TU-POLY

910034NT　　910018CC　　910021NT

The thermostatic valve ensures the effluent temperature's constancy and is not affected by changes of water temperature, flow rate and water pressure.

It solves the problem of sudden cold and heat of water temperature while bathing. the mixing valve will automatically turn off the hot water in a few seconds when meeting a sudden cold water interruption and played the role of safety protection.

The wax thermostatic element controls the movement of spool in valve at the mixing outlet of the thermostatic faucet to block or open the inlet of cold or hot water.

After temperature setting, the thermostatic faucet will adjust the proportion of cold and hot water at the inlet,so that the temperature of the outlet remains constant.

As described above, sanitary bath and plumbing industries have very high requirements on sensitivity and precision of wax thermostatic element in some special working conditions and safety protection conditions.The diaphragm structure is basically adopted in this industry.

The wax thermostatic element produced by the TU-POLY with its own patented formula is widely recognized, praised and applied in the industry for its sensitivity and accuracy.It has also passed the European experimental institutions product certification(ACSS WRASS).

The usage of wax thermostatic element produced by TU-POLY for thermostatic faucet and thermostatic mixing valve will meet or satisfy EN-1111, EN-1999, EN-1287, NHSD08, ASSE1070, ASSE1071, ASSE1016, ASSE1017,CSAB125.3, etc requirements.

910034NT MINI Thermostatic Mixing Valve

Feature

- Thermostatic protection
- Single piece thermostatic cartridge construction
- Automatic shut off in the event of hot or cold water failure
- High flow rate, low pressure drops
- Adjustable outlet temperature
- Integral Check Valves and Strainers
- Easy installation
- ASSE1070 CSA B125.3 NSF61/NSF372

Technical Parameter

Material	Brass
Minimum Supply Pressure	20psi(138Kpa)
Minimum HM Inlet/Outlet Temp.differential	18℉(10°C)
Max. Inlet pressure ratio(H/C or C/H)	30%
Hot inlet temperature range	120℉-200℉(49°C-90°C)
Cold inlet temperature range	37.4℉-80℉(3°C-27°C)
Outlet Temperature Control	80℉-120℉(26.7°C-49°C)
Temperature stability	±3℉
Maximum Supply Pressure	150psi(1034Kpa)
Minimum flow rate for stable operation	1gpm

Application

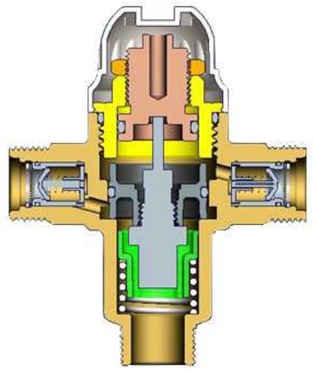
- Sanitary
- Heating and cooling system
- Solar and electric water heating system

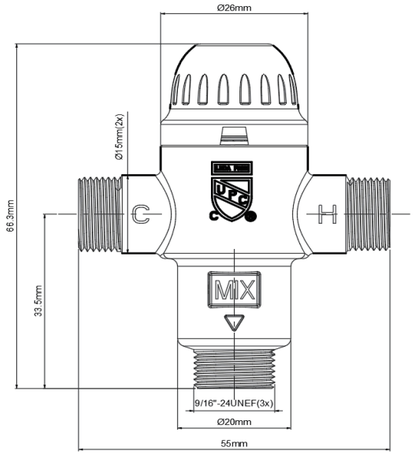
Customize Solution

If you are not sure about the parameters of thermostatic mixing valve, our engineering team will assist you with your selection or customize according to these details as follow:

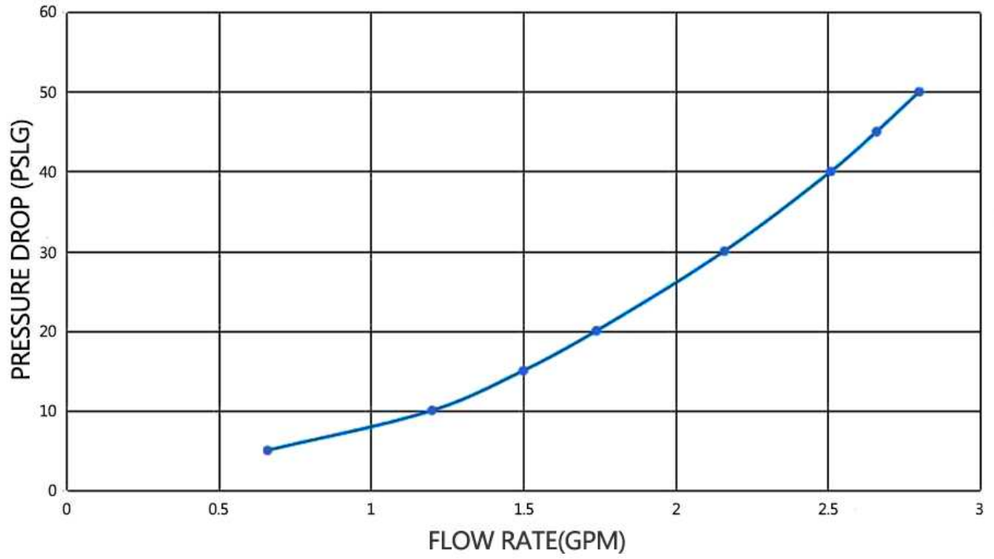
- Mixing water temperature range
- Pressure and loss of pressure
- Performance standard
- Custom material and other parts

Dimension





Flowing Curve



910018CC Thermostatic Mixing Valve

Feature

- Thermostatic protection
- Single piece thermostatic cartridge construction
- Automatic shut off in the event of hot or cold water failure
- High flow rate, low pressure drops
- Adjustable outlet temperature
- Temperature stability ± 2°C
- Integral Check Valves and Strainers
- Easy installation
- EN1111 EN1999 and QB2606-2006 standard
- Brass valve body

Technical Parameter

	Work Pressure	Max Pressure	Cold Water Temperature	Hot Water Temperature	Mix Water Temperature	Max Flow	Connection
DN15	0.1MPa-0.5MPa	16Bar	4°C-29°C	60°C-90°C	30°C-50°C	24L/Min	1/2”
DN20	0.1MPa-0.5MPa	16Bar	4°C-29°C	60°C-90°C	30°C-50°C	34L/Min	3/4”
DN25	0.1MPa-0.5MPa	16Bar	4°C-29°C	70°C-90°C	40°C-60°C	75L/Min	G1”
DN40	0.1MPa-0.5MPa	16Bar	4°C-29°C	70°C-90°C	40°C-60°C	130L/Min	G1 1/2”
DN50	0.1MPa-0.5MPa	16Bar	4°C-29°C	70°C-90°C	40°C-60°C	180L/Min	G2 ”

Application

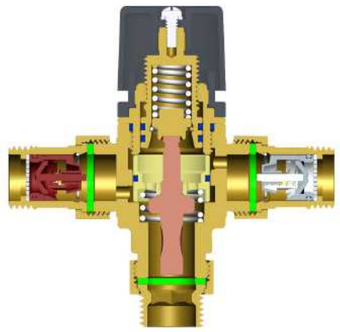
- Sanitary
- Heating and cooling system
- Solar and electric water heating system

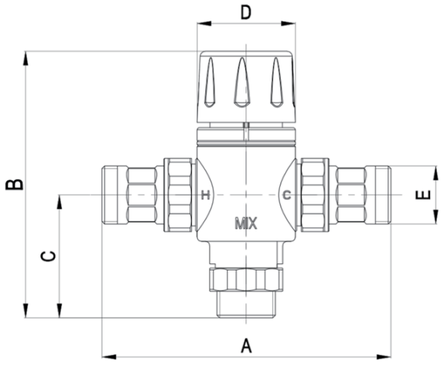
Customize Solution

If you are not sure about the parameters of thermostatic mixing valve, our engineering team will assist you with your selection or customize according to these details as follow:.

- Mixing water temperature range
- Pressure and loss of pressure
- Performance standard
- Custom material and other parts

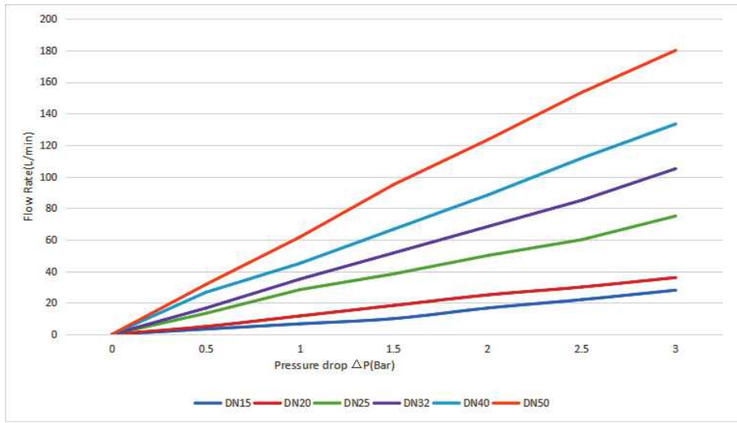
Dimension





Dimension: / Models:	A	B	C	D	E
DN15	110mm[4.33″]	108mm[4.25″]	52mm[2.05″]	33mm[1.30″]	G1/2″
DN20	134mm[5.27″]	115mm[4.53″]	60mm[2.36″]	38mm[1.50″]	G3/4″
DN25	165mm[6.50″]	135mm[5.31″]	70mm[2.75″]	45mm[1.77″]	G1″
DN40	229mm[9.01″]	1163mm[45.78″]	90mm[3.54″]	45mm[1.77″]	G1 1/2″
DN50	260mm[10.23″]	245mm[9.64″]	160mm[6.30″]	45mm[1.77″]	G2″

Flowing Curve



910019CC Thermostatic Mixing Valve

Feature

- Thermostatic protection
- Single piece thermostatic cartridge construction
- Automatic shut off in the event of hot or cold water failure
- High flow rate, low pressure drops
- Adjustable outlet temperature
- Temperature stability ± 2°C
- Integral Check Valves and Strainers
- Easy installation
- QB2606-2006
- Brass valve body

Technical Parameter

	Work Pressure	Max Pressure	Cold Water Temperature	Hot Water Temperature	Mix Water Temperature	Max Flow	Connection
DN15	0.1MPa-0.5MPa	16Bar	4°C-29°C	60°C-90°C	30°C-45°C	24L/Min	1/2”
DN20	0.1MPa-0.5MPa	16Bar	4°C-29°C	60°C-90°C	30°C-45°C	34L/Min	3/4”

Application

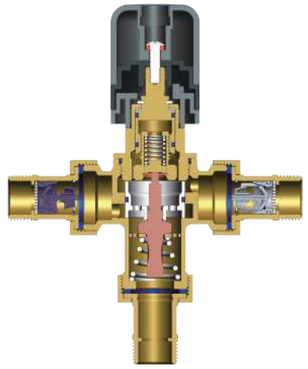
- Sanitary
- Heating and cooling system
- Solar and electric water heating system

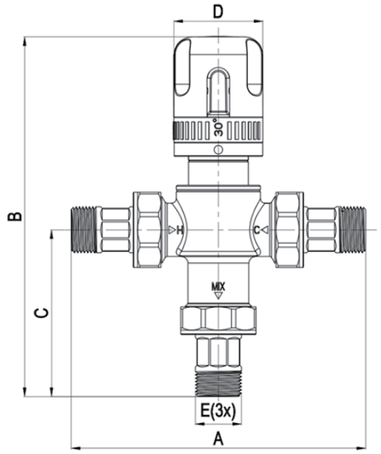
Customize Solution

If you are not sure about the parameters of thermostatic mixing valve, our engineering team will assist you with your selection or customize according to these details as follow:

- Mixing water temperature range
- Pressure and loss of pressure
- Performance standard
- Custom material and other parts

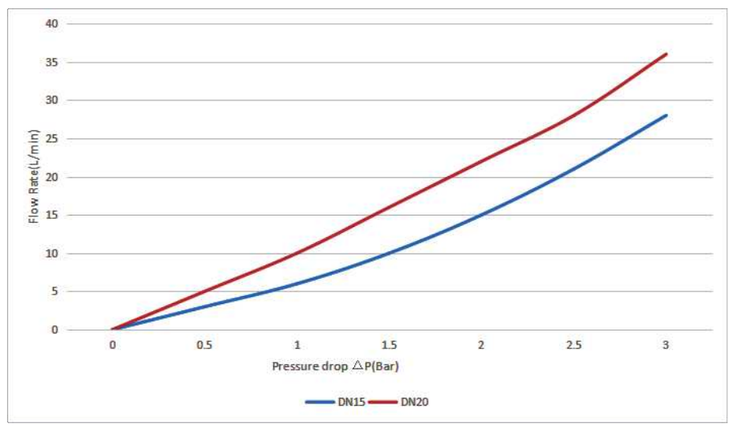
Dimension





Models: \ Dimension:	A	B	C	D	E
DN15	132mm[5.20″]	165mm[6.50″]	75mm[2.95″]	40mm[1.57″]	G1/2″
DN20	132mm[5.20″]	165mm[6.50″]	75mm[2.95″]	40mm[1.57″]	G3/4″

Flowing Curve



910021NT Thermostatic Mixing Valve

Feature

- Structure is simple and reliable
- Thermostatic protection
- High flow rate
- Adjustable outlet temperature
- High flow rate
- Adjustable outlet temperature
- Temperature steady-going
- Ease use and installation

Technical parameter

Material	Brass+ABS
Max pressure(static)	16 bar
Max working pressure	5 bar
Max inlet temperature	90°C
Adjustable temperature range	30-65°C
KV	3.0 m3/h
Flow rate	60L/min
Temperature Stability	± 2℃

Application

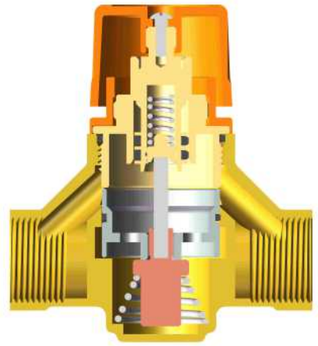
- Living Water、Under Floor Heating、Solar Water Heater、Electric Water Heater
- Sanitary
- Heating and cooling system

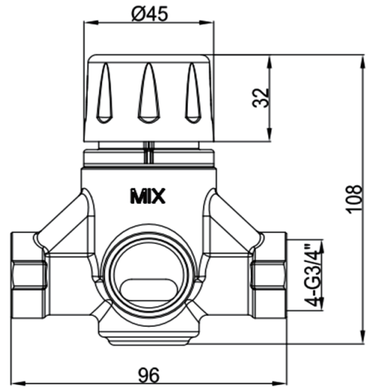
Customize Solution

If you are not sure about the parameters of thermostatic mixing valve, our engineering team will assist you with your selection or customize according to these details as follow:

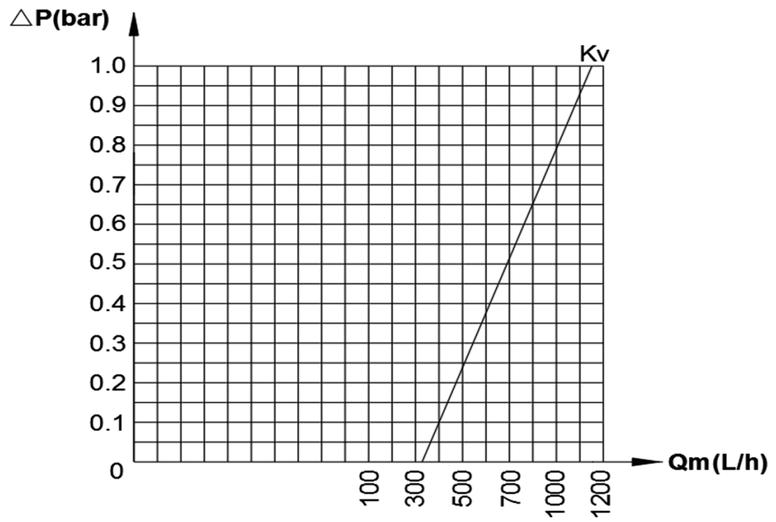
- Mixing water temperature range
- Pressure and loss of pressure
- Performance standard
- Custom material and other parts

Dimension





Flowing Curve



910044NT Low Temperature Four-way Mixing Valve

Feature

The main application of low temperature four-way mixing valve is for the under floor heating system, in summer mode, the low temperature four-way valve supplies 18-25 °C low temperature mixed water in the under floor heating pipe, allowing users to enjoy the cool indoor environment; in winter mode, low temperature four-way valve supplies the under floor heating pipe with high temperature hot water to ensure warm and comfortable interior. The entire temperature adjustment is automatically controlled by the motor and the thermostat, which is convenient and worry-free.

Technical parameter

Valve Body Material	Brass
Sealing Material	EPDM
Medium	Water
Max Working Pressure	1.0Mpa
Connection Size	DN40
Water Temperature Range	0℃~90℃
Temperature Control Range	15℃~25℃ （Factory Setting19℃）

Application

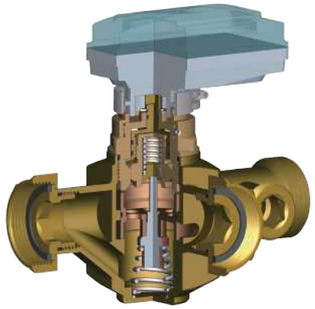
- Underfloor Heating System
- Mixing Water Centre
- Other

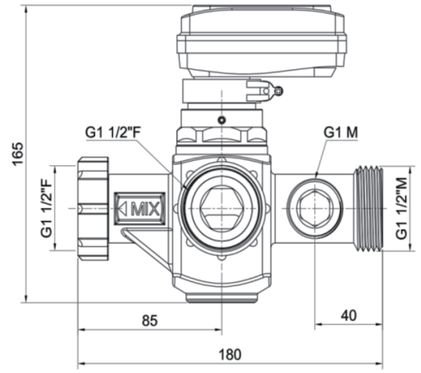
Customize Solution

If you are not sure about the parameters of thermal actuator, our engineering team will assist you with your selection or customize according to these details as follow:

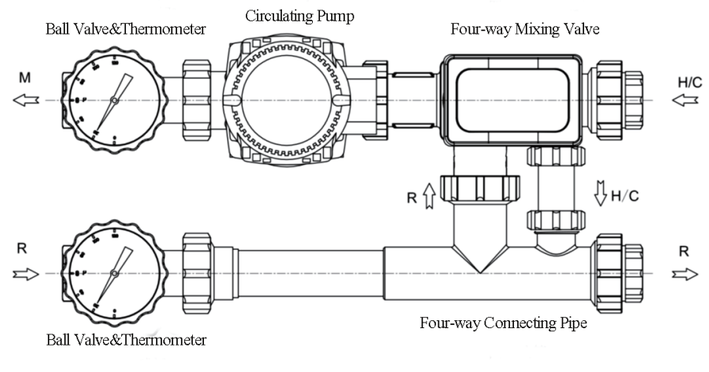
- Temperature range
- Pressure range
- Connection size
- Material and other parts

Dimension



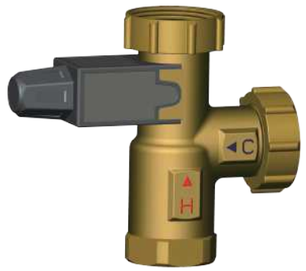


Tube Connection and Principle



Pipe connection and operation principle: The valve body is marked with arrow end of the pipe for hot water or cold water inlet, connected to the heat source such as air source heat pump; the marked MIX end is mixed water outlet end, connected to the circulation pump; the return water inlet end is connected to the return water pipe; the remaining end is a bypass pipe.
Summer mode: The air source heat pump supplies about 7-10 ° C of cold water mixing with the return water in the system about 18-25 ° C of low temperature water to keep the user's room cool.
Winter mode: air source heat pump or boiler supplies about 50 ° C hot water passing directly through the four-way mixing valve. At this time, the return water does not participate in the mixing or only a small amount of return water participates in the mixing. The motor is linked with the temperature controller to accurately control the water temperature through the valve, so that the indoors always maintain the user's demandwarm environment.

910022NT Thermostatic Mixing Valve



Feature

This mixing valve is to solve the problem that the temperature is too high of the effluent of the central heating pipe network or the boiler. the secondary heat exchange system is added between the heat source and the sub-catch, which utilizes the low temperature return after the heat dissipation in the floor heating pipe and high temperature to mix, to make the temperature of the water entering the underfloor heating pipe constant, so that it meets the technical requirements and national regulations that the low-temperature floor heating water temperature is not exceeding 60 ° C, there by prolonging the service life of the under floor heating pipe, protecting the floor and improving the comfort of the underfloor heating.

Technical parameter

Valve Body Material	Brass
Sealing Material	EPDM
Medium	water
Max Working Pressure	1.0Mpa
Connection Size	DN25
Water Temperature Range	0℃~90℃
Temperature Control Range	35℃~55℃

Application

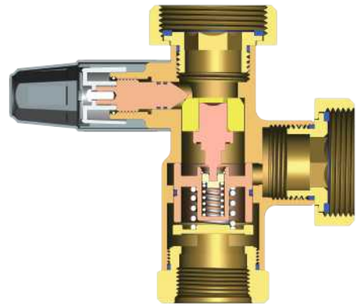
- Underfloor Heating System
- Mixing Water Centre
- Other

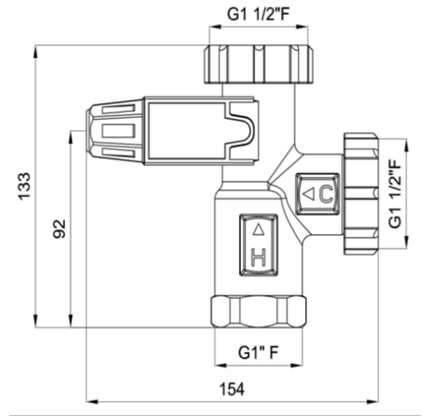
Customize Solution

If you are not sure about the parameters of thermal actuator, our engineering team will assist you with your selection or customize according to these details as follow:

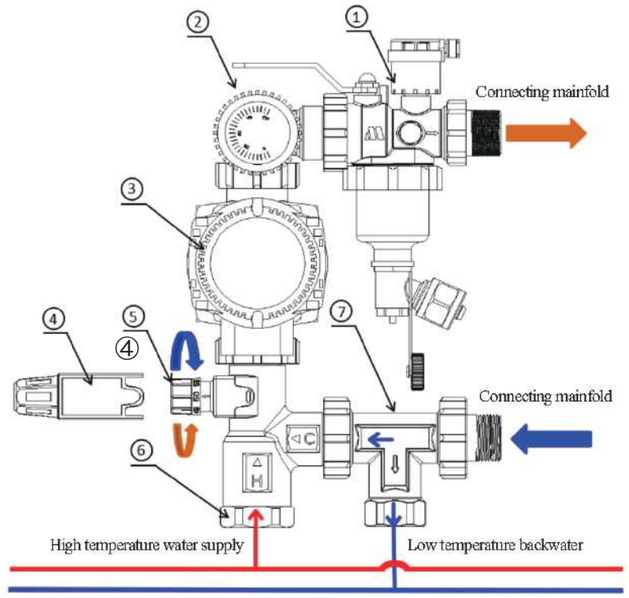
- Temperature range
- Pressure range
- Connection size
- Material and other parts

Dimension





Installation Instructions



① Filter valve (with exhaust valve)

② Pressure gauge ③ Circulation pump ④ Protection cap

⑤ Adjustment handle ⑥ TMV ⑦ Three-way

TU-POLY

910024CC Solar Thermostatic Connection Kit

Working principle

According to the temperature set by the reversing valve (45degree), reversing valve between the solar system and boiler system to realize automatic shunt switch.

The revering valve will fine-turning way to use solar energy in middle -low temperature hot water in water tank,reduce the times for the boiler frequent open.

The thermostatic mixing valve will provides a safe and comfortable hot water temperature in the kit.

Technical Parameter

Material	Brass +ABS cover
Maximum Static Pressure	10Bar
Max Differential Pressure	5Bar
Max.Inlet Temp	100°C
Setting Temperature	45°C
Control Accuracy	±2°C
Mixing Water Temperature	35-55°C
Max hot and cold water pressure ratio	2:1
The Minimum required flow for work	4L/min
Standard:EN1111	EN1287

Application

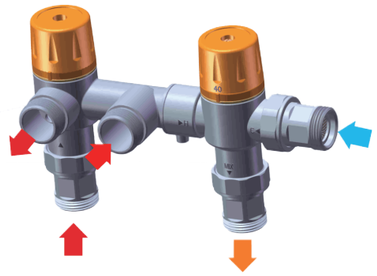
- Sanitary
- Heating and cooling system
- Solar and electric water heating system

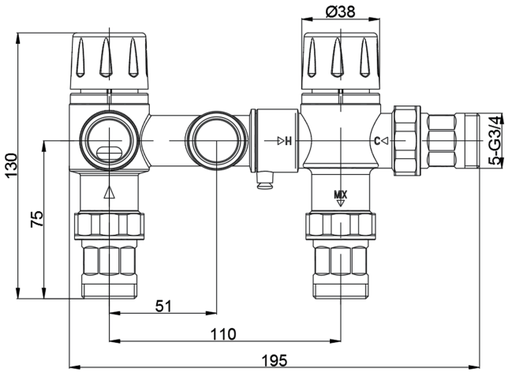
Customize Solution

If you are not sure about the parameters of thermostatic mixing valve, our engineering team will assist you with your selection or customize according to these details as follow:

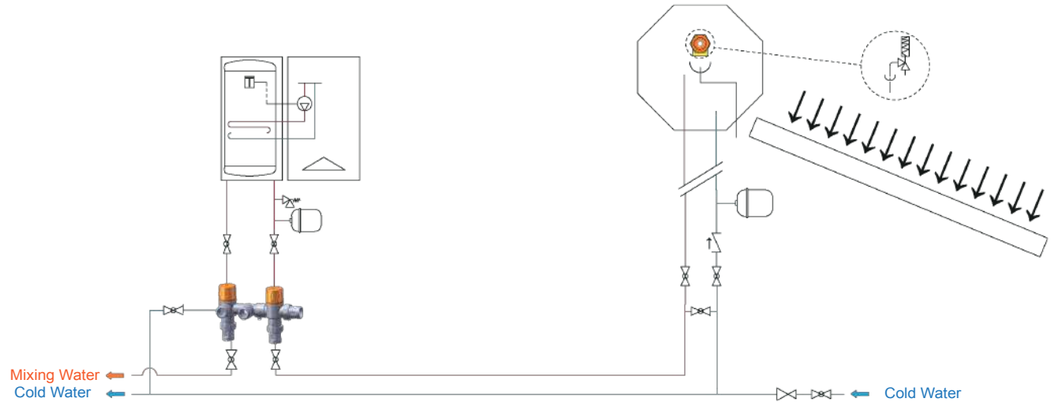
- Mixing water temperature range
- Pressure and loss of pressure
- Performance standard
- Custom material and other parts

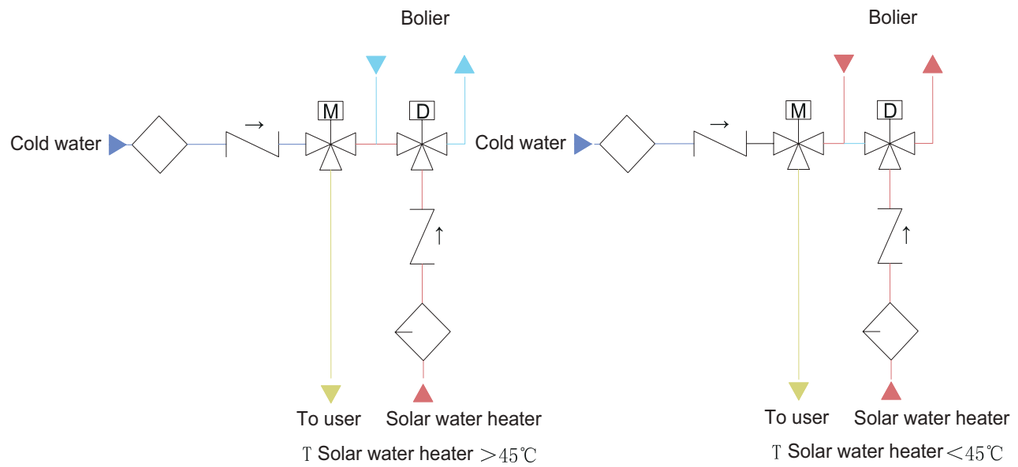
Dimension





Installation Instruction





910033NT Water Return System Control Valve

Feature

- Easy to install
- Intelligent temperature-control,avoid hot water go into the cool water pipe,prevent burns.
- Automation work,save energy.

Technical Parameter

Material	Brass
Proof Pressure	10Bar
Close Temperature Range	35-37°C
Open Temperature Range	30-33°C
Mixing water temperature range	55℃-75°C

Application

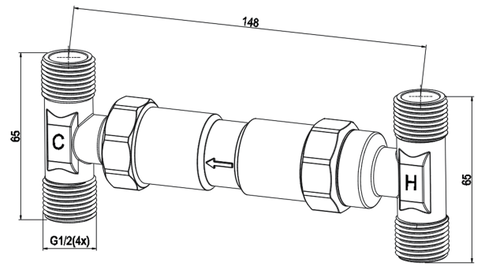
- Sanitary
- Heating and cooling system
- Solar and electric water heating system

Customize Solution

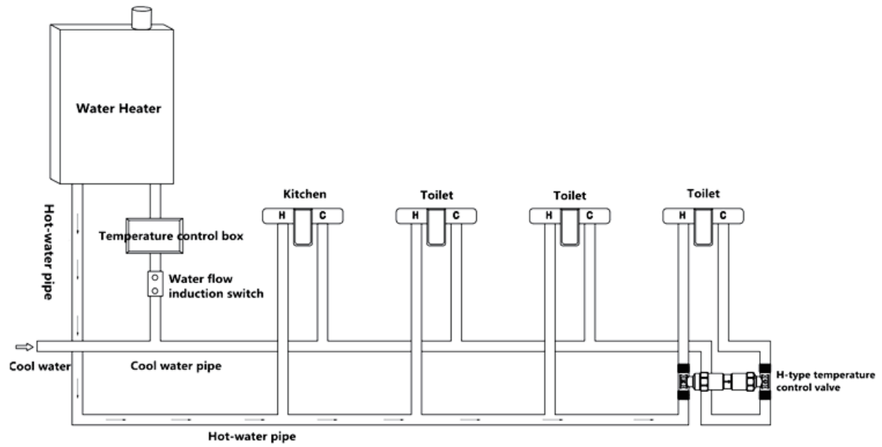
If you are not sure about the parameters of thermostatic mixing valve, our engineering team will assist you with your selection or customize according to these details as follow:

- Mixing water temperature range
- Pressure and loss of pressure
- Performance standard
- Custom material and other parts

Dimension



Installation Instructions



As shown in Fig, for the home water supply system installed with the intelligent temperature control valve of H-type water return system, in order to effectuate the use of hot water in the remotest main washroom, the user should turn on the faucet for 2-6 seconds and then turn it off, so that the water flow switch could sense the flow state of water in the pipeline, transform the flow state into an starting signal, and transmit the signal to the temperature control cycle control box, which will start the circulating pump. However, what is different from the existing ordinary home hot water circulating system is that when the temperature of the residual water in the hot water pipe in the remote main washroom is lower than the opening temperature of the valve, the valve opens, and the residual low-temperature water in the hot water pipe will be pumped back through the intelligent temperature control valve of H-type water return system, and the main cold water pipe connected with it, to the water heater to be reheated. Meanwhile, the hot water in the water heater also flows timely to the remotest main washroom. When the hot water flows through the intelligent temperature control valve of H-type water return system, as the temperature of hot water is higher than the closing temperature of the valve of H-type water return system, so the valve is closed at the moment and the hot water flows directly into the hot water pipe in the remotest main washroom, enabling the user to enjoy warm or hot water in time.

910026NT Freeze Protection Valve

Work Principle

The Frost Protection Valve is designed to protect water pipe by preventing the water from freezing when the water temperature drops.

When the water temperature falls below 3.8℃, the thermostatic element opens the valve, thereby allowing the water flowing out from the water pipe and reducing the change of the water freezing in the waterpipe.

Once the water temperature reaches 3.8℃, the Freeze Protection Valve will close again and the water will stop flowing.

Technical Parameter

Material	Brass
Initial Open	1.6°C
Full Open	4°C
Full Close	7°C
Working Temperature	-30 - 80°C
MAX Pressure	1MPa
Max Flow	20L/min(300KPa)
Control Accuracy	±1°C
Thread Specification	G3/8-19,G3/4-14

Application

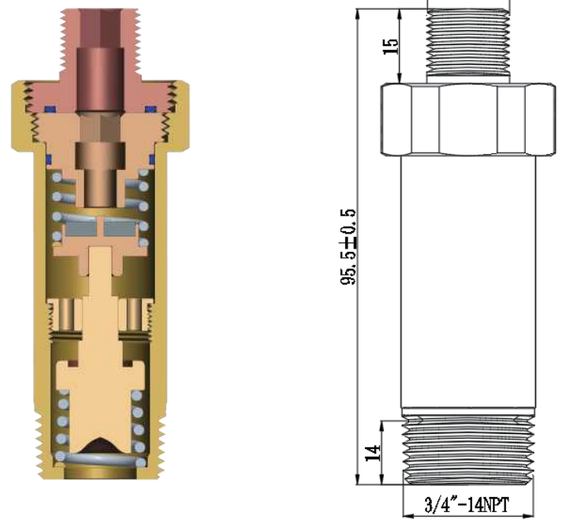
- Sanitary
- Heating and cooling system
- Solar and electric water heating system

Customize Solution

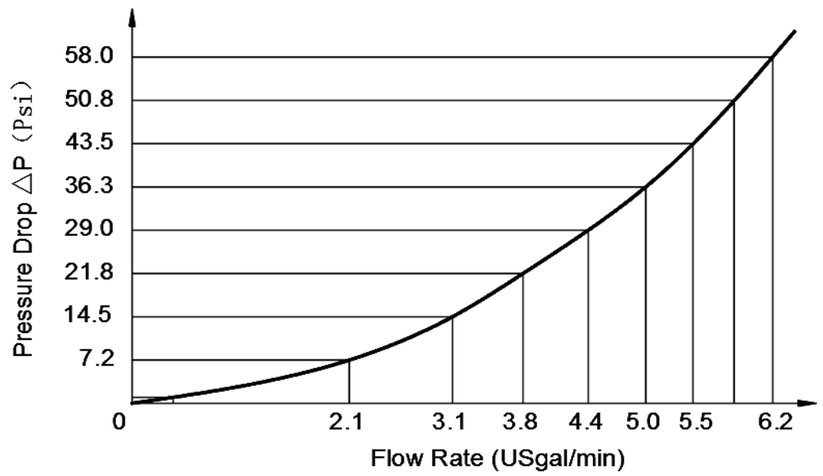
If you are not sure about the parameters of thermostatic mixing valve, our engineering team will assist you with your selection or customize according to these details as follow:

- Water temperature range
- Pressure and loss of pressure
- Custom material and other parts

Dimension



Flowing Curve



910028NT Scald Protection Valve

Work Principle

The Scald Protection Valve is designed to ANTI scald when the water temperature rise.

When the water temperature rise to protection temperature, the thermostatic element close the valve, thereby no any water through the valve.

Once the water temperature is below than protection temperature,the Scald Protection Valve will open again and the water will flowing.

Technical Parameter

Material	Brass
Initial Open	36.7°C
Full Open	43.3°C
Full Close	35°C
Working Temperature	-30 - 80°C
MAX Pressure	1MPa
Max Flow	20L/min(300KPa)
Control Accuracy	±1°C
Thread Specification	3/8NPT,3/4NPT

Application

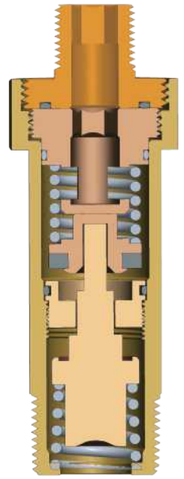
- Sanitary
- Heating and cooling system
- Solar and electric water heating system

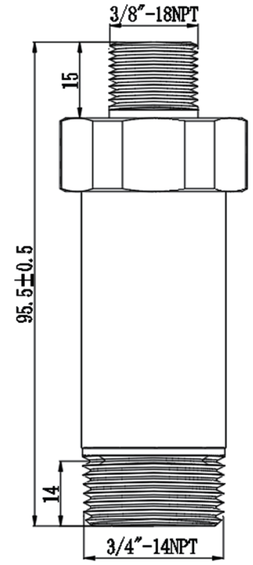
Customize Solution

If you are not sure about the parameters of thermostatic mixing valve, our engineering team will assist you with your selection or customize according to these details as follow:

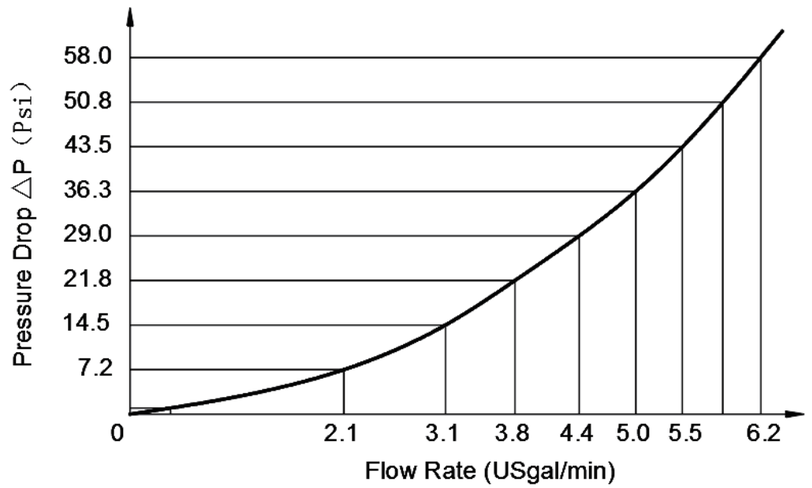
- Water temperature range
- Pressure and loss of pressure
- Custom material and other parts

Dimension





Flowing Curve



930001NT Dynamic Balancing Valve

Description

Dynamic balance electric valve is a new product of hvac system used for fan coil control. It integrates dynamic balance and electric switch functions in one, with compact structure, high control accuracy and stable operation.

Dynamic balance electric valve is composed of electric drive and dynamic balance valve body.

Widely used in hvac fan coil system, but also for regional control and other similar functional requirements of the system

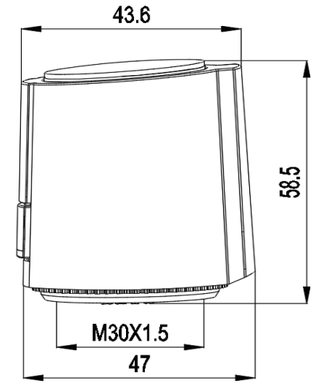
Feature

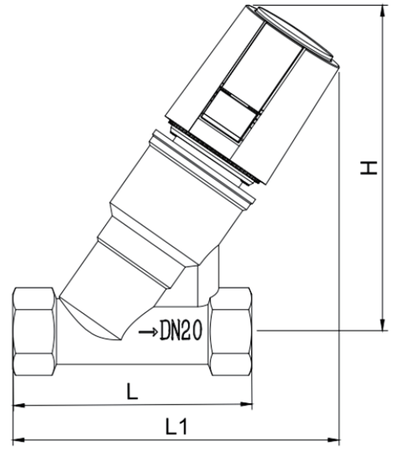
- Electric switch function: according to the room temperature controller control signal to open or close the electric control valve core.
- Dynamic balance function: when the valve is opened, it can dynamically balance the pressure change of the system within the range of working pressure difference, so that the flow remains constant and is not affected by the fluctuation of system pressure.
- Constant flow to design flow: it can be set at the factory according to the design flow of the end equipment, so that the flow is always maintained at the design flow required by the end equipment.

Technical Parameter

Valve Body	Brass	Pressure Differential Range（kpa)	Flow Range（m³/h)
Valve Core	Stainless Steel	20-150	0.45-1.98
Sealing	NBR/EPDM	25-240	0.45-1.98
Working Pressure	PN25	30-300	0.45-1.76
Working Temperature	-10℃-120℃	Dimension(mm)	
Working Voltage	AC220V	L	100
Flow Deviation	≤5%	L1	145
IP Grade	IP44	H	115

Dimension





Installation Attention

- The actuator must be on the horizontal line.
- Do not install to drive the use of force.
- The thread connecting the valve shall be standard international pipe thread (i.e.G thread).
- Do not connect the valve with taper thread.
- Before installation, the valve and pipe should be kept clean and free from sundries.
- 5Valves and pipelines shall be installed horizontally or vertically, but not upside down.
- Please ensure that the pipeline and valve insulation, not to wrap the actuator in the insulation layer.

  Note: if the product is damaged due to improper installation and poor working medium, our company only provides paid service.

Installation Instruction