



Installation Manual

AQUASTYLUS Chilled Water Fan Coil Convertible Type CFEA Series 50/60 Hz



50 Hz Models Cooling Only

CFEA 04 C0M1
CFEA 06 C0M1
CFEA 08 C0M1
CFEA 10 C0M1
CFEA 12 C0M1
CFEA 14 C0M1
CFEA 16 C0M1
CFEA 20 C0M1

Cooling/Heating

CFEA 04 CEM1
CFEA 06 CFM1
CFEA 08 CBM1
CFEA 10 CHM1
CFEA 12 CJM1
CFEA 14 CJM1
CFEA 16 CKM1
CFEA 20 CLM1

60 Hz Models Cooling Only

CFEA 04 C0M2
CFEA 06 C0M2
CFEA 08 C0M2
CFEA 10 C0M2
CFEA 12 C0M2
CFEA 14 C0M2
CFEA 16 C0M2
CFEA 20 C0M2

Cooling/Heating

CFEA 04 CEM2
CFEA 06 CFM2
CFEA 08 CBM2
CFEA 10 CHM2
CFEA 12 CJM2
CFEA 14 CJM2
CFEA 16 CKM2
CFEA 20 CLM2

October 2002

UNT-SVN001-EN



General Information

General Information

This Installation Manual is given as a guide to good practice in the installation by the installer of CFEA chilled water fancoil system. 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 CFEA units are assembled, pressure tested, dehydrated and run tested before shipment. The information contained in this manual applies to CFEA units are designed to operate in cooling mode only and in cooling or heating modes.

Trane CFEA series of chilled water fancoil systems offer three styles of installation: floor, low wall and under ceiling with both LCD wireless remote control or wired control. Trane CFEA series provide flexibility and savings.

Note: For model CFEA 14, CFEA 16 and CFEA 20, there are only two styles of installation: under ceiling and low wall.

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 perating 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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Location and Preparation of Units

1. Select an appropriate position that allows every corner of the room to be uniformly air conditioned and where it is easy to route the water piping.
2. Ensure that the floor or ceiling construction is sufficient to fully support the weight of the indoor unit.
3. Consideration must be given to ensure an unobstructed flow of supply and return air.
4. Length of the condensate drain hose should be kept as short as possible. (Figure 1)
5. Recommended service clearance as shown in figure 2, 3 and 4.

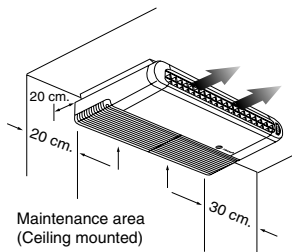


Figure 2

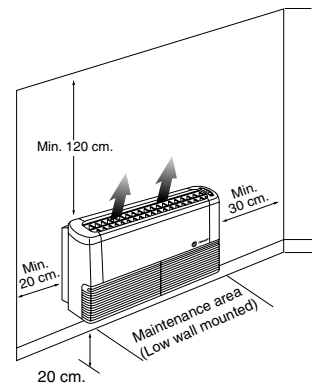


Figure 4

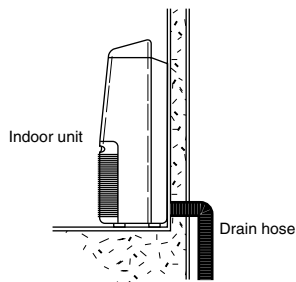


Figure 1

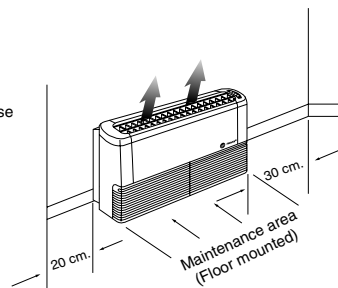


Figure 3

6. Do not install unit in direct sunlight or near other heat sources as this may affect performance. Do not allow outside air to directly enter unit or condensate may form at the unit's discharge.

Note: For CFEA14 - CFEA 20 the unit should be installed over the floor at least 20 cm.



Unit Installation

Indoor Unit

1. Select a location to route piping, wiring and drain pipe.
2. Make a hole in the wall using a key hole saw or hole-cutting drill attachment.
The hole should be made at a slight downward slant to the outdoor side (Figure 5).

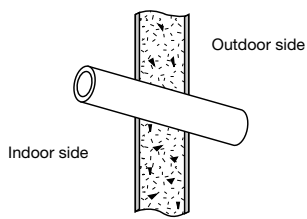


Figure 5

Before cutting, check that no pipes or studs are directly behind the place to be cut. Avoid areas where electrical wiring or conduits are located.

3. Place the unit on a solid and level foundation.
4. Piping, wiring through and drain pipe of low wall and floor mounted units can be routed, to rear or left and right side of unit when facing front. Ceiling mounted can be routed straight downward.
5. To gain access to the electrical terminals, the drain and the water piping, pull the return grille forward (Figure 6).

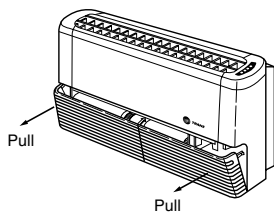


Figure 6

6. Remove the return grille, squeeze the center of plastic linkage, then unscrew the two end linkages to free them from the retainers (Figure 7).

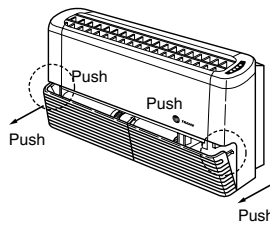


Figure 7

Note: = (A) 0.49" x 1.575" - 4 SLOT (Mounting hole) (12.5 mm 40.0 mm)

Unit Size	(B)
CFEA 04-06	36.2" (920)
CFEA 08	46.1" (1,170)
CFEA 10-12	55.9" (1,420)
CFEA 14	65.7" (1,670)
CFEA 16-20	75.6" (1,920)

8. Place or hang the unit at the selected position.

7. Unscrew at the grille bottom hinges, and pull out the screw. Then, push down on the panel and pull out (Figure 8).

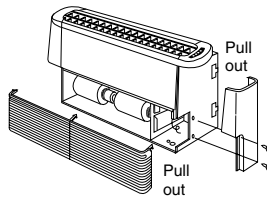


Figure 8

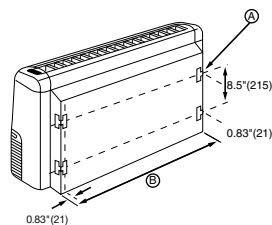


Figure 9



Connection of Water Piping

The unit water piping connections are provided with a make straight fitting. The water piping connection is located on the right hand side of the unit (Figure 11).

To complete piping connections, connect the female connections to the male adapter of the water piping connections at the inlet and outlet of the coil. Then, screw in and fasten the connections with an adjustable wrench or torque wrench.

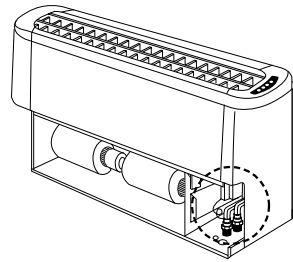
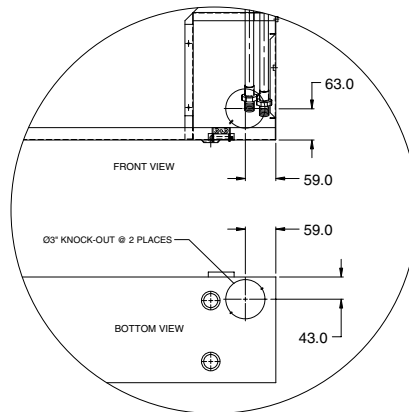


Figure 11

Unit Model	Pipe Connection (in)
CFEA 04-06	Male 1/2 NPT
CFEA 08-20	Male 3/4 NPT

Position of Piping Hole





Condensate Drain Piping

- The drain hose should run straight down the wall to a level where the runoff will not stain the wall.
- There should be no traps.
- Avoid putting the end of the hose in water.
- To conveniently drain the system, the drain hose must slant downward, with a slope of at least 1 : 50 to prevent leakage. Figure 12 shows the unit in the floor mounted position.
- When the drain hose is placed in the room, insulate the hose with foam polyethylene to avoid damage to the ceiling or furniture.

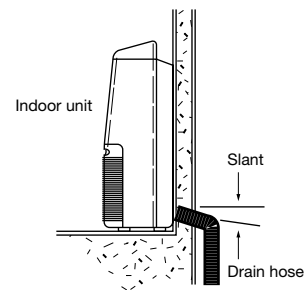


Figure 12

Electrical Installation

All wiring and grounding must comply with local electrical codes.

1. Wiring

Important Safeguards:

- Check the unit nameplate for electrical rating. Be sure wiring is done according to local codes and wiring diagram.
- Connect electrical ground to all units.
- Wiring should not touch motors or moving parts.
- The manufacturer will accept no responsibility for problems caused by unauthorized changes in the internal wiring.
- Pass the system wiring through the PVC pipe conduit or metal conduit, referred to Unit Installation section. (both power and control lines).
- Make sure all connections are tight.

2. Electrical Connections

See Section: Wiring System Diagram.

Note:

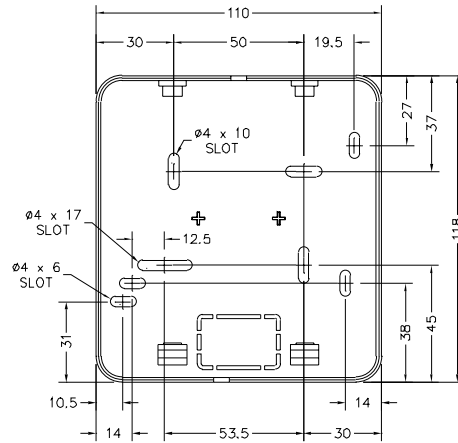
- All wiring must comply with local codes.
- After completing the connections, re-confirm them to be in accordance with the unit and system wiring diagrams.



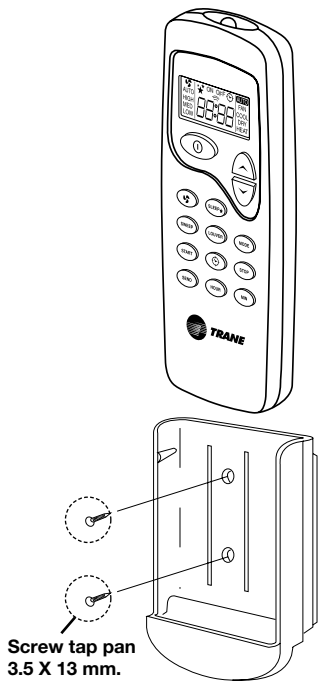
Remote Control Installation

Locate and attach the wireless remote control and wired control as follows:

1. Do not place the control and the remote control near heat sources or expose to the direct rays of the sun.
2. Do not expose the control to the indoor unit's supply air stream.
3. Do not place in a confined space.
4. Install the remote control holder as shown in Figure 13, 14.

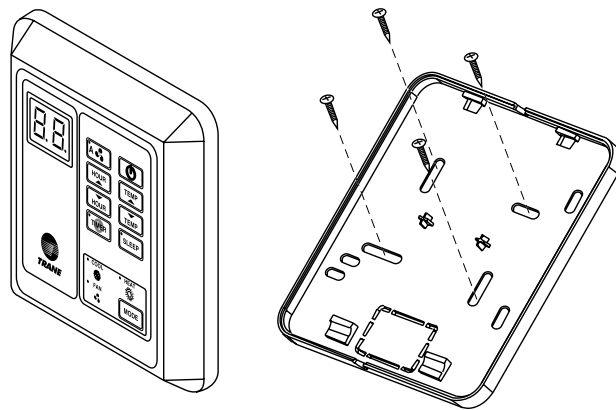


Dimension



Wireless Remote Control

Figure 13



Wired Remote Control

Figure 14

Mounting Bracket

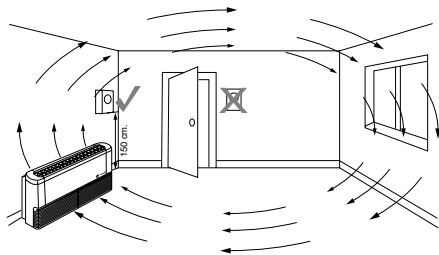


Electronic Room Thermostat Installation

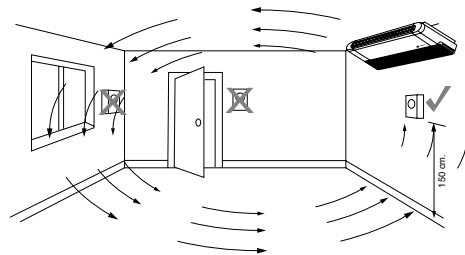
Precaution

- This room thermostat is an electronic control device, which requires special precaution for installation.
 - Follow the wiring diagram attached on page 9 for reference.
 - Room thermostat should not be located at or near the water drop or water mist.
 - Be careful not to leave any copper wire or piece of metal inside the control set.
- For better temperature control, please see the attached picture for the suitable room thermostat's location.

Floor Type

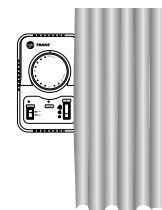
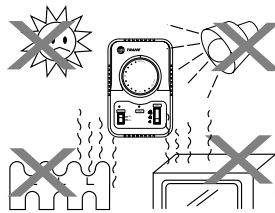


Ciling Type



Location of room thermostat

- Do not place the control set and room thermostat near heat sources or expose to the direct sunlight.
- Do not expose the room thermostat to the indoor unit's supply air stream.
- Do not place the room thermostat in a confined space.



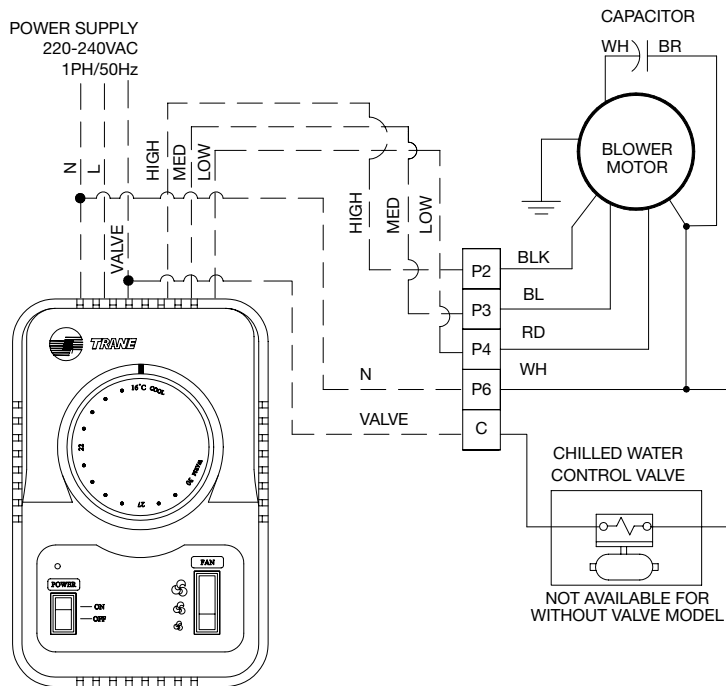
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Typical Wiring Diagram

WIRING DIAGRAM



DESCRIPTION

- FIELD WIRING
- FACTORY WIRING
- COIL
- JUNCTION
- TERMINAL BOARD BY FACTORY
- MS COMPRESSOR MOTOR CONTACTOR

COLOR CODE

- BLK BLACK
- BL BLUE
- WH WHITE
- RD RED
- BR BROWN

GROUND TERMINATOR

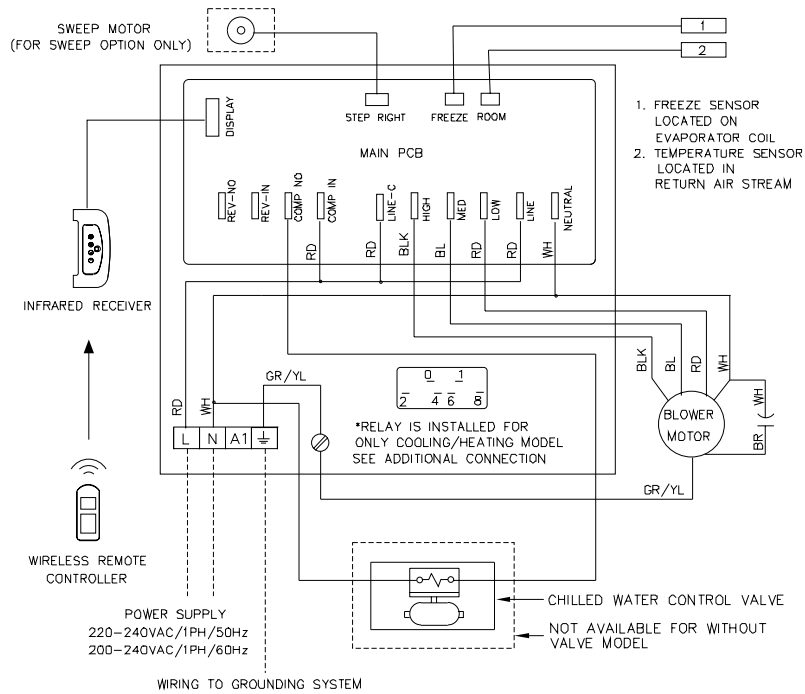


035-0687



Typical Wiring Diagram

CFEA, CHILLED WATER FANCOIL UNIT WITH WIRED CONTROL COOLING ONLY AND COOLING/HEATING MODEL

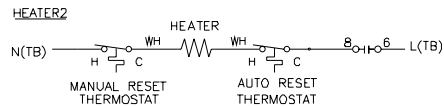
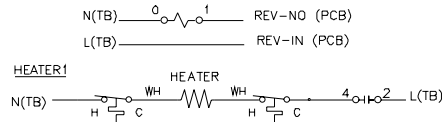


DESCRIPTION	
----	FIELD WIRING
—	FACTORY WIRING
⎓	COIL
⎓	RELAY CONTACT N.O.
⎓	CAPACITOR
o	JUNCTION
TB	TERMINAL BOARD
PCB	PRINTED CIRCUIT BOARD

COLOR CODE

BL	BLUE
BLK	BLACK
RD	RED
WH	WHITE
GR	GREEN
YL	YELLOW
OR	ORANGE
BR	BROWN

ADDITIONAL CONNECTION TO HEATER (FOR ONLY COOLING/HEATING MODEL)

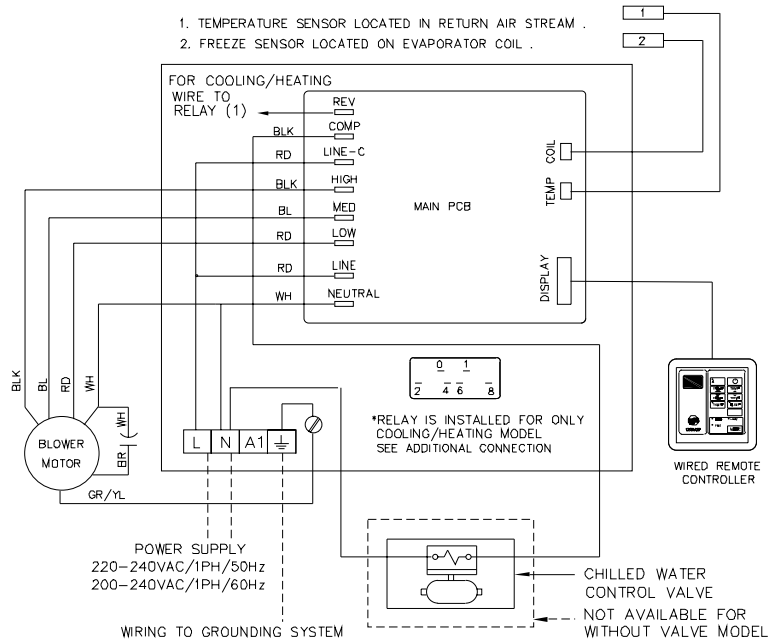


MANUAL RESET THERMOSTAT AUTO RESET THERMOSTAT
 DIGIT 0,1,2,4,6 AND 8 ARE CONNECTION ON RELAY
 HEATER1 IS INSTALLED IN MODEL 12000-24000 BTU
 HEATER1,2 ARE INSTALLED IN MODEL 30000 BTU UP

035-0623



CFEA, CHILLED WATER FANCOIL UNIT WITH WIRED CONTROL COOLING ONLY AND COOLING/HEATING MODEL



DESCRIPTION

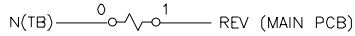
- FIELD WIRING
- FACTORY WIRING
- /— COIL
- |— RELAY CONTACT
- |— NORMALLY OPEN
- |— CAPACITOR
- JUNCTION
- TB TERMINAL BOARD
- PCB PRINTED CIRCUIT BOARD

COLOR CODE

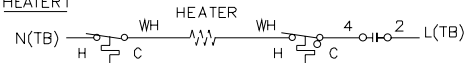
BL	BLUE
BLK	BLACK
RD	RED
WH	WHITE
GR	GREEN
YL	YELLOW
OR	ORANGE
BR	BROWN

ADDITIONAL CONNECTION TO HEATER

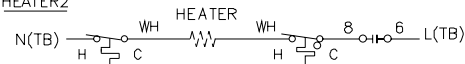
(FOR ONLY COOLING/HEATING MODEL)



HEATER1



HEATER2



MANUAL RESET THERMOSTAT AUTO RESET THERMOSTAT

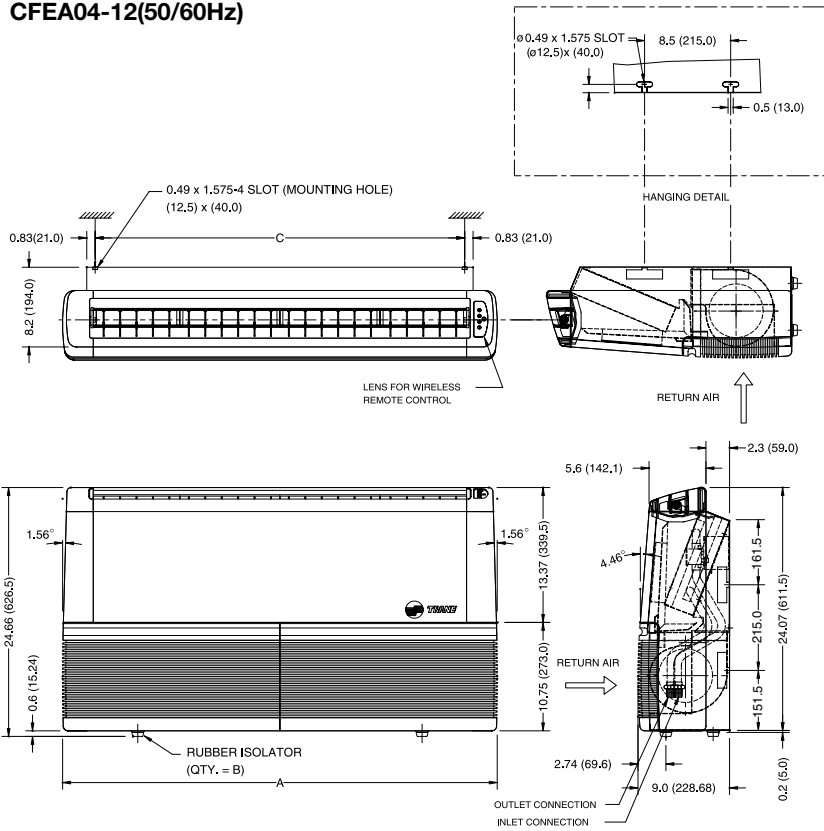
DIGIT 0,1,2,4,6 AND 8 ARE CONNECTION ON RELAY
HEATER1 IS INSTALLED IN MODEL 12000-24000 BTU
HEATER1,2 ARE INSTALLED IN MODEL 30000 BTU UP

035-0624



Dimensional Data

CFEA04-12(50/60Hz)



DIMENSIONAL DATA

MODEL	CONN. SIZES		A		B	C	
	INLET	OUTLET	IN.	(MM.)	EACH	IN.	(MM.)
CFEA04,06	1/2 (13)	1/2 (13)	42.7	(1085,25)	4	36.2	(920.0)
CFEA08	3/4 (19)	3/4 (19)	52.6	(1335,25)	4	46.1	(1170.0)
CFEA10,12	3/4 (19)	3/4 (19)	62.4	(1585,25)	6	55.9	(1420.0)

- NOTE** 1) INLET AND OUTLET LINES HAVE MALE ADAPTER TYPE CONNECTIONS.
2) DIMENSIONS : INCHES (MILIMETERS); 1 IN. = 25.4 MM.

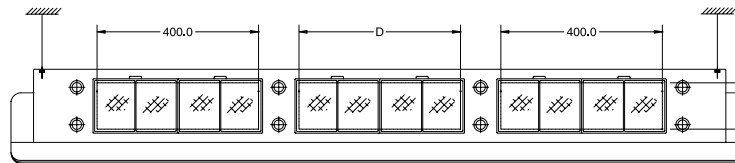
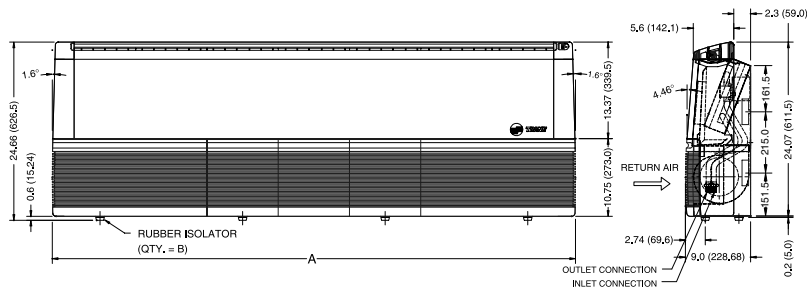
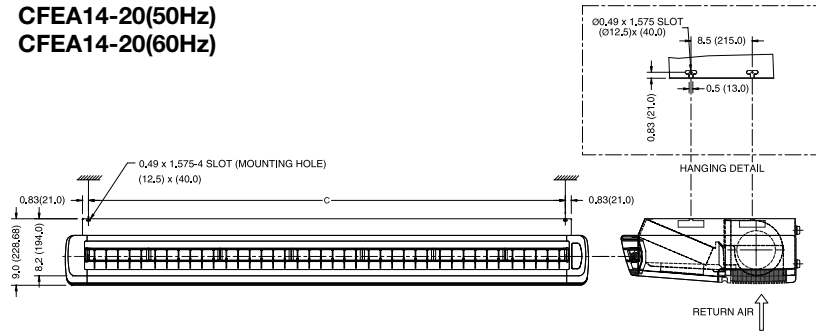
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**CFEA14-20(50Hz)
CFEA14-20(60Hz)**



DIMENSIONAL DATA

MODEL	CONN. SIZES		A IN. (MM.)	B EACH	C IN. (MM.)	D IN. (MM.)
	INLET	OUTLET				
CFEA14	3/4 (19)	3/4 (19)	72.3 (1835.25)	8	65.7 (1670.0)	15.75 (400.0)
CFEA16,20	3/4 (19)	3/4 (19)	82.1 (2085.25)	8	75.6 (1920.0)	23.62 (600.0)

NOTE 1) INLET AND OUTLET LINES HAVE MALE ADAPTER TYPE CONNECTIONS.
2) DIMENSIONS : INCHES (MILIMETERS); 1 IN. = 25.4 MM.

REV._ 035-0704



Notes





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Since The Trane Company has a policy of continuous product improvement, it reserves the right to change design and specifications without notice.

