

*****Thermal Valve Actuator*****

General Description



HTW-TV02-VA Thermal Valve Actuator is designed to control the open/close of the pipe of chilled/hot water for HVAC system so as to control the indoor temperature and maintain a thermal room temperature.

It is installed on the chilled/hot water pipe, and the valve is controlled to open or close via the signal send from thermostat. The thermostat sends a signal to open the thermal valve to cool/ heat the room via heat exchange from the cooling/heating media, like chilled/heating water.

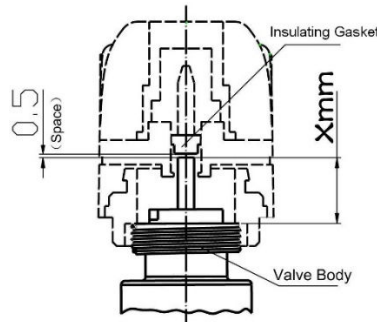
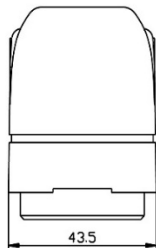
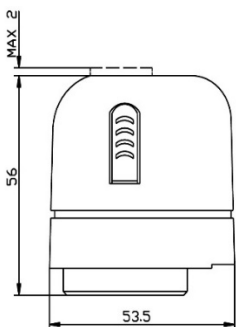
2 models for options:
HTW-TV02-VAC
HTW-TV02-VAO

*HTW-TV02-VAC fits for normally closed valve bodies HTW-TV02-VBC series
HTW-TV02-VAO fits for normally open valve bodies HTW-TV02-VBO series*

Specification

Housing	Material	PA6110
	Color	White
Control Element		Electro-thermal Wax Sensor
Working Force Intensity (F) & Direction		80n ≤ f < 130n; direction: downward
Connector	For HTW-TV02-VB1/ VB2 Valves	M30x1.5
Working Ambient Temperature		-0.5℃~60℃
First Fully Open		5~6.5 minutes (at 25℃)
Protection Class		IP40
Power Consumption		1.1VA
Max. Impact Current	24v	1.2A
	110v	0.9A
	220v/230v	0.7A
Lead Wire		1M Length (2-Core)
Net Weight		94g

Dimensions



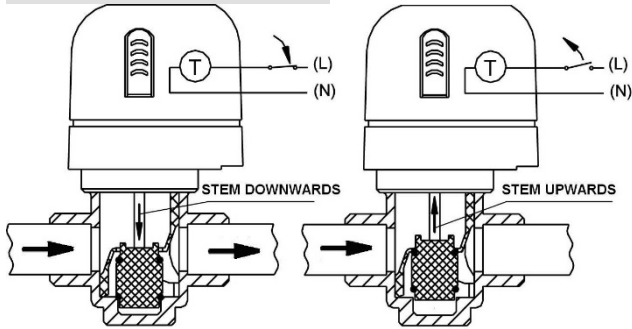
“MAX 2” means the max upward moving height when the actuator is overloaded (2mm).

“Xmm” means the height from the top of the valve stem to the top of the connector. Standard height is 16mm (match with 4.8mm insulating gasket)

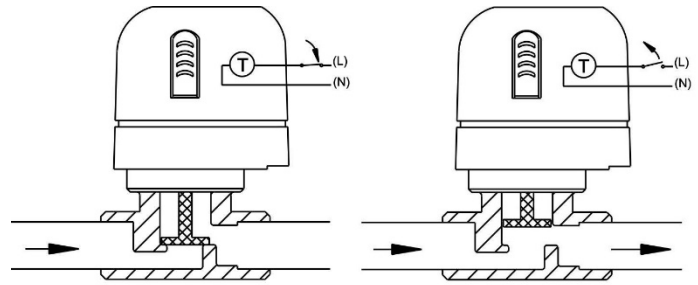
Different height can be customized

Status with Valve Body

With N.C. HTW-TV02-VBC

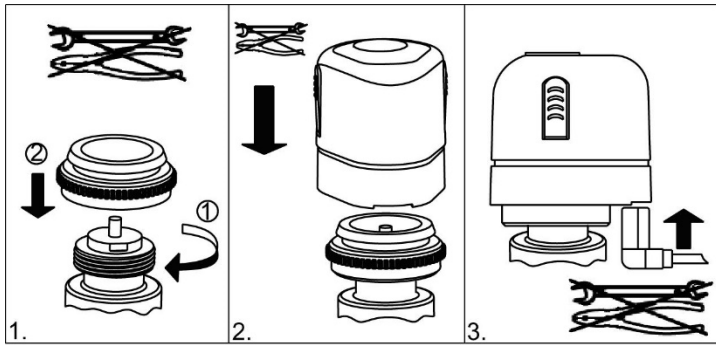


With N.O. HTW-TV02-VBO

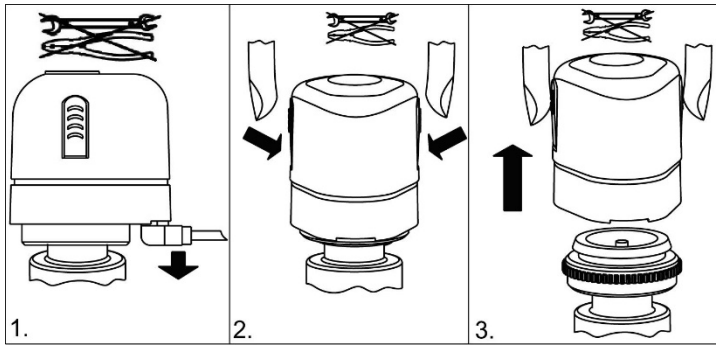


Assembly and Disassembly

ASSEMBLY



DISASSEMBLY



*****Thermal Valve Body*****

General Description



HTW-TV02-VB*-2**
2 Way Valve Body



HTW-TV02-VB-3**
3 Way Valve Body



HTW-TV02-VB-4**
4 Way Valve Body

HTW-TV02-VB series valve body is designed for temperature control in the HVAC circumstance.

There are three port type models:

- HTW-TV02-VB*-2** 2 Way Valve Body
- HTW-TV02-VB-3** 3 Way Valve Body
- HTW-TV02-VB-4** 4 Way Valve Body

HTW-TV02-VB*-2** 2 Way Valve Body varies from 2 types as below:

- Normally close(N.C.) HTW-TV02-VBC-2**

For the normally close type valve, actuator drives the piston to open the valve on direct way and close it on angle way.

- Normally open(N.O.) HTW-TV02-VBO-2**

For the normally open 2-way valve, actuator drives to close it. Spring is used to return the piston.

These valve bodies feature with condensed structure, reliability and convenient installation.

Specification

Materials	Valve body	Forging brass
	Valve stem	Stainless steel (1cr18ni9)
	Spring	Stainless steel wire (1cr18ni9)
	Inner cover	Pbt
	Piston	Frpa-66
	O-sealing- ring	Nitrile rubber
Valve body rating pressure		1.6mpa
Stroke		4.5 (mm)
Max. Allowed flow speed		3m/s
Allowed liquid		Water, water + glycol
Temperature		5~95°C
Leakage		0 (tight close-off on direct and angle way)

Model Description

HTW-TV02-VB*-	C/O	2/3/4	15/20	09	A40
Valve Body Code	N.C/N.O.	Valve Port Type	DN15/DN20	Kvs Code	Distance of the Centers (Only for the 4 Outlet Valve)
Valve Body	C=Normally Closed O=Normally Open <i>Only available in 2-way valve</i>	2—2-way 3—3-way 4—3-way, 4-outlet	15=G1/2 20=G3/4	09—Kv=0.25 10—Kv=0.40 11—Kv=0.60 12—Kv=1.00 13—Kv=1.60 20—Kv=2.00 23—Kv=2.50	A35—35mm centers A40—40mm centers A50—50mm centers

e.g. HTW-TV02-VBC-22009 equals to 2 way, 3/4", normally closed, kv=0.25

Installation

Before the installation, please make sure the pipe is clean (no soldering scraps), so the valve piston won't be blocked, and the flow direction indicated on the valve body is correct. Actuator should be mounted above the valve body. We recommend using 3-way valve as mixing valve.

*2-way valve:

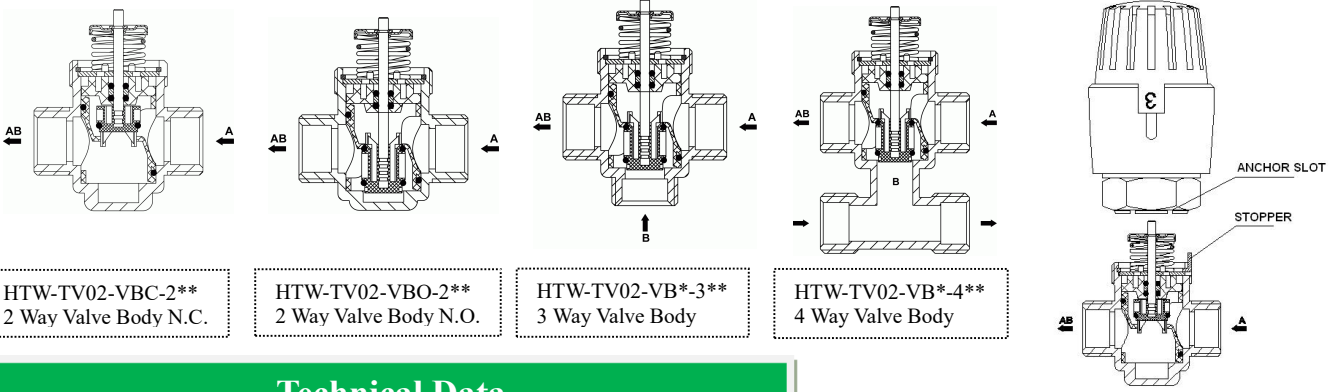
A→AB normally open or normally close

*3-way valve:

A→AB normally close

B→AB normally open

Flow direction details please refer as below pictures



HTW-TV02-VBC-2**
2 Way Valve Body N.C.

HTW-TV02-VBO-2**
2 Way Valve Body N.O.

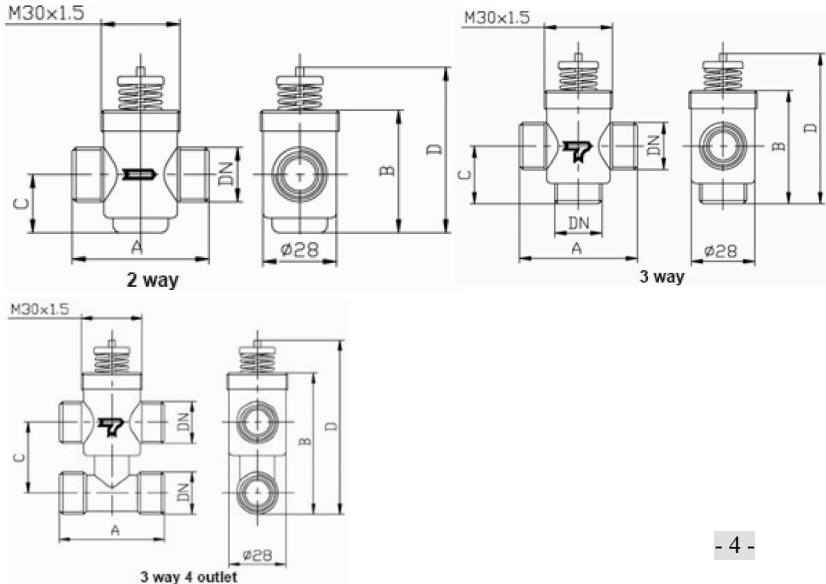
HTW-TV02-VB*-3**
3 Way Valve Body

HTW-TV02-VB*-4**
4 Way Valve Body

Technical Data

Model	Valve type	Flow rate (kv) Direct way	Flow rate (kv) Angle way	Closing-off pressure (Mpa)	Connection size
HTW-TV02-VB*09*	2-way valve	0.25	—	0.25	G1/2
HTW-TV02-VB*10*		0.4			
HTW-TV02-VB*11*		0.6			
HTW-TV02-VB*12*		1.0			
HTW-TV02-VB*13*		1.6			
HTW-TV02-VB*23*		2.5			
HTW-TV02-VB-3*09	3-way valve	0.25	0.25	0.25	G1/2
HTW-TV02-VB-3*10		0.4	0.4		
HTW-TV02-VB-3*11		0.6	0.6		
HTW-TV02-VB-3*12		1.0	0.8		
HTW-TV02-VB-3*13		1.6	1.0		
HTW-TV02-VB-3*23		2.5	1.6		
HTW-TV02-VB-4*09-A35	3-way 4 Outlet	0.25	0.25	0.25	G1/2
HTW-TV02-VB-4*10-A35		0.4	0.4		
HTW-TV02-VB-4*11-A35		0.6	0.6		
HTW-TV02-VB-4*12-A35		1.0	0.8		
HTW-TV02-VB-4*13-A35		1.6	1.0		
HTW-TV02-VB-4*11-A40		0.6	0.6		
HTW-TV02-VB-4*12-A40		1.0	0.8		
HTW-TV02-VB-4*13-A40		1.6	1.0		
HTW-TV02-VB-4*20-A40		2.0	1.2		
HTW-TV02-VB-4*23-A40		2.5	1.6	0.15	G3/4
HTW-TV02-VB-4*23-A50	2.5	1.6			

Dimensions



Outlet	DN	A	B	C	D
2-way	G1/2	52	47	19.5	63
3-way	G1/2	52	50	25	66
4-outlet -A35	G1/2	52	70	35	86
4-outlet -A40	G1/2	52	75	40	91
2-way	G3/4	56	47	22	63
3-way	G3/4	56	59	37	78
4-outlet -A40	G3/4	56	78	40	94
4-outlet -A50	G3/4	56	88	50	104