

SUBMITTAL COVER SHEET

Project: Westover Hills Baptist Hospital (R&M Job #2270)
Date: 2/2/23
Submittal #: 238219-1
Submittal Title: Fan Coil Units - PD
Subcontractor/Manufacture: Gowan-Garrett

PROJECT TEAM

Owner: Tenet Healthcare

Design Team:

Architect: Earl Swensson Associates
Civil: Pape Dawson
Structural: Structural Design Group
MEPF & LV: SSR

Construction Team:
Robins & Morton

SUBMITTAL ITEMS

- | | |
|----------|-----------|
| 1. _____ | 7. _____ |
| 2. _____ | 8. _____ |
| 3. _____ | 9. _____ |
| 4. _____ | 10. _____ |
| 5. _____ | 11. _____ |
| 6. _____ | 12. _____ |

STAMPS

THESE DRAWINGS OR BROCHURES HAVE BEEN REVIEWED FOR GENERAL COMPLIANCE WITH CONTRACT DOCUMENTS AND CHECKED FOR COMPLETENESS AND FIELD DIMENSIONS.

THIS REVIEW DOES NOT RELIEVE THE SUBCONTRACTOR OR VENDOR OF RESPONSIBILITY FOR COMPLIANCE WITH CONTRACT DOCUMENTS.

No Exceptions Taken
 Make Corrections Noted
 Revise and Resubmit
 Rejected

ROBINS & MORTON

DATE: 2/2/23 REVIEWED BY: AA

2/2/23 - See comments from R&M in green.

SSR

Review is for general compliance with the design concept of the project and, unless expressly noted otherwise, does not supersede the requirements of the plans, specifications, and other contract documents.

NO EXCEPTIONS TAKEN
 MAKE CORRECTIONS NOTED
 RESUBMIT REQUESTED INFORMATION
 AMEND AND RESUBMIT
 REJECTED
 RECEIVED FOR RECORD ONLY

Reviewed By: Julianna Price
Date Received: 2/2/2023
Date Reviewed: 3/22/2023

SSR Comments:
After a meeting on 3/2/2023 with Trane vendor Micah Lightfoot, the attached schedule of FCU selections at the end of this document was created. SSR has made comments for FCU-CEP-6 on the schedule that need to be corrected. SSR has no objections to the rest of the FCU's.

STAMPS (cont.)

SUBMITTAL DATA
WESTOVER HILLS BAPTIST HOSPITAL
SAN ANTONIO, TEXAS
SUBMITTAL # 23 82 19-1
FAN COIL UNITS

OWNER

TENET HEALTHCARE CORPORATION
14201 DALLAS PARKWAY
DALLAS, TEXAS 75254
469-893-2000

ARCHITECT

EARL SWENSSON ASSOCIATES, INC.
1033 DEMONBRUEN ST. # 800
NASHVILLE, TN 37203
615-329-9445

MEP ENGINEER

SMITH SECKMAN REID, INC.
3700 WEST SAM HOUSTON PKWY S. STE 200
HOUSTON, TEXAS 77042
713-784-8211

GENERAL CONTRACTOR

ROBINS & MORTON.
9601 McALLISTER FREEWAY, SUITE 221
SAN ANTONIO, TEXAS 78216
210-874-4330

MECHANICAL CONTRACTOR

GOWAN GARRETT INC.
424 MARINO RD.
BRYAN, TEXAS 77808
979-778-3279



GOWAN - GARRETT
 7205 S. WW White Rd.
 San Antonio, Texas 78222
 (210) 616-0125 • Fax (210) 616-0124

WESTOVER HILLS BAPTIST HOSPITAL

SAN ANTONIO, TEXAS

SUBMITTAL DATA NO. 23 82 19-1

<u>ITEM</u>	<u>MANUFACTURER</u>	<u>SPEC NO.</u>	<u>DRWG. NO.</u>
FAN COIL UNITS		23 82 19	
FAN COIL UNITS	TRANE		

NOTE

1. (Trane) FCU-CEP-4,5, and 8 need LH coil connections
2. FCU -CEP submitted vertical unit as scheduled, building design model indicates unit To be a horizontal unit. Please clarify. ← **FCU-CEP-6**

GARRETT MECHANICAL, INC.

Has reviewed only as to general design and requirements of the contract documents of this project. Subcontractor/Vendor to verify dimensions, quantities and field conditions for proper and complete installation of this work. Approval does not relieve subcontractors or supplier from responsibility for errors, omissions or deviations from the contract documents.

By: SKT Date: 01/27/2023

GMI SUBMITTAL NO: 238219-1



Submittal

Prepared For:
All Bidders

Date: January 12, 2023

Job Name:
Tenet Westover Hills Medical Center

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

Product Summary

Qty Product

- 7 Blower coil
- 2 Performance Climate Changer (UCCA)

Ryan Breting on behalf of
Micah Lightfoot
Trane U.S. Inc.
1617 HUTTON DRIVE
Carrollton, TX 75006
Office Phone: (469) 758-3000

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.

Product performance and submittal data is valid for a period of 6 months from the date of submittal generation. If six months or more has elapsed between submittal generation and equipment release, the product performance and submittal data will need to be verified. It is the customer's responsibility to obtain such verification.

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Tag Data - Blower coil (Qty: 7)

Item	Tag(s)	Qty	Description	Model Number
A1	FCU-CEP-2	1	BCXE Blower Coil (BCXE)	BCVE072GBA0A3AB50000000A0BG00G
A2	FCU-CEP-3	1	BCXE Blower Coil (BCXE)	BCVE090GBA0A3AB70000000A0BG00G
A3	FCU-CEP-4	1	BCXE Blower Coil (BCXE)	BCVE090GBA0A3AB70000000A0BG00G
A4	FCU-CEP-5	1	BCXE Blower Coil (BCXE)	BCHE018GBA0A3FC20000000A0BG00G
A5	FCU-CEP-6	1	BCXE Blower Coil (BCXE)	BCVE072GBA0A3AB50000000A0BG00G
A6	FCU-CEP-7	1	BCXE Blower Coil (BCXE)	BCHE090GBA0A3AB70000000A0BG00G
A7	FCU-CEP-8	1	BCXE Blower Coil (BCXE)	BCHE090GBA0A3AB70000000A0BG00G

Product Data - Blower coil**All Units**

460/60/3
 Double wall panels
 Back return
 SST Drain pan right hand coil
 1" Throwaway Filter
 Customer Supplied Terminal Interface
 Hydronic Preheat

Item: A1, A5 Qty: 2 Tag(s): FCU-CEP-2, FCU-CEP-6

VERTICAL CONFIGURATION
 Unit Size 72; 6 Ton
 1 Row Heating Hydronic Coil
 4 Row Hydronic Coil
 1.5 Horsepower

Item: A2, A3 Qty: 2 Tag(s): FCU-CEP-3, FCU-CEP-4

VERTICAL CONFIGURATION
 Unit Size 90; 7-1/2 Ton
 1 Row Heating Hydronic Coil
 4 Row Hydronic Coil
 3 Horsepower

Item: A4 Qty: 1 Tag(s): FCU-CEP-5

HORIZONTAL CONFIGURATION
 Unit Size 18; 1-1/2 Ton
 2 Row Heating Hydronic Coil
 6 Row Hydronic Coil
 0.5 Horsepower

Item: A6, A7 Qty: 2 Tag(s): FCU-CEP-7, FCU-CEP-8

HORIZONTAL CONFIGURATION
 Unit Size 90; 7-1/2 Ton
 1 Row Heating Hydronic Coil
 4 Row Hydronic Coil
 3 Horsepower

Performance Data - BCXE Blower Coil (BCXE)

Tags	FCU-CEP-2	FCU-CEP-3	FCU-CEP-4	FCU-CEP-5	FCU-CEP-6	FCU-CEP-7
Design airflow (cfm)	2000	3000	3000	400	2000	3000
Fan speed (rpm)	1635	1233	1266	1500	1630	1179
Medium speed (rpm)	1389	1048	1076	1275	1385	1002
Low Speed (rpm)	1079	813	835	990	1075	778
Total cooling capacity (MBh)	48.20	59.96	90.98	10.93	46.27	81.04
Sensible capacity (MBh)	46.82	58.44	75.80	10.41	45.22	73.31
Cooling EDB (F)	76.00	75.00	77.80	77.70	76.00	77.10
Cooling EWB (F)	62.30	61.00	64.20	63.20	62.00	63.20
Cooling LDB (F)	54.67	54.88	54.82	54.00	54.69	54.85
Cooling LWB (F)	54.00	54.00	54.00	53.88	54.00	54.00
Cooling ent fluid temp (F)	42.00	42.00	42.00	42.00	42.00	42.00
Cooling leaving fluid temp (F)	54.48	63.32	57.29	58.43	54.75	58.93
Cooling flow rate (gpm)	7.70	5.61	11.86	1.32	7.24	9.54
Cooling delta T (F)	12.48	21.32	15.29	16.43	12.75	16.93
Cooling fluid PD (ft H2O)	1.49	1.16	3.50	0.89	1.33	2.49
Fluid type	Water	Water	Water	Water	Water	Water
Cooling fluid velocity (ft/s)	1.65	0.77	1.62	0.99	1.55	1.30
APD (in H2O)	0.331	0.393	0.509	0.385	0.316	0.472
Cooling face velocity (ft/min)	411	491	491	360	411	491
Preheat APD (in H2O)	0.085	0.116	0.116	0.103	0.085	0.116
Total Unit length (in)	30.500	30.500	30.500	30.100	30.500	40.650
Total Unit width (in)	58.000	48.000	48.000	28.000	58.000	48.000
Total Unit height (in)	53.750	66.650	66.650	17.000	53.750	26.000
Installed weight (lb)	425.8	467.5	467.5	167.0	425.8	361.8
Main Unit Weight (lb)	410.2	448.0	448.0	161.5	410.2	342.2
Preheat face velocity (ft/min)	411	491	491	360	411	491
Elevation (ft)	0.00	0.00	0.00	0.00	0.00	0.00
ESP (in H2O)	1.000	1.000	1.000	1.000	1.000	1.000
TSP (in H2O)	1.634	1.792	1.907	1.562	1.620	1.870
Motor heat calculation	Ignore	Ignore	Ignore	Ignore	Ignore	Ignore
Preheat fluid freeze pt (F)	32.00	32.00	32.00	32.00	32.00	32.00
Preheat fluid velocity (ft/s)	0.44	0.47	0.47	0.94	0.44	0.47
Min circuit ampacity (A)	4.13	6.88	6.88	1.63	4.13	6.88
Maximum overcurrent protection (A)	15.00	15.00	15.00	15.00	15.00	15.00
Coil 1 Weight (lb)	3.2	4.1	4.1	1.4	3.2	4.1
Coil 2 Weight (lb)	12.5	15.4	15.4	4.0	12.5	15.4
Motor Max BHP (hp)	1.500	2.756	2.827	0.500	1.500	2.648
ECM - brake horsepower (hp)	1.392	1.819	1.891	0.198	1.386	1.733
Motor full load amps (A)	3.30	5.50	5.50	1.30	3.30	5.50
Preheat EAT (F)	70.00	70.00	70.00	17.90	70.00	70.00
Preheat LAT (F)	80.00	80.00	80.00	70.00	80.00	80.00
Total preheat capacity (MBh)	21.69	32.54	32.54	22.60	21.69	32.54
Preheat ent fluid temp (F)	150.00	150.00	150.00	150.00	150.00	150.00
Preheat Delta T (F)	42.18	38.21	38.21	72.54	42.18	38.21
Preheat fluid type	Water	Water	Water	Water	Water	Water
Preheat lvg fluid temp (F)	107.82	111.79	111.79	77.46	107.82	111.79
Main Unit Weight (lb)	294.1	309.9	309.9	111.7	294.1	204.1
Main Unit Height (in)	53.750	66.650	66.650	17.000	53.750	26.000
Main Unit Length (in)	35.750	40.650	40.650	30.100	35.750	40.650
Main Unit Width (in)	58.000	48.000	48.000	28.000	58.000	48.000
AHRI410 Classification	AHRI Rated and Certified	Outside AHRI scope	AHRI Rated and Certified	Outside AHRI scope	AHRI Rated and Certified	Outside AHRI scope

Tags	FCU-CEP-2	FCU-CEP-3	FCU-CEP-4	FCU-CEP-5	FCU-CEP-6	FCU-CEP-7
ECM - service factor ()	1.08	1.52	1.50	2.52	1.08	1.53
Preheat flow rate (gpm)	1.03	1.71	1.71	0.62	1.03	1.71

Tags	FCU-CEP-8
Design airflow (cfm)	3600
Fan speed (rpm)	1282
Medium speed (rpm)	1089
Low Speed (rpm)	846
Total cooling capacity (MBh)	73.10
Sensible capacity (MBh)	71.27
Cooling EDB (F)	75.00
Cooling EWB (F)	61.10
Cooling LDB (F)	55.09
Cooling LWB (F)	54.00
Cooling ent fluid temp (F)	42.00
Cooling leaving fluid temp (F)	61.42
Cooling flow rate (gpm)	7.50
Cooling delta T (F)	19.42
Cooling fluid PD (ft H2O)	1.74
Fluid type	Water
Cooling fluid velocity (ft/s)	1.02
APD (in H2O)	0.547
Cooling face velocity (ft/min)	589
Preheat APD (in H2O)	0.161
Total Unit length (in)	40.650
Total Unit width (in)	48.000
Total Unit height (in)	26.000
Installed weight (lb)	361.8
Main Unit Weight (lb)	342.2
Preheat face velocity (ft/min)	589
Elevation (ft)	0.00
ESP (in H2O)	1.000
TSP (in H2O)	2.113
Motor heat calculation	Ignore
Preheat fluid freeze pt (F)	32.00
Preheat fluid velocity (ft/s)	0.55
Min circuit ampacity (A)	6.88
Maximum overcurrent protection (A)	15.00
Coil 1 Weight (lb)	4.1
Coil 2 Weight (lb)	15.4
Motor Max BHP (hp)	2.857
ECM - brake horsepower (hp)	2.550
Motor full load amps (A)	5.50
Preheat EAT (F)	70.00
Preheat LAT (F)	80.00
Total preheat capacity (MBh)	39.04
Preheat ent fluid temp (F)	150.00
Preheat Delta T (F)	38.76
Preheat fluid type	Water
Preheat lvg fluid temp (F)	111.24
Main Unit Weight (lb)	204.1
Main Unit Height (in)	26.000
Main Unit Length (in)	40.650

Tags	FCU-CEP-8
Main Unit Width (in)	48.000
AHRI410 Classification	Outside AHRI scope
ECM - service factor ()	1.12
Preheat flow rate (gpm)	2.02

Mechanical Specifications - Blower coil

Item: A1 - A9 Qty: 9 Tag(s): FCU-CEP-1A, FCU-CEP-1B, FCU-CEP-2, FCU-CEP-3, FCU-CEP-4, FCU-CEP-5, FCU-CEP-6, FCU-CEP-7, FCU-CEP-8

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. and Canadian safety standards and complies with NFPA 90A. Air handlers consist of a hydronic and/or DX coil, 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. Double wall is also available. Large motor access panels are provided on one side of the unit.

BCVE General

The product line consists of a vertical air handling unit and optional mixing box. Air-handling airflow data is certified in accordance with AHRI standard 430. The unit is UL listed to U. S. and Canadian safety standards and complies with NFPA 90A. Air handlers consist of a hydronic and/or DX coil, drain pan, and centrifugal fan with motor in a common cabinet. Unit and accessories are insulated with 1" 1.0 lb/cu. ft density fiberglass insulation. Double wall is also available. Large motor access panels are provided on both sides of the unit. Units come with mounting legs for field installation and space for installing a trap.

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.

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.

Double Wall Panels

Double wall panel casings are constructed of a galvanized steel inner panel and a galvanized steel outer panel. Enclosed between the panels is 1" 1.0 lb/cu. ft density fiberglass fire resistant and odorless fiberglass material to provide thermal and acoustical insulation.

Coil #1 Hydronic Heating Coils

Heating coils are one or two row hot 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.

Coil #2 Hydronic Cooling Coils

Cooling coils are four, six, or eight row 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.

1" Throw-Away Filter

A 1" standard efficiency filter.

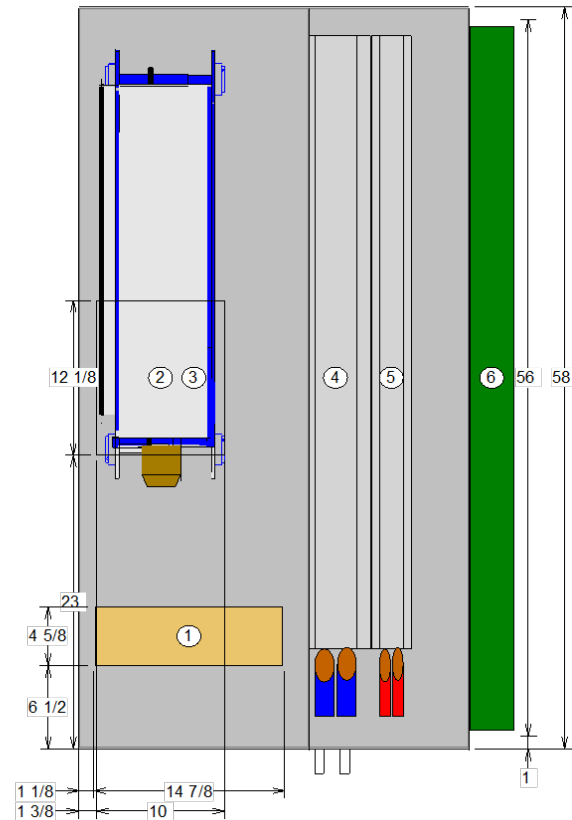
Stainless Steel Drain Pan

The drain pan is noncorrosive and double-sloped to allow condensate drainage. The drainpan construction is stainless steel. 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 3/4" NPT schedule 40 stainless steel pipe. 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: A3 Qty: 1 Tag(s): FCU-CEP-2



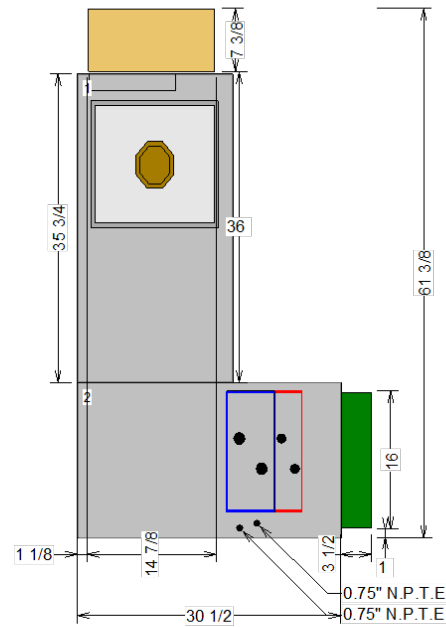
- 1 External control box top
- 2 Opening top
12.1 x 10
- 3 Housed fan
- 4 Cooling coil
- 5 Heating coil
- 6 Flat filters - Unit mounted

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

Unit size (Nominal CFM): 72 (2400 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 2000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-2
		Rigging/Installed Weight: 410.2 lb / 425.8 lb



Dimensional Drawings - Blower coil
 Item: A3 Qty: 1 Tag(s): FCU-CEP-2

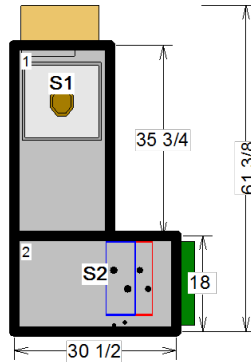


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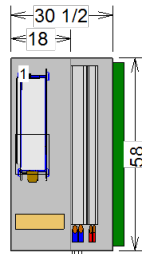


Dimensional Drawings - Blower coil
Item: A3 Qty: 1 Tag(s): FCU-CEP-2




Shipping splits are indicated by thick black lines

Pos #	Module	Length	Weight
1	Fan section	18	292.20
2	Coil Section	30 1/2	133.70
Installed Unit Weight			425.90 lbs

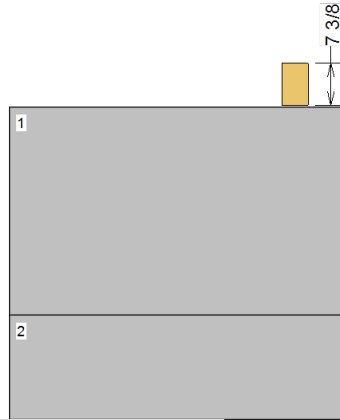


Basic Overall Plan View: Top - Measurements in inches

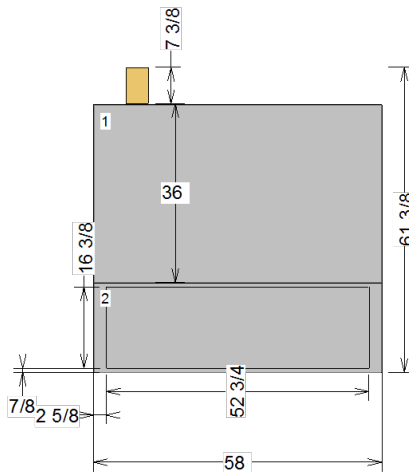
OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size (Nominal CFM): 72 (2400 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels	
Seismic certification:	Design airflow: 2000 cfm	Proposal Number	
	Sales Office	Tags: FCU-CEP-2	
		Rigging/Installed Weight: 410.2 lb / 425.8 lb	

Dimensional Drawings - Blower coil
Item: A3 Qty: 1 Tag(s): FCU-CEP-2



Detailed Elevation View: Front - Measurements in inches



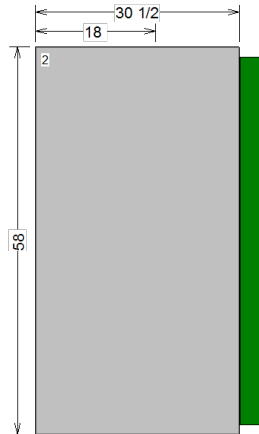
Detailed Elevation View: Back - Measurements in inches

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

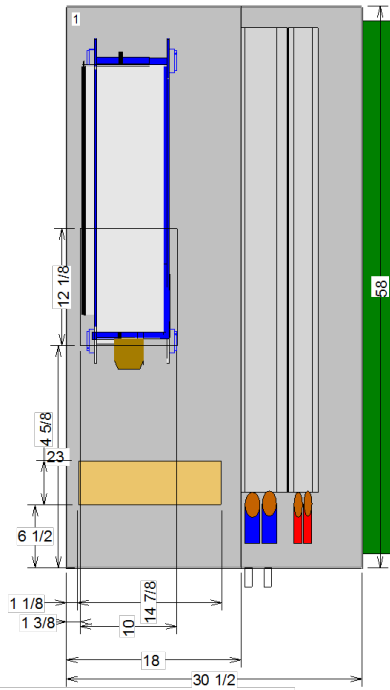
Unit size (Nominal CFM): 72 (2400 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 2000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-2
		Rigging/Installed Weight: 410.2 lb / 425.8 lb



Dimensional Drawings - Blower coil
Item: A3 Qty: 1 Tag(s): FCU-CEP-2



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



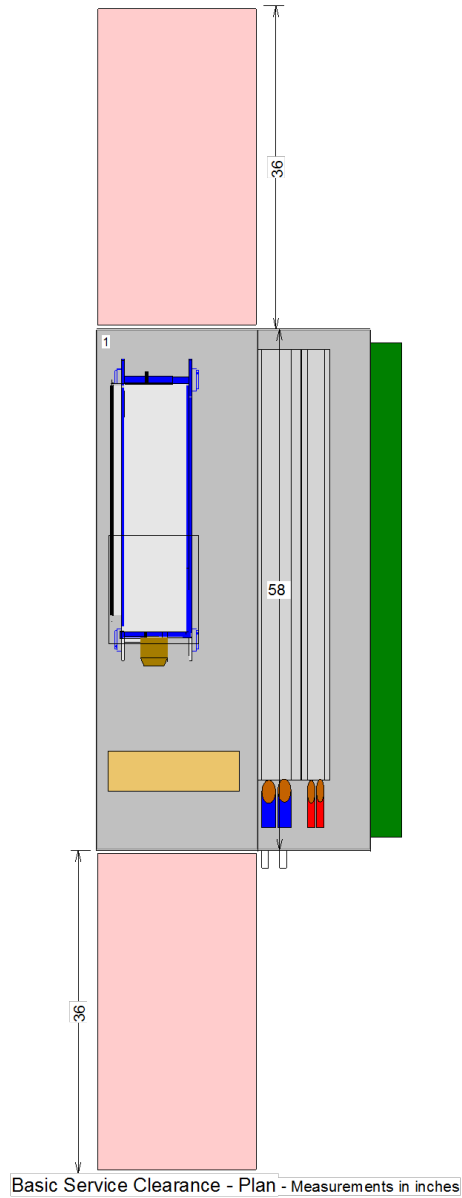
Right Side of Unit Detailed Plan View: Top - Measurements in inches

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

Unit size (Nominal CFM): 72 (2400 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 2000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-2
		Rigging/Installed Weight: 410.2 lb / 425.8 lb



Dimensional Drawings - Blower coil
Item: A3 Qty: 1 Tag(s): FCU-CEP-2

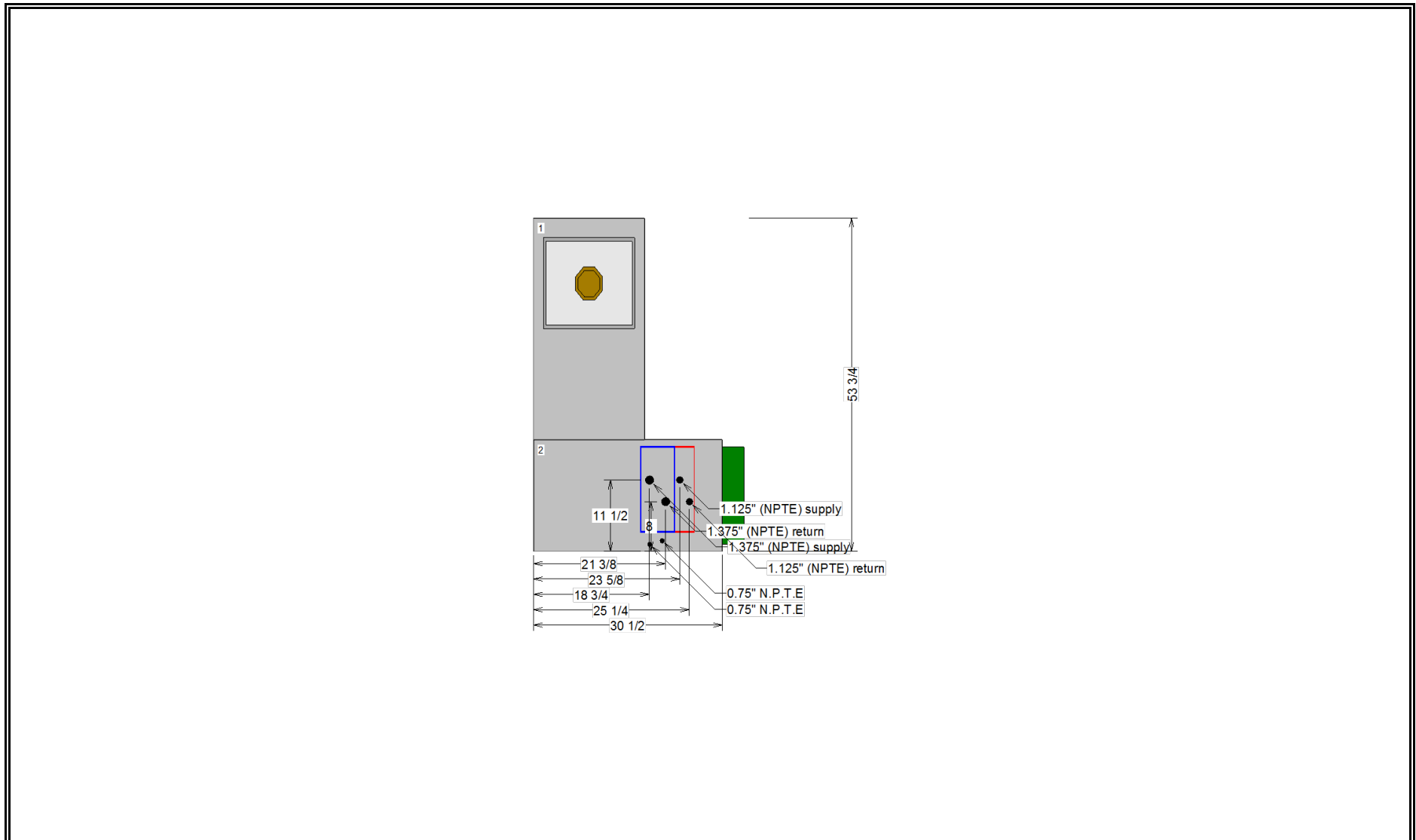


OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size (Nominal CFM): 72 (2400 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 2000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-2
		Rigging/Installed Weight: 410.2 lb / 425.8 lb



Dimensional Drawings - Blower coil
Item: A3 Qty: 1 Tag(s): FCU-CEP-2



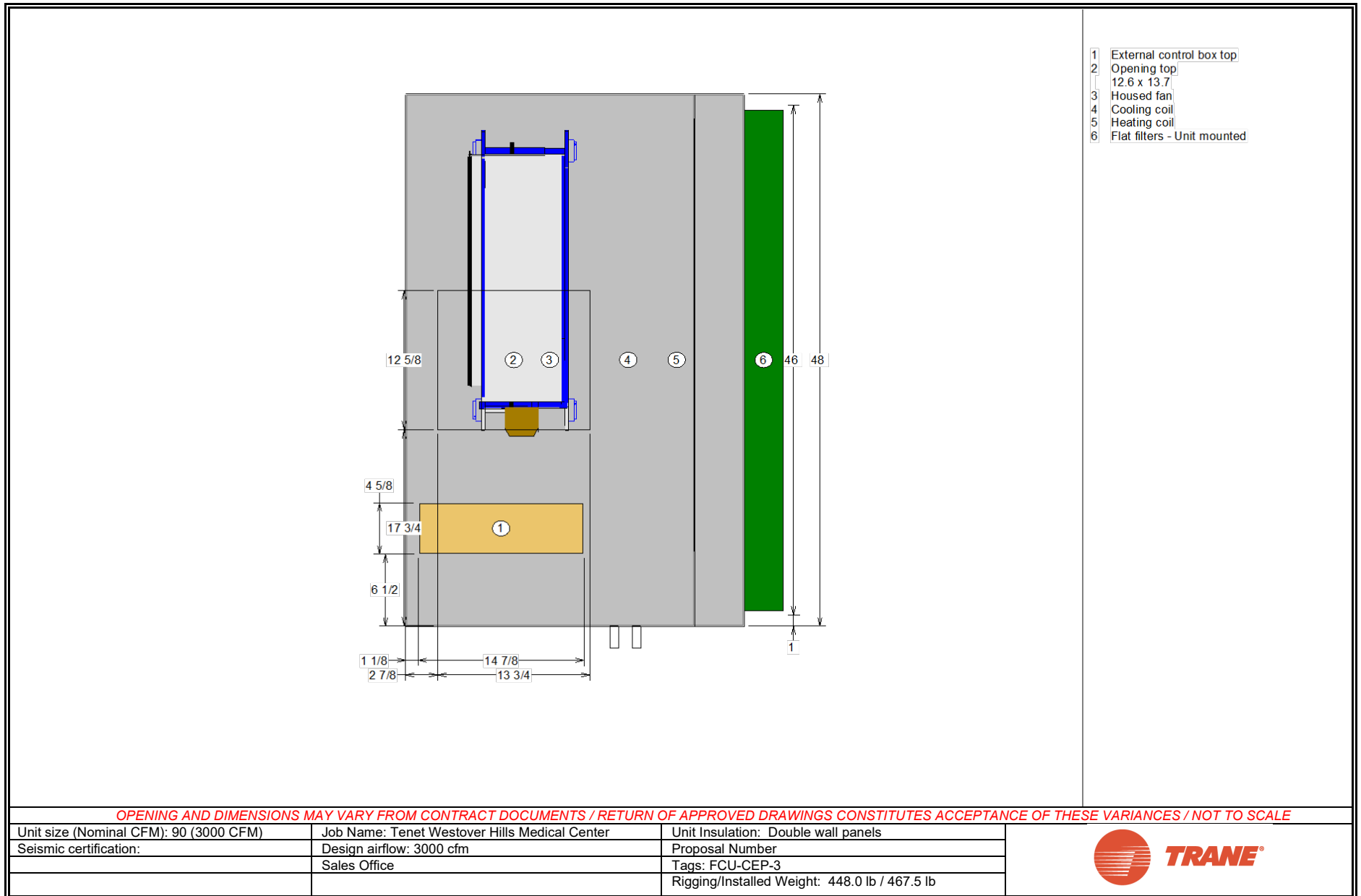
OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size (Nominal CFM): 72 (2400 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 2000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-2
		Rigging/Installed Weight: 410.2 lb / 425.8 lb

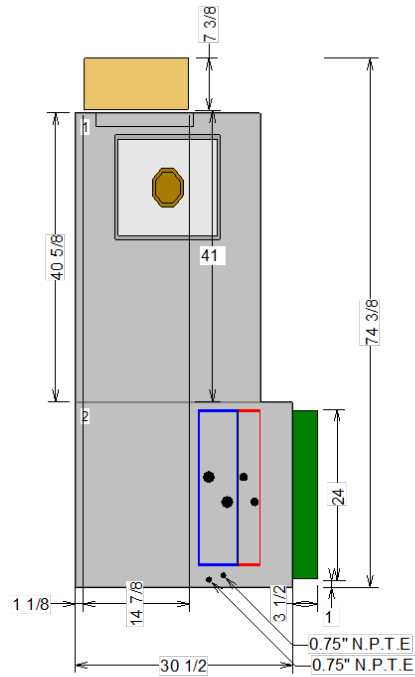


Dimensional Drawings - Blower coil

Item: A2 Qty: 1 Tag(s): FCU-CEP-3



Dimensional Drawings - Blower coil
 Item: A2 Qty: 1 Tag(s): FCU-CEP-3

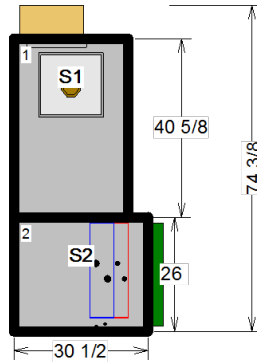


OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size (Nominal CFM): 90 (3000 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 3000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-3
		Rigging/Installed Weight: 448.0 lb / 467.5 lb

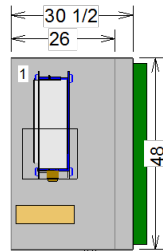


Dimensional Drawings - Blower coil
Item: A2 Qty: 1 Tag(s): FCU-CEP-3




Shipping splits are indicated by thick black lines

Pos #	Module	Length	Weight
1	Fan section	26	327.10
2	Coil Section	30 1/2	140.40
		Installed Unit Weight	467.50 lbs

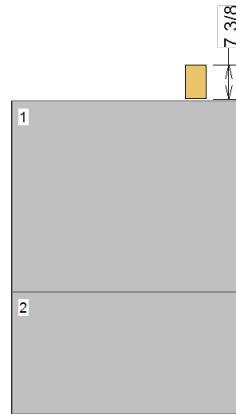


Basic Overall Plan View: Top - Measurements in inches

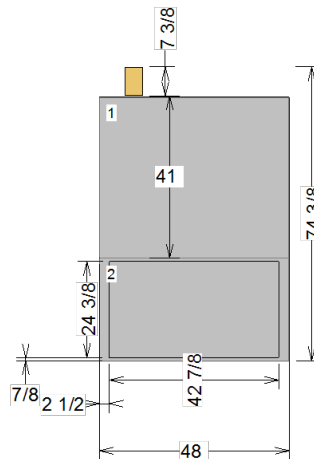
OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size (Nominal CFM): 90 (3000 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels	
Seismic certification:	Design airflow: 3000 cfm	Proposal Number	
	Sales Office	Tags: FCU-CEP-3	
		Rigging/Installed Weight: 448.0 lb / 467.5 lb	

Dimensional Drawings - Blower coil
Item: A2 Qty: 1 Tag(s): FCU-CEP-3



Detailed Elevation View: Front - Measurements in inches



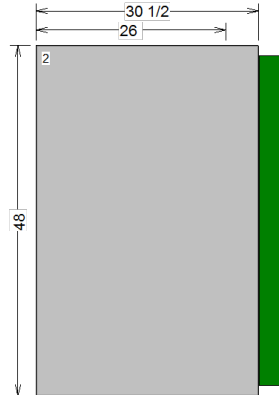
Detailed Elevation View: Back - Measurements in inches

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

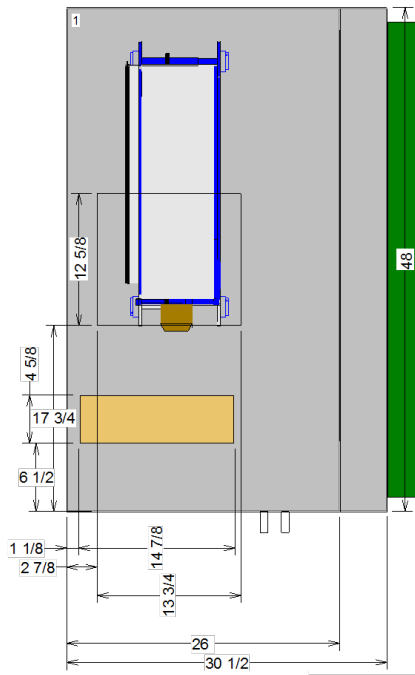
Unit size (Nominal CFM): 90 (3000 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 3000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-3
		Rigging/Installed Weight: 448.0 lb / 467.5 lb



Dimensional Drawings - Blower coil
Item: A2 Qty: 1 Tag(s): FCU-CEP-3



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



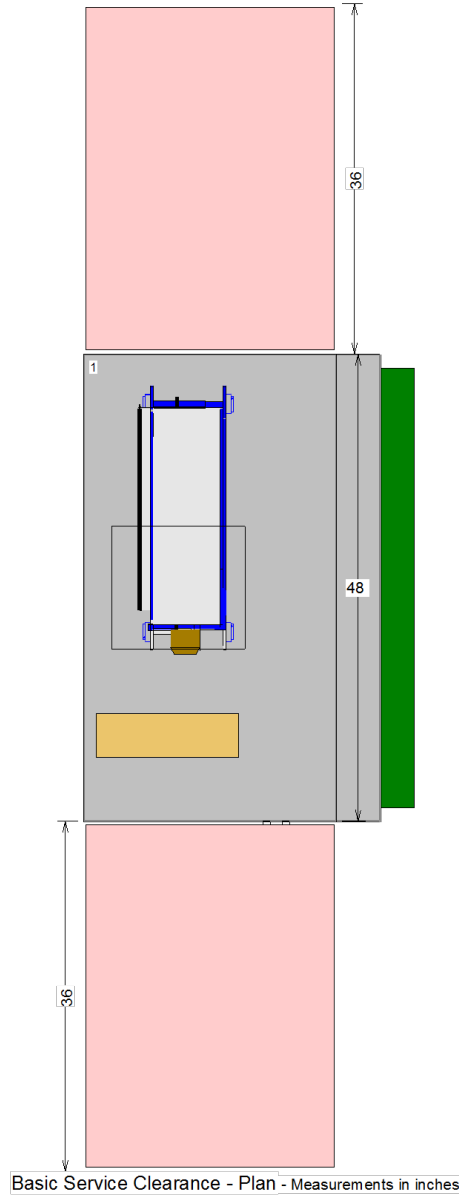
Right Side of Unit Detailed Plan View: Top - Measurements in inches

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: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 3000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-3
		Rigging/Installed Weight: 448.0 lb / 467.5 lb



Dimensional Drawings - Blower coil
 Item: A2 Qty: 1 Tag(s): FCU-CEP-3

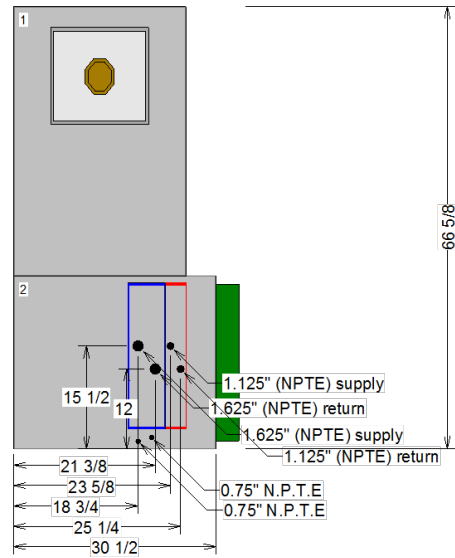


OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size (Nominal CFM): 90 (3000 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 3000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-3
		Rigging/Installed Weight: 448.0 lb / 467.5 lb



Dimensional Drawings - Blower coil
Item: A2 Qty: 1 Tag(s): FCU-CEP-3

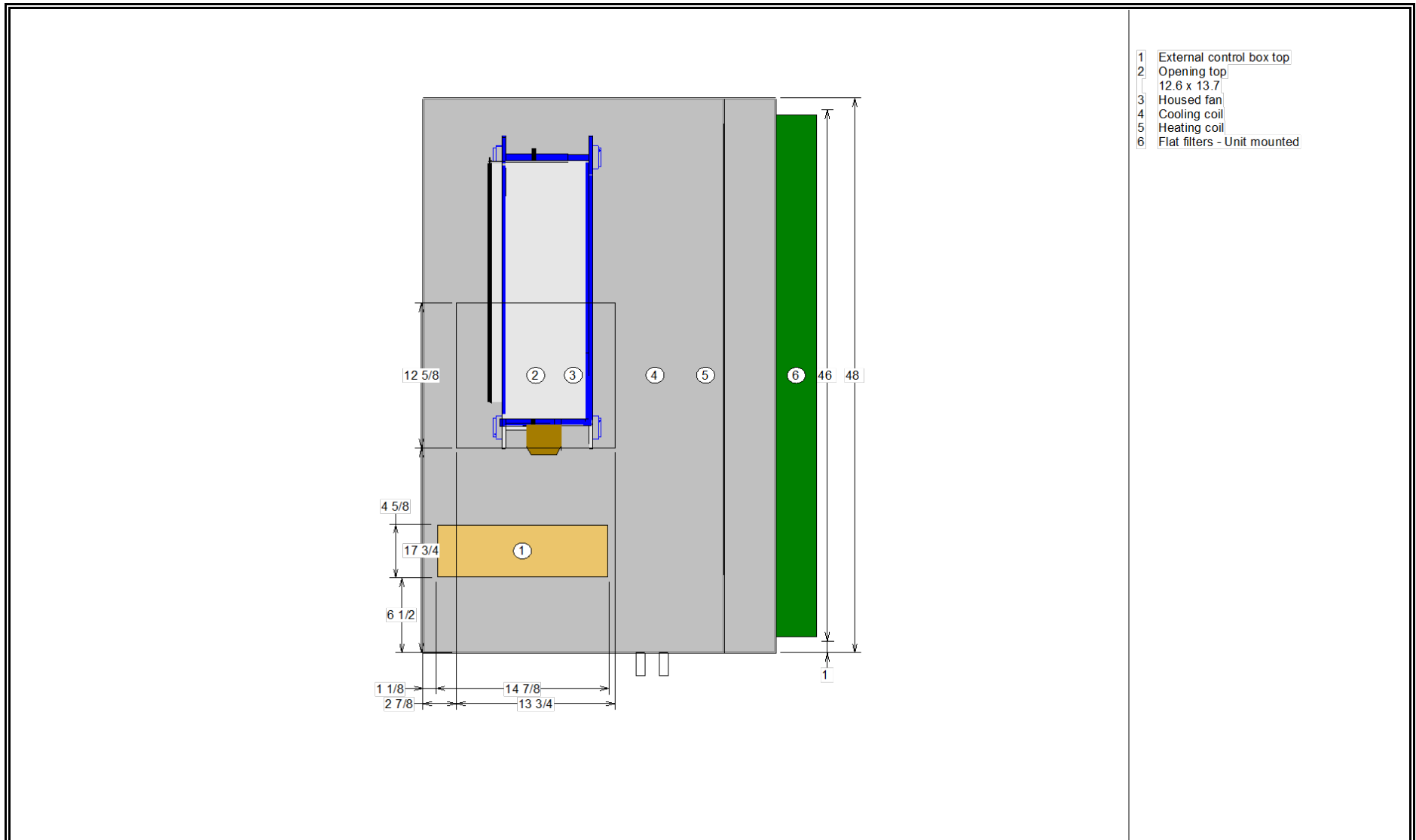


OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size (Nominal CFM): 90 (3000 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 3000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-3
		Rigging/Installed Weight: 448.0 lb / 467.5 lb



Dimensional Drawings - Blower coil
 Item: A3 Qty: 1 Tag(s): FCU-CEP-4



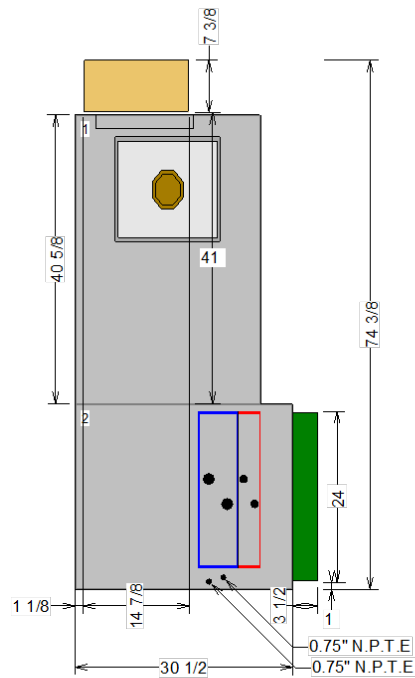
- 1 External control box top
- 2 Opening top
12.6 x 13.7
- 3 Housed fan
- 4 Cooling coil
- 5 Heating coil
- 6 Flat filters - Unit mounted

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: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 3000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-4
		Rigging/Installed Weight: 448.0 lb / 467.5 lb



Dimensional Drawings - Blower coil
Item: A3 Qty: 1 Tag(s): FCU-CEP-4

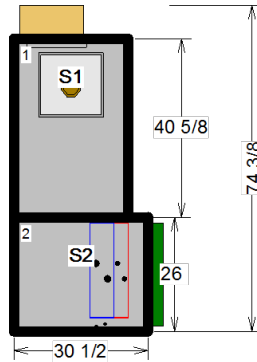


OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size (Nominal CFM): 90 (3000 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 3000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-4
		Rigging/Installed Weight: 448.0 lb / 467.5 lb

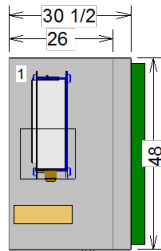


Dimensional Drawings - Blower coil
Item: A3 Qty: 1 Tag(s): FCU-CEP-4




Shipping splits are indicated by thick black lines

Pos #	Module	Length	Weight
1	Fan section	26	327.10
2	Coil Section	30 1/2	140.40
		Installed Unit Weight	467.50 lbs

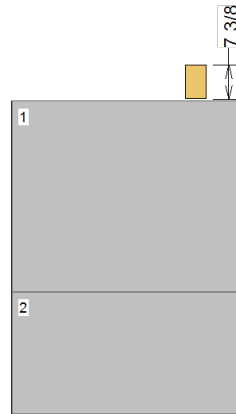


Basic Overall Plan View: Top - Measurements in inches

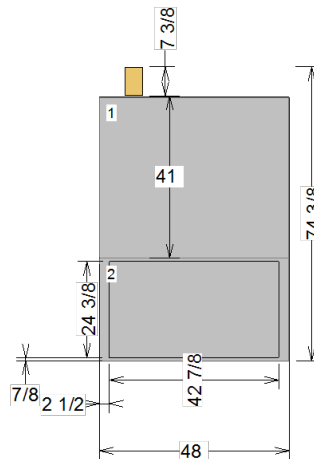
OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size (Nominal CFM): 90 (3000 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels	
Seismic certification:	Design airflow: 3000 cfm	Proposal Number	
	Sales Office	Tags: FCU-CEP-4	
		Rigging/Installed Weight: 448.0 lb / 467.5 lb	

Dimensional Drawings - Blower coil
Item: A3 Qty: 1 Tag(s): FCU-CEP-4



Detailed Elevation View: Front - Measurements in inches



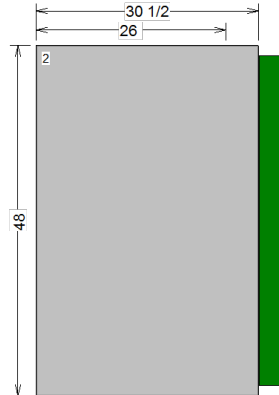
Detailed Elevation View: Back - Measurements in inches

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

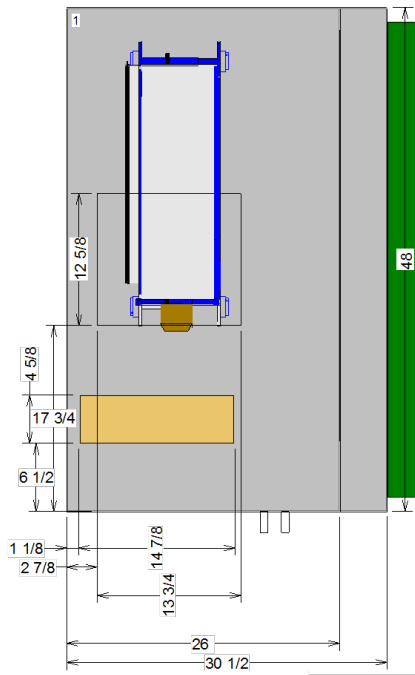
Unit size (Nominal CFM): 90 (3000 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 3000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-4
		Rigging/Installed Weight: 448.0 lb / 467.5 lb



Dimensional Drawings - Blower coil
Item: A3 Qty: 1 Tag(s): FCU-CEP-4



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



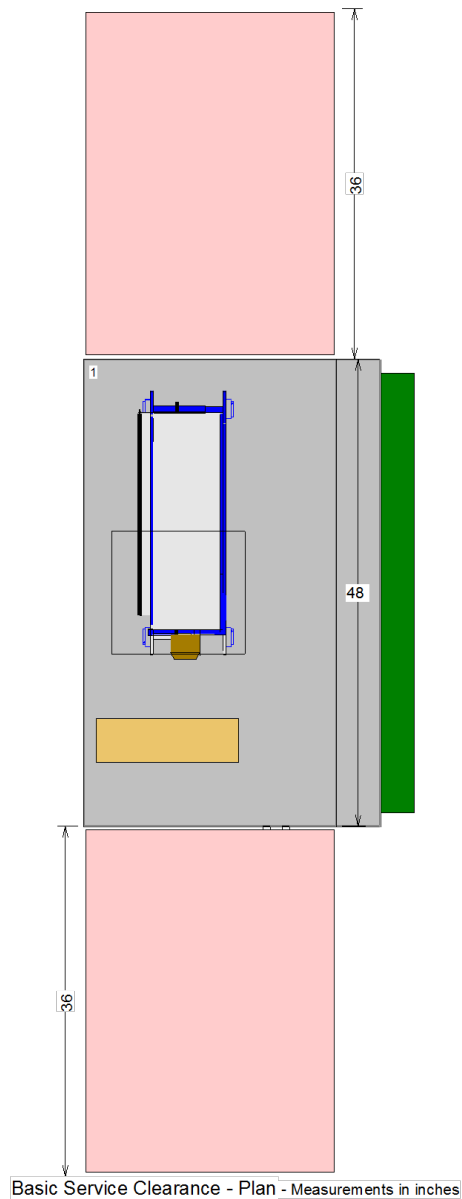
Right Side of Unit Detailed Plan View: Top - Measurements in inches

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: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 3000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-4
		Rigging/Installed Weight: 448.0 lb / 467.5 lb



Dimensional Drawings - Blower coil
Item: A3 Qty: 1 Tag(s): FCU-CEP-4

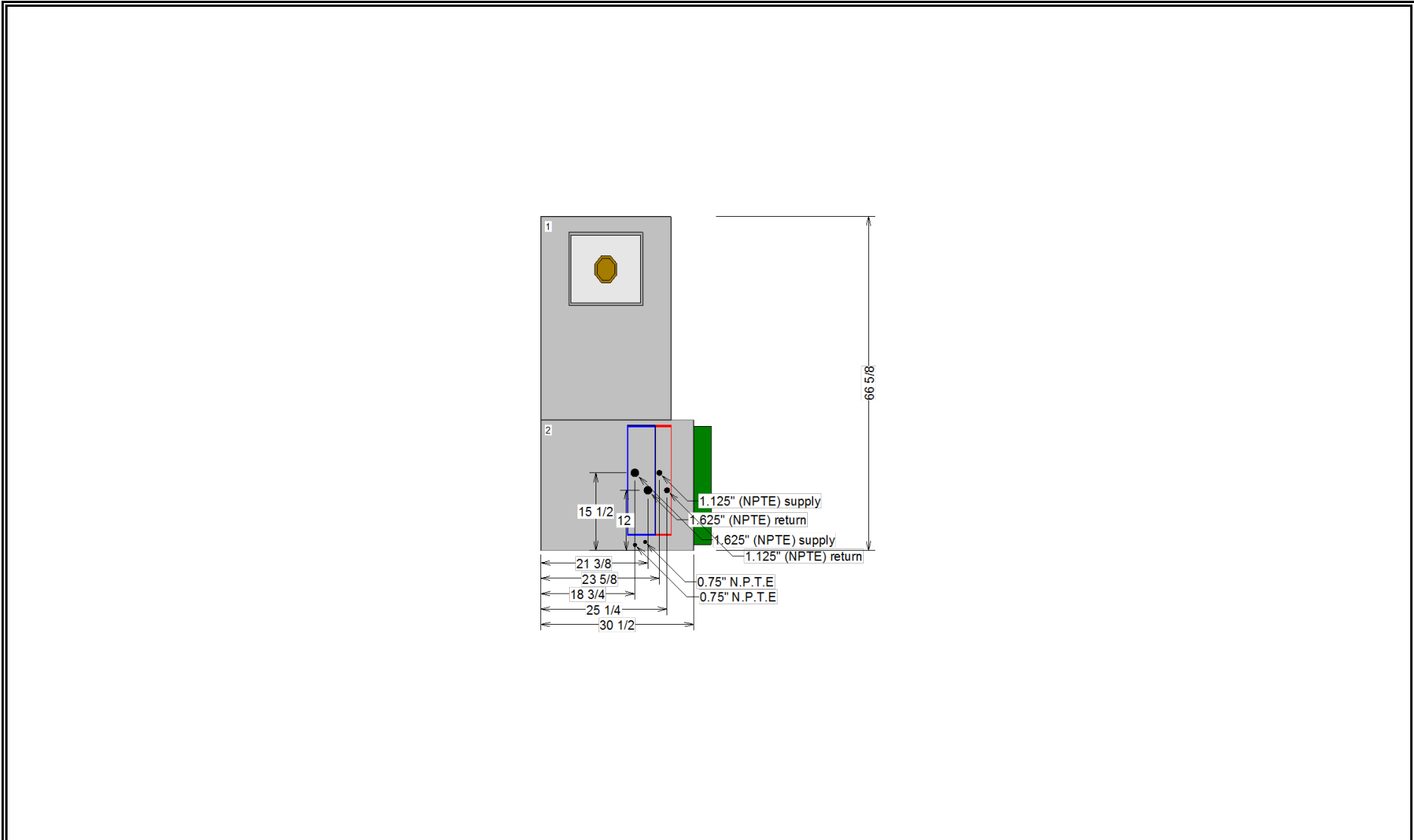


OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size (Nominal CFM): 90 (3000 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 3000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-4
		Rigging/Installed Weight: 448.0 lb / 467.5 lb



Dimensional Drawings - Blower coil
Item: A3 Qty: 1 Tag(s): FCU-CEP-4

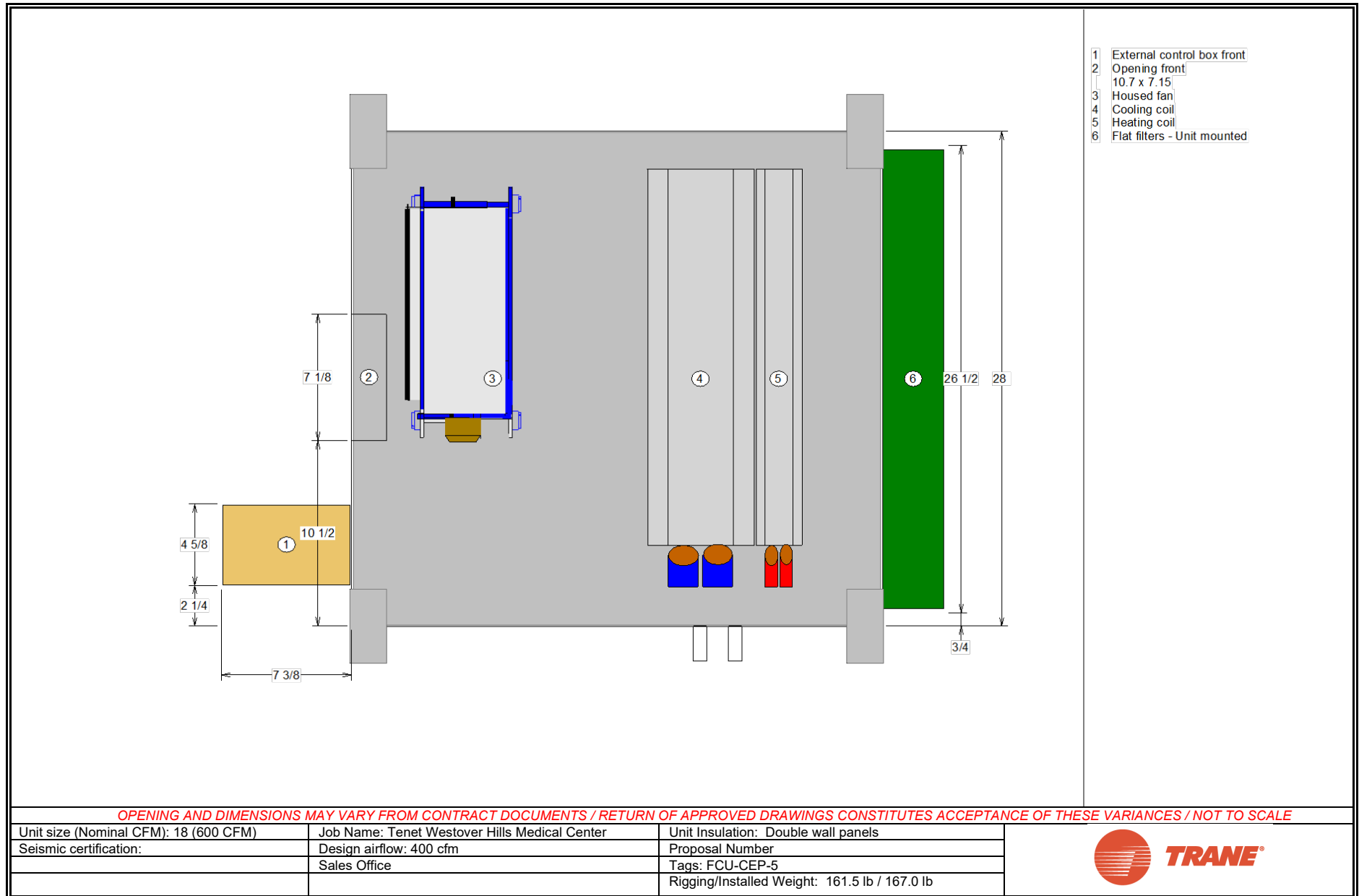


OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

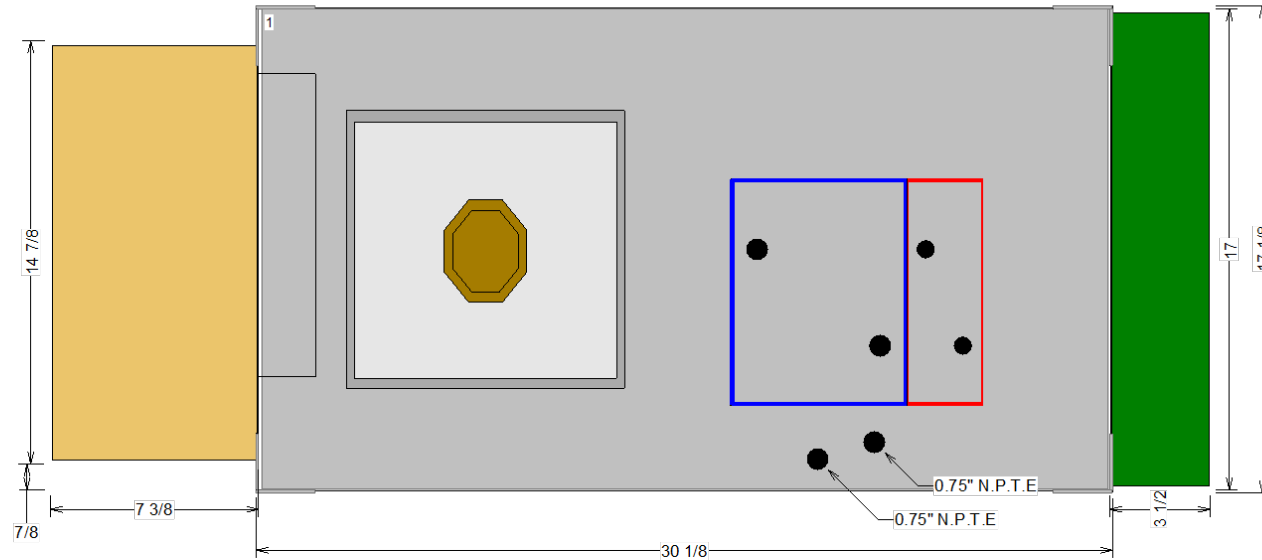
Unit size (Nominal CFM): 90 (3000 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 3000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-4
		Rigging/Installed Weight: 448.0 lb / 467.5 lb



Dimensional Drawings - Blower coil
 Item: A4 Qty: 1 Tag(s): FCU-CEP-5



Dimensional Drawings - Blower coil
 Item: A4 Qty: 1 Tag(s): FCU-CEP-5

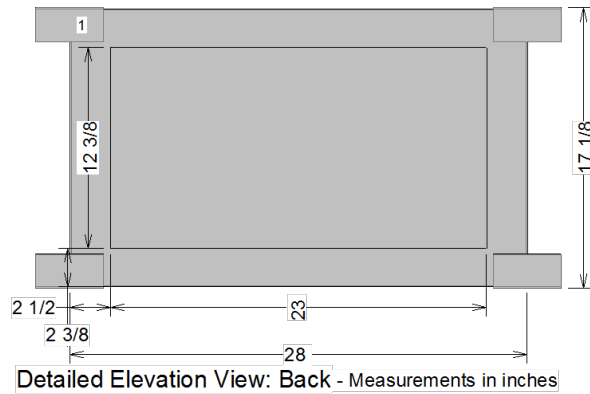
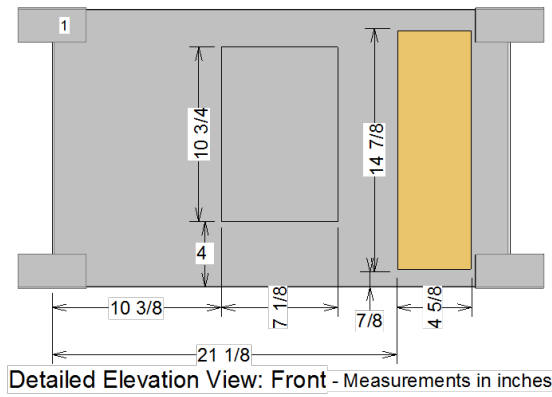


OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size (Nominal CFM): 18 (600 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 400 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-5
		Rigging/Installed Weight: 161.5 lb / 167.0 lb



Dimensional Drawings - Blower coil
Item: A4 Qty: 1 Tag(s): FCU-CEP-5

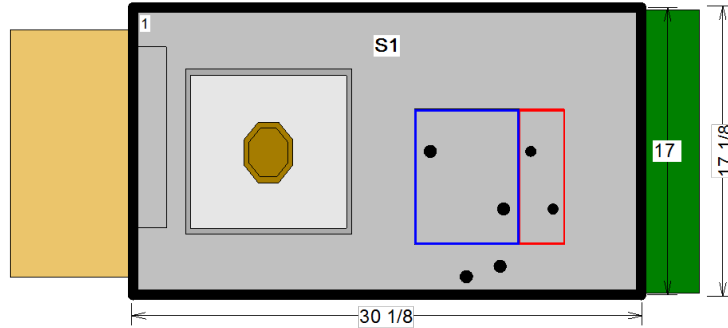


OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size (Nominal CFM): 18 (600 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 400 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-5
		Rigging/Installed Weight: 161.5 lb / 167.0 lb

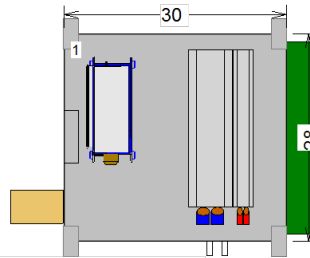


Dimensional Drawings - Blower coil
 Item: A4 Qty: 1 Tag(s): FCU-CEP-5



Shipping splits are indicated by thick black lines

Pos #	Module	Length	Weight
1	Fan and coil section	30	166.90
		Installed Unit Weight 166.90 lbs	



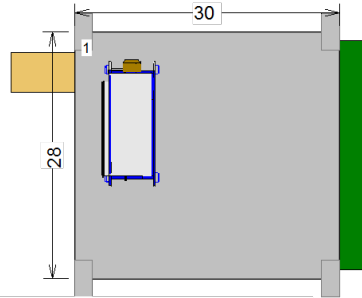
Basic Overall Plan View: Top - Measurements in inches

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

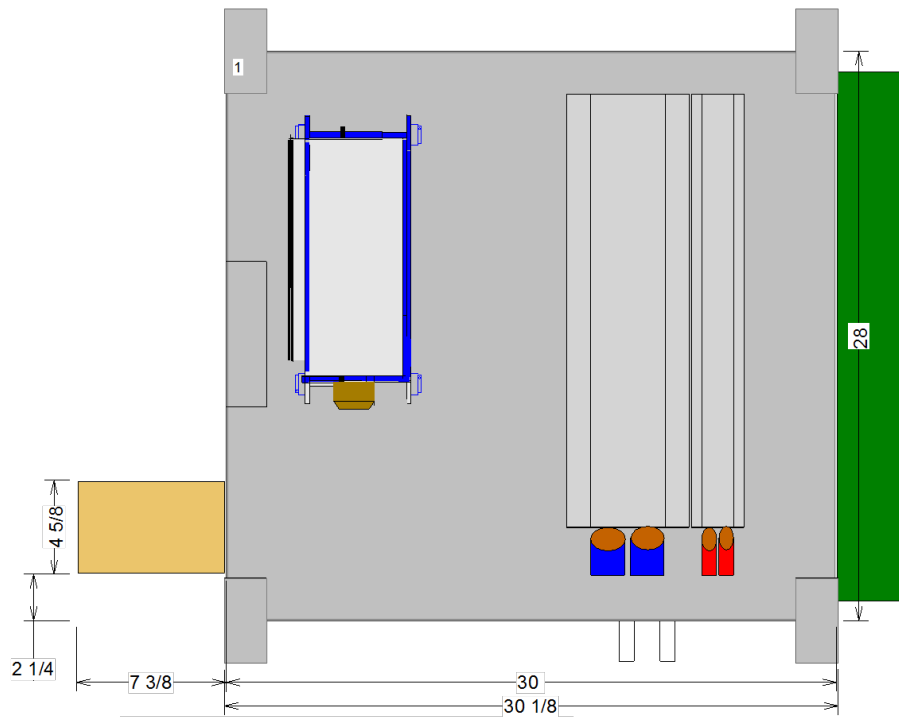
Unit size (Nominal CFM): 18 (600 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 400 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-5
		Rigging/Installed Weight: 161.5 lb / 167.0 lb



Dimensional Drawings - Blower coil
 Item: A4 Qty: 1 Tag(s): FCU-CEP-5



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



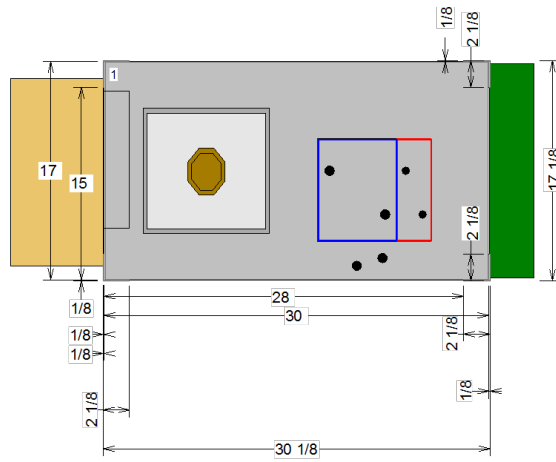
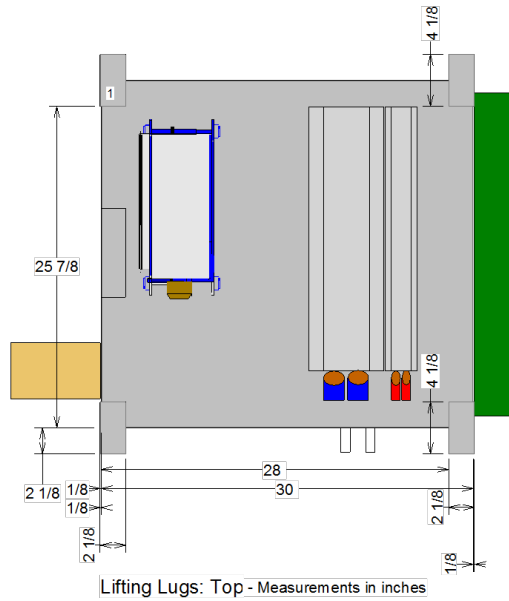
Right Side of Unit Detailed Plan View: Top - Measurements in inches

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

Unit size (Nominal CFM): 18 (600 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 400 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-5
		Rigging/Installed Weight: 161.5 lb / 167.0 lb



Dimensional Drawings - Blower coil
Item: A4 Qty: 1 Tag(s): FCU-CEP-5

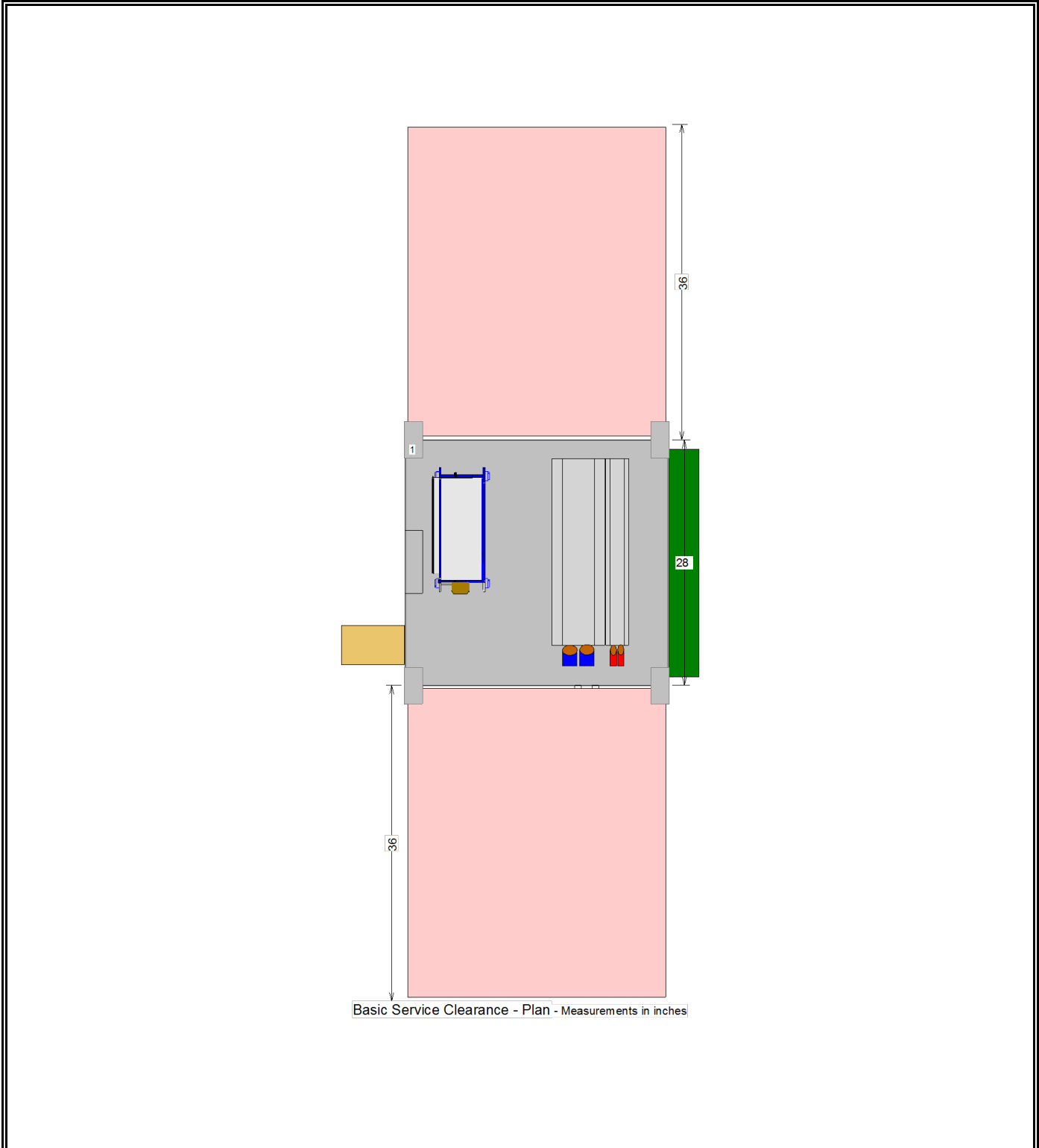


OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size (Nominal CFM): 18 (600 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 400 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-5
		Rigging/Installed Weight: 161.5 lb / 167.0 lb



Dimensional Drawings - Blower coil
Item: A4 Qty: 1 Tag(s): FCU-CEP-5



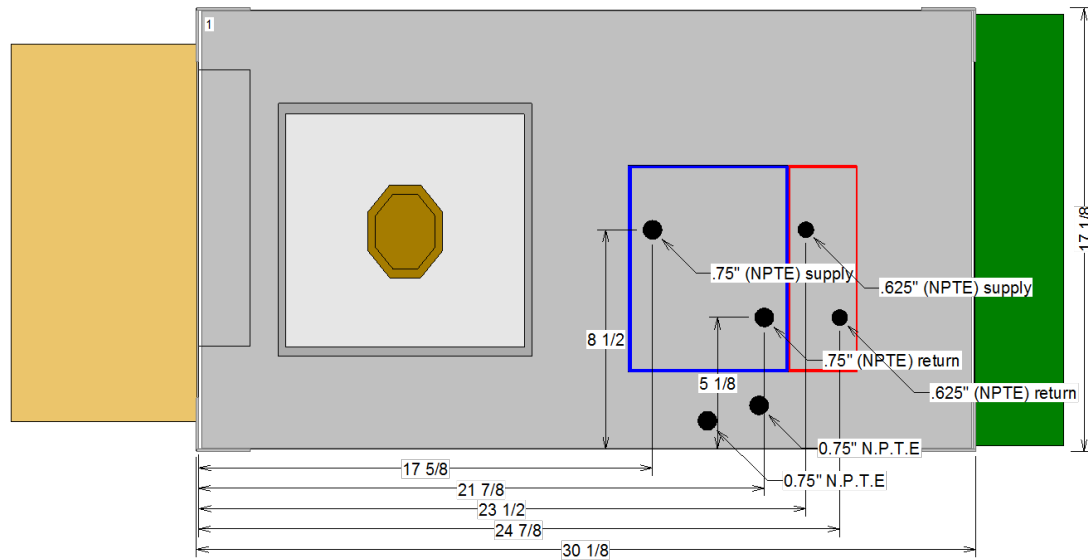
Basic Service Clearance - Plan - Measurements in inches

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

Unit size (Nominal CFM): 18 (600 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 400 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-5
		Rigging/Installed Weight: 161.5 lb / 167.0 lb



Dimensional Drawings - Blower coil
Item: A4 Qty: 1 Tag(s): FCU-CEP-5



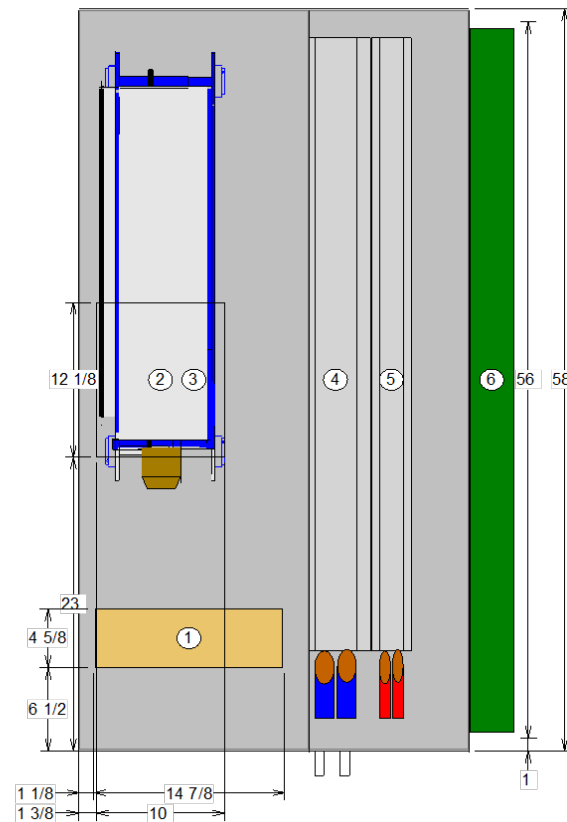
OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size (Nominal CFM): 18 (600 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 400 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-5
		Rigging/Installed Weight: 161.5 lb / 167.0 lb



Dimensional Drawings - Blower coil

Item: A5 Qty: 1 Tag(s): FCU-CEP-6



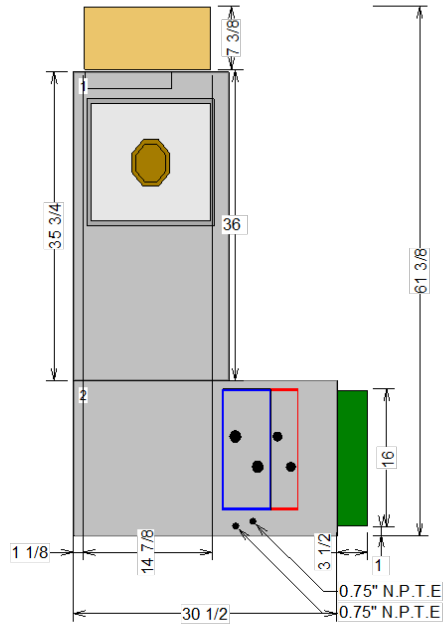
- 1 External control box top
- 2 Opening top
12.1 x 10
- 3 Housed fan
- 4 Cooling coil
- 5 Heating coil
- 6 Flat filters - Unit mounted

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

Unit size (Nominal CFM): 72 (2400 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 2000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-6
		Rigging/Installed Weight: 410.2 lb / 425.8 lb



Dimensional Drawings - Blower coil
 Item: A5 Qty: 1 Tag(s): FCU-CEP-6

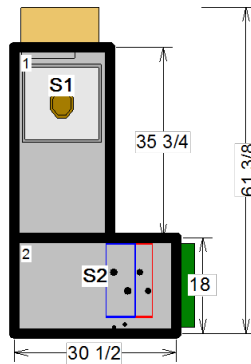


OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size (Nominal CFM): 72 (2400 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 2000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-6
		Rigging/Installed Weight: 410.2 lb / 425.8 lb

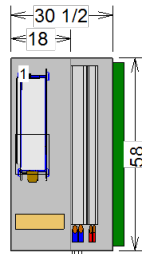


Dimensional Drawings - Blower coil
Item: A5 Qty: 1 Tag(s): FCU-CEP-6




Shipping splits are indicated by thick black lines

Pos #	Module	Length	Weight
1	Fan section	18	292.20
2	Coil Section	30 1/2	133.70
Installed Unit Weight			425.90 lbs

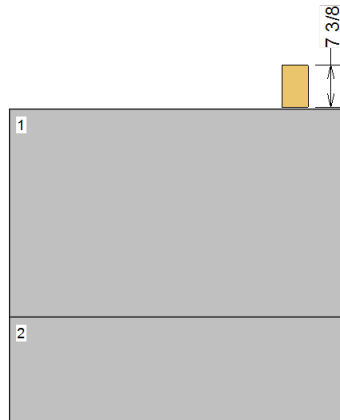


Basic Overall Plan View: Top - Measurements in inches

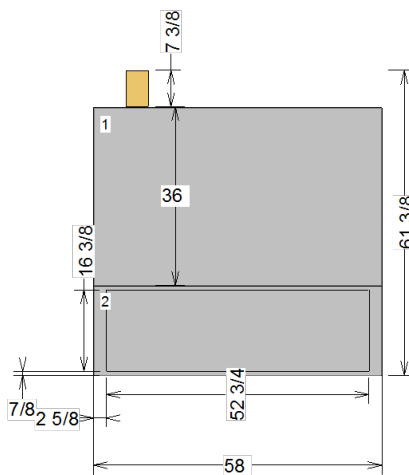
OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size (Nominal CFM): 72 (2400 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels	
Seismic certification:	Design airflow: 2000 cfm	Proposal Number	
	Sales Office	Tags: FCU-CEP-6	
		Rigging/Installed Weight: 410.2 lb / 425.8 lb	

Dimensional Drawings - Blower coil
Item: A5 Qty: 1 Tag(s): FCU-CEP-6



Detailed Elevation View: Front - Measurements in inches



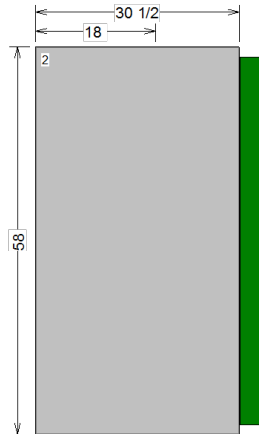
Detailed Elevation View: Back - Measurements in inches

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

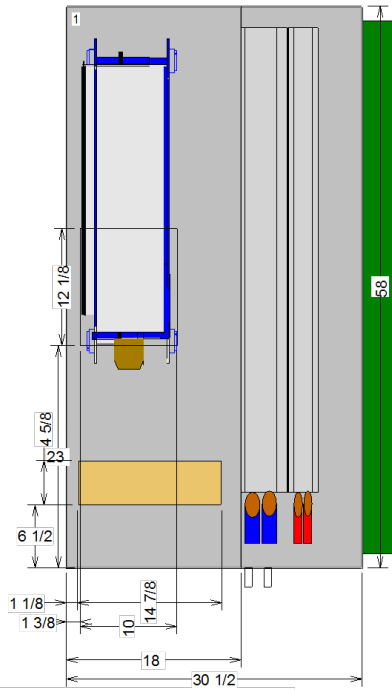
Unit size (Nominal CFM): 72 (2400 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 2000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-6
		Rigging/Installed Weight: 410.2 lb / 425.8 lb



Dimensional Drawings - Blower coil
Item: A5 Qty: 1 Tag(s): FCU-CEP-6



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



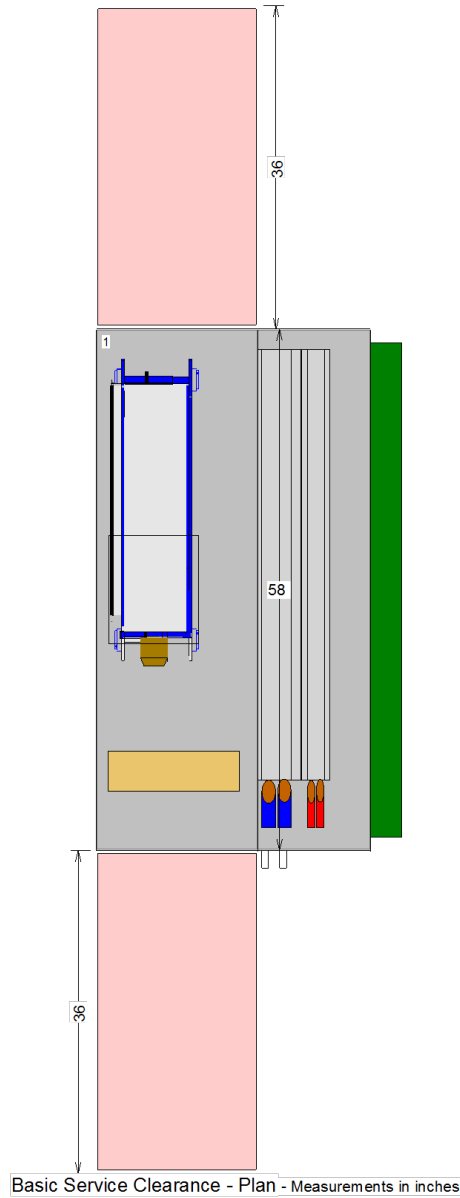
Right Side of Unit Detailed Plan View: Top - Measurements in inches

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

Unit size (Nominal CFM): 72 (2400 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 2000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-6
		Rigging/Installed Weight: 410.2 lb / 425.8 lb



Dimensional Drawings - Blower coil
Item: A5 Qty: 1 Tag(s): FCU-CEP-6



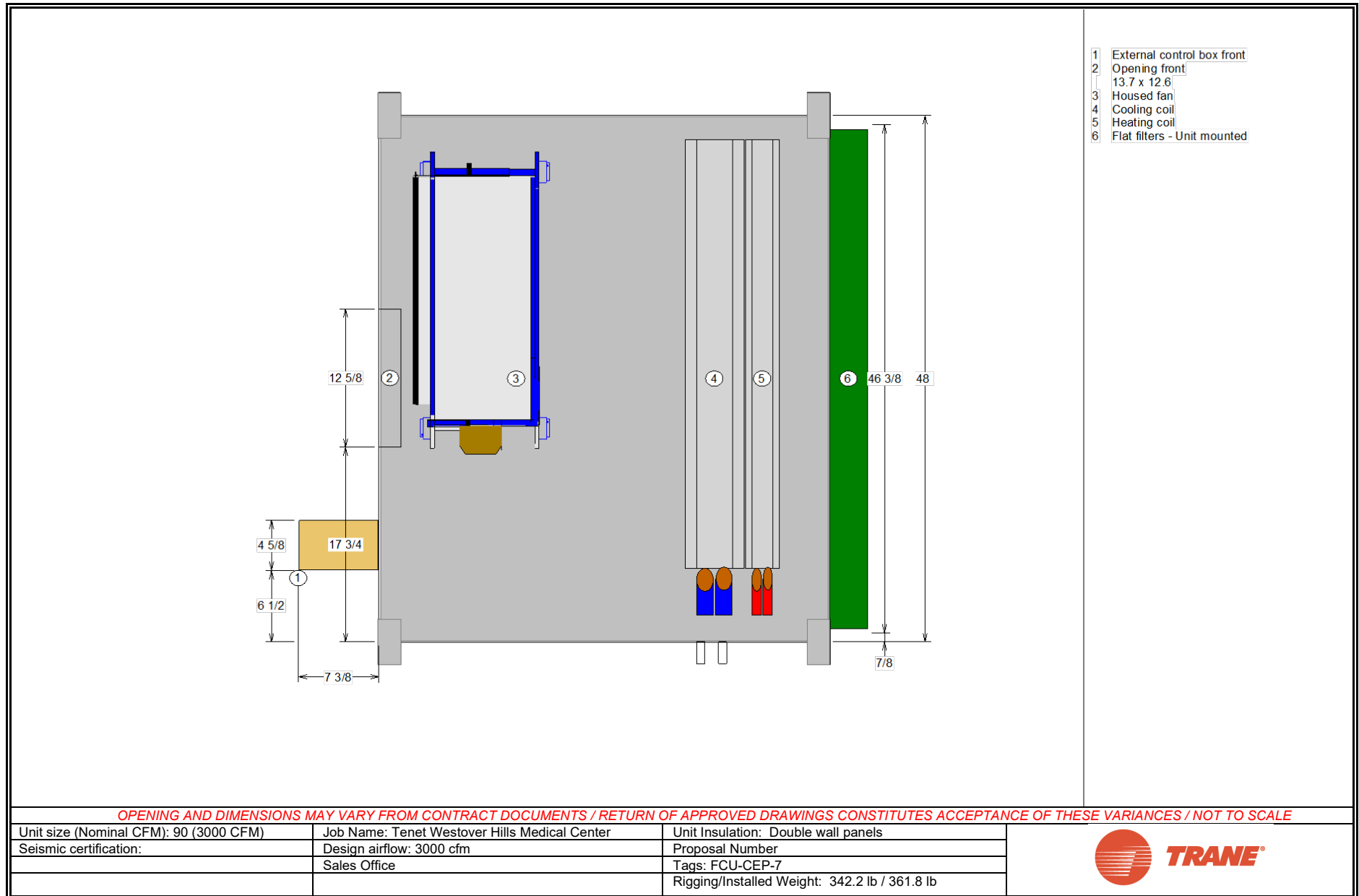
OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size (Nominal CFM): 72 (2400 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 2000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-6
		Rigging/Installed Weight: 410.2 lb / 425.8 lb

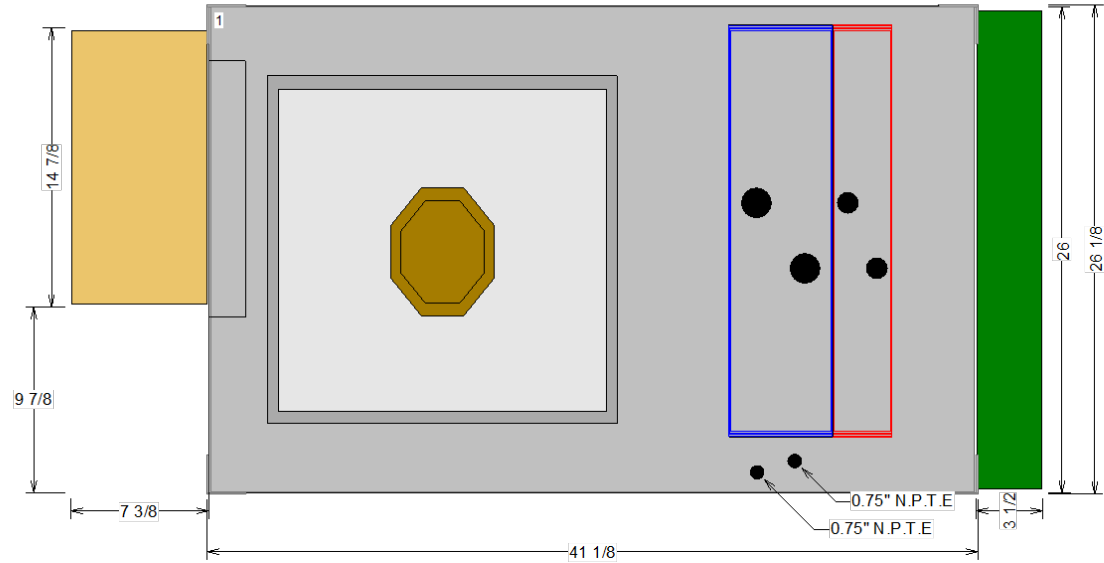


Dimensional Drawings - Blower coil

Item: A8 Qty: 1 Tag(s): FCU-CEP-7



Dimensional Drawings - Blower coil
 Item: A8 Qty: 1 Tag(s): FCU-CEP-7

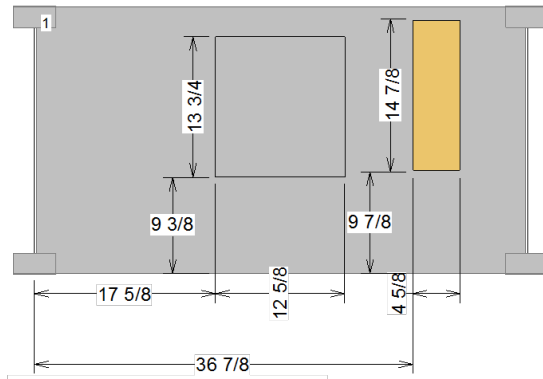


OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size (Nominal CFM): 90 (3000 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 3000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-7
		Rigging/Installed Weight: 342.2 lb / 361.8 lb



Dimensional Drawings - Blower coil
Item: A8 Qty: 1 Tag(s): FCU-CEP-7



Detailed Elevation View: Front - Measurements in inches



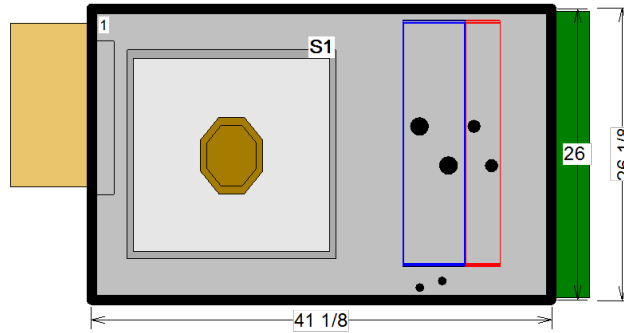
Detailed Elevation View: Back - Measurements in inches

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: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 3000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-7
		Rigging/Installed Weight: 342.2 lb / 361.8 lb

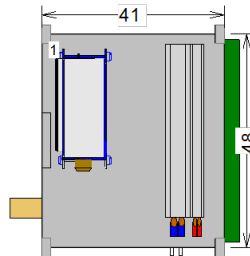


Dimensional Drawings - Blower coil
 Item: A8 Qty: 1 Tag(s): FCU-CEP-7




Shipping splits are indicated by thick black lines

Pos #	Module	Length	Weight
1	Fan and coil section	41	361.70
Installed Unit Weight			361.70 lbs

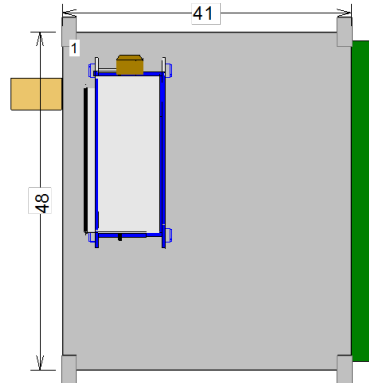


Basic Overall Plan View: Top - Measurements in inches

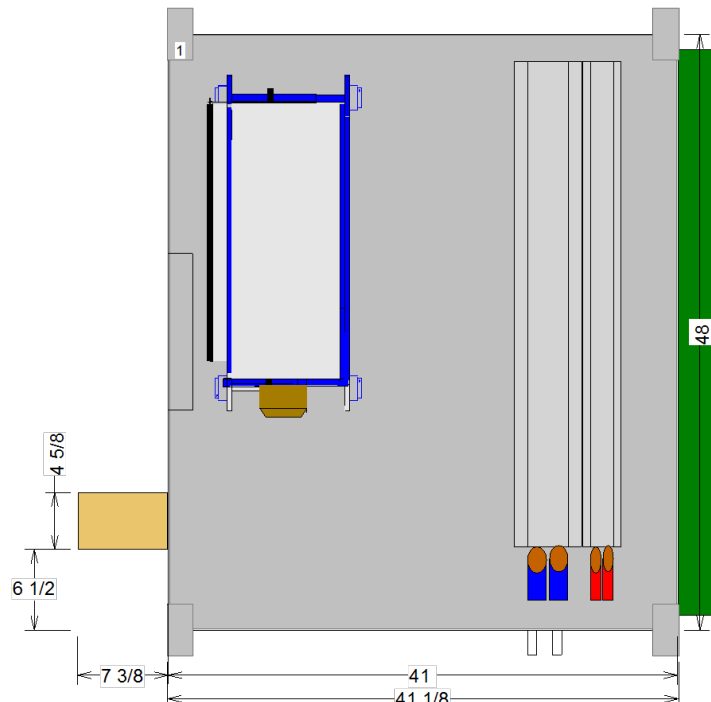
OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size (Nominal CFM): 90 (3000 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels	
Seismic certification:	Design airflow: 3000 cfm	Proposal Number	
	Sales Office	Tags: FCU-CEP-7	
		Rigging/Installed Weight: 342.2 lb / 361.8 lb	

Dimensional Drawings - Blower coil
Item: A8 Qty: 1 Tag(s): FCU-CEP-7



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



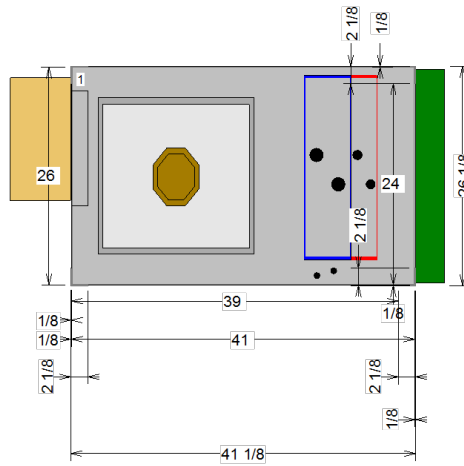
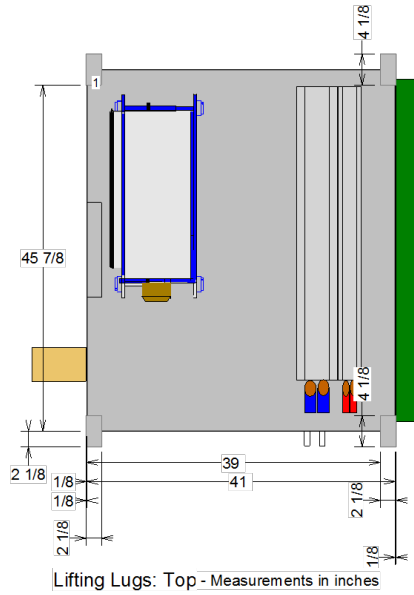
Right Side of Unit Detailed Plan View: Top - Measurements in inches

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: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 3000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-7
		Rigging/Installed Weight: 342.2 lb / 361.8 lb



Dimensional Drawings - Blower coil
 Item: A8 Qty: 1 Tag(s): FCU-CEP-7

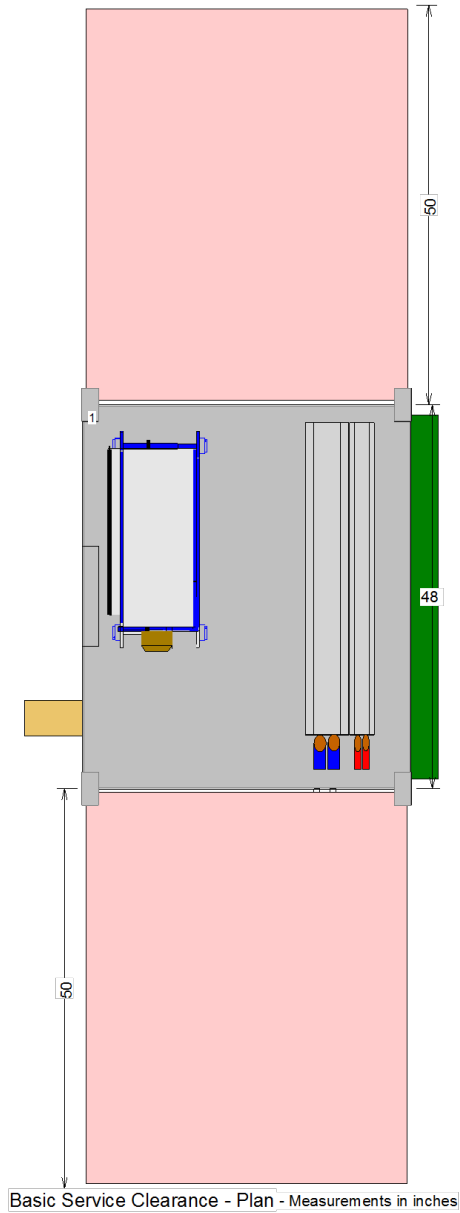


OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size (Nominal CFM): 90 (3000 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 3000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-7
		Rigging/Installed Weight: 342.2 lb / 361.8 lb



Dimensional Drawings - Blower coil
Item: A8 Qty: 1 Tag(s): FCU-CEP-7

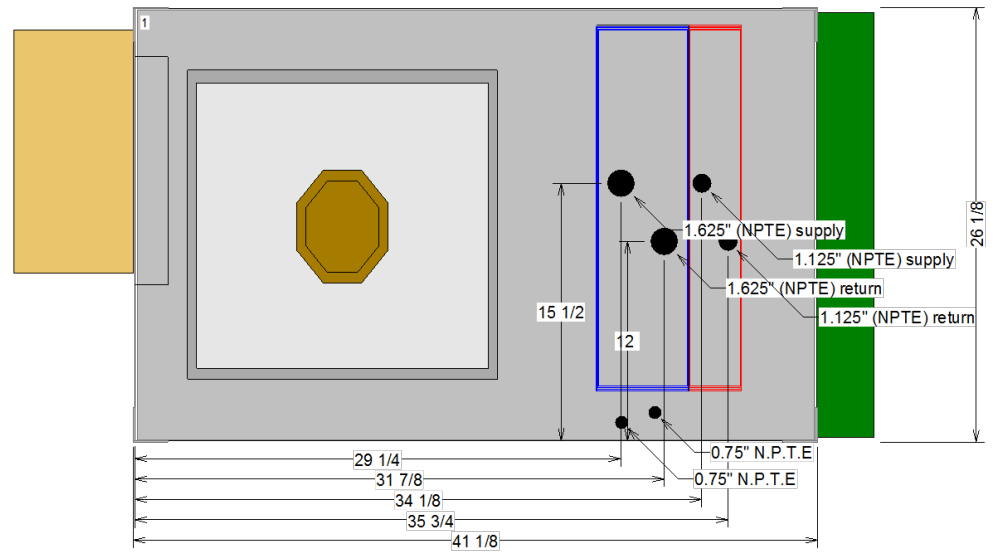


OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size (Nominal CFM): 90 (3000 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 3000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-7
		Rigging/Installed Weight: 342.2 lb / 361.8 lb



Dimensional Drawings - Blower coil
 Item: A8 Qty: 1 Tag(s): FCU-CEP-7

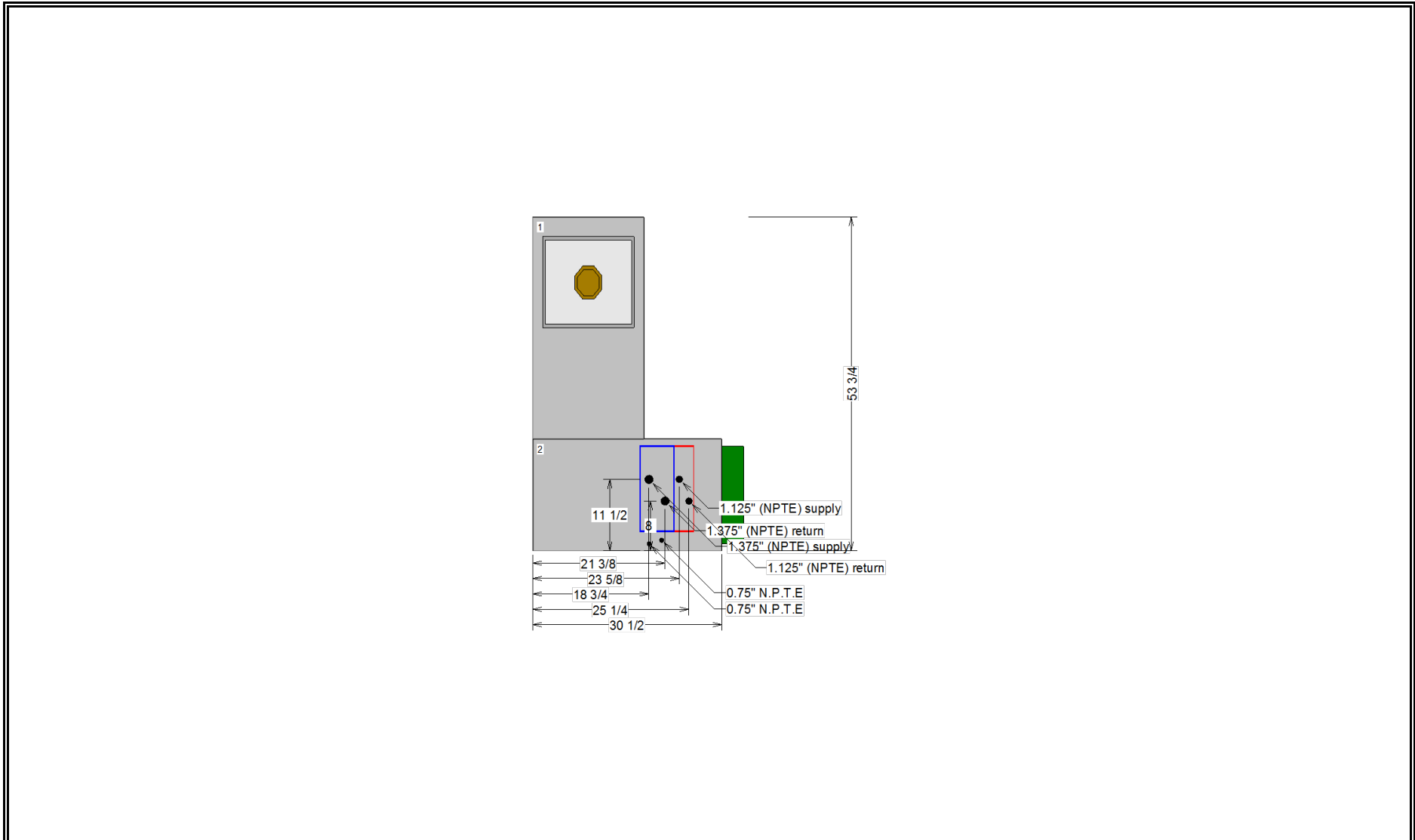


OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size (Nominal CFM): 90 (3000 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 3000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-7
		Rigging/Installed Weight: 342.2 lb / 361.8 lb



Dimensional Drawings - Blower coil
Item: A5 Qty: 1 Tag(s): FCU-CEP-6



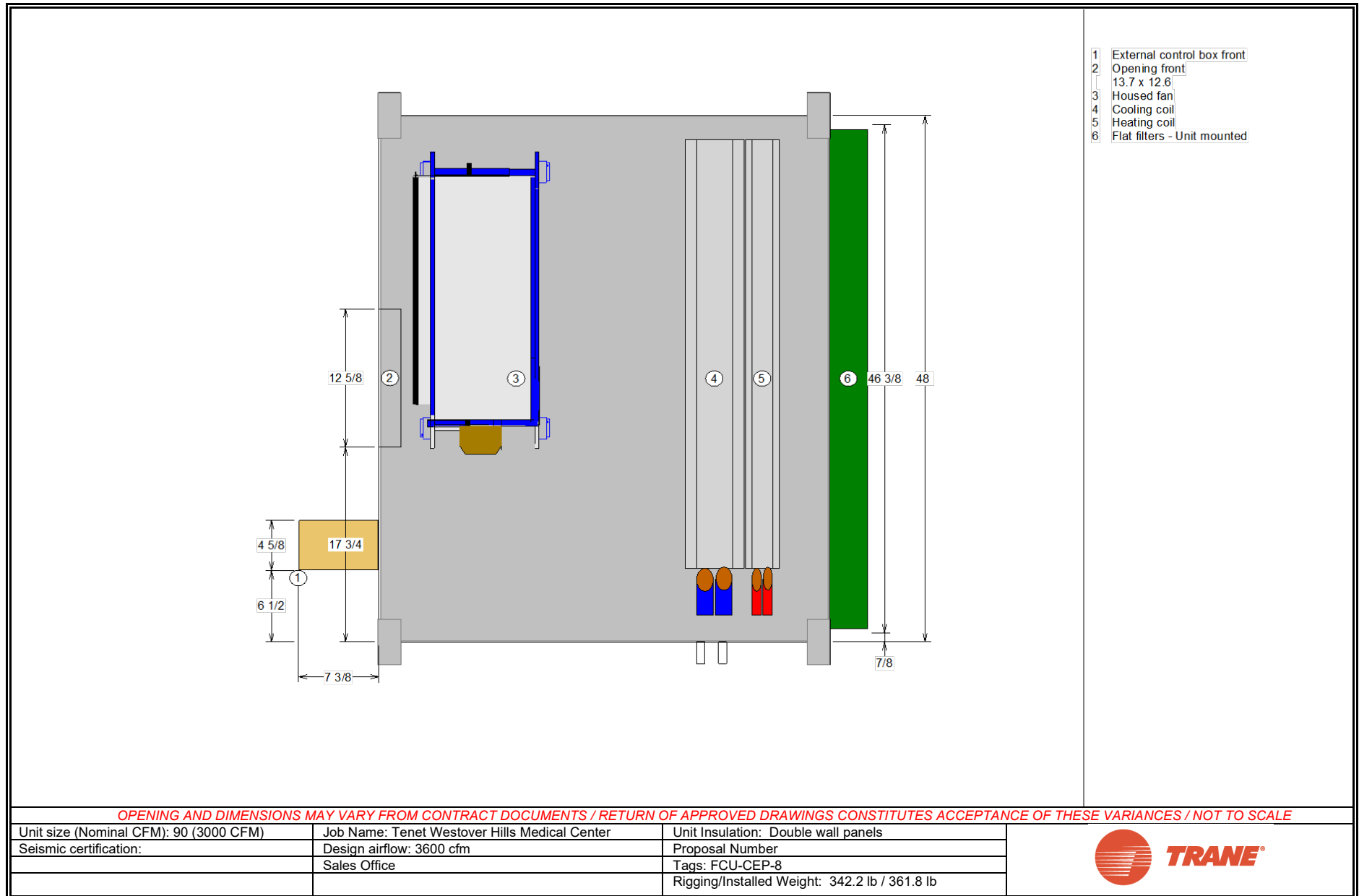
OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size (Nominal CFM): 72 (2400 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 2000 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-6
		Rigging/Installed Weight: 410.2 lb / 425.8 lb

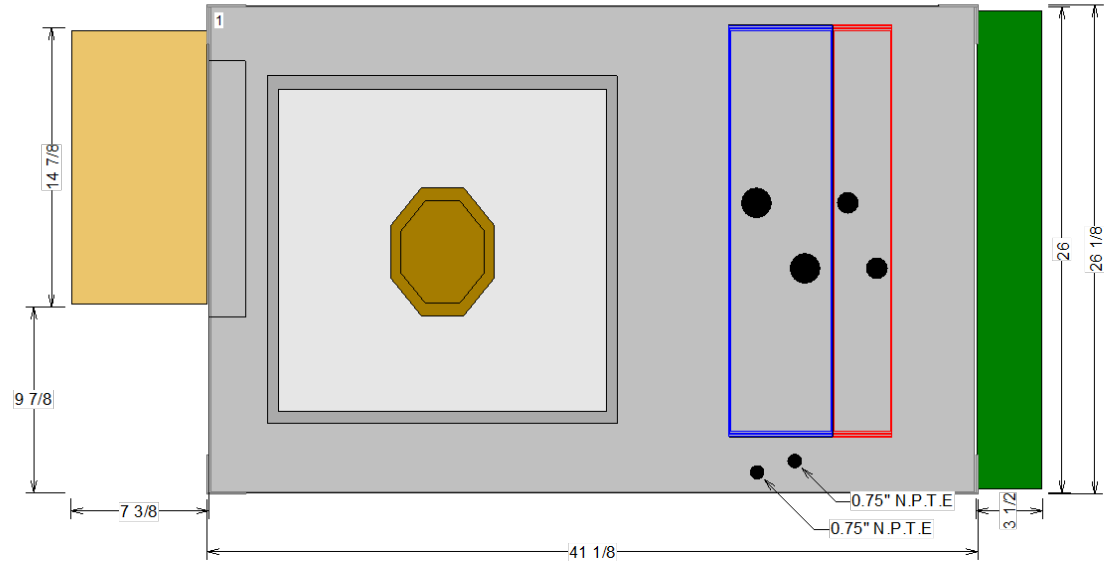


Dimensional Drawings - Blower coil

Item: A7 Qty: 1 Tag(s): FCU-CEP-8



Dimensional Drawings - Blower coil
 Item: A7 Qty: 1 Tag(s): FCU-CEP-8

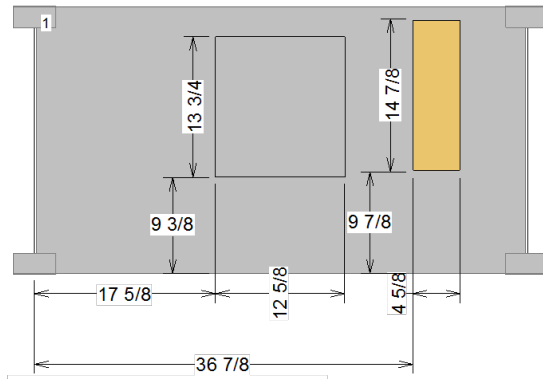


OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

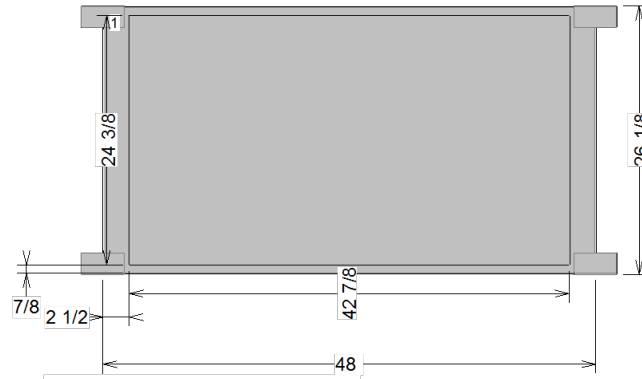
Unit size (Nominal CFM): 90 (3000 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 3600 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-8
		Rigging/Installed Weight: 342.2 lb / 361.8 lb



Dimensional Drawings - Blower coil
Item: A7 Qty: 1 Tag(s): FCU-CEP-8



Detailed Elevation View: Front - Measurements in inches



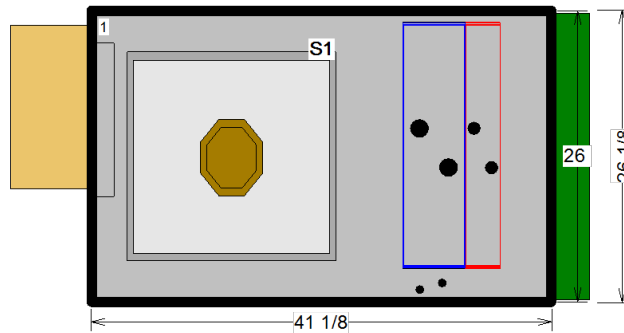
Detailed Elevation View: Back - Measurements in inches

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: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 3600 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-8
		Rigging/Installed Weight: 342.2 lb / 361.8 lb

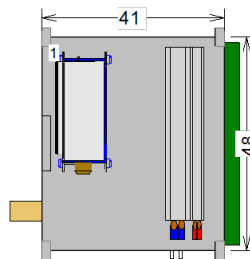


Dimensional Drawings - Blower coil
Item: A7 Qty: 1 Tag(s): FCU-CEP-8




Shipping splits are indicated by thick black lines

Pos #	Module	Length	Weight
1	Fan and coil section	41	361.70
		Installed Unit Weight 361.70 lbs	

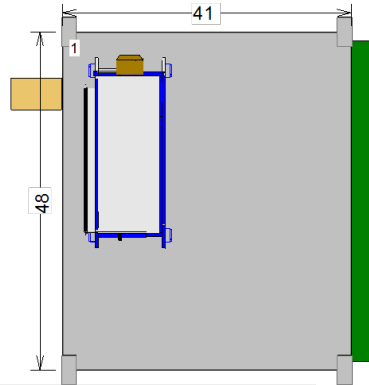


Basic Overall Plan View: Top - Measurements in inches

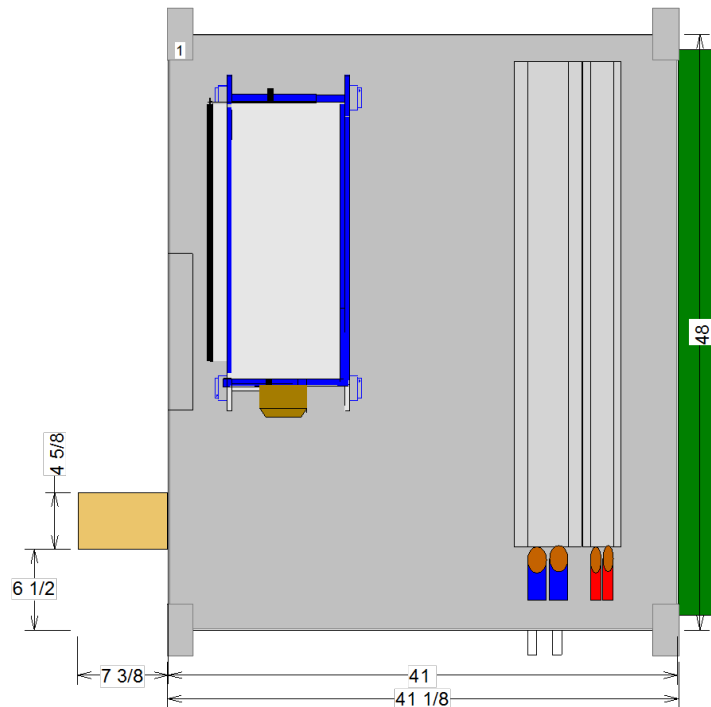
OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size (Nominal CFM): 90 (3000 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels	
Seismic certification:	Design airflow: 3600 cfm	Proposal Number	
	Sales Office	Tags: FCU-CEP-8	
		Rigging/Installed Weight: 342.2 lb / 361.8 lb	

Dimensional Drawings - Blower coil
Item: A7 Qty: 1 Tag(s): FCU-CEP-8



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



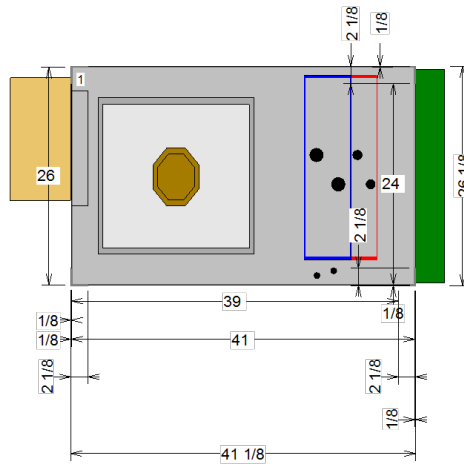
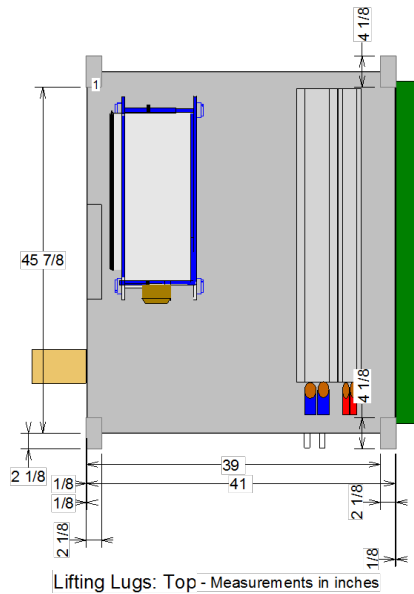
Right Side of Unit Detailed Plan View: Top - Measurements in inches

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: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 3600 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-8
		Rigging/Installed Weight: 342.2 lb / 361.8 lb



Dimensional Drawings - Blower coil
Item: A7 Qty: 1 Tag(s): FCU-CEP-8

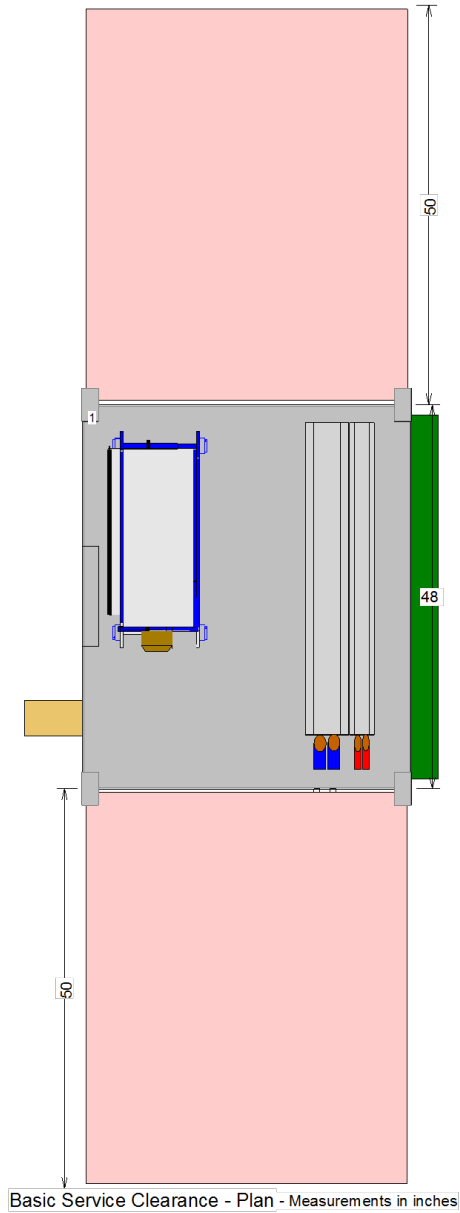


OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size (Nominal CFM): 90 (3000 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 3600 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-8
		Rigging/Installed Weight: 342.2 lb / 361.8 lb



Dimensional Drawings - Blower coil
Item: A7 Qty: 1 Tag(s): FCU-CEP-8

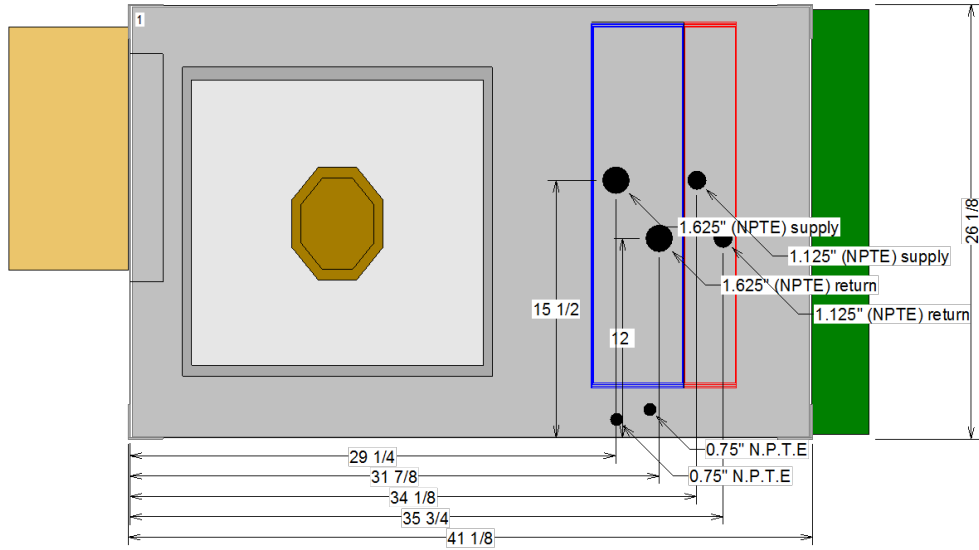


OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE


Unit size (Nominal CFM): 90 (3000 CFM)	Job Name: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels
Seismic certification:	Design airflow: 3600 cfm	Proposal Number
	Sales Office	Tags: FCU-CEP-8
		Rigging/Installed Weight: 342.2 lb / 361.8 lb



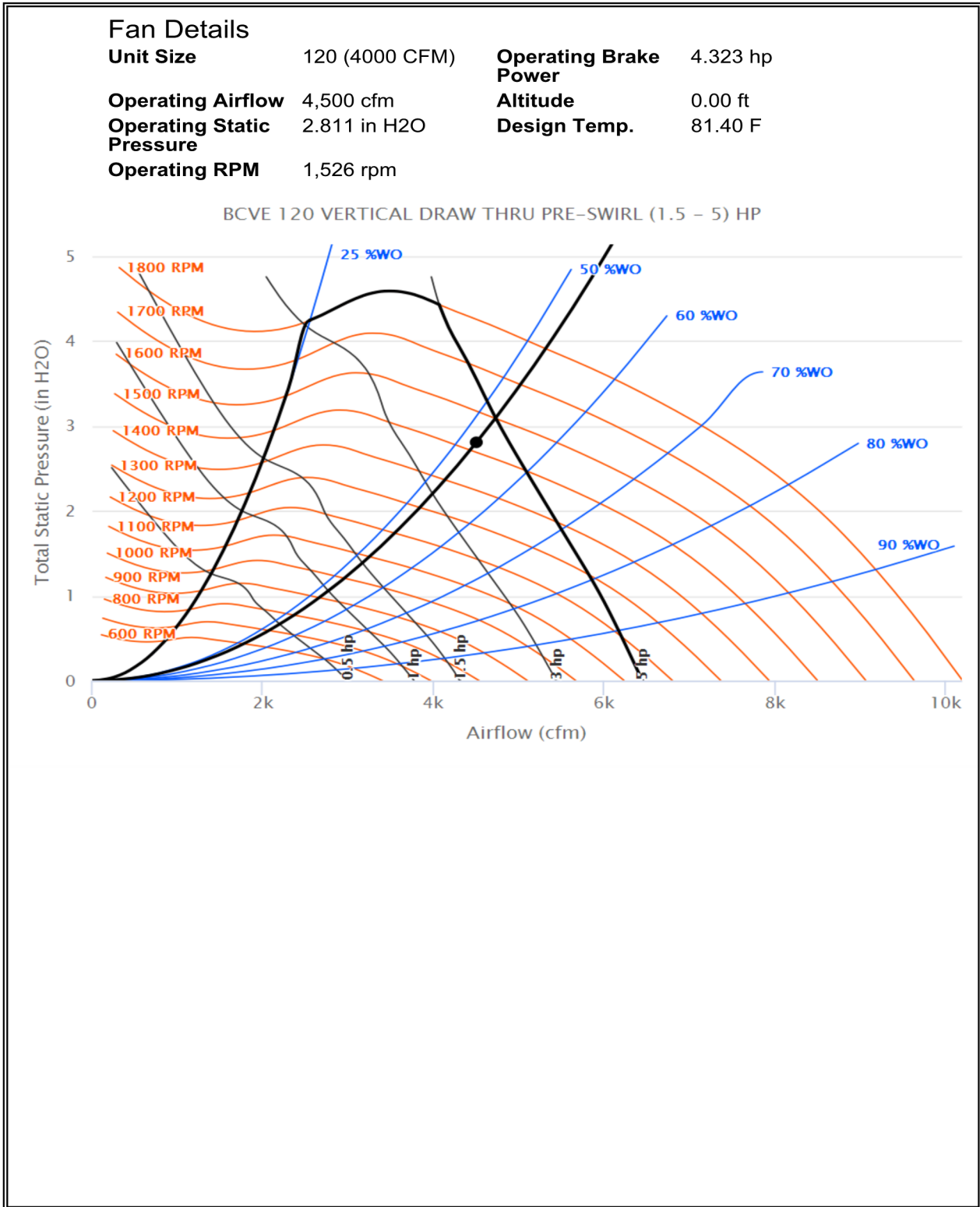
Dimensional Drawings - Blower coil
Item: A7 Qty: 1 Tag(s): FCU-CEP-8



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: Tenet Westover Hills Medical Center	Unit Insulation: Double wall panels	
Seismic certification:	Design airflow: 3600 cfm	Proposal Number	
	Sales Office	Tags: FCU-CEP-8	
		Rigging/Installed Weight: 342.2 lb / 361.8 lb	

Fan Curve - Blower coil
Item: A1 Qty: 1 Tag(s): FCU-CEP-1A

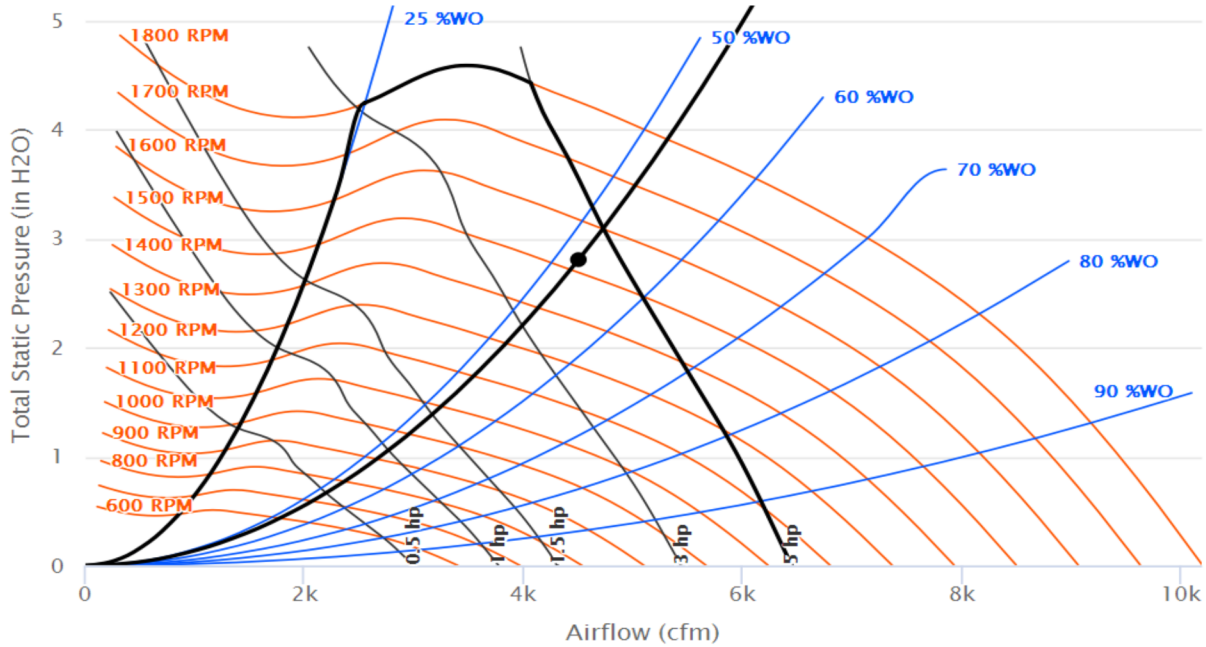


Fan Curve - Blower coil
Item: A2 Qty: 1 Tag(s): FCU-CEP-1B

Fan Details

Unit Size	120 (4000 CFM)	Operating Brake Power	4.323 hp
Operating Airflow	4,500 cfm	Altitude	0.00 ft
Operating Static Pressure	2.811 in H2O	Design Temp.	81.40 F
Operating RPM	1,526 rpm		

BCVE 120 VERTICAL DRAW THRU PRE-SWIRL (1.5 - 5) HP

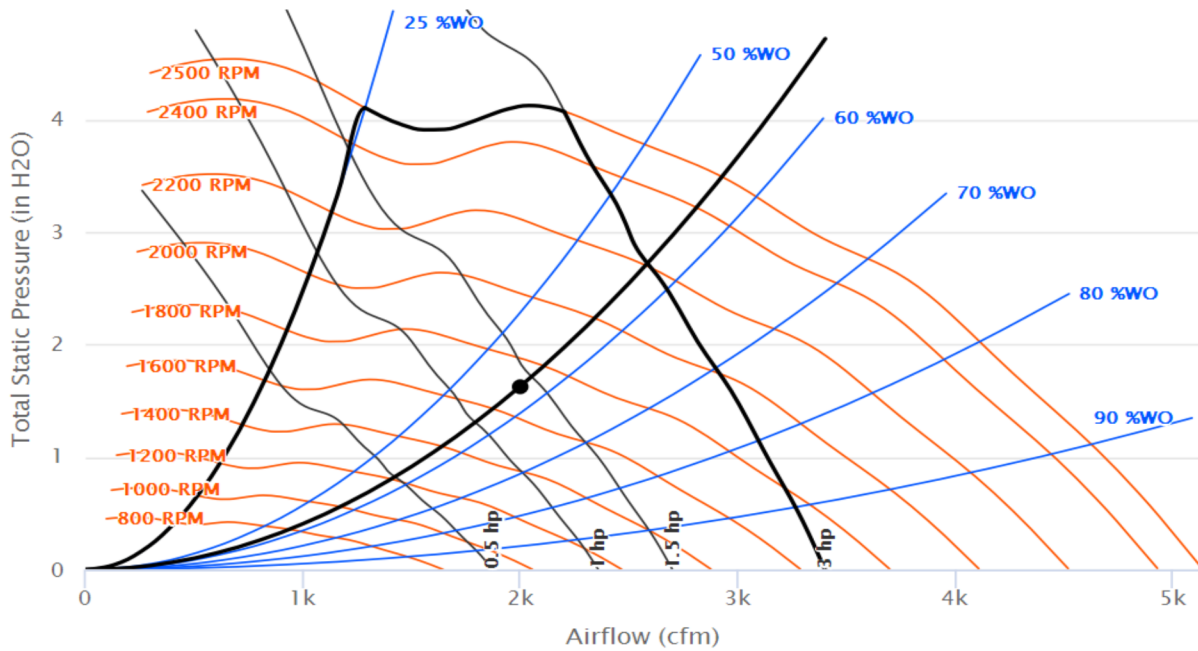


Fan Curve - Blower coil
Item: A3 Qty: 1 Tag(s): FCU-CEP-2

Fan Details

Unit Size	72 (2400 CFM)	Operating Brake Power	1.392 hp
Operating Airflow	2,000 cfm	Altitude	0.00 ft
Operating Static Pressure	1.634 in H2O	Design Temp.	76.00 F
Operating RPM	1,635 rpm		

BCVE 72 VERTICAL DRAW THRU PRE-SWIRL (1.5 - 3) HP

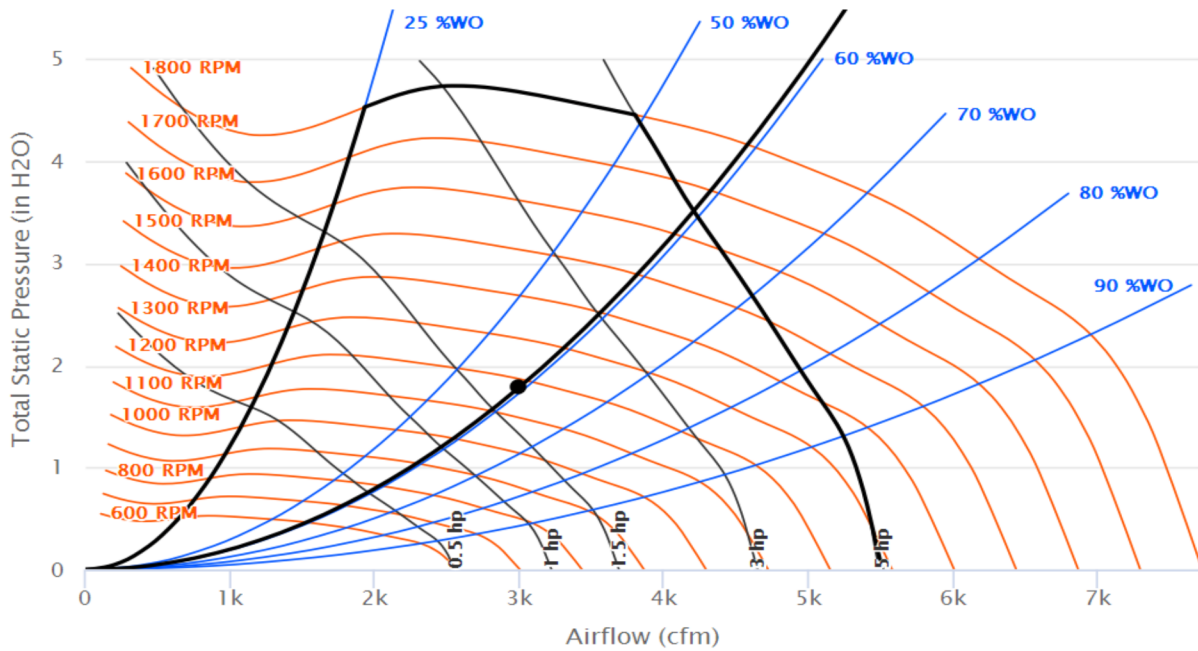


Fan Curve - Blower coil
Item: A4 Qty: 1 Tag(s): FCU-CEP-3

Fan Details

Unit Size	90 (3000 CFM)	Operating Brake Power	1.819 hp
Operating Airflow	3,000 cfm	Altitude	0.00 ft
Operating Static Pressure	1.792 in H2O	Design Temp.	75.00 F
Operating RPM	1,233 rpm		

BCVE 90 VERTICAL DRAW THRU PRE-SWIRL (1.5 - 5) HP

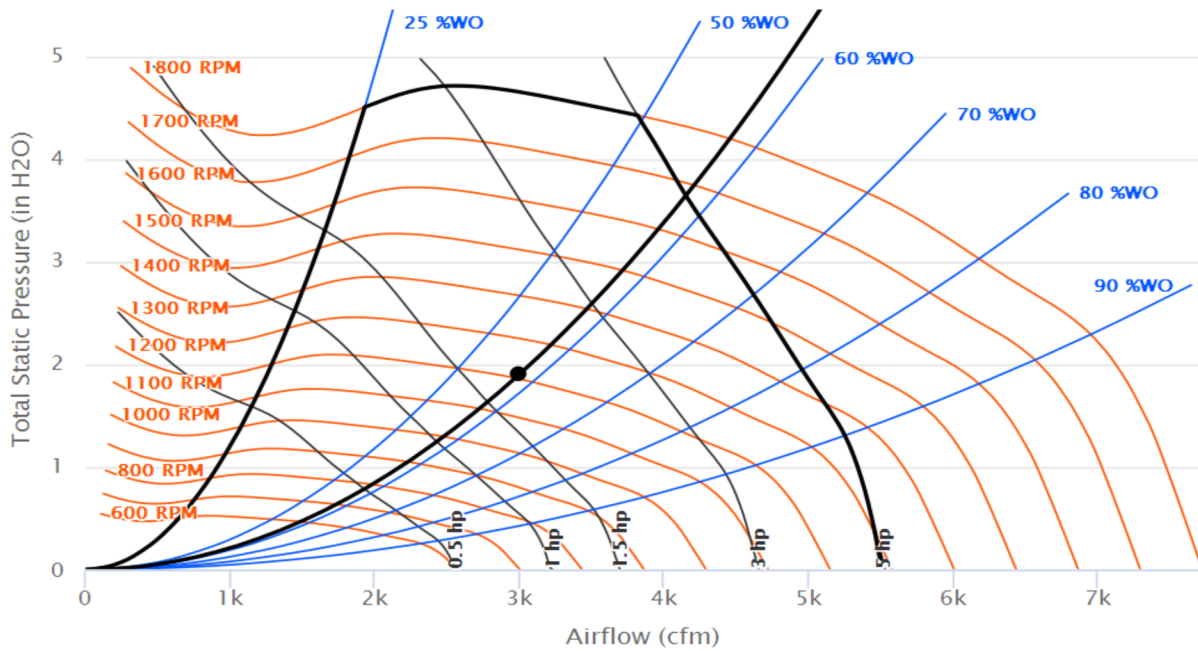


Fan Curve - Blower coil
Item: A5 Qty: 1 Tag(s): FCU-CEP-4

Fan Details

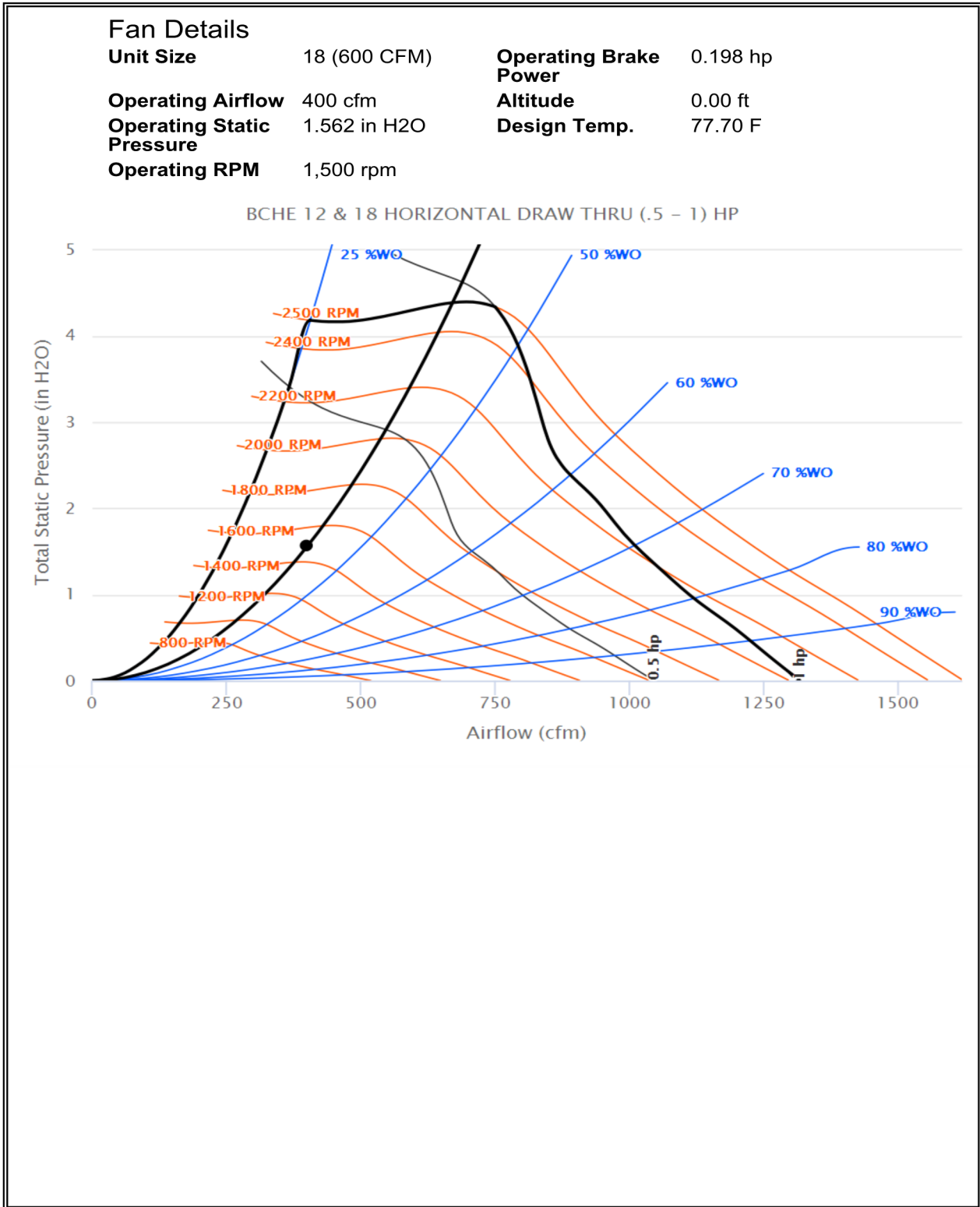
Unit Size	90 (3000 CFM)	Operating Brake Power	1.891 hp
Operating Airflow	3,000 cfm	Altitude	0.00 ft
Operating Static Pressure	1.907 in H2O	Design Temp.	77.80 F
Operating RPM	1,266 rpm		

BCVE 90 VERTICAL DRAW THRU PRE-SWIRL (1.5 - 5) HP



Fan Curve - Blower coil

Item: A6 Qty: 1 Tag(s): FCU-CEP-5



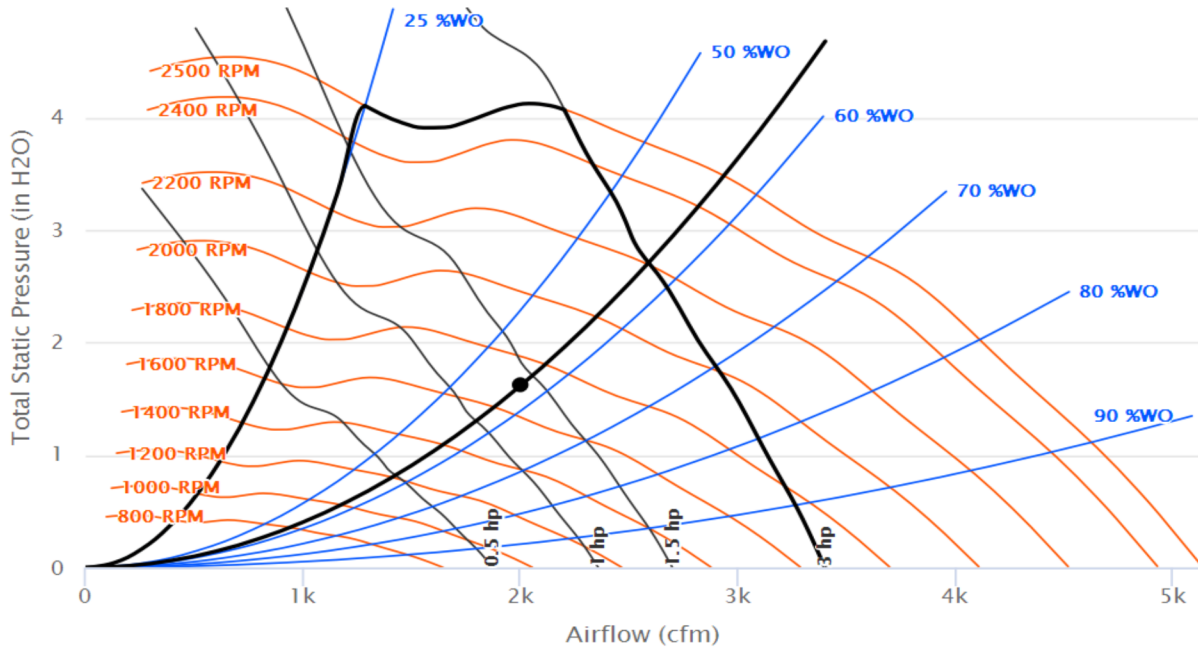
Fan Curve - Blower coil

Item: A7 Qty: 1 Tag(s): FCU-CEP-6

Fan Details

Unit Size	72 (2400 CFM)	Operating Brake Power	1.386 hp
Operating Airflow	2,000 cfm	Altitude	0.00 ft
Operating Static Pressure	1.620 in H2O	Design Temp.	76.00 F
Operating RPM	1,630 rpm		

BCVE 72 VERTICAL DRAW THRU PRE-SWIRL (1.5 - 3) HP

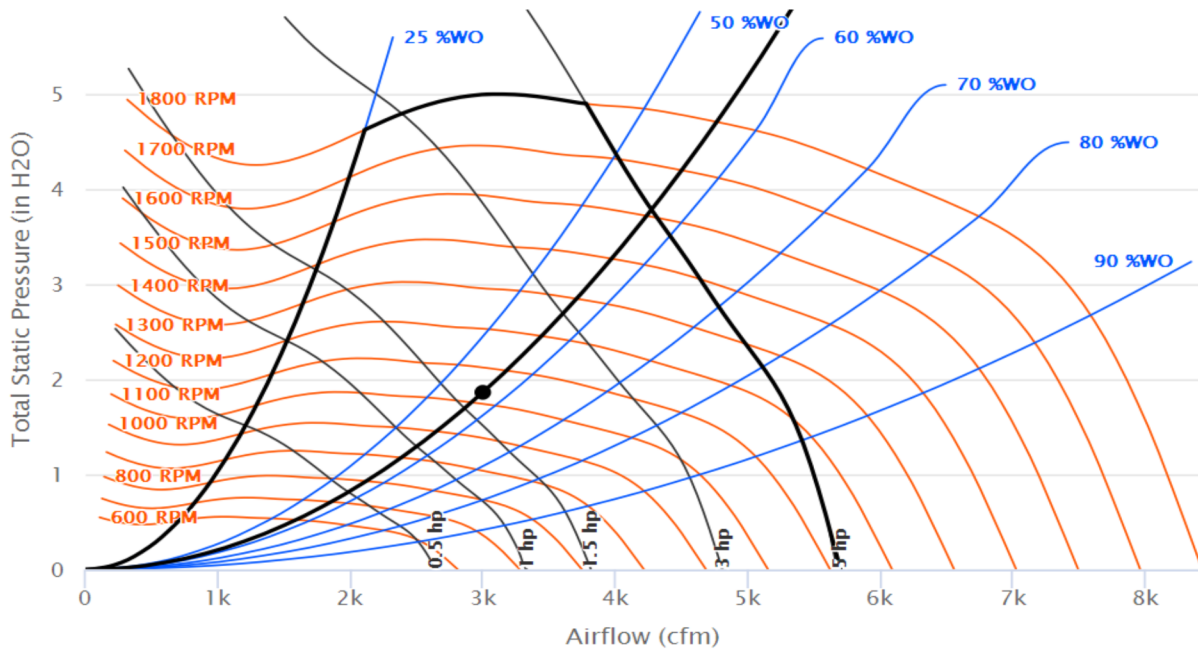


Fan Curve - Blower coil
Item: A8 Qty: 1 Tag(s): FCU-CEP-7

Fan Details

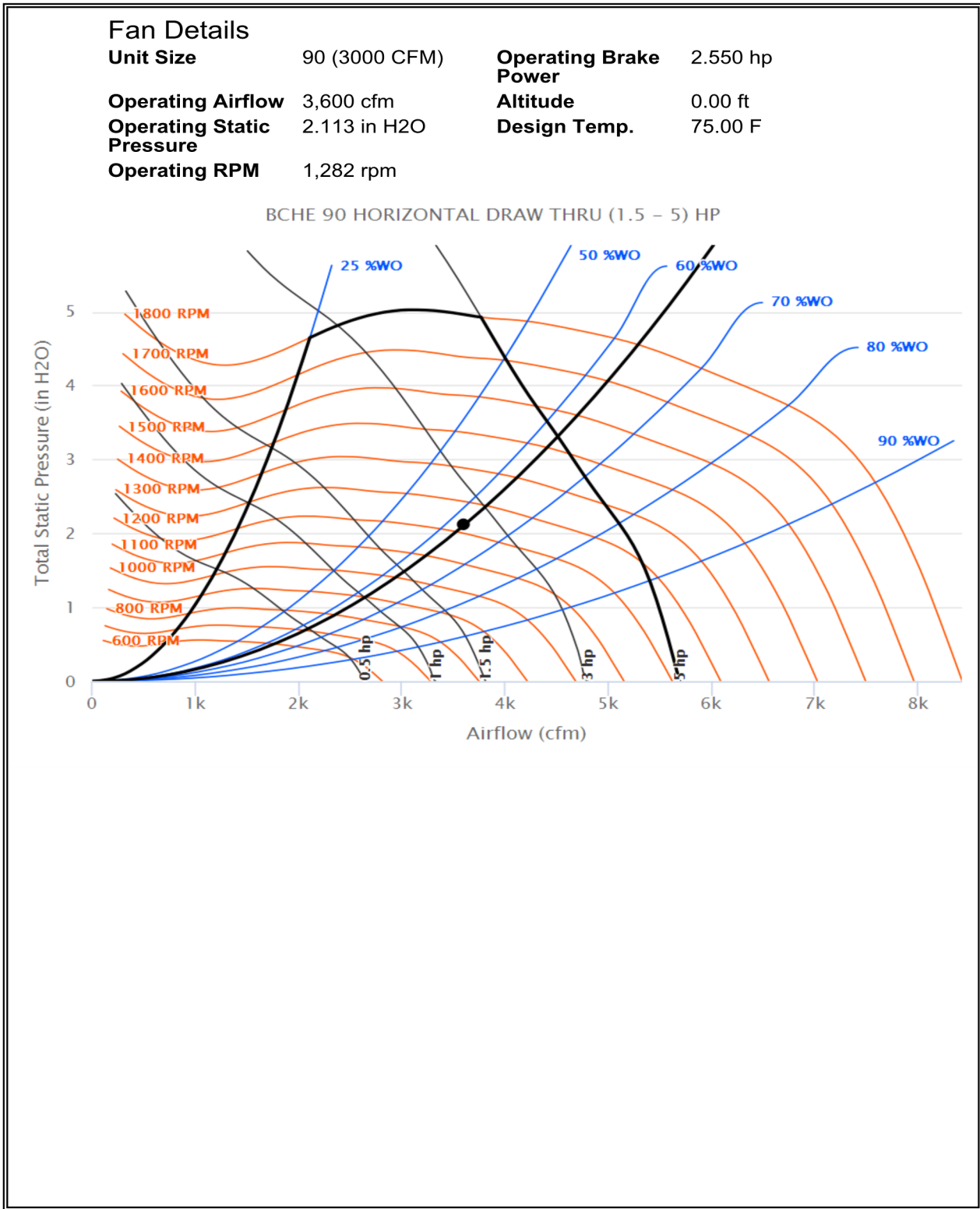
Unit Size	90 (3000 CFM)	Operating Brake Power	1.733 hp
Operating Airflow	3,000 cfm	Altitude	0.00 ft
Operating Static Pressure	1.870 in H2O	Design Temp.	77.10 F
Operating RPM	1,179 rpm		

BCHE 90 HORIZONTAL DRAW THRU (1.5 - 5) HP



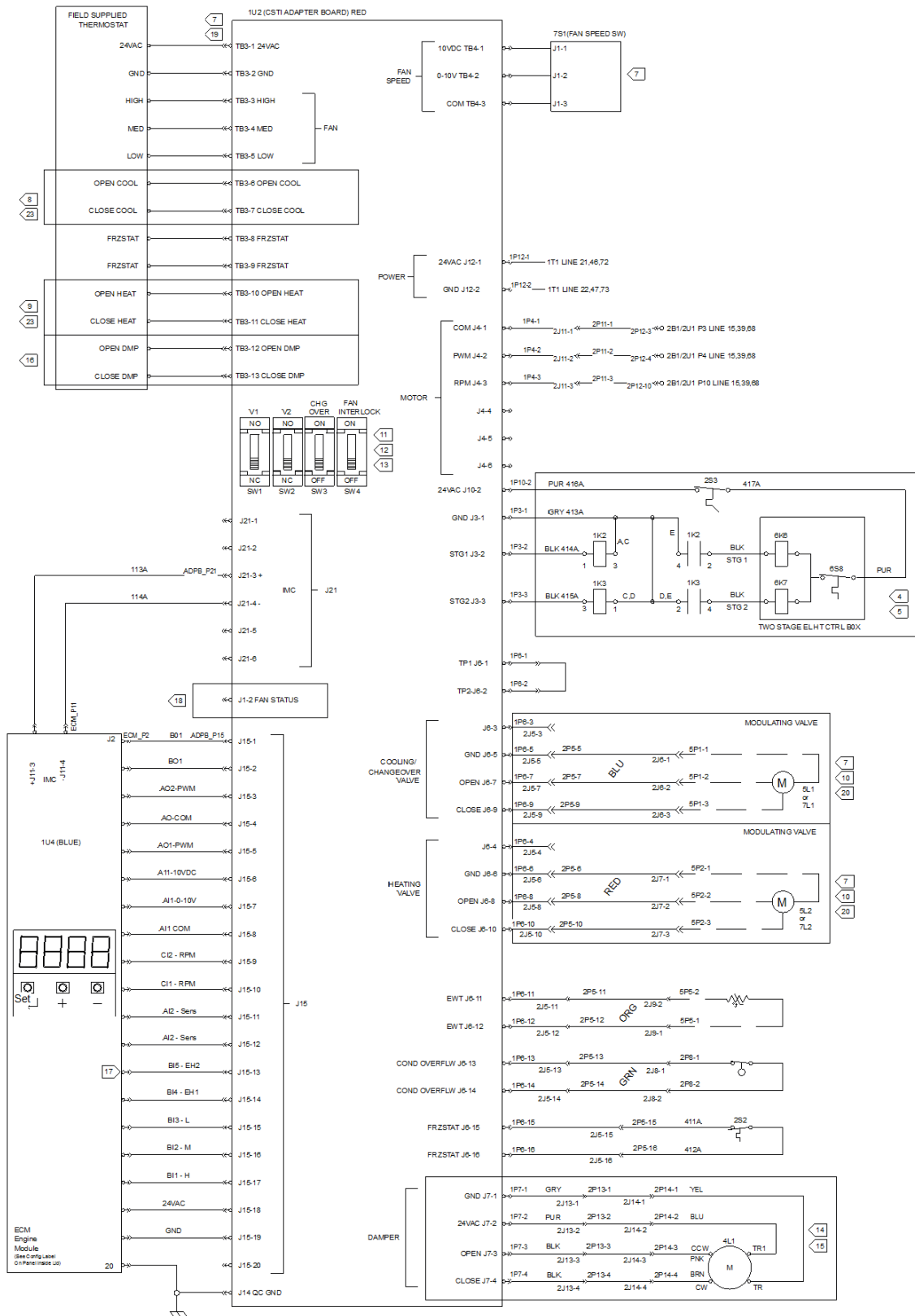
Fan Curve - Blower coil

Item: A9 Qty: 1 Tag(s): FCU-CEP-8



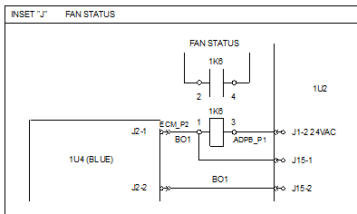
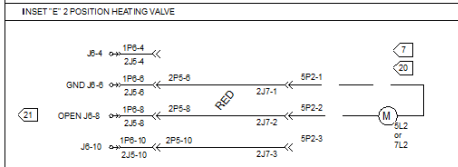
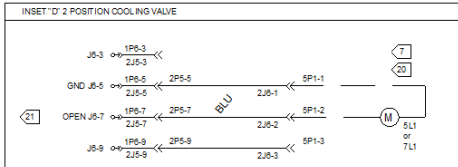
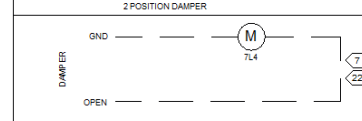
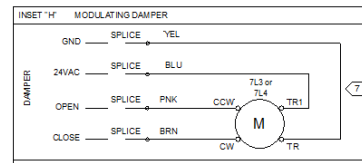
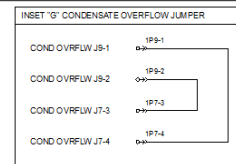
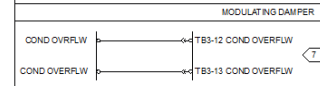
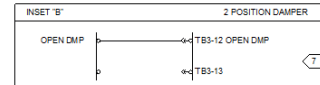
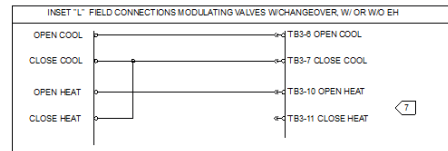
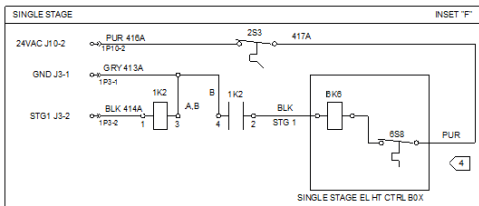
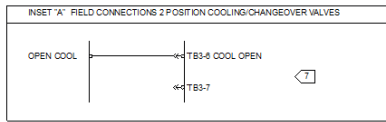
Accessory - Blower coil

Item: A1 - A9 Qty: 7 Tag(s):, FCU-CEP-2, FCU-CEP-3, FCU-CEP-4, FCU-CEP-5, FCU-CEP-6, FCU-CEP-7, FCU-CEP-8



Accessory - Blower coil

Item: A1 - A9 Qty: 7 Tag(s): FCU-CEP-2, FCU-CEP-3, FCU-CEP-4, FCU-CEP-5, FCU-CEP-6, FCU-CEP-7, FCU-CEP-8



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 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.

- 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, 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'.
- 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. 2 P.O.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 (COOL1 OR COOL2 = J.K.).
- 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 AND CONDENSATE OVERFLOW FIELD WIRING. SEE INSET 'B'.
- WIRE IS OMITTED WHEN 2-10V HEATING VALVE IS USED.
- SEE INSET 'J' FOR FAN STATUS WIRING. (CTRL = N).
- 24V OUT/RTU IS RATED 15VA.
- FIELD SUPPLIED ACTUATOR OR WIRING UTILIZES THE SAME CONNECTION POINTS AS FACTORY ACTUATOR WIRING.
- VALVES SHOWN IN NORMALLY CLOSED POSITION. FOR NORMALLY OPEN POSITION, THE VALVE SIGNAL BECOMES CLOSE.
- DAMPER SHOWN IN NORMALLY CLOSED POSITION. FOR NORMALLY OPEN POSITION, THE DAMPER SIGNAL BECOMES CLOSE.
- FIELD CONNECTIONS SHOWN ON TB3-6, TB3-7, TB3-10, TB3-11 ARE FOR MODULATING VALVES W/O CHANGEOVER AND ELECTRIC HEAT SYSTEM. FOR FIELD CONNECTIONS OF MODULATING VALVES W/CHANGEOVER, W/ OR W/O ELECTRIC HEAT SYSTEM, SEE INSET 'L'.

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

LEGEND		
DEVICE DESIGNATION	DESCRIPTION	LINE NUMBER
1U2	ADAPTER BOARD	88,98
1U4	ENGINE BOARD	88,118
2S3	ELHT LOCKOUT SWITCH	75,106
6K6	CONTACTOR, ELHT STG 1	107,77
6S8	ELHT HIGH TEMP	108,77
6K7	CONTACTOR, ELHT STG 2	109
1K2	CONTACTOR, ELHT	107,77
1K3	CONTACTOR, ELHT	109
1K6	RELAY, FAN STATUS	94,96
5L1	COOLING COIL VALVE MOTOR	84,115
5L2	HEATING COIL VALVE MOTOR	83,119
7L1	COOLING COIL VALVE MOTOR	115,84
7L2	HEATING COIL VALVE MOTOR	89,119
2S1	CONDENSATE OVERFLOW SWITCH	126
2S2	FREEZE/STAT	128
7L3	MIXING BOX DAMPER ACTUATOR	125
7L4	OUTSIDE AIR DAMPER ACTUATOR	125,128
4L1	MIXING BOX DAMPER ACTUATOR	133
5RT1	ENTERING WATER TEMP SENSOR	124
7S1	FAN SPEED SW	89

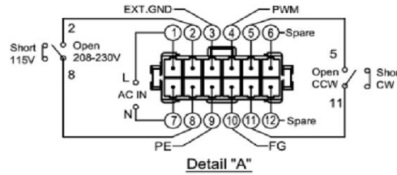
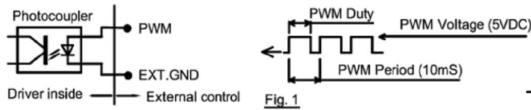
Accessory - Blower coil

Item: A1 - A9 Qty: 7 Tag(s): FCU-CEP-2, FCU-CEP-3, FCU-CEP-4, FCU-CEP-5, FCU-CEP-6, FCU-CEP-7, FCU-CEP-8

Motor Information

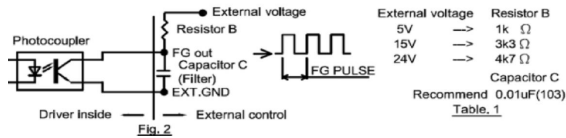
DRIVER FUNCTION:

1. SPEED CONTROL - PWM (PULSE WIDTH MODULATION) MODE
- 1-1. THE CONNECTOR OF DRIVER, PIN 4 PWM & PIN 3 EXT.GND
- 1-2. INPUT CIRCUITRY AS FIG. 1, USE PHOTOCOPLER AND VOLTAGE ISOLATION
- 1-3. PLEASE INPUT THE PWM VOLTAGE +5V, PWM FREQUENCY 100HZ(PERIOD 10MS)
- 1-4. WHEN PWM RESPONSIBILITY CYCLE < 15 %, MOTOR STOPS
WHEN PWM RESPONSIBILITY CYCLE = 100 %, MOTOR ROTATES TO HIGHEST SPEED
RESPONSIBILITY CYCLE = (PWM DUTY/PWM PERIOD) * 100 %



2.SPEED FEEDBACK

- 2-1. THE CONNECTOR OF DRIVER, PIN 10 FG & PIN 3 EXT.GND
- 2-2. OUTPUT CIRCUITRY AS FIG.2 USE OPEN COLLECTOR OUTPUT, IT NEEDS THE EXTERNAL VOLTAGE UNDER DC24V/6MA SUPPLY VOLTAGE, PLEASE ACCORD TO THE SUPPLY VOLTAGE ADDING LIMITING RESISTOR B, SEE TABLE.1, WHEN FG OUT IS NO NEED EITHER CONNECTION.
- 2-3. RECOMMEND TO USE RC FILTER CIRCUIT FOR FG OUTPUT SIGNAL AND CAPACITOR SHOULD BE 0.01uF(103). PLEASE REFER TO FIG.2
- 2-4. THE MOTOR POLE IS 12P. ONE TURN OUTPUT 18 PULSE WAVES SIGNAL.



4.ATTENTION:

- 4-1. PLEASE TURN OFF THE POWER BEFORE CHANGING THE ROTATING DIRECTION. (CW/CCW)
 - 4-2. WHEN PIN 2 AND PIN 8 BEEN SHORT-CIRCUIT, THE APPLY VOLTAGE IS AC115V.INPUT VOLTAGE CANNOT BE AC208-230/277V.
 - 4-3.WHEN MOTOR IS UNDER NO-LOAD CONDITION, THE PWM DUTY SHOULD LESS THAN 20 % TO PREVENT ANY DAMAGE.
 - 4-4. MOTOR TURNS ON PROCEDURE
PLEASE APPLY THE AC POWER FIRST AND THEN THE PWM SPEED COMMAND.
 - 4-5. MOTOR TURNS OFF PROCEDURE
PLEASE TURN OFF THE SPEED COMMAND FIRST AND THEN THE AC POWER.
- 5. LOCKED ROTOR PROTECTION AND RESET:**
- 5-1. WHEN MOTOR REACHES THE 200 PERCENT OVERLOAD CONDITION, THE OVERLOAD PROTECTION WILL OPERATE THE LOCKED ROTOR FUNCTION PRIOR THAN IT, SEE THE DESCRIPTION AS BELOW:
 - 5-2. WHEN MOTOR LOCKED, DRIVER WILL SHUT DOWN SPEED COMMAND AFTER 10 SEC.
 - 5-3. AFTER MOTOR LOCKED, PLEASE STOP SPEED COMMAND, REMOVE DEFECT CAUSES, RESET SPEED COMMAND AND THEN MOTOR WILL RESTART. IF DEFECT CAUSES DO NOT REMOVE, MOTOR WILL BE LOCKED AGAIN AFTER RESET.

3.OPTIONAL FEEDBACK

- 3-1. THE CONNECTOR OF DRIVER, PIN 6 OPTIONAL & PIN 3 EXT.GND
- 3-2. CIRCUIT AND DESCRIPTION AS FIG.2, 2-2 AND 2-3.
- 3-3. THE OPTIONAL SIGNAL FORMAT IS PWM. (PERIOD = 10MS)
- 3-4. OPTIONAL SIGNAL IS DEFINED WITH CUSTOMERS.

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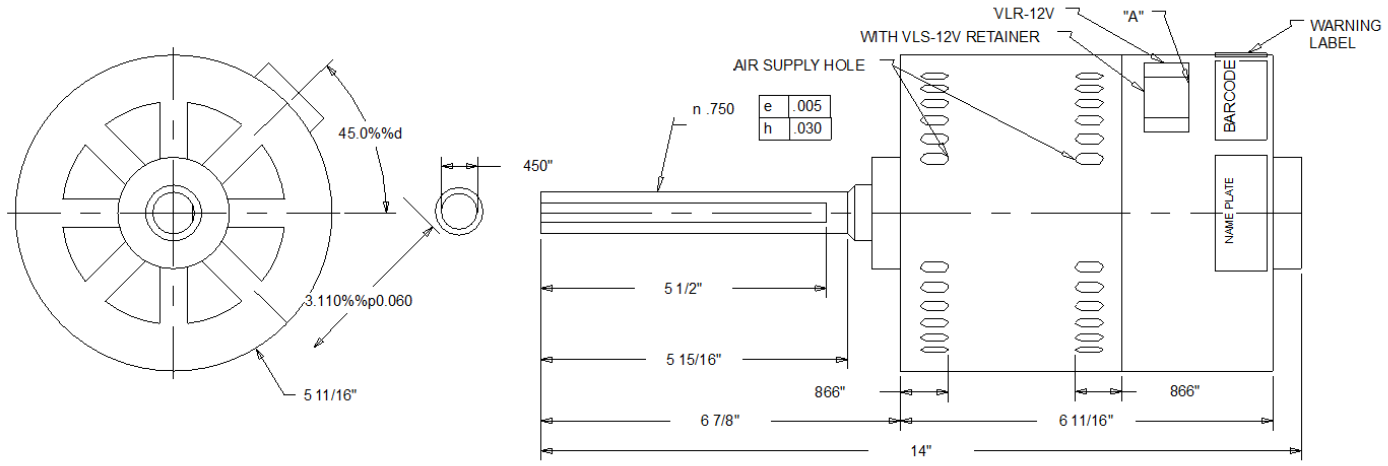
NOTES:

1. COLOR: MOTOR CORE BLACK
MOTOR DRIVER GREEN
2. THERMAL GREASE FOR MOUNTING IPM SHALL BE SFY-340 WITH A THICKNESS OF 0.0055"-0.0079" (0.14MM-0.2MM) (CF)
3. IPM MOUNTING SCREWS SHALL BE TIGHTENED TO 6.16 IN LBS.-7.03 IN LBS.(7.1 KG CM - 8.1 KG CM) OF TORQUE (CF)
4. CLEARANCE NOTCH OF 0.30" X 0.18" IN DRIVER FOR VLP-12V-1 PLUG
5. HEAT SINK FLATNESS SHALL BE -0.0021"-0.0039"(-54-100 MICROMETERS) (CF)
6. HEAT SINK ROUGHNESS SHALL BE 0.000126"-0.000248" (3.2-6.3 MICRO METERS) (CF)
7. MOTOR SHAFT ROTATION DIRECTION FROM SHAFT END.
8. INTERNAL RAMP RATE DECREASED.

BLDC MOTOR

115 / 208 - 230 / 277 Vac 50/60Hz 5.82/ 3.55-3.28 / 2.50 A (Rated Amps) Speed Range : 300-2500Rpm Max FLA : 7.46/4.26-4.26/3.76A T P/N : X70660685010 H P/N : HMF185A02R101V S/N : 000000000000	1725Rpm 0.5HP Cont Air Over Amb. 40°C/104°F E313041
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NAME PLATE



Accessory - Blower coil

Item: A3 - A5, A7 - A9 Qty: 6 Tag(s): FCU-CEP-2, FCU-CEP-3, FCU-CEP-4, FCU-CEP-6, FCU-CEP-7, FCU-CEP-8

Motor: 3Hp Voltage: 460, 380, 415 ph 3

TABLE 1													MEASURED		RATED CONDITIONS		REFERENCE	ELECTRICAL DATA			
EXT.	RATED VOLTAGE	NOMINAL HP	PHASE	INSULATION CLASS	A	B	C	F	D	E	FREQ	MOTOR MAX WEIGHT (lbs)	MAX INPUT POWER (W)	SPEED (RPM)	OUTPUT POWER (HP)	MOTOR & DRIVE EFFICIENCY	MAX FLA	PF			
X70660721001	460	3	3	B	6.30	9.510	5.610	5.995	10.920	3.700	60	37.478	2630	1300	3.0	85	5.5	0.63			
	415	3	3									2430	1300	2.7	83				5.5	0.63	
	380	3	3									2180	1300	2.4	82				5.3	0.63	
X70660721002	230	3	3	B	6.30	9.510	5.610	5.995	10.920	3.700	60	36.949	2650	1300	3.0	84	11.2	0.63			
	460	3	3									36.949	2600	1300	3.0				87	11.2	0.63
	208	3	3																		
X70660721003	460	1.5	3	B	4.33	10.490	8.071	8.661	10.920	2.718	60	21.385	1410	1300	1.5	79	3.3	0.60			
	415	1.5	3									21.385	1370	1300	1.5				82	4	0.60
	380	1.5	3									21.385	1220	1300	1.3				80	4.2	0.60
X70660721004	230	1.5	3	B	4.33	10.490	8.071	8.661	10.920	2.718	60	21.385	1410	1300	1.5	79	6.5	0.60			
	460	1.5	3									21.385	1370	1300	1.5				82	7.6	0.60
	208	1.5	3																		
X70660721005	575	3.5	3	B	6.30	9.510	5.610	5.995	10.920	3.700	60	37.478	2640	1300	3.0	84	4.6	0.62			
	460	3	3																		
	415	3	3																		
X70660721006	460	3	3	B	6.30	9.510	5.610	5.995	14.878	3.700	60	38.007	2630	1300	3.0	85	5.5	0.63			
	415	3	3									38.007	2430	1300	2.7				83	5.5	0.63
	380	3	3									38.007	2180	1300	2.4				82	5.3	0.63
X70660721007	230	3	3	B	6.30	9.510	5.610	5.995	14.878	3.700	60	37.478	2650	1300	3.0	84	11.2	0.63			
	460	3	3									37.478	2600	1300	3.0				87	11.2	0.63
	208	3	3																		
X70660721008	460	1.5	3	B	4.33	10.490	8.071	8.661	14.878	2.718	60	21.914	1410	1300	1.5	79	3.3	0.60			
	415	1.5	3									21.914	1370	1300	1.5				82	4	0.60
	380	1.5	3									21.914	1220	1300	1.5				80	4.2	0.60
X70660721009	230	1.5	3	B	4.33	10.490	8.071	8.661	14.878	2.718	60	21.914	1410	1300	1.5	79	6.5	0.60			
	460	1.5	3									21.914	1370	1300	1.5				82	7.6	0.60
	208	1.5	3																		
X70660721010	575	3.5	3	B	6.30	9.510	5.610	5.995	14.878	3.700	60	38.007	2640	1300	3.0	84	4.6	0.62			
	460	3	3																		
	415	3	3																		

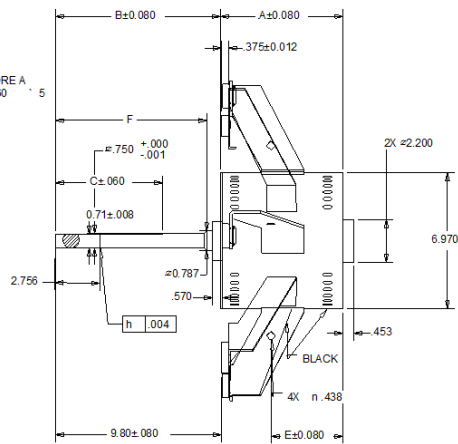
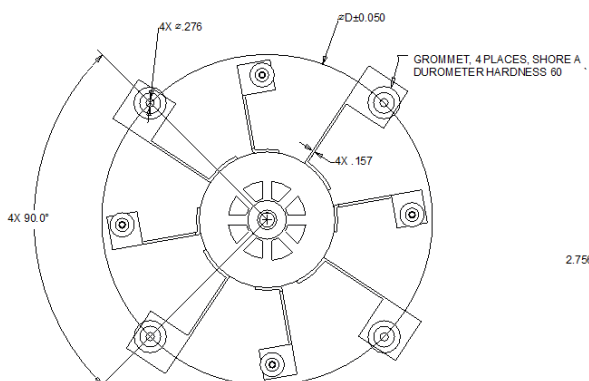
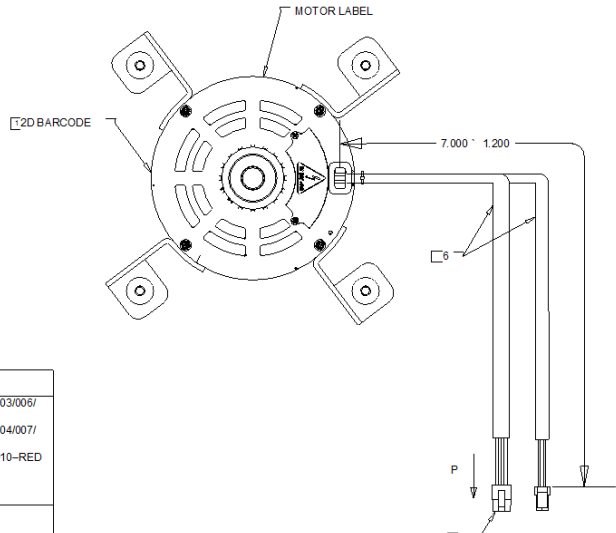
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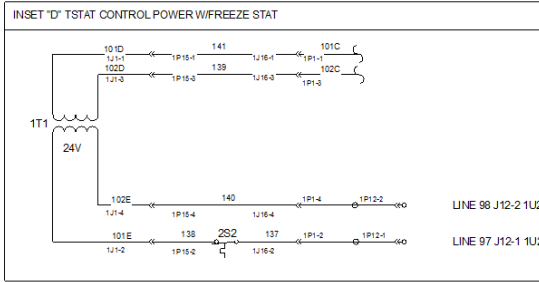
1. TRANE 2D BARCODE TO BE LOCATED ON ONE OF THE LABELS.
2. MOTOR UL RECOGNIZED TO 130 - F AMBIENT TEMPERATURE.
3. MOTOR OPERATING SPEED RANGE IS 300-2500 RPM.
4. FOR BROAD OCEAN INTERNAL USE, NO VOLTAGE DURING OPERATION.
5. POWER WIRES TO USE UL3173, 18AWG.
6. UL RECOGNIZED (YDPU2) TUBING, EXTRUDED INSULATING (VW-1 RATED)
7. COLOR: BLACK
8. CONTROL WIRES TO USE UL 1430 22AWG.
9. THE MAX FLA IS THE MAXIMUM CURRENT DRAW THE MOTOR WILL OPERATE WITH THE GIVEN PF.
10. THE MAX FLA CONDITION COULD OCCUR AT A DIFFERENT RPM AND HP THAN THE RATED CONDITIONS.
11. THE RATED FLA IS THE CURRENT DRAW AT THE RATED SPEED, OUTPUT POWER, AND POWER FACTOR.
12. USE MAX FLA FOR UNIT NAMEPLATE CALCULATIONS.
13. THE MOTOR EFFICIENCY SHOWN IN TABLE 1 IS FOR REFERENCE ONLY.
14. MOTOR ELECTRIC AND SECURITY SHOULD COMPLY WITH STANDARD UL51800-5-1;
15. TEMPERATURE RANGE: -20 - C-55 - C;
16. MOUNTING: FOR HORIZONTAL SHAFT APPLICATION ONLY.
17. RUBBER GROMMETS TO BE 60 DUROMETER +/-5. (SHORE A)
18. MOTOR SHAFT ROTATION DIRECTION IS FROM SHAFT END.
19. CHANGES TO THIS PRINT MAY AFFECT PURCHASING AND VENDOR, NOTIFY THEM OF ANY CHANGES.

LINE FUNCTION (CONNECT TO DRIVER)

CONNECTOR	MARK	COLOR	FUNCTION	DESCRIPTION	COLOR
RECEPTACLE HOUSING: JST VLP-34V RETAINER: JST VLS-02V PIN CONTACT: JST SVF-42T-P2.0	1	RED	U	CONNECT TO WINDING	X70660721001/003/006/008-WHITE
	2	BLACK	V		X70660721002/004/007/009-YELLOW
	3	BLUE	W		X70660721009/010-RED
	4	Y & G	GND		
RECEPTACLE HOUSING: MOLEX 39-01-2095 OR JST/KET EQUATE SOCKET CONTACT: MOLEX 39-00-0038 OR JST/KET EQUATE	1	BLACK	GND	ROTATOR POSITION	NATURAL
	2	YELLOW	HJ	POSITION	
	3	BLUE	HW	SIGNAL	
	4	WHITE	HW		
	5	RED	VCC		



Accessory - Blower coil
Item: A6 Qty: 1 Tag(s): FCU-CEP-5



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

AVIS
 N'UTILISER QUE DES CONDUCTEURS EN CUivre!
 LES BORNES DE L'UNITÉ NE SONT PAS CONÇUES POUR RECEVOIR D'AUTRES TYPES DE CONDUCTEURS.
 FAIRE DÉFAUT À LA PROCÉDURE CI-DESSUS PEUT ENTRAÎNER DES DOMMAGES À L'ÉQUIPEMENT.

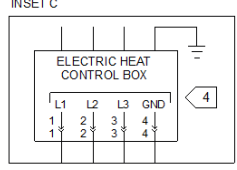
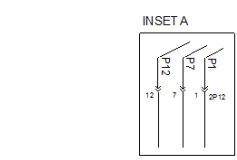
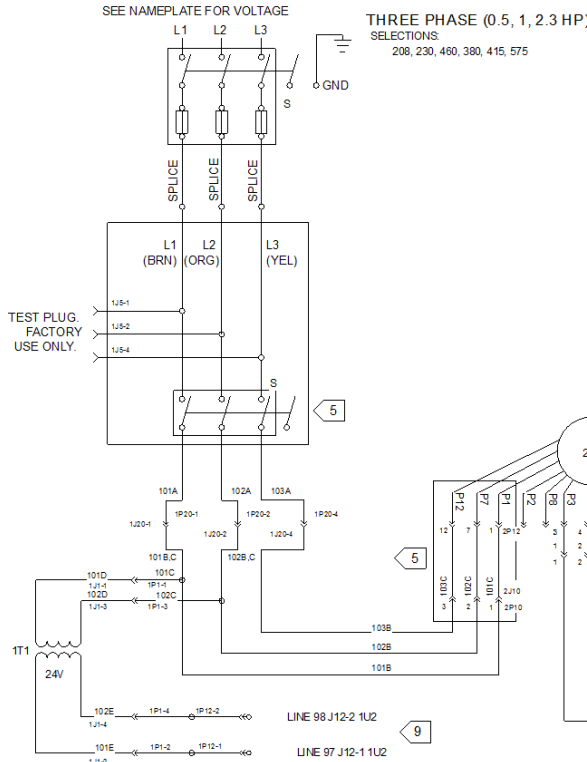
AVISO
 ¡UTILICE ÚNICAMENTE CONDUCTORES DE Cobre!
 LAS TERMINALES DE LA UNIDAD NO ESTÁN DISEÑADAS PARA ACEPTAR OTROS TIPOS DE CONDUCTORES.
 NO SEGUIR LAS INSTRUCCIONES ANTERIORES PUEDE PROVOCAR DAÑOS EN EL EQUIPO.

WARNING
 HAZARDOUS VOLTAGE!
 DISCONNECT ALL ELECTRIC POWER INCLUDING REMOTE DISCONNECT 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 DANGEREUSE!
 COUPER TOUTES LES TENSIONS ET OUVRIER LES SECTIONNERS À DISTANCE. PUIS SUIVRE LES PROCÉDURES DE VERROUILLAGE ET D'ÉTIQUETTES AVANT TOUTE INTERVENTION. VÉRIFIER QUE TOUS LES CONDENSATEURS DES MOTEURS SONT DÉCHARGÉS. DANS LE CAS D'UNITÉS COMPORTANT DES ENTRAÎNEMENTS À VITESSE VARIABLE, SE REPORTER AUX INSTRUCTIONS DE L'ENTRAÎNEMENT POUR DÉCHARGER LES CONDENSATEURS.

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

EL NO REALIZAR LO ANTERIORMENTE INDICADO, PODRÍA OCASIONAR LA MUERTE O SERIAS LESIONES PERSONALES.



AREA	LOCATION
1	MAIN CONTROL PANEL
2	SUPPLY FAN AND COL SECTION
3	
4	WORKING 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	67
2S2	FREEZE STAT	29

NOTES:

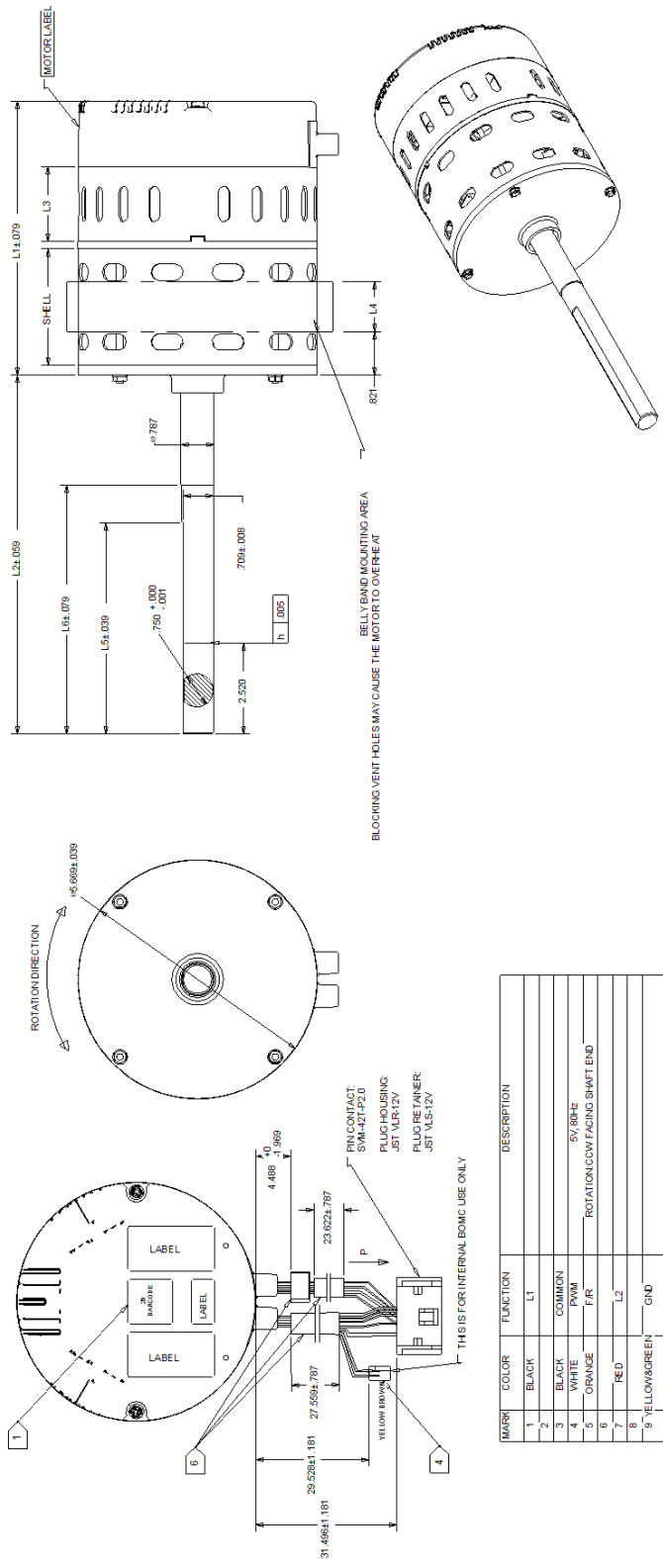
- UNLESS OTHERWISE NOTED, ALL SWITCHES ARE SHOWN AT 25° C (77° F), AT ATMOSPHERIC PRESSURE, AT 50 % RELATIVE HUMIDITY, WITH ALL UTILITIES TURNED OFF, AND AFTER A NORMAL SHUTDOWN HAS OCCURRED.
- DASHED LINES INDICATE RECOMMENDED FIELD WIRING BY OTHERS. DASHED LINE ENCLOSURES AND/OR DASHED DEVICE OUTLINES 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 JUMPERED FOR 115V OPERATION ONLY.
- USE COPPER CONDUCTORS ONLY.
- WIRING SHOWS IS FOR TSTAT CONTROL POWER W/O FREEZE STAT AND CSTI CONTROL POWER W/ OR W/O FREEZE STAT, FOR TSTAT CONTROL POWER W/ FREEZE STAT SEE INSET "D"

Accessory - Blower coil
Item: A6 Qty: 1 Tag(s): FCU-CEP-5

X7060083

EXT	NAME	HZ	RPM RANG	WIRING MODE	ROTATION	DIELECTRIC STRENGTH	PROTECTIVE CLASS			MEASURED			RATED CONDITIONS			REFERENCE ELECTRICAL DATA									
							L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	L11	L12	L13	L14	L15	L16			
X7060080010	MOTOR: 0.5HP 3PHASE 208-230V	50/60	300-2500	OPEN RING CONTROL	SEE NOTE	3300VDC/1MANS	E365418	10	3	BALL	B	0.230	0.608	1.555	1.181	1.402	7.677	13.450	MOTOR MAX SHFT (IN)	81.74	0.5-0.5	81.74	2.4-2.6	0.57-0.56	PF
X7060080020	MOTOR: 1HP 3PHASE 208-230V	50/60	300-2500	OPEN RING CONTROL	SEE NOTE	3300VDC/1MANS	E365418	10	3	BALL	B	0.230	0.608	1.555	1.181	1.402	7.677	17.050	MOTOR MAX SHFT (IN)	81.81	0.5-0.5	81.81	4.6-4.8	0.59-0.58	
X7060080030	MOTOR: 0.5HP 3PHASE 380-415-460V	50/60	300-2500	OPEN RING CONTROL	SEE NOTE	3300VDC/1MANS	E365418	10	3	BALL	B	0.230	0.608	1.555	1.181	1.402	7.677	13.450	MOTOR MAX SHFT (IN)	76-73-73	0.45-0.5-0.5	76-73-73	1.2-1.3-1.3	0.56-0.65-0.65	
X7060080040	MOTOR: 1HP 3PHASE 380-415-460V	50/60	300-2500	OPEN RING CONTROL	SEE NOTE	3300VDC/1MANS	E365418	10	3	BALL	B	0.230	0.608	1.555	1.181	1.402	7.677	17.050	MOTOR MAX SHFT (IN)	82-81-80	0.5-0.5-0.5	82-81-80	2.3-2.4-2.5	0.57-0.57-0.57	
X7060080050	MOTOR: 0.5HP 3PHASE 575V	60	300-2500	OPEN RING CONTROL	SEE NOTE	3100VDC/1MANS	E365418	10	3	BALL	B	0.498	0.500	1.772	1.181	1.402	7.677	13.450	MOTOR MAX SHFT (IN)	72	0.5	72	1.1	0.55	
X7060080060	MOTOR: 1HP 3PHASE 575V	60	300-2500	OPEN RING CONTROL	SEE NOTE	3100VDC/1MANS	E365418	10	3	BALL	B	0.283	0.720	1.772	1.969	0.634	7.087	17.060	MOTOR MAX SHFT (IN)	79	1.0	79	2.1	0.56	

- NOTES:
1. FRAME 20 BARCODE TO BE LOCATED ON ONE OF THE LABELS.
 2. MOTOR OPERATING TEMPERATURE RANGE IS 300-200°F AMBIENT TEMPERATURE.
 3. MOTOR OPERATING CURRENT RANGE IS 300-200% OF RATED CURRENT.
 4. FOR BROAD OCE AN INTERNAL USE, NO VOLTAGE DURING OPERATION.
 5. POWER WIRES TO USE UL3173, 18AWG.
 6. CONTROL WIRES TO USE (10PDS) TUBING, EXTRUDED INSULATING (W4-1 RATED).
 7. COLOR: BLACK.
 8. CONTROL WIRES TO USE UL3286, 20AWG.
 9. THE MOTOR IS DESIGNED TO OPERATE AT THE MOTOR MAX OPERATING VOLTAGE ONLY. THE MAX FLA CONDITION COULD OCCUR AT A DIFFERENT RPM AND HP THAN THE RATED CONDITIONS.
 10. THE RATED FLA IS THE CURRENT DRAW AT THE RATED SPEED, OUTPUT POWER, AND POWER FACTOR.
 11. THE MOTOR IS DESIGNED TO OPERATE AT THE MOTOR MAX OPERATING VOLTAGE ONLY.
 12. THE MOTOR EFFICIENCY IS SHOWN IN THE LABEL (SEE REFERENCE ONLY).
 13. MOTOR ELECTRIC AND SECURITY SHOULD ACCORDING TO STANDARD ILL81800-5-1.
 14. TEMPERATURE RANGE: 30-200°F (AL SH) C-55-70 C.
 15. MOTOR MAX OPERATING CURRENT RANGE IS 300-200% OF RATED CURRENT.
 16. MOTOR SHAFT ROTATION DIRECTION IS FROM SHAFT END.
 17. CHANGES TO THIS PRINT MAY AFFECT PURCHASING AND VENDOR. NOTIFY THEM OF ANY CHANGES.



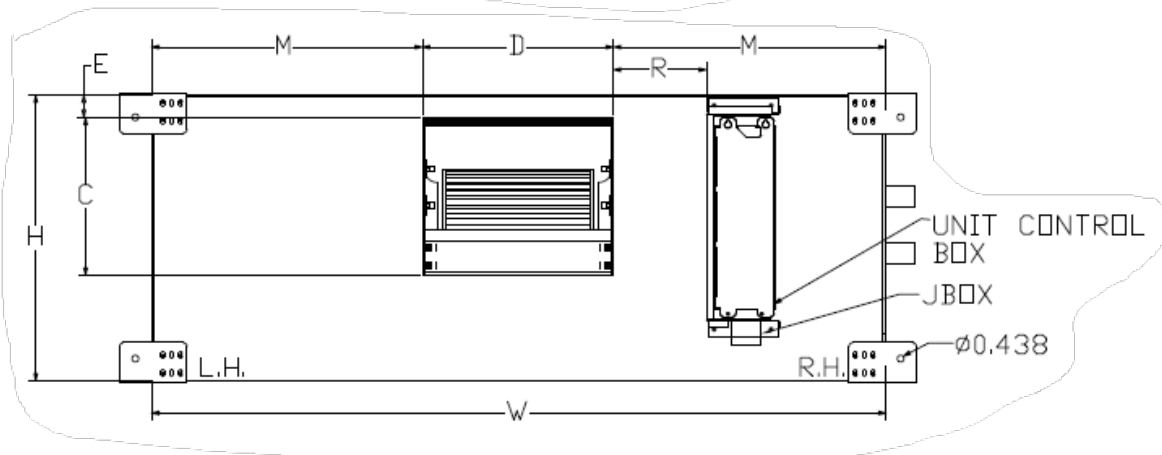
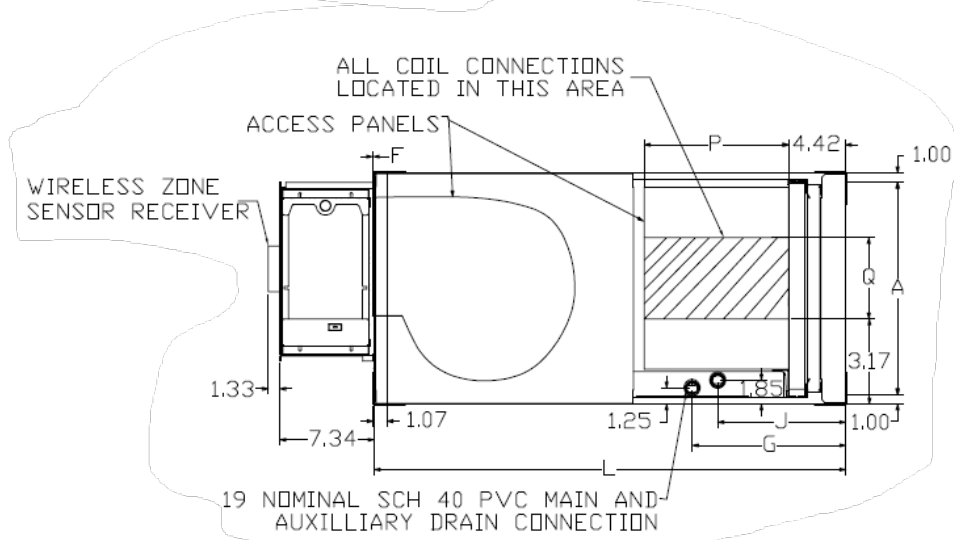
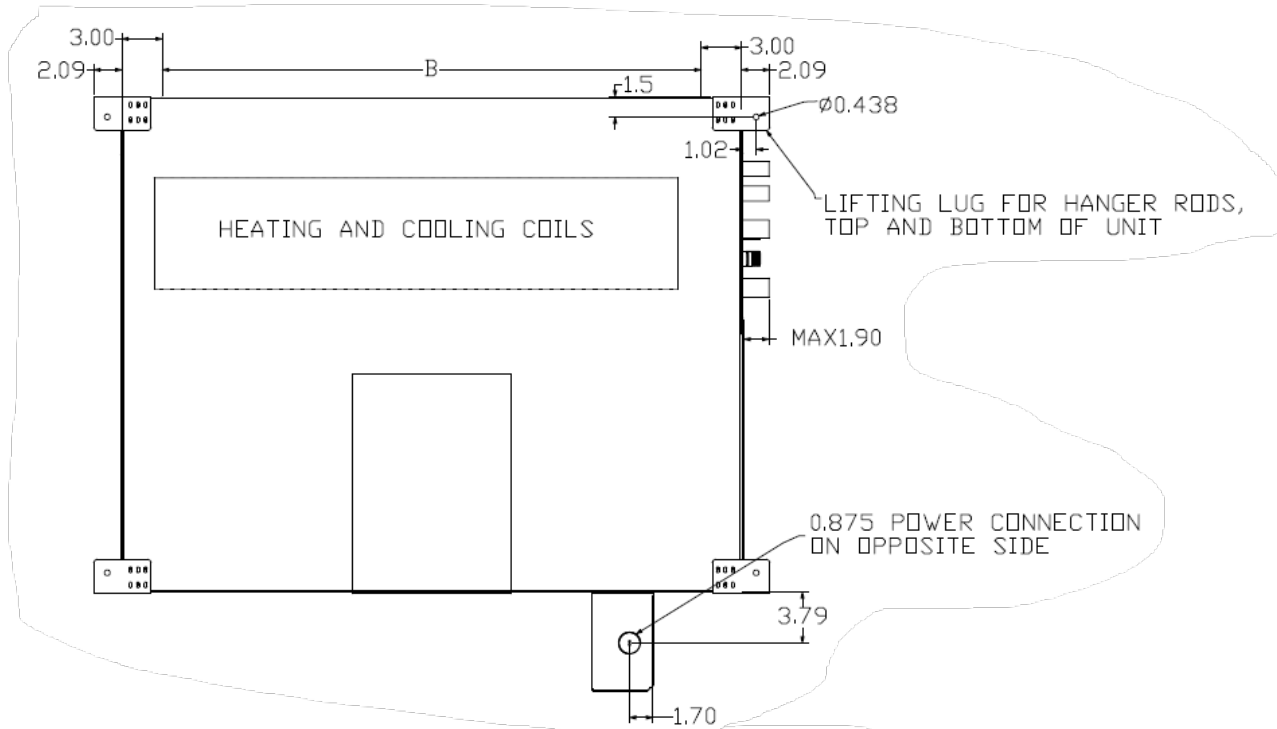
BLOCKING VERT HOLES MAY CAUSE THE MOTOR TO OVERHEAT

MARK	COLOR	FUNCTION	DESCRIPTION
1	BLACK	L1	
2	BLACK	COMMON	
3	WHITE	PWM	5V, 80HZ
4	ORANGE	F/R	ROTATION/CW FACING SHAFT END
5	RED	L2	
6	YELLOW&GREEN	GND	
7	RED	SPEED	15 IMPULSE/SECOND
8	GRAY	FEEDBACK	
9	GRAY	F/R	UNK/WHORANCE ROTATION/CW FACING SHAFT END
10	BLUE	L3	

Accessory - Blower coil

Item: A6, A8, A9 Qty: 3 Tag(s): FCU-CEP-5, FCU-CEP-7, FCU-CEP-8

Hanger placement for Horizontal Blower Coil



Tag Data - Performance Climate Changer (UCCA) (Qty: 2)

Item	Tag(s)	Qty	Description	Model Number
B1	FCU-CEP-1A	1	Performance Climate Changer (UCCA)	UCCAD10C0F0EDLA2000000EDN00AA
B2	FCU-CEP-1B	1	Performance Climate Changer (UCCA)	UCCAD10C0F0EDLA2000000EDN00AA

Product Data - Performance Climate Changer (UCCA)**All Units**

Performance Climate Changer (UCCA)
 Vertical housed fan with top front discharge
 Unit Size 10 Square Feet of Coil
 460/60/3
 Indoor unit
 Stainless Steel Drain Pan, RH Coil / RH Motor & Drive Location
 2 row preheat hydronic coil with 9 fins per inch
 6 row hydronic coil with 9 fins per inch
 Aluminum fins, stainless steel coil casing, 3/8" coils; with extended drain and
 Terminal block plus disconnect
 5 horsepower motor per fan (supply)
 FC fan w/VFD and shaft grounding
 1250 RPM fixed / 1200 - 1300 variable
 2" flat filter rack
 2" MERV 8 Filter

Performance Data - Performance Climate Changer (UCCA)

Tags	FCU-CEP-1A, FCU-CEP-1B
Design airflow (cfm)	4500
Total cooling capacity (MBh)	210.49
Sensible capacity (MBh)	148.17
Main coil system type	Hydronic
Fluid type	Water
Fluid volume (gal)	5.04
Preheat fluid volume (gal)	2.33
Cooling EDB (F)	81.40
Cooling EWB (F)	66.70
Cooling LDB (F)	51.50
Cooling LWB (F)	50.99
Cooling ent fluid temp (F)	42.00
Cooling lvg fluid temp (F)	50.75
Cooling fluid temp rise (F)	8.75
Cooling flow rate (gpm)	47.94
Cooling fluid PD (ft H2O)	6.43
Cooling face velocity (ft/min)	462
Fluid freeze pt (F)	32.00
Preheat coil system type	Hydronic
Preheat fluid type	Water
Total preheat capacity (MBh)	288.42
Preheat coil performance airflow (cfm)	4500
Preheat EAT (F)	30.90
Preheat LAT (F)	90.00
Preheat ent fluid temp (F)	150.00
Preheat lvg fluid temp (F)	133.73
Preheat fluid temp drop (F)	16.27
Preheat flow rate (gpm)	35.49
Preheat fluid PD (ft H2O)	3.92
Preheat coil face velocity (ft/min)	462
Preheat fluid freeze pt (F)	32.00
Reheat coil type	None
Basis of selection	Cooling
Two pipe changeover	No
Elevation (ft)	0.00
Supply fan ESP (in H2O)	1.000
Supply fan TSP (in H2O)	2.446
Supply fan quantity (Each)	1.00
Supply total brake hp per fan (hp)	3.613
Supply fan speed (rpm)	1225
Cooling APD (in H2O)	0.664
Preheat APD (in H2O)	0.170
Filter/Mixing section APD (in H2O)	0.612
Outlet velocity (ft/min)	2117
Unit full load amps (A)	8.42
Unit max fuse size (A)	15.00
Unit min circuit ampacity (A)	10.47
Supply VFD panel amps (A)	8.20
Run acoustics?	Yes
Ducted discharge - 63 Hz (dB)	97
Ducted discharge - 125 Hz (dB)	90
Ducted discharge - 250 Hz (dB)	87
Ducted discharge - 500 Hz (dB)	87

Tags	FCU-CEP-1A, FCU-CEP-1B
Ducted discharge - 1 kHz (dB)	85
Ducted discharge - 2 kHz (dB)	85
Ducted discharge - 4 kHz (dB)	84
Ducted discharge - 8 kHz (dB)	78
Casing - 63 Hz (dB)	104
Casing - 125 Hz (dB)	79
Casing - 250 Hz (dB)	76
Casing - 500 Hz (dB)	70
Casing - 1 kHz (dB)	71
Casing - 2 kHz (dB)	64
Casing - 4 kHz (dB)	53
Casing - 8 kHz (dB)	43
Ducted inlet - 63 Hz (dB)	100
Ducted inlet - 125 Hz (dB)	78
Ducted inlet - 250 Hz (dB)	71
Ducted inlet - 500 Hz (dB)	74
Ducted inlet - 1 kHz (dB)	72
Ducted inlet - 2 kHz (dB)	71
Ducted inlet - 4 kHz (dB)	69
Ducted inlet - 8 kHz (dB)	58
Inlet+Casing - 63 Hz (dB)	93
Inlet+Casing - 125 Hz (dB)	81
Inlet+Casing - 250 Hz (dB)	73
Inlet+Casing - 500 Hz (dB)	75
Inlet+Casing - 1 kHz (dB)	72
Inlet+Casing - 2 kHz (dB)	69
Inlet+Casing - 4 kHz (dB)	67
Inlet+Casing - 8 kHz (dB)	56
Unit length (in)	46.068
Unit width (in)	63.000
Unit height (in)	69.935
Installed weight (lb)	827.9
Rigging weight (lb)	766.5
Cooling fluid velocity (ft/s)	3.69
Preheat fluid velocity (ft/s)	3.94
Reynolds number preheat coil (Each)	25288.94
Reynolds number cooling coil (Each)	7683.73

Mechanical Specifications - Performance Climate Changer (UCCA)
Item: B1, B2 Qty: 2 Tag(s): FCU-CEP-1A, FCU-CEP-1B**GENERAL****Lifting Instructions**

Performance Climate Changer air handlers must be rigged, lifted, and installed in strict accordance with the Installation, Operation, and Maintenance manual (CLCH-SVX009*-EN) for UCCA air handlers. The units are also to be installed in strict accordance with the specifications.

Per ASHRAE 62.1 recommendation, indoor air handling units will be shipped stretch-wrapped to protect unit from in-transit rain and debris.

Installing contractor is responsible for long term storage in accordance with the Installation, Operation, and Maintenance manual (CLCH-SVX009*-EN).

Unit shall be UL and C-UL Listed.

Where applicable air-handling performance data shall be certified in accordance with AHRI Standard 430. For units with housed fans or single direct drive plenum fans, fans shall be certified as complying with AHRI Standard 430. Air handling units with multiple direct drive plenum fans, or direct drive plenum fans incorporated with ECM style motors are outside the scope of AHRI 430. These fans however are rated in accordance with AHRI 430.

Coil performance shall be certified in accordance with AHRI Standard 410.

Unit Construction**Casing Construction**

All unit panels shall be 2-inch solid, double-wall construction to facilitate cleaning of unit interior. All exterior and interior AHU panels will be made of galvanized steel. Motor and drive locations can be on the same side as the unit coil connections or on the opposite side. The casing shall be able to withstand up to 6" w.g. positive or negative static pressure. The unit panels shall not exceed .005 inch deflection per inch of panel span at 6" w.g. positive or negative static pressure.

Floor Construction

The unit floor shall be of sufficient strength to support a 300.0 lb load during maintenance activities and shall deflect no more than .005 inch per inch of panel span when sitting on a support structure.

Insulation

Panel insulation shall provide a minimum thermal resistance (R) value of 13 ft²*h*°F/Btu throughout the entire unit. Insulation shall completely fill the panel cavities in all directions so that no voids exist and settling of insulation is prevented. Panel insulation shall comply with NFPA 90A.

Drain Pan

All units shall be provided with an insulated assembly of polymer material or stainless steel. To address indoor air quality (IAQ), the drain pan shall be designed in accordance with ASHRAE 62.1 being of sufficient size to collect all condensation produced from the coil and sloped in two planes promoting positive drainage to eliminate stagnant water conditions. The outlet shall be located at the lowest point of the pan and shall be sufficient diameter to preclude drain pan overflow under any normally expected operating condition. All drain pan connections shall be visible external to the unit.

Access Door Construction

Access doors shall be 2-inch double-wall construction. Interior and exterior door panels shall be of the same construction as the interior and exterior wall panels, respectively. Surface-mounted handles shall be provided to allow quick access to the interior of the unit. Handle hardware shall be designed to prevent unintended closure. Access doors shall be hinged and removable for quick, easy access. Door handle hardware shall be adjustable and visually indicate locking position of door latch external to the section.

Filters

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.

COIL SECTION

The coil section shall be provided complete with coil and coil holding frame. The coils shall be installed such that headers and return bends are enclosed by unit casings. The drainpan outlet shall be located at the lowest point of the pan and shall be sufficient diameter to preclude drain pan overflow under any normally expected operating condition.

Water Coils

Hydronic coils have W round seamless copper tubes mechanically bonded to coil fins. Coil fins are aluminum with full fin collars that provide maximum fin-tube contact and accurate spacing. Coils are available with 9, 12, and 14 fins per inch. Manufacturer shall not allow selections where moisture carryover could occur at design conditions. For hydronic coils used in a two-pipe system, the unit manufacturer shall provide performance data in both the cooling and heating mode.

Hydronic coils used as heating only will be available in one or two-row configurations. Hydronic coils used as cooling only will be available in four, six, or eight-row configurations. Multi-row hydronic coils have continuous tube circuits arranged for counterflow (water flow counter to the direction of unit airflow). The coil casing may be galvanized or stainless steel. Coils have round seamless copper pipe headers with NPT external thread steel pipe connections. Coils have one vent and one drain connection consisting of 3/8" NPT internal thread copper adapter with steel square head pipe plug. Supply and return connections are located outside the unit casing (on the same side of the unit) and are clearly labeled to facilitate field piping. Coils are proof-tested to 450 psig and leak-tested under water to 300 psig. Maximum standard operating conditions are 300 psig and 200F. Coil performance data and coils containing water or ethylene glycol shall be certified in accordance with AHRI Standard 410. Propylene glycol and calcium chloride, or mixtures thereof, are outside the scope of AHRI Standard 410 and, therefore, do not require AHRI 410 rating or certification.

Water Coils

Hydronic coils have W round seamless copper tubes mechanically bonded to coil fins. Coil fins are aluminum with full fin collars that provide maximum fin-tube contact and accurate spacing. Coils are available with 9, 12, and 14 fins per inch. Manufacturer shall not allow selections where moisture carryover could occur at design conditions. For hydronic coils used in a two-pipe system, the unit manufacturer shall provide performance data in both the cooling and heating mode.

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FC FAN SECTION

The fan shall be a double-width, double-inlet, multi-blade-type, forward-curved (FC) fan. The fan shall be equipped with permanently lubricated, anti-friction bearings with an L-50 life of 200,000 hours as calculated per ANSI/AFBMA Standard 9. All fan wheels are dynamically balanced by the fan vendor or unit manufacturer.

Fans selected with shaft grounding shall have a maintenance free grounding assembly installed on the fan motor to discharge both static and induced shaft currents to ground.

The drives shall be constant speed with fixed-pitch sheaves. The drives shall be selected at a minimum 50 percent larger than the motor brake horsepower (1.5 service factor).

Motor Frame

The motor shall be mounted integral to the isolated fan assembly and furnished by the unit manufacturer. The motor is mounted inside the unit casing on an adjustable base to permit adjustment of drive belt tension (not applicable for direct drive plenum fans). The motor shall meet or exceed all NEMA Standards Publication MG 1 requirements and comply with NEMA Premium efficiency levels when applicable except for fractional horsepower motors which are not covered by the NEMA classification. The motor shall be T-frame, squirrel cage with size, type, and electrical characteristics as shown on the equipment schedule. *Refer to the Product Data section for selected fan motors within each unit.*

Fan Isolation

Belt driven housed fans and direct drive plenum fans with integral frame motors shall be internally isolated to inhibit noise and vibration through the ductwork and building structure. A flexible connection shall be installed between the fan and unit casing to ensure complete isolation. Fan and motor shall be internally isolated with spring isolators. Flexible connection shall comply with NFPA 90A and UL 181 requirements.

VFD

A Variable Frequency Drive (VFD) shall be provided when variable air volume control is required for fan operation. Whether for single fan, or dual fan applications, a single VFD shall be provide to ensure proper operation and to optimize operating life. Each VFD shall be properly sized, factory mounted, wired to the fan motor, and commissioned to facilitate temporary heating, cooling, ventilation, and/or timely completion of the project. The VFD package shall also include:

- a) Electronic manual speed control
- b) Inlet fuses to provide maximum protection against inlet short circuit
- c) Current limited stall prevention
- d) Auto restart after momentary power loss
- e) Speed search for starting into rotating motor
- f) Anti-windmill w/DC injection before start
- g) Phase-to-phase short circuit protection
- h) Ground fault protection

Units with factory-mounted controls shall include power wiring from the VFD panel to the control system, binary output on/off wiring, analog output-speed-signal wiring, binary fault signal wiring and all interfacing wiring between the VFD and the direct control interface.

The VFD shall be covered by UL1995 Standards.

Control Interface

A control interface is available that includes:

- Fan motor disconnect switch
- Transformer(s)
- Customer terminal strip for field-provided controls
- For a control interface without a VFD, it will also include a starter with a motor overload and a motor contactor.
- For a control interface with a VFD, it will not include a starter..

Also, various end device options are available with the control interface wired to a terminal strip. Binary end device options include:

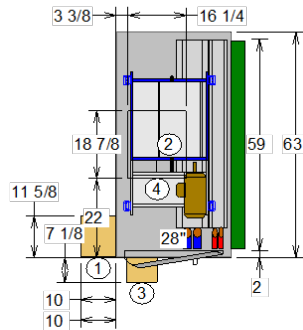
- Low limit protection
- Condensate overflow switch
- Fan status switch
- Filter status switch

Analog end device options are:

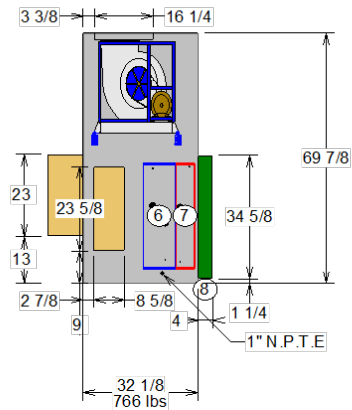
- Discharge air sensor
- Mixed air sensor
- Return air sensor
- Damper actuator

Dimensional Drawings - Performance Climate Changer (UCCA)

Item: B1 Qty: 1 Tag(s): FCU-CEP-1A



- 1 External VFD RH
23 x 11.6
- 2 Housed fan
- 3 External control box RH
23.6 x 8.65
- 4 Opening top
18.9 x 16.2
- 5 1" N.P.T.E
- 6 Cooling coil
- 7 Heating Coil
- 8 Unit filters flat
- Doors
28 width x 32 height



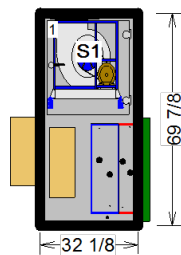
OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size: 10	Job Name: Tenet Westover Hills Medical Center	Unit Casing: 2in Double Wall Foam
Unit type: Indoor unit	Design airflow: 4500 cfm	Proposal Number
Pipe cab / curb / paint:	Sales Office	Tags: FCU-CEP-1A
		Rigging/Installed Weight: 766.5 lb / 827.9 lb

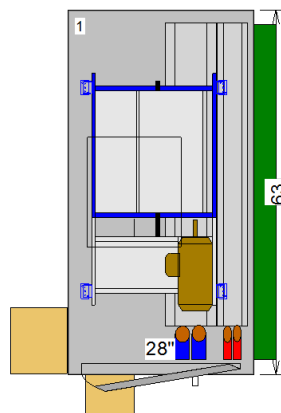


Dimensional Drawings - Performance Climate Changer (UCCA)

Item: B1 Qty: 1 Tag(s): FCU-CEP-1A



Pos #	Module	Length	Weight
1	Base Unit	32 1/8	766.50
	Installed Unit Weight		766.50 lbs



Basic Overall Plan View: Top - Measurements in inches

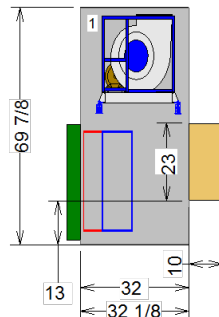
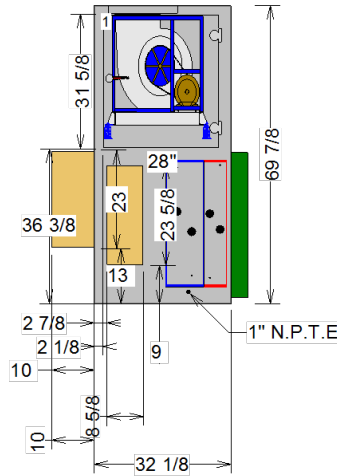
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Unit type: Indoor unit	Design airflow: 4500 cfm	Proposal Number
Pipe cab / curb / paint:	Sales Office	Tags: FCU-CEP-1A
		Rigging/Installed Weight: 766.5 lb / 827.9 lb



Dimensional Drawings - Performance Climate Changer (UCCA)

Item: B1 Qty: 1 Tag(s): FCU-CEP-1A



Detailed Elevation View: Left - Measurements in inches

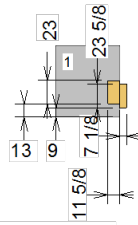
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Unit size: 10	Job Name: Tenet Westover Hills Medical Center	Unit Casing: 2in Double Wall Foam
Unit type: Indoor unit	Design airflow: 4500 cfm	Proposal Number
Pipe cab / curb / paint:	Sales Office	Tags: FCU-CEP-1A
		Rigging/Installed Weight: 766.5 lb / 827.9 lb

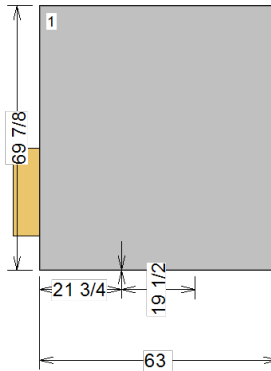


Dimensional Drawings - Performance Climate Changer (UCCA)

Item: B1 Qty: 1 Tag(s): FCU-CEP-1A



Detailed Elevation View: Front - Measurements in inches



Detailed Elevation View: Back - Measurements in inches

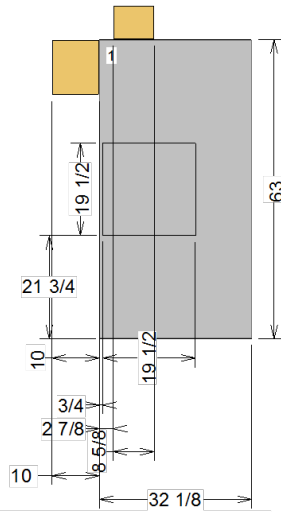
OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size: 10	Job Name: Tenet Westover Hills Medical Center	Unit Casing: 2in Double Wall Foam
Unit type: Indoor unit	Design airflow: 4500 cfm	Proposal Number
Pipe cab / curb / paint:	Sales Office	Tags: FCU-CEP-1A
		Rigging/Installed Weight: 766.5 lb / 827.9 lb

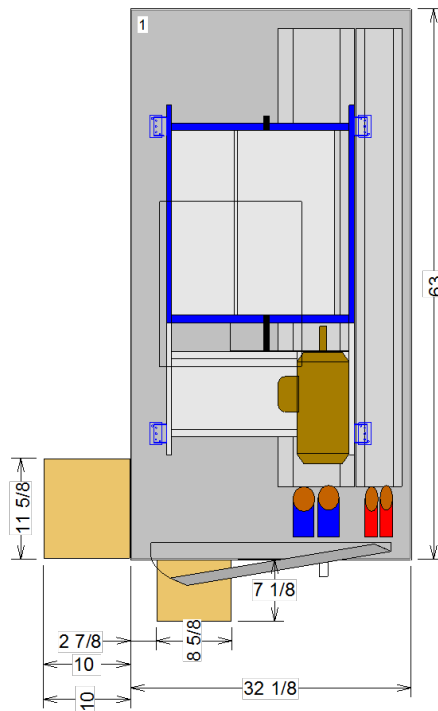


Dimensional Drawings - Performance Climate Changer (UCCA)

Item: B1 Qty: 1 Tag(s): FCU-CEP-1A



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



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

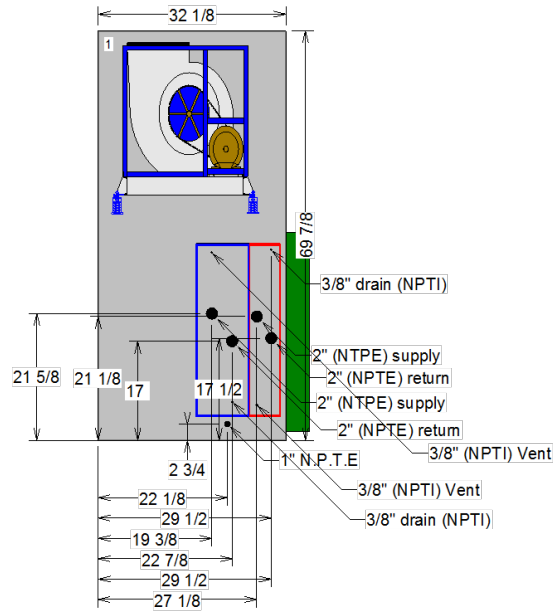
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Unit size: 10	Job Name: Tenet Westover Hills Medical Center	Unit Casing: 2in Double Wall Foam
Unit type: Indoor unit	Design airflow: 4500 cfm	Proposal Number
Pipe cab / curb / paint:	Sales Office	Tags: FCU-CEP-1A
		Rigging/Installed Weight: 766.5 lb / 827.9 lb



Dimensional Drawings - Performance Climate Changer (UCCA)

Item: B1 Qty: 1 Tag(s): FCU-CEP-1A



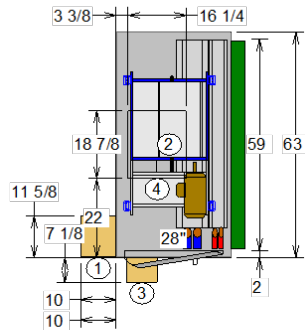
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Pipe cab / curb / paint:	Sales Office	Tags: FCU-CEP-1A
		Rigging/Installed Weight: 766.5 lb / 827.9 lb

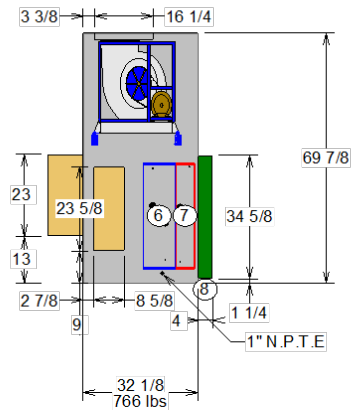


Dimensional Drawings - Performance Climate Changer (UCCA)

Item: B2 Qty: 1 Tag(s): FCU-CEP-1B



- 1 External VFD RH
23 x 11.6
- 2 Housed fan
- 3 External control box RH
23.6 x 8.65
- 4 Opening top
18.9 x 16.2
- 5 1" N.P.T.E
- 6 Cooling coil
- 7 Heating Coil
- 8 Unit filters flat
- Doors
28 width x 32 height



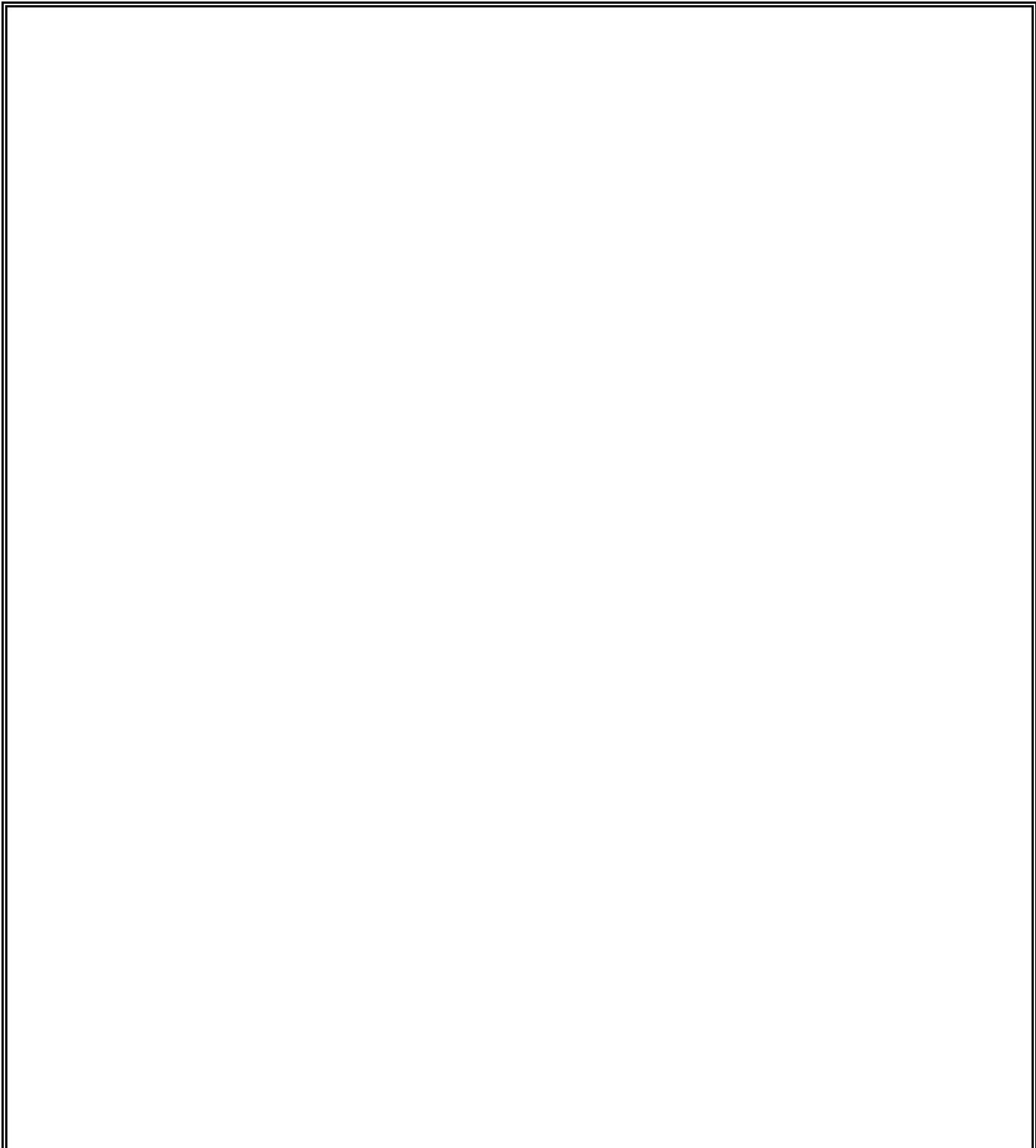
OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size: 10	Job Name: Tenet Westover Hills Medical Center	Unit Casing: 2in Double Wall Foam
Unit type: Indoor unit	Design airflow: 4500 cfm	Proposal Number
Pipe cab / curb / paint:	Sales Office	Tags: FCU-CEP-1B
		Rigging/Installed Weight: 766.5 lb / 827.9 lb



Dimensional Drawings - Performance Climate Changer (UCCA)

Item: B2 Qty: 1 Tag(s): FCU-CEP-1B



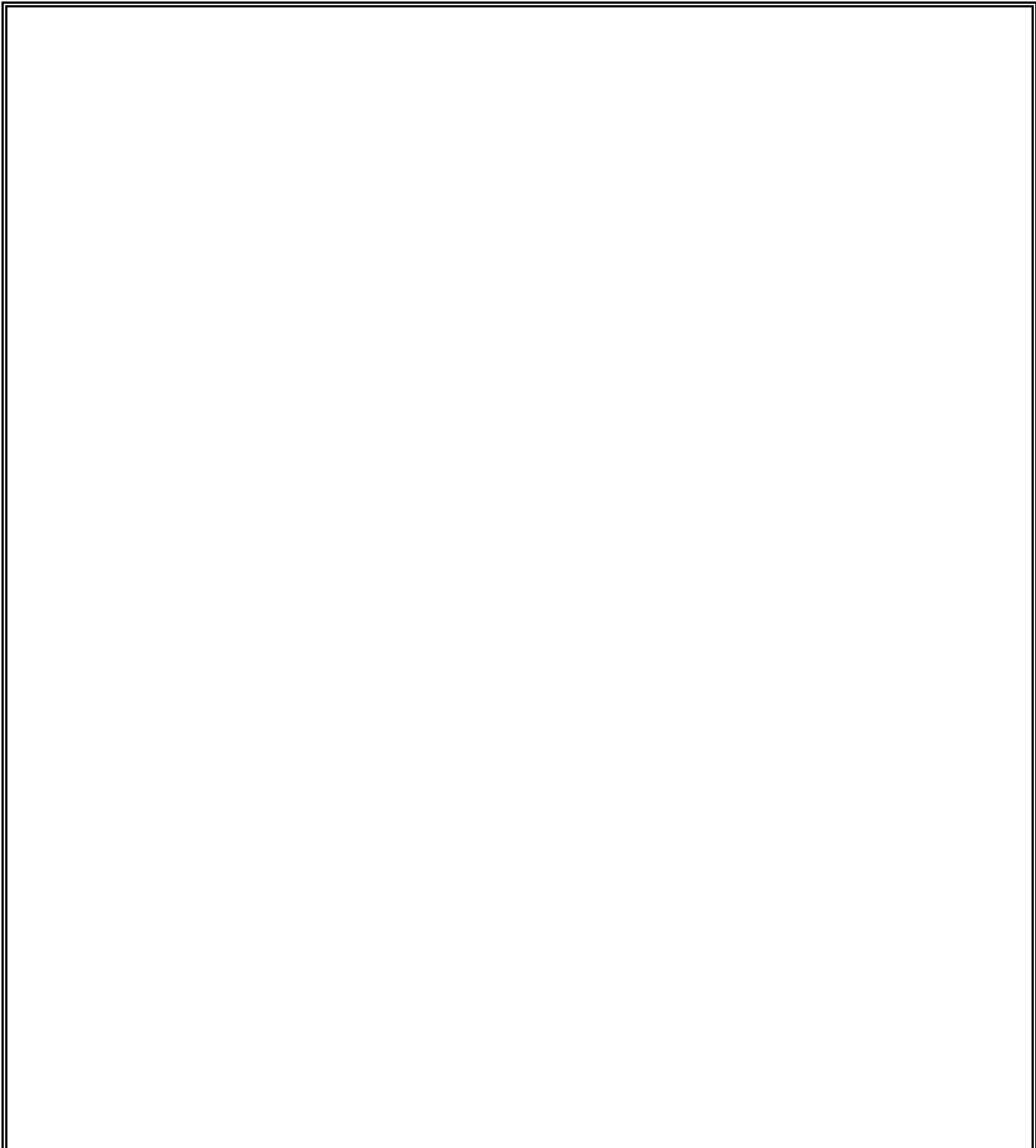
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Dimensional Drawings - Performance Climate Changer (UCCA)

Item: B2 Qty: 1 Tag(s): FCU-CEP-1B



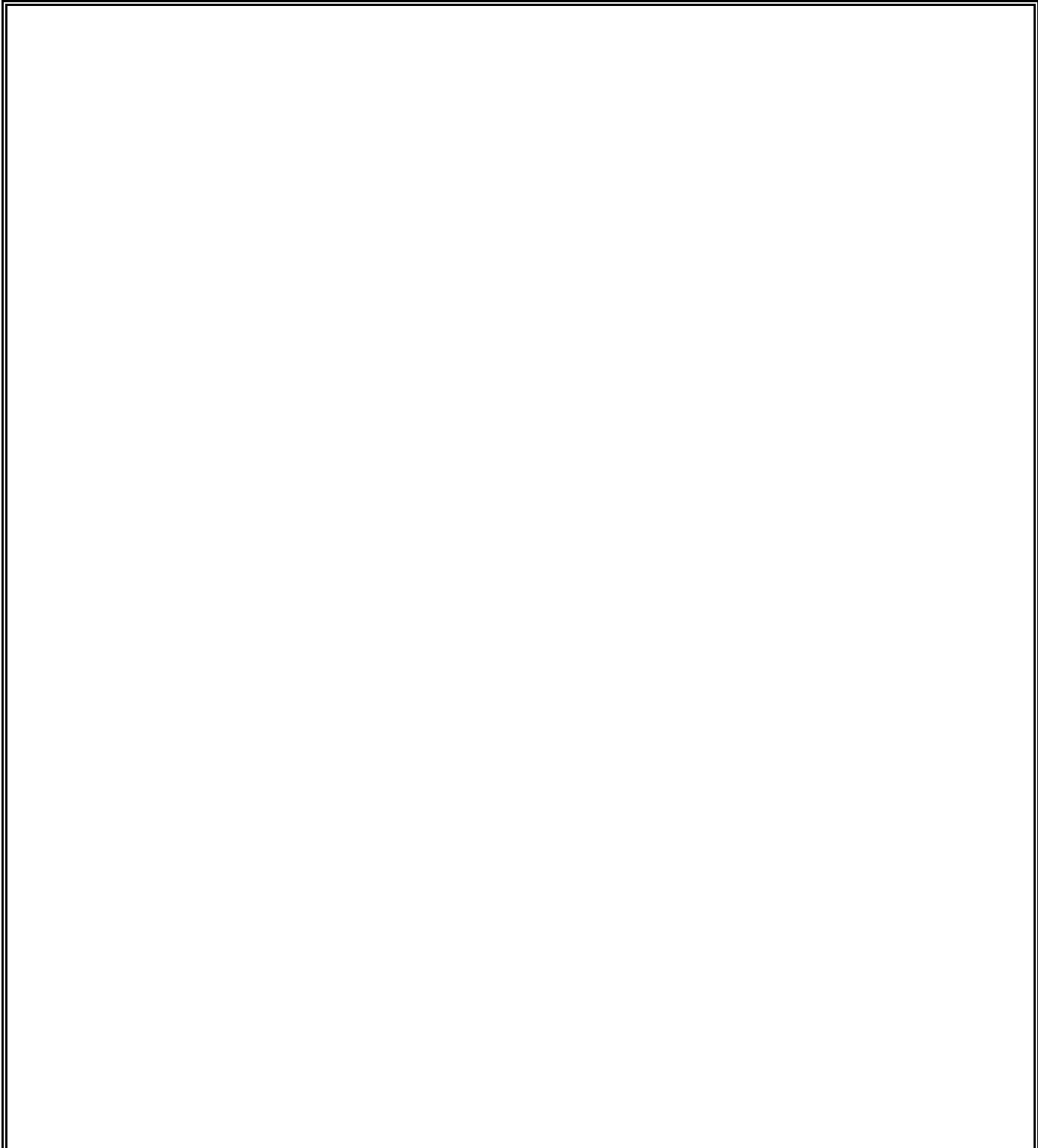
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Dimensional Drawings - Performance Climate Changer (UCCA)

Item: B2 Qty: 1 Tag(s): FCU-CEP-1B



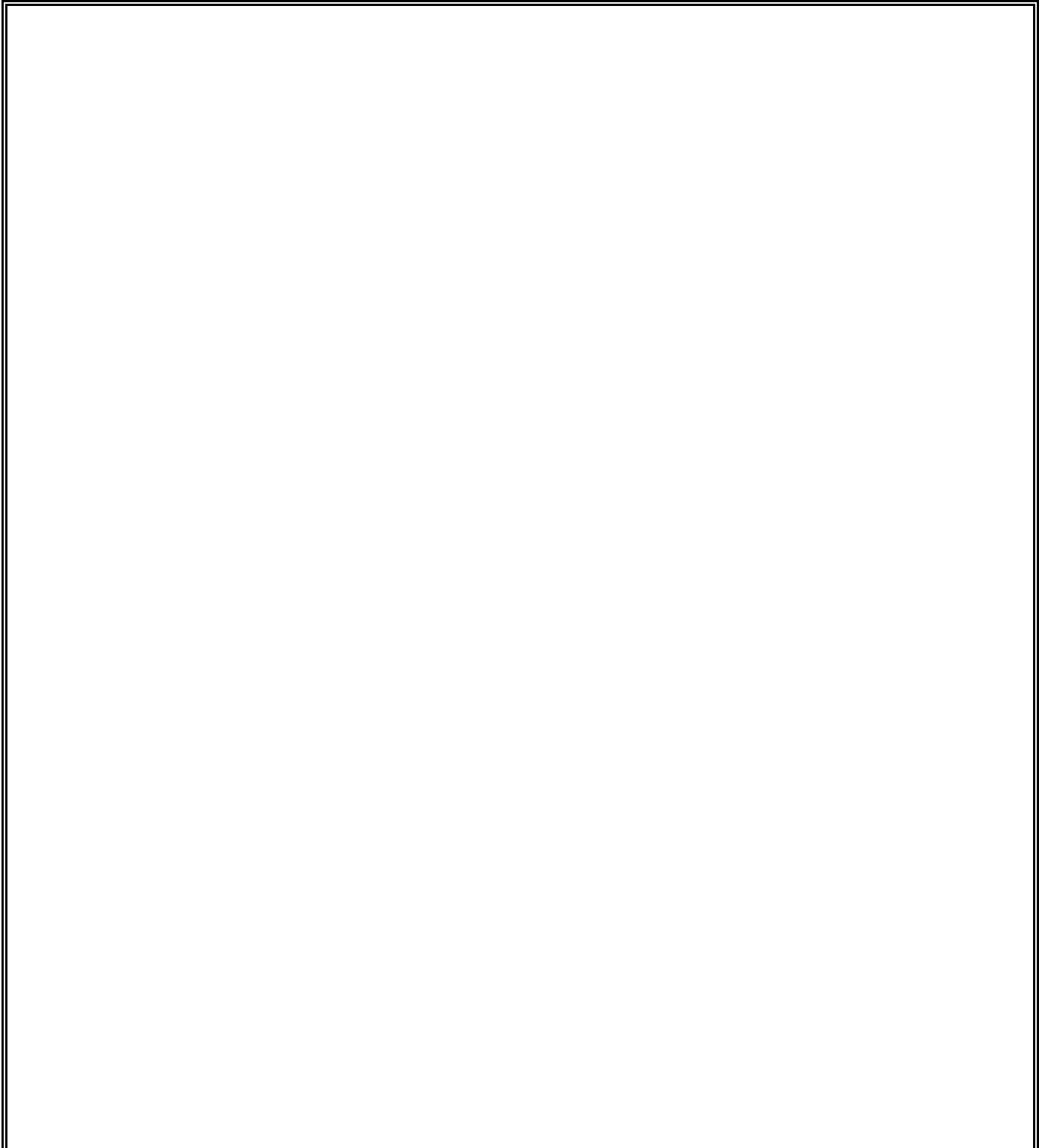
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		Rigging/Installed Weight: 766.5 lb / 827.9 lb



Dimensional Drawings - Performance Climate Changer (UCCA)

Item: B2 Qty: 1 Tag(s): FCU-CEP-1B



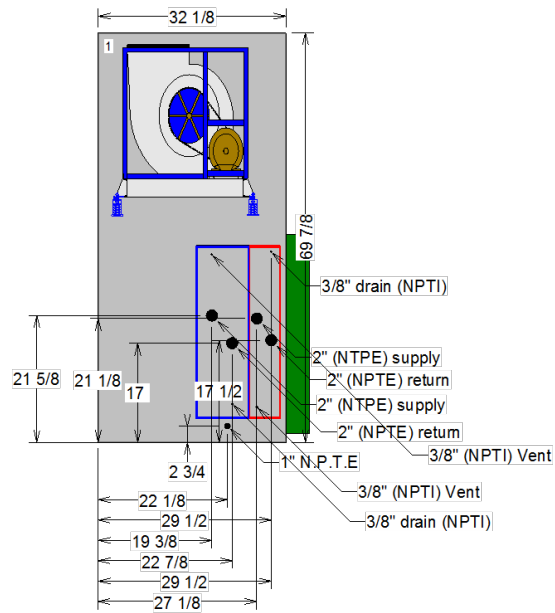
OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size: 10	Job Name: Tenet Westover Hills Medical Center	Unit Casing: 2in Double Wall Foam
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Pipe cab / curb / paint:	Sales Office	Tags: FCU-CEP-1B
		Rigging/Installed Weight: 766.5 lb / 827.9 lb



Dimensional Drawings - Performance Climate Changer (UCCA)

Item: B2 Qty: 1 Tag(s): FCU-CEP-1B



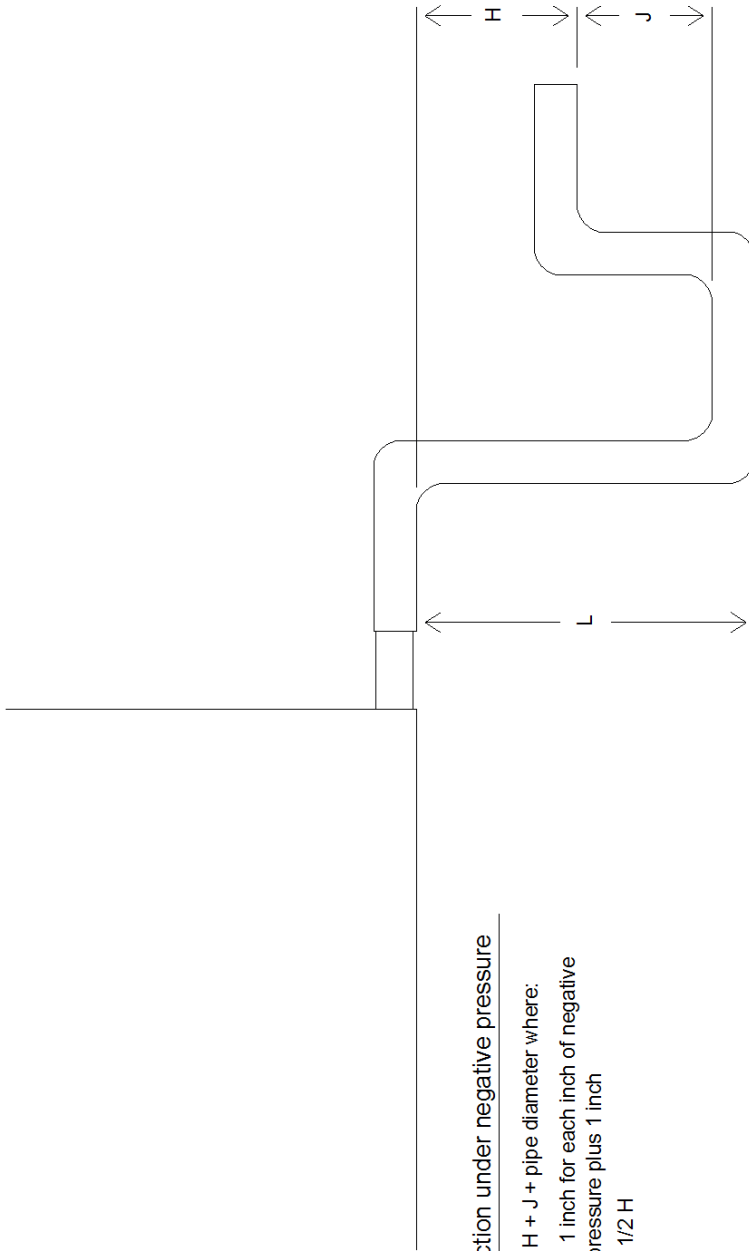
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		Rigging/Installed Weight: 766.5 lb / 827.9 lb



Dimensional Drawings - Performance Climate Changer (UCCA)
Item: B1, B2 Qty: 2 Tag(s): FCU-CEP-1A, FCU-CEP-1B

Drain pan trapping for negative pressure applications



Section under negative pressure

- L = H + J + pipe diameter where:
- H = 1 inch for each inch of negative pressure plus 1 inch
- J = 1/2 H

Recommended Trap Dimensions		Connection Size
H	J	1"
3.333 in	1.667 in	
L	6.000 in	

To ensure proper condensate trapping the field installed housekeeping pad height is the responsibility of the contractor.
 The external static pressure used for fan selection was assumed to be divided 50% to entering duct external static pressure and 50% discharge external static pressure.

Dimensional Drawings - Performance Climate Changer (UCCA)
Item: B1, B2 Qty: 2 Tag(s): FCU-CEP-1A, FCU-CEP-1B

UCCA Indoor Service Clearances

Component		UNIT SIZE									
		3	6	8	10	12	14	17	21	25	30
Filter	A	40.0	44.0	42.0	42.0	40.0	45.0	45.0	45.0	51.0	51.0
Coil Pull	B	49.0	62.0	66.0	78.0	86.0	86.0	94.0	94.0	96.0	109.0
Fan Access, horizontal unit (motor side)	C	48.0	48.0	48.0	51.0	54.0	58.0	61.0	61.0	66.0	66.0
Fan Access, vertical unit (motor side)	C	48.0	48.0	48.0	51.0	54.0	58.0	61.0	61.0		
Fan Access, vert unit with MI fan (motor side)	C	48.0	48.0	48.0	51.0	54.0	58.0	61.0	61.0	66.0	66.0
Fan Access, return section (motor side)	C	48.0	48.0	48.0	51.0	54.0	58.0	61.0	61.0	66.0	66.0
Control Box	D	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0	56.0
VFD	E	48.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0
EH	F	48.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0	48.0
Access Door - Access Section	G	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0

Note(s):

At a minimum, the above clearance dimensions are recommended on one side of the unit for regular service and maintenance.

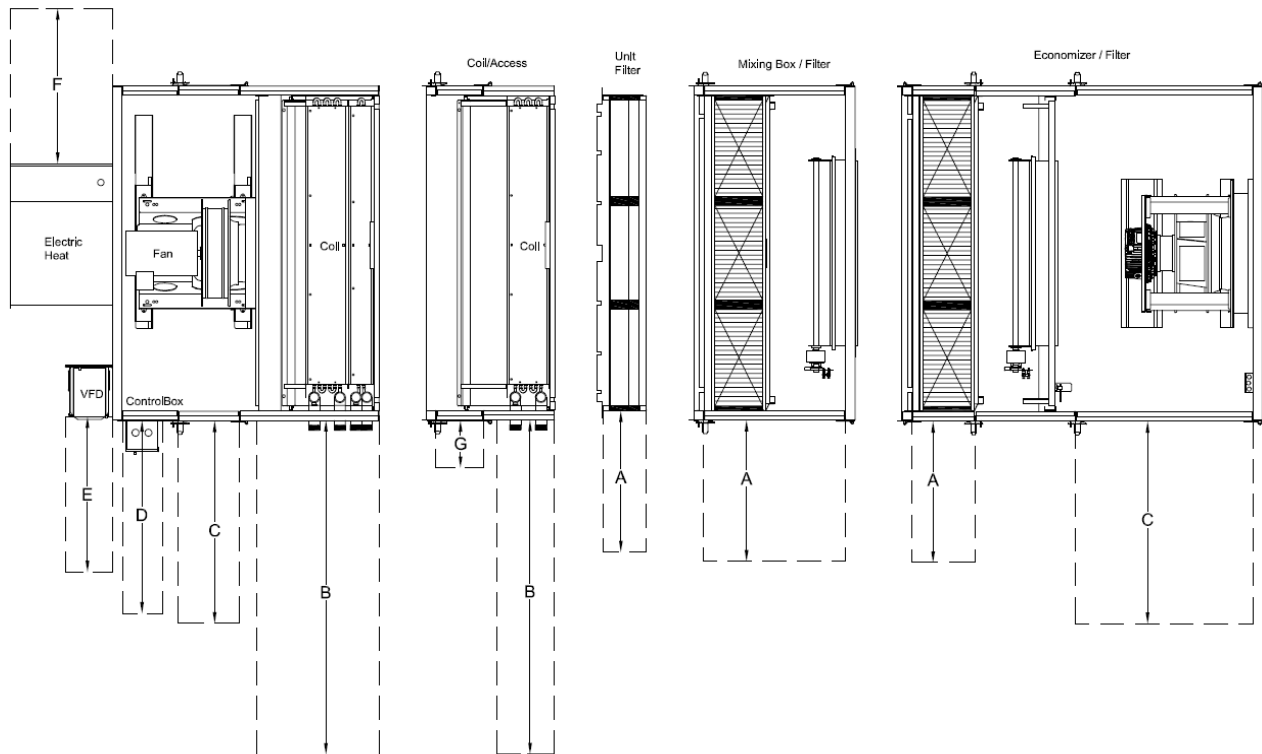
Clearances are mirrored to other side for units with doors both sides.

Refer to as-built submittal for locations of items such as filter access doors, coil, piping connections, motor locations, etc.

Sufficient clearance must be provided on all sides of unit for removal of access panels, plug panels, or section-to-section attachment brackets

Clearance for starters, VFD's, or other high-voltage devices must be provided per NEC requirements.

Service Clearances



Fan Curve - Performance Climate Changer (UCCA)

Item: B1 Qty: 1 Tag(s): FCU-CEP-1A

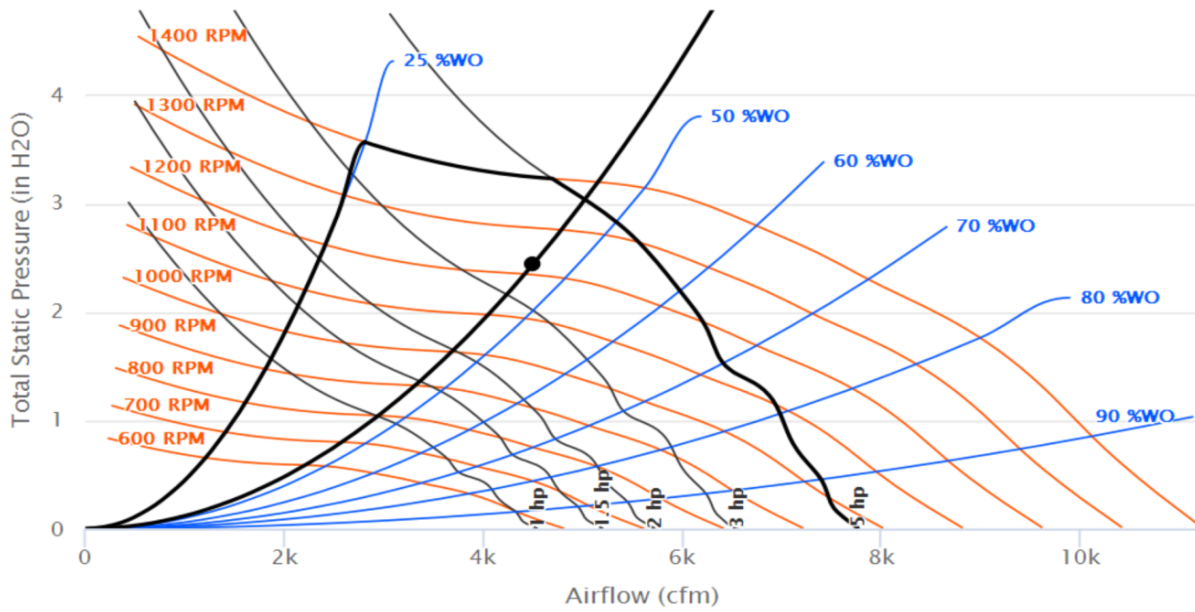
Fan Details

Unit Size	10	Operating Brake Power	3.613 hp
Operating Airflow	4,500 cfm	Altitude	0.00 ft
Operating Static Pressure	2.446 in H2O	Design Temp.	81.40 F
Operating RPM	1,225 rpm		

5 % drive loss applied to BHP for motor selection.

Size 10 FC Vertical Top Front Discharge – Single Fan.

Size 10 FC Vertical Top Front Discharge – Single Fan.



Fan Curve - Performance Climate Changer (UCCA)
Item: B2 Qty: 1 Tag(s): FCU-CEP-1B

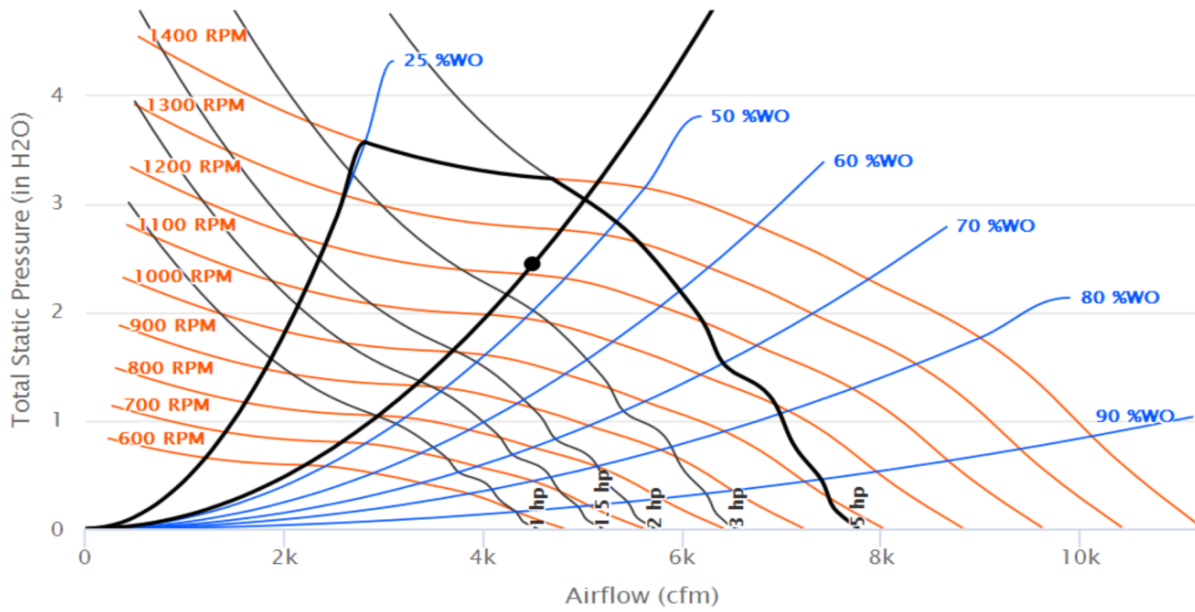
Fan Details

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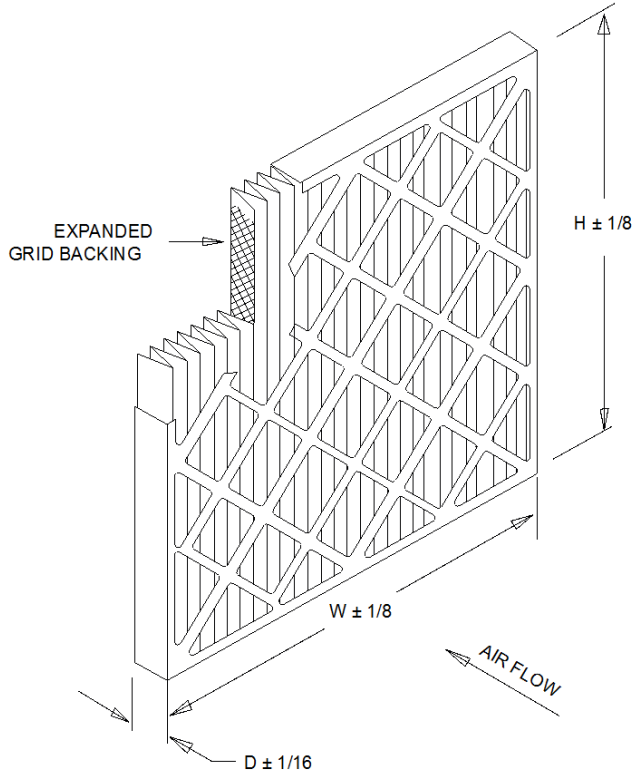
Size 10 FC Vertical Top Front Discharge – Single Fan.

Size 10 FC Vertical Top Front Discharge – Single Fan.



Accessory - Performance Climate Changer (UCCA)

Item: B1, B2 Qty: 2 Tag(s): FCU-CEP-1A, FCU-CEP-1B



STANDARD CONSTRUCTION

1. 100 % Synthetic White Un-Dyed Media
2. 10.0 Pleats Per Foot
3. Expanded Metal Pleat Supports
4. Moisture Resistant Beverage Board Frame
5. Double Wall Frame

NOTES

1. MERV 8-A Per ASHRAE 52.2-2007 Appendix J.
2. Final Resistance: $1/10''$ W.G.
3. Rated Velocity: 500 FPM
4. Class 2 Filter Per U.L. Standard 900
5. Maximum Operating Temperature: 225 DEG. F

MODEL NUMBER	NOMINAL SIZE IN. W X H X D	ACTUAL SIZE IN. W X H X D	RATED AIR FLOW CFM	INITIAL RESISTANCE IN. W.G.	MEDIA AREA SQ. FT.
MX40-STD2-217	10 X 20 X 2	9-1/2 X 19-1/2 X 1-3/4	700	0.29	4.7
MX40-STD2-220	12 X 20 X 2	11-1/2 X 19-1/2 X 1-3/4	840	0.29	5.5
MX40-STD2-210	12 X 24 X 2	11-3/8 X 23-3/8 X 1-3/4	1000	0.29	6.2
MX40-STD2-239	14 X 20 X 2	13-1/2 X 19-1/2 X 1-3/4	980	0.29	5.7
MX40-2TD2-241	14 X 25 X 2	13-1/2 X 24-1/2 X 1-3/4	1220	0.29	7.1
MX40-STD2-245	15 X 20 X 2	14-1/2 X 19-1/2 X 1-3/4	1050	0.29	6.2
MX40-STD2-201	16 X 20 X 2	15-1/2 X 19-1/2 X 1-3/4	1120	0.29	6.7
MX40-STD2-216	16 X 24 X 2	15-3/8 X 23-3/8 X 1-3/4	1340	0.29	8.0
MX40-STD2-202	16 X 24 X 2	15-1/2 X 24-1/2 X 1-3/4	1400	0.29	8.0
MX40-STD2-280	15 X 20 X 2	17-1/2 X 19-1/2 X 1-3/4	1250	0.29	7.8
MX40-STD2-212	18 X 24 X 2	17-3/8 X 23-3/8 X 1-3/4	1500	0.29	9.3
MX40-STD2-285	18 X 25 X 2	17-1/2 X 24-1/2 X 1-3/4	1570	0.29	9.7
MX40-STD2-203	20 X 20 X 2	19-1/2 X 19-1/2 X 1-3/4	1400	0.29	8.3
MX40-STD2-211	20 X 24 X 2	19-3/8 X 23-3/8 X 1-3/4	1670	0.29	9.9
MX40-STD2-204	20 X 25 X 2	19-1/2 X 24-1/2 X 1-3/4	1750	0.29	10.3
MX40-STD2-205	24 X 24 X 2	23-3/8 X 23-3/8 X 1-3/4	2000	0.29	11.7
MX40-STD2-225	25 X 25 X 2	24-1/2 X 24-1/2 X 1-3/4	2170	0.29	13.6

Accessory - Performance Climate Changer (UCCA)

Filter Schedule

Item: B1, B2 Qty: 2 Tag(s): FCU-CEP-1A, FCU-CEP-1B

Unit Tag(s)	Unit Size	Filter Arrangement	Filter Type \ MERV Rating	Filter Quantity	Filter Size
FCU-CEP-1A, FCU-CEP-1B	Unit Size 10 Square Feet of Coil	2" flat filter rack	2" MERV 8	0	16 in. x 20 in.
				4	16 in. x 25 in.
				0	20 in. x 20 in.
				0	20 in. x 25 in.

Field Wiring - Performance Climate Changer (UCCA)

MCA - MOP Schedule

Item: B1, B2 Qty: 2 Tag(s): FCU-CEP-1A, FCU-CEP-1B

Unit Tag(s)	Circuit	Circuit Description	Voltage/Phase/Hz	MCA (A)	MOP (A)
FCU-CEP-1A, FCU-CEP-1B	1	Supply Motor(s) + HV + CONT	460/60/3	10.47	15.00

Field Wiring - Performance Climate Changer (UCCA)
Item: B1, B2 Qty: 2 Tag(s): FCU-CEP-1A, FCU-CEP-1B

POWER SCHEMAIC PAGE 2 OF 2

NOTES:

1. UNLESS OTHERWISE NOTED ALL SWITCHES ARE SHOWN AT 25 C (77 F), AT ATMOSPHERIC PRESSURE, AT 50 PERCENT RELATIVE HUMIDITY, WITH ALL UTILITIES TURNED OFF, AND AFTER A NORMAL SHUTDOWN HAS OCCURRED.
2. DASHED LINES INDICATE RECOMMENDED FIELD WIRING BY OTHERS. DASHED LINE 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.
3. NUMBERS ALONG THE RIGHT SIDE OF THE SCHEMATIC DESIGNATE THE LOCATION OF CONTACTS BY LINE NUMBER. AN UNDERLINED NUMBER INDICATES A NORMALLY CLOSED CONTACT. AN OPEN ARROWHEAD BELOW THE LINE NUMBER POINTING UPWARD INDICATES A TIMED CONTACT WHICH BEGINS TIMING WHEN ENERGIZED.
4. ALL FIELD WIRING MUST BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, STATE, AND LOCAL REQUIREMENTS. OTHER COUNTRIES APPLICABLE NATIONAL AND/OR LOCAL REQUIREMENTS SHALL APPLY. FIELD CONDUCTORS SHALL HAVE INSULATION RATING NOT LESS THAN 600V COPPER CONDUCTORS ONLY.
5. CONTROL TRANSFORMER SHOWN FOR 200V PRIMARY. FOR 230V, 460V, OR 575V PRIMARY REFER TO INSET "B".
6. FAULT RELAY CONTACTS STATE SHOWN WITH DRIVE CONTROLLER DE-ENERGIZED OR FAULTED.

VFD FUSE - 9F1, 9F2, 9F3			
VOLTAGE	MOTOR HP	FUSE	CLASS
200/230	1	LP-CC-10	CC
200/230	1.5, 2	LP-CC-10	CC
200/230	3	LP-CC-25	CC
200/230	5	JLN-50	T
200/230	7.5	JLN-50	T
200/230	10	JLN-60	T
200/230	15	JLN-100	T
460	1	LP-CC-10	CC
460	1.5, 2	LP-CC-10	CC
460	3	LP-CC-15	CC
460	5	LP-CC-15	CC
460	7.5	LP-CC-25	CC
460	10	LP-CC-25	CC
460	15	JLN-50	T
575	1, 1.5, 2, 3	LP-CC-20	CC
575	5	LP-CC-20	CC
575	7.5	LP-CC-20	CC
575	10	LP-CC-20	CC
575	15	LP-CC-30	CC

AREA	DEVICE PREFIX	LOCATION CODE	LOCATION
1			MAIN CONTROL PANEL
2			SUPPLY FAN & COIL SECTION
3			ELECTRIC HEAT CONTROL BOX
4			FILTER SECTION
5			MIXING BOX SECTION
6			COIL ACCESS SECTION
7			EXTERNAL PIPING
8			FIELD INSTALLED DEVICE
9			VFD CONTROL PANEL

⚠ WARNING
HAZARDOUS VOLTAGE!
 DISCONNECT ALL ELECTRIC POWER INCLUDING REMOTE DISCONNECTS AND FOLLOW LOCKOUT AND TAG PROCEDURES BEFORE WORKING ON THIS UNIT. UNCHARGED STORED VOLTAGE UNITS WITH VARIABLE SPEED DRIVE, REFER TO DRIVE INSTRUCTIONS FOR CAPACITOR DISCHARGE FAILURE TO DO THE ABOVE BEFORE SERVICING COULD RESULT IN DEATH OR SERIOUS INJURY.

⚠ AVERTISSEMENT
TENSION DANGEREUSE!
 COUPER TOUTES LES TENSIONS ET OUVRIRE LES SECTIONNEURS A DISTANCE. PLUS SUIVRE LES PROCEDURES DE VERROUILLAGE ET DES ETIQUETTES AVANT TOUTE INTERVENTION. REFERER QUE TOUS LES UNITS NON CHARGES AVEC UN VITESSE VARIABLE, SE REPORTER AUX INSTRUCTIONS DE L'ENTRAÎNEMENT POUR DECHARGER LES CONDENSATEURS.

⚠ ADVERTENCIA
VOLTAJE PELIGROSO!
 DESCONECTE TODA LA ENERGIA ELECTRICA, INCLUSO LAS DESCONEXIONES REMOTAS Y SIGA LOS PROCEDIMIENTOS DE BLOQUEO Y ETIQUETADO ANTES DE PROCEDER AL SERVICIO. ASEGURESE DE QUE TODOS LOS CAPACITORES DEL MOTOR HAYAN DESCARGADO EL VOLTAJE ALMACENADO. PARA LAS UNIDADES CON VELOCIDAD VARIABLE, CONSULTAR LAS INSTRUCCIONES PARA LA DESCARGA DEL CONDENSADOR.

EL NO REALIZAR LO ANTERIORMENTE INDICADO, PODRIA OCASIONAR LA MUERTE O SERIAS LESIONES PERSONALES.

CAUTION
 USE COPPER CONDUCTORS ONLY!
 UNIT TERMINALS ARE NOT DESIGNED TO ACCEPT OTHER TYPES OF CONDUCTORS.
 FAILURE TO DO SO MAY CAUSE DAMAGE TO THE EQUIPMENT.

ATTENTION
 N'UTILISER QUE DES CONDUCTEURS EN CUIVRE!
 LES BORNES DE L'UNITE NE SONT PAS CONÇUES POUR RECEVOIR D'AUTRES TYPES DE CONDUCTEURS.
 L'UTILISATION DE TOUT AUTRE CONDUCTEUR PEUT ENDOMMAGER L'EQUIPEMENT.

PRECAUCION
 UTILICE UNICAMENTE CONDUCTORES DE COBRE!
 LAS TERMINALES DE LA UNIDAD NO ESTAN DISEÑADAS PARA ACEPTAR OTROS TIPOS DE CONDUCTORES.
 SI NO LO HACE, PUEDE OCASIONAR DAÑO AL EQUIPO.

Field Wiring - Performance Climate Changer (UCCA)
Item: B1, B2 Qty: 2 Tag(s): FCU-CEP-1A, FCU-CEP-1B

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. FAILURE TO DO THE ABOVE BEFORE SERVICING COULD RESULT IN DEATH OR SERIOUS INJURY.

AVERTISSEMENT
 TENSION DANGEREUSE!
 COUPER TOUTES LES TENSIONS ET OUVRIR LES SECTIONS A DISTANCE. PUIS SUIVRE LES PROCEDURES DE VERROUILLAGE ET DES ETIQUETTES AVANT TOUTE INTERVENTION. VERIFIER QUE TOUTS LES CONDENSATEURS DES MOTEURS SONT DECHARGES. DANS LE CAS D'UNITES COMPORTANT DES ENTRAÎNEMENTS A VITESSE VARIABLE, SE REPORTER AUX INSTRUCTIONS DE L'ENTRAÎNEMENT POUR DECHARGER LES CONDENSATEURS. NE PAS RESPECTER CES MESURES DE PRECAUTION PEUT ENTRAÎNER DES BLESSURES GRAVES POUVANT ETRE MORTELLES.

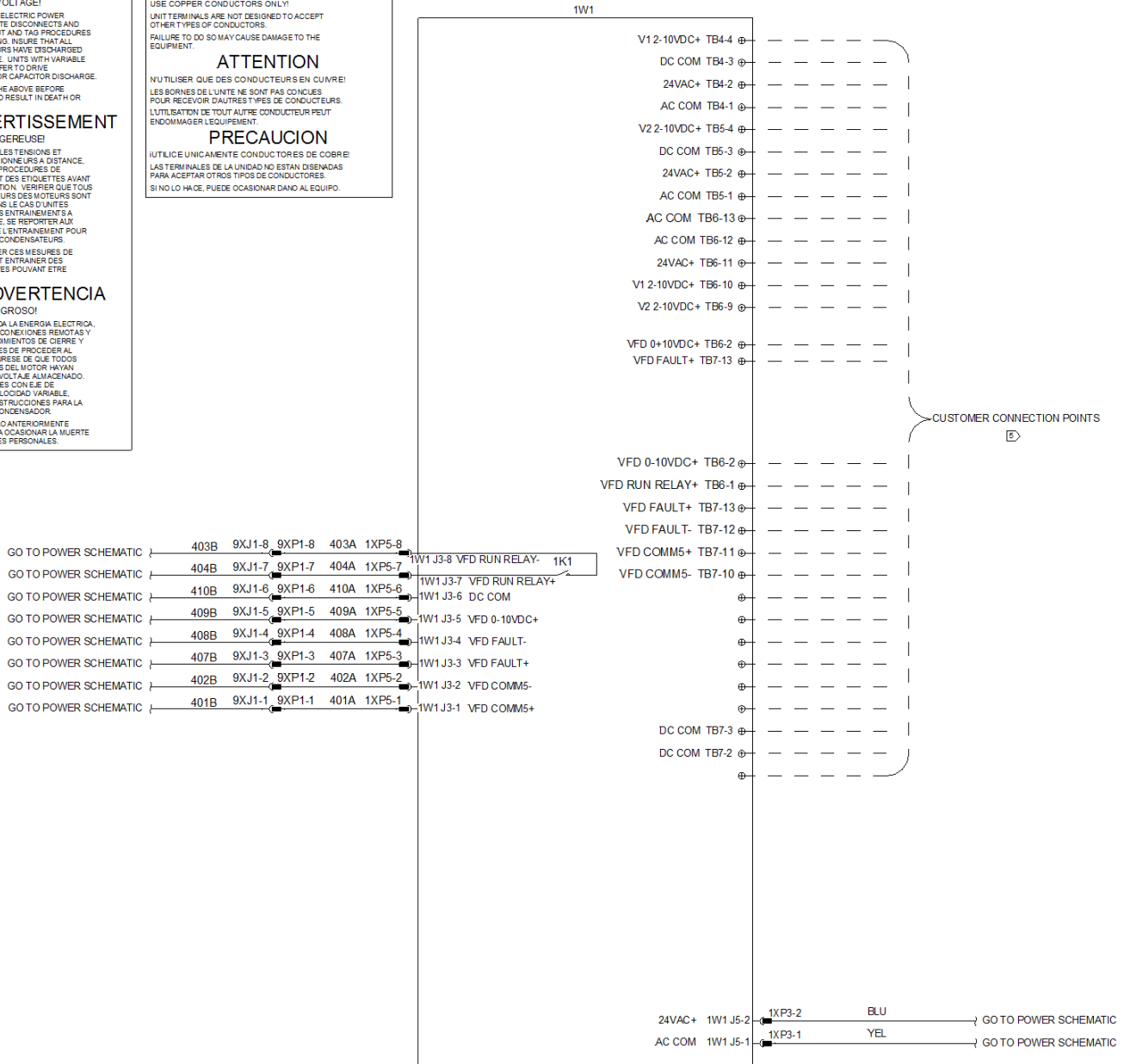
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 DESCONECTE TODA LA ENERGIA ELECTRICA, INCLUIDO LAS DESCONEXIONES REMOTAS Y ETIQUETADO ANTES DE PROCEDER AL SERVICIO. ASEGURESE DE QUE TODOS LOS CAPACITORES DEL MOTOR HAYAN DESCARGADO EL VOLTAJE ALMACENADO. PARA LAS UNIDADES CON EJE DE DIRECCION DE VELOCIDAD VARIABLE, CONSULTE LAS INSTRUCCIONES PARA LA DESCARGA DEL CONDENSADOR. EL NO REALIZAR LO ANTERIORMENTE INDICADO, PODRIA OCASIONAR LA MUERTE O SERIAS LESIONES PERSONALES.

CAUTION
 USE COPPER CONDUCTORS ONLY! UNIT TERMINALS ARE NOT DESIGNED TO ACCEPT OTHER TYPES OF CONDUCTORS. FAILURE TO DO SO MAY CAUSE DAMAGE TO THE EQUIPMENT.

ATTENTION
 N'UTILISER QUE DES CONDUCTEURS EN CUIVRE! LES BORNES DE L'UNITE NE SONT PAS CONÇUES POUR RECEVOIR D'AUTRES TIPIES DE CONDUCTEURS. L'UTILISATION DE TOUT AUTRE CONDUCTEUR PEUT ENDOMMAGER L'EQUIPEMENT.

PRECAUCION
 ÚTILICE ÚNICAMENTE CONDUCTORES DE COBRE! LAS TERMINALES DE LA UNIDAD NO ESTAN DISEÑADAS PARA ACEPTAR OTROS TIPOS DE CONDUCTORES. SI NO LO HACE, PUEDE OCASIONAR DAÑO AL EQUIPO.

CONTROL SCHEMATIC



NOTES:

- UNLESS OTHERWISE NOTED ALL SWITCHES ARE SHOWN AT 25 C (77 F), AT ATMOSPHERIC PRESSURE, AT 50 PERCENT RELATIVE HUMIDITY, WITH ALL UTILITIES TURNED OFF, AND AFTER A NORMAL SHUTDOWN HAS OCCURED.
- DASHED LINES INDICATE RECOMMENDED FIELD WIRING BY OTHERS. DASHED LINE 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.

- NUMBERS ALONG THE RIGHT SIDE OF THE SCHEMATIC DESIGNATE THE LOCATION OF CONTACTS BY LINE NUMBER. AN UNDERLINED NUMBER INDICATES A NORMALLY CLOSED CONTACT. AN OPEN ARROWHEAD BELOW THE LINE NUMBER POINTING UPWARD INDICATES A TIMED CONTACT WHICH BEGINS TIMING WHEN ENERGIZED.
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- 5 USE CLASS 2 WIRING.
- 6 ALL AVAILABLE END DEVICES SHOWN. SEE UNIT CONFIGURATION FOR END DEVICES ON UNIT.

AREA	LOCATION	DEVICE PREFIX LOCATION CODE
1	MAIN CONTROL PANEL	
2	SUPPLY FAN & COIL SECTION	
3	ELECTRIC HEAT CONTROL BOX	
4	FILTER SECTION	
5	MIXING BOX SECTION	
6	COIL ACCESS SECTION	
7	EXTERNAL PIPING	
8	FIELD INSTALLED DEVICE	
9	VFD CONTROL PANEL	

DEVICE	DESCRIPTION	ZONE
1K1	RELAY, VFD RUN	40
1W1	ADAPTER BOARD	34
2R1	MIXED AIR SENSOR	51
2R2	DISCHARGE AIR SENSOR	53
2S1	LOW LIMIT SWITCH	55
2S2	CONDENSATE OVERFLOW SWITCH	57
2S3	FAN STATUS SWITCH	59
2S4	FILTER STATUS SWITCH	61
5M1	DAMPER ACTUATOR	47

Field Installed Options - Part/Order Number Summary

This is a report to help you locate field installed options that arrive at the jobsite. This report provides part or order numbers for each field installed option, and references it to a specific product tag. It is NOT intended as a bill of material for the job.

Product Family - Blower coil

Item	Tag(s)	Qty	Description	Model Number
A1	FCU-CEP-2	1	BCXE Blower Coil (BCXE)	BCVE072GBA0A3AB50000 000A0BG00G0000000000
A2	FCU-CEP-3	1	BCXE Blower Coil (BCXE)	BCVE090GBA0A3AB70000 000A0BG00G0000000000
A3	FCU-CEP-4	1	BCXE Blower Coil (BCXE)	BCVE090GBA0A3AB70000 000A0BG00G0000000000
A4	FCU-CEP-5	1	BCXE Blower Coil (BCXE)	BCHE018GBA0A3FC20000 000A0BG00G0000000000
A5	FCU-CEP-6	1	BCXE Blower Coil (BCXE)	BCVE072GBA0A3AB50000 000A0BG00G0000000000
A6	FCU-CEP-7	1	BCXE Blower Coil (BCXE)	BCHE090GBA0A3AB70000 000A0BG00G0000000000
A7	FCU-CEP-8	1	BCXE Blower Coil (BCXE)	BCHE090GBA0A3AB70000 000A0BG00G0000000000

Field Installed Option Description	Part/Ordering Number
Field Supplied, 2 Position N.C.	
Field Supplied, 2 Position N.C.	

BCXE Blower Coil		Schedule																																
Unit Tags	Quantity	Model Number	Unit model	Unit size (Nominal CFM)	Design airflow cfm	ESP in H2O	TSP in H2O	ECM - brake horsepower hp	ECM-Nominal Horsepower	Total cooling capacity MBh	Sensible capacity MBh	Cooling EDB		Cooling EWB		Cooling LDB		Cooling LWB		Cooling ent fluid temp F	Cooling leaving fluid temp F	Cooling delta T F	Cooling flow rate gpm	Total preheat capacity MBh	Preheat EAT		Preheat LAT		Preheat APD		Preheat ent fluid temp F	Preheat lvg fluid temp F	Preheat Delta T F	Preheat flow rate gpm
												F	F	F	F	F	F	F	F						F	F	F	F	F	F				
FCU-CEP-2	1	BCVE060GBA0B6AB5000000A0BG00G0000000000	Vertical	60 (2000 CFM)	2000	1	1.735	1.072	1.5 hp	52.57	48.3	76	62.3	54	53.19	42	53.57	11.57	9.05	21.69	70	80	0.12	150	104.37	45.63	0.95							
FCU-CEP-3	1	BCVE090GBA0A3AB70000000A0BG00G0000000000	Vertical	90 (3000 CFM)	3000	1	1.644	1.719	3 hp	66.97	65.42	75	61	54	53.13	42	60.56	18.56	7.19	32.53	70	80	0.116	150	111.79	38.21	1.71							
FCU-CEP-4	1	BCVE090GBA0A3AB70000000A0BG00G0000000000	Vertical	90 (3000 CFM)	3000	1	1.758	1.793	3 hp	97.45	78.5	77.8	64.2	54	53.2	42	55.31	13.31	14.59	32.53	70	80	0.116	150	111.79	38.21	1.71							
FCU-CEP-5	1	BCHE012GBA0A3FC20000000A0BG00G0000000000	Horizontal	12 (400 CFM)	400	1	1.892	0.253	0.5 hp	24.16	18.58	100	75	58	57.69	42	60.9	18.9	2.55	22.6	17.9	70	0.149	150	87.79	62.21	0.73							
FCU-CEP-6	1	BCHE054GBA0A3AB70000000A0BG00G0000000000	Horizontal	54 (1800 CFM)	2000	1	1.805	1.542	3 hp	51.48	48.28	76	62	54	53.03	42	56.96	14.96	6.86	37.18	70	87.14	0.14	150	120	30	2.48							
FCU-CEP-7	1	BCHE090GBA0A3AB70000000A0BG00G0000000000	Horizontal	90 (3000 CFM)	3000	1	1.723	1.641	3 hp	87.78	76.12	77.1	63.2	54	53.16	42	56.61	14.61	11.97	32.53	70	80	0.116	150	111.79	38.21	1.71							
FCU-CEP-8	1	BCHE090GBA0A3AB70000000A0BG00G0000000000	Horizontal	90 (3000 CFM)	3600	1	1.904	2.39	3 hp	83.49	82.9	75	61.1	54	52.92	42	57.72	15.72	10.59	39.04	70	80	0.161	150	111.24	38.76	2.02							

MATCH THE SELECTION FOR FCU-CEP-2.

COORDINATE MOTOR HP INCREASE WITH THE ELECTRICAL SUB-CONTRACTOR.

SHOULD BE 80 DEGREES.