



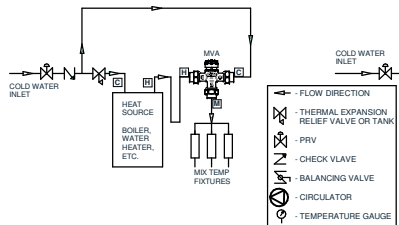
MODEL MVA (34A SERIES) THERMOSTATIC MIXING VALVE

INSTALLATION, OPERATION, & MAINTENANCE INSTRUCTIONS

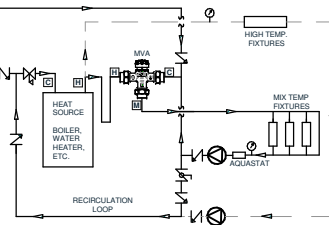
INSTALLATION

- Unit must be installed by a licensed plumber in accordance with these instructions and state and local plumbing codes.
- Flush all piping thoroughly before installation.
- Mount the unit so that it is accessible for adjustment, cleaning and service.
- Adequate mounting support is recommended.
- The unit can be installed in any orientation. Make sure that cold water supply be connected to port "C", hot water supply to port "H", and mixed water discharge to port "M".
- Cure times for CPVC joints shall be as recommended by the adhesive manufacture or 1 hour minimum, whichever is longer. Exposure to temperatures above 100 °F may require extended curing times.

TYPICAL INSTALLATION - NO RECIRCULATION SYSTEM

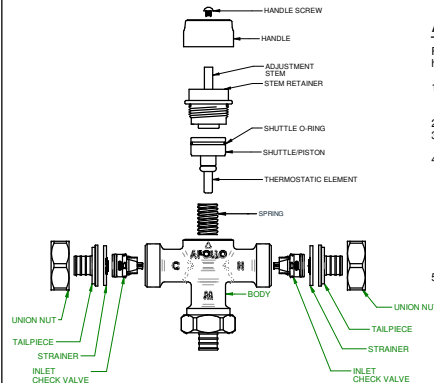


TYPICAL INSTALLATION - WITH RECIRCULATION SYSTEM



OPERATION

The Apollo "MVA" Series uses a shuttle/piston to control the volumes of cold and hot water required to deliver water at a predetermined temperature. Cold water enters the mixing chamber above the top face of the shuttle, and hot water enters below the lower face of the shuttle. The thermostatic element which is positioned in the mixing chamber, is connected to the spring-loaded shuttle, which moves up and down in response to expansion and contraction of the element. In the event of an increase in the temperature of either the hot or cold water supply, as the change commences to alter the temperature of the water in the mixing chamber, the thermostatic element immediately reacts by expanding. This expansion moves the shuttle downward decreasing the opening area of the hot water supply, and increasing the opening for the cold water. This change in the volumes of the respective water supplies in the correct proportions, compensates for the change of temperature of the water in the mixing chamber, and a constant mixed water is maintained. The sensitivity of the thermostatic element ensures instantaneous movement of expansion and contraction as necessary. In the event of complete failure of the cold water supply, the ensuing expansion of the element shuts-off the hot water supply completely.



ADJUSTMENT

For optimum performance it is imperative that the hot water inlet temperature has a minimum of 15°F above the desired outlet temperature.

- After the unit is completely installed, turn on the cold water supply, then hot water supply. It is recommended to open the cold side first to avoid sudden temperature increase in the mixing chamber.
- When the unit is pressurized, check for leaks at the fittings and unit.
- Open end-fixture to establish flow. Observe lock-out/tag-out procedures.
- MIXED TEMPERATURE ADJUSTMENT:**
 - Facing top of the valve, turn handle clockwise to decrease the mixed temperature, or counter-clockwise to increase mixed temperature. Allow the mixed temperature to stabilize at least one minute before making another adjustment.
 - In some conditions, the outlet temperature setting is adjusted above 120°F. This can be done by turning the handle counter-clockwise until desired mixed temperature is reached. Allow unit to stabilize at least one minute before making adjustment.
- SETTING MIXING VALVE TO RECIRCULATING SYSTEM:**
 - After installation is complete (refer installation instructions), close and tag all fixtures not used in this procedure.
 - Turn off recirculating pump.
 - Open fixture/s to flow greater than the minimum flowrate of the mixing valve. Tag open fixture/s to prevent any possible usage of untampered water.

FRONT

- Allow water to flow through the mixing valve until water temperature is stable. If necessary, re-adjust the valve according to "ADJUSTMENT" instructions.
- Once the temperature is set, start recirculating pump and allow the system to reach set temperature.
- Measure water temperature downstream of the recirculating pump and adjust the aquastat to shut-off the pump when the return water exceed the set point by 2°F. Set the aquastat to restart the pump when the return water drops 5°F below set temperature.
- Set the balancing valve in the full open position.
- Close all fixture/s and make sure no demand is allowed. The cold inlet temperature to the mixing valve should be warm.
- Allow the system to run without demand for at least 30 minutes. In some cases, an increase in water temperature may occur during a no load period. If this occurs, slowly close balancing valve until water temperature is back to the original set temperature.

MAINTENANCE

Periodic inspection and maintenance by a licensed plumber is required to insure proper and efficient performance of the unit. Frequent cleaning and replacement of shuttle O-ring is required and recommended. Shuttle O-ring requires periodic lubrication using silicone based lubricant only. PTFE or petroleum based lubricant may cause O-ring swelling.

REPAIR KIT INFORMATION

MODEL NO.	QTY	PART NO.	DESCRIPTION	MATERIAL
MVA-RK (34A200RK)	1	A215300	SPRING	304 STAINLESS STEEL
	1	W434805	SHUTTLE SUB-ASSY	
		F326400	SHUTTLE	20% GLASS FILLED NORYL
		837800	THERMAL ACTUATOR	ALL WETTED PARTS-Cu
		D492300	O-RING, .024	EPDM
1	B82900	INSTRUCTION SHEET	CARD STOCK	

TROUBLE SHOOTING

PROBLEM	CAUSE	SOLUTION
Mixed temperature fluctuating or erratic	Cold and Hot water inlet pressure differential greater than 30 psid	Install pressure reducing valve or pressure limiting device to maintain equal and consistent pressures.
	Shuttle assembly damaged or worn	Replace with repair kit.
	Setpoint adjustment at maximum setting	Increase inlet water temperature setting allowing valve to mix.
Mixed temperature will not adjust to desired temperature	Hot water inlet temperature within 15°F of outlet mix setpoint.	Increase hot water inlet to more than 15°F above outlet setting.
	Hot water temperature above 180°F	Adjust water heater temperature
	Inlet check valves clogged or damaged	Replace inlet check valves
No flow	Supply valves closed	Check cold and hot water supply valves
	Inlet check valves clogged or damaged	Clean or replace
	Strainers completely clogged	Clean or replace
	Loss of supply pressure	Check with licensed plumber
Hot water backing-up in cold water supply	Cold water inlet check valve defective, clogged or damaged and cold water pressure is less than hot water supply pressure	Inspect, clean or replace cold water check valve
Cold water backing-up in hot water supply	Hot water inlet check valve defective, clogged or damaged and hot water pressure is less than cold water supply pressure	Inspect, clean or replace hot water check valve

THIS PRODUCT MEETS THE REQUIREMENTS OF THE EPA SAFE DRINKING WATER ACT



CALIFORNIA PROP 65: WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov

This product complies with U.S. Safe Drinking Water Act (SDWA). Suitable for potable water applications intended for human consumption.

WARNING: FAILURE TO FOLLOW ABOVE INSTRUCTIONS COULD RESULT IN UNSAFE DISCHARGE TEMPERATURE, WHICH MAY CAUSE INJURY OR DEATH.

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BACK