

# LEGIOMIX® Station Electronic mixing valve



6000AS series, 1" — 2 1/2"

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## Application

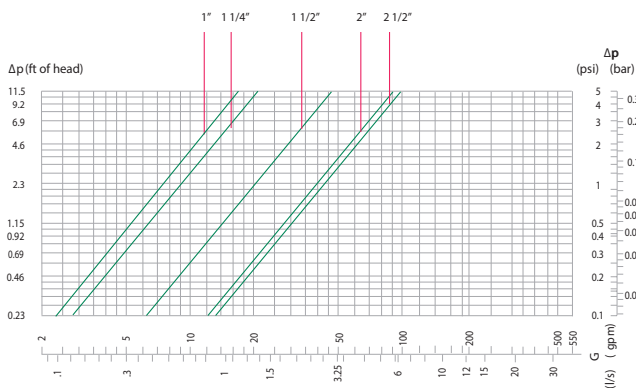
The electronic mixing valve is used in centralized systems that produce and distribute domestic hot water. It maintains the temperature of the domestic hot water delivered to the user when there are variations in the temperature and pressure of the hot and cold water at the inlet or in the draw-off flow rate. The LEGIOMIX® electronic mixing valve provides precise temperature control over very low and very high flow rate demand, minimal pressure drop with a ball valve control element, automatic self-cleaning to prevent scale formation and easy-to-use digital interface with data logging, alarming and status indication. The LEGIOMIX electronic mixing valve is furnished with a controller with LCD user interface that provides a set of programs for circuit thermal disinfection to kill Legionella. The controller is configurable via keypad, or local or remote computer. Depending on the type of system and habits of the user, temperature levels and operation times can be programmed as desired. In addition, it comes standard with monitoring and remote control connections.

## Typical Specification

Furnish and install on the plans and described herein, a Caleffi 6000AS series LEGIOMIX Station electronic mixing valve as manufactured by Caleffi. Each valve with controller must be designed with programmable thermal disinfection. The valve design must include a DZR low-lead brass body, chrome-plated ball and peroxide-cured EPDM hydraulic seals. The actuator must be 3-wire floating 24 VAC 50/60 Hz with self-extinguishing VO cover, protection class IP 65 (NEMA 4/4X). The controller must be 24 VAC 50/60 Hz with adjustment temperature range 70 - 185°F (20 - 85°C) and disinfection temperature range 100 - 185°F (40 - 85°C) With set of programs for automatic scheduling circuit thermal disinfection to kill Legionella, configurable via keypad, or local or remote controller; with additional functions of data logging, alarming, and status indication. The valve must be ICC-ES certified to ASSE 1017, CSA B15.3, NSF/ANSI/CAN 372, low lead laws and listed by ICC-ES; and meet codes IPC and UPC for use in accordance with the US and Canadian plumbing codes. Each valve shall be Caleffi model 6000 series or approved equal. (See product instructions for specific installation information.)

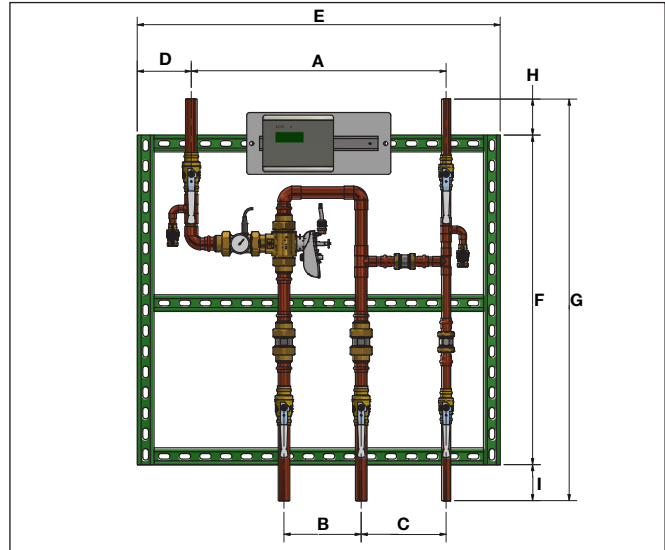


## Hydraulic Characteristics



Flow should never exceed standards for pipe size and material.

## Dimensions



| Code     | connections   | A       | B      | C       | D       | E       | F   | G   | H/I    | Wt (lb) |
|----------|---------------|---------|--------|---------|---------|---------|-----|-----|--------|---------|
| 600066AS | 1" copper     | 24 3/4" | 7 1/2" | 8 1/4"  | 5 1/2"  | 35 1/4" | 32" | 39" | 3 1/2" | 130     |
| 600076AS | 1 1/4" copper | 27"     | 7 1/2" | 9"      | 6 1/2"  | 39 1/4" | 36" | 43" | 3 1/2" | 148     |
| 600086AS | 1 1/2" copper | 33 3/4" | 8 1/2" | 13 1/4" | 5"      | 43 1/4" | 40" | 48" | 4"     | 219     |
| 600096AS | 2" copper     | 36 3/4" | 8 7/8" | 14 1/4" | 5 3/8"  | 47 1/4" | 50" | 60" | 5"     | 248     |
| 600060AS | 2 1/2" copper | 43 1/8" | 8 7/8" | 14 1/4" | 6 3/16" | 54 3/8" | 60" | 70" | 5"     | 250     |

## Station assembly

Includes pre-piped LEGIOMIX 3-way mixing valve with union connections, serviceable low-lead stainless steel check valves, a recirculation connection and isolation valves for fast and simple installation. The LEGIOMIX controller is pre-mounted and pre-wired to the valve actuator, and return water temperature sensor, in a packaged wall mount configuration with steel unit-rust frame that can bolt to the wall through any of the perforations. The assembly also includes copper type L pipe, low lead ball valves and a 24 VAC transformer with 10 feet of wire.

Optional Modbus-to-BACnet gateway for BAS integration, code 755052.

| Station Code | Station Size | 1 <sup>1</sup> Max. GPM (@ 5 fps pipe velocity) | Min. GPM for stable operation | Station Cv |
|--------------|--------------|---|-------------------------------|------------|
| 600066AS     | 1"           | 14  | 2.2                           | 7.8        |
| 600076AS     | 1 1/4"       | 20  | 2.2                           | 9          |
| 600086AS     | 1 1/2"       | 29  | 4.4                           | 20         |
| 600096AS     | 2"           | 50  | 8.8                           | 38         |

(1)The maximum GPM rating for the LEGIOMIX station is based on 5 feet per second pipe velocity in the station's copper tubing. This velocity recommendation is for water temperatures up to 140°F and is from the UPC (Uniform Plumbing Code) and the CDA (Copper Development Association) "Copper Tube Handbook". To minimize the potential of erosion-corrosion in the station piping, do not exceed 5 fps velocity.

CONSULT TECHNICAL BROCHURE 1340 FOR COMPLETE GUIDANCE ON SIZING AND SELECTION.

**Technical specifications**

**Mixing valve body**

Materials: - Body: DZR low-lead brass  
 - Ball: low-lead brass, chrome-plated  
 - Hydraulic seals: peroxide-cured EPDM  
 - Seat ring: PTFE

Max. body pressure rating (static): 230 psi (16 bar)  
 Max. operating pressure: 150 psi (10 bar)  
 Max. inlet temperature: 212°F (100°C)  
 Temperature gauge scale: 30 - 210°F  
 Suitable fluids: water  
 Max. water hardness: 10 grains

**Actuator, 3-wire floating**

Electric supply: 24 VAC - 50/60 Hz  
 Power consumption: 6 VA  
 Protection cover: self-extinguishing VO  
 Protection class: IP 65 (NEMA 4/4X)  
 Ambient temperature range: 14 - 130°F (-10 - 55°C)  
 Electric supply cable length: 31½" (0.8 m)

**Station components**

Frame: epoxy painted steel uni-strut  
 Pipes: copper type L  
 Ball valves: low-lead brass  
 Check valves: stainless steel  
 Main connections: 1", 1¼", 1½", 2" and 2½"

**Controller, LCD user interface/display**

Materials: - Housing: self-extinguishing ABS, color white RAL 1467  
 - Cover: self-extinguishing SAN, smoked transparent  
 Electric supply: 24 VAC (min 21.6, max 26.0 VAC) - 50/60 Hz  
 (24 VAC transformer strapped to frame)  
 Power consumption: 6.5 VA  
 Adjustment temperature range: 70 - 185°F (20 - 85°C)  
 Disinfection temperature range: 100 - 185°F (40 - 85°C)

Ambient temperature range: 32 - 120°F (0 - 50°C)  
 Protection class: IP 54 (wall mounting)  
 (Class II appliance)

Mixing valve actuator current draw: 1 A max / 24 V  
 Alarm relay (R2): 5 A resistance (2 A inductance) / 24 V  
 Contact rating (R1, R3, R4): 10 A resistance (2 A inductance) / 24 V  
 (A 50 VA Class 2 120/24 VAC transformer is included)  
 Fuses: 1 (main): 80 mA  
 Fuses: 2 (mixing valve): 1 A  
 Charge reserve: 15 days in the event of electric supply failure,  
 with a 3 cell rechargeable 3.6 V 140 mAh buffer battery  
 Battery recharging time: 72 hours  
 Approvals: CE, FCC part 15

**Temperature sensors**

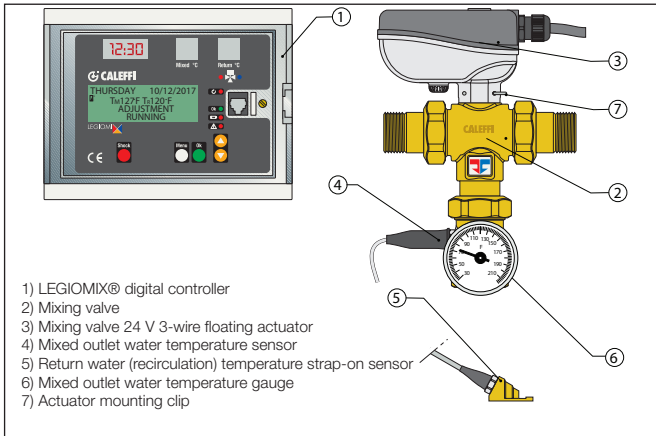
Body material: stainless steel  
 Type of sensitive element: NTC  
 Working temperature range: 14 - 260°F (-10 - 125°C)  
 Resistance: 1000 Ohms at 77° F (25° C)  
 Time constant: 2.5  
 Max. distance for mixed outlet or return (recirculation) sensor:  
 500 ft (150 m) cable 2 conductor x AWG 18  
 800 ft (250 m) cable 2 conductor x AWG 14

**Station performance**

Accuracy: ± 3° F (± 2° C)  
 Max. operating differential pressure (dynamic): 20 psi (1.4 bar)  
 Max. ratio between inlet pressures (H/C or C/H): 2.1

**Certifications**

1. ASSE 1017/CSA B125.3, certified by ICC-ES, file PMG-1357.
2. Complies with NSF/ANSI/CAN 372, Drinking Water System Components Lead Content Reduction of Lead in Drinking Water Act, California Health and Safety Code 116875S.3874, Reduction of Lead in Drinking Water Act, as certified by ICC-ES, file PMG-1360.



**Mixing valve components**

- Digital controller, consisting of housing and base for electric connection
- DIN bar and mounting wall anchors
- Mixing valve with temperature gauge
- 3-wire floating Actuator
- Mixed outlet water temperature sensor
- Return water temperature strap-on sensor
- Spare fuses
- Installation and commissioning manual

We reserve the right to change our products and their relevant technical data, contained in this publication, at any time and without prior notice. Contractors should request production drawings if prefabricating the system

Job name \_\_\_\_\_  
 Job location \_\_\_\_\_  
 Engineer \_\_\_\_\_  
 Mechanical contractor \_\_\_\_\_  
 Contractor's P.O. No. \_\_\_\_\_  
 Representative \_\_\_\_\_

Size \_\_\_\_\_  
 Quantity \_\_\_\_\_  
 Approval \_\_\_\_\_  
 Service \_\_\_\_\_  
 Tag No. \_\_\_\_\_  
 Notes \_\_\_\_\_