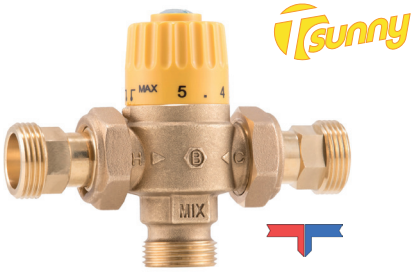
RUBINETTERIE INDUSTRIALI s.r.l.

EN	TECHNICAL DATA SHEET	rev. B
	ST00050	
P04	**P05**	

SOLAR SYSTEMS THERMOSTATIC MIXING VALVE

P04 • P05



P04.L2 • P05.L2

Description

Barberi ***T-Sunny*** thermostatic mixing valves are devices with mixed water coming from central port and are used to set the water temperature. They are normally used in potable water systems or in heating systems served by a thermal solar system through forced or natural circulation. Their function is to maintain constant the mixed water temperature sent to consumption even if hot and cold water inlet temperatures or pressures vary.
The valves of this series can be supply with fittings with or without check valve.

Product range

P04 Solar systems thermostatic mixing valve - Antiscald - Kv 1,8 - 30-65°C

P04.L2 Solar systems thermostatic mixing valve - Antiscald - Kv 1,8 - 30-65°C. Fittings and check valves insert unassembled (V38.04)

P05 Solar systems thermostatic mixing valve - Antiscald - Kv 2,3 - 30-65°C

P05.L2 Solar systems thermostatic mixing valve - Antiscald - Kv 2,3 - 30-65°C. Fittings and check valves insert unassembled (V38.04)

Features

Temperature adjustment range: **30÷65 °C**
Max working temperature: **110 °C**
Accuracy: **±2 °C**
Factory setting: **40 °C**
Reference working conditions: T hot = **70 °C**
T cold = **15 °C**
Pressure hot and cold = **3 bar**
Max working pressure: **10 bar**
Max. allowed head losses: **2 bar**
Max difference between the incoming pressure (H-C or C-H): **4 bar**
Flow coefficient: **P04** = **Kv 1,8**
P05 = **Kv 2,3**
Threaded connections: **ISO 228/1**
Suitable fluids: **water for thermal systems, glycol solutions (max 30%), potable water**
Standard: **EN 1111 - EN 1287**

Materials

Body: **brass EN 12165 CW602N**
Gaskets: **EPDM**
Knob: **ABS**

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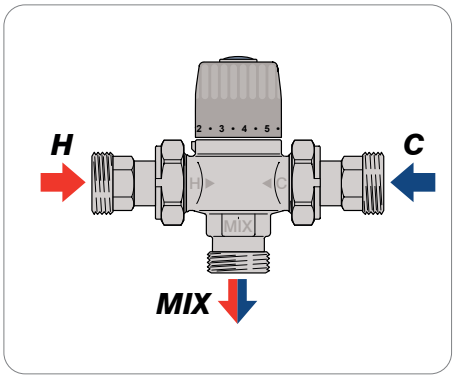
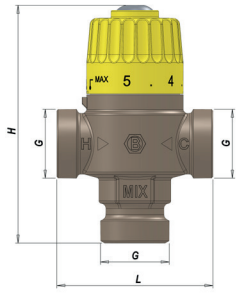
SOLAR SYSTEMS THERMOSTATIC MIXING VALVE

Working



The thermostatic mixing valve ***T-sunny*** mixes hot and cold water inlets whilst maintaining constant the set mixed on the outlet.This thanks to the thermosensitive element in the valve that tautens or expands according to any temperature and pressure's variation, thus influencing the obturator which controls the cold and hot water inlets. If there's any fail in the cold water inlet, the thermostatic valve ***T-sunny*** acts as safety device (according to ***EN 1111***), closing immediately the hot water crossing, thus avoiding any dangerous burn.

Dimensions



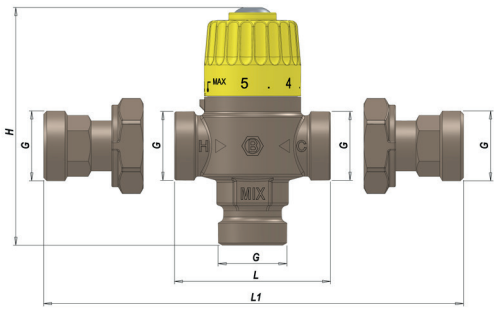
P04

cod.	size	P [bar]	Kv	G	L	L1	H	Weight	NPS	NPC
P04 A20 000	G 3/4 M	10	1,8	3/4" M	59	-	90	370	1	20
P04 A25 000	G 1"M	10	1,8	1"M	70	-	94	446	1	20

P05

cod.	size	P [bar]	Kv	G	L	L1	H	Weight	NPS	NPC
P05 A20 000	G 3/4 M	10	2,3	3/4" M	59	-	90	370	1	20
P05 A25 000	G 1"M	10	2,3	1"M	70	-	94	446	1	20

Weight (grams) - NPS: number of pieces in box, plastic bag - NPC: number of pieces in carton



P04.L2

cod.	size	P [bar]	Kv	G	L	L1	H	Weight	NPS	NPC
P04 A20 000 L2	G 3/4 M	10	1,8	3/4" M	59	123	90	550	1	20
P04 A25 000 L2	G 1"M	10	1,8	1"M	70	138	94	741	1	20

P05.L2

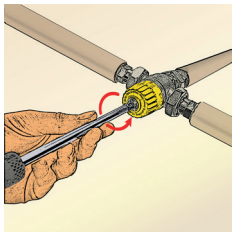
cod.	size	P [bar]	Kv	G	L	L1	H	Weight	NPS	NPC
P05 A20 000 L2	G 3/4 M	10	2,3	3/4" M	59	123	90	550	1	20
P05 A25 000 L2	G 1"M	10	2,3	1"M	70	138	94	741	1	20

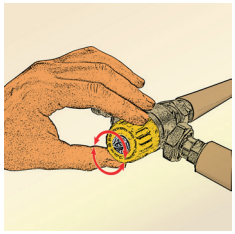
Weight (grams) - NPS: number of pieces in box, plastic bag - NPC: number of pieces in carton

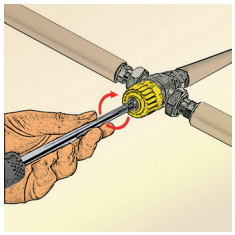
SOLAR SYSTEMS THERMOSTATIC MIXING VALVE

Installation

Before installing the T-sunny thermostic mixing valve, we recommend to verify working circuit conditions, for example pressure and temperature, to ensure they're in compliance with the valves' specifications. The system where the valve has to be installed has to be previously flushed and cleaned. We suggest to install suitable filters at the systems' inlets. Manufacturer's warranty on the valve could fail if debris are on the system, resulting from its non-accurate cleaning.
If the system presents hard water, we suggest to treat the water with suitable instruments, before installing the T-sunny valve.
The T-sunny Thermostatic Mixing Valve can be installed in any position, whether horizontal or vertical. It is important to keep the valve accessible for maintenance.
To prevent back flow and bad circulation it is advisable to fit check inserts (see Accessories chapter) at mixing valve inlets.







Commissioning and temperature setting

For the right commissioning of the valve, follow these instructions:
• Ensure that the system is free and cleaned from any debris
• Temperature setting must be carried out using a calibrated thermometer. To regulate the temperature, unscrew the handle'screw, turn the same handle clockwise or anticlockwise until the desired temperature has been reached. Once the temperature is regulated, block again the screw.
Attention: whilst regulating, wait until the temperature gauge has stabilized before making other movements.

The valve is preset at 40 °C and at following conditions:

Hot temperature Supply = 70 °C
Cold Temperature Supply = 15 °C

To easily set the temperature, consider Tab. 1.

Maintenance

The maintenance of the system and the control on the valve should be carried out every 12 months or more frequently if necessary. If the mixed water temperature has significantly changed after commissioning, we recommend to verify system's conditions, as indicated in the Installation Section and Commissioning Section.

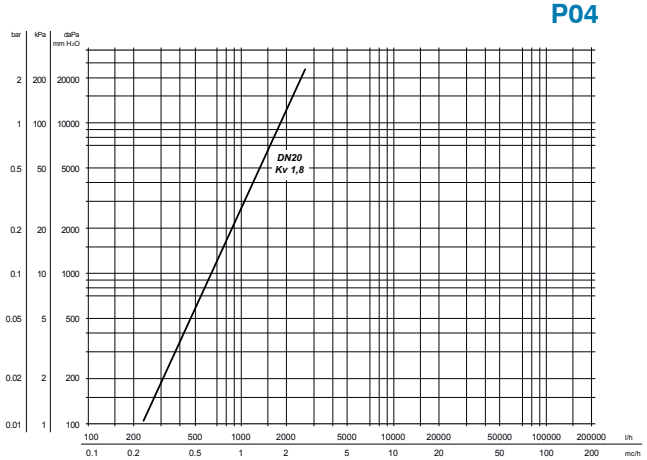
Failure to comply with the installation and commissioning instructions as detailed will invalidate the product warranty.

Tab. 1

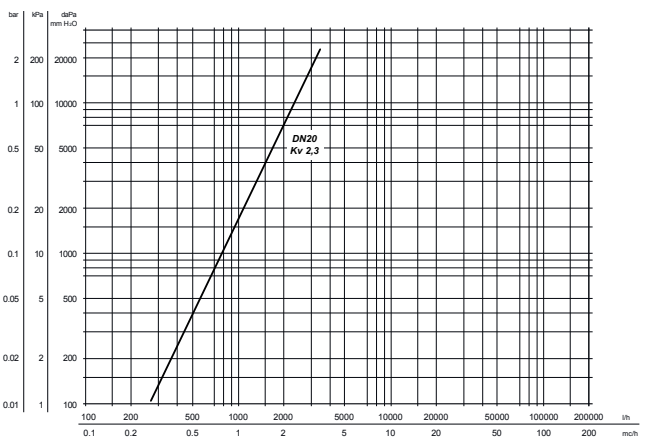
min.	
1	36 °C
2	40 °C
3	44 °C
4	50 °C
5	53 °C
max.	

Diagrams

P04



P05



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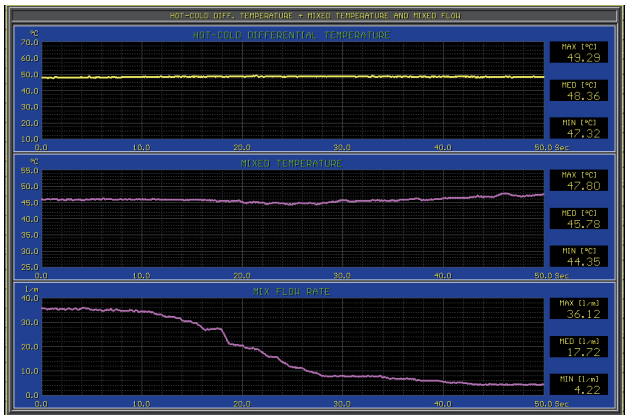
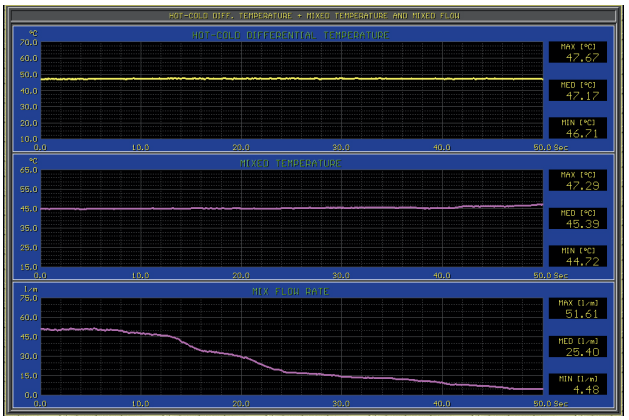
SOLAR SYSTEMS THERMOSTATIC MIXING VALVE

Flow reduction

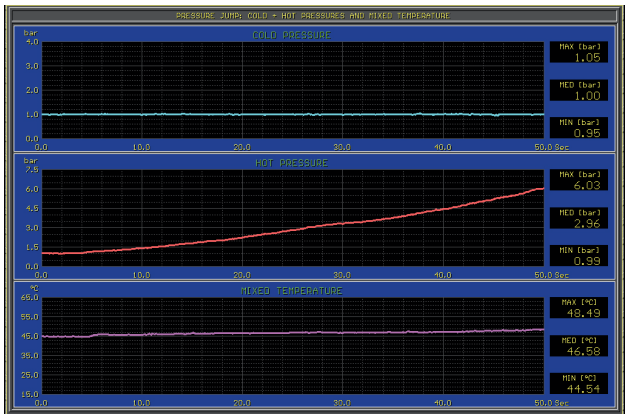


P04

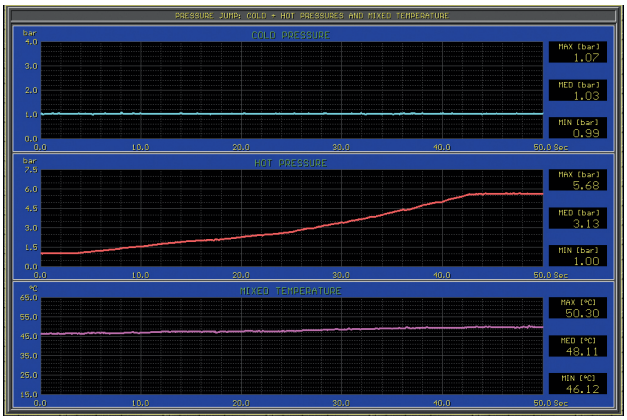


P05

Hot pressure jump

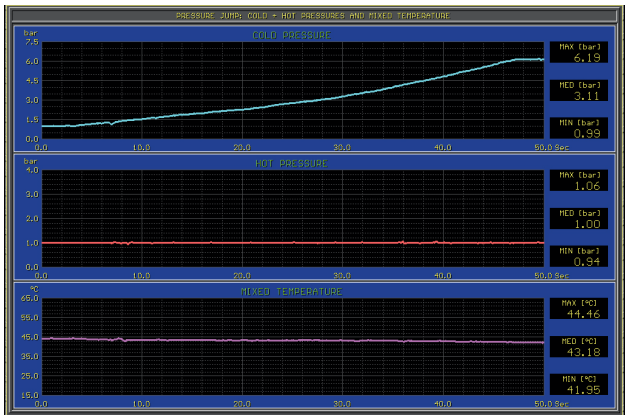


P04



P05

Cold pressure jump



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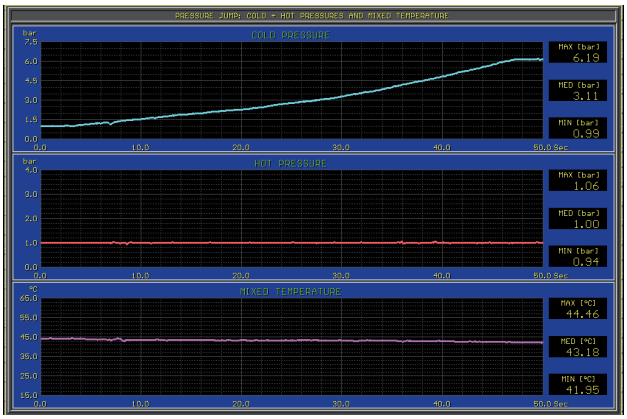
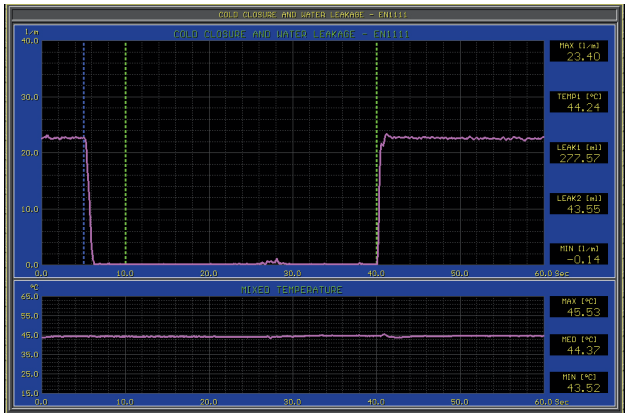


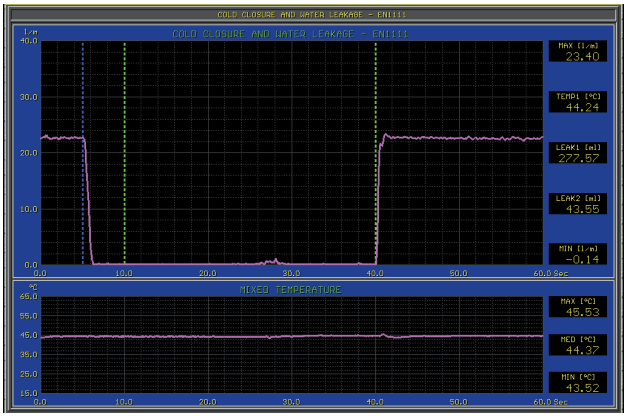
P05

SOLAR SYSTEMS THERMOSTATIC MIXING VALVE

Safety test



P04



P05

Specifications

The specification's text refers to a specific article reference. Each version of the product obliges the engineer to modify the specification's text.

Art.Ref. P04A20000

Solar systems thermostatic mixing valve. 3/4" *Male threaded connections.*
Materials: brass' bodies, stainless steel springs, EPDM gaskets. Max working pressure 10 bar, working temperature range 5-110 °C. Mixing valve setting range *30÷65 °C ±2* °C. Kv value 1,8.

Art.Ref. P05A20000L2

Solar systems thermostatic mixing valve. 3/4" nut and fitting connections with *integrated check valve.*
Materials: brass' bodies, stainless steel springs, EPDM gaskets. Max working pressure 10 bar, working temperature range 5-110 °C. Mixing valve setting range *30÷65 °C ±2* °C. Kv value 2,3.

Art.Ref. P05A25000

Solar systems thermostatic mixing valve. *1" Male threaded connections.* Materials: brass' bodies, stainless steel springs, EPDM gaskets. Max working pressure 10 bar, working temperature range 5-110 °C. Mixing valve setting range *30÷65 °C ±2* °C. Kv value 2,3.

SOLAR SYSTEMS THERMOSTATIC MIXING VALVE

Accessories

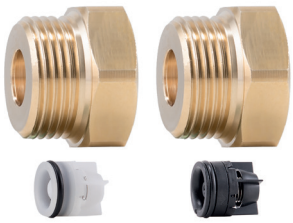
V38.03

3 fitting kit, supplied with gaskets and two check valve inserts suitable for thermostatic mixing valves

Max working temperature: ***110 °C***
Max working pressure: ***16 bar***

Code	Size		
V38 020 000 03	G 3/4 M - G 3/4 RN	1	20
V38 025 000 03	G 1 M - G 1 RN	1	20

V38.02



2 fitting kit with flat face supplied with gaskets and check valve inserts for thermostatic mixing valves

Max working temperature: ***130 °C***
Max working pressure: ***16 bar***

Code	Size		
V38 020 000 02	G 3/4 M - G 3/4 F	1	20

V38.04

2 fitting kit with nut, supplied with gaskets and two check valve inserts suitable for thermostatic mixing valves

Max working temperature: ***110 °C***
Max working pressure: ***16 bar***

Code	Size		
V38 020 000 04	G 3/4 M - G 3/4 RN	1	20
V38 025 000 04	G 1 M - G 1 RN	1	20

Related articles

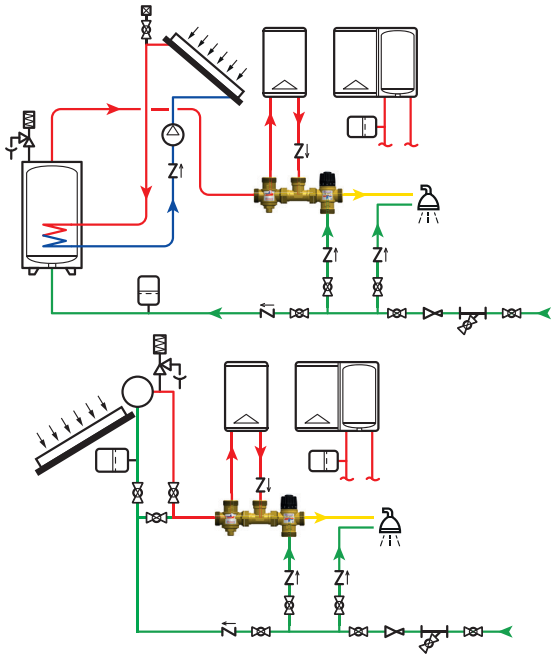
V20

Solar-to-boiler thermal integration kit with thermostatic diverting valve and thermostatic mixing valve. For boiler with storage or boiler with instantaneous DHW production able to receive pre-heated water at the inlet.

Flow coefficient: ***Kv 2***
Temperature adjustment range: ***35–60 °C***
Diverting valve setting: ***45 °C***
Max working temperature: ***95 °C***
Max working pressure: ***10 bar***

Kv 2

Code	Size		
V20 M25 001	G 1 M	1	10



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