MIXING SOLAR KIT WITH THERMOSTATIC DIVERTING VALVE FOR THERMAL INTEGRATION

Description

Barberi V20 thermal solar kit is used to control the hot water temperature. Its function is to maintain constant the potable water temperature when sent to consumption, whilst hot or cold water inlets' temperatures or pressures can vary.
Moreover, the kit allows to manage potable water coming from cylinder. Through the diverting valve, the water is diverted directly to the thermostatic mixing valve (if the temperature is higher than 45°C) or sent to boiler to increase the temperature (if it is lower than 45°C). It is normally used in potable water systems, in thermal solar installations on the hot water supply of the cylinder in forced or in natural circulation systems.

Product range

art. **V20**	Mixing solar kit with thermostatic diverting valve for thermal integration

Features

Max. and minimum working temperature: **5 °C – 90 °C**
Max working pressure: **10 bar**
Setting range: **35 – 60 °C**
Mixed water temperature accuracy: **±2 °C**
Mixing valve factory preset temperature: **44°C**
Working conditions references:
Hot Temperature Supply = 65 °C
Cold Temperature Supply = 15 °C
Hot and cold pressure references' values: **3 bar**
Diverting preset temperature: **45° ± 2 °C**
Maximum difference between inlets pressure: **4 bar**
Flow coefficient: **Kv 2**
Suitable fluyds: **water for heating systems, glycoled water (max 30%), potable water**
Connections to circuits: **Male threaded connections ISO 228/1**

Materials

1 - Bodies: **Brass UNI EN 12165 CW617N**
2 - Washers: **EPDM**
3 - Springs: **stainless steel AISI 302**

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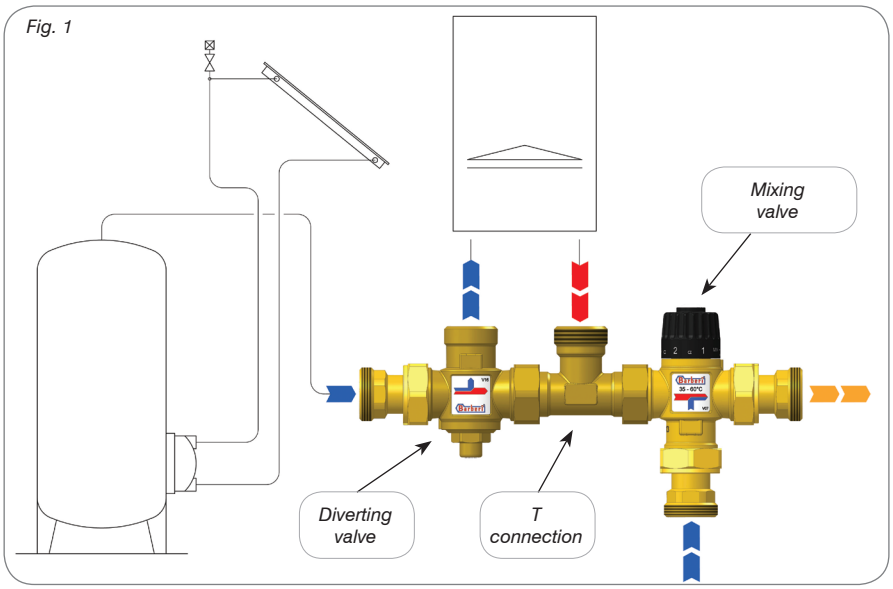
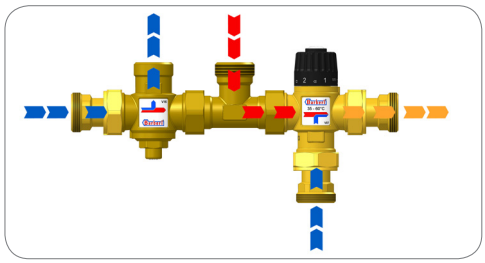
Working way

V20 thermal solar kit is composed by a diverting valve with fixed temperature, an adjustable Tee fitting and a thermostatic mixing valve with adjustable temperature setting. This article is normally used to maintain constant the hot potable water temperature to consumption coming from heating systems with very unconstant temperature (e.g.water cylinder fig.1).
This allows to avoid temperature fluctuation to consumptions, improves comfort and increases safety against scalding.
Moreover, the thermal kit automatically manages the hot water flow coming from thermal cylinder and sending it directly to the thermostatic mixing valve, if hot enough, or towards boiler to integrate temperature if not.

Fig. 1

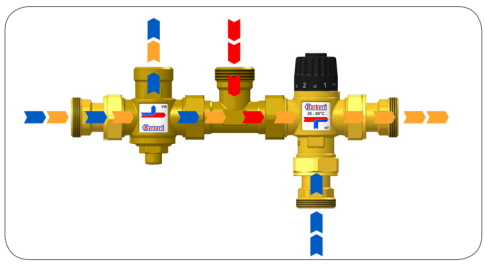


Working way phase



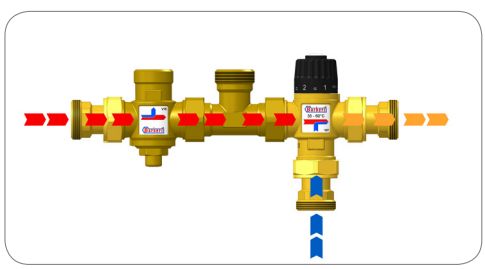
Working way 1

If fluid at the kit's inlet has a temperature (Tin) lower than 43°C, the diverting valve at the kit's inlet will send the flow towards the upper outlet in the direction of another heating source necessary to increase the temperature. The heated fluid will enter again the kit through the Tee fitting and whilst going outside the kit will result mixed at the set temperature of the thermostatic mixing valve.



Working way 2

If fluid at the kit's inlet has a temperature between 43°C and 47°C the diverting valve at the kit's inlet will send the flow through both outlets, the upper one in the direction of another heating source to increase temperature and the side one directly connected to the thermostatic mixing valve. The heated fluid will enter again the kit through the Tee fitting and at the kit's outlet will result mixed at the set temperature of the thermostatic mixing valve.



Working way 3

If the fluid at the kit's inlet has a temperature (Tin) higher than 47°C the diverting valve at the kit's inlet will send the flow towards the side outlet directly to the thermostatic mixing valve. The fluid will go through the T fitting and at the kit's outlet will result mixed at the set temperature of the thermostatic mixing valve. In this situation no other heating source will be used.

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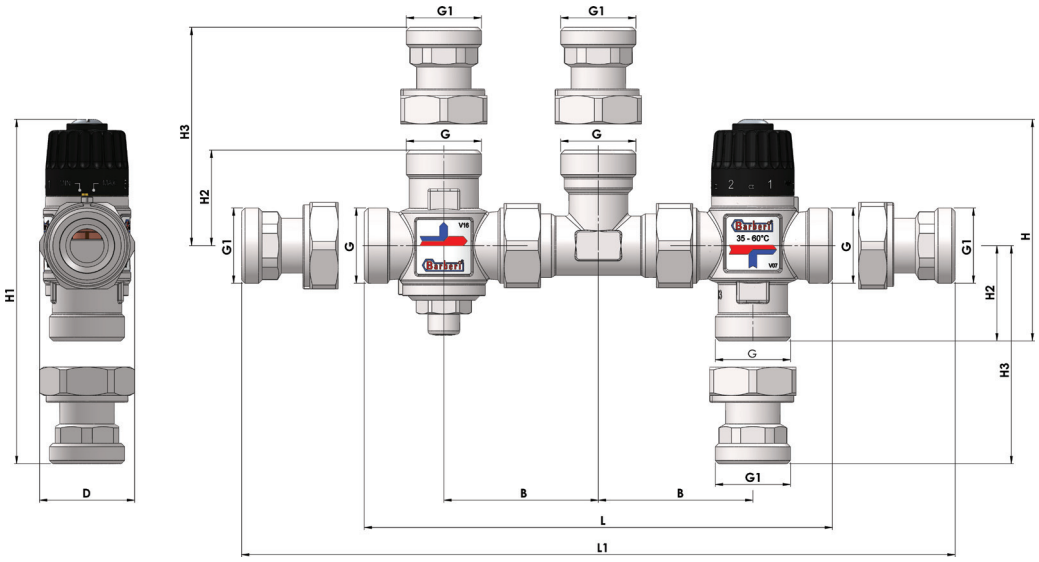
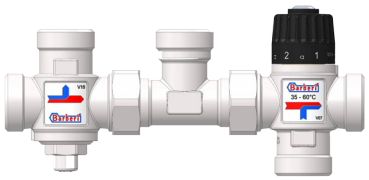
Dimensions



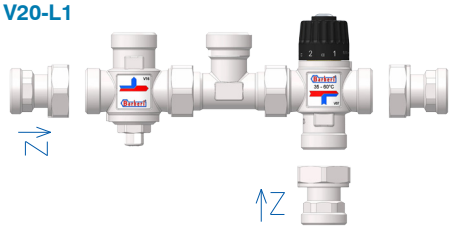
Code	P [bar]	G	G1	L	L1	H	H1	H2	H3	B	D	Side valves	Setting[°C]	Weight	N. P/S	N. P/C
V20 M25 001	10	1" M	-	206	-	98	-	42	-	68	42	-	45°C	1650	1	10
V20 M25 001 L1	10	1" M	1" M	206	274	98	132	42	76	68	42	2 check valve, 1 fitting.	45°C	1912,5	1	6
V20 M25 001 L2	10	1" M	3/4" M	206	266	98	127	42	72	68	42	5 fittings.	45°C	2150	1	6

Weight (grams) - N. P/B: number of pieces in box, plastic bag - N. P/C: number of pieces in carton

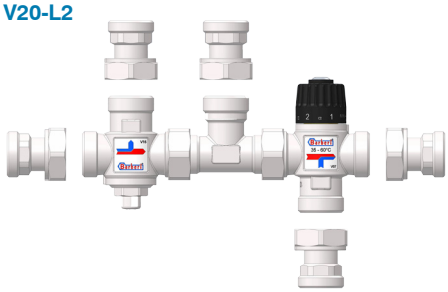
art. **V20**



art. **V20-L1**



art. **V20-L2**



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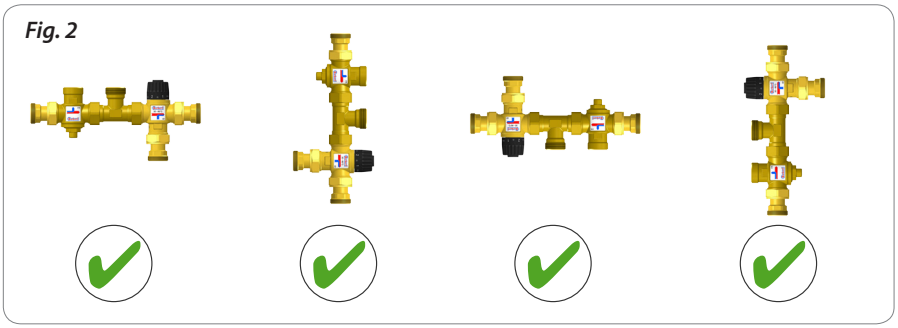
Installation

Before installing the mixing solar kit ***V20***, please verify system's working conditions, such as pressure and temperature, to be sure that they are within the working conditions of the product.
The system, where the kit will be installed, shall be cleaned and flushed before installation. We suggest also to install suitable filters at the system. Without a suitable cleaning of the system the correct working of the valve can be damaged and the manufacturer guarantee upon the product could fail. If the kit will be used with hard water, we suggest to install devices to soften water before the valve's inlet. It is important that the product is free from obstacles for its duly maintenance.

Positioning

The mixing solar kit can be installed in any position*(fig 2)*.

Fig. 2



The kit can be set up according to systems' necessities by rotating the diverting valve or the Tee fitting in comparison to the mixing valve to change pipes directions *(fig 3).*

Fig. 3

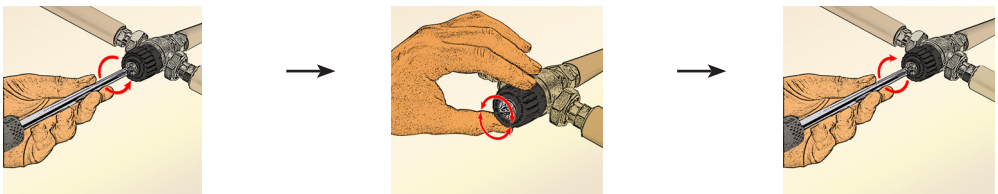
Mixing valve regulation

Temperature setting must be carried out using a calibrated thermometer. To regulate the temperature follow these instructions:

- 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 presetted at 44°C and at following conditions: Hot temperature Supply = 65 °C
Cold Temperature Supply = 15 °C



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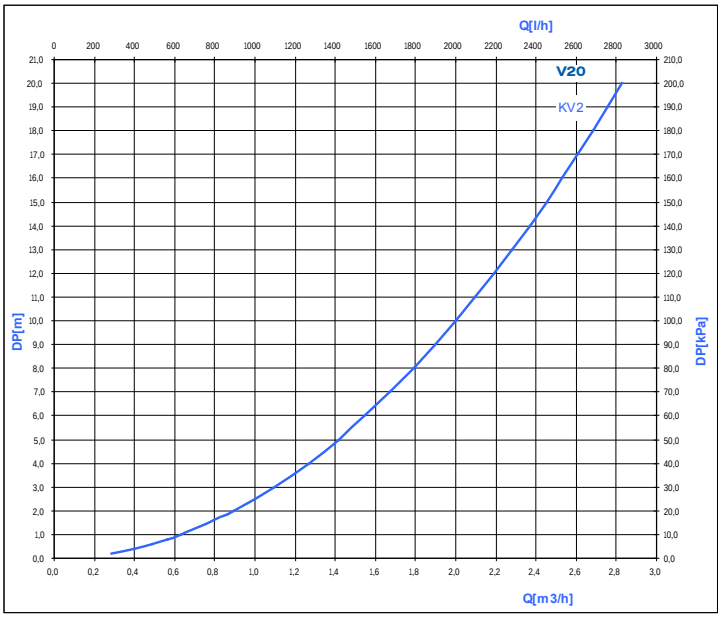
Diagrams



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. V20 M25 001
Thermal solar kit with thermostatic mixing valve to integrate temperature. 1" Male threaded connections. Materials: brass' bodies, stainless steel springs, EPDM washers. Max working pressure 10bar, working temperature range 5-90°C. Diverting valve's set temperature: 45°C+/-2°C. Mixing valve setting range 35-60°C. Kv value2

Art.Ref. V20 M25 001 L1
Thermal solar kit with thermostatic mixing valve to integrate temperature. 1" nut and fitting connections: two fittings with integrated check valve (hot and cold inlets), one full bore fitting (mixed water outlet). Materials: brass' bodies, stainless steel springs, EPDM washers. Max working pressure 10bar, working temperature range 5-90°C. Diverting valve' set temperature: 45°C+/-2°C. Mixing valve setting range 35-60°C. Kv value2

Art.Ref. V20 M25 001 L2
Thermal solar kit with thermostatic mixing valve to integrate temperature. 3/4" nut and fitting connections:(5 full bore fittings). Materials: brass' bodies, stainless steel springs, EPDM washers. Max working pressure 10bar, working temperature range 5-90°C. Diverting valve' set temperature: 45°C+/-2°C. Mixing valve setting range 35-60°C. Kv value2

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Accessories

Art.ref. P93

Running nut fitting with flat washer

Max. working temperature: **110 °C**

code	size
P93 020 000	*G 3/4" M - G 1" F*
P93 025 000	*G 1" M - G 1"1/4" F*

Art.ref. Y77-2

Running nut fitting with flat washer

Max. working temperature: **110 °C**

code	size
Y77 A250002	*1" M x 1"*

Related articles

Art. P04

Solar systems thermostatic mixing valve - Antiscald - KV1,8 - 30-65°C

Art. P05

Solar systems thermostatic mixing valve - Antiscald - KV2,3 - 30-65°C

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