



# CEILING CASSETTE FAN COIL UNIT

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**Operation and Installation Manual**  
MHCFC4W-04, 08, 12, 16



## **Four 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.  
*These specifications are subject to change without notice.*

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Rev. 1.1



**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. Multiagua 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 and Operation Manual) and the content has been carefully compiled for your convenience. Dimensions were verified at the time of the writing of this IOM. The manufacturer reserves the right to make changes 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 the 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 for a ceiling installation only.

The manufacturer reserves the right of change for the improvement of products without prior notice.

Please contact manufacturer or visit [www.Multiagua.com](http://www.Multiagua.com) for the latest product information.

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## Section 1) INSPECTION OF PACKAGING

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 has occurred during transportation.
3. Check packaging for accessories inside the packaging materials before discarding.
4. Do not lift unit from packaging by the cover assembly, condensate, or by the water connections.
5. Remove cover assembly and lift the unit by the four corners of the unit body.
6. Once the unit is removed from the packaging, check and record the unit model and serial number for future reference.

## Section 2) SAFETY PRECAUTIONS

The appliance should 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.

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



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

**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: 160 °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 which include, but are not limited to, flammable gas, alkaline or acid substances, or where hazardous or corrosive atmosphere exists. Aluminum/copper coils and/or internal plastic components can be damaged beyond repair. Cabinets are internally insulated from the factory. However, when these units are installed in high ambient/high humidity environments, additional external cabinet insulation may be required.



### THESE UNITS ARE NOT RATED FOR EXPLOSION PROOF ENVIRONMENTS

2. Do not install in workshops or kitchens where airborne oil vapors or other chemicals may be deposited on the coils, reducing the performance or damaging the internal plastic parts 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.

|            |            |
|------------|------------|
| MHCFC4W-04 | 50.6 lbs.  |
| MHCFC4W-08 | 71.5 lbs.  |
| MHCFC4W-12 | 88 lbs.    |
| MHCFC4W-16 | 125.4 lbs. |

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.

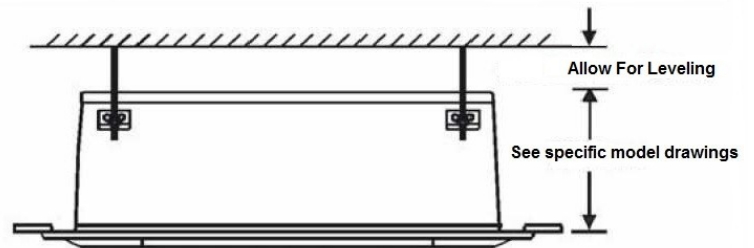


Figure 1

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, pumps, etc.

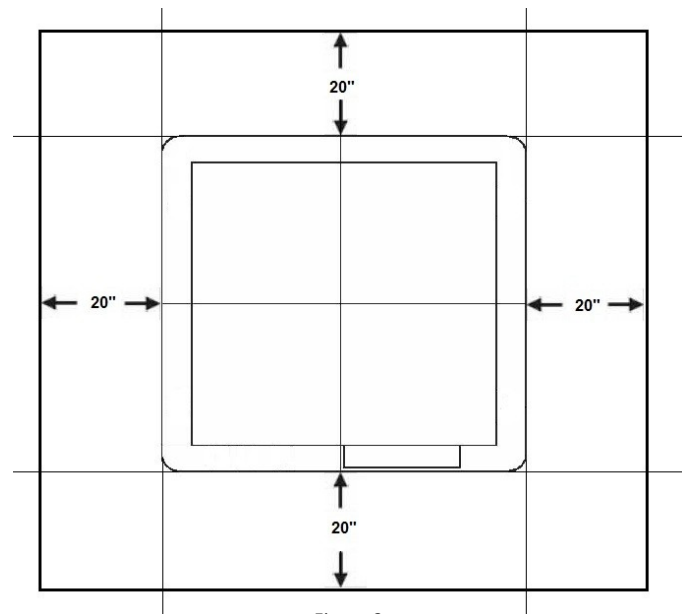


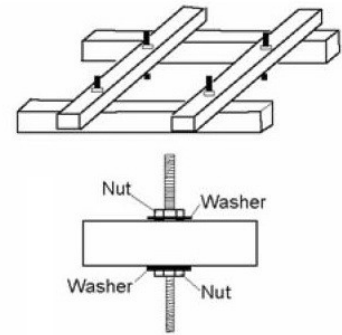
Figure 2

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## Section 5) INSTALLATION OF 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 and washers to lock the unit in position when using a wooden or steel “trapeze style hanger”. See Figure 3. Installing contractor may choose to use a field supplied, vibration elimination solution on the hanging rods.



Wooden or Steel trapeze installation

Minimum 3/8" Threaded Rod

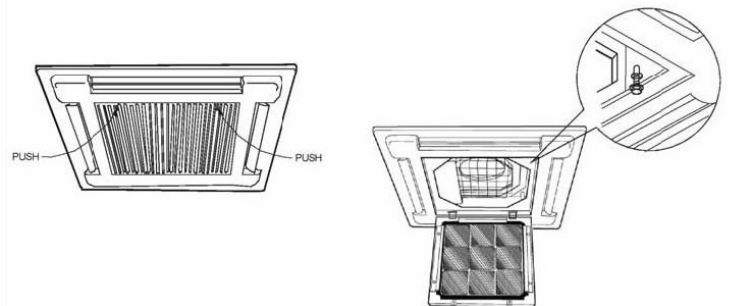
Figure 3



**When lifting the unit body into position, observe the unit's four corners and protect them 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. Insert a plywood sheet between the lift and the unit so that the unit will be protected while lifting the unit in place.

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

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

See Figure 4.

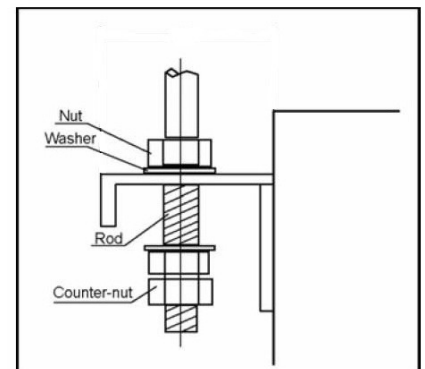


Figure 4

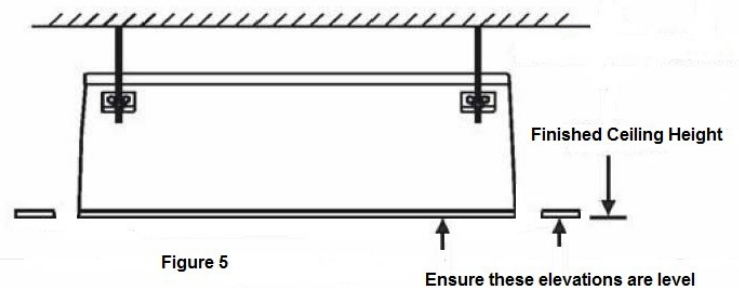
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## Section 5) INSTALLATION OF UNIT (Continued)

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. 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 eliminator, such as a flexible connector, to prevent the transmitting of vibrational 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.

9. Install all field supplied controls.

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



- This source of fresh air **MUST BE DELIVERED TO THE UNIT UNDER POSITIVE PRESSURE** 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.

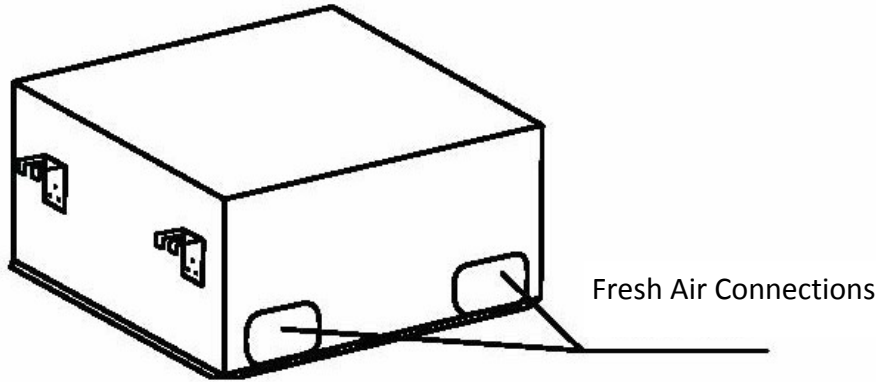
11. Reinstall cover assembly with the four (4) shoulder screws removed earlier. **DO NOT OVER TIGHTEN.**

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

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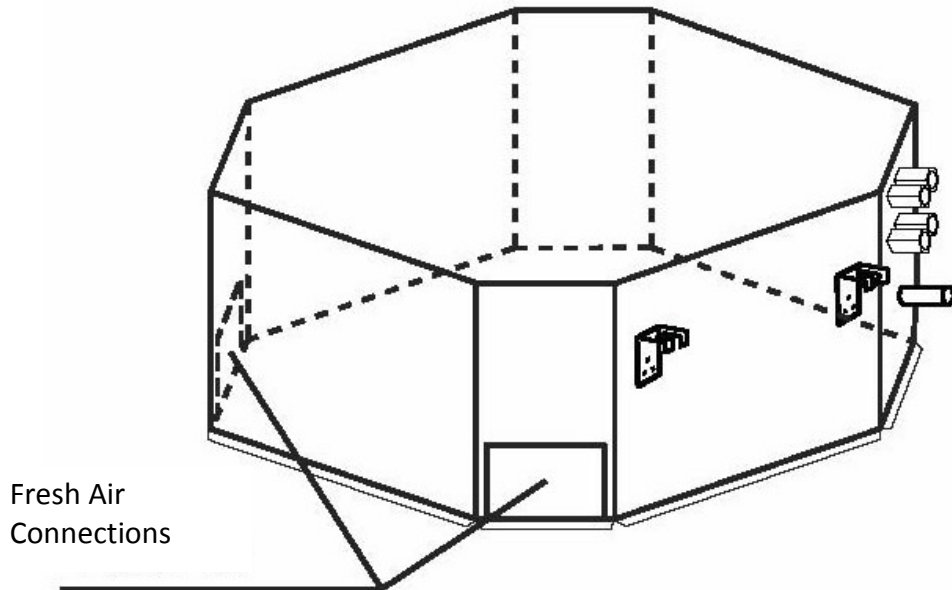
**Fresh Air Connection Locations**



Typical Locations on MHCFC4W-04

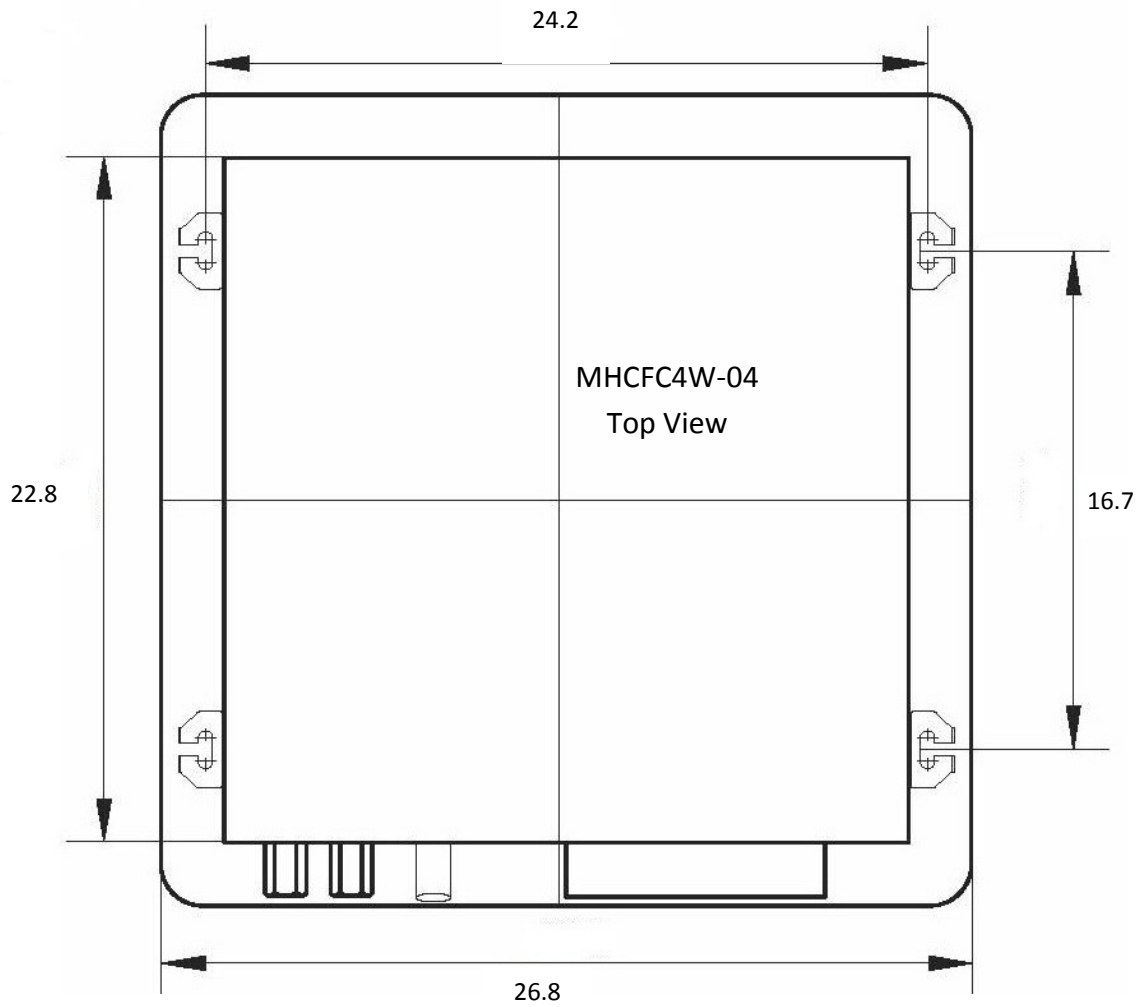
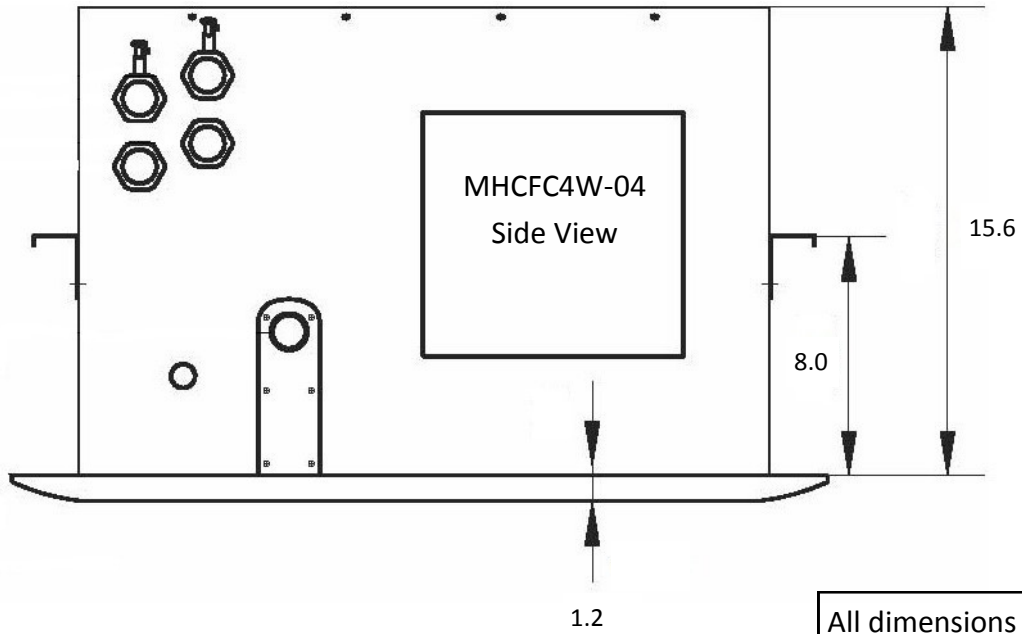
**Fresh Air Connection Sizes  
(2 Each)**

|          |               |
|----------|---------------|
| Model 04 | 3.50L x 2.50H |
| Model 08 | 5.25L x 2.50H |
| Model 12 | 6.50L x 2.50H |
| Model 16 | 7.00L x 3.75H |



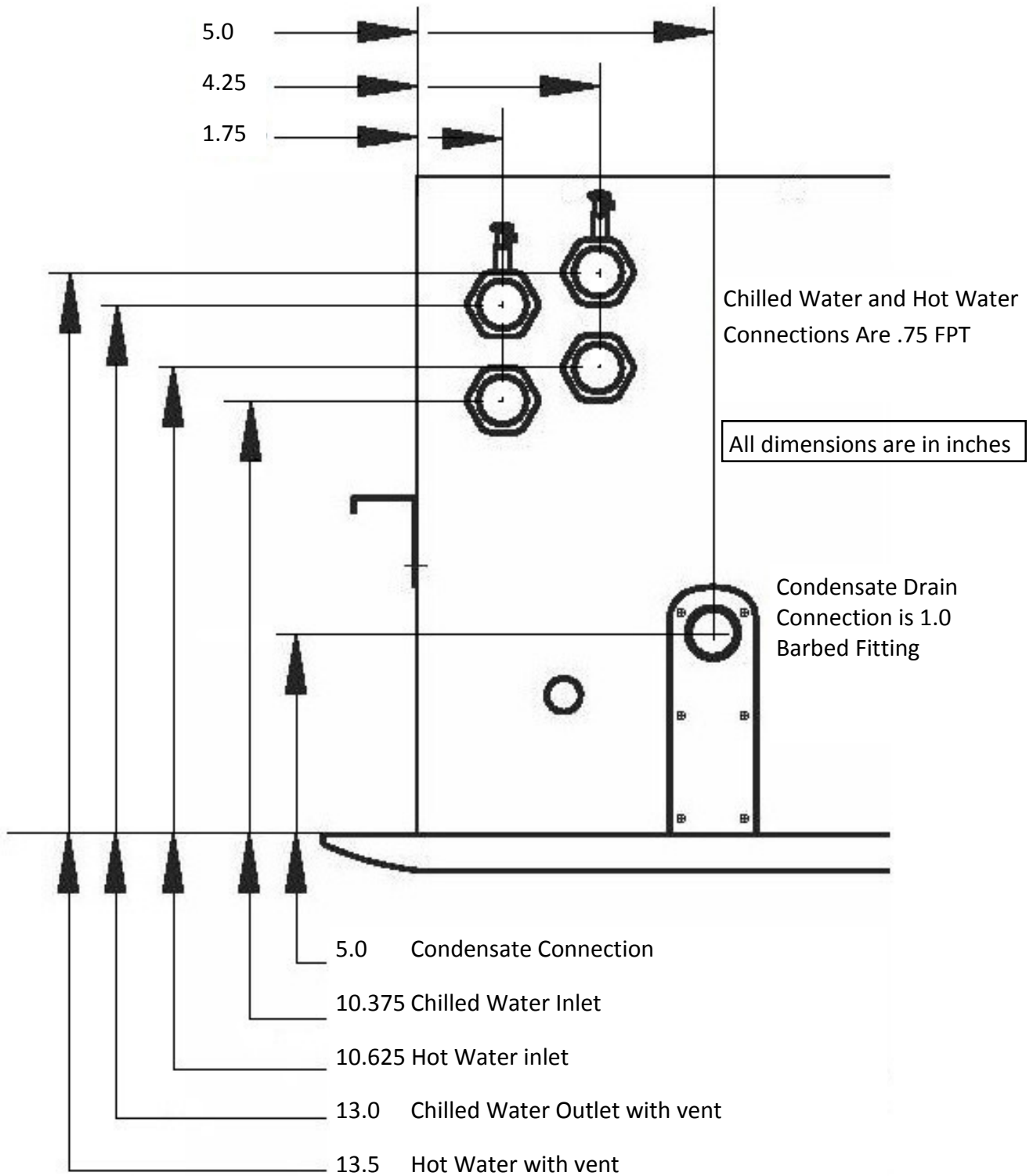
Typical Locations on MHCFC4W-08,12,16





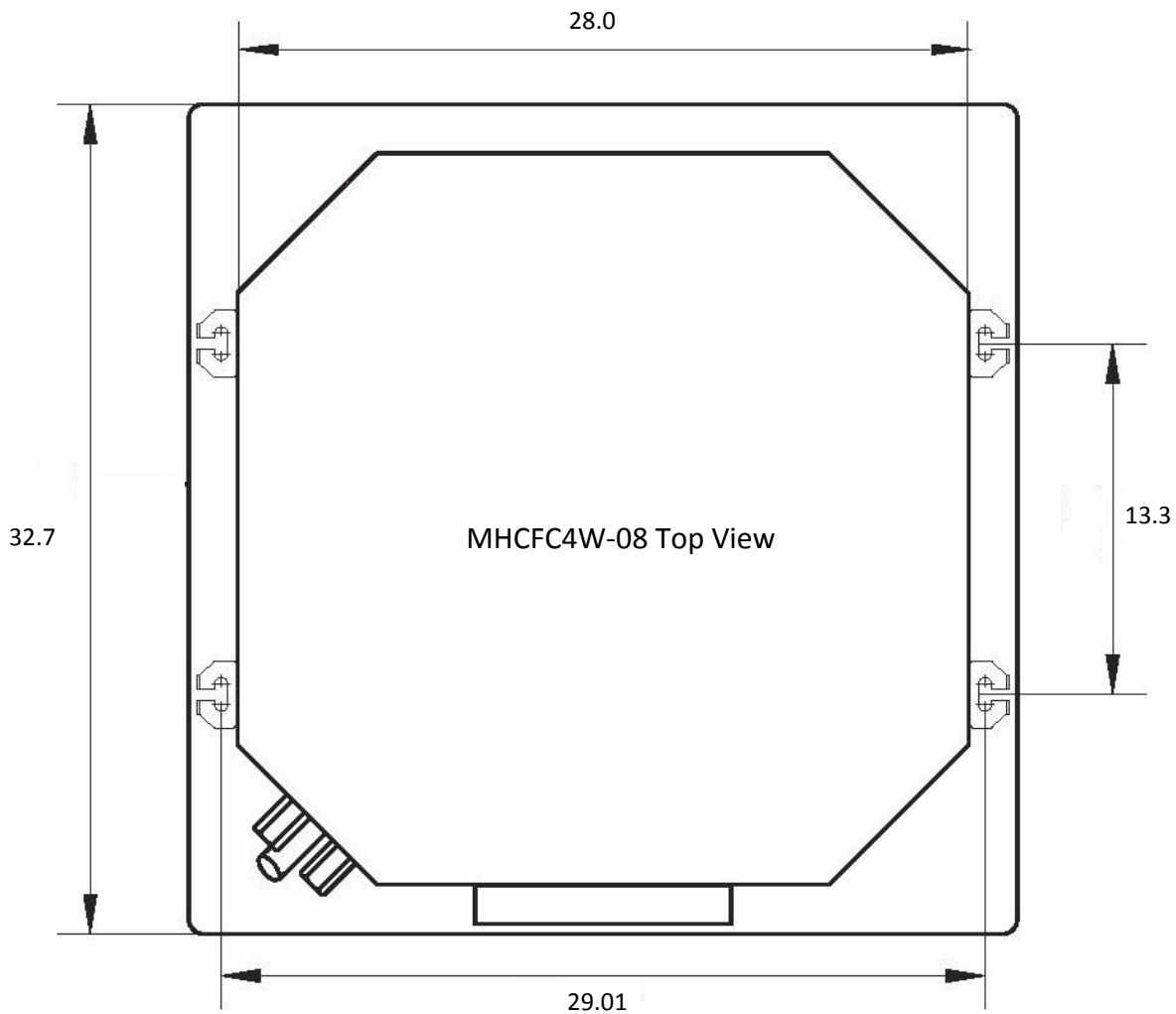
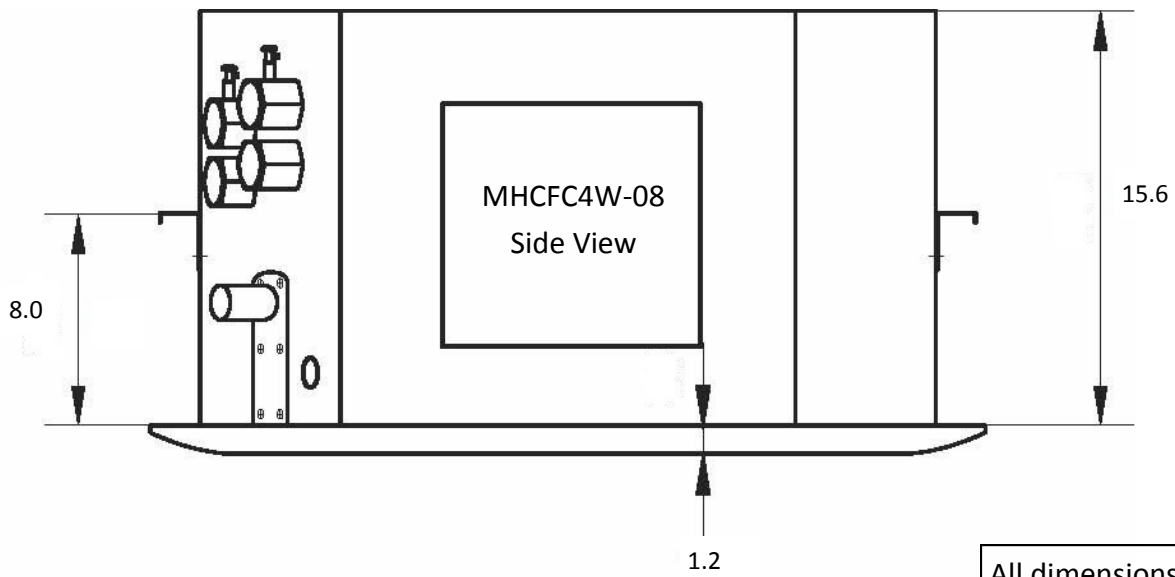
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**MHCFC4W-04**  
**Piping Detail**



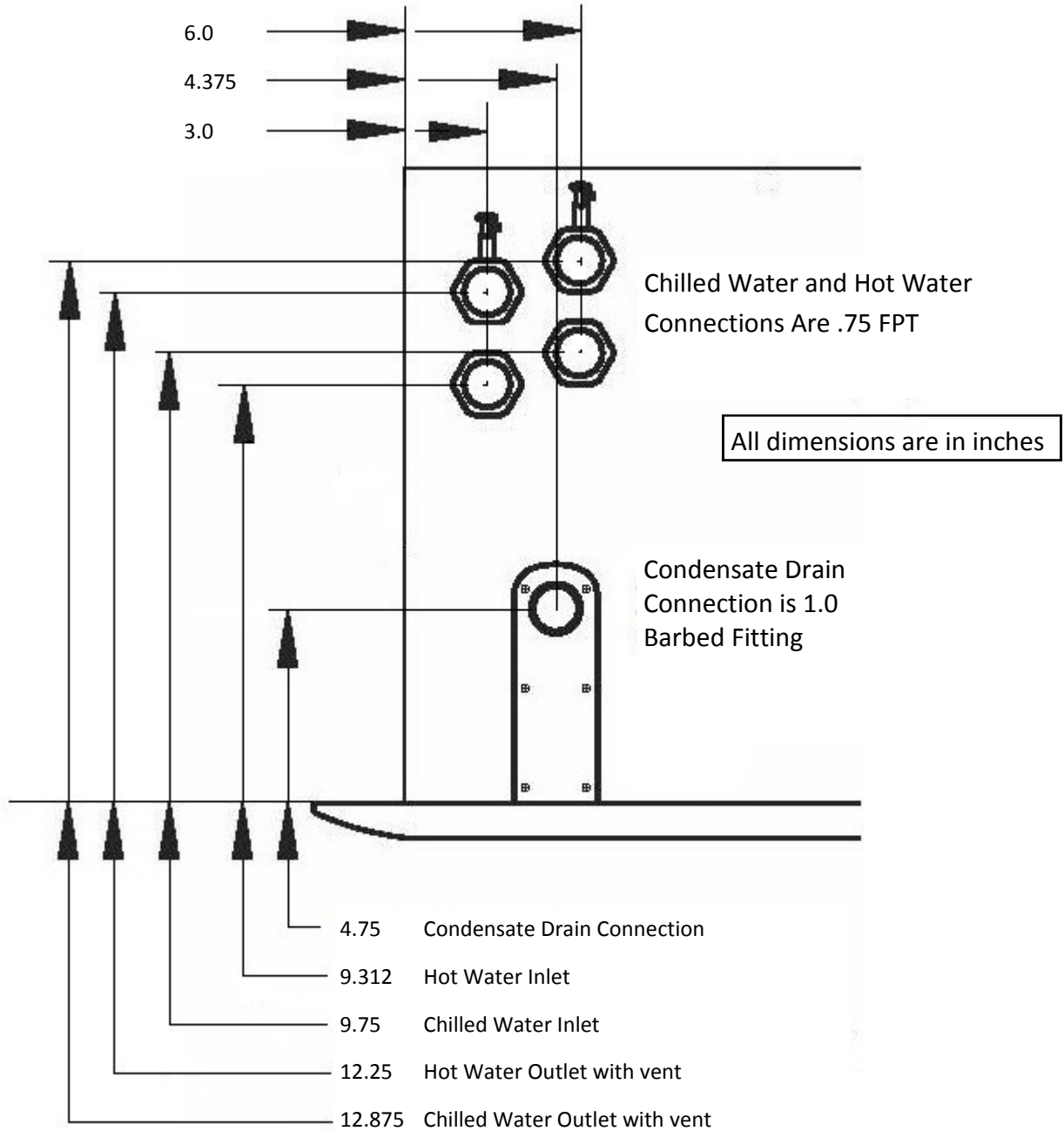
DRAWING NOT TO SCALE

MHCFC4W-08



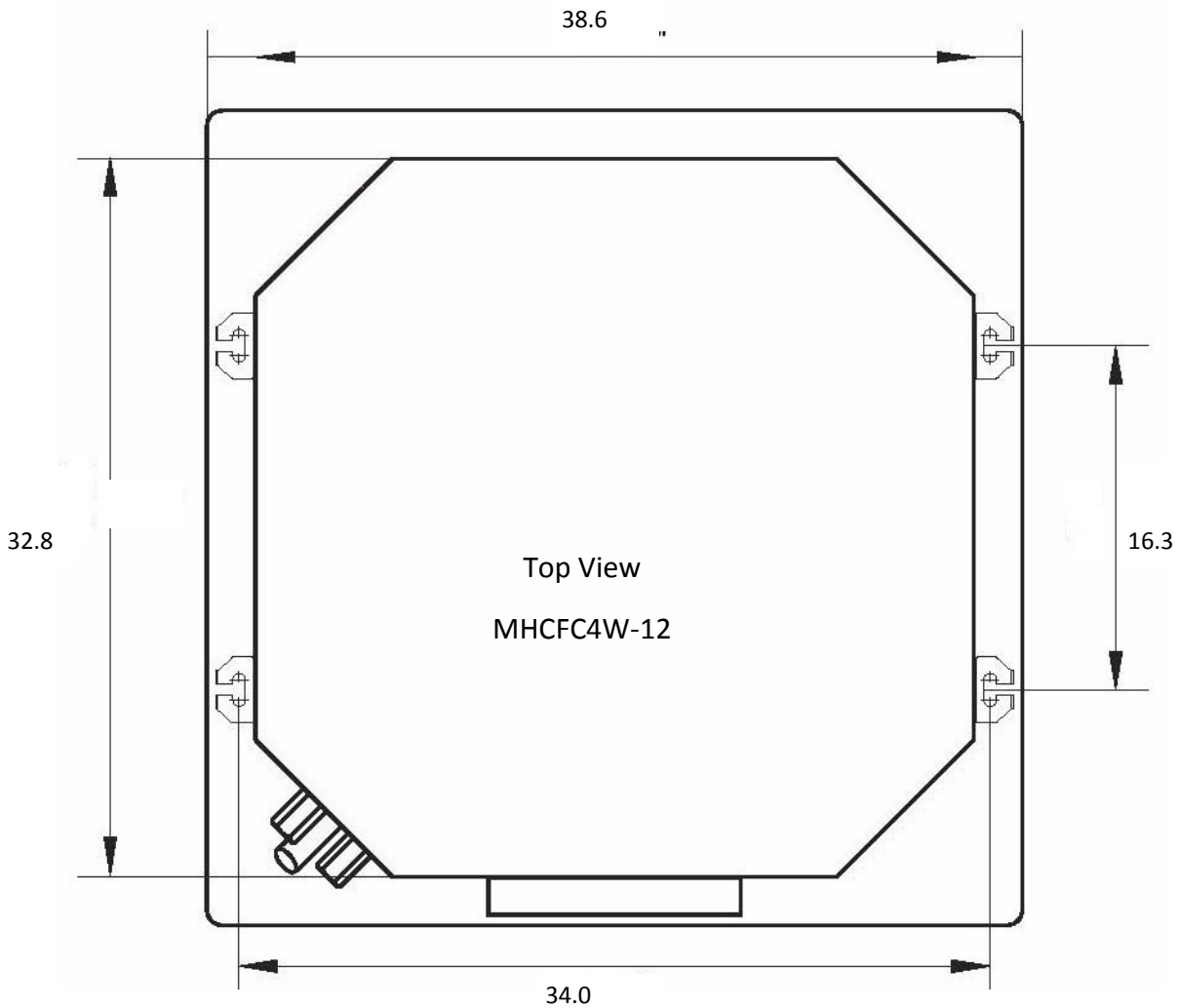
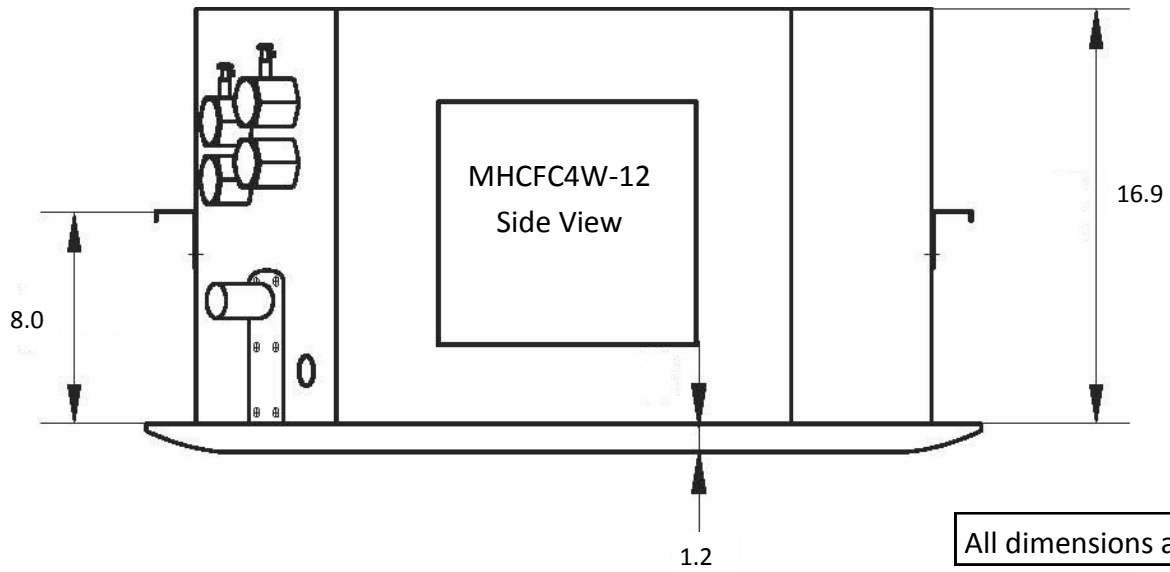
**MHCFC4W-08**

**Piping Detail**



DRAWING NOT TO SCALE

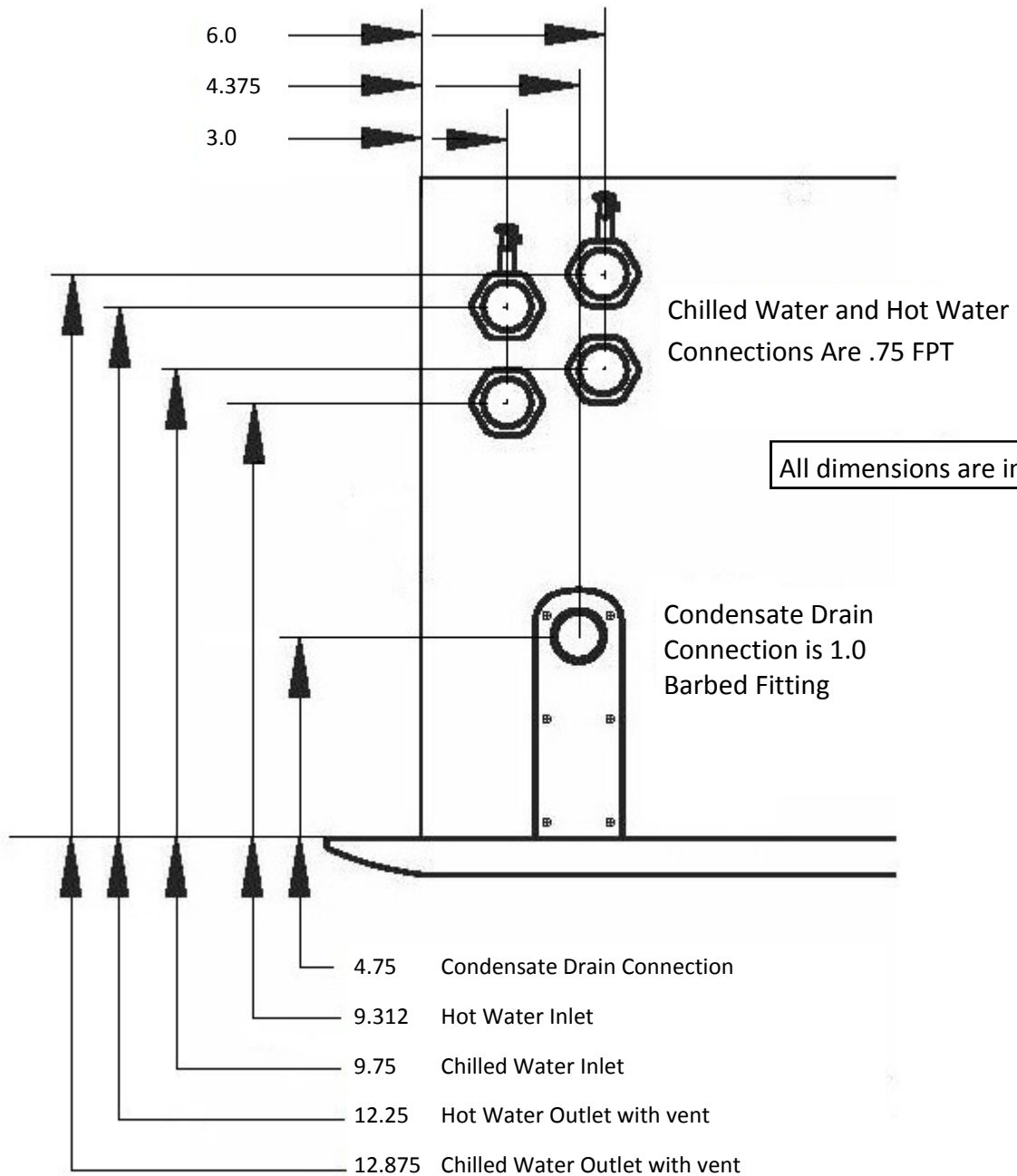
### MHCFC4W-12



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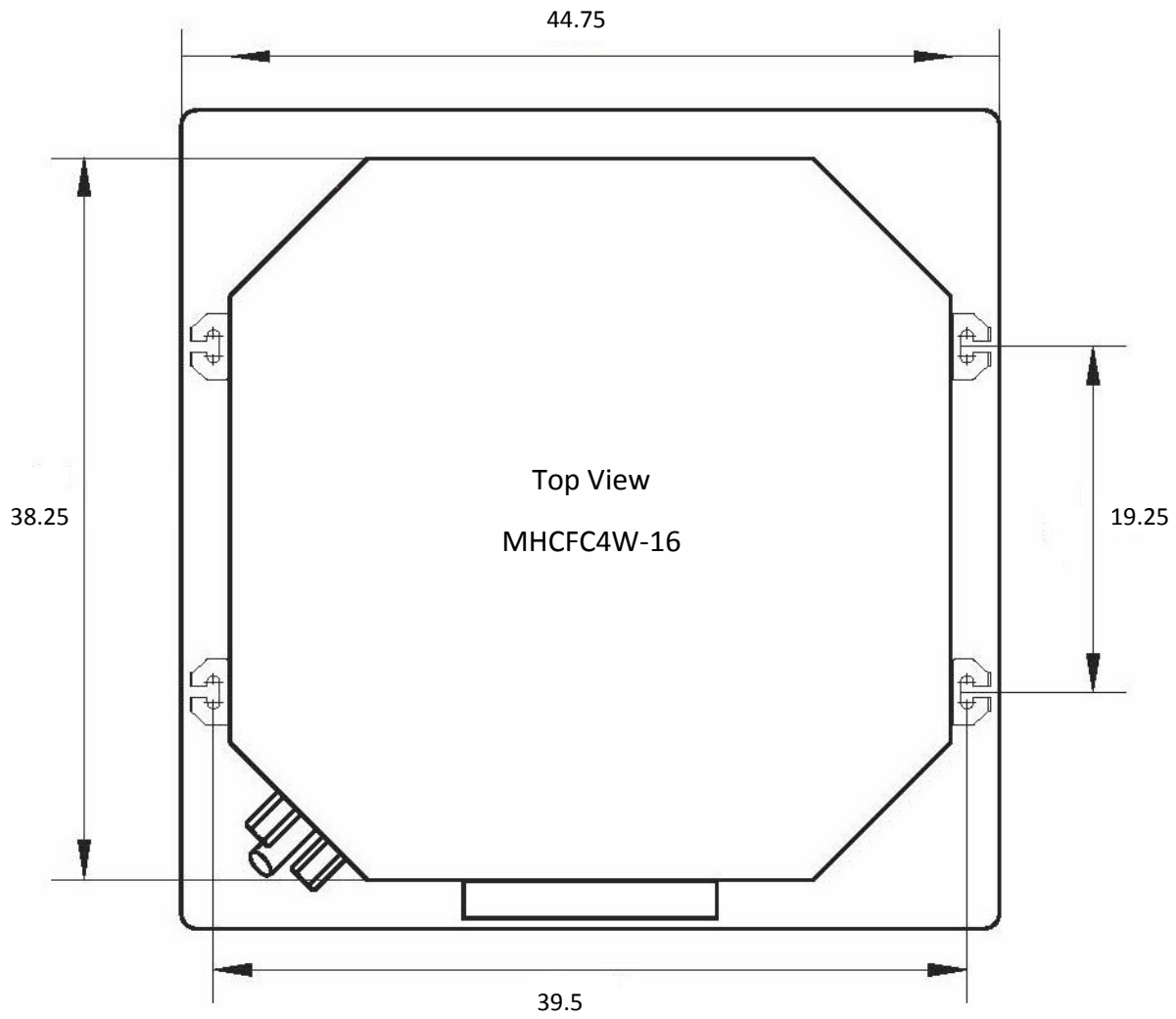
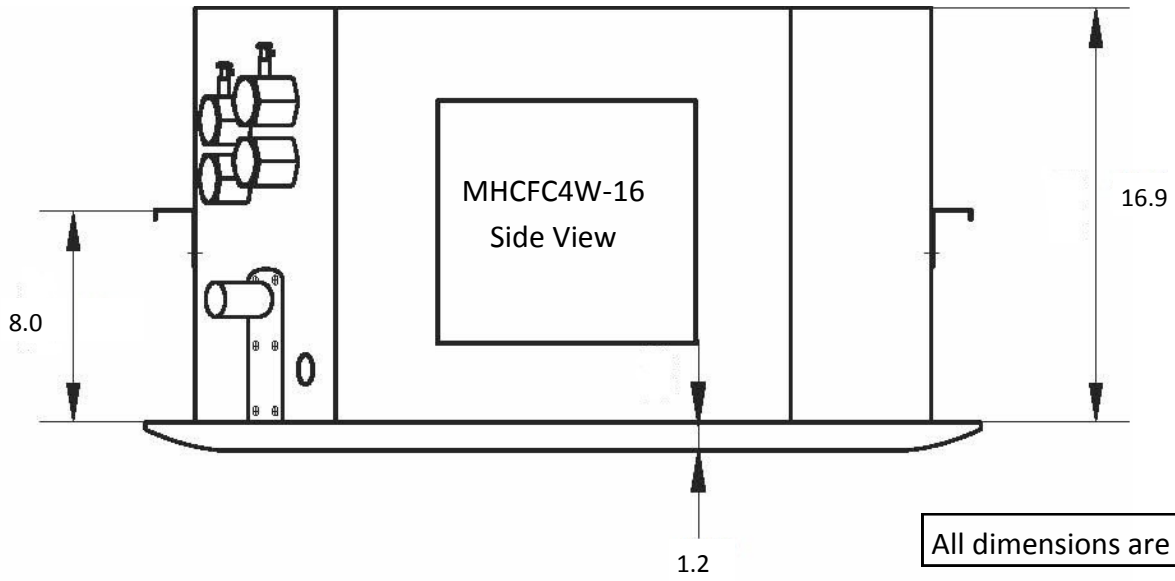
**MHCFC4W - 12**

**Piping Detail**



DRAWING NOT TO SCALE

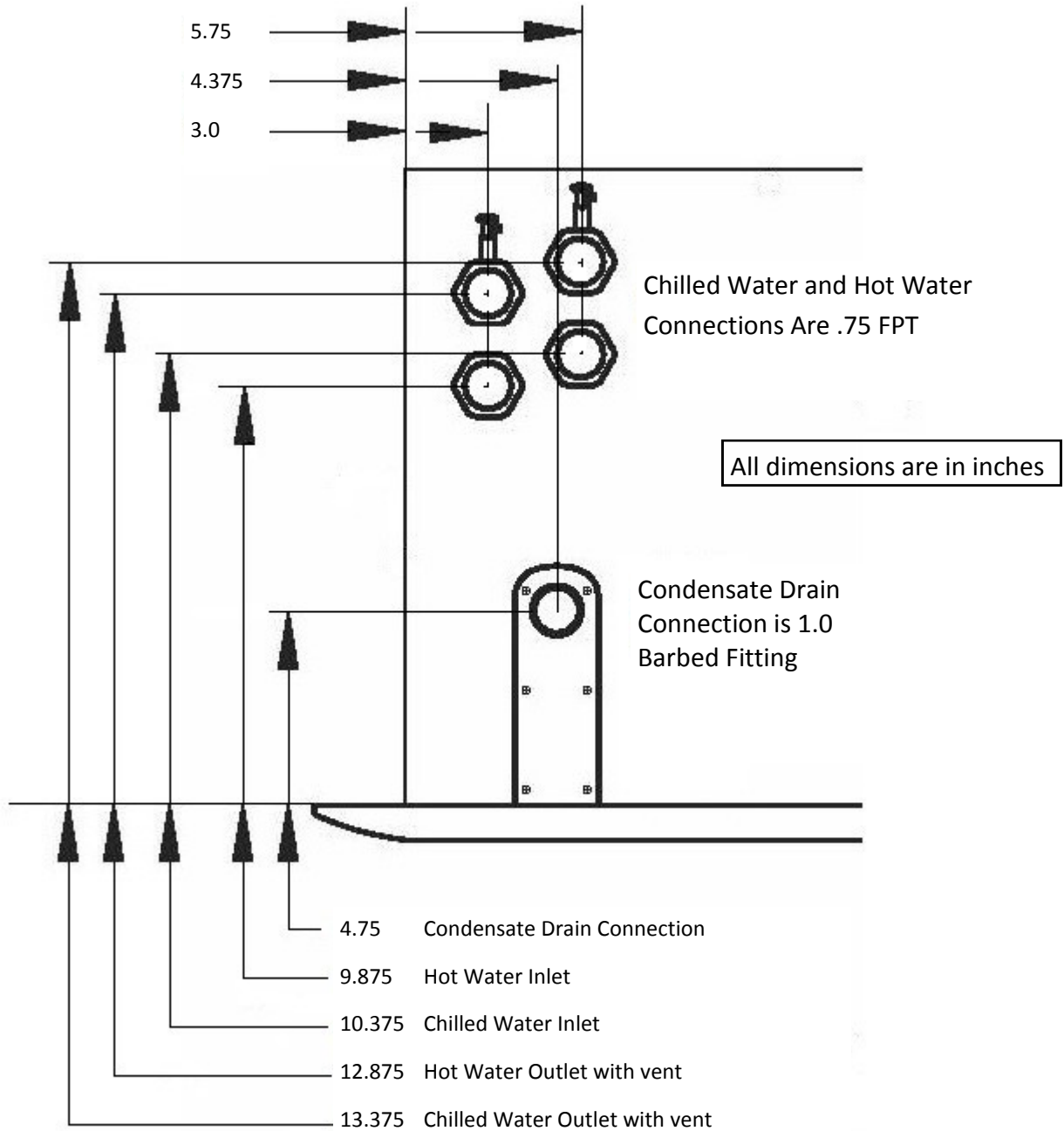
MHCFC4W-16



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**MHCFC4W-16**

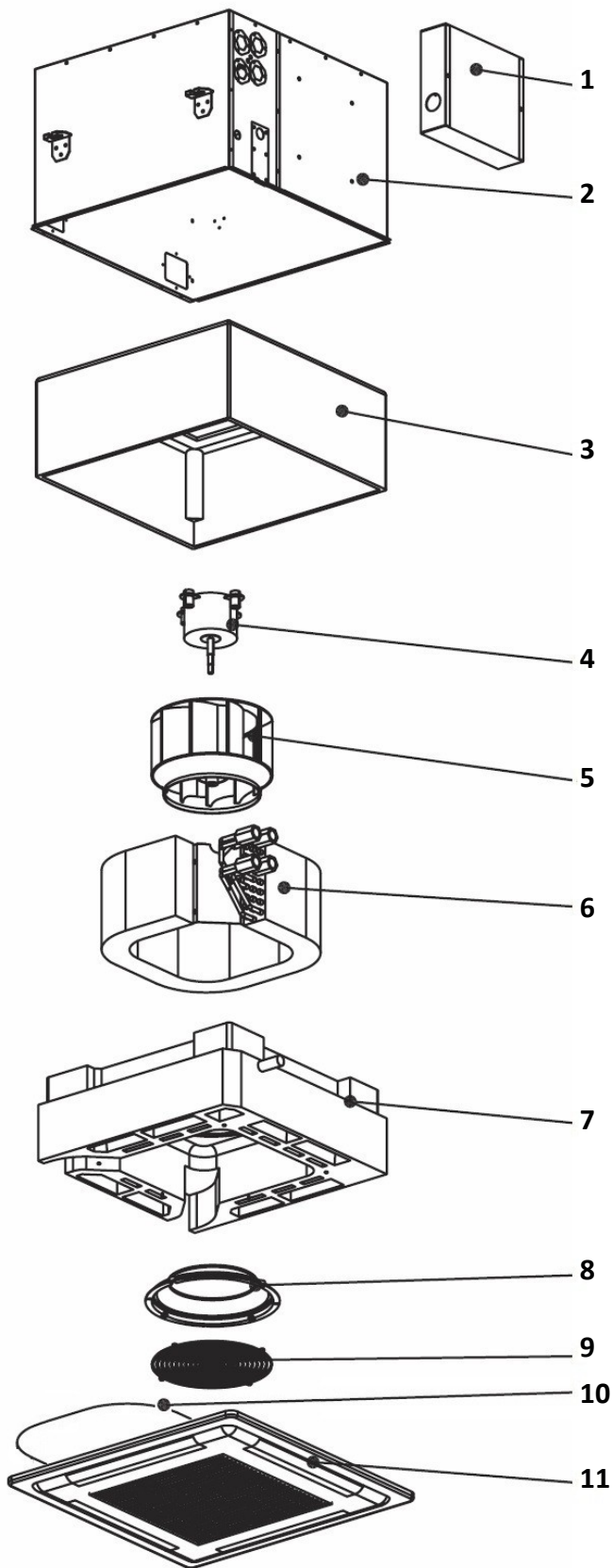
**Piping Detail**



DRAWING NOT TO SCALE

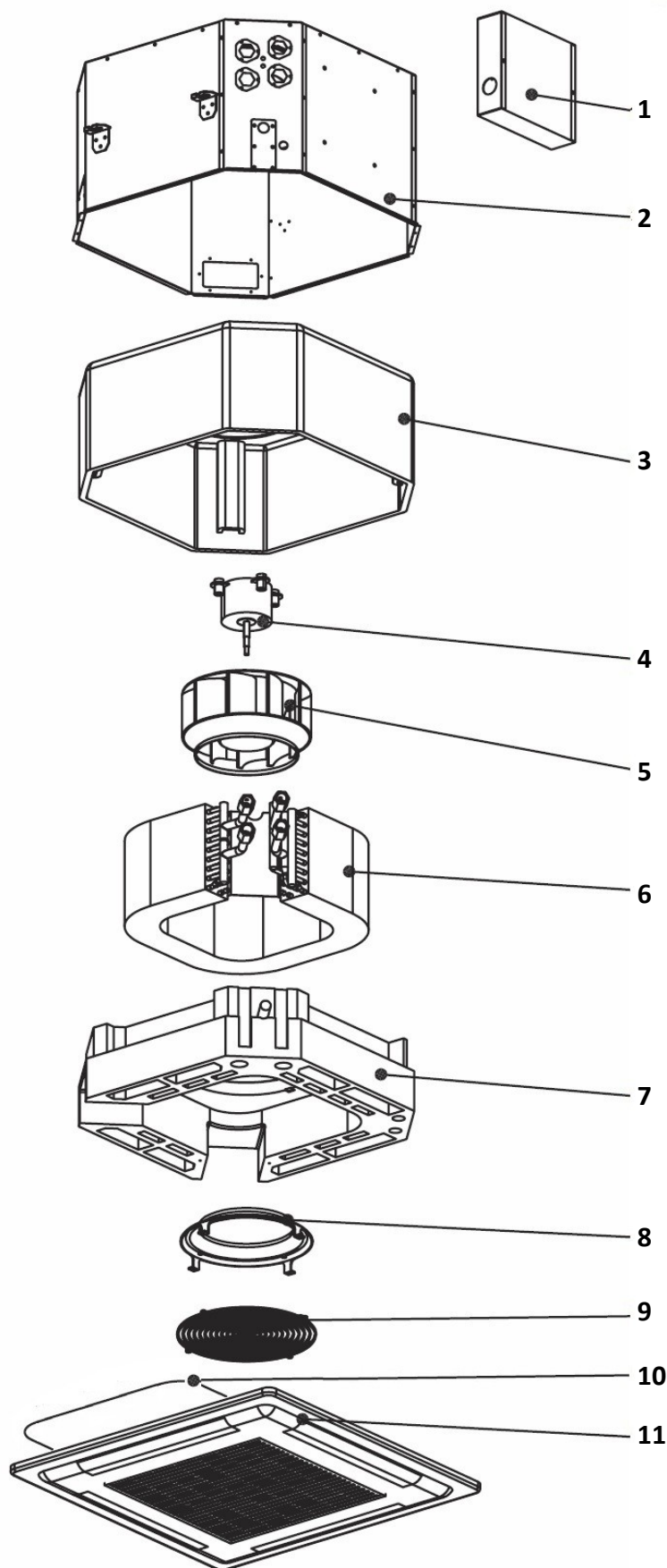


**MHCFC4W– 04 Exploded View**

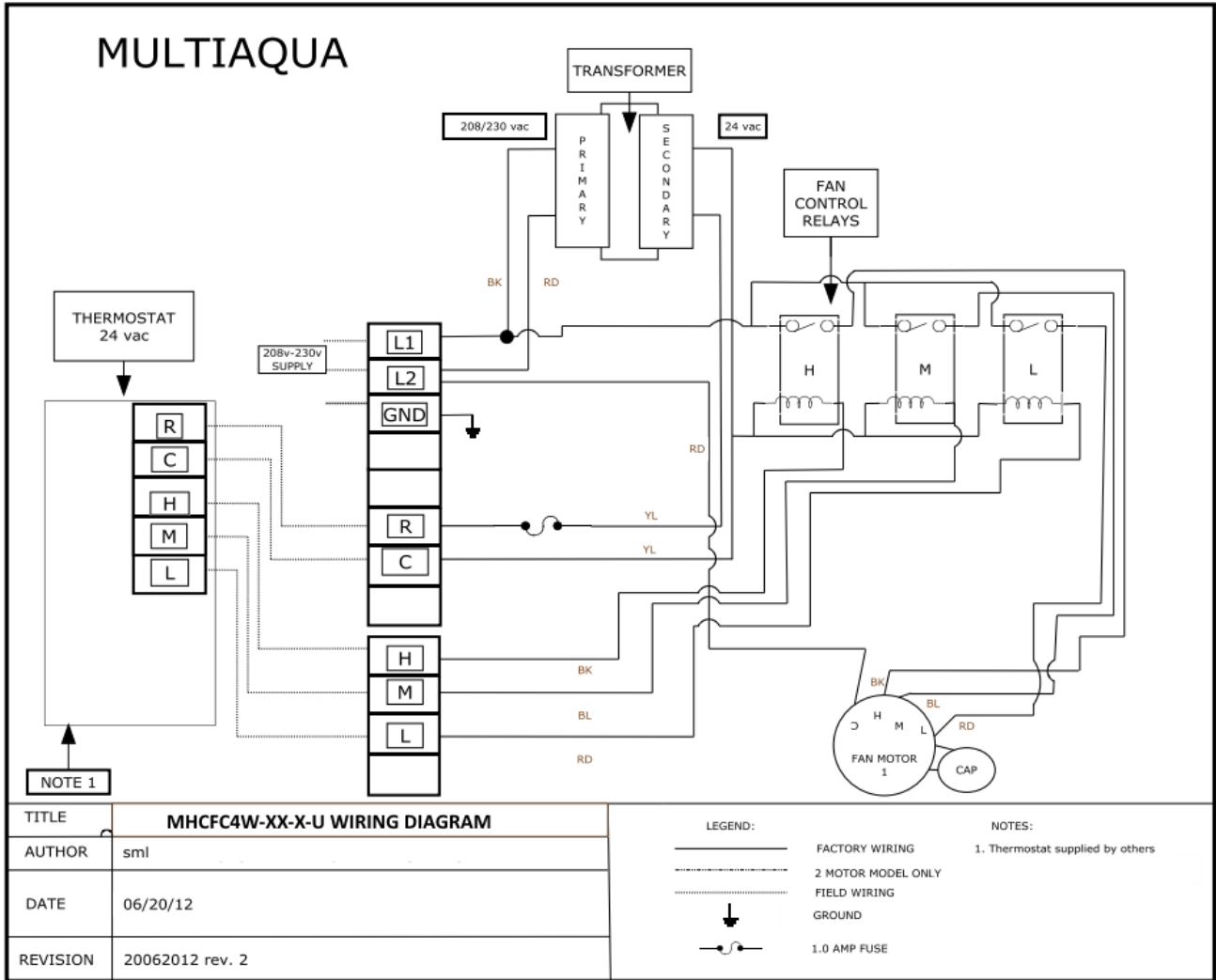


- 1. Electrical Panel
- 2. Unit Cabinet
- 3. Cabinet Insulation
- 4. Fan Motor
- 5. Fan Blade
- 6. Coil Assembly
- 7. Condensate Pan Assembly
- 8. Fan Venturi
- 9. Fan Blade Guard
- 10. Filter Element
- 11. Cover Assembly

MHCFC4W- 08, 12, 16 Exploded View



1. Electrical Panel
2. Unit Cabinet
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11. Cover Assembly



## MHCFC4W Sound Data

| MODEL #   | MHCFC4W-04-1 | MHCFC4W-08-1 | MHCFC4W-12-1 | MHCFC4W-16-1 |
|-----------|--------------|--------------|--------------|--------------|
| Fan Speed | dB @ 1 m     | dB @ 1 m     | dB @ 1 m     | dB @ 1 m     |
| H         | 41           |              |              |              |
| M         | 38           |              |              |              |
| L         | 35           |              |              |              |
| H         |              | 46           |              |              |
| M         |              | 43           |              |              |
| L         |              | 39           |              |              |
| H         |              |              | 50           |              |
| M         |              |              | 46           |              |
| L         |              |              | 42           |              |
| H         |              |              |              | 57           |
| M         |              |              |              | 52           |
| L         |              |              |              | 48           |

