

TVI-FM SERIES HIGH CLOSE-OFF FCU, MODULATING VALVE



DESCRIPTION

FM series modulating valves are mainly used in central air-conditioning cool/heat water system. It can accurately control the flow of cool/heat medium according to the actual requirement, and won't result in sudden change of temperature and to control the room temperature accurately.

The valve is driven by bi-directional motor that is connected with the floating thermostat by common, open and close terminals. The floating thermostat will continuously collect the data and make processing, and send out control signals to operate or stop the motor so as to control the open/close angle of the valve. Then the chilled/hot water will enter into the fan coil, and cool/heat air will be supplied to the room. When the room temperature reaches the set point, the thermostat will make the valve power off. So the opening angle of the valve will be always at the best state, and the room temperature will be kept within the set range of the thermostat.

If the matching controller is without overtime protection function, the timing protection device can be selected to assemble in the valve. With this timing protection device, the life of the motor will be extended.

FM series modulating valve has two types: 2-way and 3-way. It has four sizes: 1/2", 3/4", 1" and 1^{1/4}". There are 8 kinds of specifications classified by the access type and the fluid characteristic. There are also different pipe connection for customers' selection. Please refer as below.

The base and cover of FM series modulating valve is used flameproof engineering plastic. Ball valve plug is used to control the fluid. It has the advantages of large flow rate, high differential pressure, low noise, stable and dependable performances. It can withstand the high/low temperature and high humidity condition often appeared in concealed fan coil unit.

Further more it also has the following advantages:

- Bi-directional modulating control;
- High precision and sensitivity of temperature control;
- Various AC voltages for selection, such as 24V, 110V and 220V, etc.;
- Timing protection device (for 24V working power supply, it can be assembled for optional), to ensure motor reliable and durable life;
- Built-in electronic card (24V working power supply) can receive 0-10V or 4-20mA DC input control signal, and provide proportional control;
- The valve actuator and valve body is used tight lock connection. The actuator can be installed after the installation of valve body. It has flexible and convenient assembly.
- Non spring return & non detachable type.

SPECIFICATIONS AND DATA

PRODUCT CODE	TYPE	FLOW RATE (Kv)	SIZE	CLOSING-OFF PRES. (MPa)	BODY PRES. (MPa)	MEDIUM	FLUID TEMP. (°C)	WORKING TEMP. (°C)	TECHNICAL DATA
TVI-FM-215-24E	2-way	3.2	G1/2"	0.3	2.1	Chilled / hot water	2~94	<40	Rated Voltage(for optional): 220V AC , 110VAC, 24V AC Frequency: 50/60Hz Full stroke time: 2-way valve: DN15, DN20 55S DN25 60S DN32 80S 3-way valve: DN15, DN20 60S DN25 65S DN32 105S
TVI-FM-220-24E		4.6	G3/4"	0.3					
TVI-FM-225-24E		6.8	G1"	0.3					
TVI-FM-232-24E		10.0	G1/4"	0.3					
TVI-FM-315-24E	3-way	3.2	G1/2"	0.3					
TVI-FM-320-24E		4.6	G3/4"	0.3					
TVI-FM-325-24E		5.7	G1"	0.3					
TVI-FM-332-24E		8.4	G1 1/4"	0.3					

(x) *Extended mounting support between valve body and actuator*

DIMENSIONS (Refer to Figure 1)

TYPE	DIMENSIONS (mm)				
	C	D	E	F	G
DN15 2-way	115	73	67	80	90
DN15 3-way	125	73	67	80	90
DN20 2-way	115	73	67	89	90
DN20 3-way	127	73	67	89	90
DN25 2-way	117	73	67	93	90
DN25 3-way	139	73	67	93	90
DN32 2-way	131	73	67	105	90
DN32 3-way	146	73	67	105	90

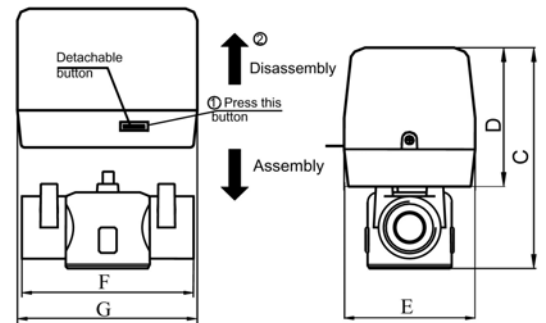


Figure. 1

INSTALLATION AND OPERATION INSTRUCTION

- 2-way and 3-way valve is installed as Figure 2 and 3. For high building, pressure-reducing valve should be installed on branch pipe at ground floor.
- Note: When the valve is mounted on horizontal pipe, the angle must be positioned less than 85 ° (see Figure 4), and it must be prevented from dripping. When the valve is mounted on vertical pipe, it must be prevented from dripping.
- Manual operating lever: The valve is unlocked when press the manual operating button. Moving the manual lever can make the valve return. When release the button, the valve will be locked again automatically.
- When install 2-way valve, the flow direction is from end "B" to "A", for normal-open valve, it is from end "A" to "B". In both situations, the valve closing direction is opposite.
- When install 3-way valve, end "B" is supply to the coil, end "A" is by-pass, there is no mark for inlet, end "A" and "B" is marked on the bottom of the valve body.

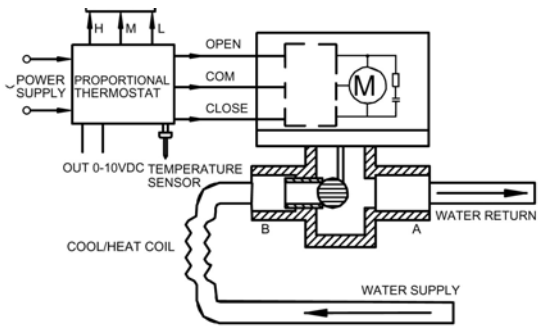


Fig. 2 2-Way Valve

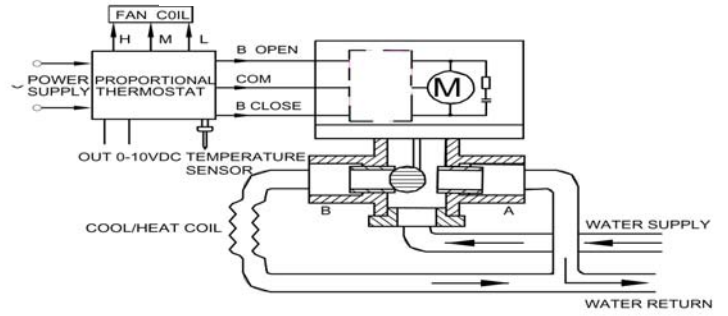


Fig. 3 3-Way Valve

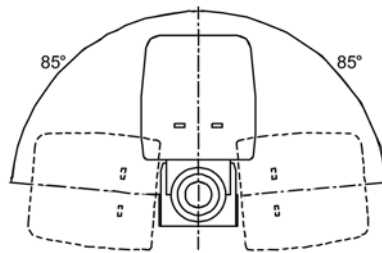


Figure 4

ELECTRONIC CARD SETTING DIAGRAM

