

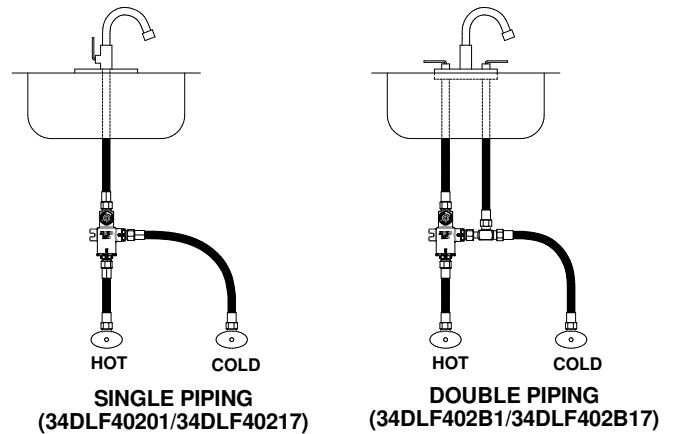
THERMOSTATIC MIXING VALVE MODEL MVD (34DLF400 SERIES)

INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS

INSTALLATION

- Flush all piping thoroughly before installation. Debris or foreign materials in piping system will plug the inlet strainers of the device prematurely.
- The unit can be installed with the mixed water discharge connection flowing either up or down.
- Connect the cold water supply to “C”, hot water supply to “H”, and mixed water discharge to end fixture.
- When the unit is installed in a single pipe system, or where a quick closing solenoid valve is on the discharge side of the mixing valve, an arrester is recommended to protect the unit and the end-fixture from pressure surges as well as premature water line failures.
- The unit is provided with mounting bracket integral to the body. It is highly recommended to properly secure and support the unit to prevent vibrations and movement due to thermal and hydrostatic expansion.

This movement will eventually cause fitting leakage.



OPERATION

The Apollo 34D uses a shuttle/piston to control the volumes of cold and hot water required to deliver water at a preferred temperature. In the event of a change in the temperature of either the hot or cold water supply, the thermostatic element reacts instantaneously. This change in volume of the respective water supplies compensates for the change of temperature of the water in the mixing chamber, and constant mixed water is maintained. In the event of complete failure of the cold water supply, the expansion of the element shuts-off the hot water supply.

ADJUSTMENT

The Apollo 34D is approved to the ASSE 1070/ASME A112.1070/CSA B125.70 standards. It has a mixed water adjustment range of 80° - 120°F. The unit is equipped with a maximum temperature limit stop so that the outlet temperature cannot be accidentally adjusted above 120°F. It is important that the limit stop is set prior to normal operation of the unit. Failure to set limit stop could result in unsafe mixed water discharge temperature which could cause scalding or thermal shock.

Mixed temperature adjustment is as follows:

1. After the unit is installed, turn on the cold water supply, then hot water supply. It is recommended to open the cold side first in order to avoid sudden temperature change increase in the mixing chamber.
2. Open end-fixture. In a double pipe system installation, open fixture with mixed or tempered water supply only.
3. Let the mixed water flow at least one (1) minute, and measure temperature.
4. Adjust temperature to maximum desired temperature (Do not exceed 120°F).
5. Adjustment must be performed during flowing conditions.
 - a. Loosen the limit stop nut (1/2" hex).
 - b. Mixed temperature adjustment can be adjusted by means of an allen hex wrench (1/8" size).
 - c. Facing the device, turn clockwise to decrease the mixed temperature, or counter-clockwise to increase the mixed temperature.
 - d. Allow the mixed temperature to stabilize (at least one minute) before making another adjustment.
 - e. After the maximum mixed temperature has been achieved (not to exceed 120°F), tighten the limit stop and making sure that the temperature adjustment is held in-place.

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, inlet strainers and check valves are required and recommended.

⚠ 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.

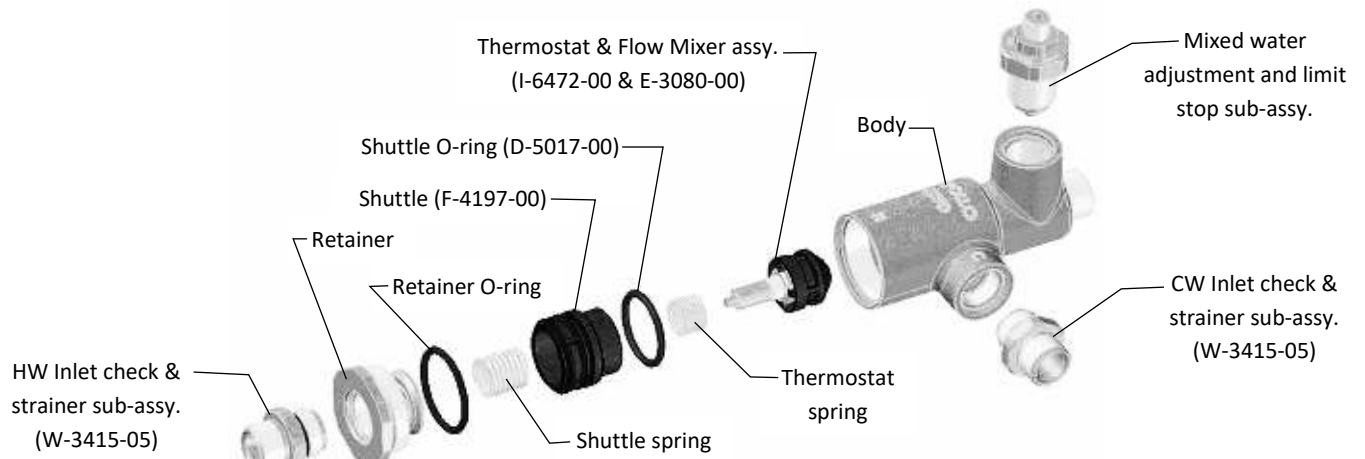
For more information visit www.apollovalves.com.

REPAIR KIT (P/N: 34DLF400RK)

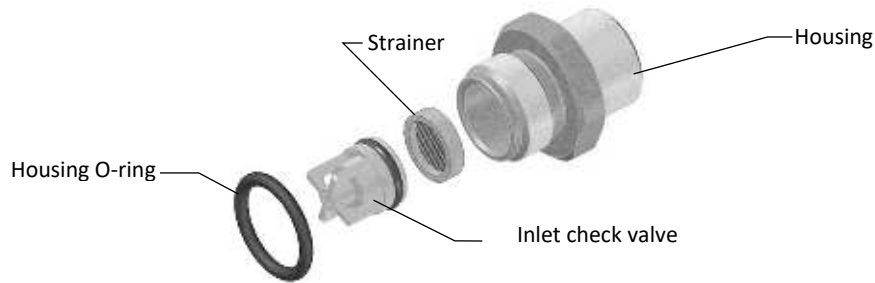
PART NO.	DESCRIPTION	QTY
W-3415-05	INLET CHECK SUB-ASSY.	2
F-4197-00	SHUTTLE	1
D-5017-00	SHUTTLE O-RING	1
I-6472-00	THERMOSTAT	1
E-3080-00	FLOW MIXER	1
I-9016-00	LUBRICANT, O-RING	1

Notes:

- 1) See main assembly exploded view for part's details.
- 2) Apply sufficient amount of lubricant to shuttle O-ring during assembly.



Exploded view – Main Assembly



Exploded view – Cold/Hot Water Inlet Check Valve & Strainer Sub-assembly (W-3415-05)

TROUBLE SHOOTING

PROBLEM	CAUSE	SOLUTION
Mixed temperature is fluctuating or will not adjust to high enough temperature	<p>Cold and hot water inlet pressure differential is too high (greater than 30 psig)</p> <p>Flow exiting the mixing valve is too low.</p> <p>Shuttle damaged or worn</p> <p>Hot water supply temperature is too low. (Must have 15°F degree difference between hot and mix temperature)</p>	<p>Install pressure reducing valve or pressure limiting device to maintain equal and consistent pressures.</p> <p>Increase flow rate through fixture or recirculate mixed water piping back to cold inlet using pump</p> <p>Replace shuttle/element/O-ring</p> <p>Increase hot water inlet temperature to more than 15°F above mixed outlet temperature.</p>
Cold water at fixture is warm	Hot water is entering cold supply.	Check inlet check cartridges. Be sure they are installed in in right flow direction.
No flow	<p>Either inlet supply is off.</p> <p>Check cartridge clogged or backwards</p>	<p>Turn on both supply lines.</p> <p>Check inlet check cartridges. Be sure they are installed in in right flow direction.</p>

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Amendment Register

Date	ECN	Revision	Page	Description	Initiator	Reviewed
10-12-17	M16657	A	1	New Release	BTR	TCH
03-18-19	M17277	B	2	Added General Assembly and Component Drawings; Update Prop 65 Warning	BTR	WGH
07-01-19	M17370	C	1	80°F was 85°F	BTR	WGH
07-10-19	M17377	D	1-2	Reduced from 3 pages to 2 pages	TH	WGH
11-1-19	M17505	E	1-2	Added Repair Kit; Added Models in piping schematic	BTR	TCH