



# Submittal Record

Our Passion is Building®

Rodgers Builders, Inc.  
PO Box 18446 (28218)  
5701 North Sharon Amity Road  
Charlotte, NC 28215

rodgersbuilders.com  
704 537 6044 TELEPHONE  
704 535 0055 FAX

Architect:

Project:

Rodgers Project #:

## Form of Submittal

## Submittal No.

- Product Data
- Shop Drawings
- Mix Designs
- MSDS Sheets
- Physical Samples
- Manufacturer's Certification
- Test Reports
- Installation Instructions
- Letter of Affidavit / Compliance
- Welding Certificates
- Sample Warranty
- Other (Specify) - \_\_\_\_\_

Item: \_\_\_\_\_

Drawing Number: \_\_\_\_\_

Spec. Section & Packa \_\_\_\_\_

Manufacturer: \_\_\_\_\_

Brand: \_\_\_\_\_

Submitted By: \_\_\_\_\_

Review Due Date: \_\_\_\_\_

- NO EXCEPTIONS TAKEN
- EXCEPTIONS INDICATED
- REVISE AND RESUBMIT
- REJECTED; RESUBMIT

REVIEWED ONLY FOR CONFORMANCE WITH DESIGN CONCEPT OF THE PROJECT AND COMPLIANCE WITH INFORMATION GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR DIMENSIONS TO BE VERIFIED AND CORRELATED AT THE SITE; FOR QUANTITY VERIFICATION; FOR INFORMATION THAT PERTAINS SOLELY TO THE FABRICATION PROCESSES OR THE MEANS, METHODS, TECHNIQUES OR SEQUENCES AND PROCEDURES OF CONSTRUCTION; AND FOR COORDINATION OF THE WORK OF ALL TRADES.

YATES-CHREITZBERG-HUGHES ARCHITECTS  
7035 NORTHWINDS DR. NW  
CONCORD, NORTH CAROLINA 28027

BY: JRS

DATE: 03/19/2025

## Rodgers Stamp

**Rodgers Builders, Inc.**

- \_\_\_ No Exception Taken      \_\_\_ Make Corrections Noted
- \_\_\_ Rejected                      \_\_\_ Revise and Resubmit
- \_\_\_ Submit Specified Item      \_\_\_ Reviewed

Corrections and comments are only for general conformance with the design concepts of the project and general compliance with the information given in the contract documents. Action shown is subject to the requirements of the plans and specifications. This review does not relieve the subcontractor/vendor from compliance with requirements of the drawings and specifications. Subcontractor /vendor is responsible for dimensions which shall be confirmed and correlated at the job site, fabrication process, and techniques of construction: coordination of their work with that of all other trades and the satisfactory performance of their work.

By \_\_\_\_\_ Date \_\_\_\_\_  
No. \_\_\_\_\_

## A/E Stamp

### OPTIMA ENGINEERING, P.A. SHOP DRAWING REVIEW

REVIEW IS FOR GENERAL COMPLIANCE WITH THE INTENT OF THE CONTRACT DOCUMENTS. MECHANICAL CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR CORRECTNESS, DIMENSIONS, DETAILS, QUANTITIES AND ALL COST ASSOCIATED WITH SUBSTITUTED EQUIPMENT, INCLUDING ELECTRICAL CHANGES, MAINTENANCE ACCESS, CLEARANCES, BUILDING ALTERATIONS, PIPING, REPLACEMENT OF OTHER SYSTEM COMPONENTS, ETC.

NO EXCEPTION TAKEN	
APPROVED AS NOTED	X
REVISE AND RESUBMIT	
REJECTED	

Reviewed By: Kelsey Sheehan

Date: 03/19/2025

**OPTIMA: COORDINATE CONTROLS  
WITH CONTROLS CONTRACTOR**



# Submittal

**Prepared For:**  
Superior Mechanical  
Attn: Ben Wyke

**Date:** January 29, 2025

**Engineer:**  
Optima Engineering  
Steve Daley, P.E.

**Job Name:**  
CCS Coltrane Webb Beverly Hills Replacement ES

**Opportunity ID:** 7927867

Trane U.S. Inc. is pleased to provide the following submittal for your review and approval.

## Product Summary

### Qty Product

1 - Blower Coil Air Handling Unit

## Notes:

1. This submittal is based on mechanical specifications and drawings sealed 10-21-2024.
2. The mechanical contractor shall verify / confirm required piping locations and note any necessary changes on the returned submittal.
3. Electrical requirements shall be coordinated / confirmed with the electrical contractor prior to ordering equipment.
4. The following items are not included by Trane unless noted otherwise:
  - Chilled or hot water control valves*
  - Auxiliary drain pans or condensate pumps*
  - Unit controls or thermostats*
  - Smoke detectors*
  - Spring vibration isolators*
  - Seismic restraints*
  - Equipment startup*

The following will be included in a separate submittal

DDC Thermostat, Insulated Return air plenum, Secondary drain pan, Filters, discharge duct collar, vibration isolators.

**Jeff Auten**  
Trane U.S. Inc.  
4501 South Tryon Street  
Charlotte, NC 28217  
Office Phone: (704) 525-9600

The attached information describes the equipment we propose to furnish for this project and is submitted for your approval.  
**Submittal acceptance and return is a critical step, so please ensure submittals are returned with approval to release to production within 14 days of submittal date.**

## Table of Contents

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<b>Field Installed Options - Part/Order Number Summary</b> .....	Error! Bookmark not defined.
Blower Coil.....	<b>Error! Bookmark not defined.</b>

**Tag Data - Blower Coil (Qty: 1)**

Item	Tag(s)	Qty	Description	Model Number
A1	FCU-1	1	BCXE Blower Coil (BCXE)	BCHE090GAA0A1AC5A000000B0BH00G

**Product Data - Blower Coil**

**Item: A1 Qty: 1 Tag(s): FCU-1**

Horizontal blower coil unit

Unit size 90

460 volts, 60 hertz, 3 phase

Matte face insulation, 1"

Back return

PVC drain pan, right hand connection

1 row hydronic heating coil, right side connections

6 row hydronic cooling coil, right side connections

1.5 HP motor

2" pleated filters, MERV 8

Customer supplied terminal interface (CSTI)

5-year parts and labor warranty, entire unit

**Performance Data - Blower Coil**

<b>Tags</b>	<b>FCU-1</b>
Design airflow (cfm)	2800
Fan speed (rpm)	1027
Medium speed (rpm)	863
Low speed (rpm)	700
Total cooling capacity (MBh)	117.38
Sensible capacity (MBh)	81.96
Cooling entering air, DB / WB (F)	80.00 / 67.00
Cooling leaving air, DB / WB (F)	53.45 / 53.28
Cooling ent fluid temp (F)	44.00
Cooling leaving fluid temp (F)	55.87
Cooling flow rate (gpm)	19.70
Cooling delta T (F)	11.87
Cooling fluid PD (ft H2O)	4.36
Fluid type	Water
Cooling fluid velocity (ft/s)	2.69
APD (in H2O)	0.753
Cooling face velocity (ft/min)	458
Preheat APD (in H2O)	0.105
Installed weight (lb)	322.7
Main Unit Weight (lb)	296.2
Preheat face velocity (ft/min)	458
ESP (in H2O)	0.500
TSP (in H2O)	1.508
Preheat fluid freeze pt (F)	32.00
Preheat fluid velocity (ft/s)	1.25
Min circuit ampacity (A)	4.13
Maximum overcurrent protection (A)	15.00
Heating Coil Weight (lb)	4.1
Cooling Coil Weight (lb)	22.4
ECM - brake horsepower (hp)	1.336
Motor full load amps (A)	3.30
Preheat EAT (F)	65.00
Preheat LAT (F)	95.26
Total preheat capacity (MBh)	91.90
Preheat ent fluid temp (F)	180.00
Preheat Delta T (F)	40.00
Preheat fluid type	Water
Preheat lvg fluid temp (F)	140.00
ECM - service factor	1.12
Preheat flow rate (gpm)	4.59

**Mechanical Specifications - Blower Coil****Item: A1 Qty: 1 Tag(s): FCU-1****BCHE General**

The product line consists of a horizontal air handling unit and optional accessories. Air-handling airflow data is certified in accordance with AHRI standard 430. The unit is UL listed to U. S. safety standards and complies with NFPA 90A. Air handlers consist of two hydronic coils, drain pan, and centrifugal fan with motor in a common cabinet. Air handlers are provided with mounting brackets on the top and bottom in all four corners for installing the unit suspended from the ceiling with threaded rods. Unit and accessories are insulated with 1" 1.0 lb/cu. ft density fiberglass insulation. Large motor access panels are provided on one side of the unit.

**Casing**

Casings are constructed of galvanized steel, insulated with 1" 1.0 lb/cu. ft density fiberglass fire resistant and odorless glass fiber material to provide thermal and acoustical insulation. Fan housing sides are directly attached to the air handler top and bottom panels strengthening the entire unit assembly. Coil access panels are located on one side of the air handler. Main access panels provide generous access to the fan and motor from one side of the air handler.

**Matte Faced Insulation**

The interior surface of the unit casing is acoustically and thermally lined with 1" glass fiber insulation. The insulation has a density of 1.0 lb/cu. ft and an R-Value of 4.2. The insulation is UL listed and meets NFPA-90A and UL191 standards.

**Hydronic Coils**

Heating coil is one row for hot water. Cooling coil is six rows for chilled water. All water coils are 12 fins per inch and have 3/8" tubes with 0.012" wall thickness. All water coils use highly efficient Trane Delta Flo, Type H aluminum fins, mechanically bonded to seamless copper tubes. All coils are specifically designed and circuited for water use. All coils are factory tested with 450.00 psi air under water. Maximum standard operating conditions are 300.00 psi at 200.0 F. Sweat type connections are standard. Coil performance data is in accordance with the current edition of AHRI Standard 410.

**Unit Fan**

The fans are DWDI (double width double inlet) forward curved centrifugal blower type. The fans are **direct drive** mounted directly to the motor shaft. All fans are dynamically balanced. All air handlers have a single fan.

**Electronically Commutated Motors (ECM) - Three Phase**

All motors are brushless DC (BLDC) electronically commutated motors (ECM) factory programmed and run tested in assembled units. The motor controller is mounted in a control box with a built in integrated user interface and LED tachometer. If adjustments are needed, motor parameters can be adjusted through momentary contact switches accessible without factory service personnel on the motor control board. Motors will soft ramp between speeds to lessen the acoustics due to sudden speed changes. Motors can be operated at three speeds or at variable speed with factory supplied or field supplied controllers. The motor will choose the highest speed if there are simultaneous or conflicting speed requests. All motors have integral overload protection with a maximum ambient operating temperature of 130.0 F and use permanently sealed ball bearings. Motors can operate at plus or minus 10 percent of rated voltage on all speed settings.

**2" Pleated Throw-Away Merv 8 Filter**

2-inch pleated media filters made with 100% synthetic fibers that are continuously laminated to a supported steel-wire grid with water repellent adhesive shall be provided. Filters shall be capable of operating up to 625 fpm face velocity without loss of filter efficiency and holding capacity. The filters shall have a MERV 8 rating when tested in accordance with the ANSI/ASHRAE Standard 52.2.

**Non-Corrosive Drain Pan**

The drain pan is noncorrosive and double-sloped to allow condensate drainage. The drainpan construction is polymer. Coils mount above the drain pan, not in the drain pan - thus allowing the drain pan to be fully inspected and cleaned. The drain pan can also be removed for cleaning. The drain pan connections are unthreaded 3/4" schedule 40 PVC for solvent bonding. The main drain connection is at the lowest point of the drain pan. An auxiliary drain connection is provided on the same side as the main connection.

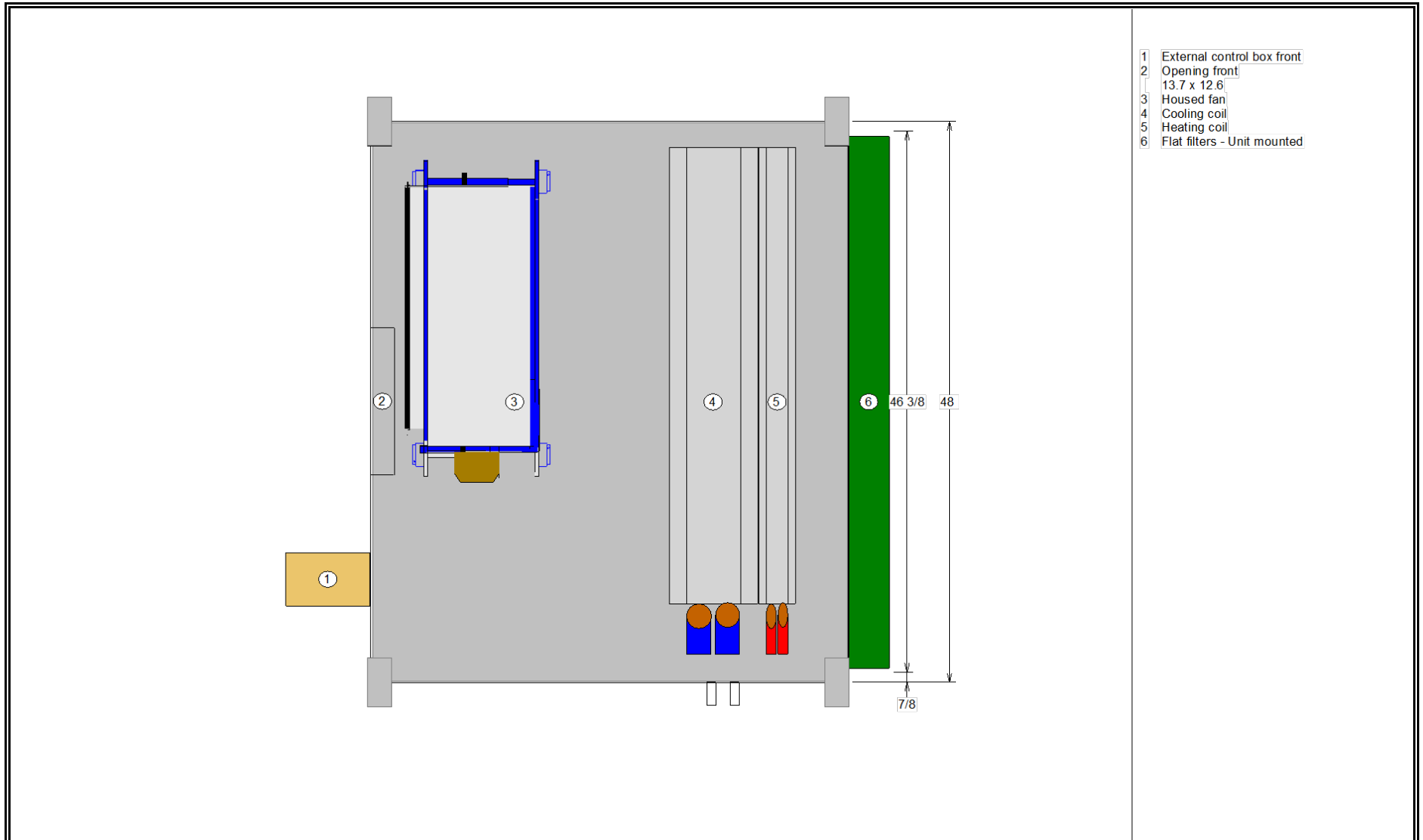
**Customer Supplied Terminal Interface (CSTI)**

The customer supplied terminal interface (CSTI) is a pre-wired control offering of selected control components. This option intended to be used with a field-supplied, low-voltage thermostat or controller and field supplied temperature

sensors. The control box contains a relay board which includes a line voltage to 24-volt transformer and disconnect switch (for non-electric heat units). Selected components are wired to a low-voltage terminal block and are run-tested, so only a power connection and thermostat/controller connection are needed to commission the unit.

**Dimensional Drawings - Blower Coil**

Item: A1 Qty: 1 Tag(s): FCU-1



- 1 External control box front
- 2 Opening front  
13.7 x 12.6
- 3 Housed fan
- 4 Cooling coil
- 5 Heating coil
- 6 Flat filters - Unit mounted

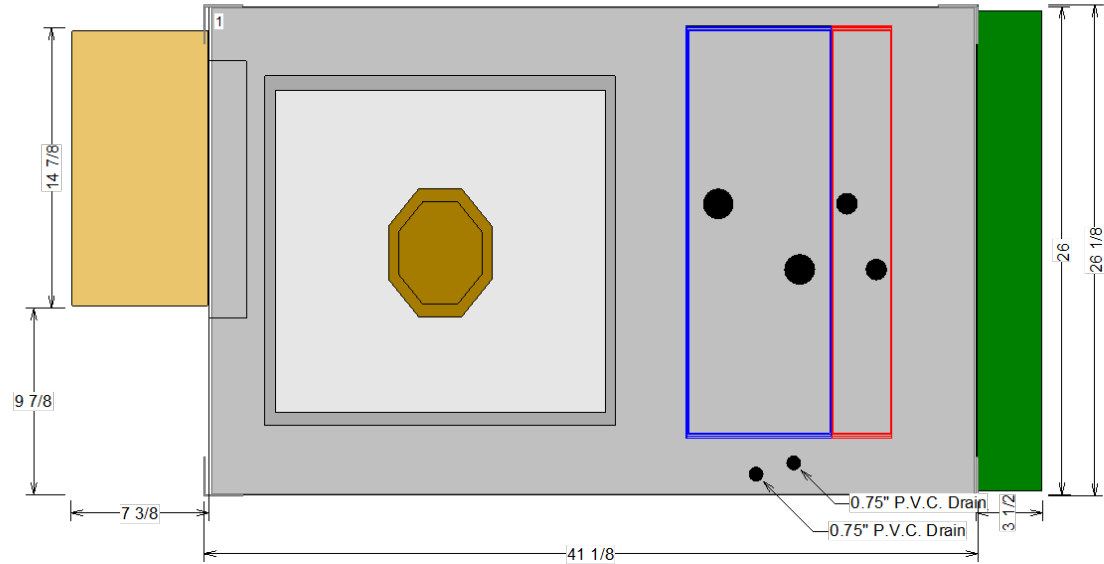
*OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE*

Unit size (Nominal CFM): 90 (3000 CFM)	Job Name: CCS Coltrane Webb Beverly Hills Replacement ES	Unit Insulation: 1 in. Matte Face Insulation
Seismic certification:	Design airflow: 2800. cfm	Proposal Number
	Sales Office	Tags: FCU-1
		Rigging/Installed Weight: 296.2 lb / 322.7 lb



**Dimensional Drawings - Blower Coil**

Item: A1 Qty: 1 Tag(s): FCU-1

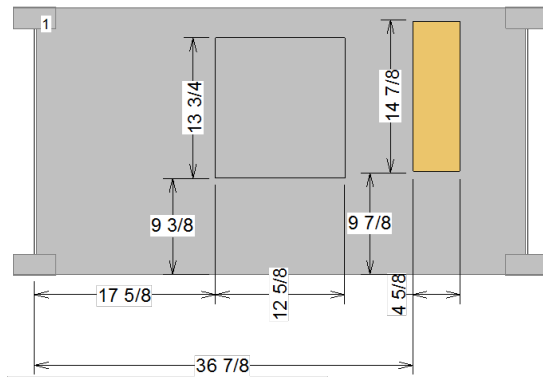


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**Dimensional Drawings - Blower Coil**  
**Item: A1 Qty: 1 Tag(s): FCU-1**



Detailed Elevation View: Front - Measurements in inches



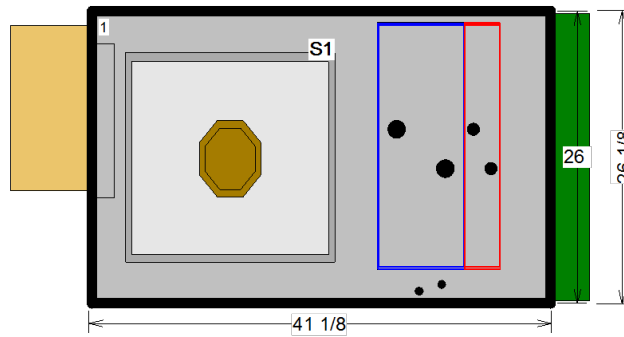
Detailed Elevation View: Back - Measurements in inches

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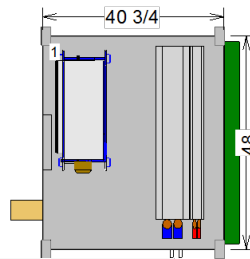


**Dimensional Drawings - Blower Coil**  
**Item: A1 Qty: 1 Tag(s): FCU-1**



Shipping splits are indicated by thick black lines

Pos #	Module	Length	Weight
1	Fan and coil section	40 3/4	322.70
Installed Unit Weight			322.70 lbs



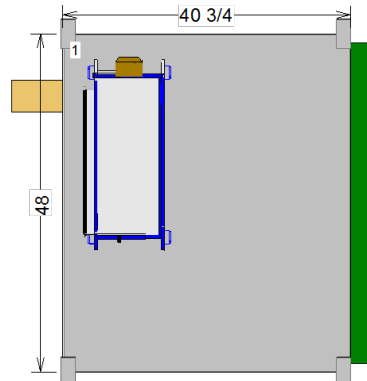
Basic Overall Plan View: Top - Measurements in inches

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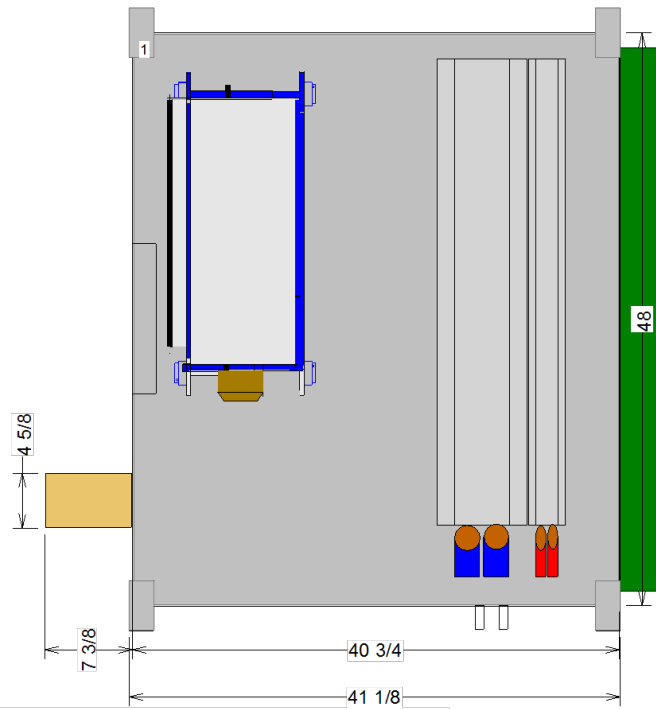
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Seismic certification:	Design airflow: 2800. cfm	Proposal Number
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**Dimensional Drawings - Blower Coil**  
**Item: A1 Qty: 1 Tag(s): FCU-1**



Left Side of Unit Detailed Plan View: Bottom - Measurements in inches



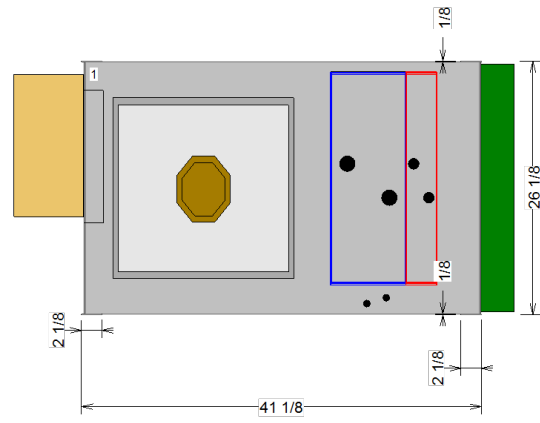
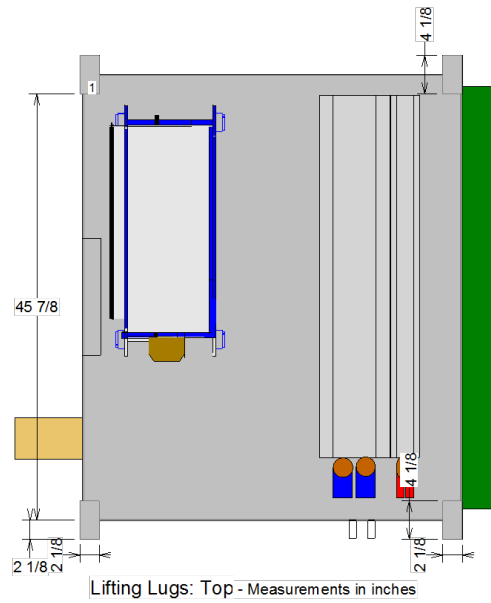
Right Side of Unit Detailed Plan View: Top - Measurements in inches

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**Dimensional Drawings - Blower Coil**  
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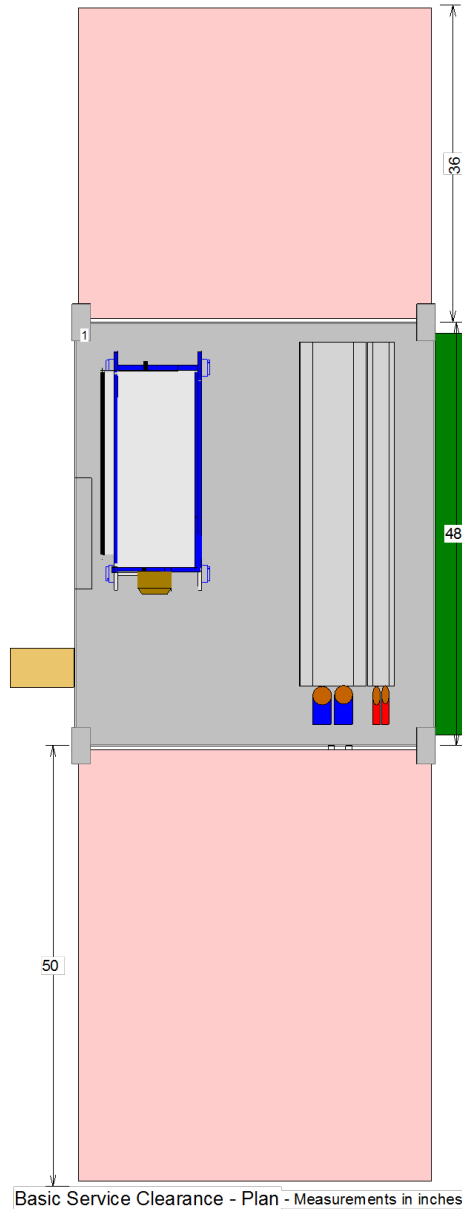


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**Dimensional Drawings - Blower Coil**  
**Item: A1 Qty: 1 Tag(s): FCU-1**



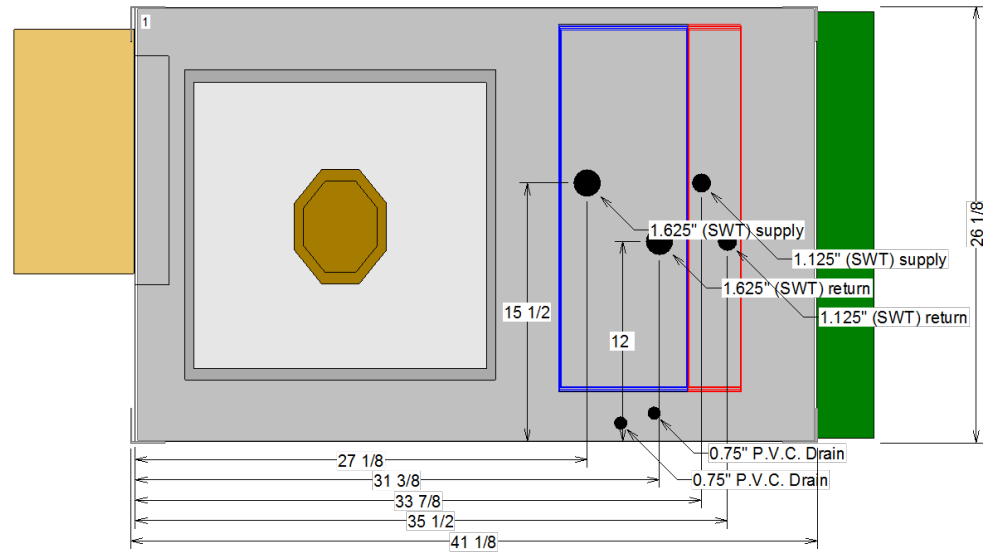
The coil(s) are intended to be removed from the coil connection side of the unit  
 In the event of a coil removal, the clearance located opposite of the coil connection side is required to remove hardware that secures the coil  
**\*\*If the clearance opposite of the coil connection side of the unit is not available, the unit will need to be repositioned at the time of the coil removal\*\***

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**Dimensional Drawings - Blower Coil**  
**Item: A1 Qty: 1 Tag(s): FCU-1**



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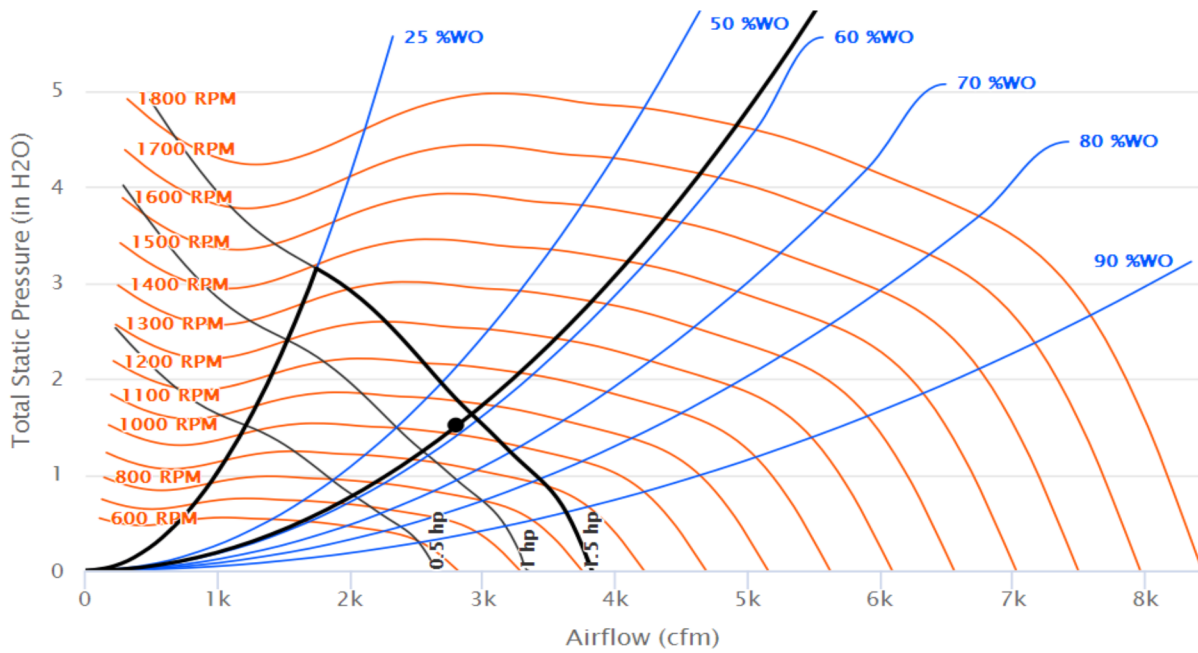


**Fan Curve - Blower Coil**  
**Item: A1 Qty: 1 Tag(s): FCU-1**

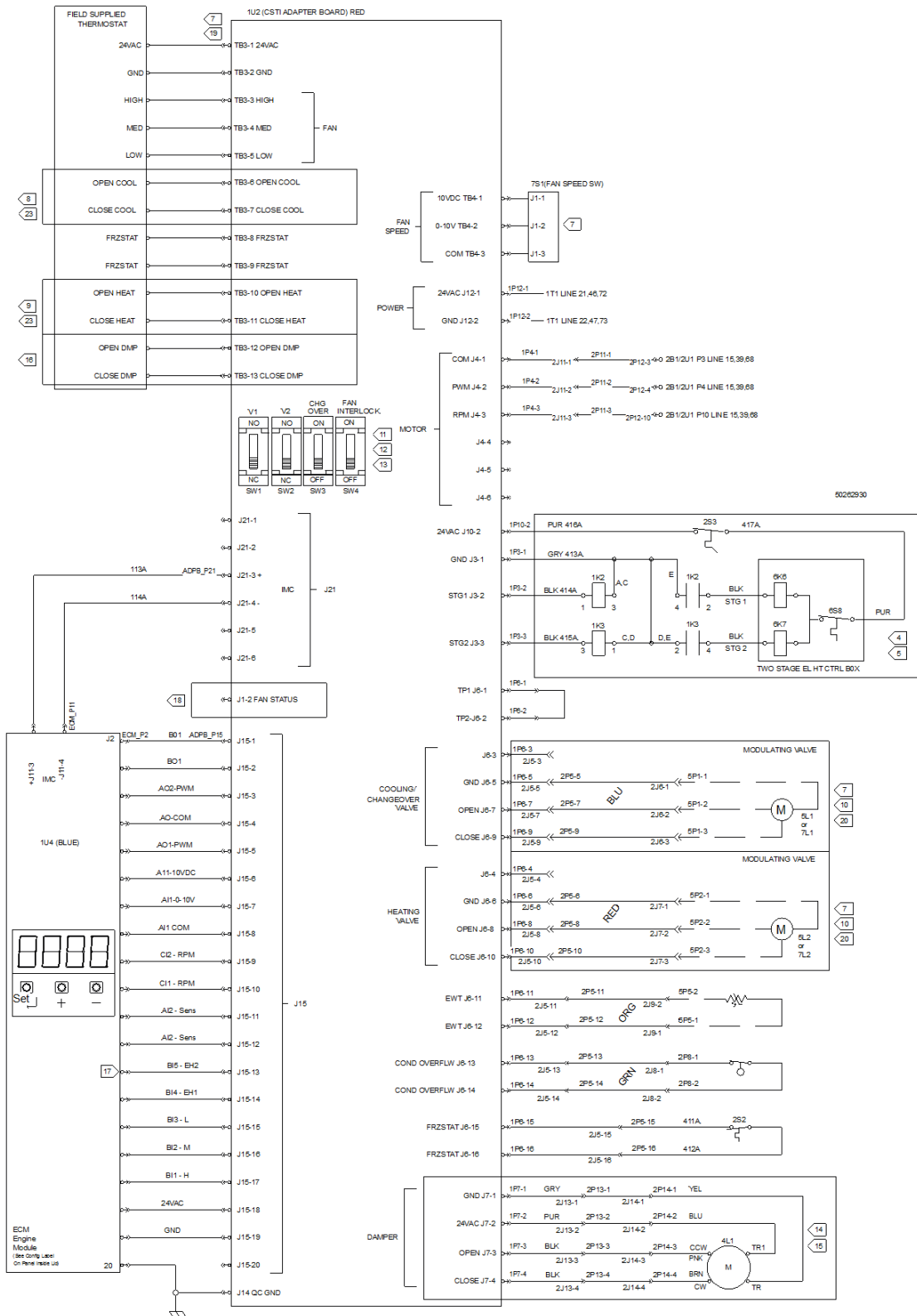
**Fan Details**

<b>Unit Size</b>	90 (3000 CFM)	<b>Operating Brake Power</b>	1.336 hp
<b>Operating Airflow</b>	2,800 cfm	<b>Altitude</b>	0.00 ft
<b>Operating Static Pressure</b>	1.508 in H2O	<b>Design Temp.</b>	80.00 F
<b>Operating RPM</b>	1,027 rpm		

BCHE 90 HORIZONTAL DRAW THRU (1.5 - 5) HP

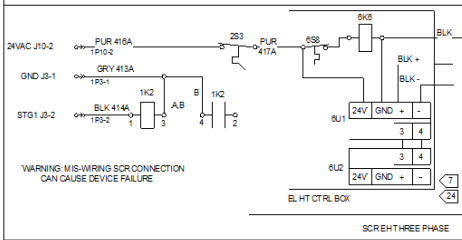
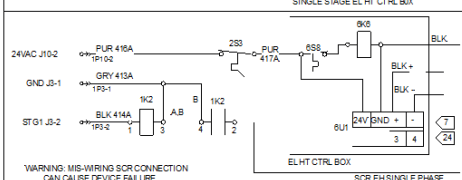
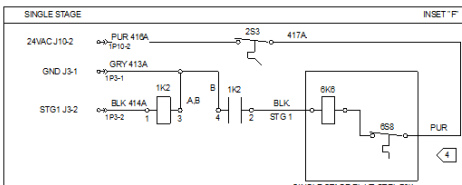
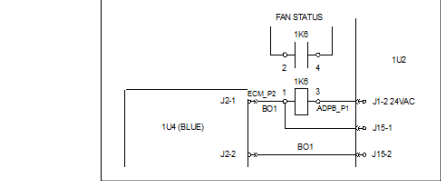
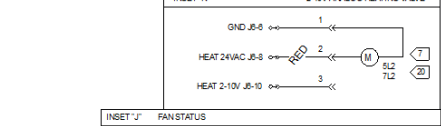
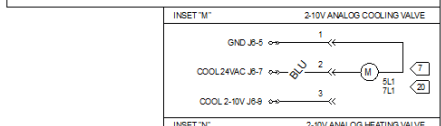
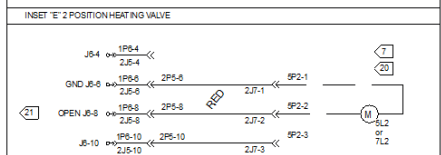
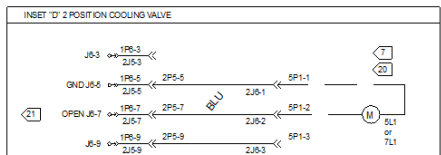
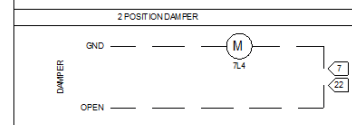
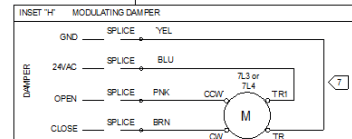
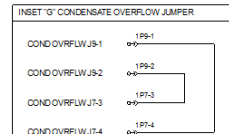
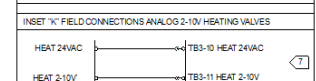
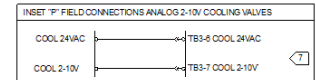
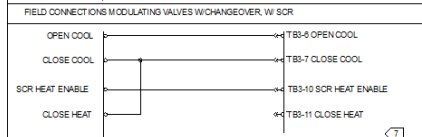
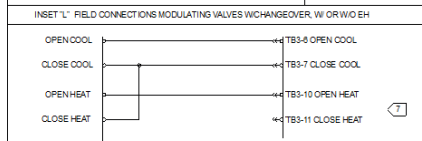
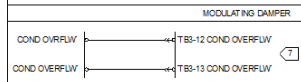
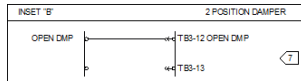
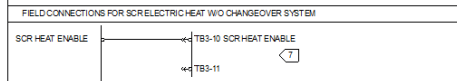
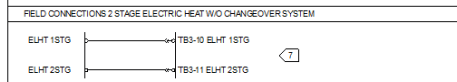
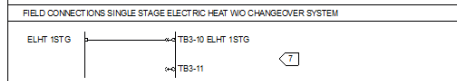
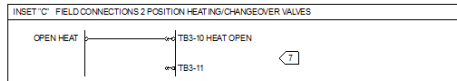
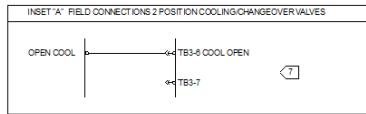


**Accessory - Blower Coil**  
**Item: A1 Qty: 1 Tag(s): FCU-1**



# Accessory - Blower Coil

## Item: A1 Qty: 1 Tag(s): FCU-1



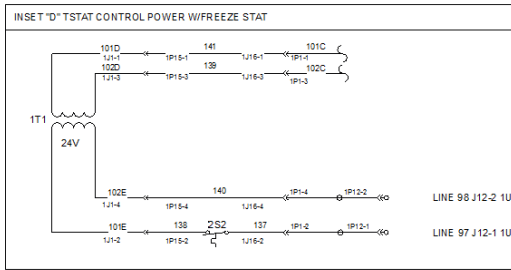
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DEVICE PREFIX LOCATION CODE	
AREA	LOCATION
1	MAIN CONTROL PANEL
2	SUPPLY FAN AND COIL SECTION
3	MIXING BOX
4	EXTERNAL PIPING
5	ELECTRIC HEAT CONTROL BOX
7	FIELD INSTALLED DEVICE

LEGEND		
DEVICE DESIGNATION	DESCRIPTION	LINE NUMBER
1U2	ADAPTER BOARD	83,88
1U4	ENGINE BOARD	88,118
2B3	EL HT LOOKOUT SWITCH	75,105
6K6	CONTACTOR, EL HT STG 1	107,77
6S8	EL HT HIGH TEMP	108,77
6K7	CONTACTOR, EL HT STG 2	109
1K2	CONTACTOR, EL HT	107,77
1K3	CONTACTOR, EL HT	109
1K6	RELAY, FAN STATUS	84,98
5L1	COOLING COIL VALVE MOTOR	84,115
5L2	HEATING COIL VALVE MOTOR	89,119
7L1	COOLING COIL VALVE MOTOR	115,84
7L2	HEATING COIL VALVE MOTOR	89,119
2B1	CONDENSATE OVERFLOW SWITCH	128
2B2	FREEZE STAT	128
7L3	MIXING BOX DAMPER ACTUATOR	125
7L4	OUTSIDE AIR DAMPER ACTUATOR	125,128
4L1	MIXING BOX DAMPER ACTUATOR	133
5RT1	ENTERING WARETEMP SENSOR	124
7B1	FAN SPEED SW	89

- NOTES
- UNLESS OTHERWISE NOTED, ALL SWITCHES ARE SHOWN AT 25° C (77° F) AT ATMOSPHERIC PRESSURE. AT 50% RELATIVE HUMIDITY, WITH HALL LITLES TURNED OFF, AND AFTER A NORMAL SHUT-DOWN HAS OCCURRED.
  - DASHED LINES INDICATE RECOMMENDED FIELD WIRING BY OTHERS. DASHED LINED ENCLOSURES AND/OR DASHED DEVICE OUTLINES INDICATE COMPONENTS PROVIDED BY THE FIELD. PHANTOM LINE ENCLOSURES INDICATE ALTERNATE CIRCUITRY OR AVAILABLE SALES OPTIONS. SOLID LINES INDICATE WIRING BY TRANE.
  - ALL FIELD WIRING MUST BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC), STATE AND LOCAL REQUIREMENTS. ALL FIELD WIRING MUST HAVE INSULATION VOLTAGE RATING THAT EQUALS OR EXCEEDS UNIT RATED VOLTAGE.
  - ELECTRIC HEAT SCHEMATIC IS LOCATED IN THE ELECTRIC HEAT CONTROL BOX PANEL.
  - WIRING SHOWN IS FOR TWO STAGE ELECTRIC HEAT. FOR SINGLE STAGE ELECTRIC HEAT OR SCR ELECTRIC HEAT SEE INSET 'F'.
  - USE CLASS 2 WIRING.
  - FIELD CONNECTIONS SHOWN ON TB3-6 AND TB3-7 ARE FOR HEATING MODULATING VALVES. FOR FIELD CONNECTIONS TO COOLING TWO POSITION VALVES OR CHANGEOVER VALVES, SEE INSET 'A'.
  - FIELD CONNECTIONS SHOWN ON TB3-10 AND TB3-11 ARE FOR HEATING MODULATING VALVES. FOR FIELD CONNECTIONS TO HEATING TWO POSITION VALVES OR CHANGEOVER VALVES, AND SINGLE STAGE ELECTRIC HEAT, TWO STAGE ELECTRIC HEAT AND SCR ELECTRIC HEAT, W/O CHANGEOVER SYSTEM, SEE INSET 'C'.
  - WIRING SHOWN IS FOR MODULATING VALVES. FOR COOLING 2 POSITION VALVE, SEE INSET 'D'. FOR HEATING 2 POSITION VALVE, SEE INSET 'E'. FOR COOLING ANALOG 2-10V VALVE, SEE INSET 'M'. FOR HEATING ANALOG 2-10V VALVE, SEE INSET 'N'.
  - SW1 AND SW2 ARE SHOWN IN THE OFF POSITION. SW1 AND/OR SW2 ARE TURNED OFF WHEN VALVES ARE NORMALLY CLOSED OR MODULATING (CVT1 OR CVT2 = A, C, E, G, J). SW1 AND/OR SW2 ARE TURNED ON WHEN VALVES ARE NORMALLY OPEN (CVT1 OR CVT2 = B, D, H).
  - SW3 IS SHOWN IN THE OFF POSITION. SW3 IS TURNED ON WHEN CHANGEOVER COILS ARE SELECTED (COOL OR COLLECT+ HEAT).
  - SW4 IS SHOWN IN THE OFF POSITION. SW4 IS TURNED ON WHEN UNIT HAS ELECTRIC HEAT (STGE = 1, 2, 3).
  - WIRING SHOWN IS FOR FACTORY INSTALLED MODULATING DAMPER. FOR CONDENSATE OVERFLOW JUMPER, SEE INSET 'G'. FOR 2 POSITION DAMPER AND MODULATING FIELD SUPPLIED SHIP LOOSE DAMPER WIRING, SEE INSET 'H'.
  - REMOVE TEST JUMPER PRIOR TO CONNECTING MIXING BOX TO MAIN UNIT.
  - FIELD CONNECTIONS SHOWN ON TB3-12 AND TB3-13 ARE FOR MODULATING DAMPER. CONDENSATE OVERFLOW FIELD WIRING, SEE INSET 'I'.

**Accessory - Blower Coil**  
**Item: A1 Qty: 1 Tag(s): FCU-1**



**NOTICE**  
 USE COPPER CONDUCTORS ONLY.  
 UNIT TERMINALS ARE NOT DESIGNED TO ACCEPT OTHER TYPES OF CONDUCTORS.  
 FAILURE TO DO THE ABOVE COULD RESULT IN EQUIPMENT DAMAGE.

**AVISO**  
 UTILISER QUE DES CONDUCTEURS EN COPRE.  
 LES BORNES DE L'UNITÉ NE SONT PAS CONÇUES POUR RECEVOIR D'AUTRES TYPES DE CONDUCTEURS.  
 FAIRE DÉFAUT À LA PROCÉDURE CI-DESSUS PEUT ENTRAINER DES DOMMAGES À L'ÉQUIPEMENT.

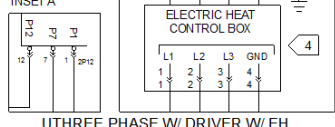
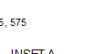
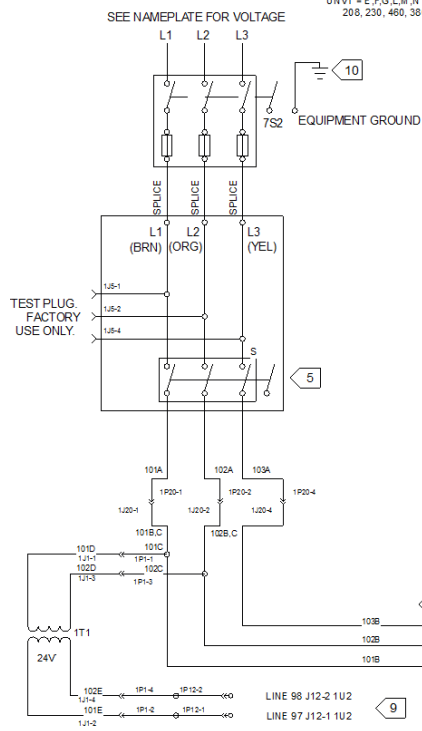
**AVISO**  
 UTILICE ÚNICAMENTE CONDUCTORES DE COPRE.  
 LAS TERMINALES DE LA UNIDAD NO ESTÁN DISEÑADAS PARA ACEPTAR OTROS TIPOS DE CONDUCTORES.  
 NO SEGUIR LAS INSTRUCCIONES ANTERIORES PUEDE PROVOCAR DAÑOS EN EL EQUIPO.

**WARNING**  
 HAZARDOUS VOLTAGE!  
 DISCONNECT ALL ELECTRIC POWER INCLUDING REMOTE DISCONNECTS AND FOLLOW LOCK OUT AND TAG PROCEDURES BEFORE SERVICING. INSURE THAT ALL MOTOR CAPACITORS HAVE DISCHARGED STORED VOLTAGE. UNITS WITH VARIABLE SPEED DRIVE REFER TO DRIVE INSTRUCTIONS FOR CAPACITOR DISCHARGE.

**AVERTISSEMENT**  
 TENSION DANGÉREUSE!  
 COUPER TOUTES LES TENSIONS ET OUVRIRES LES SECTIONNEURS À DISTANCE. SUIVRE LES PROCÉDURES DE VERROUILLAGE ET DES ÉTIQUETTES AVANT TOUTE INTERVENTION. VÉRIFIER QUE TOUTS LES CONDENSATEURS DES MOTEURS SONT DÉCHARGÉS. DANS LE CAS D'UNITÉS COMPORTANT DES ENTRAINEMENTS À VITESSE VARIABLE, SE REPORTER AUX INSTRUCTIONS DE L'ENTRAINEMENT POUR DÉCHARGER LES CONDENSATEURS.

**UTHREE PHASE W/ DRIVER (1.5, 3.0, 3.5, 5.0 HP)**

SELECTIONS:  
 UNVT = E, F, G, L, M, N  
 208, 230, 460, 380, 415, 575



**ADVERTENCIA**  
 ¡VOLTAJE PELIGROSO!  
 DESCONECTE TODA LA ENERGÍA ELÉCTRICA INCLUIDO LAS DESCONEXIONES REMOTAS Y SIGA LOS PROCEDIMIENTOS DE CIERRE Y ETIQUETADO ANTES DE PROCEDER AL SERVICIO. ASEGÚRESE DE QUE TODOS LOS CAPACITORES DEL MOTOR HAYAN DESCARGADO EL VOLTAJE ALMACENADO. PARA LAS UNIDADES CON EJE DE DIRECCION DE VELOCIDAD VARIABLE, CONSULTE LAS INSTRUCCIONES PARA LA DESCARGA DEL CONDENSADOR.

EL NO REALIZARLO ANTERIORMENTE INDICADO, PODRÁ OCASIONAR LA MUERTE O SERIAS LESIONES PERSONALES.

AREA	LOCATION
1	MAIN CONTROL PANEL
2	SUPPLY FAN AND COL. SECTION
3	
4	MIXING BOX
5	EXTERNAL PIPING
6	ELECTRIC HEAT CONTROL BOX
7	FIELD INSTALLED DEVICE

DEVICE DESIGNATION	DESCRIPTION	LINE NUMBER
SINGLE PHASE		
7S2	FUSED DISCONNECT SWITCH	3
1S1	MANUAL DISCONNECT SWITCH	12
1T1	TRANSFORMER	20
2B1	FAN MOTOR	14
THREE PHASE (0.5, 1, 2.3 HP)		
7S2	FUSED DISCONNECT SWITCH	27
1S1	MANUAL DISCONNECT SWITCH	37
1T1	TRANSFORMER	44
2B1	FAN MOTOR	48
THREE PHASE (1.5, 3.0, 3.5, 5.0 HP)		
7S2	FUSED DISCONNECT SWITCH	54
1S1	MANUAL DISCONNECT SWITCH	63
1T1	TRANSFORMER	70
2B1	FAN MOTOR	58
2U1	MOTOR DRIVER	87
2S2	FREEZE STAT	29

**NOTES:**

- UNLESS OTHERWISE NOTED, ALL SWITCHES ARE SHOWN AT 25° C (77° F), AT ATMOSPHERIC PRESSURE, AT 50% RELATIVE HUMIDITY, WITH ALL UTILITIES TURNED OFF, AND AFTER A NORMAL SHUTDOWN HAS OCCURRED.
- DASHED LINES INDICATE RECOMMENDED FIELD WIRING BY OTHERS. DASHED LINE ENCLOSURES AND/OR DASHED DEVICE OUTLINES INDICATE COMPONENTS PROVIDED BY THE FIELD. PHANTOM LINED ENCLOSURES INDICATE ALTERNATE CIRCUITRY OR AVAILABLE SALES OPTIONS. SOLID LINES INDICATE WIRING BY TRANE CO.
- ALL FIELD WIRING MUST BE IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE (NEC), STATE AND LOCAL REQUIREMENTS.
- ELECTRIC HEAT SCHEMATIC IS LOCATED IN THE ELECTRIC HEAT CONTROL BOX PANEL.
- WIRING SHOWN IS FOR NO ELECTRIC HEAT. FOR ELECTRIC HEAT SINGLE PHASE SEE INSET A&B. FOR ELECTRIC HEAT THREE PHASE SEE INSET A&C.
- CW JUMPER IS PRESENT FROM PIN P5 TO P11 ON UNITS WITH CW MOTOR ROTATION AS VIEWED FROM SHAFT END.
- MOTOR VOLTAGE CONFIGURATION P2-P8 JUMPED FOR 115V OPERATION ONLY.
- USE COPPER CONDUCTORS ONLY.
- WIRING SHOW IS FOR TSTAT CONTROL POWER W/O FREEZE STAT AND CST1 CONTROL POWER W/ OR W/O FREEZE STAT, FOR TSTAT CONTROL POWER W/ FREEZE STAT SEE INSET "D"
- ATTACH EQUIPMENT GROUND

**Accessory - Blower Coil**

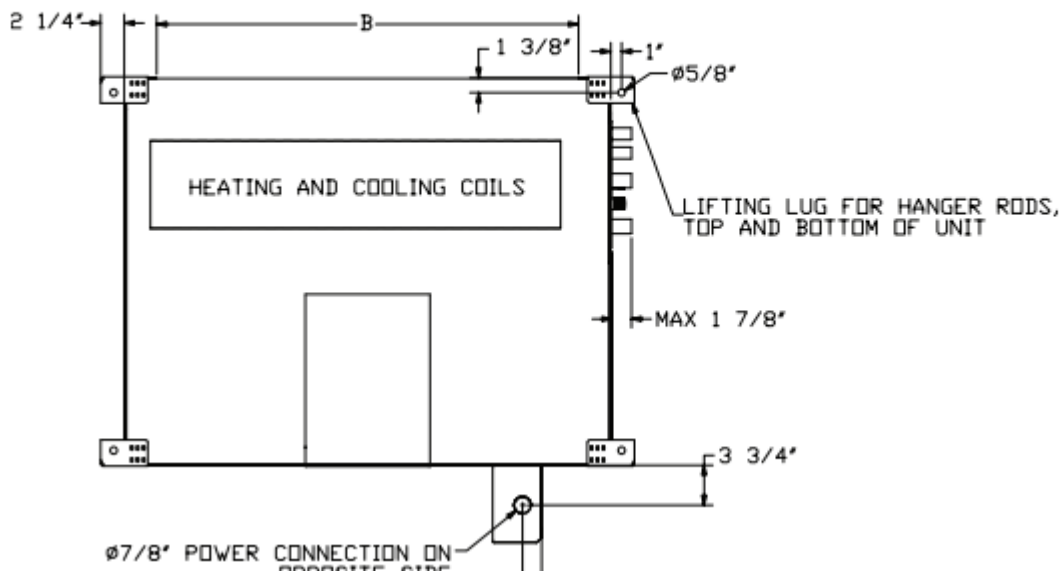
Item: A1 Qty: 1 Tag(s): FCU-1

Hanger placement for Horizontal Blower Coil

Unit Size	Lug Hole Spacing – Unit Width	Lug Rod Spacing – Unit Length
12	26.236	27.152
18	30.236	27.152
24	32.236	27.152
36	44.236	31.152
54	48.236	33.852
72	60.236	32.852
90	50.236	37.752
120	60.236	37.752

**Horizontal Blower Coil**

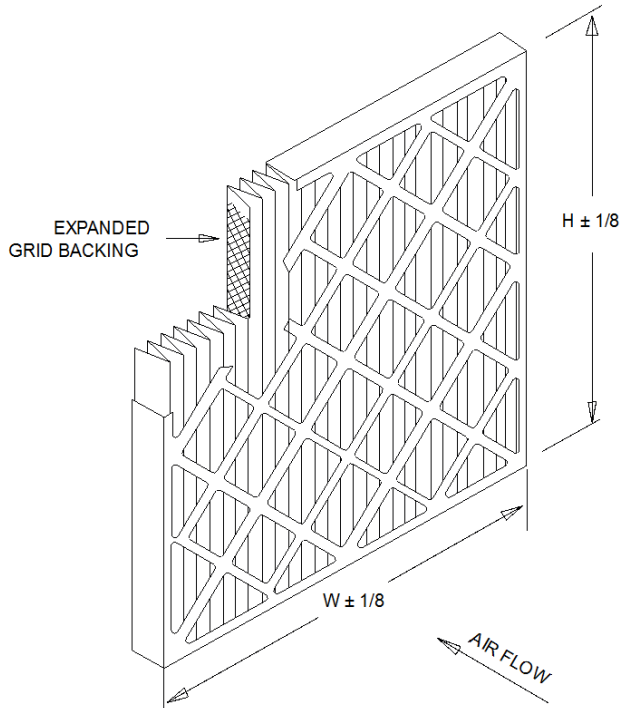
Figure 18. BCHE horizontal Blower Coil



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**Accessory - Blower Coil**

Item: A1 Qty: 1 Tag(s): FCU-1



NOMINAL SIZE IN. W X H	ACTUAL SIZE IN. W X H
12 X 12	11-1/2 X 11-1/2
12 X 20	11-1/2 X 19-1/2
12 X 24	11-1/2 X 23-1/2
16 X 16	15-1/2 X 15-1/2
16 X 25	15-1/2 X 24-1/2
18 X 20	17-1/2 X 19-1/2
18 X 24	17-1/2 X 23-1/2
18 X 25	17-1/2 X 24-1/2
20 X 20	19-1/2 X 19-1/2
20 X 24	19-1/2 X 23-1/2
20 X 25	19-1/2 X 24-1/2
24 X 24	23-1/2 X 23-1/2

Unit Size	12	18	24	36	48	54	60	72	90	120
<b>Unit Flat Filter (BCHE)</b>										
(Qty) Size	(1) 12 X 20	(1) 12 X 24	(1) 12 X 24	(1) 12 X 12 (1) 12 X 24	-	(1) 16 X 16 (1) 16 X 25	-	(2) 16 X 25	(1) 20 X 24 (1) 24 X 24	(3) 18 X 24
<b>Unit Flat Filter (BCVE)</b>										
(Qty) Size	-	-	(1) 12 X 24	(1) 18 X 24	(1) 18 X 20 (1) 12 X 20	-	(1) 18 X 24 (1) 12 X 24	(2) 16 X 25	(1) 20 X 24 (1) 24 X 24	(3) 18 X 24
<b>Bottom (or Top) Access Filter</b>										
(Qty) Size	(1) 12 X 20	(1) 12 X 24	(1) 12 X 24	(1) 12 X 12 (1) 12 X 24	-	(1) 16 X 16 (1) 16 X 25	-	(2) 16 X 25	(1) 20 X 24 (1) 24 X 24	(3) 18 X 24
<b>Angle Filter</b>										
(Qty) Size	(2) 12 X 20	(2) 12 X 24	(2) 12 X 24	(2) 12 X 12 (2) 12 X 24	-	(2) 12 X 20 (2) 12 X 24	-	(2) 12 X 12 (4) 12 X 20	(2) 20 X 20 (2) 20 X 25	(6) 18 X 20

**Accessory - Blower Coil****Filter Schedule****Item: A1 Qty: 1 Tag(s): FCU-1**

Unit Tag(s)	Unit Size	Filter Arrangement	Filter Type \ MERV Rating	Filter Quantity	Filter Size
FCU-1	Unit Size 90; 7-1/2 Ton	Flat filter	2" Pleated MERV 8	1 1	20in.x24in. 24in.x24in.