



Submittal

Prepared For: Paul Cleaves

Date: September 29, 2017

Customer P.O. Number:
Customer Project Number:

Sold To: Airtemp

Job Number:
Job Name:
Airtemp - TD Bank - 481 Congress

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 (UCCA)
1	Split System Air Conditioning Units 12.5 Ton Condensing Unit

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

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 - Performance Climate Changer (UCCA) (Qty: 1)

Item	Tag(s)	Qty	Description	Model Number
A1	AHU-1	1	Performance Climate Changer (UCCA)	UCCA10A0C0LY03300000CED871DA1D C0000

Product Data - Performance Climate Changer (UCCA)

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

Performance Climate Changer (UCCA) Indoor unit
 Horizontal DDP fan with top front discharge
 Unit Size 10 Square Feet of Coil
 208/60/3
 Polymer Drainpan, LH Coil & Drain Conn. / LH Motor & Drive Location
 6 row DX coil 9 fins per inch
 Aluminum fins, galvanized coil casing, 3/8" coils
 UC600 controller plus starter or disconnect
 Intertwined circuit with 2 stage DX, 3/16" distributor
 5 horsepower (3.730 kW) motor per fan (supply)
 FC or DDP fan w/VFD and shaft grounding
 Direct drive plenum fan / motorized impeller fan
 71 Hz / 2109 RPM
 2" angle filter mixing section 2" MERV 8
 Low limit sw, condensate overflow sw, dirty filter sw and fan status sw
 Discharge & mixed air sensors with normally closed factory mounted mix/econ act
 Outside air temperature and duct static press sensor, fact-provided, ships loose (Fld)
 Standard - door on motor side

Performance Data - Performance Climate Changer (UCCA)

Tags	AHU-1
Suction superheat (F)	8.00
Design airflow (cfm)	5000
Total cooling capacity (MBh)	198
Sensible capacity (MBh)	134
Main coil system type	DX - R410a
Cooling EDB (F)	80.00
Cooling EWB (F)	67.00
Cooling LDB (F)	54.4
Cooling LWB (F)	54.18
Cooling face velocity (ft/min)	513
Supply fan ESP (in H2O)	1.500
Supply fan TSP (in H2O)	2.724
Supply fan quantity (Each)	1.00
Supply total brake hp per fan (hp)	3.555
Supply fan speed (rpm)	2131
Cooling APD (in H2O)	0.782
Filter/Mixing section APD (in H2O)	0.442
Discharge velocity (ft/min)	2375
Unit full load amps (A)	22.50
Unit max fuse size (A)	50.00
Unit min circuit ampacity (A)	28.00
Supply VFD panel amps (A)	22.00
Run acoustics?	No
Unit length (in)	95.660
Unit width (in)	63.000
Unit height (in)	38.000
Installed weight (lb)	1085.7
Rigging weight (lb)	1085.7

Mechanical Specifications - Performance Climate Changer (UCCA)

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

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-SVX009A-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-SVX009A-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.

MIXING SECTION

A mixing section shall be provided to support the damper assembly for outdoor and return air.

Dampers

Dampers shall modulate the volume of outdoor, and return air. The dampers shall be of double-skin airfoil design with

metal, compressible jamb seals and flexible blade-edge seals on all blades. The blades shall rotate on stainless-steel sleeve bearings. The dampers shall be rated for a maximum leakage rate of 3 cfm/ft² at 1 in. w.g. complying with ASHRAE 90.1 maximum damper leakage. All leakage testing and pressure ratings shall be based on AMCA Standard 500-D. Dampers may be arranged in a parallel blade configuration.

The following specifications apply only to units with outside air and return air dampers, with actuators. The 5 year warranty applies only to these items.

This unit contains Economizer that meets or exceeds all mandatory requirements prescribed by Title 24, including but not limited to:

- 5 yr parts only warranty
- Successfully tested to 60,000 Actuations

Filters

Mixing sections shall be provided with a filter rack as indicated in the Product Data and As-Built sections of the submittal.

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.

An averaging temperature sensor shall be serpentine across the module. All capillaries bends shall be radiused and fastened with capillary clips to prevent crimping and minimize wear.

Mixing Section Damper Actuators

Spring return actuators shall be mounted with the back air damper linked normally closed and the top air damper linked normally open.

Dirty Filter Switch

A differential pressure switch piped to both sides of the filter shall indicate filter status.

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.

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.

Refrigerant Cooling Coils

The coils shall have aluminum fins and seamless copper tubes. The fins shall have collars drawn, belled, and firmly bonded to tubes by mechanical expansion of the tubes. Suction and liquid line connections shall extend to the unit exterior. 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 450 psig and leak-tested to 300 psig air pressure under water. After testing, the inside of the coils shall be dried, all connections shall be sealed, and the coil shall be shipped with a charge of dry air.

Suction headers and liquid connections shall be constructed of copper tubing with connections penetrating unit casings to permit sweat connections to refrigerant lines. The coils shall have equalizing vertical distributors sized according to the capacities of the coils. Coils 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.

Tubes are 3/8" [9.5 mm] OD 0.0132" [0.335 mm] thick copper.

Condensate Overflow Switch

A float switch conforming to UL 508 shall be factory-installed in the drain pan that will detect a high condensate water level and be used to shut off the air handler in the event that the primary drain is blocked to comply with IMC 2006. The float switch shall be located at a point higher than the primary drain line connection and below the overflow rim of the drain pan.

Low Limit

A single-pole single throw low limit switch shall be serpentine across the leaving side of the coil with routing Trane

designed to maximize coil coverage and cover critical top and bottom 3 inches of the coil for any given capillary and coil area configuration (Trane designed and historically proven capillary routing does not necessarily match device manufacturer's generic installation recommendations). The bends of the capillaries shall be curved and fastened with capillary clips to prevent crimping and minimize wear. Low limit switch shall include a manual reset button. Contacts open on temperature decrease below set point. Set point is default set to 35F at factory, but is adjustable if increased setpoint is needed due to installation site ducting to coil causing cold spot in a unique location of the coil.

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.

DIRECT-DRIVE PLENUM FAN SECTION

The fan shall be a single-width, single-inlet, 10-bladed direct-drive plenum fan. The fan shall consist of a backward-curved, welded steel wheel. Motor bearing life of the direct-drive plenum fan shall be not less than L-10 250,000 hrs.

Units containing multiple fans shall be controlled using a common control signal, such as the duct static control signal, to modulate the fan speed.

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

All fans, including direct drive plenum fans, shall be internally isolated to inhibit noise and vibration through the ductwork and building structure. A flexible connection shall be installed between fan and unit casing to ensure complete isolation. If fans and motors are not internally isolated, then the entire unit shall be externally isolated from the building, including supply and return duct work, piping, and electrical connections. External isolation shall be furnished by the installing contractor in order to avoid transmission of noise and vibration through the ductwork and building structure.

Fan Discharge Temperature Sensor

A button or probe temperature sensor shall be mounted in the fan discharge.

Airflow Switch

A differential pressure switch piped to the discharge and suction sides of the fan shall indicate fan status.

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.

Field Programmable UC600

Factory-mounted direct digital control (DDC) system shall be engineered, mounted, wired and tested by the air handler manufacturer to reduce installed costs, improve reliability, and save time at unit startup. Each control system shall be

fully functional in a stand-alone mode or may be tied to a building automation system with a single pair of twisted wires. All factory-mounted controls shall be covered by the air handler manufacturer's standard warranty.

A dedicated, programmable, direct digital-controller with the appropriate point capabilities shall be unit-mounted on each air-handling unit.

Control panel to include a disconnect switch, motor current overload protection (if applicable), fused line voltage to 24 volt transformer, and three pole fan contactor. On outdoor units the disconnect switch is not factory provided and must be field supplied. If a factory mounted VFD is provided on the supply fan, power wiring for the VFD shall come from the control distribution panel. Speed reference/signal control for the VFD shall be wired to the direct digital-controller.

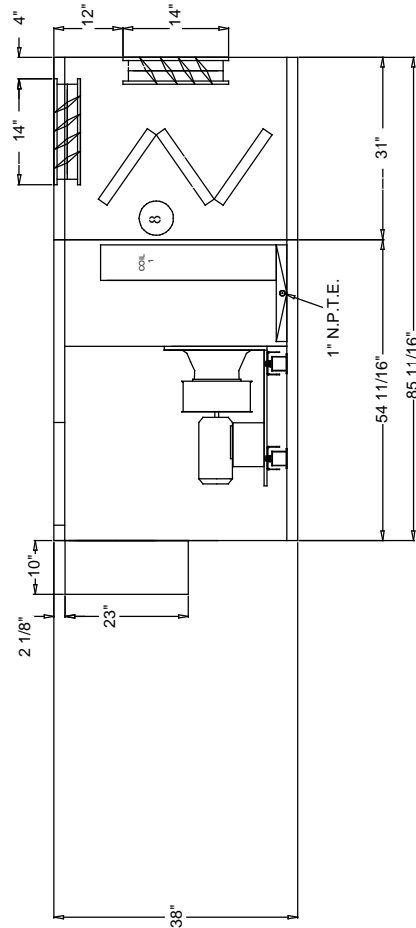
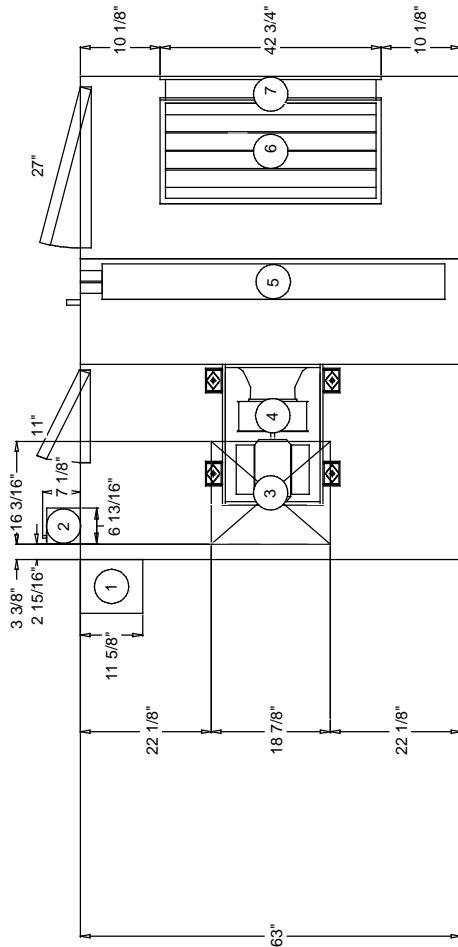
Unit Dimensions - Performance Climate Changer (UCCA)

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


EQUIPMENT LIST

- 1 External VFD
- 2 External unit controller
- 3 TPFT discharge opening
- 4 16 3/16" x 18 7/8"
- 5 Direct-drive plenum fan - 18" dia. Supply fan 5,000 hp 208.0 V
- 6 Cooling coil - 6 row
- 7 Damper top-parallel blade
- 8 13,970 in x 42,750 in
- 9 Damper back-parallel blade
- 10 13,970 in x 42,750 in
- 11 Angled filter - Filter media
- 12 16 in. x 20 in. (2)
- 13 20 in. x 20 in. (4)
- 14 20 in. x 25 in. (0)

Doors
 11" Width x 34" Height
 27" Width x 34" Height

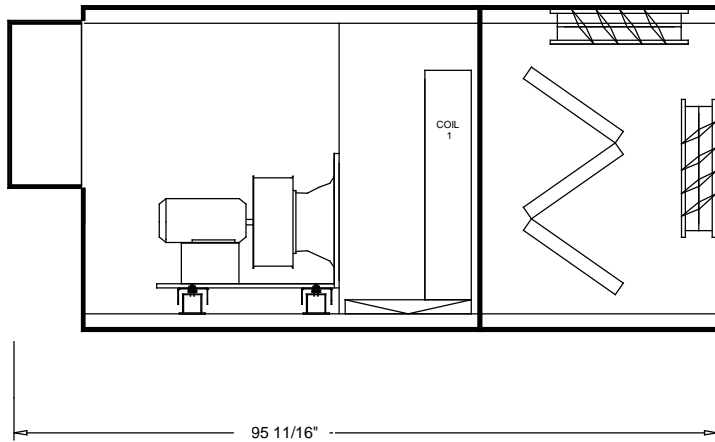


OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size:	10	Unit Casing: 2in Double Wall
Product group: Indoor Unit	Actual airflow: 5000 cfm	Rigging Weight: 1085.7 lb
		Installed Weight: 1085.7 lb
		 Performance Climate Changer Air Handlers

Unit Dimensions - Performance Climate Changer (UCCA)


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



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

Component	Weight
Main Unit	528.0 lb
Motor	92.0 lb
Coil 1 installed weight	128.3 lb
Coil 2 installed weight	0.0 lb
Access section with coil	
VFD	22.0 lb
Electric Heater	
Mixbox Section	315.4 lb

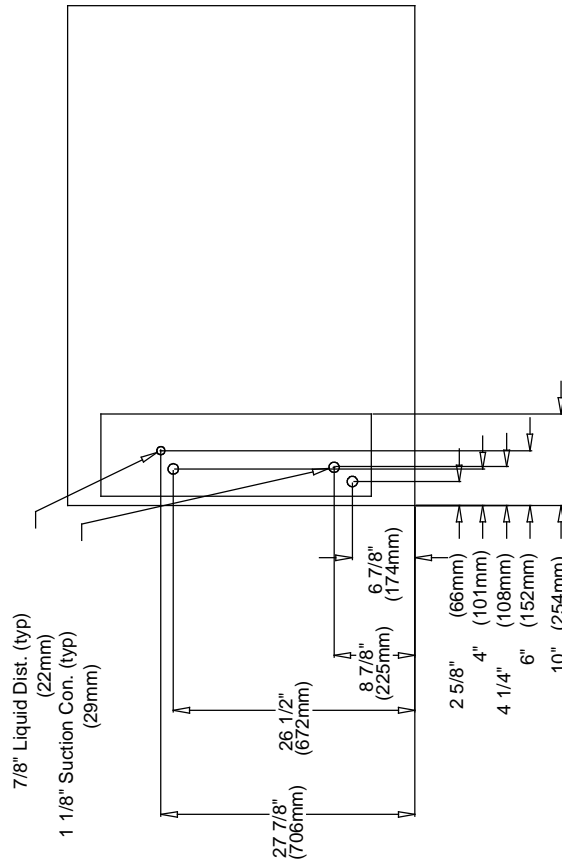
OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES / NOT TO SCALE

Unit size: 10		Unit Casing: 2in Double Wall	 Performance Climate Changer Air Handlers
Product group: Indoor Unit	Actual airflow: 5000 cfm	Rigging Weight: 1085.7 lb	
		Installed Weight: 1085.7 lb	

Unit Dimensions - Performance Climate Changer (UCCA)

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

Note: Not all components or accessories shown. Main unit shown for reference.



Coil connection view: Left

NPTI: National Pipe Thread Internal Connection
 NPTE: National Pipe Thread External Connection

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

Unit size:	10
Product group:	Indoor Unit
Actual airflow:	
Unit Casing: 2in Double Wall Foam	
Rigging Weight:	
Installed Weight:	



Unit Dimensions - Performance Climate Changer (UCCA)

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

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.

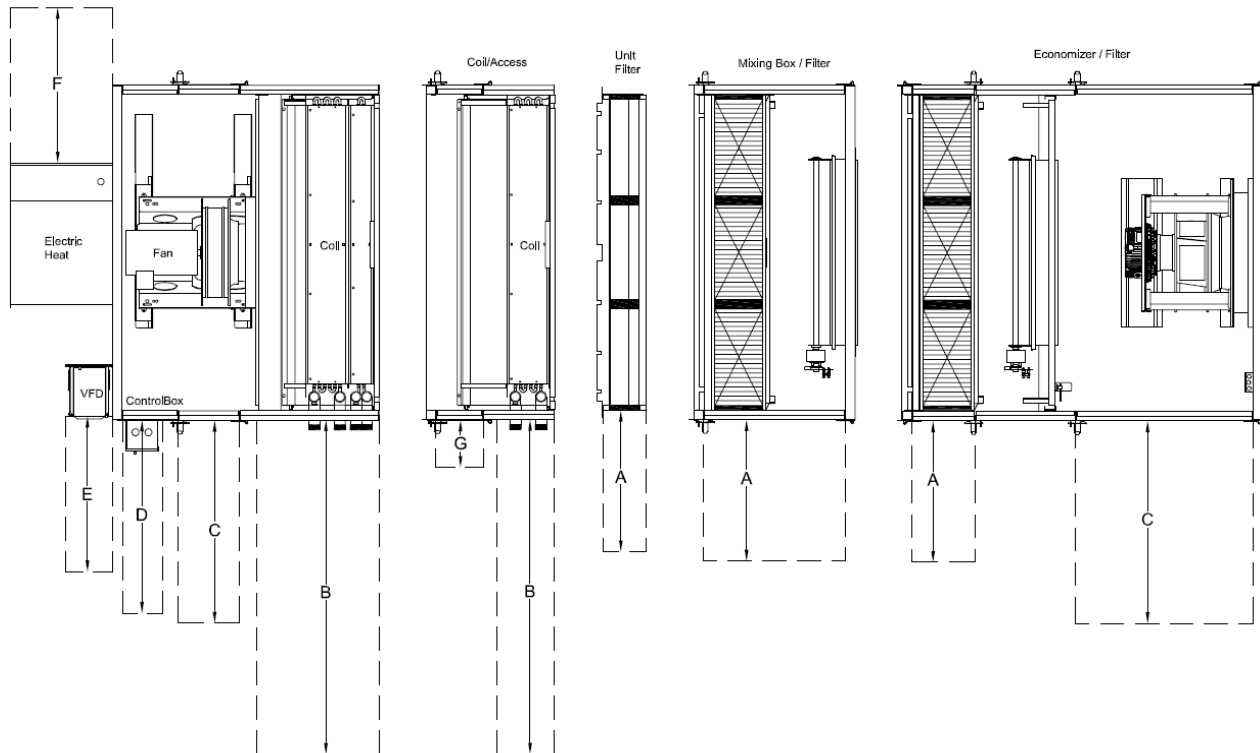
Clearances are mirrored to other side for units with doors both sides.

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

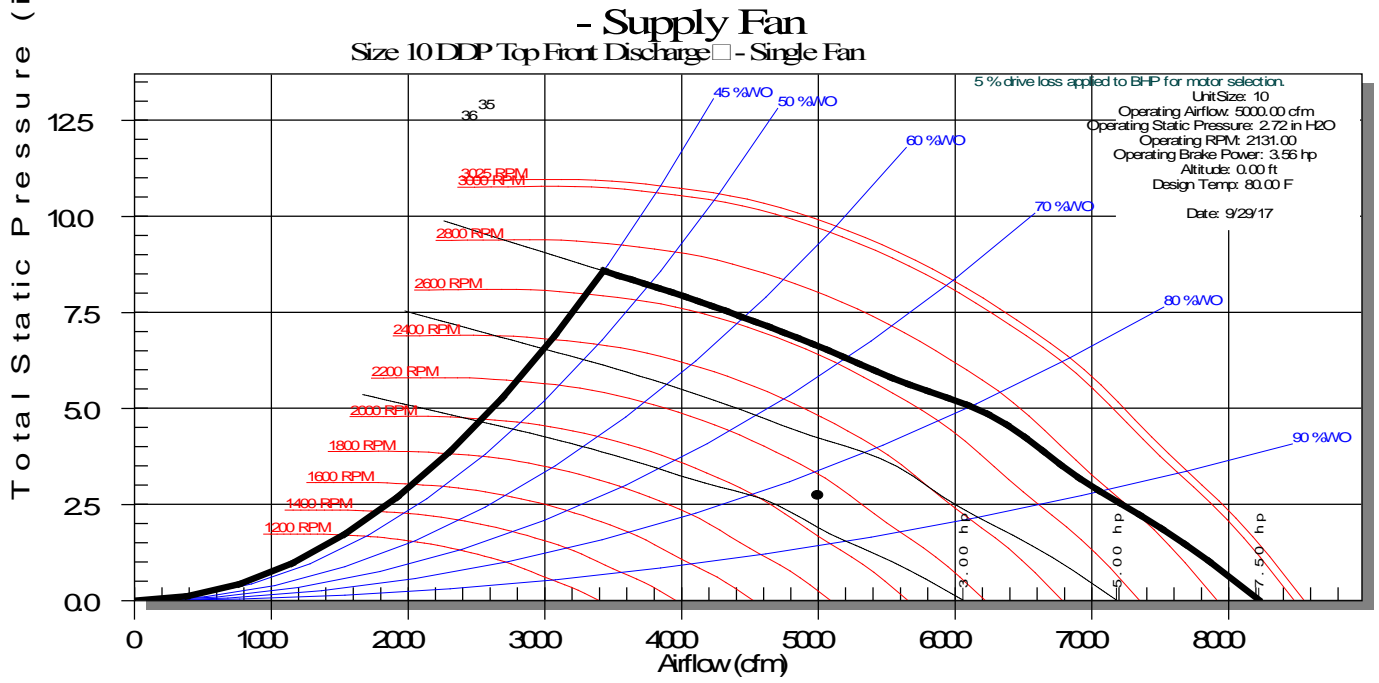
Clearance for starters, VFD's, or other high-voltage devices must be provided per NEC requirements.

Service Clearances



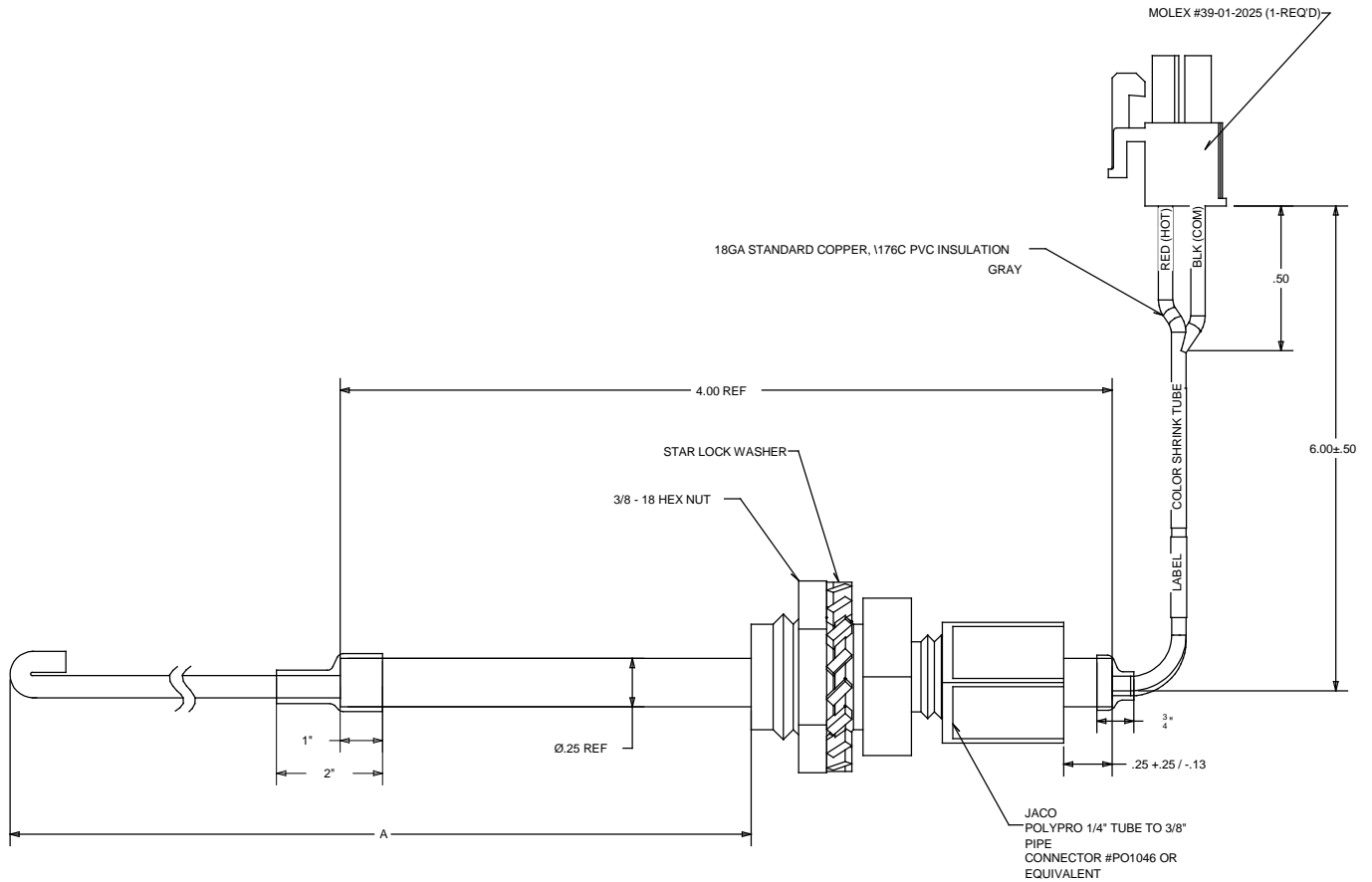
Fan Curve - Performance Climate Changer (UCCA)

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



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

Mixed Air Sensor

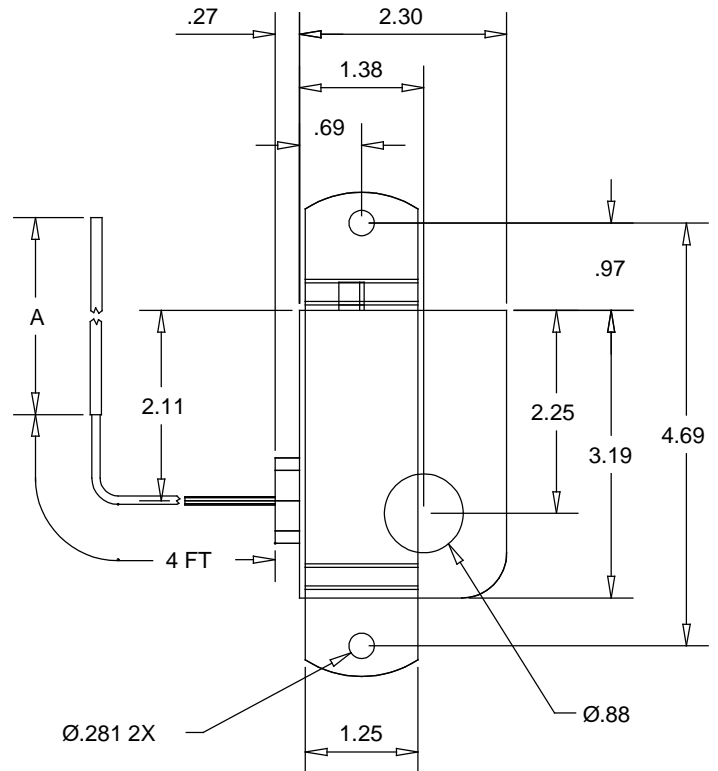
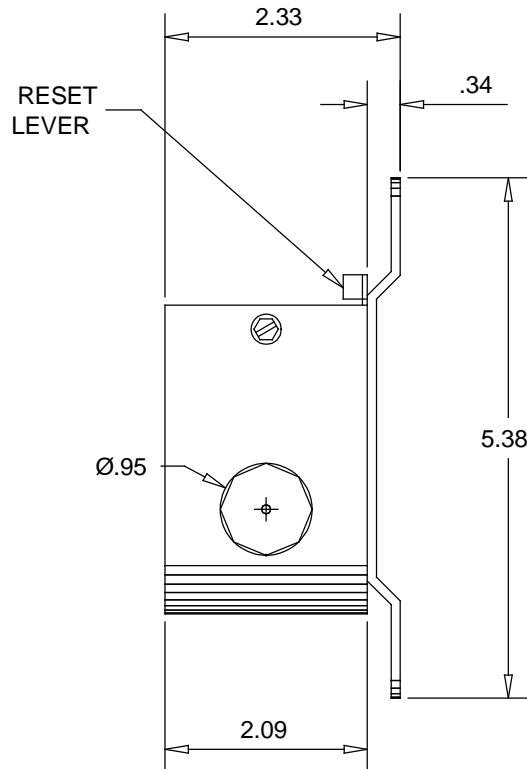


EXT	SENSOR ELEMENT	SENSOR RATING	TCR	SHRINK TUBE COLOR	A
01	RTD	1,000 Ω PT 385	3850 PPM/K	WHITE	15 FT
02					20 FT
03					8 FT
04					24 FT
05					32 FT
06		1,000 Ω NI-FE-JCI	6370 PPM/K	RED	15 FT
07					20 FT
08					8 FT
09					24 FT
10					32 FT
11		1,000 Ω NI-SIEMENS	5000 PPM/K	ORANGE	15 FT
12					20 FT
13					8 FT
14					24 FT
15					32 FT

	SENSOR ELEMENT	SENSOR RATING	BETA (0°C TO 50°C)	SHRINK TUBE COLOR	A
16	THERMISTOR	10,000 Ω TYPE II	3892K NOMINAL	YELLOW	15 FT
17					20 FT
18					8 FT
19					24 FT
20					32 FT
21		10,000 Ω TYPE III	3575K NOMINAL	GREEN	15 FT
22					20 FT
23					8 FT
24					24 FT
25					32 FT
26		20,000 Ω TYPE IV	4140K NOMINAL	BLUE	15 FT
27					20 FT
28					8 FT
29					24 FT
30					32 FT
31	100,000 Ω TYPE II	3892K NOMINAL	GRAY	15 FT	
32				20 FT	
33				8 FT	
34				24 FT	
35				32 FT	

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

Low Limit Switch



SPECIFICATIONS:

1. SWITCH ACTION: SPST (OPENS ON TEMP DECREASE)
2. CAPILLARY: .125 OD X A SENSING ELEMENT AND .093 OD X 4 FT CAPILLARY COPPER, VAPOR PRESSURE TYPE
3. DIFFERENTIAL: FIXED @ 12 °F (6.7 °C)
4. AMBIENT TEMPERATURE: 0-140 °F (-18 TO 60 °C)
5. SET POINT: TRIP POINT CAN COME BACK IN @ 12 °F (6.7 °C) ABOVE SET POINT
6. CONTROL DIAL RANGE: 35-45 °F (2-7 °C)
7. MOUNTING: ANY POSITION
8. MAXIMUM TEMPERATURE AT BULB: 250 °F (121 °C)

EXT	TYPE	A (INCHES)
01	AUTO RESET	240.00
02	MANUAL RESET	
03	MANUAL RESET	108.00
04	MANUAL RESET	172.00
05	MANUAL RESET	254.00
06	MANUAL RESET	288.00

Accessory - Performance Climate Changer (UCCA)

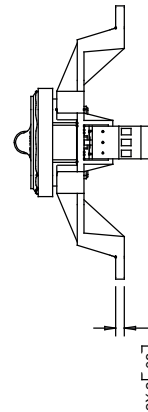
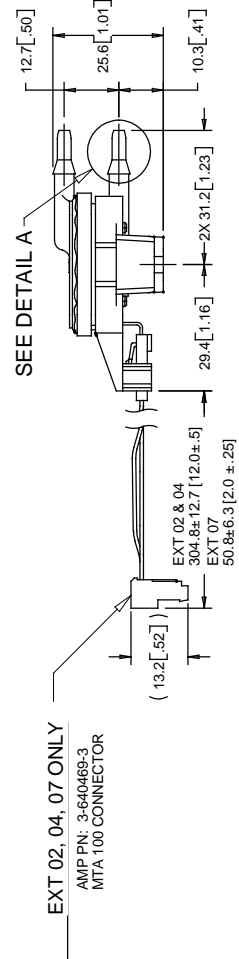
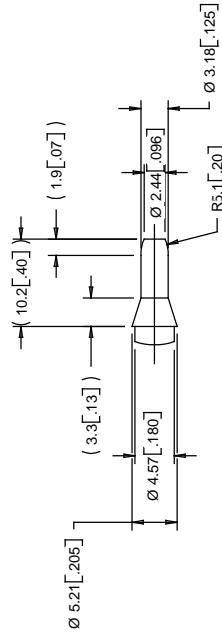
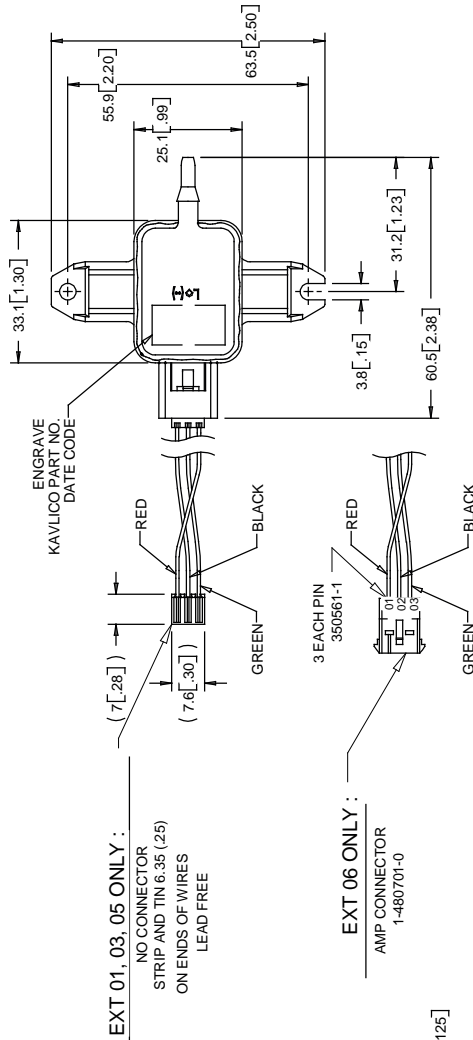
Item: A1 Qty: 1 Tag(s): AHU-1

Duct Static Pressure Sensor

NOTE:

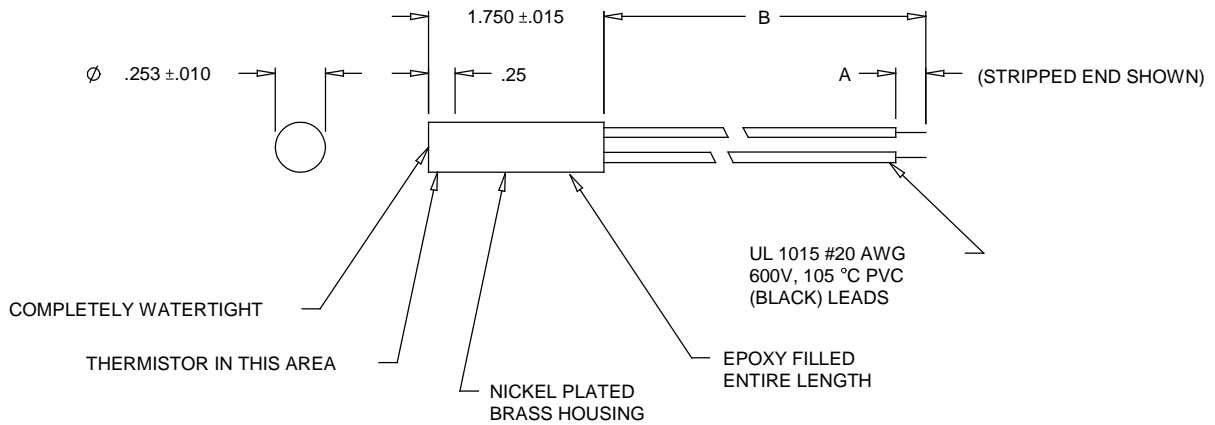
- EXT -04 ONLY, FOR SILICON FREE CONSTRUCTION, USE POLYURETHANE (3M 525 OR EQUIVALENT).
- SEE ENGINEERING SPECIFICATION X13790831.

DIMENSIONS ARE MM (INCHES) UNLESS OTHERWISE SPECIFIED



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

Discharge Air Sensor



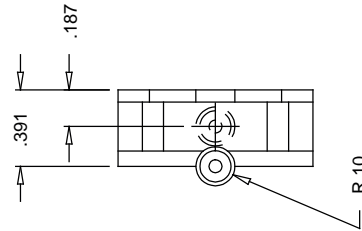
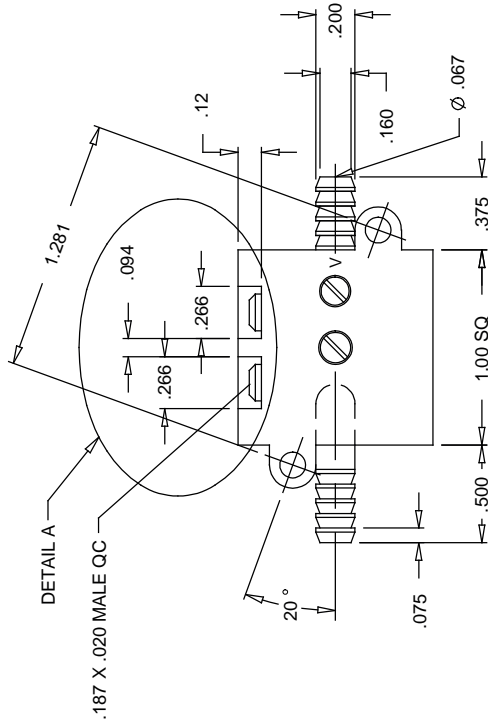
RESISTANCE TEMPERATURE CHARACTERISTICS			
TEMPERATURE	RESISTANCE		TEMP COEFF
	MIN	MAX	
-40 °C	320.9K	369.0K	-6.61%/ °C
-25 °C	125.6K	142.3K	-6.04%/ °C
0 °C	31.17K	34.6K	-5.16%/ °C
25 °C	9.56K	10.44K	-4.40%/ °C
65 °C	2.012K	2.158K	-3.50%/ °C

EXT	A	B
01	PLUG; AMP #172165-1 TERMINAL; PIN AMP #171638-1 (2 REQD)	16 ±.25

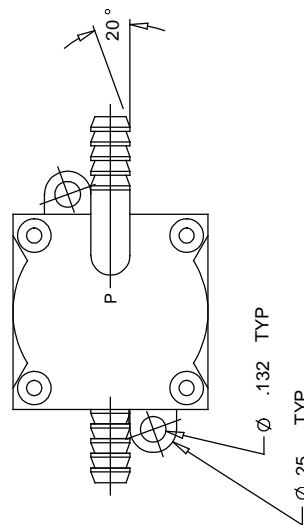
Accessory - Performance Climate Changer (UCCA)

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

Dirty Filter Switch



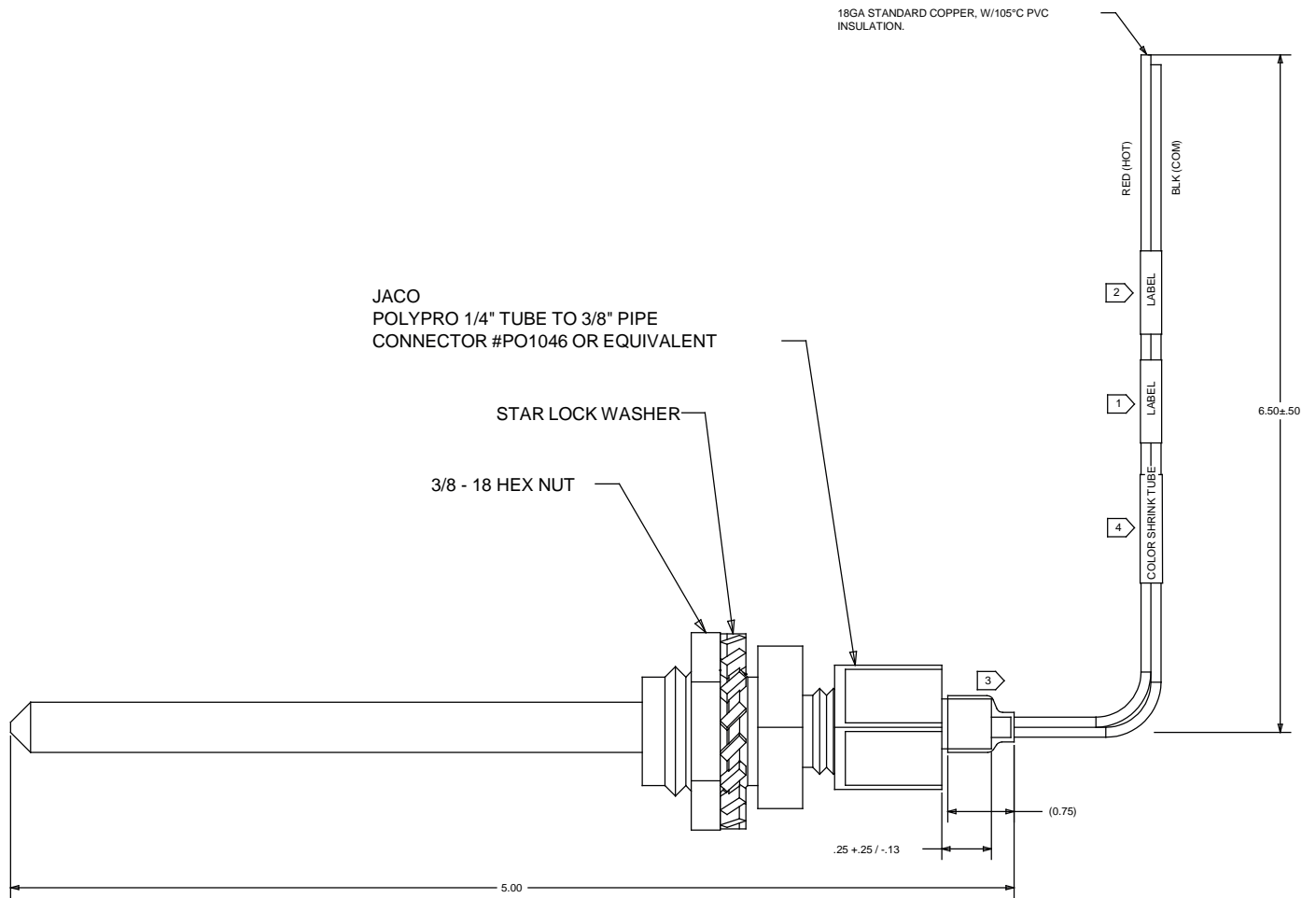
COVER HELD BY CENTER SCREW



EXT	DESCRIPTION
06	.90 IN STATIC PRESSURE

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

OA Temp Sensor



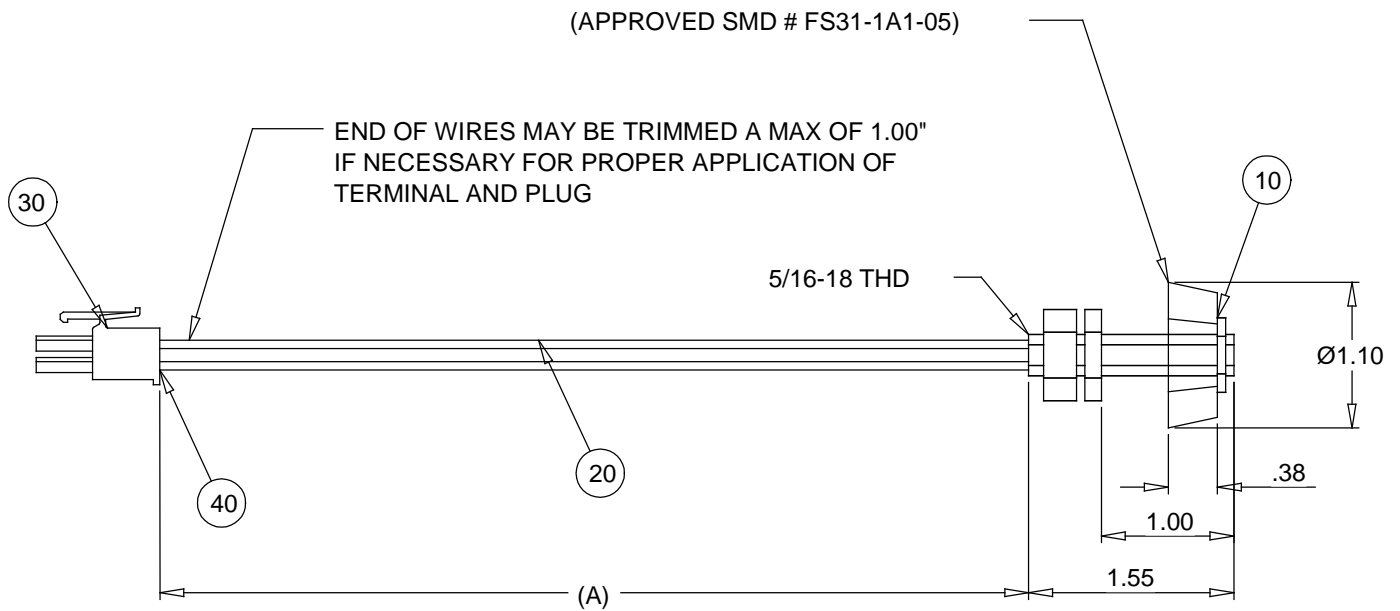
EXT	SENSOR RATING	BETA (0°C TO 50°C)	SHRINK TUBE COLOR	SENSOR
01	10,000 Ω TYPE II	3892K	YELLOW	THERMISTOR
02	10,000 Ω TYPE III	3575K	GREEN	
03	20,000 Ω TYPE IV	4140K	BLUE	
04	100,000 Ω TYPE II	3892K	GRAY	

EXT	SENSOR RATING	TCR	SHRINK TUBE COLOR	SENSOR
05	1,000 Ω PT 385	3850 PPM/K	WHITE	RTD
06	1,000 Ω NI-FE-JCI	6370 PPM/K	RED	
07	1,000 Ω NI-SIEMENS	5000 PPM/K	ORANGE	

Accessory - Performance Climate Changer (UCCA)

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

Condensate Over Flow

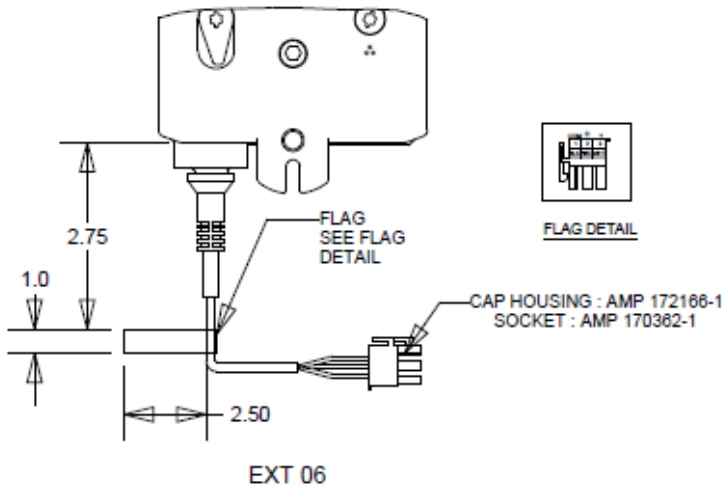


EXT	A (IN)	ITEM			
		10	20	30	40
		FLOAT SWITCH	WIRE	PLUG(GREEN)	TERMINAL;PIN
X13470527010	9.0	X13470484010	AWM (20 AWG)	AMP #1-172165-5	AMP #171638-1
X13470527020	50.0	X13470484010	AWM (20 AWG)	AMP #1-172165-5	AMP #171638-1

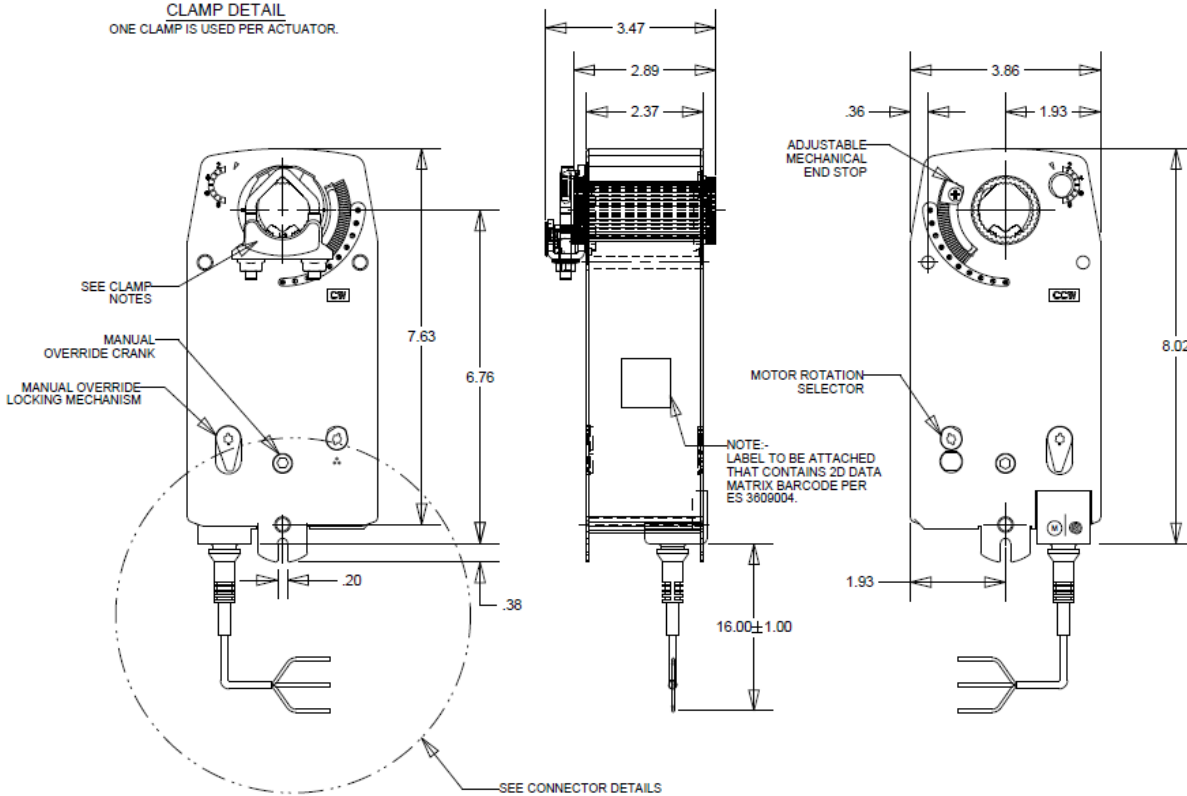
Accessory - Performance Climate Changer (UCCA)

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

Actuator



CLAMP DETAIL
ONE CLAMP IS USED PER ACTUATOR.

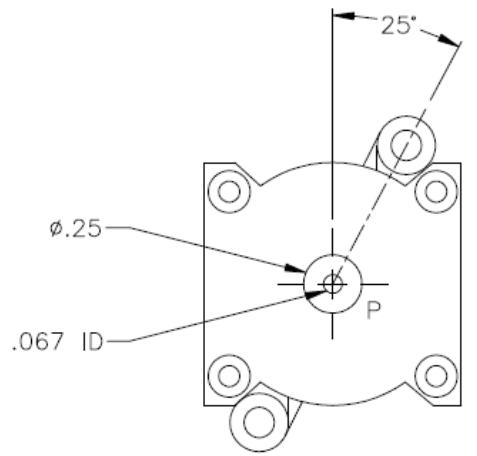


Accessory - Performance Climate Changer (UCCA)

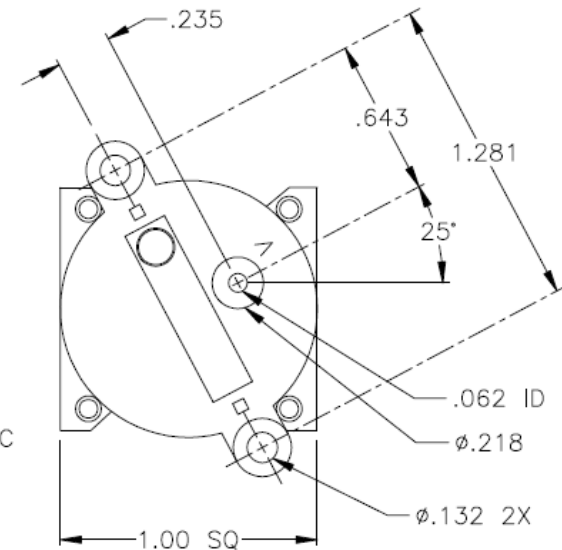
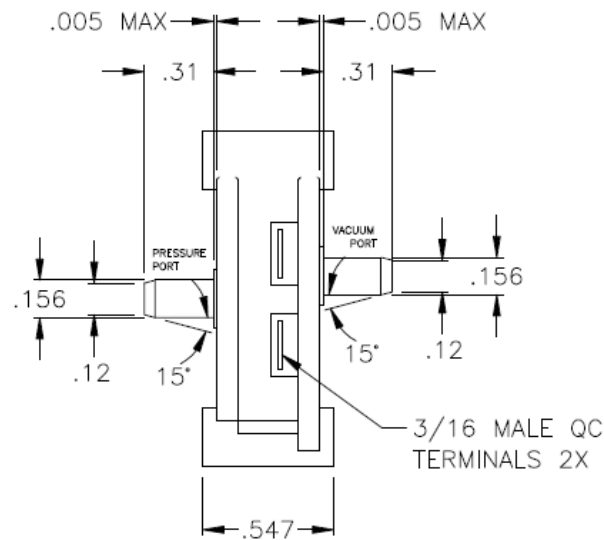
Item: A1 Qty: 1 Tag(s): AHU-1

Fan Pressure Switch

EXT	Description
01	.07 IN STATIC PRESSURE
02	.05 IN STATIC PRESS W/24" LEADS BODY TO BE BLACK
03	.5 IN STATIC PRESSURE
04	1.00 IN STATIC PRESSURE
05	.15 IN STATIC PRESSURE

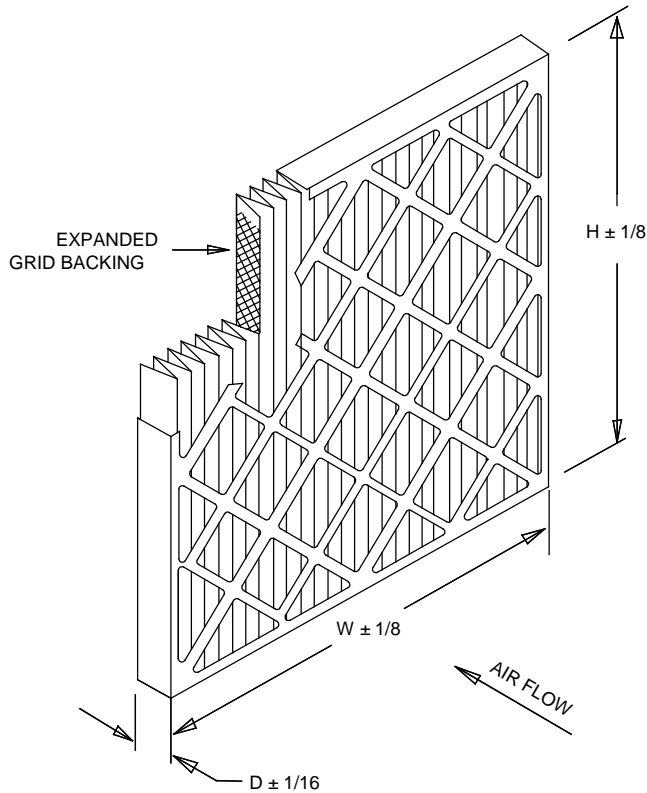


EXT 01, 03, 04 & 05



Accessory - Performance Climate Changer (UCCA)

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



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: 1/0" 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: A1 Qty: 1 Tag(s): AHU-1**

Unit Tag(s)	Unit Size	Filter Arrangement	Filter Type \ MERV Rating	Filter Quantity	Filter Size
AHU-1	Unit Size 10 Square Feet of Coil	2" angle filter mixing section	2" MERV 8	2	16 in. x 20 in.
				0	16 in. x 25 in.
				4	20 in. x 20 in.
				0	20 in. x 25 in.

Field Wiring - Performance Climate Changer (UCCA)
 Item: A1 Qty: 1 Tag(s): AHU-1

POWER SCHEMATIC PAGE 1 OF 2

DEVICE	DESCRIPTION	ZONE
1Q1	UNIT DISCONNECT SWITCH	15
1T1	CONTROL TRANSFORMER	31
1X1	POWER DISTRIBUTION BLOCK	20
2M1	MOTOR 1	43
9F1	VFD FUSE	20
9F2	VFD FUSE	22
9F3	VFD FUSE	24
9T1	VFD	20

L1 L2 L3

CAUTION
 USE COPPER CONDUCTORS ONLY!
 WIRING IS REQUIRED TO ACCEPT OTHER TYPES OF CONDUCTORS. FAILURE TO DO SO MAY CAUSE DAMAGE TO THE EQUIPMENT.

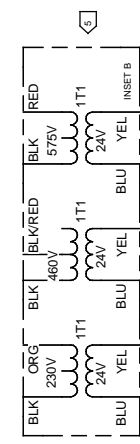
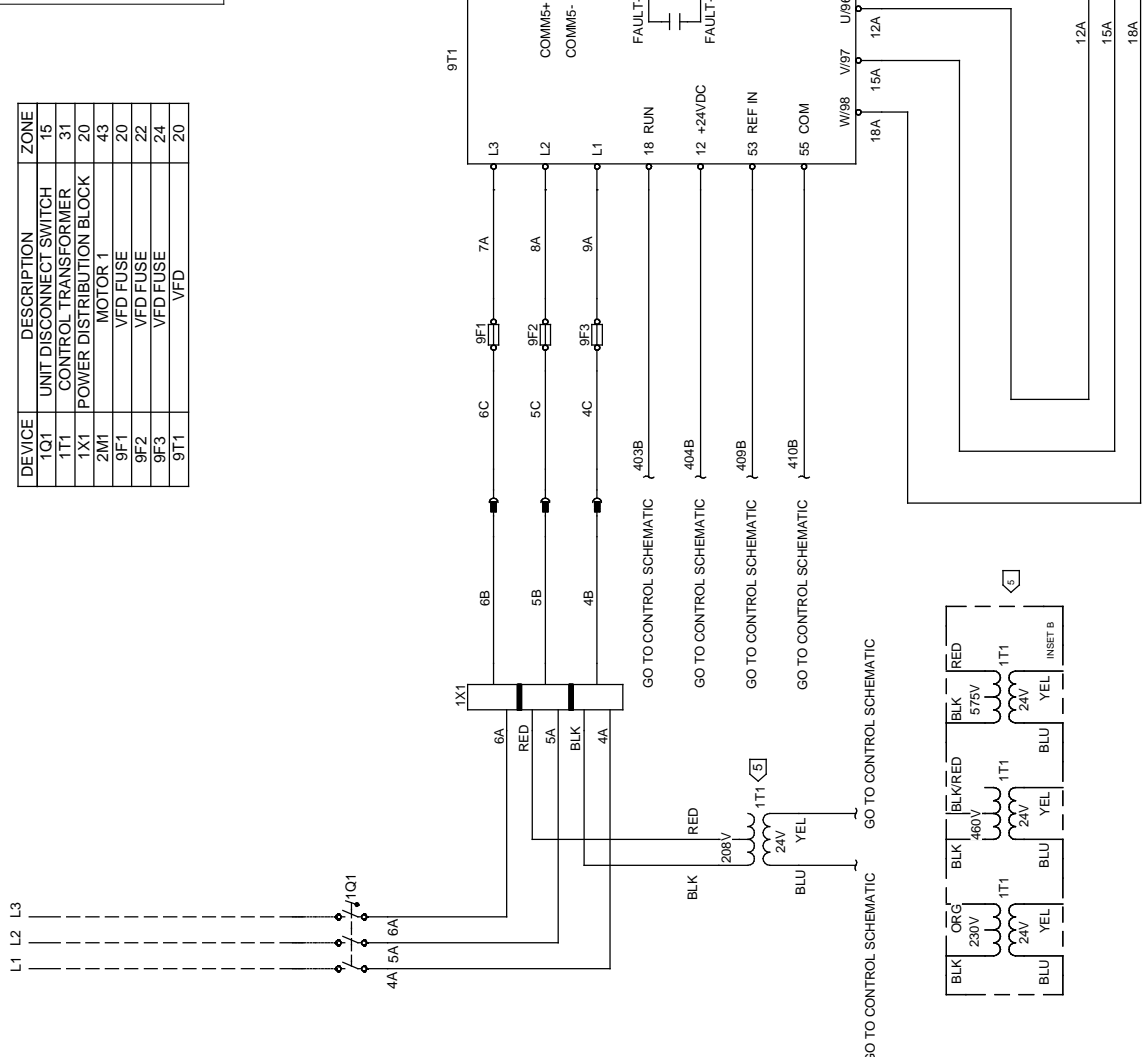
ATTENTION
 N'UTILISER QUE DES CONDUCTEURS EN CUIVRE!
 LES BORNES DE L'UNITÉ NE SONT PAS CONÇUES POUR RECEVOIR D'AUTRES TYPES DE CONDUCTEURS. L'UTILISATION DE TOUT AUTRE CONDUCTEUR PEUT EN dommager.

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

WARNING
 HAZARDOUS VOLTAGE
 HIGH VOLTAGE
 FOLLOW LOCK-OUT AND TAG PROCEDURES INCLUDING REMOTE DISCONNECTS AND MOTOR CAPACITORS HAVE DISCHARGED STORED VOLTAGE. UNITS WITH VARIABLE SPEED DRIVES (VSD) MUST BE DEENERGIZED INSTRUCTIONS FOR CAPACITOR DISCHARGE. FAILURE TO DO THE ABOVE BEFORE SERVICING MAY RESULT IN DEATH OR SERIOUS INJURY.

AVERTISSEMENT
 TENSION DANGEREUSE!
 COMPRIER TOUTES LES TENSIONS ET HAUTES TENSIONS
 PLUS SUIVRE LES PROCEDURES DE VERIFICATION Y COMPRIS LES DISCONNECTS REMOTS Y LES CONDENSATEURS DES MOTEURS SONT CHARGES. LES UNITS AVEC DES VITESSES VARIABLES DOIVENT ETRE DEENERGISEES AVANT LE SERVICE. NE PAS RESPECTER CES MESURES DE PRECAUTION PEUT ENTRAINER DES BLESSURES GRAVES POURVANT ETRE MORTELLES.

ADVERTENCIA
 ¡VOLTAJE PELIGROSO!
 ALTA VOLTAJE
 SIGA LOS PROCEDIMIENTOS DE CIERRE Y VERIFICACION INCLUIDOS EN EL MANUAL DE SERVICIO, ASEGURESE DE QUE TODOS LOS CAPACITORES DEL MOTOR HAYAN SIDO DESCARGADOS ANTES DE SERVICIAR. PARA LAS UNIDADES CON VELOCIDAD VARIABLE, NO REALIZAR LO ANTERIORMENTE SIN REALIZAR LAS MEDIDAS DE SEGURIDAD O SERIAS LESIONES PERSONALES.



Field Wiring - Performance Climate Changer (UCCA)
Item: A1 Qty: 1 Tag(s): AHU-1

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 208V 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
208/230	1	LP-CC-10	CC
208/230	1.5, 2	LP-CC-10	CC
208/230	3	LP-CC-25	CC
208/230	5	JLN-50	T
208/230	7.5	JLN-80	T
208/230	10	JLN-100	T
208/230	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	JLS-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
1		LOCATION
2		MAIN CONTROL PANEL
3		SUPPLY FAN & COIL SECTION
4		ELECTRIC HEAT CONTROL BOX
5		FILTER SECTION
6		MIXING BOX SECTION
7		COIL ACCESS SECTION
8		EXTERNAL PIPING
9		FIELD INSTALLED DEVICE
		VFD CONTROL PANEL

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 CAN RESULT IN DEATH OR SERIOUS INJURY.

AVERTISSEMENT

TENSION DANGEREUSE!

COUPER TOUTES LES TENSIONS ET OUVRIR LES SECTIONNEURS A DISTANCE. PUIS SUIVRE LES PROCEDURES DE VERIFICATION DE LA VERIFICATION DE LA TOUTE INTERVENTION. VERIFIER QUE TOUTES LES CONDENSATEURS DES MOTEURS SONT DECHARGES. DANS LE CAS D'UNITES COMPORTANT DES ENTRAINEMENTS A VITESSE VARIABLE, SE REPORTER AUX INSTRUCTIONS DE L'ENTRAINEMENT POUR DECHARGER LES CONDENSATEURS.

NE PAS RESPECTER CES MESURES DE SECURITE PEUT RESULTER EN MORTS OU BLESSURES GRAVES POUVANT ETRE MORTELLES.

ADVERTENCIA

¡VOLTAJE PELIGROSO!

DESCONECTE TODA LA ENERGIA ELECTRICA, INCLUIDO LAS DESCONEXIONES REMOTAS Y OUVRIRE LOS SECCIONNEURS A LA DISTANCIA Y SIGA LAS PROCEDURAS DE VERIFICACION DEL SERVICIO. ASEGURESE DE QUE TODOS LOS CAPACITORES DEL MOTOR HAYAN DESCARGADO EL VOLTAJE ALMAGACENADO PARA LAS UNIDADES CON EJE DE DIRECCION DE VELOCIDAD VARIABLE. PARA LAS UNIDADES CON ENTRAINAMIENTO A VITESSE VARIABLE, SE REPORTAR PARA LA OBTENCION DE LAS INSTRUCCIONES PARA LA DESCARGA DEL CONDENSADOR.

EL NO REALIZAR LO ANTERIORMENTE INDICADO PUEDE RESULTAR EN 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 COUVRE! LES BORNES DE LIMITE NE SONT PAS CONÇUES POUR RECEVOIR D'AUTRES TYPES DE CONDUCTEURS. L'UTILISATION DE TOUT AUTRE CONDUCTEUR PEUT ENDOMMAGER L'EQUIPEMENT.

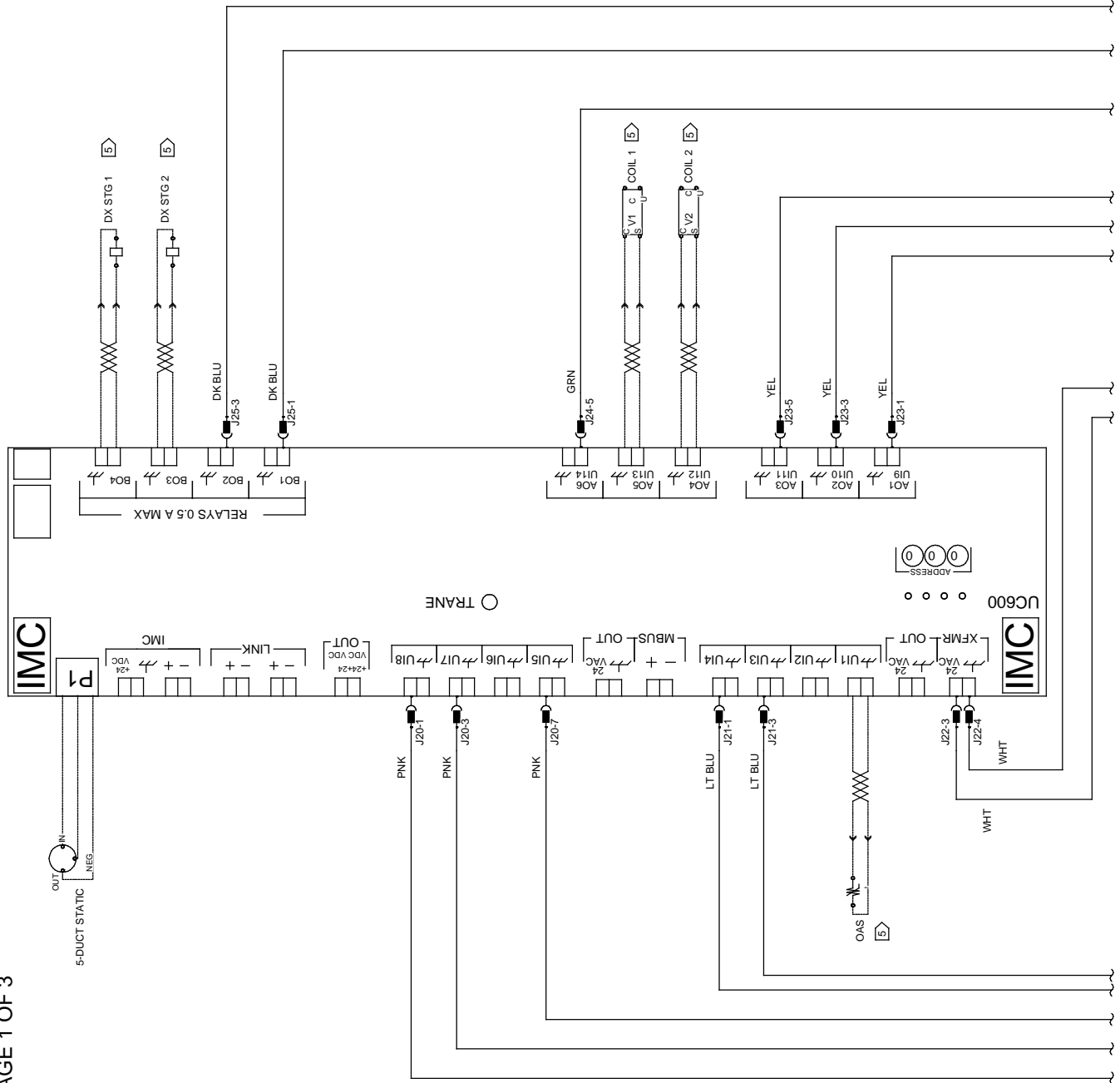
PRECAUCION

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

CONTROL SCHEMATIC PAGE 1 OF 3



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 SECTIONNEURS 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 ENTRAINEMENTS A VITESSE VARIABLE, SE REPORTER AUX INSTRUCTIONS POUR LE DECHARGER LES CONDENSATEURS. NE PAS RESPECTER CES MESURES DE SECURITE PEUT ENTRAINER DES BLESSURES GRAVES POUVANT ETRE MORTELLES.

ADVERTENCIA
 VOLTAJE PELIGROSO!
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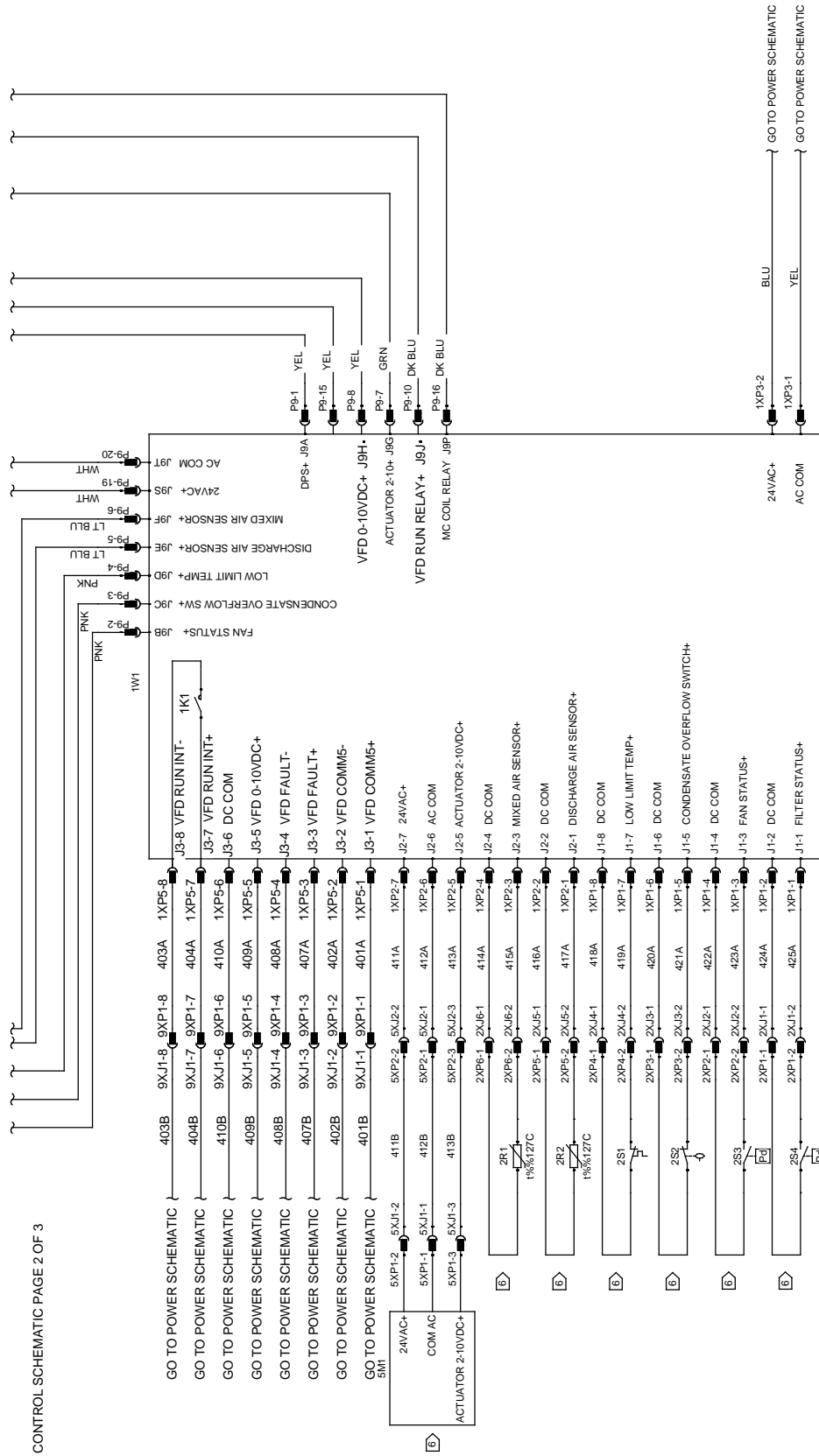
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Field Wiring - Performance Climate Changer (UCCA)
 Item: A1 Qty: 1 Tag(s): AHU-1

CONTROL SCHEMATIC PAGE 2 OF 3



DEVICE	DESCRIPTION
1K1	RELAY VFD RUN
W1	ADAPTER BOARD LUG600
2R1	MIXED AIR SENSOR
2R2	DISCHARGE AIR SENSOR
2S1	LOW LIMIT SWITCH
2S2	CONDENSATE OVERFLOW SWITCH
2S3	FAN STATUS SWITCH
2S4	DISCHARGE AIR SENSOR
5M1	DAMPER ACTUATOR

AREA	LOCATION
1	MAIN CONTROL PANEL
2	SUPPLY FAN & COIL SECTION
3	DISCHARGE AIR SENSOR BOX
4	MIXING BOX SECTION
5	MIXING BOX SECTION
6	COIL ACCESS SECTION
7	EXTERNAL PIPING
8	FIELD WIRING
9	VFD CONTROL PANEL

CAUTION
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 FAILURE TO DO SO MAY CAUSE DAMAGE TO THE
 EQUIPMENT.

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 CONÇUS POUR ACCEPTER D'AUTRES TIPIOS DE CONDUCTEURS.
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 ENDOMMAGER L'EQUIPEMENT.

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WARNING
 HAZARDOUS VOLTAGE!
 DISCONNECT ALL ELECTRIC POWER
 INCLUDING REMOTE DISCONNECTS AND
 LOCKOUT/TAGOUT DEVICES BEFORE WORKING
 BEFORE SERVICING. INSURE THAT ALL
 MOTOR CAPACITORS HAVE DISCHARGED
 COMPLETELY. USE APPROPRIATE WIRING
 INSTRUCTIONS FOR CAPACITOR DISCHARGE.
 FAILURE TO DO THE ABOVE BEFORE
 SERVICING MAY RESULT IN DEATH OR
 SERIOUS INJURY.

AVERTISSEMENT
 TENSION DANGEREUSE!
 COUPER TOUTES LES TENSIONS ET
 COUVRIR LES SECTIONNEURS A DISTANCE.
 Y COMPRIS LES DISCONNECTS REMOTES ET
 VERROUILLAGE ET DES ETIQUETTES AVANT
 TOUTE INTERVENTION. VÉRIFIER QUE TOUTS
 LES CONDENSATEURS DE MOTEUR AIENT
 DÉCHARGÉS. DANS LE CAS D'UN TRAVAIL
 NON RÉGULIÈREMENT, UTILISER LES
 INSTRUCTIONS DE L'ENTRETIENMENT A
 DÉCHARGER LES CONDENSATEURS. NE PAS
 NE PAS RESPECTER CES MESURES DE
 SÉCURITÉ PEUT CAUSER LA MORT
 O SERAS LESIONES PERSONALES.

ADVERTENCIA
 VOLTAJE PELIGROSO!
 DESCONECTE TODA LA ENERGIA ELECTRICA,
 INCLUIDO LAS DESCONEXIONES REMOTAS Y
 VERROUILLAJE Y ETIQUETAS ANTES DE
 ETIQUETADO ANTES DE PROCEDER AL
 SERVICIO. ASEGURESE DE QUE TODOS
 LOS CONDENSADORES DE MOTOR SEAN
 DESCARGADOS EL VOLTAJE ALMACENADO.
 PARA LAS UNIDADES CONEJTE DE
 DESCHARGAR LAS INSTALACIONES PARA LA
 DESCARGA DEL CONDENSADOR. EL NO
 EL NO REALIZARLO ANTERIORMENTE
 PUEDE RESULTAR EN LA MUERTE
 O SERAS LESIONES PERSONALES.

Field Wiring - Performance Climate Changer (UCCA)

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

CONTROL SCHEMATIC PAGE 3 OF 3

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- 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.
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- 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 CONNECTIONS ARE INTENDED FOR CLASS 2 ONLY.
 - 6 ALL AVAILABLE END DEVICES SHOWN. SEE UNIT CONFIGURATION FOR END DEVICES ON UNIT.

⚠ 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

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 DESCONECTE TODA LA ENERGIA ELECTRICA, INCLUIDO 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 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'UNITÉ NE SONT PAS CONÇUES POUR RECEVOIR D'AUTRES TYPES DE CONDUCTEURS.
 L'UTILISATION DE TOUT AUTRE CONDUCTEUR PEUT ENDOMMAGER L'EQUIPEMENT.

PRECAUCION

¡UTILICE 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.

Field Wiring - Performance Climate Changer (UCCA)**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	Single point power	208/60/3	28.00	50.00

Tag Data - Split System Air Conditioning Units (Large) (Qty: 1)

Item	Tag(s)	Qty	Description	Model Number
B1	No Tag	1	12.5 Ton Unitary Split Systems	TTA15003000-----000

Product Data - Split System Air Conditioning Units (Large)**Item: B1 Qty: 1**

TTA Air Condensing Outdoor Unit
12 1/2 Ton Nominal Cooling Capacity R410
Dual Compressors-R410A Microchannel
208-230 Volt 3 Phase 60 Hertz
Electromechanical
Steel spring isolators (Fld)
Condenser Coil Hail/Vandal Guard Kit (Fld)
1st Year Labor Warranty Whole Unit

Mechanical Specifications - Split System Air Conditioning Units (Large)**Item: B1 Qty: 1****TTA Microchannel - General**

Weatherproofed steel mounting/lifting rails
Hermetic scroll compressors
Microchannel condenser coils on select models
Plate fin condenser coils
Fans and motors
Standard operating range 50-125°F (min. 0°F with low ambient accessory)
Nitrogen holding charge
Certified and rated in accordance with AHRI and DOE standards
Certified to UL 1995

TTA Microchannel - Casing

Zinc coated, heavy gauge, galvanized steel
Weather resistant baked enamel finish
Meets ASTM B117, 672 hour salt spray test
Removable single side maintenance access panels
Lifting handles in maintenance access panels
Unit base provisions for forklift and/or crane lifting

Refrigeration System - Dual Compressor (TTA073H, TTA090H, TTA120H, TTA150H, TTA180H, TTA240H) & Two (2) separate and independent refrigerant circuits

Each refrigeration circuit equipped with integral subcooling circuit
Front or rear refrigerant line connections (TTA180H/240H)
Two (2) direct drive hermetic scroll compressor
Suction gas-cooled motors w/ $\pm 10\%$ voltage utilization range of unit nameplate voltage
Crankcase Heaters
Internal temperature and current sensitive motor overloads
Factory installed liquid line filter driers
Phase loss/reverse rotation monitor
Liquid line service valves (with gauge port)
Suction line service valves (with gauge port)
No compressor suction and/or discharge valves (reduced vibration/sound)
External high pressure cutout devices

TTA Microchannel - Condenser Coil (Microchannel)

Microchannel coils burst tested by the manufacturer
Coils shall be leak tested to ensure the pressure integrity
Factory pressure and leak tested to 660 psig
Perforated steel hail guards available (factory installed option or field installed accessory)

TTA Microchannel - Condenser Fan

26" or 28" propeller fan(s)
Direct drive
Statically and dynamically balanced

TTA Microchannel - Condenser Motor(s)

Permanently lubricated totally enclosed or open construction
Built-in current and thermal overloads
Ball or sleeve bearing type

TTA Microchannel - Controls

Choice of electromechanical or microprocessor
Completely internally wired
Numbered and colored wires
Contactor pressure lugs or terminal block

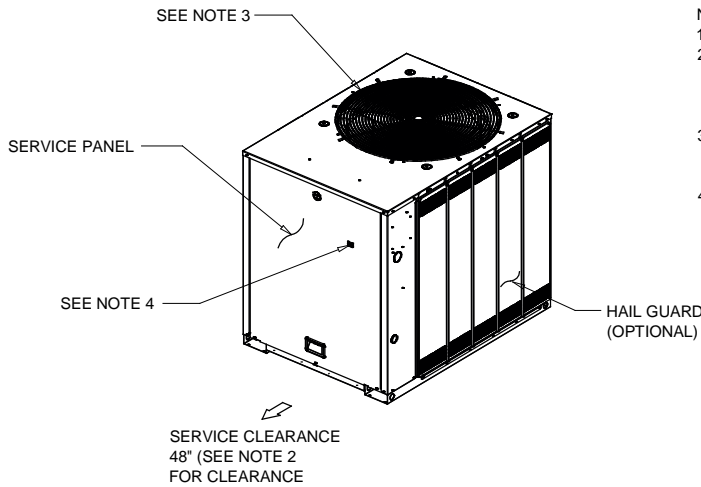
Unit external mounting location for disconnect device
Single point power entry

TTA Controls: Electro-Mechanical

24V control circuit
Control transformer
Thermostat compatible
Anti-Short Cycle Timer

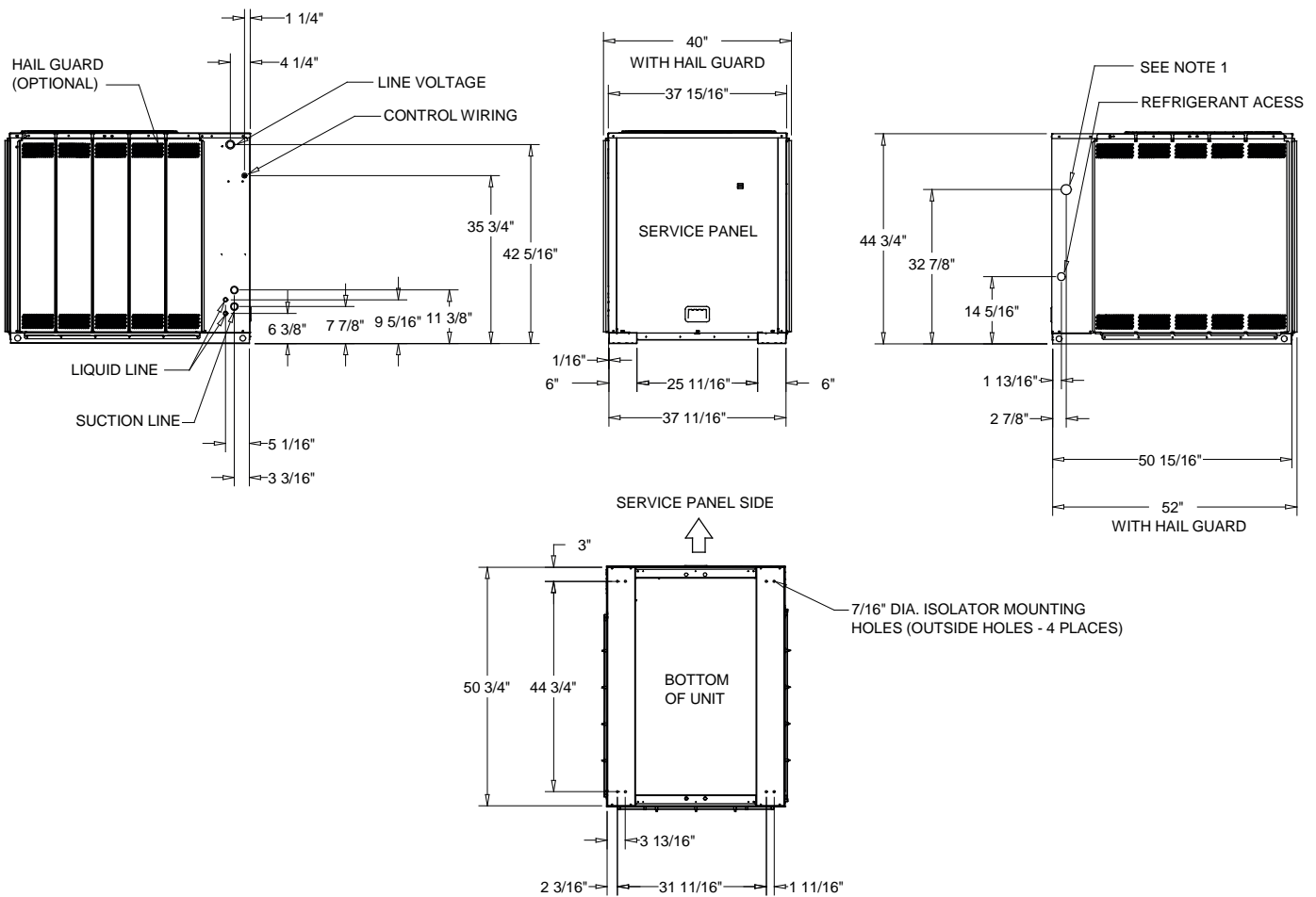
Unit Dimensions - Split System Air Conditioning Units (Large)

Item: B1 Qty: 1



NOTES:

1. ACCESS OPENING IS FOR FIELD INSTALLED BAYLOAM ACCESSORY.
2. MINIMUM CLEARANCE FOR PROPER OPERATION IS 36" FROM WALLS, SHRUBBERY, PRIVACY FENCES ETC. MINIMUM CLEARANCE BETWEEN ADJACENT UNITS IS 72". RECOMMENDED SERVICE CLEARANCE 48"
3. TOP DISCHARGE AREA SHOULD BE UNRESTRICTED FOR 100" MINIMUM. UNIT SHOULD BE PLACED SO ROOF RUN-OFF WATER DOES NOT POUR DIRECTLY ON UNIT
4. OUTDOOR AIR TEMPERATURE SENSOR OPENING (DO NOT BLOCK OPENING).



12 1/2 TON COOLING CONDENSER (DUAL COMPRESSOR)
DIMENSIONAL DRAWING

Unit Dimensions - Split System Air Conditioning Units (Large)

Item: B1 Qty: 1

ELECTRICAL DATA CONDENSER

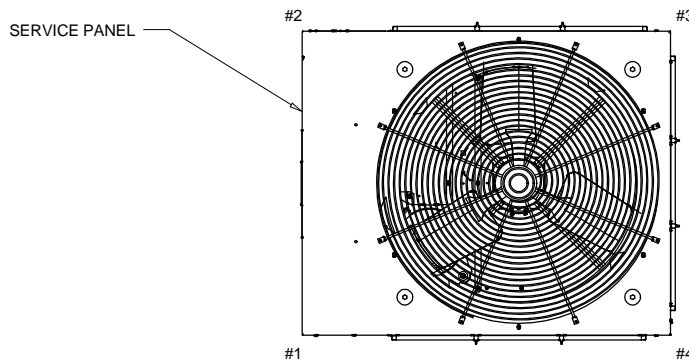
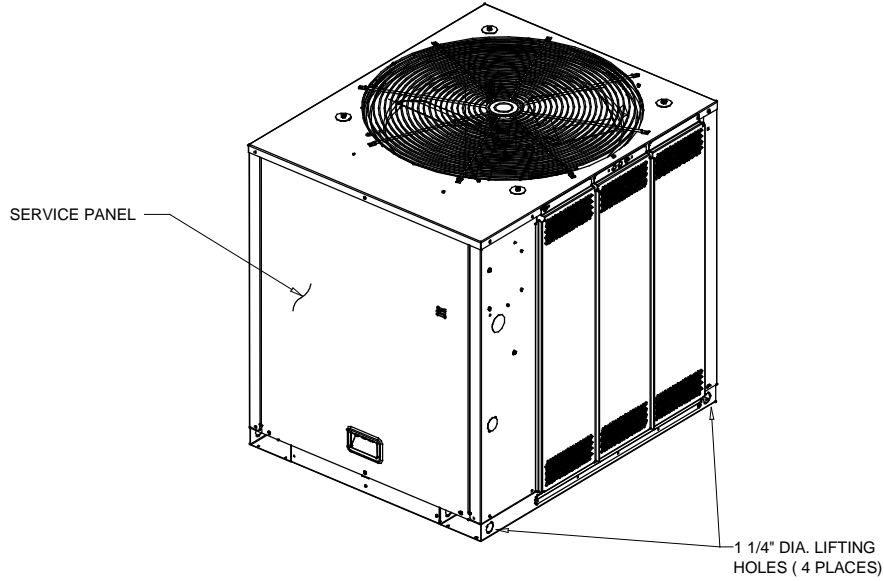
ELECTRICAL DATA Model: TTA150H3 Unit Operating Voltage: 187 - 253 Minimum Circuit Ampacity: 56.0 Maximum Fuse Size: 70.0 Maximum Circuit Breaker: 70.0		COMPRESSOR MOTOR No.: 2 Volts: 208-230 Phase: 3 Amp-RLA: 22.4 Amp-LRA: 149.0		CONDENSER FAN MOTOR No.: 1 Volts: 208-230 Phase: 1 Amp-FLA: 5.0 Amp-LRA: 14.4																																	
GENERAL DATA CONDENSER																																					
COOLING PERFORMANCE (1)(2)(3)(4)(5) <table border="0" style="width: 100%;"> <tr> <td>Matched Air Handler:</td> <td style="text-align: right;">153,000</td> </tr> <tr> <td>Condensing Unit Only:</td> <td style="text-align: right;">144,000</td> </tr> <tr> <td>ARI Net Cooling Capacity:</td> <td style="text-align: right;">150,000</td> </tr> <tr> <td colspan="2"> </td> </tr> <tr> <td>Matched Air Handler (EER):</td> <td style="text-align: right;">11.0</td> </tr> <tr> <td>Condensing Unit Only (EER):</td> <td style="text-align: right;">11.7</td> </tr> <tr> <td>System Integrated Part Load Value (IPLV):</td> <td style="text-align: right;">-</td> </tr> <tr> <td>Condensing Unit Only (IPLV):</td> <td style="text-align: right;">-</td> </tr> <tr> <td>System KW:</td> <td style="text-align: right;">13.6</td> </tr> <tr> <td>Condensing Unit KW:</td> <td style="text-align: right;">12.8</td> </tr> <tr> <td colspan="2"> </td> </tr> <tr> <td>System IEER:</td> <td style="text-align: right;">13.1</td> </tr> </table>			Matched Air Handler:	153,000	Condensing Unit Only:	144,000	ARI Net Cooling Capacity:	150,000			Matched Air Handler (EER):	11.0	Condensing Unit Only (EER):	11.7	System Integrated Part Load Value (IPLV):	-	Condensing Unit Only (IPLV):	-	System KW:	13.6	Condensing Unit KW:	12.8			System IEER:	13.1	COMPRESSOR <table border="0" style="width: 100%;"> <tr> <td>Number:</td> <td style="text-align: right;">2</td> </tr> <tr> <td>Motors/HP (each):</td> <td style="text-align: right;">-</td> </tr> <tr> <td>Motor RPM:</td> <td style="text-align: right;">-</td> </tr> <tr> <td>No. Compressor / Tons:</td> <td style="text-align: right;">2/5.6</td> </tr> </table>			Number:	2	Motors/HP (each):	-	Motor RPM:	-	No. Compressor / Tons:	2/5.6
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NOTES:

1. Cooling performance is rated at 95 F ambient, 80 F entering dry bulb, 67 F entering wet bulb. Gross capacity does not include the effect of fan motor heat. AHRI capacity is net and includes the effect of fan motor heat. Ratings shown are tested and certified in accordance with AHRI Standard 340/360 or 365 certification program.
2. Standard 340/360 or 365 certification program.
3. Condensing Unit Only Gross Cooling Capacity rate at 45 F saturated suction temperature and at 95 F ambient.
4. ARI Net Cooling Capacity is calculated with matched blower coil and 25 ft. of OD interconnecting tubing. EER is rated at AHRI conditions and in accordance with DOE test procedures.
5. Integrated Part Load Value is based on AHRI Standard 340/360 or 365. Units are rated at 80 F ambient, 80 F entering dry bulb, and 67 F entering wet bulb at AHRI rated CFM.
6. Sound Rating shown is tested in accordance with AHRI Standard 270.
7. Refer to refrigerant piping program for line sizing and line length.
8. Refrigerant (operating) charge is for condensing unit (all circuits) with matching blower coils and 25 ft. of interconnecting refrigerant lines. All units are shipped with a small nitrogen holding charge only.

Weight, Clearance & Rigging Diagram - Split System Air Conditioning Units (Large)

Item: B1 Qty: 1



WEIGHTS AND CORNER WEIGHTS

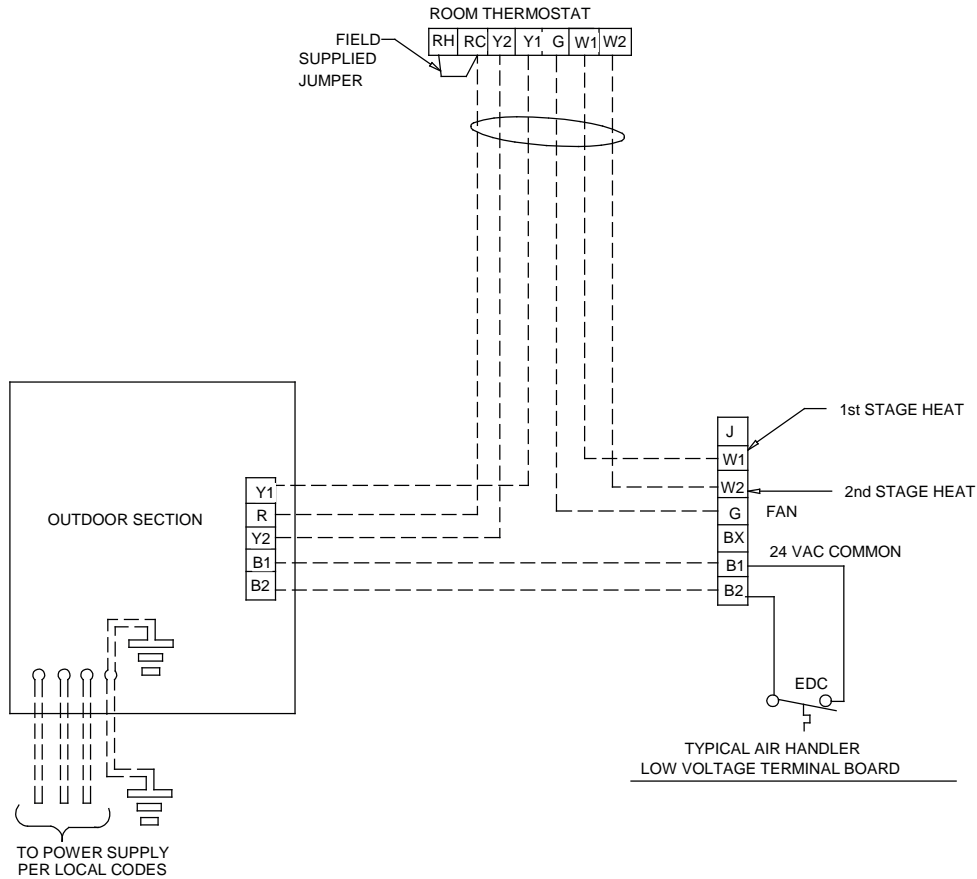
Shipping:	514.0 lb
Net	457.0 lb
Corner 1:	127.0 lb
Corner 2:	148.0 lb
Corner 3:	77.0 lb
Corner 4:	106.0 lb

WEIGHTS AND LOAD POINT LOCATION

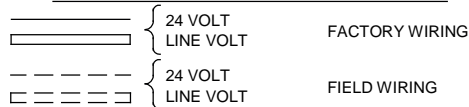
WEIGHT AND RIGGING

Field Wiring - Split System Air Conditioning Units (Large)

Item: B1 Qty: 1



INTER-COMPONENT WIRING



NOTES:

1. POWER WIRING AND GROUNDING OF EQUIPMENT MUST COMPLY WITH LOCAL CODES.
2. BE SURE POWER SUPPLY AGREES WITH EQUIPMENT NAMEPLATE.
3. LOW VOLTAGE WIRING TO BE 18 A.W.G. MINIMUM CONDUCTOR.
4. USE COPPER CONDUCTORS ONLY.
5. THE TWE120A UNIT DOES NOT HAVE A "Y2" TERMINAL.

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 (UCCA)

Item	Tag(s)	Qty	Description	Model Number
A1	AHU-1	1	Performance Climate Changer (UCCA)	UCCAH10A0C0LY 03300000CED871 DA1DC0000

Field Installed Option Description	Part/Ordering Number
Outside air temperature and duct static press sensor, fact-provided, ships loose	

Product Family - Split System Air Conditioning Units (Large)

Item	Tag(s)	Qty	Description	Model Number
B1	No Tag	1	12.5 Ton Unitary Split Systems	TTA15003000-----000

Field Installed Option Description	Part/Ordering Number
Steel spring isolators	BAYISLT024A
Condenser Coil Hail/Vandal Guard Kit	BAYGARD060A