

# SinkMixer™ Scald Protection Thermostatic Mixing Valve

**5212**



**01364/20.2 NA**

Replaces 01364.20.1 NA



**ASSE 1070**

**NSF/ANSI/CAN 61**

## Product range

521201A SinkMixer scald protection thermostatic mixing valve with compression union connections.....size 3/8"  
521201AP SinkMixer scald protection thermostatic mixing valve with compression union connections with plug for cold water outlet and copper compression fittings kit for hard piping installations.....size 3/8"

## Technical specifications

### Materials:

Valve body, regulating spindle, spring holder, cold inlet union nut:  
forged low-lead brass (< 0.25% lead content)  
Internal shutter: polysulfone  
Hot inlet strainer: AISI 304 stainless steel  
Spring: AISI 302 stainless steel  
Seals: Peroxide-cured EPDM  
Cover: ABS white  
Mounting bracket and adjustment key: Polyamide Nylon

### Performance

Temperature adjustment range: 95–120°F (35–50°C)  
Temperature set:  
must be commissioned on site to achieve desired temperature  
Temperature stability: ±3°F (±2°C)

Cold inlet temperature: Minimum 39°F (4°C); Maximum 85°F (29°C)  
Hot inlet temperature: Minimum 120°F (49°C); Maximum 195°F (90°C)  
Factory Setting: 113°F (45°C)

Maximum operating differential pressure:

Static: 150 psi (10 bar); Dynamic: 70 psi (5 bar)

Minimum operating differential pressure (dynamic): 1.5 psi (0.1 bar)

Maximum unbalanced dynamic supply (hot/cold or cold/hot): 2:1

Minimum temperature differential between hot water inlet and mixed

water outlet to ensure thermal shutoff function: 18°F (10°C)

Minimum temperature differential between mixed water outlet and cold

water inlet to ensure stable operation: 9°F (5°C)

Minimum flow rate for optimum operation: 0.35 gpm (1.3 l/min)

Maximum flow rate for optimum operation: 2.3 gpm (8.5 l/min)

### Connections

Main connections: 3/8" compression

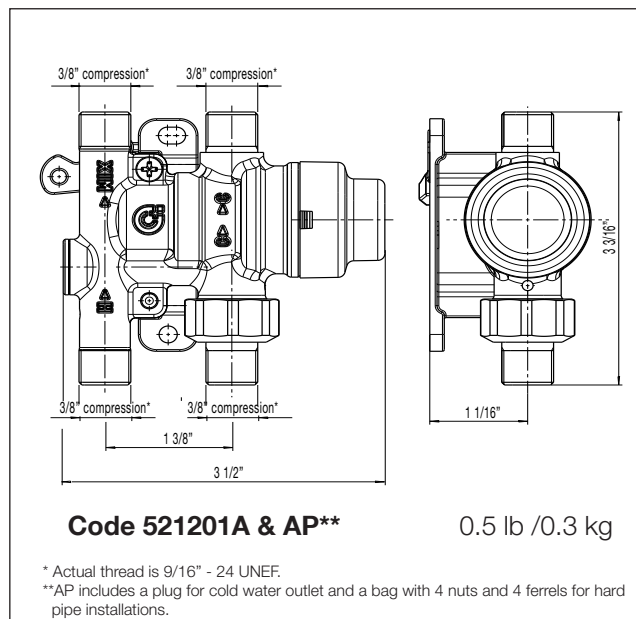
### Certifications

1. ASSE 1070/CSA B125.3-2012, certified by ICC-ES, file PMG-1358.
2. NSF/ANSI 372, Drinking Water System Components-Lead Content Reduction of Lead in Drinking Water Act, California Health and Safety Code 116875 S.3874, Reduction in Drinking Water Act, Vermont Act 193 - The Lead in Plumbing Supplies Law and Maryland's Lead Free Law HB.372, certified by ICC-ES, file PMG-1360.
3. NSF/ANSI/CAN 61-2018, Drinking Water System Components –Health Effects, certified by ICC-ES, file PMG-1512.
4. Complies with codes IPC, IRC, UPC and NPC.

## Function

The Caleffi SinkMixer™ provides water at a safe and usable temperature in situations where the control of the temperature of the water discharging from a terminal fixture is of the utmost importance, i.e. within hospitals, schools, nursing homes, etc. The SinkMixer is used in under sink and under counter applications where the user must be protected from the danger of scalding caused by hot water. The valve is designed to prevent the flow of water discharging from the mixed water outlet in the event of the failure of hot or cold supply. The compact design provided with mounting bracket allows for easy installation. The cold water outlet to the fixture eliminates the need for additional piping and tee used with three-port mixing valves. For single-pipe fixtures (tempered water only), code 521201AP includes a plug for the valve cold outlet port and copper compression fittings kit for hard piping installations. The valve is complete with check valves on the hot and cold inlets and meets certification requirements for the Low Lead Plumbing Laws and NSF/ANSI/CAN 61 by ICC-ES, ASSE 1070 listed (temperature cannot exceed 120°F).

## Dimensions



## Use

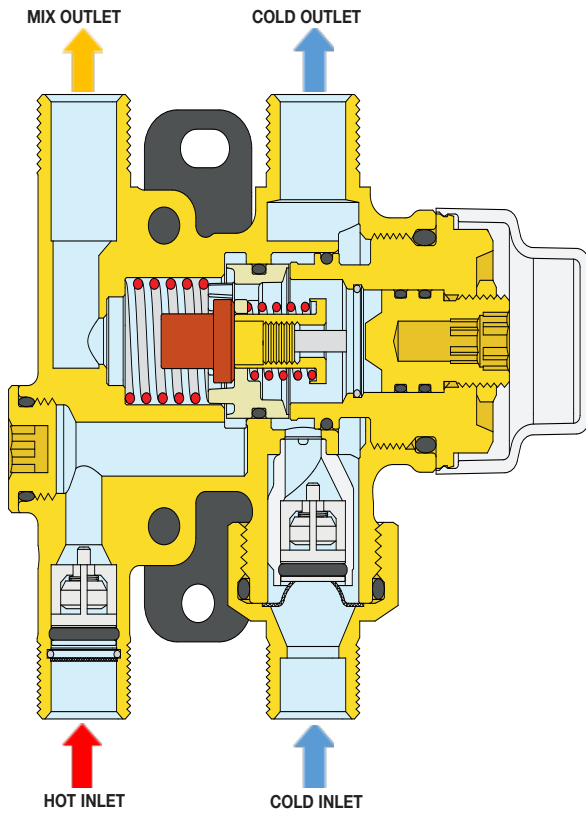
The Caleffi SinkMixer anti-scald thermostatic mixing valve is intended for use in under sink and under counter applications in accordance with installation rules and indications specified in ASSE 1070 standards.

The system must be sized taking into account local codes with regard to the nominal flow rate of each outlet.

The SinkMixer is used to prevent accidental scalding with the outlet water temperature properly adjusted using a thermometer at the faucet to measure the desired temperature.

## Operating principle

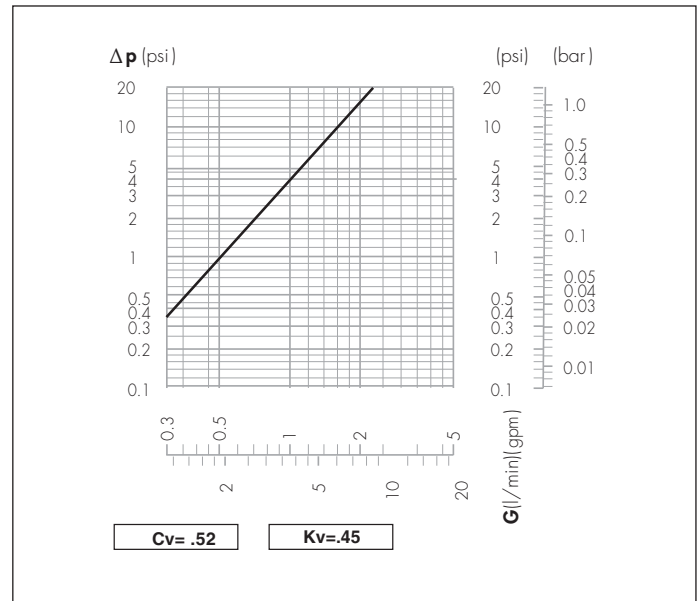
The thermostatic mixing valve mixes hot and cold water in such a way as to maintain constant set temperature of the mixed water at the outlet. A thermostatic element is fully immersed into the mixed water. This element then contracts or expands causing movement of the piston, closing either the hot or cold inlets, regulating the flow rates entering the valve. If there are variations of temperature or pressure at the inlets, the internal element automatically reacts to restore the original temperature setting. In the event of a failure of either the hot or cold supply, the piston will shut off the opposite inlet port, stopping water discharging from the mixed water outlet.



## Thermal shutoff

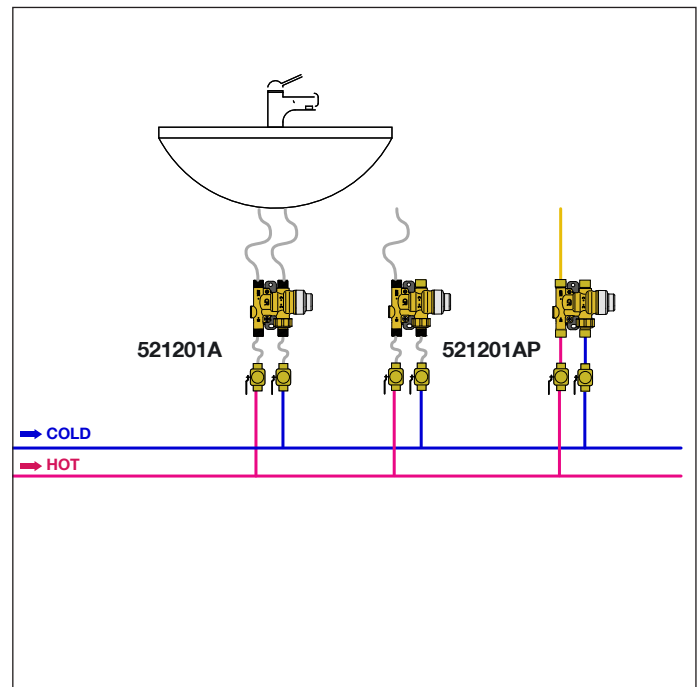
In the event of a failure of the hot supply port, the piston closes the cold supply port. Similarly, if the cold water supply fails, the piston closes the hot supply port. The Caleffi SinkMixer scald protection thermostatic mixing valve requires a minimum temperature differential from hot inlet to mixed water outlet of 18°F (10°C) to ensure the correct operation of the thermal shutoff feature.

## Flow curve



Flow should never exceed standards for pipe size

## Application diagram



## Installation

The following instructions must be read prior to the installation of a Caleffi 521201A SinkMixer thermostatic mixing valve. The installer should also be aware of his responsibility and duty of care to ensure that all aspects of the installation comply with current regulations and legislation. The Caleffi 521201A should be installed using the appropriate standard, code of practice and legislation applicable to each state and following the details in this manual. The Caleffi 521201A series must be installed by a licensed plumber.

Prior to the installation of the Caleffi 521201A valve, the system must be checked to ensure that the system operating conditions fall within the recommended operating range of the valve, i.e. verify supply temperatures, supply pressures, risk assessments, etc.

The supply system into which the Caleffi 521201A is to be installed must be thoroughly flushed and cleaned to remove any debris which may accumulate during the installation. Failure to remove any debris will affect the performance and the manufacturer's warranty on the product. In areas that are subject to high levels of aggressive water, provision must be made to treat the water prior to it entering the valve.

The valve is recommended to be installed in a position oriented with the cover to the right with cold inlet/outlet on the right side (allowing direct connection to the sink's cold water inlet fitting) resulting in the hot inlet/mix outlet on the left aligning direct to the hot water inlet sink fitting. It is essential that the access to the valve is not obstructed for future maintenance that may be required to the valve or associated fittings.

It is essential that when the installation is designed and/or installed, all current legislation is noted, e.g. the maximum distance from the outlet of the valve to any terminal fitting.

The connecting hot and cold water supplies must be connected to the valve strictly in accordance with the indications on the body of the valve. The inlets of the valves are clearly marked with the letter H (Hot) and C (Cold). The outlet is marked with the word MIX. The valve has male 3/8" compression threads for connection to standard 3/8" compression faucet connectors and stops.

Where one or both the incoming supply pressures are excessive, a Caleffi pressure reducing valve should be installed to reduce the pressure(s) within the limits.

The Caleffi 521201A valve is supplied complete with the check valves at the hot and cold inlets.

Mount the 521201A valve to the wall underneath the sink with black plastic mounting bracket supplied with valve but not attached. Use mounting screw to attach the mounting bracket to the valve to meet the orientation described above. Break off the adjustment key for adjusting the temperature, see commissioning section.

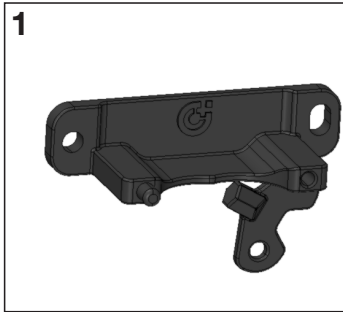
To ensure that the performance of the Caleffi 521201A valve is maintained (in the event of cold water failure), the temperature of the hot water supply at the point of entry to the valve must be a minimum of 18°F higher than the set mixed water discharge temperature.

If the valve is not installed correctly, it will not function correctly and may put the user in danger.

For single-pipe fixtures (tempered water only), code 521201AP comes complete with a plug/nut for the valve cold outlet port. Code NA10741 is a 5-pack of plugs/nuts to plug cold outlet port when installing code 521201A (unit coming without this plug/nut) in single pipe fixture undersink piping. Code 521201AP also includes a copper compression fittings kit for hard pipe installations.

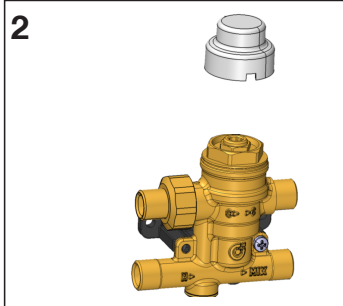
## Temperature adjustment

1



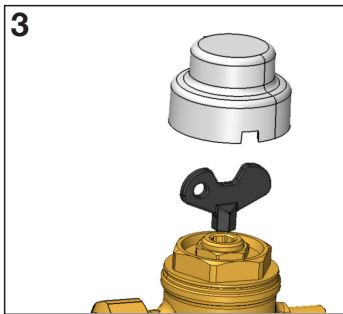
Remove 1/4" hex key from mounting bracket.

2



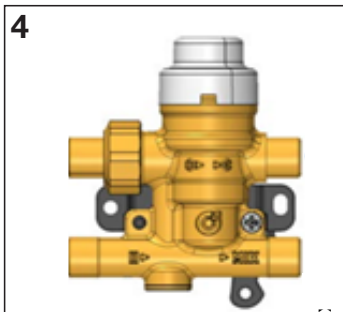
Remove white cap.

3



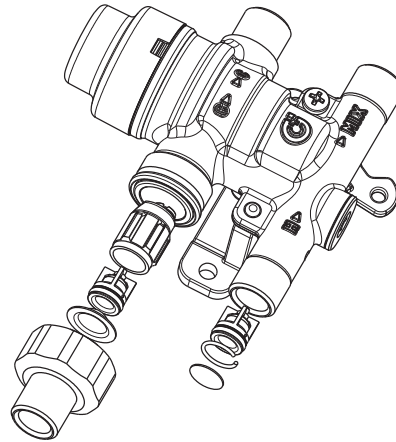
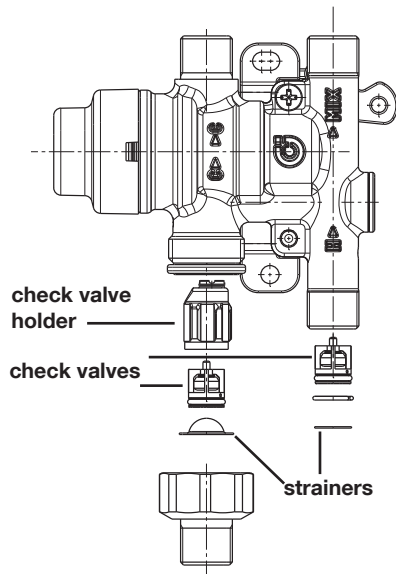
Adjust temperature setting with 1/4" hex key. After adjustment, lock the temperature with locking nut.

4



Replace cap and store key in safe

## Replacement parts



Replacement check valve and strainers for 521201A under sink thermostatic mixing valves.



F0001270.....check valve and two strainers, one set for the cold inlet port and one set for the hot inlet port.

5-pack of plugs/nuts to plug the valve cold outlet port when using code 521201A with a single-pipe fixture.



NA10741.....plug/nut 3/8" compression (5-pack)

## SPECIFICATION SUMMARY

### 521201A

Scald Protection point of use thermostatic valve certified to ASSE 1070, NSF/ANSI 372-2011 Drinking Water Systems Components-Lead Content Reduction of Lead in Drinking Water, California Health and Safety Code 116875 S.3874, and NSF/ANSI/CAN 61-2018, Drinking Water System Components – Health Effects. Threaded 3/8" compression connection. Low-lead forged brass body (<.25% Lead content). Polysulfone shutter. Seal in Peroxide-cured EDPM. Stainless steel spring. Maximum working temperature 195°F (90°C). Setting range from 95–120°F (35–50°C). Tolerance of ±3°F (±2°C). Maximum working pressure 150 psi (10 bar). Maximum unbalanced dynamic supply pressure 2:1. Tamper-proof setting lock and check valves on the inlet.

### 521201AP

Scald Protection point of use thermostatic valve certified to ASSE 1070, NSF/ANSI 372-2011 Drinking Water Systems Components-Lead Content Reduction of Lead in Drinking Water, California Health and Safety Code 116875 S.3874, and NSF/ANSI/CAN 61-2018, Drinking Water System Components – Health Effects. Threaded 3/8" compression connection. Low-lead forged brass body (<.25% Lead content). Polysulfone shutter. Seal in Peroxide-cured EDPM. Stainless steel spring. Maximum working temperature 195°F (90°C). Setting range from 95–120°F (35–50°C). Tolerance of ±3°F (±2°C). Maximum working pressure 150 psi (10 bar). Maximum unbalanced dynamic supply pressure 2:1. Tamper-proof setting lock and check valves on the inlet. Includes plug/nut for cold water outlet port for use with single-fixture fixtures providing tempered water only and copper compression fittings kit for hard pipe installations.

We reserve the right to make changes and improvements to the products and related data in this publication, at any time and without prior notice.



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