



# 1-WAY CEILING CASSETTE FAN COIL UNIT

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## Operation and Installation Manual MH1WC4W



### **One way ceiling cassette fan coil unit**

Please read this manual before using the fan coil unit.  
Installation and service must be carried out by trained and qualified technicians only.  
Model series covered in this manual are for both 208V and 230V.



**Recognize this symbol as an indication of important safety or instruction related information throughout this publication.**

#### GENERAL

Read the entire contents of this manual before beginning installation. Multiaqua assumes no responsibility for equipment installed contradictory to any code requirement or installation instructions. Careful attention has been given to the preparation of this IOM (Installation, Operation Manual) and the content has been carefully compiled for your convenience. Dimensions were verified at the time of the writing of this IOM. Remember the manufacturer reserves the right to make changes to this manual for the improvement of products without prior notice. Therefore dimensions should always be field verified before the installation process begins.

The components of this unit have been inspected at the factory and readied for shipment. Upon receiving the shipment, a visual inspection of the packaging must be performed. If any damage to the packaging is discovered, an inspection of all components must be performed and noted on the delivery documents. If component damage is found, a damage claim must be filed by the receiving party against the delivery party immediately.

This product is designed and manufactured to permit installation in accordance with national codes. It is the installer's responsibility to install the product in accordance with national codes and/or prevailing local codes and regulations.

Care must be taken to ensure the structural integrity of the supporting members, clearances, and provisions for servicing, power supply, coil connections, and/or condensate removal. This unit is designed to be installed in a horizontal configuration only.

The manufacturer reserves the right of change for the improvement of products without prior notice. Please kindly contact manufacturer if you have special requirements.

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## **PREPARATION FOR INSTALLATION**

### **Section 1) PACKAGE INSPECTION**

1. It is advisable to place the unit close to the installation site without removing it from the package. Do not put heavy tools or weights on the package.
2. Check the package to ensure no damage during transportation.
3. Do not lift unit from packaging by the cover assembly, condensate, or by the water connections.
4. Remove cover assembly and then lift the unit it by the four corners of unit body.
5. Once the unit is removed from the packaging, check and record the unit model and serial number for future reference. Serial numbers will not be given out by the manufacturer.

### **Section 2) Safety Precautions**

The appliance **shall** be installed in accordance with NEC wiring regulations as well as all mechanical codes.

1. When working on air conditioning equipment, observe precautions in this manual, and on all labels attached to the unit.
2. Ensure that the electrical supply is the correct voltage required for your specific installation according to the label on the equipment.

**3. CAUTION: INSTALLING & SERVICING SHALL BE CARRIED OUT BY TRAINED AND QUALIFIED SERVICE PERSONNEL ONLY.**



**4. CAUTION: BEFORE STARTING ANY WORK, PUT ON ALL PERSONAL PROTECTION EQUIPMENT INCLUDING, BUT NOT LIMITED TO, GLOVES AND SAFETY GLASSES REQUIRED FOR THE JOB.**

**5. CAUTION: BEFORE CARRYING OUT ANY WORK, TURN OFF THE MAIN POWER AT THE SERVICE DISCONNECT AND FOLLOW ALL LOCKOUT- TAGOUT PROCEDURES.**

### **Section 3) OPERATIONAL LIMITS**

- Power supply: Please refer to the label attached to the unit for correct power supply.
- Minimum entering water temperature: 35.6°F
- Maximum entering water temperature: 180 °F
- Maximum water system pressure shall not exceed: 200 psi

## Section 4) SELECTION OF INSTALLATION LOCATION

1. Do not install the unit in rooms where any hazards are present including, but not limited to: flammable gas, or hazardous atmosphere exists , alkaline or acid substances. Aluminum/copper coils and/or internal plastic components can be damaged beyond repair.



**THESE UNITS ARE NOT RATED FOR EXPLOSION PROOF ENVIRONMENT**

2. Do not install in workshops or kitchens where the airborne oil vapors, dust, or other chemicals may be deposited on the coils which reducing the performance and may damage the internal/external components of the unit.

3. Choose a position as close to the center of the room as possible.

4. The installation location must have sufficient strength to carry the gross weight of the unit listed in the table to the right.

	LBS
MH1WC4W-04	66.14
MH1WC4W-06	88.18
MH1WC4W-08	92.60

5. Verify that the return grille and supply louvers are not obstructed and the conditioned air is able to circulate throughout the room.

6. Check the distance between the upper slab and finished ceiling to ensure the unit has adequate space for installation. See Figure 1



Figure 1

7. Ensure there is sufficient space around the unit to service it. The dimensions shown in Figure 2 are suggestions. Your application may require more space to access controls , control valves etc.

8. The location must be readily accessible for inspection after the unit is installed as intended.

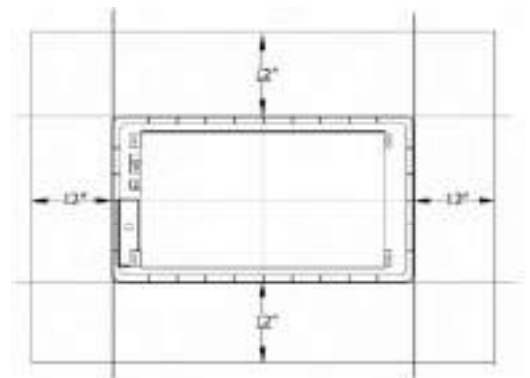


Figure 2



**Install the unit over the floor more than 8 ft.**

## Section 5) INSTALLATION OF THE UNIT

1. Mark position of suspension rods, water pipes, condensate drain, power supply cables, etc. Supporting rods can be fixed, depending on the type of ceiling, as shown in Figure 3.
2. The casing is fixed to the slab with four (4) threaded rods. The rods should have two (2) nuts, (1 or 2) counter nuts, and (2) washers per rod to lock the unit in position when using a wooden or steel "trapeze style hanger". See Figure 3 & 4.

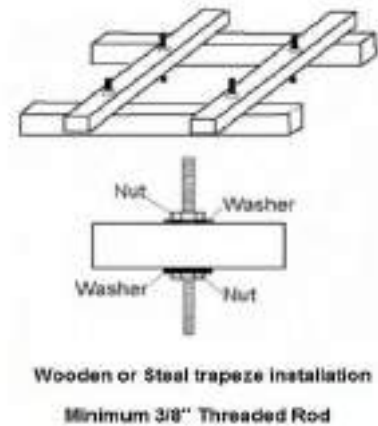


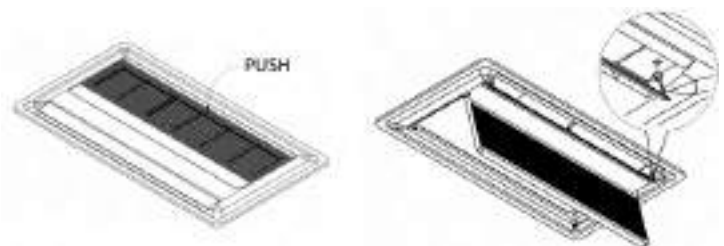
Figure 3



**When lifting the unit body into position, observe the unit's four corners and protect these from damage. Do not lift unit by the condensate drain pipe or by the coil connections.**

3. Whenever the installation of the unit will be facilitated by using a lift, the following precautions must be observed:

A. Remove the Plastic Cover Assembly to protect it from damage. This will be done by opening the return grill section of the cover and removing four (4) shoulder screws.



B. By inserting a plywood sheet between the lift and the unit, you will protect it while lifting the unit into place.

C. After the unit is secured to the lift, carefully lift the unit to ceiling height.

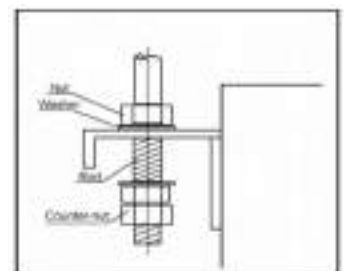


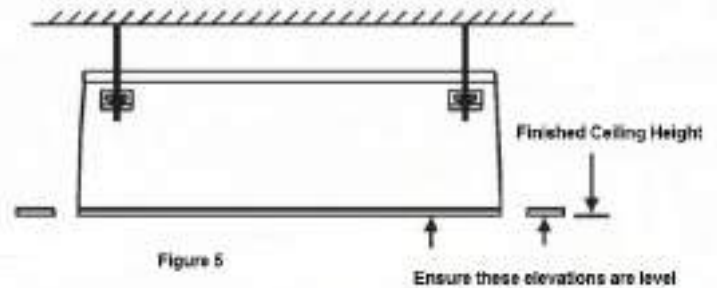
Figure 4

4. Now that the unit is at ceiling height, attach threaded rods to mounting brackets of the units.

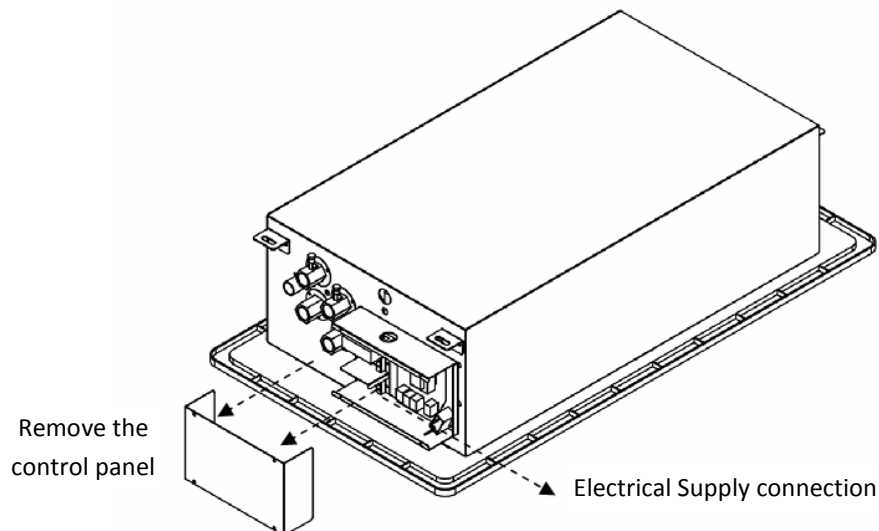
See Figure 4.

## Section 5) INSTALLATION OF THE UNIT (Continued)

5. Ensure the unit is level, otherwise condensate water cannot drain properly.
6. Using a level and/or measuring tape, adjust the height of the bottom of the unit to be level or slightly higher (not more than 1/16") than the lower part of the finished ceiling, then tighten the nuts and counter nuts of the threaded rods to secure in place.



7. Connect all supply and return water connections to the unit. It is recommended to use a vibration eliminators, such as a flexible connector, to prevent the transmitting of vibration noise. Use a back-up wrench on each of the chilled water and hot water connections to prevent damage to the coil assembly. Connect the condensate drain to a gravity drain in compliance with all codes. After connection of the chilled water and hot water lines, as well as the condensate drain, verify that the unit remains level.
8. Make electrical supply connections in accordance with all code requirements.



**Check that the power supply available agree with nameplate voltage**

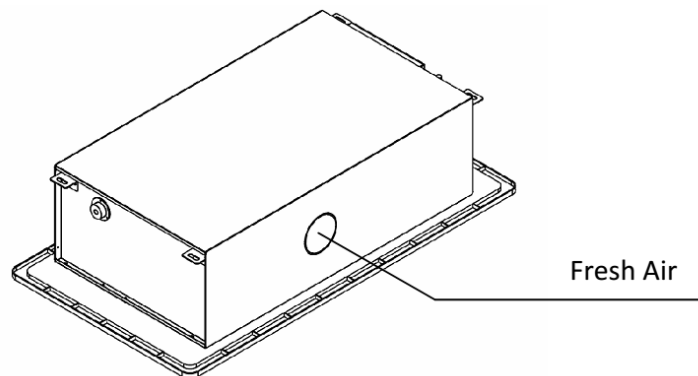
10. Fresh air connections should be made at this time. There is 1 connection locations for fresh air on the unit cabinet. See the drawings on page 8 for location of cabinet openings. Contractor will supply and field fabricate boots for these connections to meet job requirements.



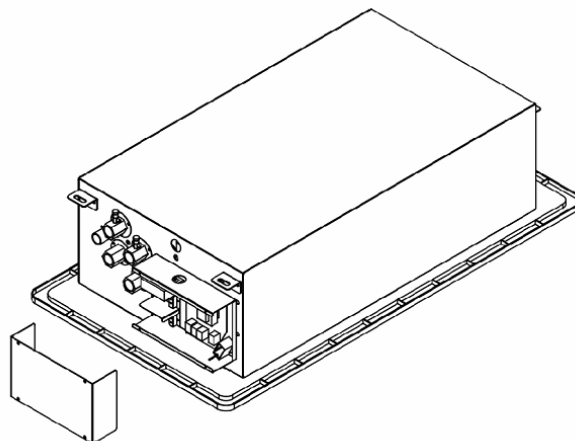
- This source of fresh air **MUST BE DELIVERED TO THE UNIT UNDER POSSITIVE PRES-SURE** as these units are not rated for static pressure.
- This source of fresh air must be turned off when the unit is not in operation to prevent the introduction of unconditioned air into the conditioned space.
- This source of fresh air must be filtered.

11. Reinstall cover assembly with the four (4) shoulder screws removed earlier. **DO NOT OVER TIGHTEN.**

12. Unit is now ready for contractor start-up procedures and recording of benchmark data according to all local and national requirements.

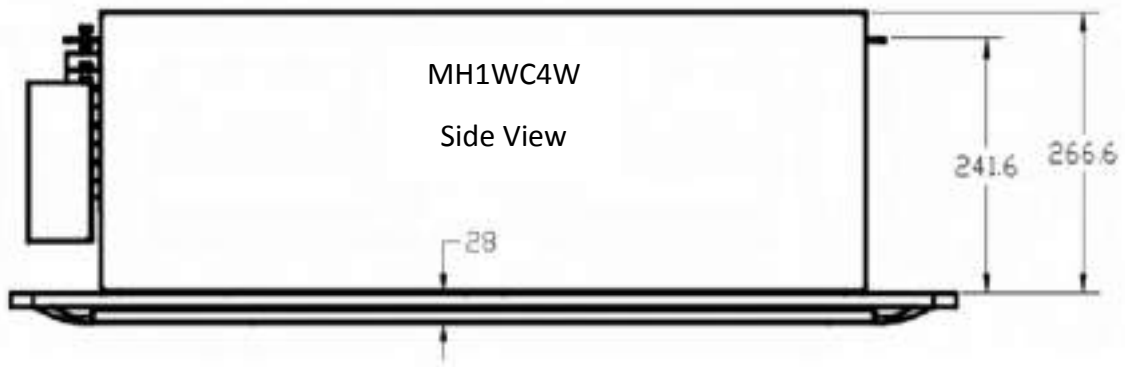


Fresh Air Connection Location

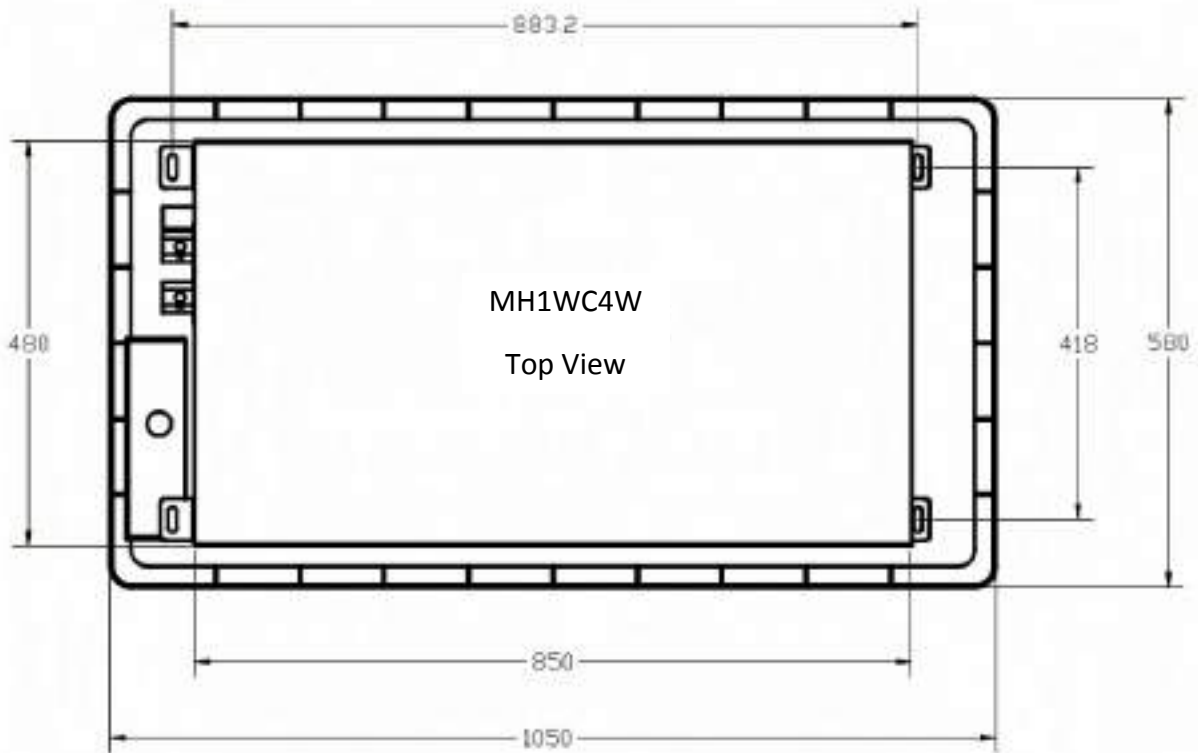


Typical Piping and Electrical Locations on the MH1WC4W



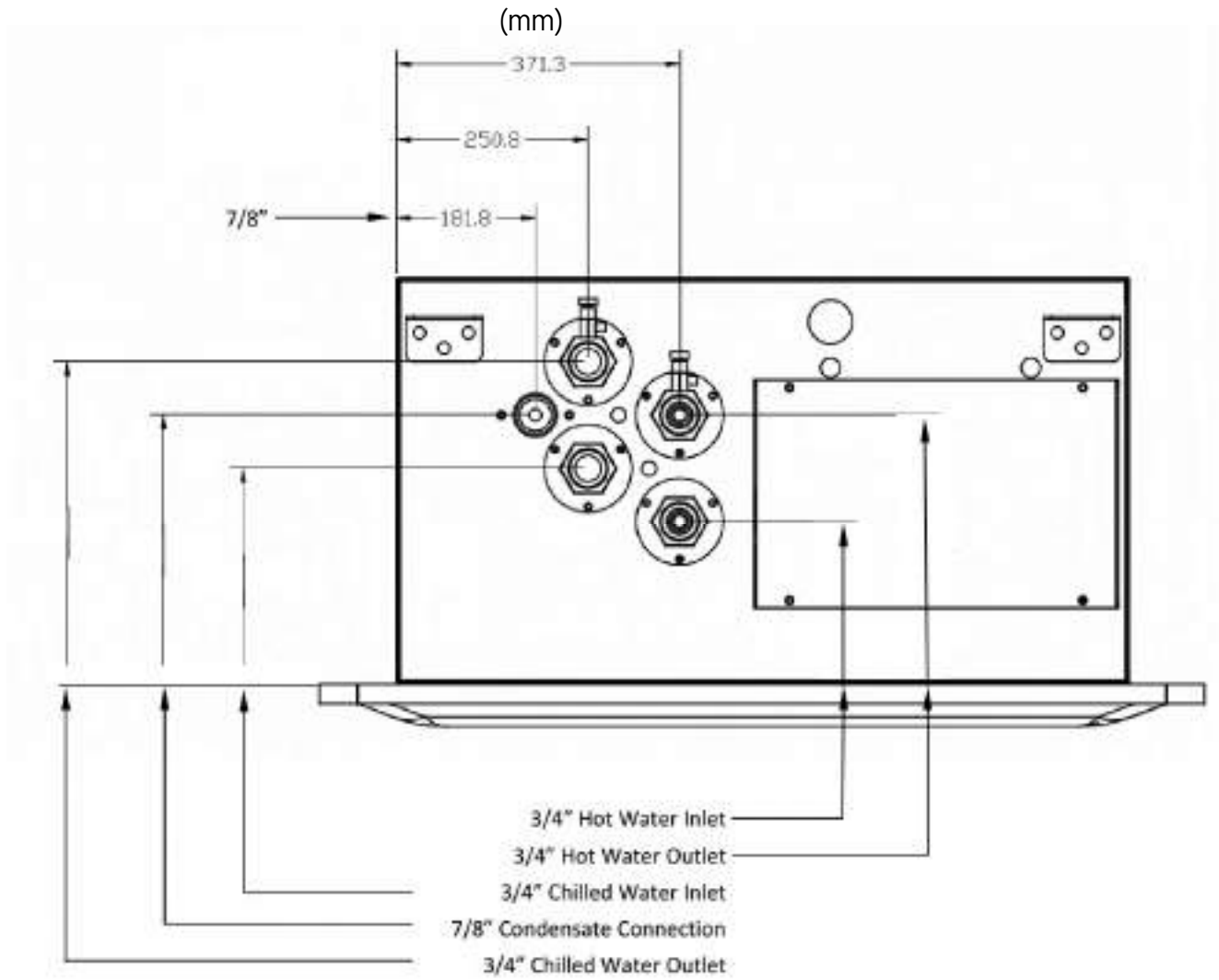


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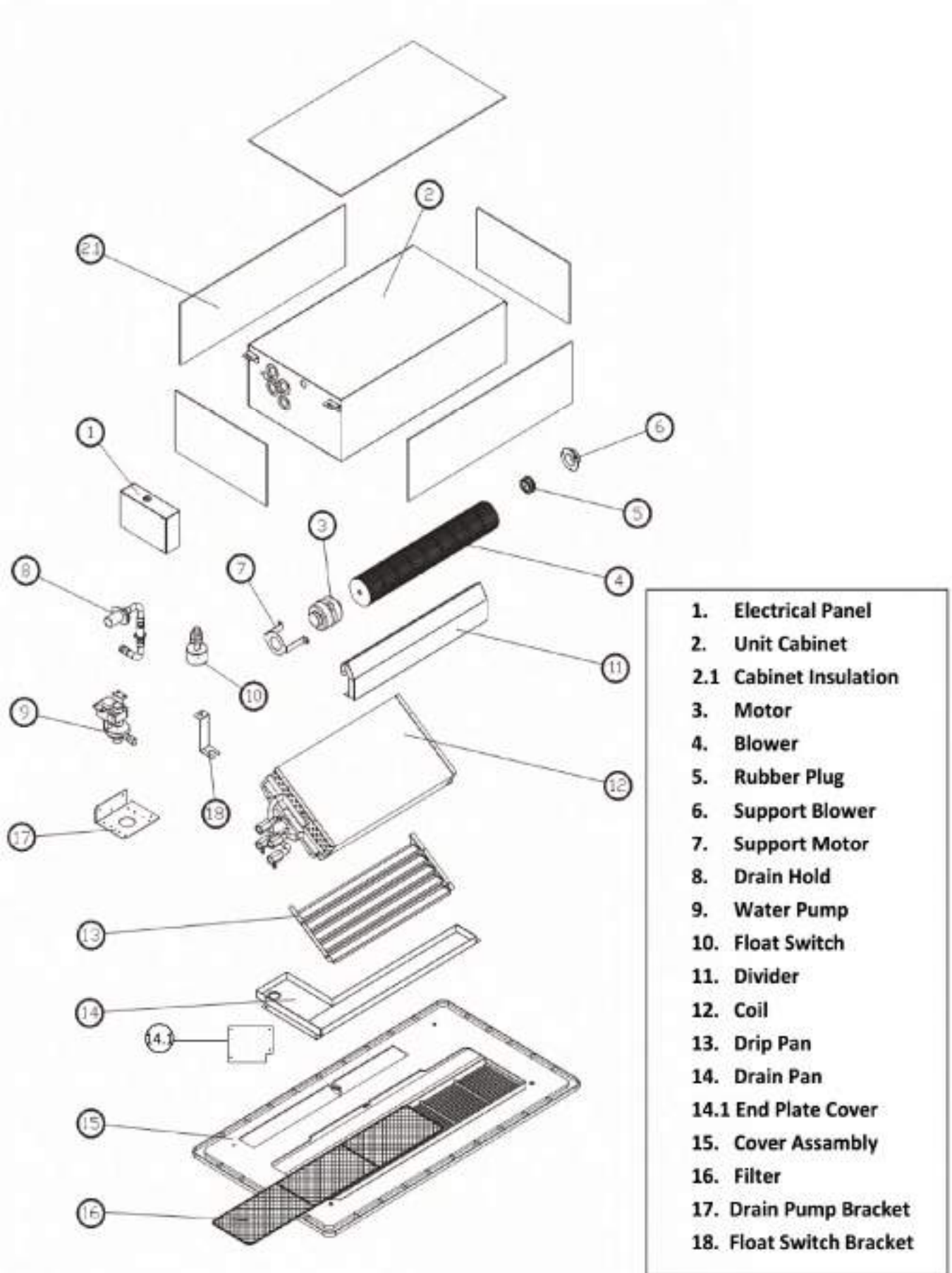


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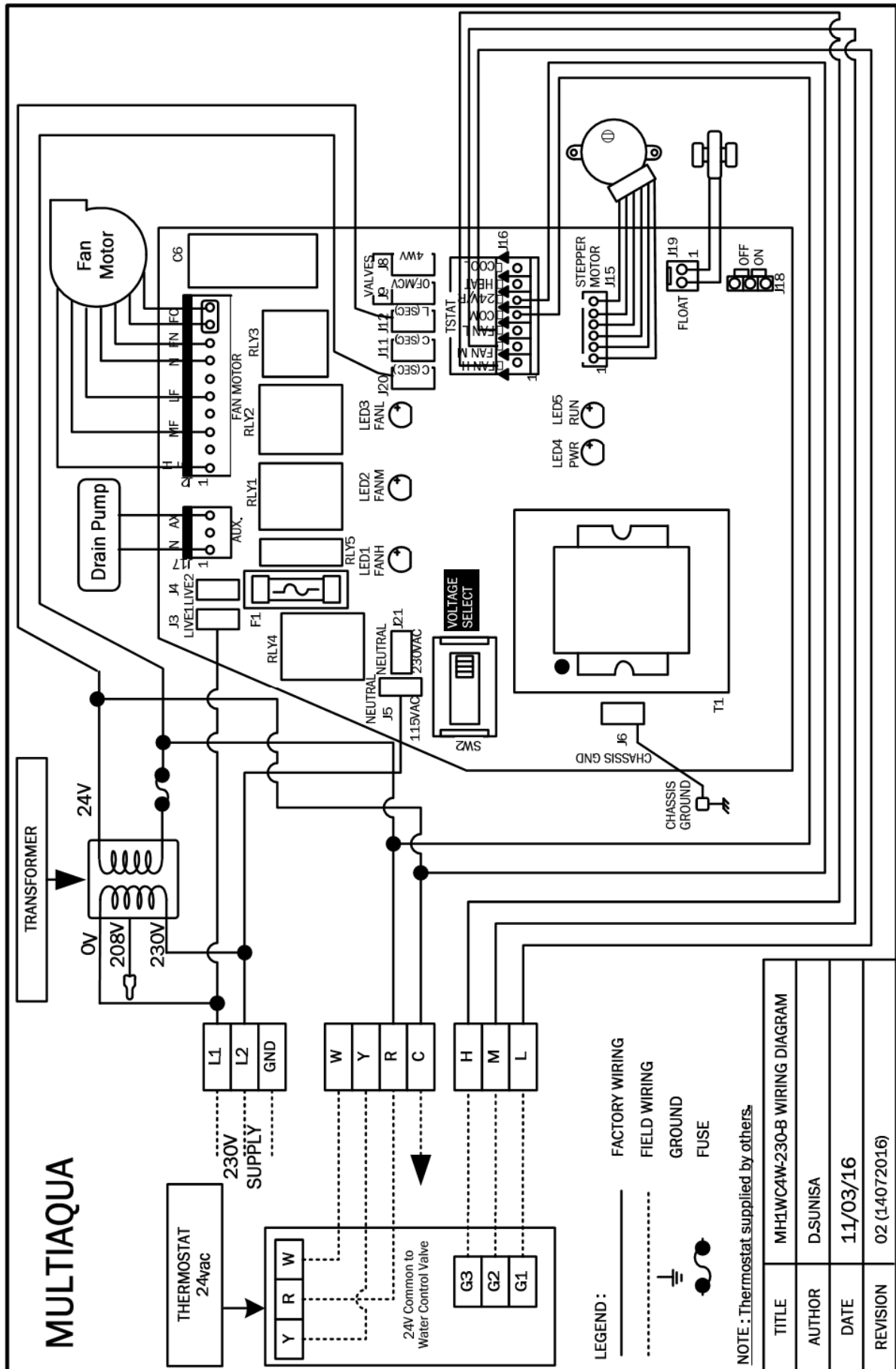
# MH1WC4W Piping Detail



### MH1WC4W Exploded View



MH1WC4W-XX-1-B Wiring Diagram for PCB Control







Multi aqua Inc.  
306 Hagood Street  
Easley, SC 29640  
864-850-8990