



DESCRIPTION

**663/3**

3-way control valve for fan coils for heating and cooling applications. As zone valve, its use is restricted by the working max differential pressure which limits the working flow rate range. Axial movement for flow rate control of terminal units.

Flexible installation direction (mixing and diverting configuration) to match every needs.

Normally open valve equipped with NPT union male connections with 3 mm thick EPDM gaskets. In standard position, the by-pass line is closed.

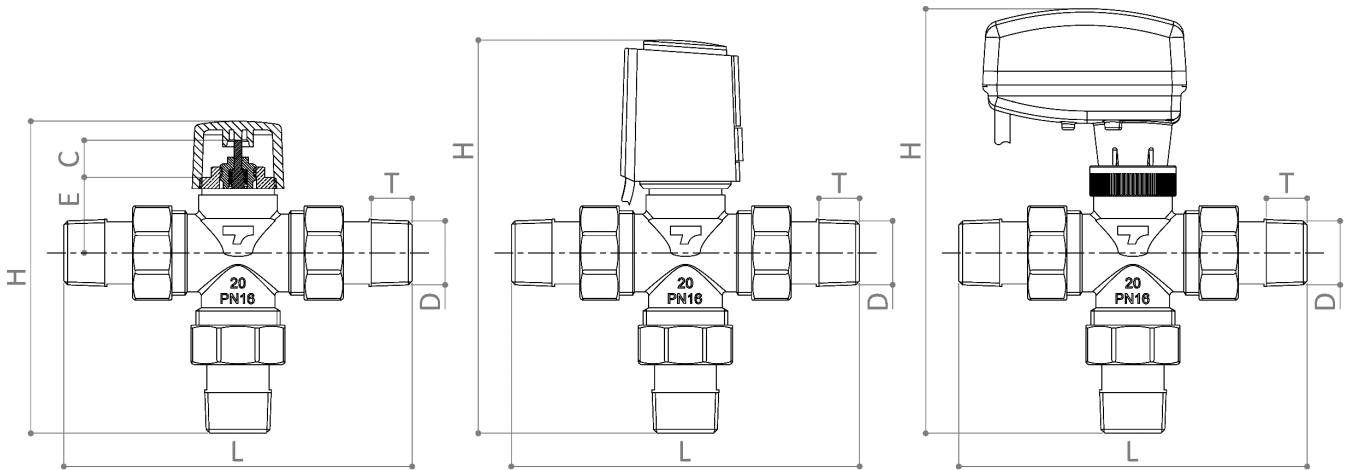
Provided with a commissioning cap. Suitable for actuators with threaded connection M30x1,5 (stroke 3 mm) to implement an ON/OFF control strategy.

DIMENSIONS

#1 Valve without actuator

#2 Valve with actuator series A54 or V54

#3 Valve with actuator series VA7481



Dimensions in mm

	D	T	H	L	E	C <sub>min</sub>	C <sub>max</sub>	Width	Weight [g]*
#1	½" NPT	15	123	150	30	11.5	14.5	37	635
	¾" NPT	15	123	137	30	11.5	14.5	37	615
	1" NPT	16.5	123	159	30	11.5	14.5	37	775
#2	½" NPT	15	154	150	-	-	-	48	635
	¾" NPT	15	154	137	-	-	-	48	615
	1" NPT	16.5	154	159	-	-	-	48	775
#3	½" NPT	15	167	150	-	-	-	49	635
	¾" NPT	15	167	137	-	-	-	49	615
	1" NPT	16.5	167	159	-	-	-	49	775

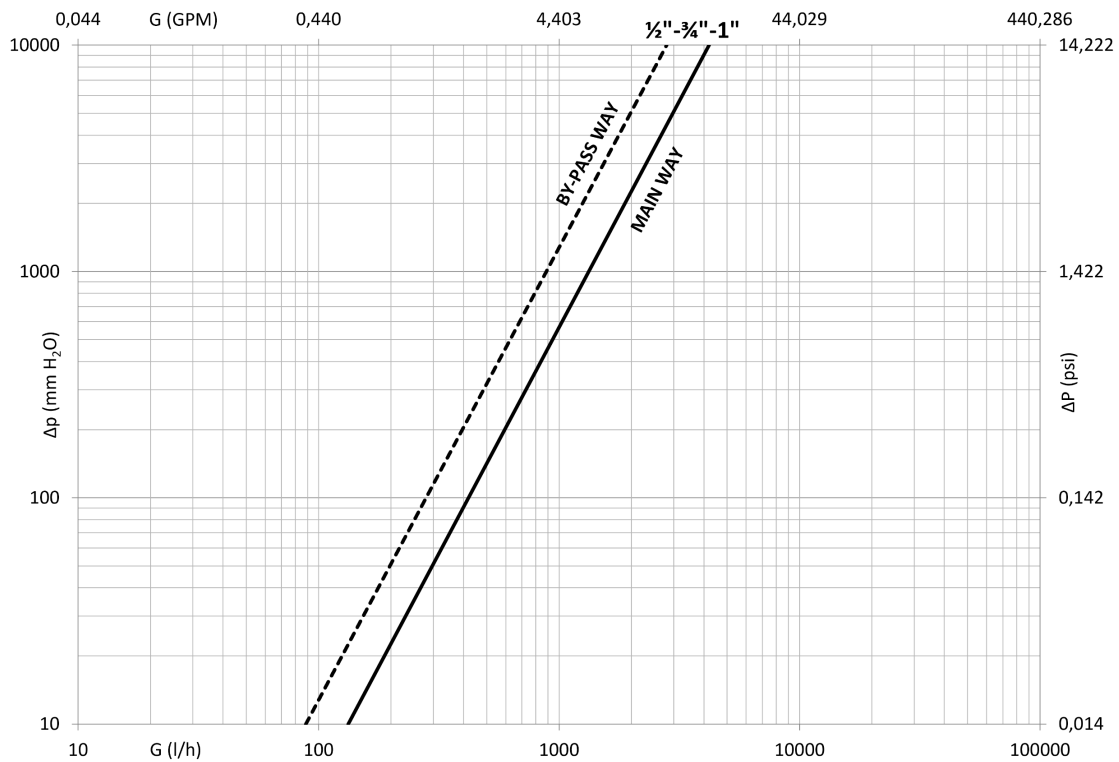
\*Weight does not include the actuator. For the weight of the actuators see their dedicated technical specifications.

MATERIALS

- Body** CW617N (UNI EN 12165) CuZn40Pb2
- Headwork** CW614N (UNI EN 12164) CuZn39Pb3
- Stem** CW614N (UNI EN 12164) CuZn39Pb3 Nickel plated
- Spring** Stainless steel AISI 302

<b>Stuffing box</b>	CW614N (UNI EN 12164) CuZn39Pb3
<b>O-rings</b>	3 x EPDM + 2 x NBR
<b>Cap</b>	White ABS
<b>Nut</b>	CW617N (UNI EN 12165) CuZn40Pb2
<b>Tang</b>	CW510L (UNI EN 12164) CuZn42
<b>Gaskets</b>	3 x EPDM (thickness 3 mm)

**PRESSURE DROP DIAGRAM**



Size	MAIN WAY			BY-PASS WAY		
	1/2" NPT	3/4" NPT	1" NPT	1/2" NPT	3/4" NPT	1" NPT
<b>Kv</b>	4.2	4.2	4.2	2.8	2.8	2.8
<b>Cv</b>	4.86	4.86	4.86	3.24	3.24	3.24
<b>PN</b>	16	16	16	16	16	16
<b>Line</b>	—————			- - - - -		

**TECHNICAL FEATURES**

Pressure rating	Working temperature range*	Working differential pressure (no noise)	Medium**
PN16	2°C – 120°C	0.5 bar – 7.25 psi	Water or water+glycol 40%

\*No frost and no steam. Working temperature range may change if an actuator is installed: for working temperature limits of the actuators see their dedicated technical specifications. \*\*Water quality must comply with UNI 8065. A strainer upstream is suggested.

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**CLOSE-OFF PRESSURE**

According to the valve technology, it is mandatory not to exceed the maximum differential pressure values in order to ensure the right operation with all the different actuators, whether the valve is installed as a control valve (terminal units) or a zone valve. These values are collected in the following table:

Valve type	Valve with cap		Valve with actuator series A54 or V54		Valve with actuator series VA7481	
	[bar]	[psi]	[bar]	[psi]	[bar]	[psi]
½" NPT	3	43.51	1	14.50	2	29.01
¾" NPT	3	43.51	1	14.50	2	29.01
1" NPT	3	43.51	1	14.50	2	29.01

**ACTUATORS**

Type	Part number	Stroke	Adapter
24 V, 3 Point floating	VA7481	6.3 mm	Not needed
230 V, 3 Point floating	VA7481	6.3 mm	Not needed
24 V, 0-10 V Proportional Thermic	A544O2S	4 mm	VA80 (included)
24 V, ON-OFF PWM Thermic	A542O2S	4 mm	VA80 (included)
230 V, ON-OFF PWM Thermic	V542O2Q	4 mm	VA80 (included)

For further informations about the actuators please refer to their dedicated technical specifications.



VA7481 series



A54 series

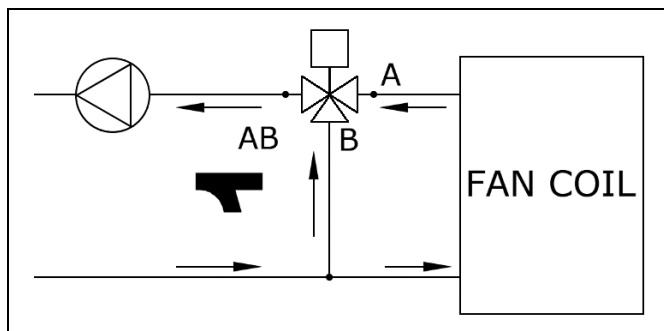


V54 series

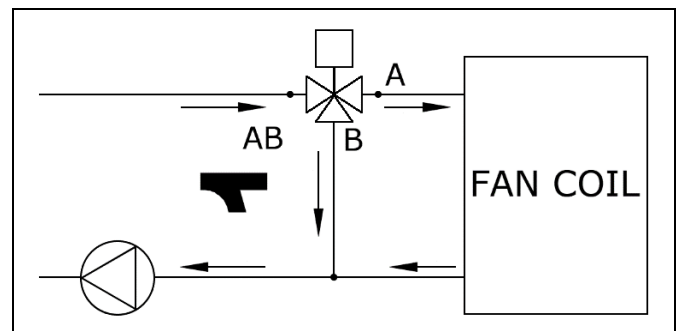
**INSTALLATION**

The valve can satisfy every installation requirement. It can be mounted in mixing (control valve on terminal unit outlet) or diverting (control valve on thermal unit inlet) configuration. The flow direction logo on the valve must always be followed. Refer to the following schematics for details:

Mixing configuration



Diverting configuration



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The valve can be installed in any position between the horizontal. Upside down installation must be avoided in order not to expose the actuator, if installed, to any water or dew (Fig. 1). In order to guarantee the correct installation of the valve refer to the logo placed on its body (Fig. 2). The main way is the one indicated as **A** while the by-pass way is the one indicated as **B**.

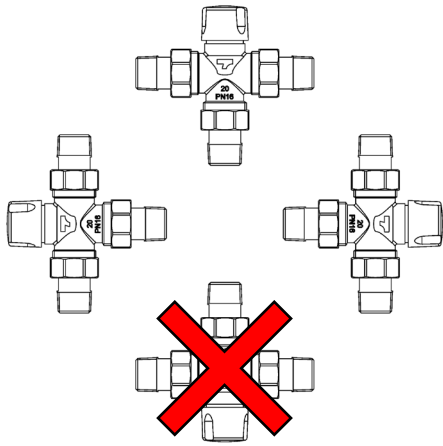


Fig. 1

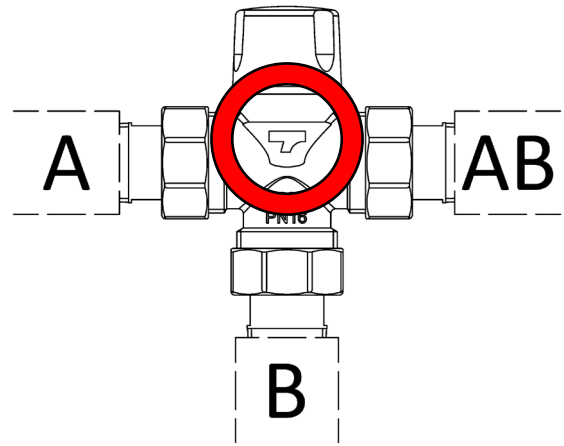


Fig. 2