

LEGIOMIX® Station electronic mixing system

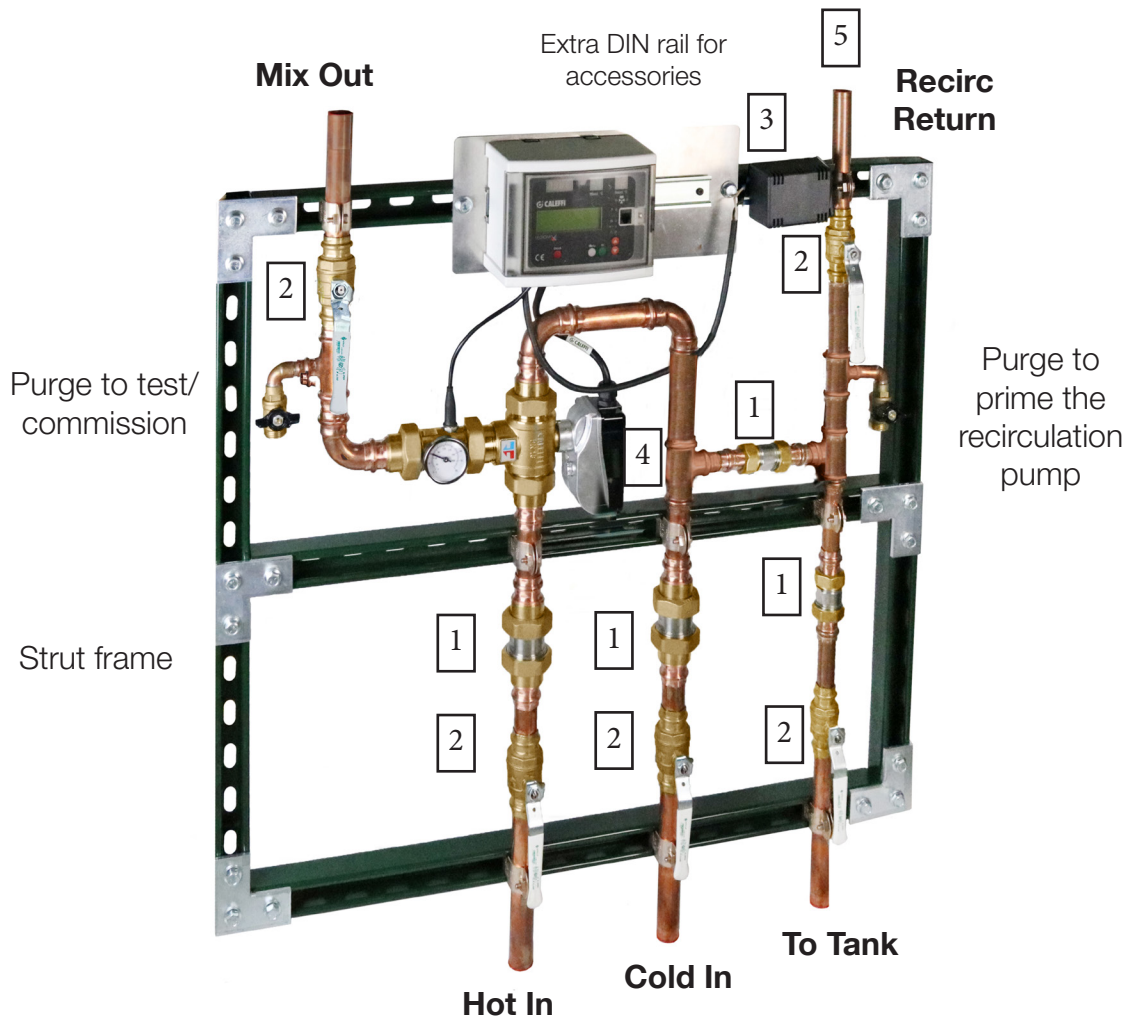
© Copyright 2020 Caleffi

6000AS series

INSTALLATION GUIDE

OVERVIEW - READ BEFORE PROCEEDING!

1. Refer to the LEGIOMIX Quick Start Guide and instruction sheet, code H0002997, for complete instructions on setup and commissioning.
2. Do not mount station in orientation with actuator upside down. If mounted other than shown, and not with actuator upside down, remount the controller to normal horizontal position as it is shown here.
2. The LEGIOMIX Station components are shown below:



Keyed components:

1. Serviceable dual union check valves (4).
2. Isolation ball valves (5).
3. 24 V wall plug-in transformer with 20 ft cable (not shown in this view). Strapped to strut for shipment.
4. LEGIOMIX valve/actuator.
5. Connect recirculation pump (not included, source separately) to this line.

Technical specifications

Mixing valve body

Materials:	- Body:	DZR low-lead brass
	- Ball:	low-lead brass, chrome-plated
	- Hydraulic seals:	peroxide-cured EPDM
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)
Max. distance for control signal wire:	500 ft (150 m) cable 2 conductor x AWG 18 800 ft (250 m) cable 2 conductor x AWG 16

Station components

Frame:	steel uni-strut
Pipes:	copper type L
Ball valves:	low-lead brass
Check valves:	stainless steel
Main connections: -copper	1", 1¼", 1½", 2" & 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
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)
Mounting bracket:		DINrail

Contact rating (R1, R3, R4):	5 A resistance, 2 A inductance / 24 V
Mixing valve control:	5 A resistance, 2 A inductance / 24 V
Alarm relay (R2):	5 A resistance, 2 A inductance / 24 V

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 16

Mixing valve performance

Accuracy:	± 3° F (± 2° C)
Max. operating differential pressure (dynamic):	75 psi (5 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. The valve body component meets the requirement of CSA Z317.1 Special Requirement for Plumbing Installations in Health Care Facilities, certified by ICC-ES, file PMG-1357.
3. The valve body complies with 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, as certified by ICC-ES, file PMG-1360.

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 and includes a return water temperature sensor, in a packaged wall mount configuration with steel uni-strut 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 plug-in 24 VAC transformer with 10 feet of wire.

Provide with optional Modbus-to-BACnet gateway for BAS integration, code NA10520.

LEGIOMIX Station sizing and selection procedure

Station Code	Station Size	¹ Max. GPM (@ 5 fps pipe velocity)	Station Cv
600066AS	1"	14	7.8
600076AS	1¼"	20	9
600086AS	1½"	29	20
600096AS	2"	50	38
600060AS	2½"	76	43

Pressure drop across station (PSID)						
	1	1.5	2	3	5	7.5
Station size	² Flow rates (GPM) @ above pressure drop					
1"	7.8	9.5	11.0	13	17	21
1¼"	9.0	11	13	16	20	25
1½"	20	24	28	34	44	54
2"	38	47	54	66	85	105
2½"	43	52	60	74	96	117

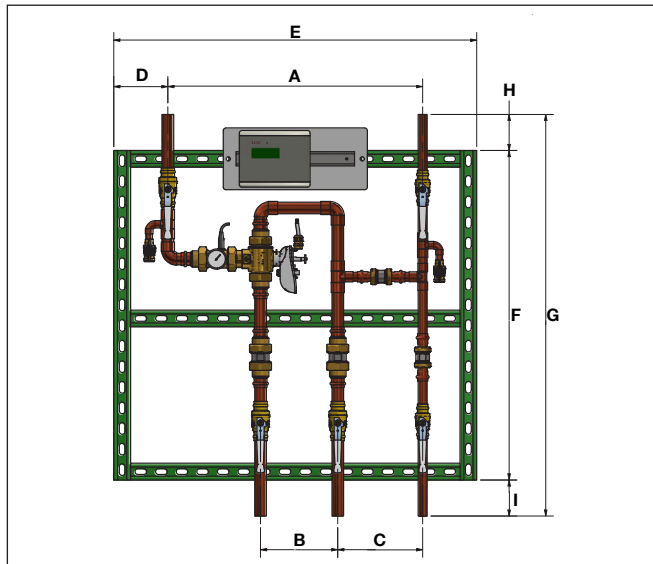
A. Obtain the maximum GPM (demand) of domestic hot water from project documentation.

B. Select station size which has a Max GPM value equal to or greater than the project maximum GPM demand.

(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.

(2) The PSI/GPM table is for reference only, showing various GPM values at various pressure drops across the station.

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 1/4"	35 1/4"	32"	39"	3 1/2"	27.3
600076AS	1 1/4" copper	27"	7 1/2"	9"	6 1/4"	39 1/4"	36"	43"	3 1/2"	28.2
600086AS	1 1/2" copper	35 3/8"	8 1/2"	13 1/4"	5 5/8"	47 1/2"	50"	58"	4"	41
600096AS	2" copper	36 3/4"	8 7/8"	14 1/4"	5 3/8"	47 1/4"	50"	60"	5"	135
600060AS	2 1/2" copper	43 1/8"	8 7/8"	14 1/4"	6 3/16"	54 3/8"	60"	70"	5"	155



WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

AVERTISSEMENT: Ce produit peut vous exposer à des produits chimiques comme le plomb, qui est connu dans l'État de Californie pour causer le cancer, dommages à la naissance ou autre. Pour plus d'informations rendez-vous www.P65Warnings.ca.gov.

LEAVE THIS GUIDE WITH USER

CALEFFI
Hydronic Solutions

Caleffi North America, Inc.
3883 West Milwaukee Road
Milwaukee, WI 53208
T: 414.238.2360 F: 414.238.2366

9-30-2020