INSTALLATION GUIDE AND OWNER'S MANUAL "ACCUMIX MT/ MB"

ELECTRIC INSTANTANEOUS WATER HEATER

WITH ASSE 1070 APPROVED MIXING VALVE

⚠WARNING ***BEFORE ATTEMPTING ANY INSTALLATION, MODIFICATION OR SERVICE OF THIS HEATER, MAKE SURE THE ELECTRICAL POWER IS DISCONNECTED.***

Read and understand these instructions thoroughly before attempting the installation or service of this water heater. Failure to follow these instructions can result in serious injury, death and/or property damage. The warranty of this water heater will depend upon the proper installation according to these instructions. Some heaters come supplied with separate faucet aerators. If supplied, the aerator must be installed in the faucet for optimum performance. This heater must be used to heat water only and be in a location where it is not subject to freezing temperatures. The manufacturer is not liable for any damages resulting from improper installation or misuse.

This installation must conform to the latest requirements of the National Electrical Code and all applicable state and local codes. This information is available through your local authorities. You must understand these requirements before beginning this installation.

This unit is not required by UL 499 to have a Temperature and Pressure relief valve (T&P). You should check with local codes to find out if one is required. If it is, it must be installed in the outlet hot water pipe between the heater and the isolation valve.

IMPORTANT SAFETY INSTRUCTIONS

When using this electrical equipment, basic safety precautions should always be followed, including the following:

READ AND FOLLOW ALL INSTRUCTIONS

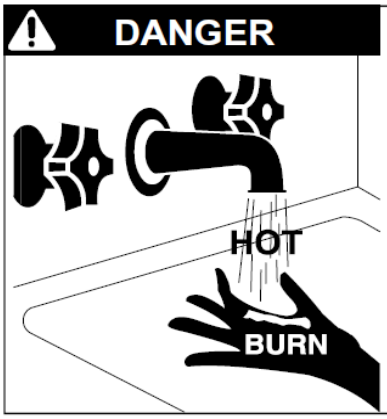
A green terminal (or a wire connector marked "G", "GR, "Ground", or "GROUNDING") is provided within the control box. To reduce the risk of electric shock, connect this terminal or connector to the grounding terminal of the electric service or supply panel with a continuous copper wire in accordance with your local electrical code.

⚠CAUTION **(Canadian Installations Only)** Connect only to a circuit protected by a Class A ground fault circuit interrupter. Attention: Brancher uniquement à un circuit protégé par un disjoncteur de fuite de terre de Classe A.

⚠CAUTION Do not install in a bath enclosure or shower stall or connect to a salt-regenerated water softener or a water supply of salt water. Attention: Ne pas installer dans une baignoire ou une cabine de douche et ne pas brancher à un adoucisseur d'eau régénéré avec du sel ou à un approvisionnement en eau salée.

(Canadian Installations Only) Use copper conductors only. Use bonding conductor in accordance with the Canadian Electrical Code Part I. Utilisez dez conducteurs en cuive uniquement. Utilisez des conducteurs de mize à la masse conformement au Code Canadien de L'Électricité, Partie I.

SAVE THESE INSTRUCTIONS



Hot water can be dangerous, especially for infants or children, the elderly, or infirm. There is hot water scald potential if the thermostat is set too high.

Water temperatures over 125° F (51° C) can cause severe burns or scalding resulting in death.

Hot water can cause first degree burns with exposure for as little as:

3 seconds at 140° F (60° C)

20 seconds at 130° F (54° C)

8 minutes at 120° F (48° C)

Test the temperature of the water before placing a child in the bath or shower.

Do not leave a child or an infirm person in the bath unsupervised.

GENERAL

The Eemax "AccuMix" heater is specifically designed to take in cold water and heat it to temperatures suitable for hand washing and other mild temperature uses up to a maximum of 105^0 F. It is equipped with an ASSE 1070-2004 approved mixing valve for scald protection in the event of a temperature spike. To obtain optimum performance and energy savings, the unit should be located as close as possible to the point of use. The MT unit is supplied with compression rings and nuts suitable for direct coupling to 3/8" copper or plastic piping. MB units have ½" compression fittings. Do not use additional screwed fittings or pipe dope or Teflon tape. Doing so will void the warranty. **DO NOT SOLDER PIPES WHILE THE UNIT IS INSTALLED** as serious damage to the heater will result.

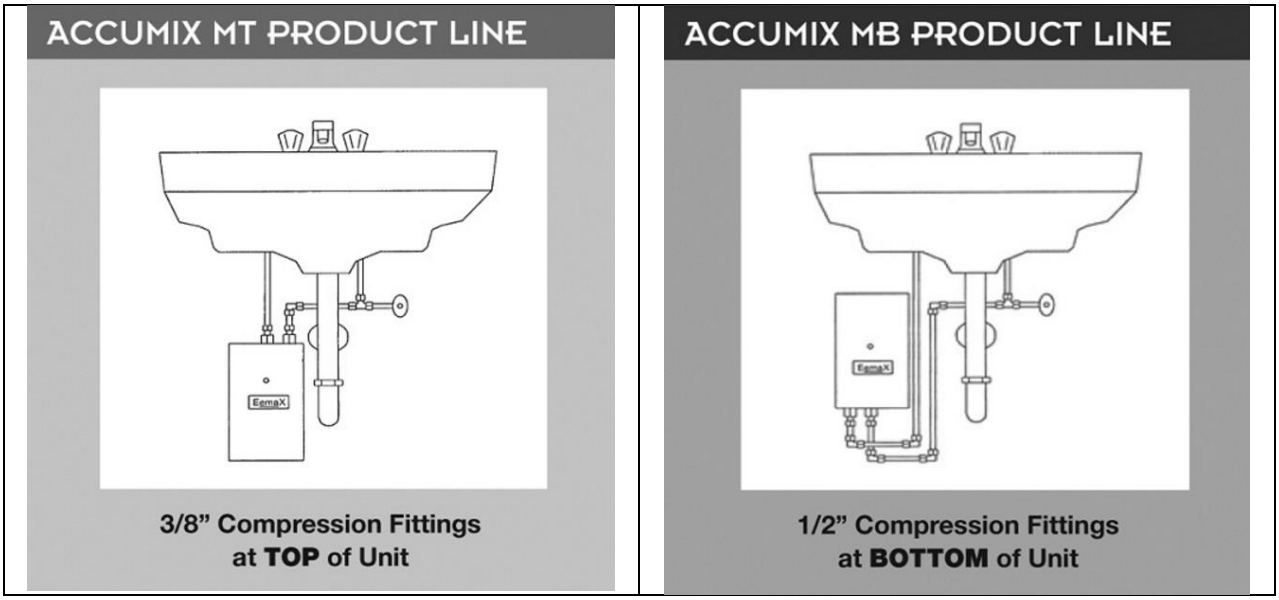
CALIFORNIA PROPOSITION 65 WARNING

The mixing valve in this product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. (California law requires this warning to be given to customers in the State of California)

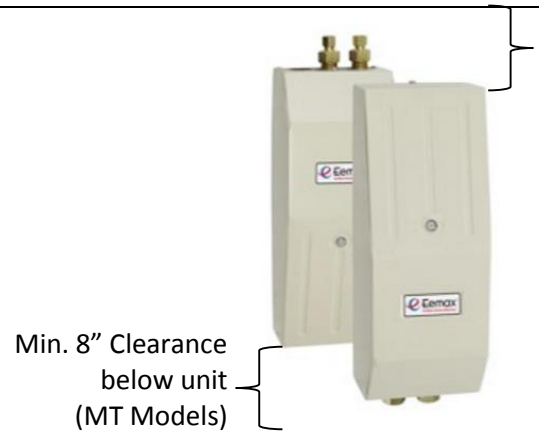
⚠CAUTION This heater must be installed in a location where it is not subject to freezing temperatures.

1) MOUNTING THE UNIT TO THE WALL

1) The heater should be mounted “under the sink” as close to the point of use as possible. This unit must only be mounted in the correct position with the water fittings at the top (MT) or bottom (MB) of the unit. Mounting in the incorrect position **WILL** cause element burn out.



2) The fittings must be at least 16 inches below the level of the hot water faucet. Make sure to leave a minimum of 8 inches service clearance at the end **OPPOSITE** the fittings.



3) Remove the cover and fasten to the wall using the four mounting holes at each corner of the back plate. Make sure the “UP” arrow is facing “UP”. Replace the cover.

2) PLUMBING HOOK-UP

The heater is supplied with brass compression fittings that are compatible with either copper or plastic pipe. "MT" has 3/8" fittings. "MB" units have ½" fittings. Make sure these fittings are used for this installation. Contact your Eemax representative for further information.

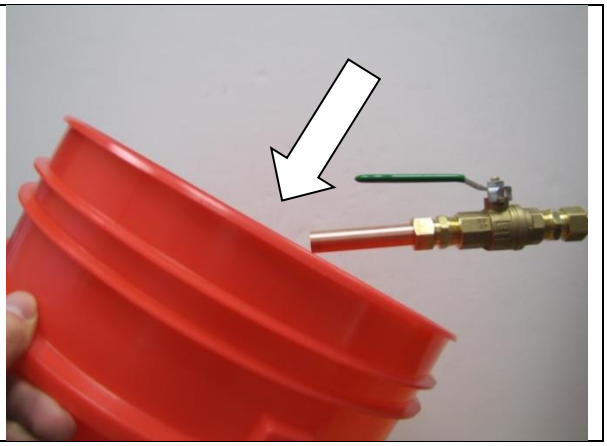
⚠CAUTION ***NEVER SUBSTITUTE THREADED PIPE FITTINGS USING PIPE DOPE OR TEFLON TAPE AND NEVER SOLDER ANY PIPE CONNECTIONS WHILE ATTACHED TO THIS HEATER BECAUSE DAMAGE TO THE HEATER WILL RESULT. DOING THIS WILL VOID THE WARRANTY.***

Eemax strongly recommends that the heater be **supplied directly from the main cold water trunk** line when possible. This helps to avoid a potential water flow interruption to the heater which could lead to a failure of the heating element.

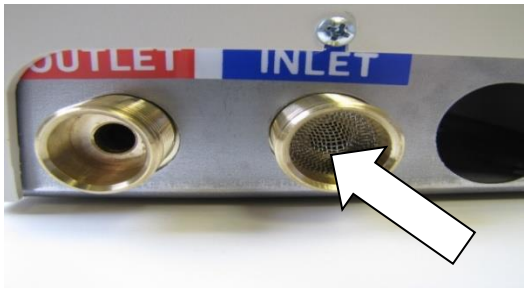
System Requirements:

Minimum operating pressure 30 PSI dynamic Optimum operating pressure 55 to 80 PSI static Maximum pressure 150 PSI. Min flow rate .3GPM

For optimum performance, we recommend the use of isolation valves (full flow ball type) on the inlet and outlet pipes and use of a 40 mesh Y-Strainer on the inlet of the heater. Clean screen periodically for best performance of the mixing valve

1) The heater's cold water INLET is on the "RIGHT" and the hot water OUTLET is on the "LEFT". Install full flow ball valves to the inlet and outlet pipes and run water through the inlet pipe into a bucket to purge it of any debris. Close the inlet ball valve. **FAILURE TO DO SO MAY CLOG MIXING VALVE!**	

2) Make sure the inlet filter screen is present in the inlet fitting and the inlet and outlet pipes are correctly aligned with the heater connections to minimize stress on the heater.



3) Remove the cover. Connect the pre-assembled inlet and outlet pipes to the heater and fully open the inlet and outlet ball valves. When all plumbing is complete, fully check the system for water leaks at all plumbing connections. If leak is present take corrective action. If leak is at the compression fitting, slowly tighten compression nut until it stops. Ensure compression fittings are tightened to 18FT.LB. Fully open both inlet and outlet ball valves.

This heater must be provided with a **COLD WATER FEED ONLY**.

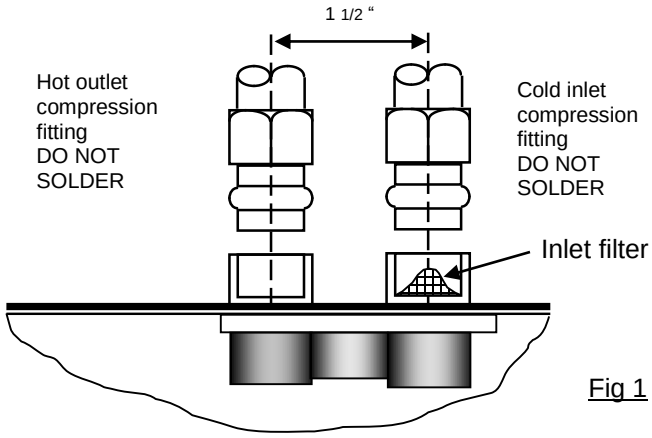
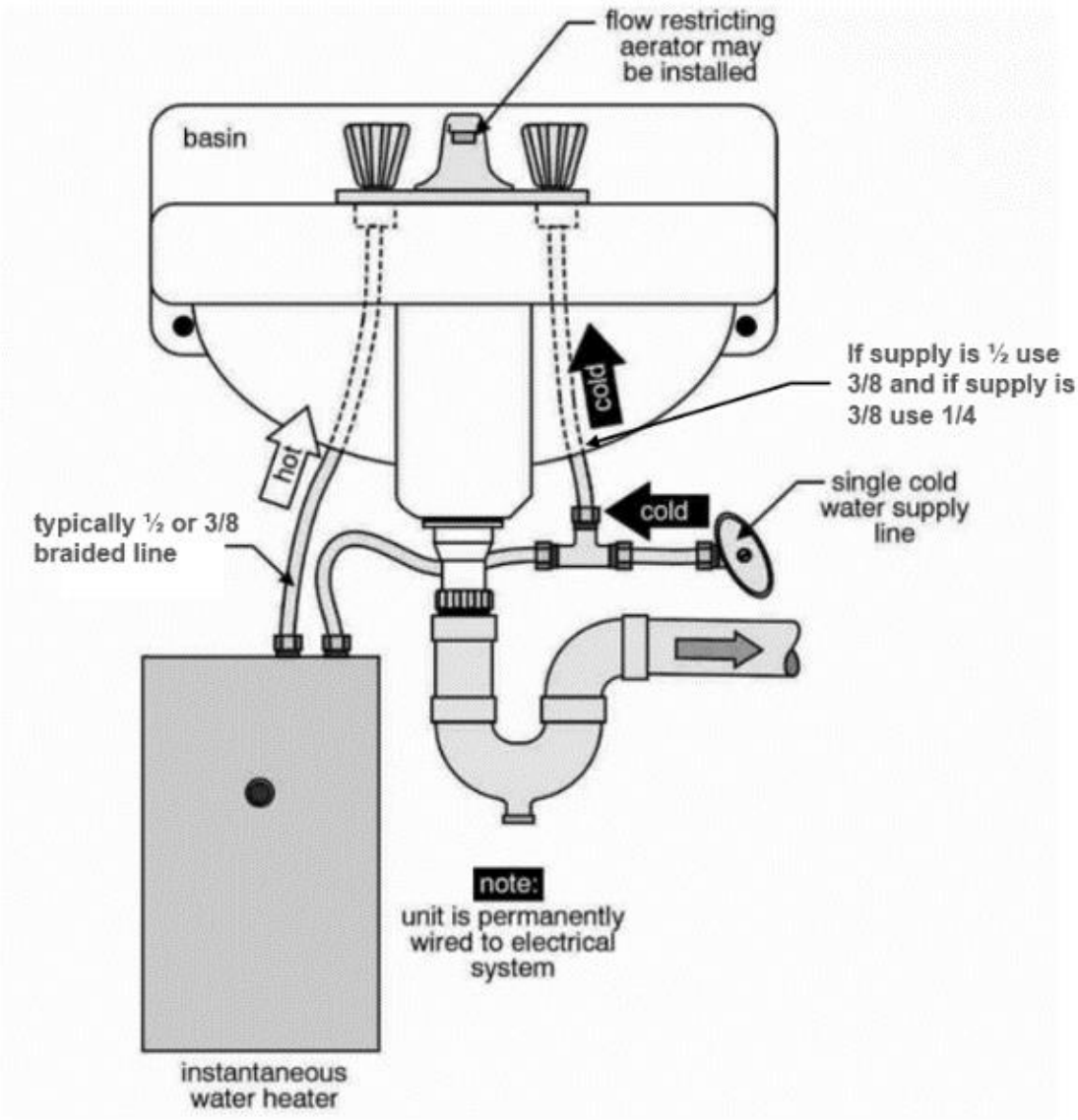


Fig 1

MT unit shown



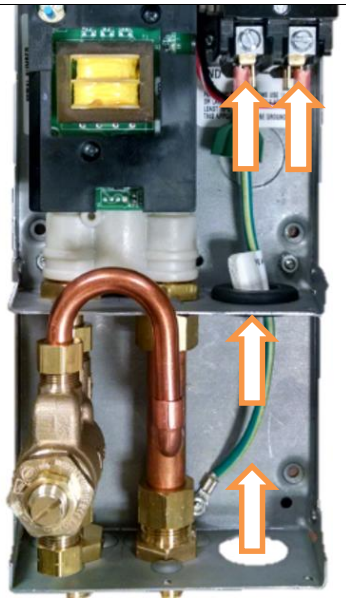
4) Open the hot water faucet and run the water a minute or two until the flow is continuous and free of air pockets. Close the faucet and install the aerator. Failure to install aerator will result in lower-than-expected heater performance.

3) ELECTRICAL HOOK-UP

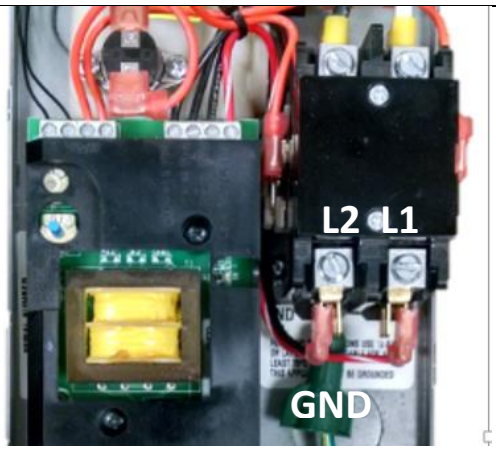
⚠WARNING ***BEFORE BEGINNING ANY WORK ON THIS INSTALLATION, BE SURE THAT THE ELECTRICAL BREAKER IS "OFF" AND THAT ALL MOUNTING AND PLUMBING WORK HAS BEEN COMPLETED PER THESE INSTRUCTIONS.***

This heater must have its own independent circuit using insulated, UL listed, 2 wire cable (2 wire plus ground) of the appropriate size suitable for up to 75 degree C and protected by the correctly rated circuit breaker. Refer to the chart on page 8.

1) Power cable entry to the heater should be made through one of the "knock-out" holes located on the back plate or top/bottom ends of the unit. Use the appropriate strain relief fitting.



2) The power leads are to be secured to the L1 and L2 or L and N connectors on the terminal block or relay. The ground lead is to be secured to the GND connector on the block or the green ground wire with the wire nut.



⚠WARNING ***FAILURE TO GROUND THE SYSTEM MAY RESULT IN SERIOUS INJURY, DEATH AND/OR PROPERTY DAMAGE.***

3) Leave the breaker in the “OFF” position. Proceed to the next section:

COMMISSIONING THE HEATER

RATINGS:

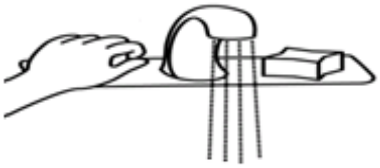
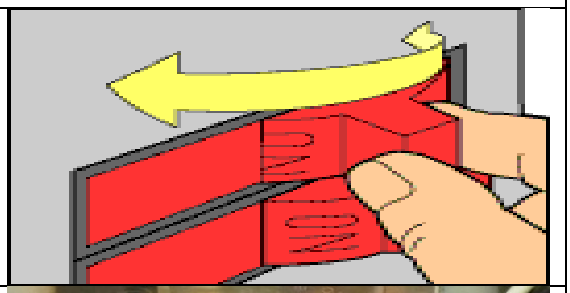
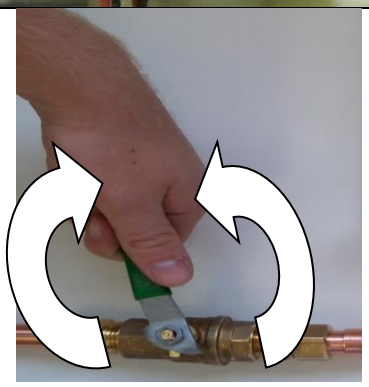
MODEL	RATED VOLTAGE	MAXIMUM OUTPUT AT RATED VOLTAGE	AMPS DRAWN	* TEMPERATURE RISE (F) 0.5 gpm	1.0 gpm	1.5 gpm
MB004120T	120	3,500 W	29	48	24	16
MB005240T	240	4,800 W	20	66	33	22
MB007240T	240	6,500 W	27	89	44	30
MB010240T	240	9,500 W	40	130	65	43
MB012240T	240	11,500 W	48	157	79	52
MB004277T	277	4,100 W	15	56	28	19
MB008277T	277	8,000 W	29	109	55	36
MB010277T	277	10,000 W	36	137	68	46

MODEL	RATED VOLTAGE	MAXIMUM OUTPUT AT RATED VOLTAGE	AMPS DRAWN	* TEMPERATURE RISE (F) 0.5 gpm	1.0 gpm	1.5 gpm
MT004120T	120	3,500 W	29	48	24	16
MT005240T	240	4,800 W	20	66	33	22
MT007240T	240	6,500 W	27	89	44	30
MT010240T	240	9,500 W	40	130	65	43
MT004277T	277	4,100 W	15	56	28	19
MT008277T	277	8,000 W	29	109	55	36
MT010277T	277	10,000 W	36	137	68	46

**The heaters’ actual temperature rises are limited by their thermostatic controls. The theoretical values shown above are only for comparison purposes.*

4) COMMISSIONING THE HEATER

⚠CAUTION ***BEFORE SWITCHING THE ELECTRICAL BREAKER "ON", MAKE SURE THE INLET AND OUTLET BALL VALVES ARE FULLY OPEN AND WATER IS FLOWING THROUGH THE HOT WATER FAUCET FOR A MINUTE OR TWO UNTIL THE FLOW IS CONTINUOUS AND FREE FROM AIR POCKETS. DO NOT SWITCH THE BREAKER "ON" IF THERE IS A POSSIBILITY THE WATER IN THE HEATER IS FROZEN.***

1) Make sure water is flowing through the faucet.	
2) Switch "ON" the electric power supply at the breaker.	
3) The power indicator light on the circuit board should come "ON".	
4) Check the performance of the flow switch by opening and closing the <u>OUTLET BALL VALVE</u> a few times. Keep the <u>INLET BALL VALVE</u> fully "OPEN". The power indicator light should be "ON" <u>ONLY</u> when water is flowing through the heater. Return the outlet valve to the fully "OPEN" position.	 "OUTLET SIDE"

BASIC TROUBLESHOOTING

SYMPTOM: NO HEAT AND THE POWER INDICATOR LIGHT ON THE CIRCUITBOARD IS "OFF".

1) ELECTRIC SUPPLY IS OFF
Turn on the main breaker.
2) Check the Electrical Cut-out Switch (ECO). This normally closed switch opens in the event of high temperatures. It should automatically reset when the temperature drops.
3) NO OR LOW WATER FLOW
Ensure that the minimum flow rate to switch on your heater is met.
All AccuMix heaters require a minimum flow rate of 0.3 GPM.
Also check that the inlet filter screen is clear from any debris. This is located in the brass inlet boss.
4) WATER CONNECTIONS ARE REVERSED
Cold water inlet = right side, hot water outlet = left side.

⚠CAUTION TURN OFF THE CIRCUIT BREAKER!

Using an ohmmeter test the resistance of the heating element across the two threaded termination rods on top of the element.
The resistance reading should be under 20 ohms.
If the resistance is much greater than this value, call Eemax for a replacement element.

SYMPTOM: NO HEAT, LOW OR INCONSISTENT TEMPERATURE WITH INDICATOR LIGHT "ON".

1) WATER FLOW TOO HIGH
Reduce the water flow by using an outlet ball valve. See page 8 for temperature rise at various flow rates.
2) INCORRECT POWER SUPPLY
Make sure that the unit is connected to the voltage supply specified on the rating label on the front cover of the unit and no other.
3) ELEMENT BURNED OUT
⚠CAUTION TURN OFF THE CIRCUIT BREAKER!

Repeat the steps from paragraph 5 above.

PERIODIC MAINTENANCE

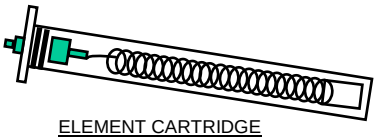
This heater is designed for many years of care free use. In order to maintain consistent water flow, it may be necessary to periodically clean the faucet aerator or the filter screen located in the brass inlet fitting at the heater. If using a Y-Straining clean out periodically.

Replacement Parts for “AccuMix MT” Units

COMPRESSION
NUT
PART# EX68B

COMPRESSION
SLEEVE
PART # EX68C

TRIAC
PART # EX 18



ELEMENT CARTRIDGE

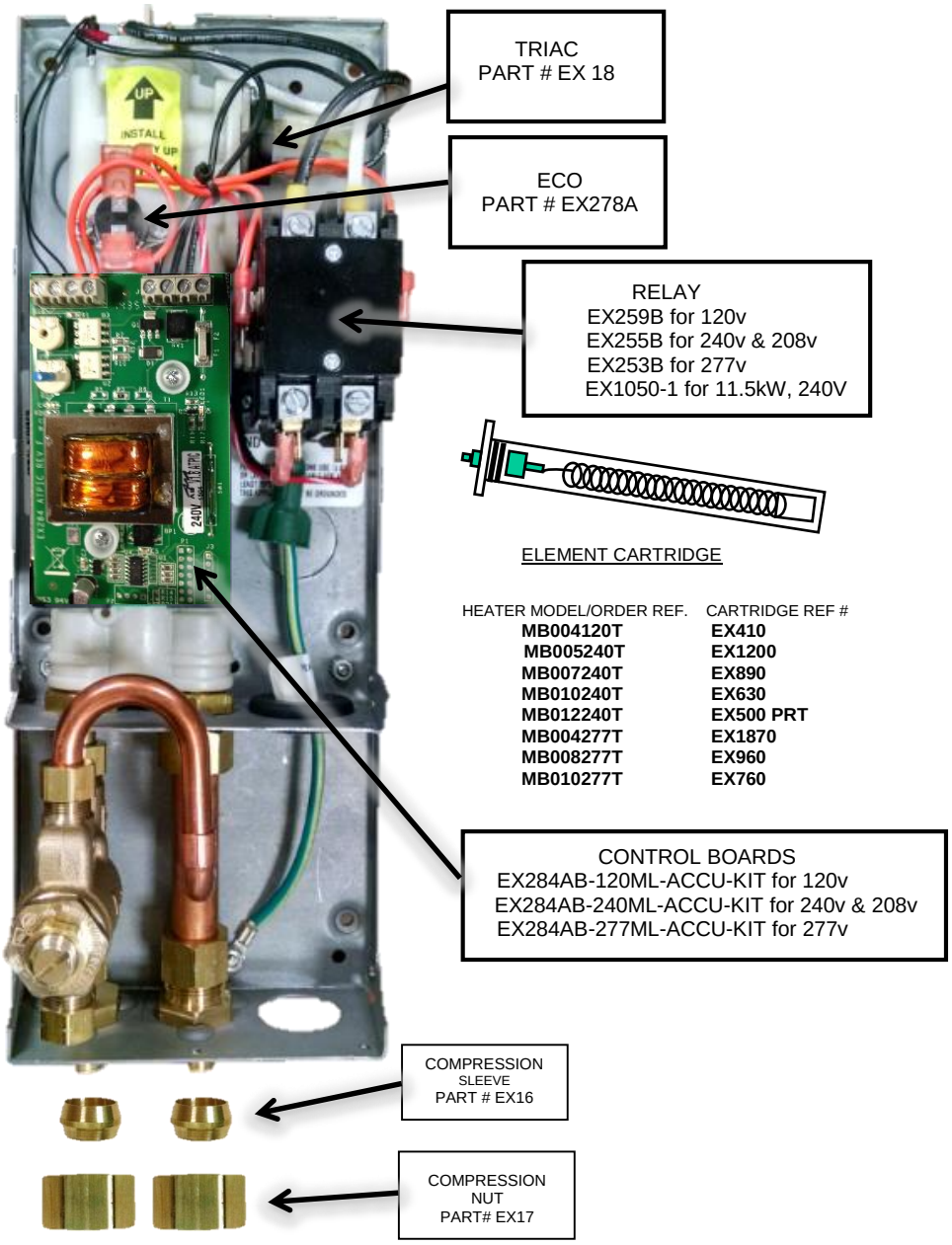
HEATER MODEL/ORDER REF.	CARTRIDGE REF #
MT004120T	**EX410**
MT005240T	**EX1200**
MT007240T	**EX890**
MT010240T	**EX630**
MT004277T	**EX1870**
MT008277T	**EX960**
MT010277T	**EX760**

CONTROL BOARDS
EX284AB-120ML-ACCU-KIT for 120v
EX284AB-240ML-ACCU-KIT for 240v & 208v
EX284AB-277ML-ACCU-KIT for 277v

RELAY
EX259B for 120v
EX255B for 240v & 208v
EX253B for 277v

ECO
PART # EX278A

Replacement Parts for “AccuMix MB” Units



If you need any assistance from our Technical Service Department, make sure you can identify this water heater by having the model no:_____ and serial number:_____.
Call 203-267-7890 or toll free: 800-543-6163.

Eemax Inc., 400 Captain Neville Drive, Waterbury, CT 06705

Tel: 800-543-6163, 203-267-7890, Fax: 203-267-7975, email: info@eemaxinc.com

EX07200-75 REV A