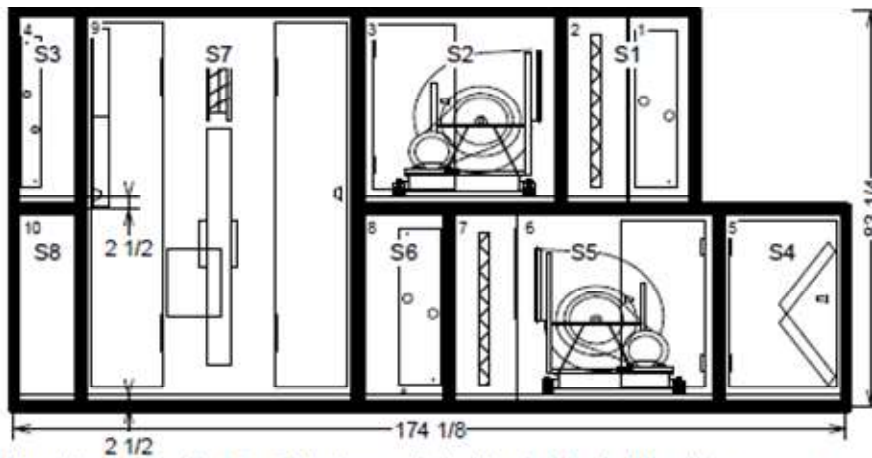
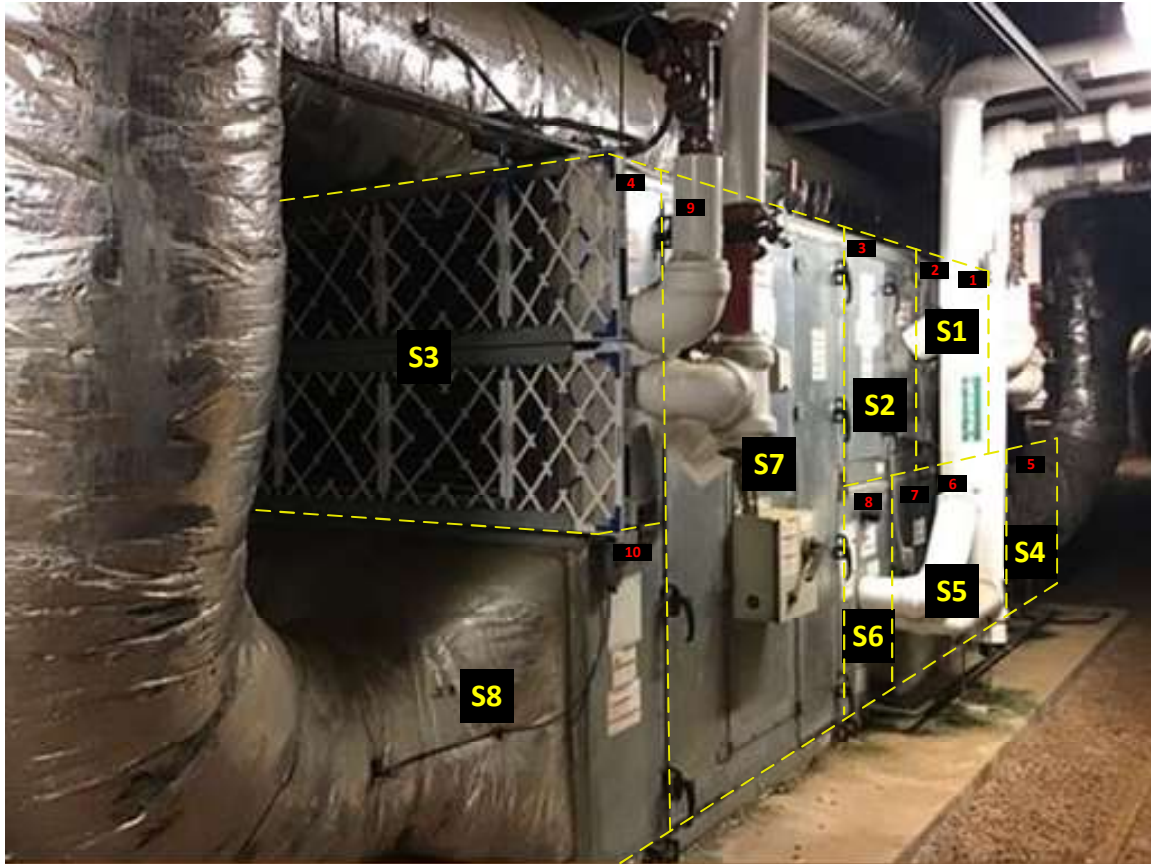


AHU6 – Dehumidifier Sections



Overall Elevation View: Right - Shipping splits indicated by bold outline. - Measurements in inches

g purposes, include 1.125 inches to each ship split length for overlapping panel flange. Flange will not add to overall installed

Pos #	Module	Length	Weight
1	Coil section	14	438.80
2	Diffuser section	14	102.00
3	Fan section	42 1/2	803.00
4	Coil section	14	220.80
5	Filter section	26 1/2	257.20
6	Fan section	42 1/2	761.00
7	Diffuser section	14	102.00
8	Coil section	19	468.30
9	Wheel	57 1/2	1294.80
10	Access section	14	105.00

Installed Unit Weight 4552.90 lbs



Submittal

Prepared For:
Sanford Lab
Attn: Mike Johnson

Date: December 02, 2013

Sold To:

Job Name:
Sanford Lab - Lead - Preconditioning AHU

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

Product Summary

Qty	Product
1	Performance Climate Changer

The attached information describes the equipment we propose to furnish for this project, and is submitted for your approval.

Matthew Davelaar
Trane
3500 S. First Ave.
Suite 150
Sioux Falls, SD 57105-5804
Phone: (605) 336-8500
Cell:
Fax: (605) 336-0824

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 Performance Climate Changer..... 29

Tag Data - Performance Climate Changer (Qty: 1)

Item	Tag(s)	Qty	Description	Model Number
A1	AHU-1	1	Performance Climate Changer (CSAA)	CSAA014UA

Product Data - Performance Climate Changer**Item: A1 Qty: 1 Tag(s): AHU-1****Unit level options**

Indoor unit

Unit size 14

2.5in. integral base frame

UL listed unit

Multiple composite handles/latches

174 Unit length

142.25 Second level length

No seismic certification required

Controls and VFD/starter

Unwired end devices

Warranty

Standard warranty only

Pipe cabinet section

No pipe cabinet

Coil section (Pos #1)

Horizontal coil

Medium

No drain pan

Right side - coil supply

Standard panels

Unit coil height

Heating coil

Single use coil

Type "UW" coil

6 rows

143 fins per foot nominal fin spacing

Aluminum fins

Delta flo H (Hi efficient)

.016" (0.406mm) copper tubes

1/2in. tube diameter (12.7 mm)

Galvanized steel coil casing

Turbulators

Diffuser section (Pos #2)

Diffuser section

Fan section (Pos #3)

Fan section

Exhaust fan

Door- right side

18in. diameter AF, M press

Back-top discharge

Right side drive

NEMA premium compliant ODP

Voltage 460/3

7.5 hp

1800 RPM

Inverter balance with SGR

No conduit

Field provided VFD

Coil section (Pos #4)

Horizontal coil

Medium

No drain pan

Right side - coil supply

Standard panels

Unit coil height
Heating coil
Single use coil
Type "5W" coil
1 row
121 fins per foot nominal fin spacing
Aluminum fins
Prima flo H (Hi efficient)
.020" (0.508mm) copper tubes
5/8in. tube diameter (15.875 mm)
Stainless steel coil casing

Filter section (Pos #5)

Filter
Angled filter
Door- right side

Fan section (Pos #6)

Fan section
Supply fan
Door- right side
18in. diameter AF, M press
Front-top discharge
Right side drive
NEMA premium compliant ODP
Voltage 460/3
5 hp
1800 RPM
Inverter balance with SGR
No conduit
Field provided VFD

Diffuser section (Pos #7)

Diffuser section

Coil section (Pos #8)

Horizontal coil
Extended medium
Stainless steel drain pan
Right side - drain connection
Right side - coil supply
Standard panels
Unit coil height
Cooling coil
Single use coil
Type "UW" coil
6 rows
147 fins per foot nominal fin spacing
Aluminum fins
Delta flo H (Hi efficient)
.016" (0.406mm) copper tubes
1/2in. tube diameter (12.7 mm)
Stainless steel coil casing
Turbulators

Wheel (Pos #9)

CDQ wheel
Dual path application
7000 nominal CFM wheel
Regeneration air bypass damper
Voltage 115/1
Right side drive
Doors - right side
Starter

Access section (Pos #10)

Access/blank/turning section
Medium

Performance Data - Performance Climate Changer

Tags	AHU-1		
Unit level options			
Position			
Length (in)	174.000		
Width (in)	72.000		
Rigging weight (lb)	4387.4		
Installed weight (lb)	4552.9		
Roof curb weight (lb)	0.0		
Actual airflow (cfm)	4650		
Unit elevation (ft)	0.00		
Shipping split 1 weight (lb)	540.8		
Shipping split 2 weight (lb)	803.0		
Shipping split 3 weight (lb)	220.8		
Shipping split 4 weight (lb)	257.2		
Shipping split 5 weight (lb)	863.0		
Shipping split 6 weight (lb)	468.3		
Shipping split 7 weight (lb)	1294.8		
Shipping split 8 weight (lb)	105.0		
Diffuser section			
Position	#2	#7	
Section length (in)	14.000	14.000	
Section weight (lb)	102.0	102.0	
Diffuser airflow (cfm)	7168	4818	
Diffuser area (sq ft)	4.32	4.32	
Diffuser pressure drop (in H2O)	0.127	0.057	
Fan section			
Position	#3	#6	
Section length (in)	42.500	42.500	
Section weight (lb)	803.0	761.0	
Fan airflow (cfm)	7168	4818	
Elevation (ft)	0.00	0.00	
Overall ESP (in H2O)	1.000	1.500	
Total static pressure (in H2O)	3.438	3.138	
Fan discharge loss pressure drop (in H2O)	0.000	0.000	
Fan pressure drop (in H2O)	1.000	1.500	
Fan outlet velocity (ft/min)	2486	1671	
Speed (rpm)	1933	1658	
Total brake horsepower (hp)	6.456	3.750	
Unit static efficiency (%)	60.05	63.44	
Outlet area (sq ft)	2.88	2.88	
Motor hertz (Hz)	60	60	
Access section			
Position	#10		
Section length (in)	14.000		
Section weight (lb)	105.0		
Coil section			
Position	#1	#4	#8
Section length (in)	14.000	14.000	19.000
Section weight (lb)	438.8	220.8	468.3
Coil performance airflow (cfm)	7168	7000	4818
Unit airflow (cfm)	7168	7000	4818
Coil face area (sq ft)	13.65	12.50	13.65
Coil face velocity (ft/min)	525	560	353
Air pressure drop (in H2O)	0.686	0.128	0.526
Coil section pressure drop (in H2O)	0.686	0.128	0.526
Coil rigging weight (lb)	231.5	68.1	232.8

Tags	AHU-1		
Coil installed weight (lb)	304.8	86.8	306.3
Top or single coil dry weight (lb)	231.5	68.1	232.8
Leaving dry bulb (F)	123.72	85.00	49.00
Leaving wet bulb (F)	-	-	48.90
Entering dry bulb (F)	85.00	70.00	70.00
Entering wet bulb (F)	-	-	69.40
Fluid type	Water	Water	Water
Coil fluid percentage (%)	100.00	100.00	100.00
Entering fluid temperature (F)	130.00	130.00	42.00
Leaving fluid temperature (F)	115.00	115.00	56.00
Fluid temperature rise (F)	-	-	14.00
Fluid temperature drop (F)	15.00	15.00	-
Standard fluid flow rate (gpm)	40.22	15.22	42.65
Fluid pressure drop (ft H2O)	9.56	0.78	12.18
Fluid velocity (ft/s)	2.76	1.68	2.93
Fluid volume (gal)	8.79	2.25	8.79
Sensible capacity (MBh)	-	-	112.37
Total capacity (MBh)	301.00	113.87	299.65
Filter section			
Position	#5		
Section length (in)	26.500		
Section weight (lb)	257.2		
Filter airflow (cfm)	4818		
Filter area (sq ft)	18.06		
Filter condition	Mid-life		
Filter pressure drop (in H2O)	0.562		
Filter section pressure drop (in H2O)	0.562		
Filter face velocity (ft/min)	267		
Wheel			
Position	#9		
Section length (in)	57.500		
Section weight (lb)	1294.8		
Leaving supply airflow (cfm)	4650		
Regeneration airflow (cfm)	7000		
Mixed regeneration airflow (cfm)	7168		
Cross Leakage Airflow (cfm)	168		
Supply air wheel PD (in H2O)	0.493		
Greatest wheel exhaust PD (in H2O)	0.000		
Regeneration air wheel PD (in H2O)	0.854		
Max supply level module PD (in H2O)	0.493		
Max exhaust module PD (in H2O)	1.497		
Max regeneration air module PD (in H2O)	1.497		
Regeneration air bypass damper area (sq ft)	3.05		
Entering regeneration ESP (in H2O)	0.500		
Leaving supply ESP (in H2O)	0.500		
Mixed regeneration air DB (F)	84.16		
Mixed regeneration air RH (%)	60.60		
Regeneration LDB (F)	85.00		
Regeneration EDB (F)	85.00		
Regeneration leaving RH (%)	59.70		
Regeneration entering RH (%)	59.70		
Regeneration leaving HR (gr/lb)	108		
Leaving supply air DB (F)	56.83		
Leaving supply air RH (%)	59.93		
Leaving supply air HR (gr/lb)	41		
Filter area (sq ft)	14.44		

Tags	AHU-1		
Filter condition	Mid-life		
Filter pressure drop (in H2O)	0.643		
Total filter pressure drop (in H2O)	0.643		
Filter face velocity (ft/min)	485		
Sensible energy saved - CDQ (MBh)	0.00		

Mechanical Specifications - Performance Climate Changer**Item: A1 Qty: 1 Tag(s): AHU-1****GENERAL****Lifting Instructions**

The air handling units must be rigged, lifted, and installed in strict accordance with the Installation, Operation, and Maintenance manual (CLCH-SVX07B-EN). The units are also to be installed in strict accordance with the specifications. Units may be shipped fully assembled or disassembled to the minimum functional section size in accordance with shipping and job site requirements.

Indoor units shall be shipped on an integral base frame (variable from the standard 2.5" to 8" height) for the purpose of mounting units to a housekeeping pad and providing additional height to properly trap condensate from the unit. The integral base frame may be used for ceiling suspension, external isolation, or as a housekeeping pad. Indoor sizes 3 to 30 will also be shipped with a shipping skid designed for forklift transport. *Refer to the unit As-Built or Product Data section of the submittal for the base frame height of each unit.*

All units will be shipped with an integral base frame designed with the necessary number of lift points for safe installation. All lifting lugs are to be utilized during lift. The lift points will be designed to accept standard rigging devices and be removable after installation. Units shipped in sections will have a minimum of four points of lift.

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-SVX07B-EN).

Unit shall be UL and C-UL Listed.

Air-handling performance data shall be certified in accordance with AHRI Standard 430.

Unit sound performance data shall be provided using AHRI Standard 260 test methods and reported as sound power. Trane, in providing this program and data, does not certify or warrant NC levels. These levels are affected by factors specific to each application and/or installation and therefore unable to be predicted or certified by Trane.

Unit Construction

All unit panels shall be 2" solid, double-wall construction to facilitate cleaning of unit interior. Unit panels shall be provided with a mid-span, no-through-metal, internal thermal break. Casing thermal performance shall be such that under 55°F supply air temperature and design conditions on the exterior of the unit of 81°F dry bulb and 73°F wet bulb, condensation shall not form on the casing exterior.

All exterior and interior indoor AHU panels will be made of galvanized steel.

Unit Paint

Unit to ship unpainted from factory. Unit to be painted by 3rd party finisher, or by painting contractor at job site.

Casing Deflection

The casing shall not exceed 0.0042 inch deflection per inch of panel span at 8 inch static pressure. Total maximum static shall not exceed +8 inches w.g. in all positive pressure sections and -8 inches w.g. in all negative pressure sections.

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 0.0042 inch per inch of panel span.

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 cooling coil sections shall be provided with an insulated, double-wall, galvanized or stainless steel drain pan. 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 threaded connections shall be visible external to the unit. Drain connections shall be of the same material as the primary drain pan and shall extend a minimum of 2-1/2" beyond the base to ensure adequate room for field piping of condensate drain traps.

Refer to Product Data for specific information on which sections are supplied with a drain pan, the drain pan material and connection location.

FILTER SECTION

A section shall be provided to support the filter rack as indicated throughout the unit. Refer to Product Data and As-Built sections of the submittal for specific locations within each unit.

Primary 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. If two or more cooling coils are stacked in the unit, an intermediate drain pan shall be installed between each coil and be of the same material as the primary drain pan. Like the primary drain pan, the intermediate drain pan shall be designed being of sufficient size to collect all condensation produced from the coil and sloped to promote positive drainage to eliminate stagnant water conditions. The intermediate pan shall begin at the leading face of the water-producing device and be of sufficient length extending downstream to prevent condensate from passing through the air stream of the lower coil. Intermediate drain pan shall include downspouts to direct condensate to the primary drain pan. 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.

Hydronic coils shall be supplied with factory installed drain and vent piping to unit casing exterior. Piping is to facilitate field installation of automatic venting or drain valves on coils, which are not supplied with unit. *Refer to the Product Data section of the submittal for the units and/or coils supplied with drain and vent piping.*

No casing penetrations supplied for hydronic drain and vents. If required, piping contractor will need to drill drain and vent penetrations using factory located features provided in coil panel.

Water Coils (UW, UU, UA, W, 5W, 5A, WD, 5D, D1, D2, P, or TT)

The coils shall have aluminum fins and seamless copper tubes. Copper fins may be applied to coils with 5/8-inch tubes. Fins shall have collars drawn, belled, and firmly bonded to tubes by mechanical expansion of the tubes. The coil casing may be galvanized or stainless steel. Refer to the Product Data section of the submittal for the coil casing material. The coils shall be proof-tested to 300 psig and leak-tested under water to 200 psig. Coils containing water or ethylene glycol are certified in accordance with the AHRI Forced-Circulation Air-Cooling and Air-Heating Coils Certification Program which is based on AHRI Standard 410 within the Range of Standard Rating Conditions listed in Table 1 of the Standard. Certified units may be found in the AHRI Directory at www.ahridirectory.org. 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.

Coil header connections are constructed of cast iron with female connections, steel block with female connections or steel pipe with male connections.

Tubes are 1/2" [13mm] OD 0.016" [0.406mm] thick copper.

Tubes are 5/8" [16mm] OD 0.020" [0.508 mm] thick copper.

ACCESS/INSPECTION / TURNING SECTION

A section shall be provided to allow additional access/inspection of unit components and space for field-installed components as needed. An access door shall be provided for easy access. All access sections shall be complete with a double-wall, removable door downstream for inspection, cleaning, and maintenance. Interior and exterior door panels

shall be of the same construction as the interior and exterior wall panels, respectively. All doors downstream of cooling coils shall be provided with a thermal break construction of door panel and door frame.

Fans that are selected with inverter balancing shall first be dynamically balanced at design RPM. The fans then will be checked in the factory from 25% to 100% of design RPM to insure they are operating within vibration tolerance specifications, and that there are no resonant frequency issues throughout this operating range. Inverter balancing that requires lockout frequencies inputted into a variable frequency drive in order to bypass resonant frequencies shall not be acceptable. If supplied in this manner by the unit manufacturer, the contractor will be responsible for rebalancing in the field after unit installation. Fans selected with inverter balancing shall have a maintenance free, circumferential conductive micro fiber shaft grounding ring installed on the fan motor to discharge shaft currents to ground.

AF FAN SECTION

The fan type shall be provided as required for stable operation and optimum energy efficiency. The fan shall be a double-width, double-inlet, multiblade-type, airfoil (AF) fan. The fan shall be equipped with self-aligning, antifriction bearings with an L-50 life of 200,000 hours, as calculated per ANSI/AFBMA Standard 9. For any bearing requiring relubrication, the grease line shall be extended to the fan support bracket on the drive side. The fan shall be statically and dynamically balanced at the factory as a complete fan assembly (fan wheel, motor, drive, and belts). The fan shaft shall not exceed 75 percent of its first critical speed at any cataloged speed. Fan wheels shall be keyed to the fan shaft to prevent slipping. The fan shafts shall be solid steel. The fan section shall be provided with an access door on the drive side of the fan. Fan performance shall be certified as complying with AHRI Standard 430.

Drive Service Factor

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.*

Two-Inch Spring Isolators

The fan and motor assembly (on sizes 10 to 120) shall be internally isolated from the unit casing with 2-inch (50.8 mm) deflection spring isolators, furnished and installed by the unit manufacturer. The isolation system shall be designed to resist loads produced by external forces, such as earthquakes, and conform to the current IBC seismic requirements.

DIFFUSER SECTION

A diffuser section shall be provided immediately downstream of the fan section. The diffuser shall provide equal air distribution to blow-thru components immediately downstream of the diffuser. Diffusers attached directly to the fan discharge are not acceptable.

Field Wired Control System

Factory-mounted direct-digital control (DDC) control points shall be engineered, and mounted by the air handler manufacturer to reduce installed costs, improve reliability, and save time at unit startup. The control points as selected by section will require field wiring at the job site. Review unit submittal drawings to verify there is sufficient space for access to control points for field wiring. All factory-mounted controls points shall be covered by the air handler manufacturer's standard warranty.

COOL DRY QUIET (CDQ(TM)) DESICCANT WHEEL SECTION

The air handling unit shall be provided with a CDQ desiccant wheel to control space humidity based on the specified requirements. The wheel media shall meet the flammability requirements governing this class of products and shall be a UL-recognized component in accordance with UL 1812 and UL1995. The CDQ desiccant wheel speed is not modulated for temperature control nor recommended. The CDQ wheel is for humidity control and should be turned off during winter heating. Supply temperature is controlled by the cooling coil or a reheat coil.

Wheel Construction

The CDQ desiccant wheel shall be constructed of a synthetic matrix with a type III desiccant. The wheel shall be structurally reinforced with a spoke system to minimize wheel deflection. All diameter and perimeter seals shall be provided as part of the cassette assembly. The drive system shall consist of a heavy-duty fractional horsepower A/C gear motor mounted in the cassette.

CDQ Wheel Drive System

The motor shall have permanently lubricated bearings. The bearings, which support rotation of the wheel around a center shaft, shall be provided with grease fittings for periodic lubrication.

Maintenance and Access Doors

The wheel matrix shall be cleanable. The desiccant shall not dissolve in the presence of water or high humidity. Access doors shall be provided immediately upstream and downstream of the CDQ wheel cassette. Adequate space shall be provided for cleaning, service, and maintenance of the wheel, motor, bearing, and belt.

Primary 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.

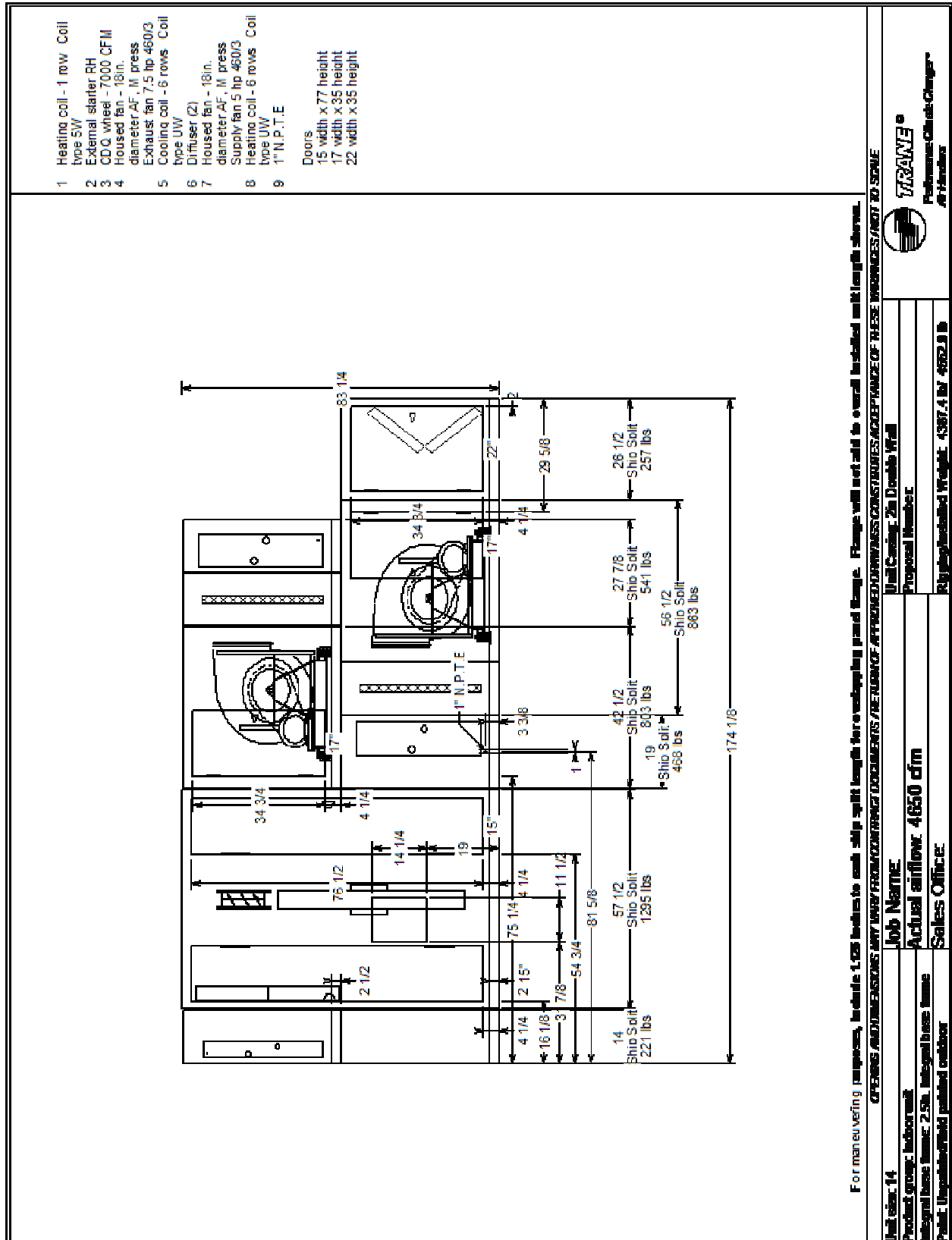
As-Built - Performance Climate Changer

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

1 Heating coil - 1 row Coil type 5W 2 External starter RH 3 CDQ wheel - 7000 CFM 4 Housed fan - 18in. diameter AF, M press Exhaust fan 7.5 hp 460/3 5 Cooling coil - 6 rows Coil type UW 6 Diffuser (2) 7 Housed fan - 18in. diameter AF, M press Supply fan 5 hp 460/3 8 Heating coil - 6 rows Coil type UW Doors 15 width x 77 height 17 width x 35 height 22 width x 35 height		For maneuvering purposes, include 1,000 inches to each ship split length for overlapping panel range. Range will not add to overall installed unit length shown.
TRANE Performance Climate Changer Air Handlers	Job Name: Actual airflow: 4650 cfm Product group: Indoor unit Integral base name: 2.5a, Integral base name Paint: Unpainted/field painted outdoor Unit casing: 2in Double Wall Proposal Number: Physically installed Weight: 4387.4 lb 4652.0 lb	Unit size: 14

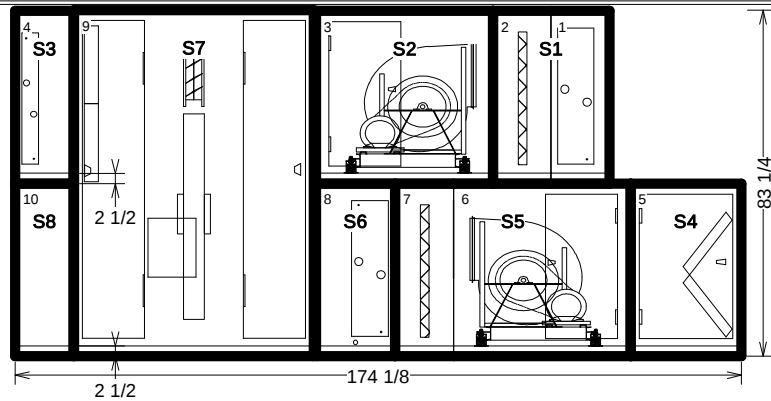
As-Built - Performance Climate Changer

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



As-Built - Performance Climate Changer

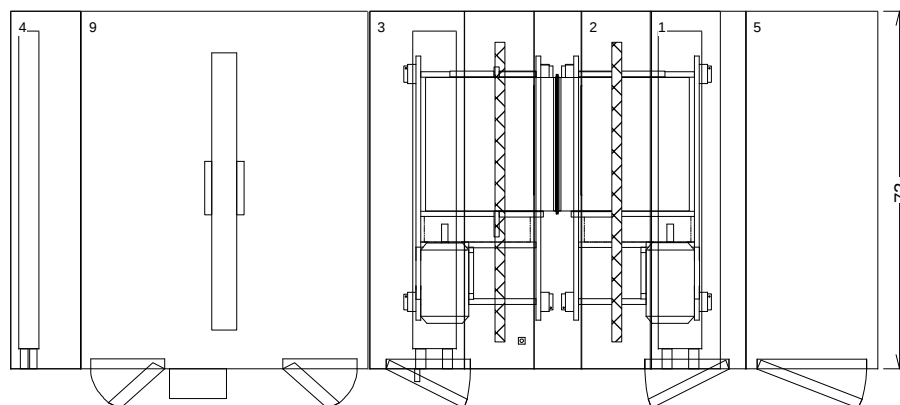
Item: A1 Qty: 1 Tag(s): AHU-1



Overall Elevation View: Right - Shipping splits indicated by bold outline. - Measurements in inches

For maneuvering purposes, include 1.125 inches to each ship split length for overlapping panel flange. Flange will not add to overall installed unit length shown.

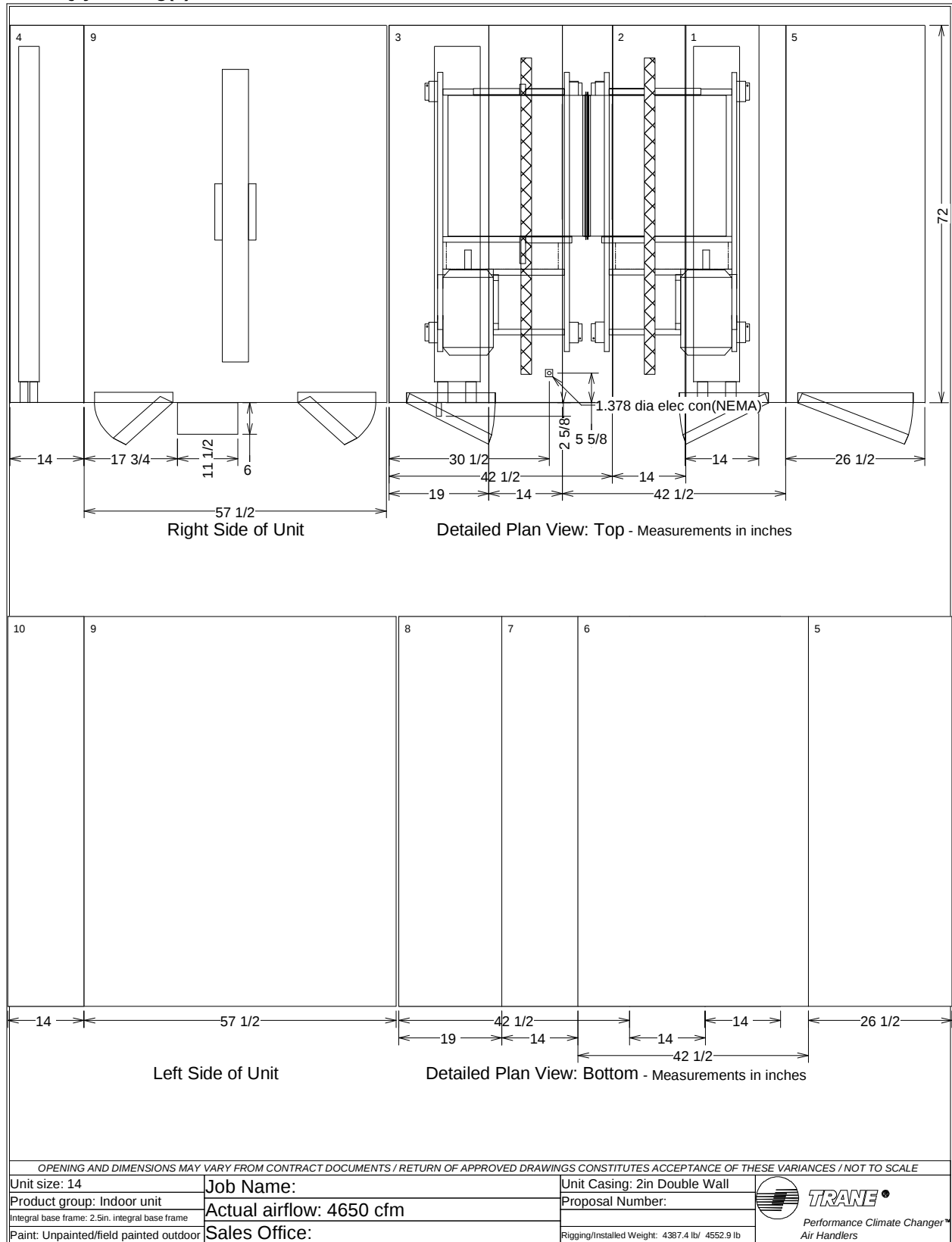
Pos #	Module	Length	Weight
1	Coil section	14	438.80
2	Diffuser section	14	102.00
3	Fan section	42 1/2	803.00
4	Coil section	14	220.80
5	Filter section	26 1/2	257.20
6	Fan section	42 1/2	761.00
7	Diffuser section	14	102.00
8	Coil section	19	468.30
9	Wheel	57 1/2	1294.80
10	Access section	14	105.00
Installed Unit Weight 4552.90 lbs			

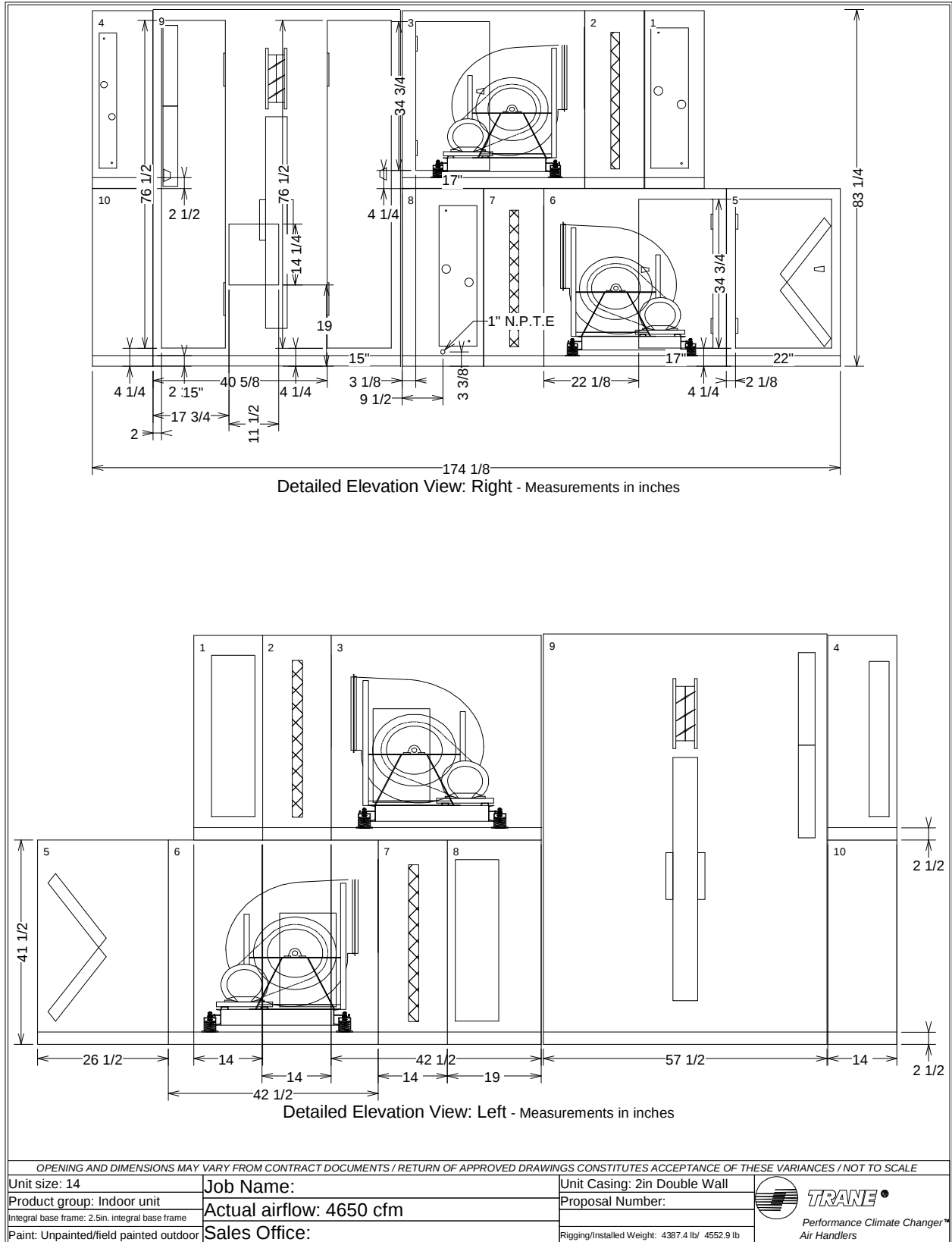


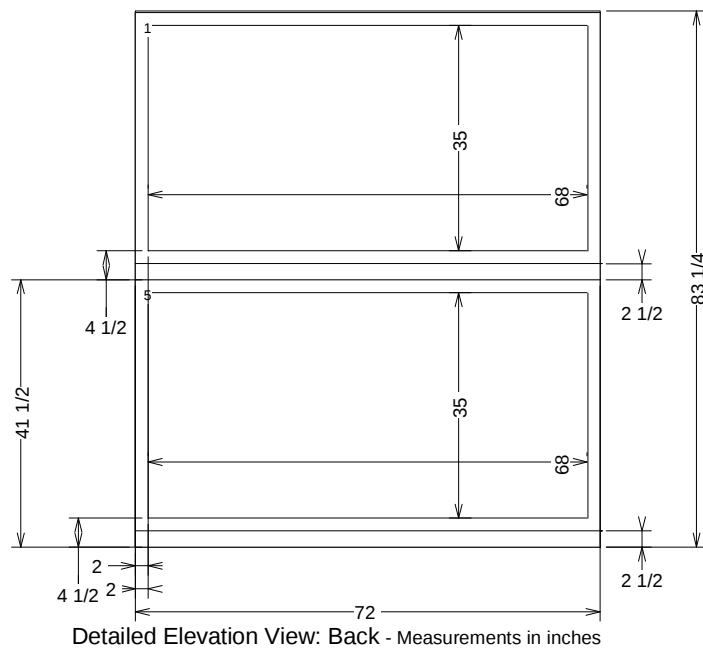
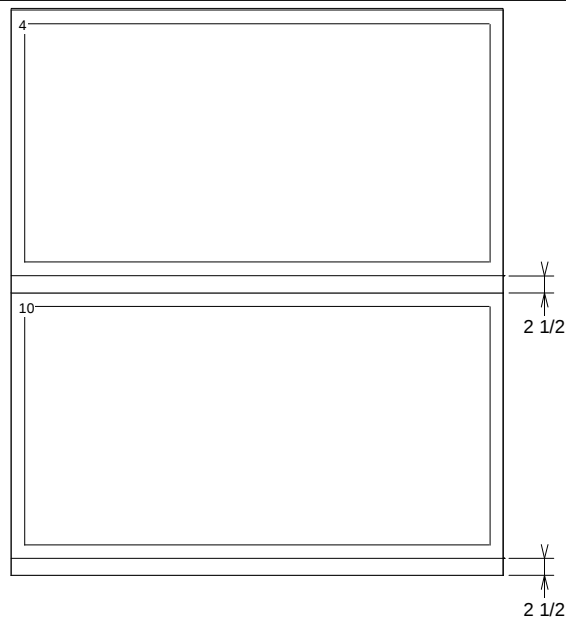
Basic Overall Plan View: Top - Measurements in inches

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

Unit size: 14	Job Name:	Unit Casing: 2in Double Wall	 TRANE Performance Climate Changer™ Air Handlers
Product group: Indoor unit	Actual airflow: 4650 cfm	Proposal Number:	
Integral base frame: 2.5in. integral base frame	Sales Office:	Rigging/Installed Weight: 4387.4 lb/ 4552.9 lb	
Paint: Unpainted/field painted outdoor			

As-Built - Performance Climate Changer**Item: A1 Qty: 1 Tag(s): AHU-1**

As-Built - Performance Climate Changer**Item: A1 Qty: 1 Tag(s): AHU-1**

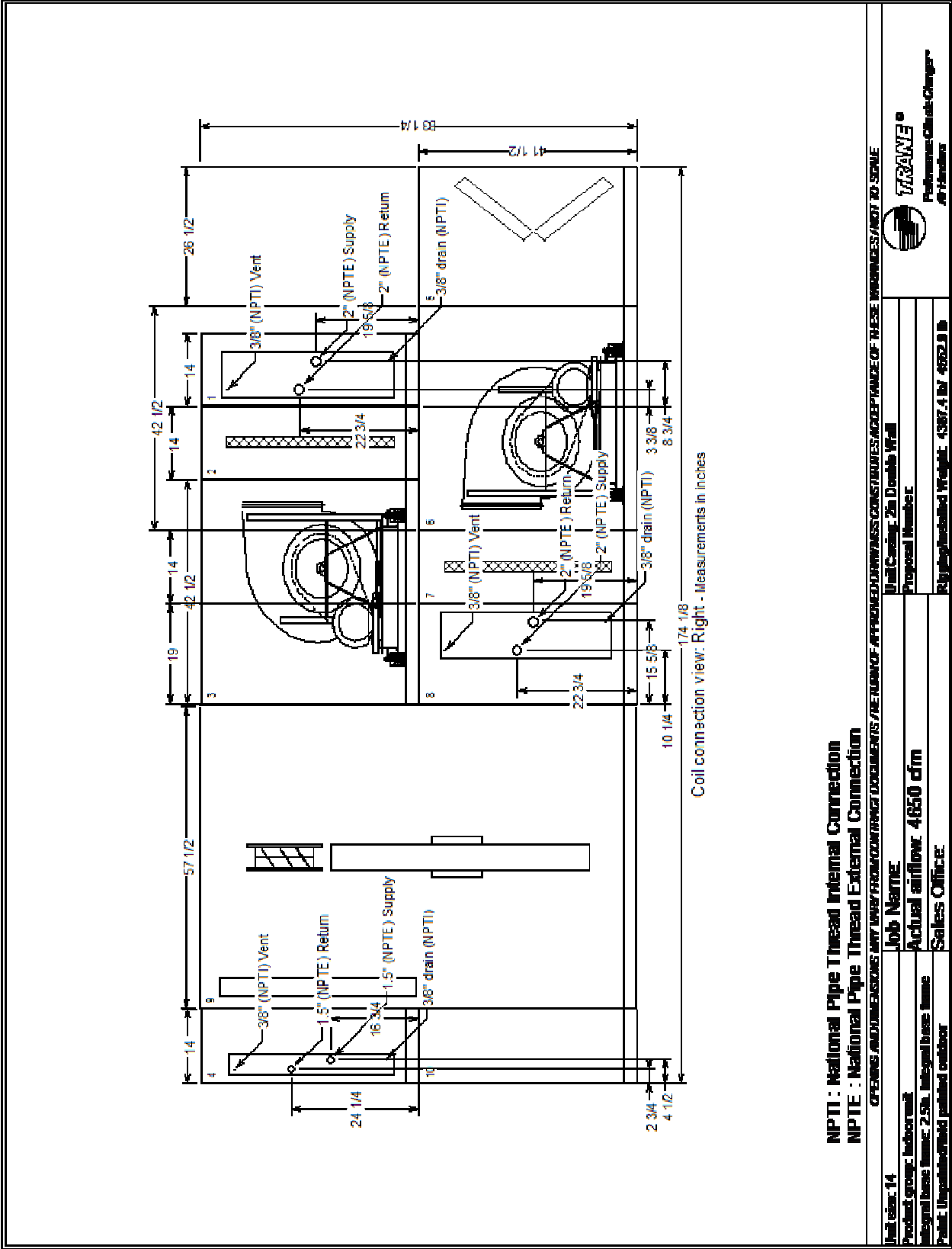
As-Built - Performance Climate Changer**Item: A1 Qty: 1 Tag(s): AHU-1**

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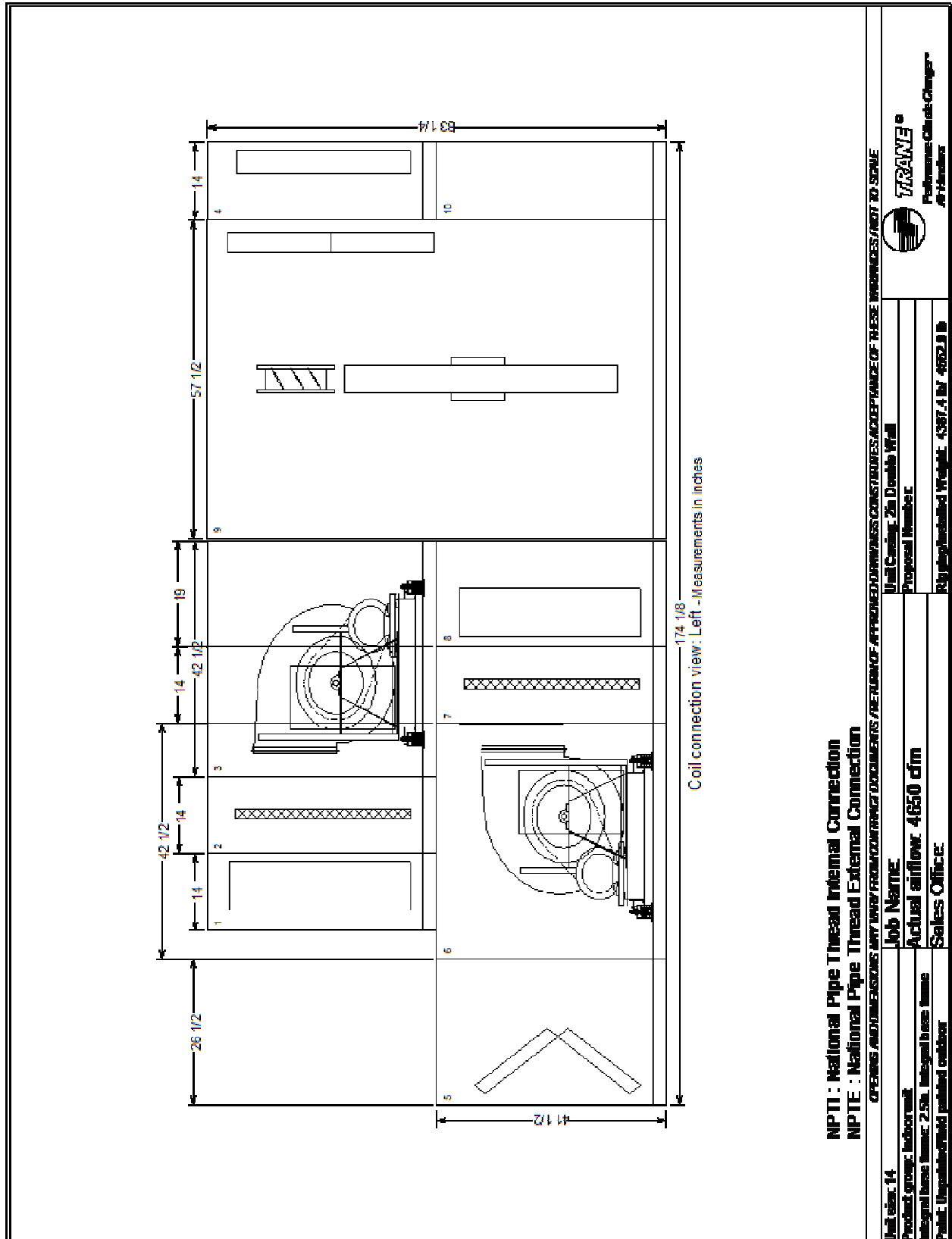
As-Built - Performance Climate Changer

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



As-Built - Performance Climate Changer

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



Fan Curve - Performance Climate Changer**Item: A1 Qty: 1 Tag(s): AHU-1**

Overall Unit Acoustics

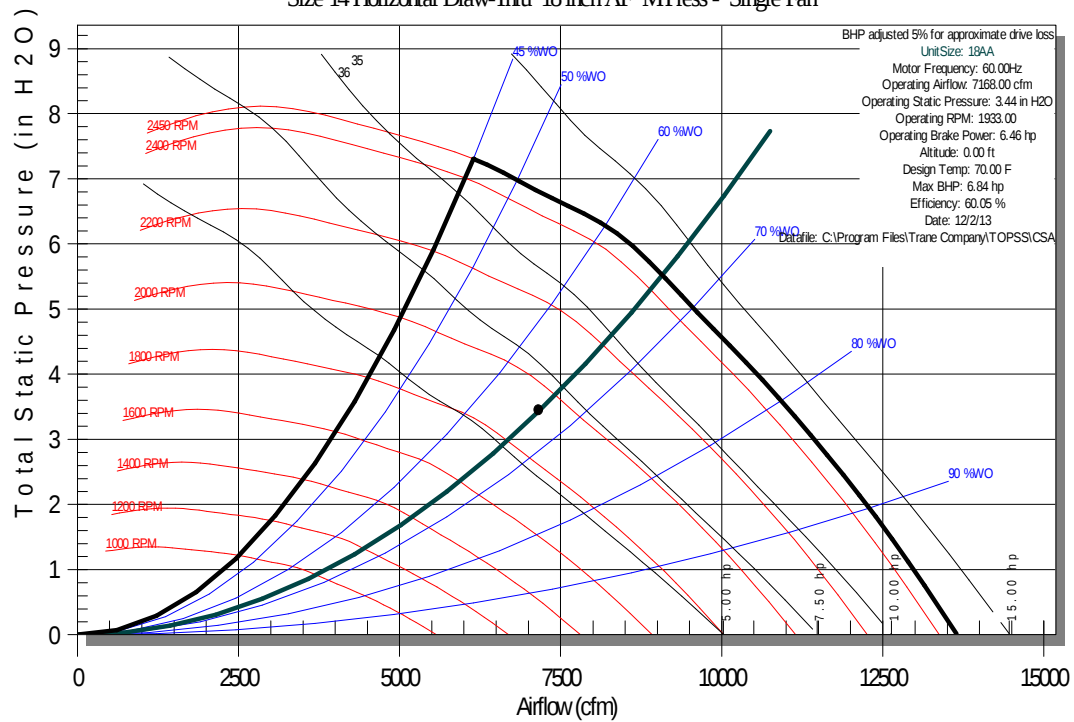
	63-Hz	125-Hz	250-Hz	500-Hz	1 k-Hz	2 k-Hz	4 k-Hz	8 k-Hz
Discharge	86	72	67	64	58	60	56	50
Casing	85	81	68	76	72	53	39	32
Ducted Inlet	94	89	79	79	72	70	67	59

Fan Curve - Performance Climate Changer

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

Exhaust

Size 14 Horizontal Draw-Thru 18 inch AF MPress - Single Fan

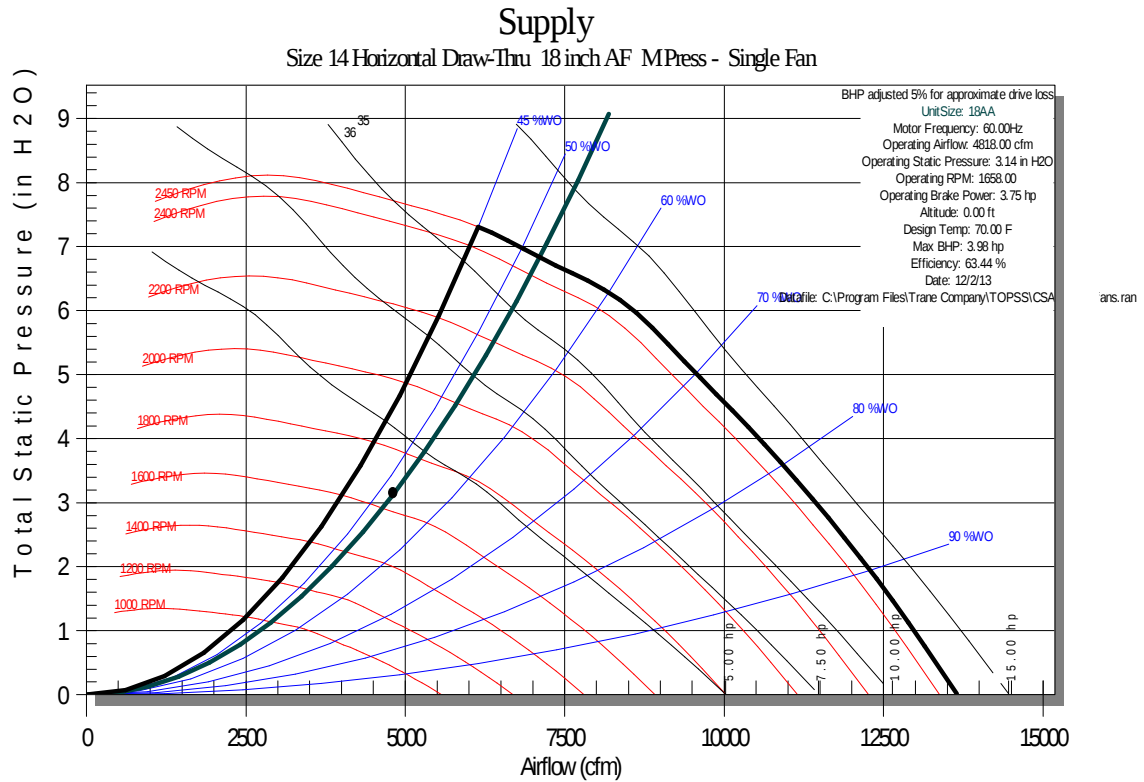


Size 14 Horizontal Draw-Thru 18 inch AF MPress

	63-hz	125-hz	250-hz	500-hz	1 k-hz	2 k-hz	4 k-hz	8 k-hz
Discharge	87	74	72	73	69	69	67	60
Inlet + Casing	90	87	77	77	70	68	63	55
Casing	81	79	67	76	72	53	38	31
Ducted Inlet	90	86	77	77	70	68	63	55

Fan Curve - Performance Climate Changer

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



Size 14 Horizontal Draw-Thru 18 inch AF MPress

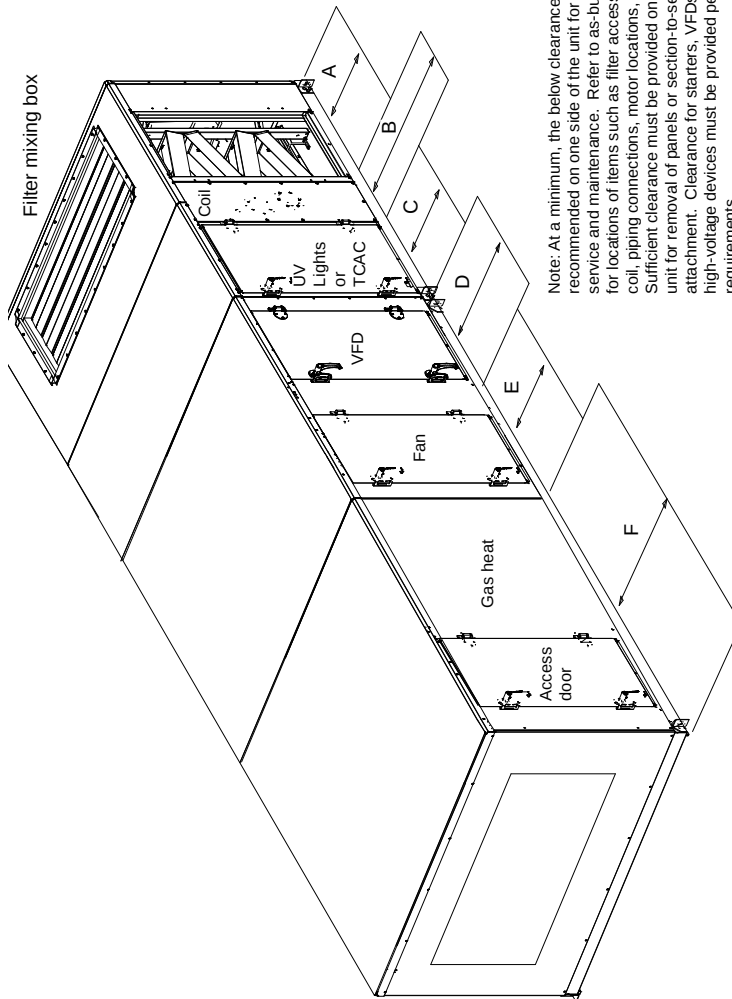
	63-hz	125-hz	250-hz	500-hz	1 k-hz	2 k-hz	4 k-hz	8 k-hz
Discharge	86	72	67	64	58	60	56	50
Inlet + Casing	94	88	77	76	69	66	66	58
Casing	83	78	64	70	66	47	35	26
Ducted Inlet	93	87	76	76	69	66	66	58

Base Detail



Accessory - Performance Climate Changer
Item: A1 Qty: 1 Tag(s): AHU-1

EXAMPLE UNIT - NOT CONFIGURED AS SELECTED.

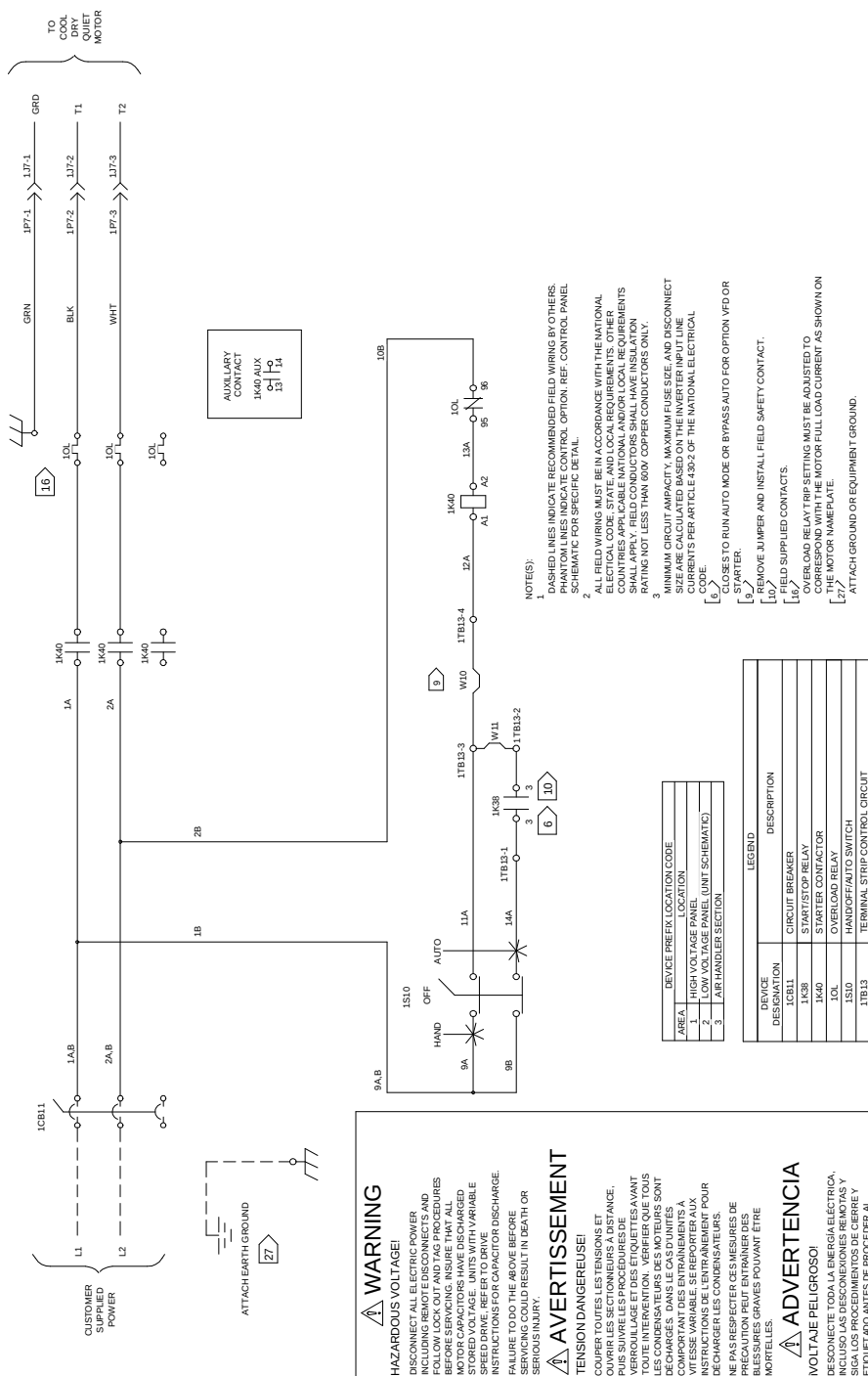


Note: At a minimum, the below clearance dimensions are recommended on one side of the unit for regular service and maintenance. Refer to as-built submittal for locations of items such as filter access doors, coil, piping connections, motor locations, etc. Sufficient clearance must be provided on all sides of unit for removal of panels or section-to-section attachment. Clearance for starters, VFDs, or other high-voltage devices must be provided per NEC requirements.

Clearance Items	3	4	6	8	10	12	14	17	21	25	30	35	40	40	50	57	66	80	100	120
A (filter, gas heat)	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	52	56	58	58
B (coil, humidifier)	48	59	48	48	48	48	48	48	48	48	48	48	48	48	48	48	52	56	58	58
C (UV Lights)	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	52	56	58	58
C (TCAC)	43	59	59	63	75	81	83	83	58	75	83	75	83	83	83	83	83	83	75	83
D (External Starter or VFD - shown)	61	61	61	61	61	61	61	61	64	64	64	64	64	64	64	64	64	64	64	64
D (Internal Starter or VFD)	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48
E (fan)	48	48	48	48	51	54	58	61	60	51	66	66	70	60	77	66	93	93	101	101
F (Gas Heat Ext Vestible)	N/A	N/A	89	90	108	100	100	105	115	N/A	118	136	140	N/A	156	N/A	170	179	180	N/A
F (Gas Heat Int Vestible)	N/A	N/A	56	63	74	79	84	84	92	N/A	106	112	125	N/A	138	N/A	153	153	167	194

Accessory - Performance Climate Changer

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



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

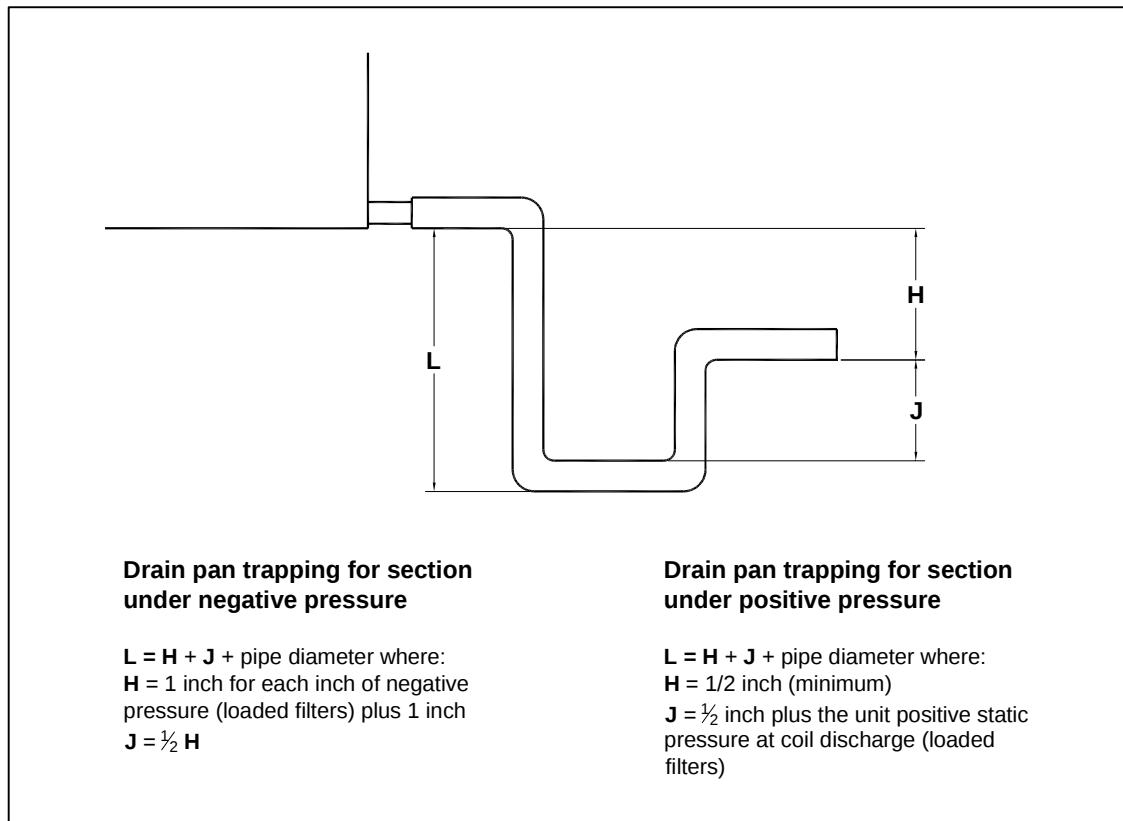
LES BORNES DE L'UNITÉ NE SONT PAS CONÇUES POUR RECEVOIR D'AUTRES TYPES DE CONDUCTEURS.

PRECAUCIÓN

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

Accessory - Performance Climate Changer**Trap Schedule**

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



Unit Tag(s)	Unit Size	Entering Ext. Static Pressure (in H ₂ O)	Discharge Ext. Static Pressure (in H ₂ O)	Drain pan Section Location	Recommended Trap Dimensions ¹			Selected Baserail Height (in) ¹
					H (in)	J (in)	L (in)	
AHU-1 ²	Unit size 14	0.750	0.750	Coil section [8]	0.500	1.743	3.243	2.500

¹ Trap height and selected baserail heights should be reviewed to determine appropriate housekeeping pad height.

² 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.

Accessory - Performance Climate Changer**Filter Schedule****Item: A1 Qty: 1 Tag(s): AHU-1**

Unit Tag(s)	Unit Size	Filter Location	Filter Arrangement	Filter Depth	Filter Type	MERV Rating	Filter Quantity	Filter Size
AHU-1	Unit size 14	Filter section [5]	Angled filter	2in. filter frame	No prefilter	Customer supplied	-	-
					Pleated media - run set	MERV 8	4 2	20in.x20in. 20in.x25in.

Field Wiring - Performance Climate Changer**MCA MOP Schedule****Item: A1 Qty: 1 Tag(s): AHU-1**

Unit Tag(s)	Circuit	Circuit Description	Voltage/Phase/Hz	MCA (A)	MOP (A)
AHU-1	1	Supply fan motor(s)	460/3/60	8.38	15.07
	2	Exhaust fan motor(s)	460/3/60	11.75	21.15
	3	Cool-dry quiet	115/1/60	0.41	0.74

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 - Performance Climate Changer

Item	Tag(s)	Qty	Description	Model Number
A1	AHU-1	1	Performance Climate Changer (CSAA)	CSAA014UA

Field Installed Option Description	Part/Ordering Number
1 extra set	
Pleated media - run set	
1 extra set filters - run set	
Pleated media - run set	