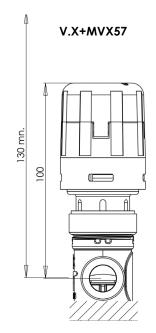
Valve	а	b	С	d	е	f
VSX09P - VSX10P		G1/2"A	22,5	27	15,6	65
VSX11P - VSX12P	52					
VSX13P - VSX13						
VSX21 - VSX21P	56	G3/4"A	23,6	25,8		
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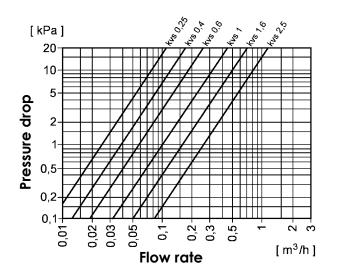
Valve	а	b	С	d	е	f
VMX09P - VMX10P						
VMX11P - VMX12P	52	G1/2"A	25	27	15 /	65
VMX13P - VMX13					15,6	
VMX21 - VMX21P	56	G3/4"A	34	25,8		75,4

Valve	а	b	С	d	е	f
VTX09P - VTX10P		2 G1/2"A	35	- 27	15,6	88,4
VTX11P - VTX12P	52					
VTX13P - VTX13						
VTX09P4 - VTX10P4		G1/2"A	40			93,4
VTX11P4 - VTX12P4	56					
VTX13P4 - VTX13P4						
VTX21 - VTX21P	56	G3/4"A	50	25,8		98,4
VTX21P4	56	G3/4"A	40	25,8		88,4

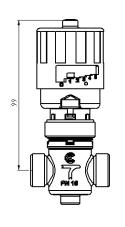
### PRESSURE DROP DIAGRAM

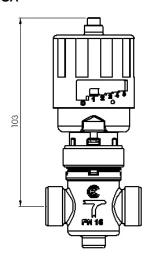






# V.X+MCA





The performances stated in this sheet can be modified without any prior notice

