

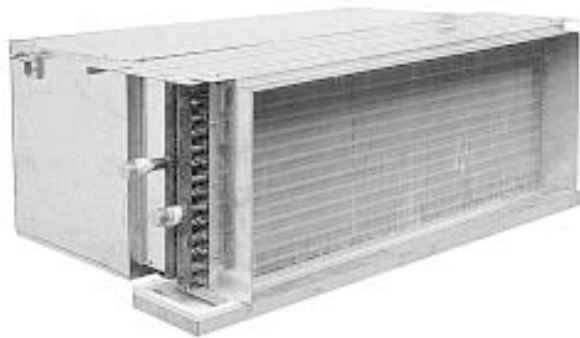


Installation Manual

Chilled Water Fan Coil

HFCC 400 - 1,200 CFM

HFCD 1,400 - 2,000 CFM





General Information

General Information

This Installation Manual is given as a guide to good practice in the installation by the installer of HFCC/HFCD chilled water fan coil in ceiling and ducted models. Installation procedures should be performed in the sequence that they appear in this manual.

For installing the unit to operate properly and reliably, it must be installed in accordance with these instructions. Also, the services of a qualified service technician should be employed, through the maintenance contract with a reputable service company.

Read this Installation Manual completely before installing the air conditioning system.

About this Manual

Cautions appear at appropriate places in this Installation Manual. Your personal safety and the proper operation of this machine require that you follow them carefully.

The Trane Company assumes no liability for installations or servicing performed by unqualified personnel. All phases of the installation of this air conditioning system must conform to all national, provincial, state and local codes.

About the Unit

These HFCC/HFCD units are assembled, pressure tested, dehydrated and run tested before shipment. The information contained in this manual applies to HFCC/HFCD units are designed to operate in cooling mode only.

Trane in ceiling and ducted models series of chilled water fan coil offer underceiling installation.

Reception

On arrival, inspect the unit before signing the delivery note. Specify any damage of the unit on the delivery note, and send a registered letter of protest to the last carrier of the goods within 72 hours of delivery. Notify the dealer at the same time.

The unit should be totally inspected within 7 days of delivery. If any concealed damage is discovered, send a registered letter of protest to the carrier within 7 days of delivery and notify the dealer.

Warning

Warnings are provided at appropriate places in this manual to indicate to installers, operators and service personnel of potentially hazardous situations which, if not avoided, COULD result in death or serious injury.

Caution

Cautions are provided at appropriate places in this manual to indicate to installers, operators, and service personnel of potentially hazardous situations which, if not avoided, MAY result in minor or moderate injury or malfunction of the unit.

Your personal safety and the proper operation of this unit require that you follow them carefully. The Trane Company assumes no liability for installations or servicing performed by unqualified personnel.

Warranty

Warranty is based on the general terms and conditions by country. The warranty is void if the equipment is modified or repaired without the written approval of The Trane Company, if the operating limits are exceeded or if the control system or the electrical wiring is modified.

Damage due to inappropriate installation, lack of knowledge or failure to comply with the manufacturer's instructions, is not covered by the warranty obligation. If the installation does not conform to the rules described in Installation Manual, it may entail cancellation of warranty and liabilities by The Trane Company.

Important

This document is customer property and is to remain with unit. Please place in service information pack upon completion of work.

These instructions do not cover all variations in systems, nor do they provide for every possible contingency to be met in connection with installation.

Should further information be desired or should particular problems arise which are not covered sufficiently in this manual, the matter should be referred to your Trane Sales representative.

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Unit Installation

Installation Considerations

For proper installation and operation, check each of the following before mounting the units:

1. Allow adequate space for the unit installation and service clearances. For servicing and routine maintenance, provide access to the unit through removable panels in the ceiling.
2. Before installing any unit make sure proper preparation has been made at each unit location for piping and electrical connections.
3. If adding external accessories to the unit, additional clearance must be considered for the overall space needed.
4. Check the supporting structure (ceiling) should be strong enough to support unit weights. All units must be mounted level to assure proper drainage and operation.
5. Ducting connected to units should not exceed the external static pressure rating of the unit.
6. Condensate protection for the chilled water valves and piping must be provided by installer should be located under the valves or else the valves and piping should be thoroughly insulated.

Note: The general location of the Fan Coil Unit is normally selected by the architect, contractor, and/or buyer. For proper installation, the following items must be considered.

Installation Procedure

To proper installation procedure, Trane HFCC/HFCD Chilled Water Fan Coil follow these steps:

Coil Connections

Coil connection for HFCC model is 5/8 inch, HFCD model is 3/4 inch copper tube. To complete piping connections, attach the water pipe to the coil connection at header. The water inlet is on lower tube and the water outlet is on upper tube of the header. Coil connection size and coil connection locations are given on dimensional data. For coil connection, as shown in Figure 1.

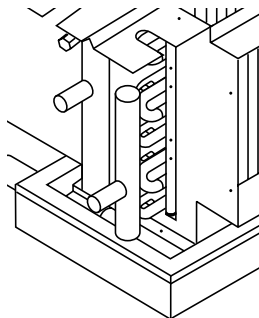


Figure 1

Connecting the unit with brazing procedure

To braze the copper tube, use a coupling between the copper tube of Fan Coil Unit and water pipe as shown in Figure 2.

Note: Before brazing a copper tube to a solder coupling or a copper tube to an expanded tube, do not forget to keep them tight.

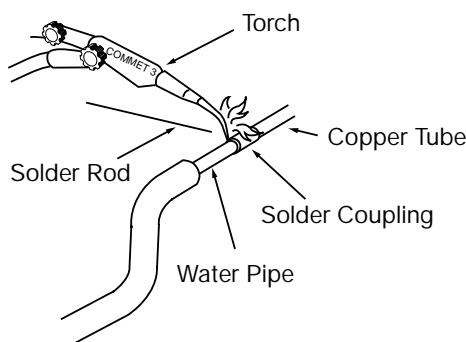


Figure 2

Condensate Drain Connections

1/2 inch PVC pipe (or flexible pipe) connection can be used as a drain line. Attach the drain line to the drain connection with tape-sealant to prevent leakage. To conveniently drain the system, the drain piping must slant downward, with a slope of at least 1:50 to prevent leakage. Figure 3 show the unit in the ceiling mounted position.

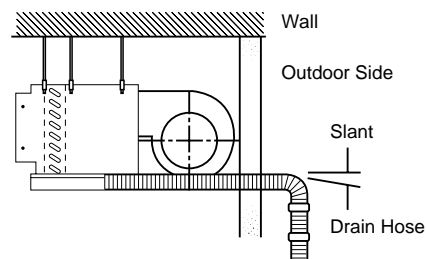


Figure 3

There should be no water traps in the drain system. Avoid putting the end of the drain pipe in water and the drain pipe should run straight down the wall to a level where the run off will not stain the wall.

Note: When the drain pipe is placed in the room, should insulate the pipe with foam polyethylene to avoid damage to the ceiling or furniture.

Mounting

The Trane model HFCC/HFCD units are designed to be suspended from the ceiling on threaded rods furnished by the installer. Holes are provided at the top of the units, see dimensional data for cutout dimensions and locations.

1. Install the suspension rods or other suspension devices that must be provided by installer.
2. Put the upper W 3/8" nuts and W 3/8" lock washers on suspension rods to prevent unit from upward tilting during unit operation or duct installation, as shown in Figure 4 Typical Installation.
3. Hoist the unit into position. See dimensional data for unit weights.
4. Put on the lower W 3/8" lock washers and then 3/8" nuts to secure the unit, as shown in Figure 4, Typical Installation.
5. Level the unit casing to avoid poor condensate drainage by adjusting lower nuts up/down, and then tighten the upon nuts.

Caution: Level the unit by checking on the unit casing. Do not use the coil or drain pan for leveling as they are pitched to provide proper drainage.

Unit Installation

Duct Connections

Minimum 24 gauge galvanized sheet metal duct (supplied by the installer) can be attached to duct collars provided at the unit air outlet and inlet, see Figures 6 for duct collar dimensions. To attach, slip the duct over the outlet collar and fasten the duct and collar together with screws. Field-supplied transition fittings should be used in installations where unit duct collars do not match discharge air-grille collars.

Two approaches can be used to attach an air supply chamber and flexible ducts. One approach is to remove the unit outlet collar, slip the collar into flexible duct and then attach the duct and collar by fastening the screws on two vertical sides of collar, as shown in Figure 5, Duct Work - A.

The other approach is to slip the duct over the unit outlet collar and then fasten the duct and collar together with screws or rivets, as shown in Figure 5, Duct Work - B.

A return duct can be attached to the return air collar provided at the unit. To attach, slip the return duct over the return air collar and fasten the duct and collar together with screws.

Note: All ductwork should be properly insulated to prevent condensation installation site.

Electrical Connections

Check the unit nameplate for electrical rating. Be sure wiring is done according to local codes and wiring diagrams and available power supply must agree with electrical data on component nameplate. Available power supply must be compatible with electrical characteristics specified on component nameplates.

For wiring and installation, refer to the wiring diagram decal on each unit.

Caution: Use only copper conductors for wiring connections. Unit terminals are not designed to accept other types of wiring. Aluminum or other conductors may cause overheating and unit damage.

Note: The manufacturer will accept no responsibility for problems caused by unauthorized changes in the internal wiring.

Tools required for installation (not supplied)

1. Standard screwdriver
2. Phillips head screwdriver
3. Knife or wire stripper
4. Tape measure
5. Level
6. Hole saw or keyhole saw
7. Drill
8. Adjustable wrench
9. Torque wrench
10. Anchor bolts for ceiling mounting

Caution: Check local electrical codes and regulation before buying any wire. Also check for any specific wiring instructions or limitations.

Unit Installation

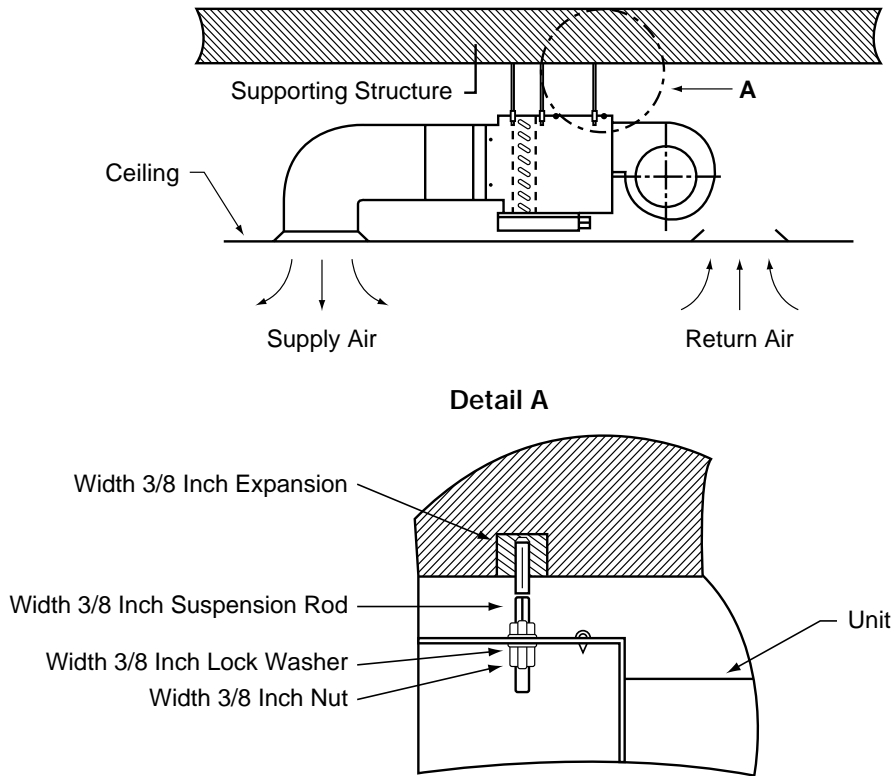


Figure 4

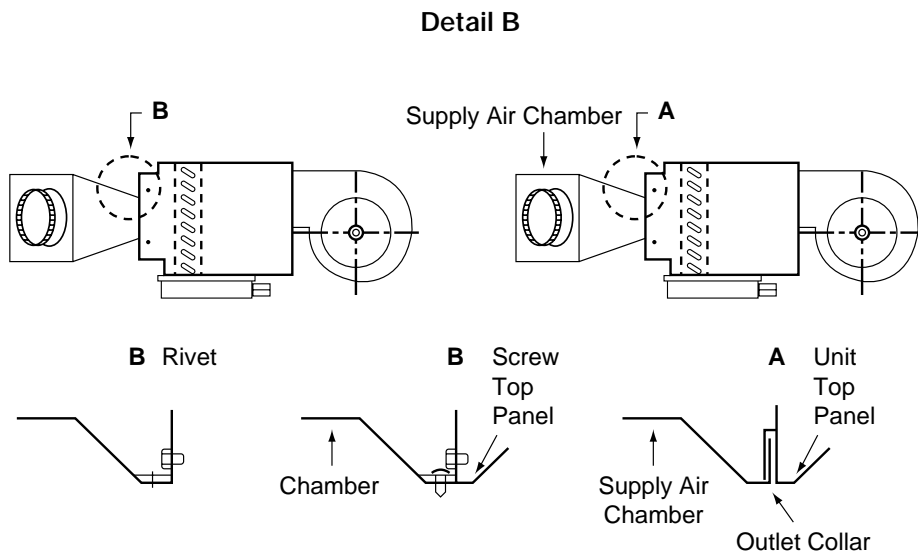


Figure 5

Installation Checklist

The following checklist is provided as an abbreviated guide to the detailed installation procedures given in this manual. Complete this checklist once, the unit is installed to verify that all recommended procedures have been accomplished before the system is started.

Caution: Verify that the unit electrical power is disconnected.

- Inspect all fields wiring connections. All connection should be clean and tight.
- Inspect unit ground connection. Ground must comply with all applicable codes.
- Unit casing is level. Remove any tools or debris found in or near the unit.
- Inspect duct outlets. Ductwork connections are completed and outlets must be open and unrestricted.
- Coil connections are completed and tight.
- Condensate drain pan connections must be tight and drain unrestricted.
- Inspect fan assembly to insure all moving parts move freely.
- Inspect unit for proper filters, securely installed. All cabinet panels must be secured.

Caution: Disconnect electrical power sources and secure in disconnected position before servicing the unit. Failure to do so may result in personal injury or death from electrical shock.

Coil Venting

When water is first introduced into a coil, air is sometime trapped in the coil tube. This trapped air has a tendency to collect at the highest point in the coil. When there appears to be air trapped in the coil, resulting in "bubbling" or "clanking" noises within the unit. Therefore, a manual air vent is installed at the highest point of the header as shown in Figure 6.

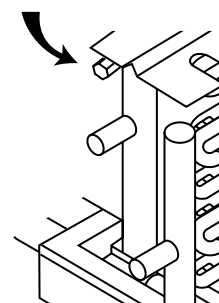


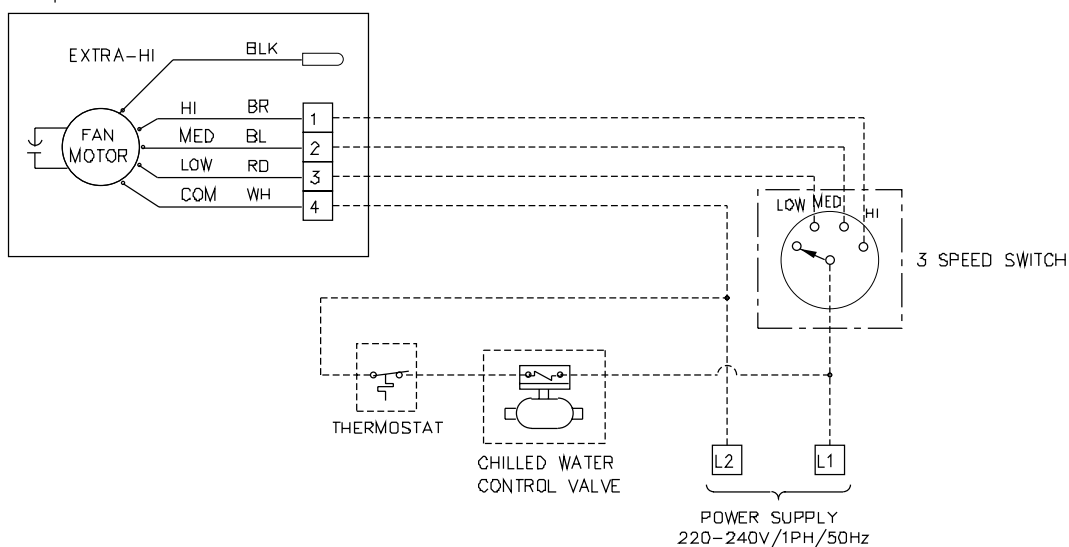
Figure 6

To release air from the manual air vent by rotating the knob. A pair of pliers can be used if the knob is too tight to turn by hand. Turn knob counter clockwise 1-2 turns and allow air to flow out of the air vent until a steady stream of water appears. Then retighten knob.

Wiring Diagram

CHILLED WATER FAN COIL HFCC 04-12 HFCD 14-20

Remove HI-BR wire from TB-1 and replace with EXTRA HI-BLK wire when hi speed/cfm is required in the field.



NOTES :

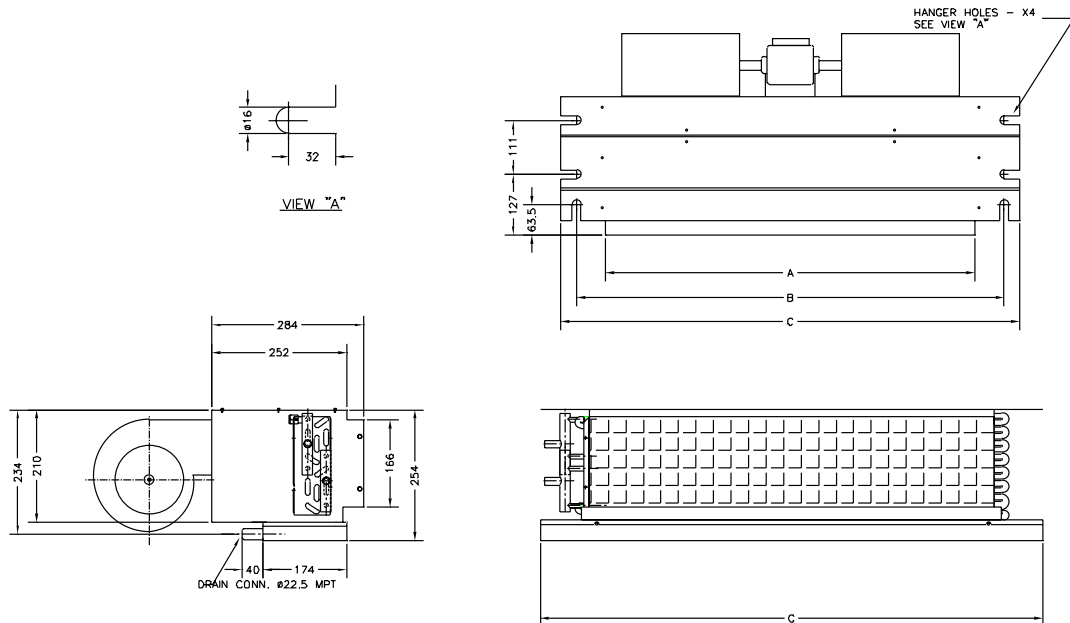
1. Power wiring and grounding of equipment must comply with local codes.
2. Ensure that power supply agrees with equipment nameplate.
3. Use only copper conductors.

LEGEND :

- FIELD WIRING
- FACTORY WIRING

Dimensional Data

CHILLED WATER FAN COIL HFCC 04-12



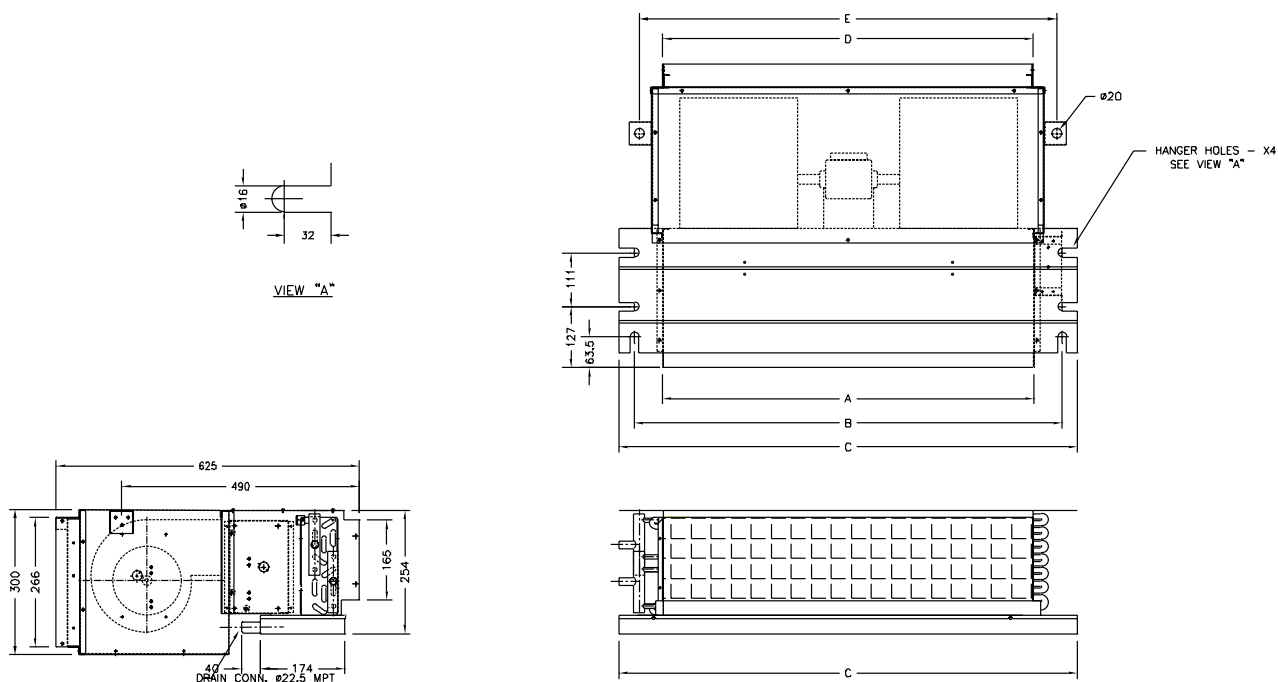
External Dimensions And Weights

DIM-HFCC02

Model No.	External Dimensions (mm.)			Conn. Sizes		Number Of	
	A	B	C	Inlet	Outlet	Fan(s)	Motor(s)
HFCC 04	762(30")	882(34 3/4)	946(37 1/4)	15.88(5/8")	15.88(5/8")	2	1
HFCC 06	762(30")	882(34 3/4)	946(37 1/4)	15.88(5/8")	15.88(5/8")	2	1
HFCC 08	762(30")	882(34 3/4)	946(37 1/4)	15.88(5/8")	15.88(5/8")	2	1
HFCC 10	914(36")	1034(40 1/4)	1098(43 1/4)	15.88(5/8")	15.88(5/8")	2	1
HFCC 12	1067(42")	1087(42 7/8)	1251(49 1/4)	15.88(5/8")	15.88(5/8")	2	1

Dimensional Data

CHILLED WATER FAN COIL HFCC 04-12



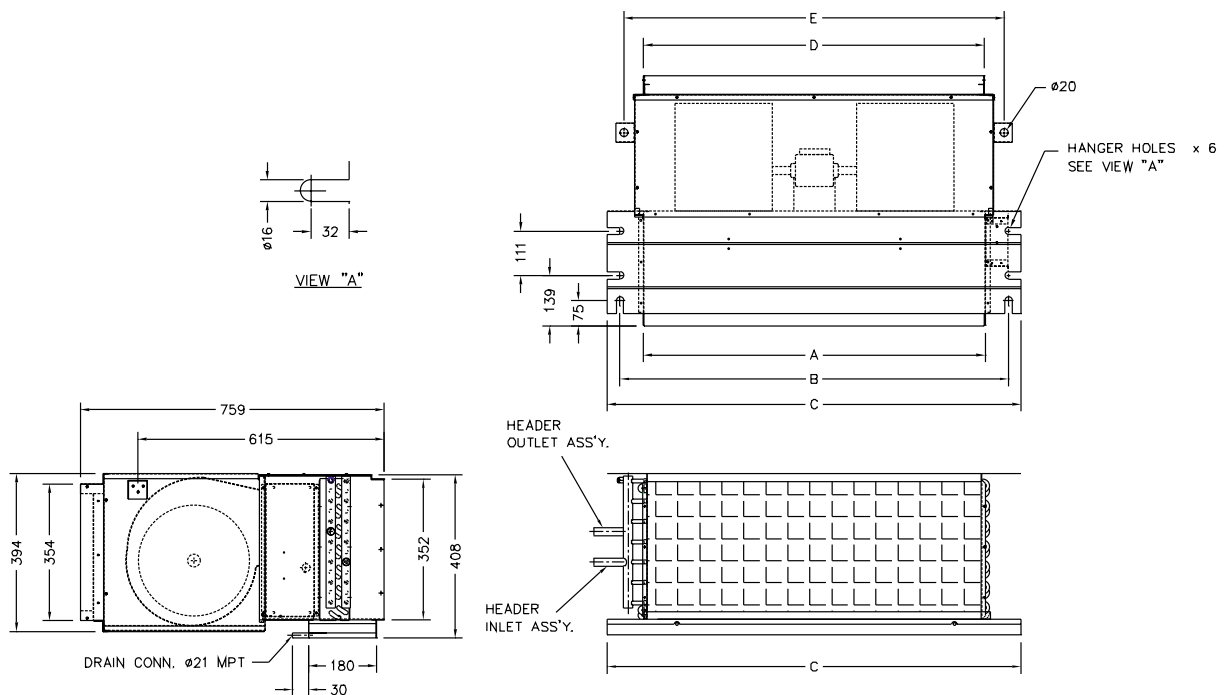
External Dimensions And Weights with Plenum.

DIM-HFCC01

Model No.	External Dimensions (mm.)					Conn. Sizes		Number Of	
	A	B	C	D	E	Inlet	Outlet	Fan(s)	Motor(s)
HFCC 04	762(30")	882(34 3/4")	946(37 1/4")	762(30")	862(33 15/16")	15.88(5/8")	15.88(5/8")	2	1
HFCC 06	762(30")	882(34 3/4")	946(37 1/4")	762(30")	862(33 15/16")	15.88(5/8")	15.88(5/8")	2	1
HFCC 08	762(30")	882(34 3/4")	946(37 1/4")	762(30")	862(33 15/16")	15.88(5/8")	15.88(5/8")	2	1
HFCC 10	914(36")	1034(40 1/4")	1098(43 1/4")	914(36")	1014(39 15/16")	15.88(5/8")	15.88(5/8")	2	1
HFCC 12	1067(42")	1087(42 7/8")	1251(49 1/4")	1067(42")	1167(45 15/16")	15.88(5/8")	15.88(5/8")	2	1

Dimensional Data

CHILLED WATER FAN COIL HFCD 14-20



External Dimensions (Return Air Plenum is Standard)

DIM-HFCD14-20

Model	All External Dimensions are in inch (mm)					Conn. Sizes		Number Of	
	A	B	C	D	E	Inlet	Outlet	Fan (s)	Motor (s)
HFCD 14-16	36.06"(916)	40.70"(1034)	43.58"(1107)	35.70"(907)	39.88"(1013)	3/4"(19.05)	3/4"(19.05)	2	1
HFCD 18-20	42.08"(1069)	46.73"(1187)	49.21"(1250)	41.73"(1060)	45.90"(1166)	3/4"(19.05)	3/4"(19.05)	2	1



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