

July 20, 2016
BOARD OF COUNTY COMMISSIONERS
ORANGE COUNTY, FLORIDA
Y16-786 / ADDENDUM #1
ORANGE COUNTY CONVENTION CENTER
WEST CONCOURSE D CHILLER AND AHU REPLACEMENT

Bid Opening Date: July 26, 2016

This addendum is hereby incorporated into the bid documents of the project referenced above. The following items are clarifications, corrections, additions, deletions and/or revisions to and shall take precedence over the original documents. Underlining indicates additions, deletions are indicated by ~~strikethrough~~.

- A. The Bid Opening Date remains as July 26, 2016.
- B. There will be a site visit Thursday, July 21, 2016 at 10:30 a.m. If you plan to attend email Marsha.Mussori@ocfl.net to confirm. Attendees should meet in front of Conference Room W323 at the Orange County Convention Center, West Building, 9800 International Drive, Orlando, Florida 32819; see attached maps for location.
- C. **ADDITIONAL INFORMATION:**
The following is an itemization for the approved submittal package for the Owner provided AHU's (submittal package attached):
MECHANICAL:
Refer to attached Trane AHU shop drawings.
8-9- EOR approval and AHU Submittal 2-5-2016
AHU-76(REV.C Coil)
AHU-76(REV.C Plan Elevation)
AHU-79(REV.C Coil)
AHU-79(REV.C Plan Elevation)
AHU-80(REV.C Coil)
AHU-80(REV.C Plan Elevation)
- D. All other terms and conditions of the IFB remain the same.
- E. The Proposer shall acknowledge receipt of this addendum by completing the applicable section in the solicitation or by completion of the acknowledgement information on the addendum. Either form of acknowledgement must be completed and returned not later than the date and time for receipt of the proposal.

Receipt acknowledged by:

Authorized Signature

Date Signed

Title

Name of Firm

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Addendum #1
July 20, 2016
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Matern
Professional
Engineering, Inc.

Mechanical Electrical Plumbing Fire Protection Technology

SUBMITTAL DATA REVIEW COMMENTS

Date: February 11, 2016 **MPE Project No:** 2014-077A
Project: OCCC West Concourse D **Data No.:** 23 73 00
 AHU Replacement
By: Kevin King **Submittal No.:** 003
Submittal: Packaged Air-Handling **Contractor's I.D.:** Trane
 Units
Class: x **Basis of Design (1)** **Equal (2)** **Substitution (3)**

ACTION CODE		
<u>X</u>	A	No exceptions taken.
<u>X</u>	B	Make corrections noted.
—	C	Revise and Resubmit.
—	D	Submit Specified Item.
—	E	Rejected.
—	N	Review not required.

THE FOLLOWING COMMENTS SHALL BE CONSIDERED AN INTEGRAL PART OF THE SUBMITTAL DATA REVIEW. REVIEW OF THIS DATA IS ONLY FOR CONFORMANCE WITH THE DESIGN CONCEPT AS GIVEN IN THE CONTRACT DOCUMENTS. THE CONTRACTOR IS RESPONSIBLE FOR: QUANTITIES, FUNCTIONS, DIMENSIONS AND COORDINATION OF THE WORK WITH OTHER TRADES.

Action Code "B": Coordinate all electrical requirements with the electrical contractor.

Action Code "A": All other data submitted.

END OF SUBMITTAL DATA REVIEW COMMENTS



Revision 2 Submittal

Date: February 5, 2015

Job Name:
OCCC West Concourse D AHU Replacement


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

Product Summary

Qty	Product
6	Performance Climate Changer

Notes:

1. Door added to filter section on AHU-76
2. Dimensions for AHU-79 updated for accuracy
3. Discharge Opening on AHU-80 moved.

 <small>Maitland Professional Engineering, Inc.</small> <small>Maitland, Florida 32751-2500</small>	
<input checked="" type="checkbox"/> No Exceptions Noted	<input checked="" type="checkbox"/> Make Corrections Noted
<input type="checkbox"/> Rejected	<input type="checkbox"/> Revise and Resubmit
<input type="checkbox"/> Submit Specific Item	<input type="checkbox"/> Review Not Required
<input type="checkbox"/> Reviewed	
<small>This review is only for general conformance with the design concept of the project and general compliance with the information given in the Contract Documents. Corrections or comments made on the shop drawings during this review do not relieve contractor from compliance with the requirements of the plans and specifications. Acceptance of a specific item shall not include acceptance of an assembly of which the item is a component. Contractor is responsible for dimensions to be confirmed and correlated at the jobsite, information that pertains solely to the fabrication processes, or to the means, methods, techniques, sequences and procedures of construction, coordination of his or her Work with that of all other trades, and for performing all work in a safe and satisfactory manner.</small>	
Date: 2-12-16	Name: Kevin King

Randy Proudfit
 Trane
 2301 Lucien Way, Suite 430
 Maitland, FL 32751
 Phone: (407) 660-1111
 Cell: (407) 468-4259
 Fax: (407) 660-0303

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

Tag Data - Performance Climate Changer (Qty: 6)

Item	Tag(s)	Qty	Description	Model Number
A1	AHU-75	1	Performance Climate Changer (CSAA)	CSAA050UA
A2	AHU-76	1	Performance Climate Changer (CSAA)	CSAA050UA
A3	AHU-77	1	Performance Climate Changer (CSAA)	CSAA050UA
A4	AHU-78	1	Performance Climate Changer (CSAA)	CSAA050UA
A5	AHU-79	1	Performance Climate Changer (CSAA)	CSAA030UA
A6	AHU-80	1	Performance Climate Changer (CSAA)	CSAA012UA

Product Data - Performance Climate Changer

Item: A1 Qty: 1 Tag(s): AHU-75

Unit level options

- Unit size 50
- 8in. integral base frame
- UL listed unit
- Short circuit current rating 65 kA
- Lights wired to external switch
- ASHRAE 111 Class 6 Casing Leakage

Controls and VFD/starter

- Variable volume control system
- Term block-remote comp controller

Air mixing section (Pos #1)

- Reduced length mixing box w/o filter
- Marine LED light
- Treadplate

Filter section (Pos #2)

- Filter
- Front load filter
- 4" Front load filter frame
- 4in. cartridge- premium - run set (Fid)
- MERV 14
- Filter DP gage
- Dirty filter switch

Access section (Pos #3)

- Entering air avg temp sensor
- Marine LED light
- Treadplate

Fan section (Pos #4)

- 18.25in. stacked dd plenum, full width
- Nine blades
- 4 Fan quantity
- NEMA premium compliant ODP
- Voltage 460/3
- 7.5 max applied hp
- 1800 RPM
- Inverter balance with SGR
- High performance flow meter
- VFD

Access section (Pos #5)

- Window- left side
- Marine LED light
- Treadplate

Coil section (Pos #6)

- Stainless steel drain pan
- Type "UU" coil
- 8 rows
- 103 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
- Stainless steel coil supports
- Leaving air avg temp sensor
- Leaving air low limit
- Left
- Door- none

Discharge plenum (Pos #7)

- Marine LED light
- Treadplate

Item: A2 Qty: 1 Tag(s): AHU-76**Unit level options**

- Unit size 50
- 8in. integral base frame
- UL listed unit
- Short circuit current rating 65 kA
- Lights wired to external switch
- ASHRAE 111 Class 6 Casing Leakage

Controls and VFD/starter

- Variable volume control system
- Term block-remote comp controller

Air mixing section (Pos #1)

- Reduced length mixing box w/o filter
- Marine LED light
- Treadplate

Filter section (Pos #2)

- Filter
- Front load filter
- 4" Front load filter frame
- 4in. cartridge- premium - run set (Fld)
- MERV 14
- Filter DP gage
- Dirty filter switch

Access section (Pos #3)

- Entering air avg temp sensor
- Marine LED light
- Treadplate

Fan section (Pos #4)

- 18.25in. stacked dd plenum, full width
- Nine blades
- 4 Fan quantity
- NEMA premium compliant ODP
- Voltage 460/3
- 7.5 max applied hp
- 1800 RPM
- Inverter balance with SGR
- High performance flow meter
- VFD

Access section (Pos #5)

- Thermal window - right side
- Marine LED light
- Treadplate

Coil section (Pos #6)

- Stainless steel drain pan
- Type "UU" coil
- 8 rows
- 99 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
- Stainless steel coil supports
- Leaving air avg temp sensor
- Leaving air low limit
- Right
- Door- none

Discharge plenum (Pos #7)

- Marine LED light
- Treadplate

Item: A3 Qty: 1 Tag(s): AHU-77**Unit level options**

Unit size 50
 8in. integral base frame
 UL listed unit
 Short circuit current rating 65 kA
 Lights wired to external switch
 ASHRAE 111 Class 6 Casing Leakage

Controls and VFD/starter

Variable volume control system
 Term block-remote comp controller

Air mixing section (Pos #1)

Reduced length mixing box w/o filter
 Marine LED light
 Treadplate

Filter section (Pos #2)

Filter
 Front load filter
 4" Front load filter frame
 4in. cartridge- premium - run set (Fld)
 MERV 14
 Filter DP gage
 Dirty filter switch

Access section (Pos #3)

Entering air avg temp sensor
 Marine LED light
 Treadplate

Fan section (Pos #4)

18.25in. stacked dd plenum, full width
 Nine blades
 4 Fan quantity
 NEMA premium compliant ODP
 Voltage 460/3
 7.5 max applied hp
 1800 RPM
 Inverter balance with SGR
 High performance flow meter
 VFD

Access section (Pos #5)

Thermal window - right side
 Marine LED light
 Treadplate

Coil section (Pos #6)

Stainless steel drain pan
 Type "UU" coil
 8 rows
 106 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
 Stainless steel coil supports
 Leaving air avg temp sensor
 Leaving air low limit
 Right

Door- none

Discharge plenum (Pos #7)

Treadplate

Item: A4 Qty: 1 Tag(s): AHU-78**Unit level options**

Unit size 50
8in. integral base frame
UL listed unit
Short circuit current rating 65 kA
Lights wired to external switch
ASHRAE 111 Class 6 Casing Leakage

Controls and VFD/starter

Variable volume control system
Term block-remote comp controller

Air mixing section (Pos #1)

Reduced length mixing box w/o filter
Marine LED light
Treadplate

Filter section (Pos #2)

Filter
Front load filter
4" Front load filter frame
4in. cartridge- premium - run set (Fld)
MERV 14
Filter DP gage
Dirty filter switch

Access section (Pos #3)

Entering air avg temp sensor
Marine LED light
Treadplate

Fan section (Pos #4)

18.25in. stacked dd plenum, full width
Nine blades
4 Fan quantity
NEMA premium compliant ODP
Voltage 460/3
7.5 max applied hp
1800 RPM
Inverter balance with SGR
High performance flow meter
VFD

Access section (Pos #5)

Marine LED light
Treadplate

Coil section (Pos #6)

Stainless steel drain pan
Type "UU" coil
8 rows
94 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
Stainless steel coil supports
Leaving air avg temp sensor
Leaving air low limit
Left
Door- none

Discharge plenum (Pos #7)

Marine LED light
Treadplate

Item: A5 Qty: 1 Tag(s): AHU-79**Unit level options**

- Unit size 30
- 8in. integral base frame
- UL listed unit
- Short circuit current rating 65 kA
- Lights wired to external switch
- ASHRAE 111 Class 6 Casing Leakage

Controls and VFD/starter

- Variable volume control system
- Term block-remote comp controller

Air mixing section (Pos #1)

- Reduced length mixing box w/o filter
- Marine LED light
- Treadplate

Filter section (Pos #2)

- Filter
- Front load filter
- 4" Front load filter frame
- 4in. cartridge- premium - run set (Fld)
- MERV 14
- Filter DP gage
- Dirty filter switch

Access section (Pos #3)

- Entering air avg temp sensor
- Marine LED light
- Treadplate

Fan section (Pos #4)

- 22.25in. direct-drive plenum, full width
- Nine blades
- 2 Fan quantity
- NEMA premium compliant ODP
- Voltage 460/3
- 7.5 max applied hp
- 1800 RPM
- Inverter balance with SGR
- High performance flow meter
- VFD

Access section (Pos #5)

- Thermal window - right side
- Marine LED light
- Treadplate

Coil section (Pos #6)

- Stainless steel drain pan
- Type "UU" coil
- 8 rows
- 117 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
- Stainless steel coil supports
- Leaving air avg temp sensor
- Leaving air low limit
- Right
- Door- none

Discharge plenum (Pos #7)

- Marine LED light
- Treadplate

Item: A6 Qty: 1 Tag(s): AHU-80**Unit level options**

- Unit size 12
- 8in. integral base frame
- UL listed unit
- Short circuit current rating 65 kA
- Lights wired to external switch
- ASHRAE 111 Class 6 Casing Leakage

Controls and VFD/starter

- Variable volume control system
- Term block-remote comp controller

Air mixing section (Pos #1)

- Reduced length mixing box w/o filter
- Marine LED light
- Treadplate

Filter section (Pos #2)

- Filter
- Front load filter
- 4" Front load filter frame
- 4in. cartridge- premium - run set (Fld)
- MERV 14
- Filter DP gage
- Dirty filter switch

Access section (Pos #3)

- Entering air avg temp sensor
- Marine LED light
- Treadplate

Fan section (Pos #4)

- 20in. direct-drive plenum, 80% width
- Nine blades
- 1 Fan quantity
- NEMA premium compliant ODP
- Voltage 460/3
- 5 max applied hp
- 1800 RPM
- Inverter balance with SGR
- Flow meter
- VFD
- Door- left side
- Thermal window - left side
- Marine LED light

Coil section (Pos #5)

- Stainless steel drain pan
- Type "UW" coil
- 6 rows
- 123 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
- Stainless steel coil supports
- Leaving air avg temp sensor
- Leaving air low limit
- Left
- Door- none

Discharge plenum (Pos #6)

- Marine LED light
- Treadplate

Performance Data - Performance Climate Changer

Tags	AHU-75	AHU-76	AHU-77	AHU-78	AHU-79	AHU-80
Unit level options						
Position						
Total Estimated Unit Air Leakage (cfm) (cfm)	112	112	112	112	83	48
Total Estimated Unit Air Leakage (%) (%)	0.52	0.56	0.50	0.58	0.63	1.16
Fan section						
Position	#4	#4	#4	#4	#4	#4
Fan airflow (cfm)	21250	19895	22500	19350	13145	4180
Overall ESP (in H2O)	1.800	2.000	2.000	2.300	2.300	1.000
Total static pressure (in H2O)	3.552	3.581	3.757	3.785	4.019	2.265
Fan pressure drop (in H2O)	1.821	2.018	2.023	2.317	2.323	1.012
Speed (rpm)	2229	2164	2325	2171	1828	1707
Total brake horsepower (hp)	19.074	17.713	21.483	18.041	12.362	2.363
Brake horsepower per fan (hp)	4.768	4.428	5.371	4.510	6.181	-
Full load motor efficiency (%)	90.99	90.83	91.28	90.86	91.34	89.23
Unit static efficiency (%)	62.39	63.40	62.03	63.99	67.37	63.17
Motor hertz (Hz)	76	73	79	74	62	58
Coil section						
Position	#6	#6	#6	#6	#6	#5
Coil performance airflow (cfm)	21250	19895	22500	19350	13145	4180
Coil face area (sq ft)	49.05	49.05	49.05	49.05	29.90	12.30
Coil face velocity (ft/min)	433	406	459	395	440	340
Air pressure drop (in H2O)	0.762	0.682	0.834	0.619	0.846	0.403
Entering dry bulb (F)	86.10	87.10	84.70	84.20	90.40	79.50
Entering wet bulb (F)	71.20	72.00	70.10	69.70	74.50	66.20
Leaving dry bulb (F)	52.00	52.00	52.00	52.00	52.00	52.00
Leaving wet bulb (F)	51.90	51.90	51.88	51.90	51.90	51.90
Entering fluid temperature (F)	42.00	42.00	42.00	42.00	42.00	42.00
Leaving fluid temperature (F)	60.00	60.00	60.00	60.00	60.00	60.00
Standard fluid flow rate (gpm)	143.89	141.74	142.02	118.67	108.57	19.77
Fluid pressure drop (ft H2O)	11.75	11.45	11.48	8.43	9.42	3.08
Total capacity (MBh)	1299.30	1279.94	1282.39	1071.61	980.37	178.51
Sensible capacity (MBh)	801.37	772.85	812.87	688.14	559.99	126.61
Filter section						
Position	#2	#2	#2	#2	#2	#2
Filter airflow (cfm)	21250	19895	22500	19350	13145	4180
Filter area (sq ft)	50.00	50.00	50.00	50.00	28.00	10.00
Filter condition	Mid-life	Mid-life	Mid-life	Mid-life	Mid-life	Mid-life
Filter pressure drop (in H2O)	0.781	0.768	0.793	0.762	0.802	0.777
Filter face velocity (ft/min)	425	398	450	387	469	418

Mechanical Specifications - Performance Climate Changer

Item: A1 - A6 Qty: 6 Tag(s): AHU-75, AHU-76, AHU-77, AHU-78, AHU-79, AHU-80

GENERAL

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.

Sound power level data is bare fan obtained in accordance with AMCA Standards 300 & 311. The data is the sum of all fans present (complete array) and does not include any effects resulting from being placed in the unit.

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.

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.

Unit base

Manufacturer to provide a full perimeter integral base frame for either ceiling suspension of units or to support and raise all sections of the unit for proper trapping. Indoor unit base frame will either be bolted construction or welded construction. All outdoor unit base frames shall be welded construction. For indoor units, refer to schedule for base height and construction type. Contractor will be responsible for providing a housekeeping pad when unit base frame is not of sufficient height to properly trap unit. Unit base frames not constructed of galvanized steel shall be chemically cleaned and coated with both a rust-inhibiting primer and finished coat of rust-inhibiting enamel. Unit base height to be included in total height required for proper trap height.

Casing air leakage shall not exceed the leak rate as detailed for each unit in the Performance Data section of the submittal.

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

In sections provided with a drain pan, the drain pan shall be designed in accordance with ASHRAE 62.1. To address indoor air quality (IAQ) the drain pan shall be sloped in two planes promoting positive drainage to eliminate stagnant water conditions. Drain pan shall be insulated, and of double wall construction. The outlet shall be the lowest point on the pan, and shall be of sufficient diameter to preclude drain pan overflow under normally expected operating conditions. All drain pans connections shall have a threaded connection, extending a minimum of 2-1/2" beyond the unit base, and shall be made from the same material as the drain pan. Drain pan located under a cooling coil shall be of sufficient size to collect all condensate produced from the coil.

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

Access Door Construction

Access doors shall be 2" double wall construction. Interior and exterior door panels shall be of the same construction as the interior and exterior wall panels respectively. All doors shall be provided with a thermal break construction of door panel and door frame. Gasketing shall be provided around the full perimeter of the doors to prevent air leakage. Surface mounted handles shall be provided to allow quick access to the interior of the functional section and to prevent through cabinet penetrations that could likely weaken the casing leakage and thermal performance. Handle hardware shall be designed to prevent unintended closure. Access doors shall be hinged and removable for quick easy access. Hinges shall be interchangeable with the door handle hardware to allow for alternating door swing in the field to minimize access interference due to unforeseen job site obstructions. Door handle hardware shall be adjustable and visually indicate locking position of door latch external to the section. Door hinges shall be galvanized.

All doors shall be a minimum of 60" high when sufficient height is available or the maximum height allowed by the unit height.

Door handles shall be provided for each latching point of the door necessary to maintain the specified air leakage integrity of the unit. Optionally for indoor AHUs and as standard on outdoor AHUs, outward swing doors are provided with a single handle linked to multiple latching points. An optional shatterproof window shall be provided in access doors where indicated on the plans. Window shall either be single pane, or thermal dual pane, as defined on schedule.

Window shall be capable of withstanding unit operating pressures and shall be safe for viewing UV-C lamps.

Refer to Product Data for specific information on which sections are supplied with an access door, the door location, a single handle and a window.

Marine Light

A factory-mounted, weather resistant (enclosed and gasketed to prevent water and dust intrusion), light emitting diode (LED) fixture shall be provided in sections of the unit as specified for maintenance and service visibility. Fixture shall be complete with aluminum die cast housing, polycarbonate lens designed for maximum light output, and LEDs wired to a single switch within a factory provided service module. LED lighting shall provide instant-on "white" light and have a minimum 50,000 hour life. Fixtures shall be designed for flexible positioning during maintenance and service activities for optimal location. All lights within the unit shall be wired to a single switch within the factory provided service module. Service module shall be provided on the fan section.

Refer to the Product Data section of the submittal for sections with marine lights.

Treadplate Flooring

Aluminium treadplate traction enhancement shall be applied to the unit floor to improve the walking surface in those unit sections where the floor is fully accessible, and not impeded by internal structural or functional features. *Refer to the Product Data section for sections supplied with traction enhancement.*

MIXING SECTION

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

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.

Front-loading filter frame

Filter holding frames are of heavy-duty construction designed for industrial applications. Filter sections have filter frames, an access door for filter installation and removal, block-offs and gasket material as required preventing air bypass around the filters. Filter frame is front-loaded from within the air handling unit. Standard filter clips for primary filters (and pre-filters, when necessary) shall be provided with filter frames. *Refer to the Product Data section of the submittal for supplied filters.*

Primary Filters

4 inch high efficiency filters constructed with a fine fiber media made into closely spaced pleats shall be provided. The filters shall be capable of operating up to 625 fpm face velocity without loss of filter efficiency and holding capacity. The filter media shall be sealed into a frame assembled in a rigid manner. The manufacturer shall supply a side access filter rack capable of holding 4 inch high efficiency filters.

The 4-inch high efficiency filters shall have a MERV 14 rating when tested in accordance with the ANSI/ASHRAE Standard 52.2.

Cartridge Filters (Front-load)

The filters shall be 12-inch cartridge filters constructed with a continuous sheet of fine-fiber media made into closely spaced pleats. The filters shall be capable of operating up to 625 fpm face velocity without loss of filter efficiency and holding capacity. The filters shall be sealed into a metal frame assembled in a rigid manner. Cartridge filters shall be furnished with pre-filters when specified to extend cartridge filter life. *Refer to the Product Data section of the submittal for supplied pre-filters.*

COIL SECTION WITH FACTORY INSTALLED COIL

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.

In lieu of a door, an easily removable service panel shall be provided in sections as specified, to facilitate access to unit for periodic servicing, or for removal and replacement of coils. Removal of service panel will not impact the structural integrity of the unit.

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.

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 connections are constructed of cast iron with female connections, steel block with female connections or steel pipe with male connections. Type P or TT coil connections do not extend out of unit casing. All other water coil types have connections that extend out beyond unit casing.

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

Averaging Temperature Sensor

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.

A 20,000 ohm, Type IV thermistor is the sensor material that shall be mounted.

Low Limit

A double-pole low limit switch shall be wired to a momentary push-button reset circuit. Capillaries are serpentine across the entering side of the coil. The bends of the capillaries shall be curved and fastened with capillary clips to prevent crimping and minimize wear. A separate low limit shall be provided for each coil in a coil stack.

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 to 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.

DIRECT-DRIVE PLENUM FAN SECTION

The fan type shall be provided as required for stable operation and optimum energy efficiency. The fan shall be a single-width, single-inlet, multiblade-type direct-drive plenum fan. Motor bearing life of the direct-drive plenum fan shall be not less than L-10 250,000 hrs. *Refer to the Product Data section for fan quantity and number of blades selected within each unit.*

On units supplied with plenum fans, expanded metal door guard(s) shall be supplied on the access door(s) to the fan and those downstream access door(s) where unintended access to the plenum fan could occur. Door guard is intended to deter unauthorized entry and incidental contact with rotating components. *Refer to the Product Data section for fans with access door guard(s).*

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.

High Performance Flow Meter

The fan shall have an airflow measurement system to measure fan airflow directly or to measure differential pressure that can be used to calculate fan airflow. The system shall predict airflow within +/-5 percent total accuracy (device & transmitter) when operating within the stable operating region of the fan curve. On units supplied with multiple direct drive fans, one transducer is supplied for each fan in the array. The submitted fan airflow performance and noise levels shall not be affected by the installation of the device. Any device that provides an obstruction to the fan inlet will not be accepted. Refer to the Product Data section for fans with high performance flow meters.

Design VFD frequency is less than line frequency. Use caution during startup to ensure the VFD will not operate at the line frequency, or ensure that the air delivery system can handle being over-pressurized.

Starter/VFD shall be mounted externally in a NEMA Type 1 enclosure on the supply fan section. An external disconnect shall be mounted through-the-door to the starter/VFD to disconnect full power from starter/VFD.

Flow Meter

The fan shall have an airflow measurement system to measure fan airflow directly or to measure differential pressure that can be used to calculate fan airflow. The system shall predict airflow within +/-5 percent total accuracy (device & transmitter) when operating within the stable operating region of the fan curve. On units supplied with multiple direct drive fans, one transducer is supplied for the total array. The submitted fan airflow performance and noise levels shall not be affected by the installation of the device. Any device that provides an obstruction to the fan inlet will not be accepted. Refer to the Product Data section for fans with flow meters.

Combination VFD / Disconnect

A combination Variable Frequency Drive (VFD) / disconnect shall be provided when variable air volume control is required for fan operation. Whether for single fan, dual fan, or fan array applications, a single VFD shall be provided to ensure proper operation and to optimize operating life. Each VFD / disconnect shall be properly sized, factory mounted in a full metal enclosure, wired to the fan motor, and commissioned to facilitate temporary heating, cooling, ventilation, and/or timely completion of the project. VFD / disconnects shall include a circuit breaker disconnect with a through-the-door interlocking handle and shall be lockable. The VFD package shall also include:

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

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

The VFD shall be UL508C listed and CSA certified and conform to applicable NEMA, ICS, NFPA, & IEC standards.

To maintain the 65kA short circuit current rating (SCCR) with the single point power selection, dedicated class J or T fusing needs to be field installed. There is a maximum allowable fuse size as follows: 150 amps (conductor size 1-6) or 200 amps (conductor size 2/0-6) for a 65 A or less supply panel FLA, 200 amps (conductor size 2/0-6) or 400 amps (conductor size 400-3/0) for a 65.01 A to 90 A supply panel FLA, and 200 amps (conductor size 2/0-4) or 600 amps (conductor size 500-3/0) for a 90.01 A to 160 A supply panel FLA.

DISCHARGE PLENUM SECTION

Penums shall be provided to efficiently turn air and provide sound attenuation. Discharge plenum opening types and sizes shall be scaled to meet engineering requirements. The vertical discharge plenum height may be scaled to accommodate the appropriate discharge duct height.

Variable Volume Control System

Factory-mounted direct-digital control (DDC) systems 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.

Remote Mounted Control System

All factory installed end devices shall be wired and terminated to terminal strips. If a factory-mounted starter/VFD is provided on the supply fan, power wiring from the starter/VFD panel to the control system transformers, which provides 24VAC to the end devices, shall be provided. Otherwise, 120V power wiring to the control system transformer shall be customer supplied. Controller is not supplied by the unit manufacturer. Controller to be field supplied.

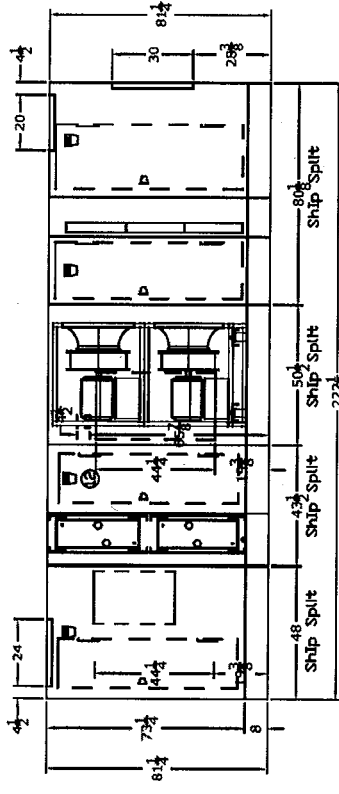
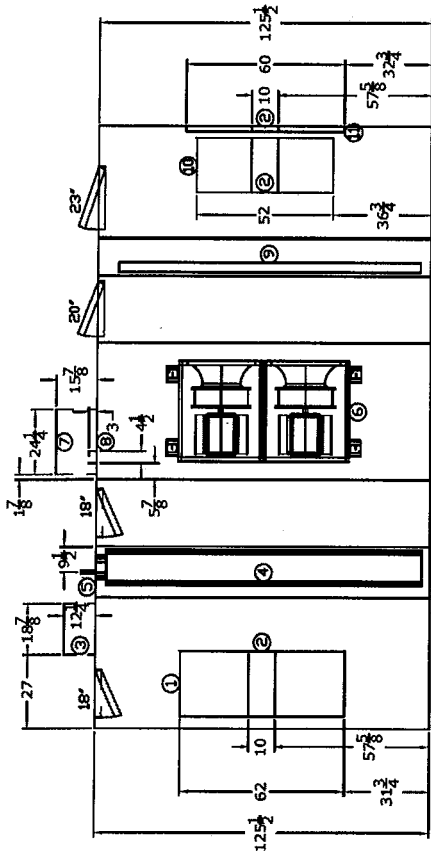
Lifting Instructions

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.

Elevation View/Plan View



NOTE: Combined Shipping Split Lengths Differ From Overall Unit Length.
 Add 1/8" Between Each Split To Get The Overall Unit Length.

OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES

Unit Size: #50
 Product Group: Indoor Unit
 Unit Tag: AHU-75
 Integral Base Frame: 8" Integral Base Frame
 Unit Casing: 2" Double Wall

Job Name: OCCC West Concourse D Replacement

Sales Office: Orlando (H3)

Airflow: 21250 CFM

Paint: Unpainted



TRANE®
 Performance Climate Changer™
 Air Handlers

Levington Special
 Submittals

EQUIPMENT LIST

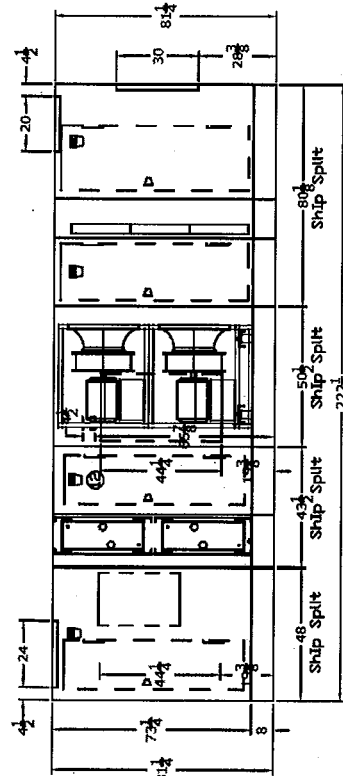
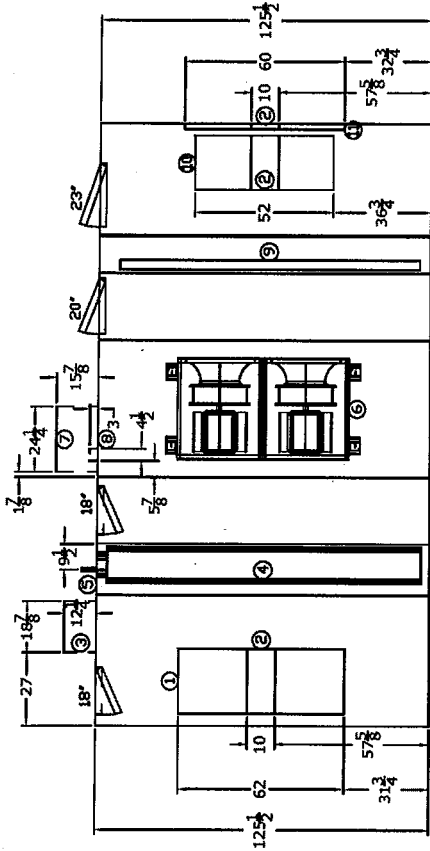
1. Opening Top 24" x 62".
 2. Support Beam (3).
 3. External Unit Controller LH.
 4. Cooling Coil 8 Row UU LH Conn. & LH Dr. Pan.
 5. 1.25" N.P.T.E. (2).
 6. Plenum Fan 18.25" SDDP Full Width Supply Fan 7.5 HP 460/3.
 7. External VFD LH.
 8. Light Switch and/or Receptacle LH.
 9. 4" Front Loading Filters.
 10. Opening Top 20" x 52".
 11. Opening Back 30" x 60".
 12. Marine Light (4).
- Doors:
 (2) 18" x 66" Door LH
 (1) 20" x 69" Door LH
 (1) 23" x 69" Door LH

Revision	Date	Rev. By:
Original	10/2/2015	TJS
A	10/6/2015	TJS

Drawn By: TJS
 Date: 10/6/2015
 Scale: 1/8" = 1'-0"
 Approved By:

Note: All Dimensions Are In Inches

Elevation View/Plan View



EQUIPMENT LIST

1. Opening Top 24" x 62".
2. Support Beam (3).
3. External Unit Controller LH.
4. Cooling Coil 8 Row UU LH Conn. & LH Dr.Pan.
5. 1.25" N.P.T.E. (2).
6. Plenum Fan 18.25" SDDP Full width Supply Fan 7.5 HP 460/3.
7. External VFD LH.
8. Light Switch and/or Receptacle LH.
9. 4" Front Loading Filters.
10. Opening Top 20" x 52".
11. Opening Back 30" x 60".
12. Marine Light (4).

Doors:
 (2) 18" x 66" Door LH
 (1) 20" x 69" Door LH
 (1) 23" x 69" Door LH

Revision:	Date:	Rev. By:
Original	10/2/2015	TIS
A Revision	10/6/2015	TIS

Note: All Dimensions Are In Inches
 Drawn By: TIS
 Date: 10/9/2015
 Scale: Not to Scale
 Approved By:

NOTE: Combined Shipping Split Lengths Differ From Overall Unit Length. Add 1/8" Between Each Split To Get The Overall Unit Length.

TRANE
 Performance Climate Changer™
 Air Handlers

Lexington Speedi-Submittals

Job Name: OCCC West Concourse D Replacement
 Sales Office: Orlando (H3)
 Airflow: 21250 CFM
 Paint: Unpainted

Unit Size: #50
 Product Group: Indoor Unit
 Unit Tag: AHU-75
 Integral Base Frame: 8" Integral Base Frame
 Unit Casing: 2" Double Wall

OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES

Elevation View/Plan View

EQUIPMENT LIST

- Opening Top 28" x 64".
- Support Beam (3).
- External Unit Controller RH.
- Cooling Coil 8 Row UU RH Conn. & RH Dr. Fan.
- 1.25" N.P.T.E. (2).
- Plenum Fan 18.25" SDDP Full width Supply Fan 7.5 HP 460/3.
- External VFD RH.
- Light Switch and/or Receptacle RH.
- 4" Front Loading Filters.
- Opening Top 20" x 50".
- Opening Back 30" x 60".
- Marine Light (4).

Doors:
 (2) 18" x 66" Door RH
 (1) 20" x 69" Door RH
 (1) 23" x 69" Door RH
 (1) 20" x 69" Door LH

Revisions:

Rev.	Date:	Rev. By:
-	Original	TIS
A	10/2/2015	TIS
B	10/6/2015	TIS
C	10/14/2015	TIS
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Note: All Dimensions Are In Inches
 Drawn By: TIS
 Date: 10/28/2015
 Scale: Not to Scale
 Approved By:

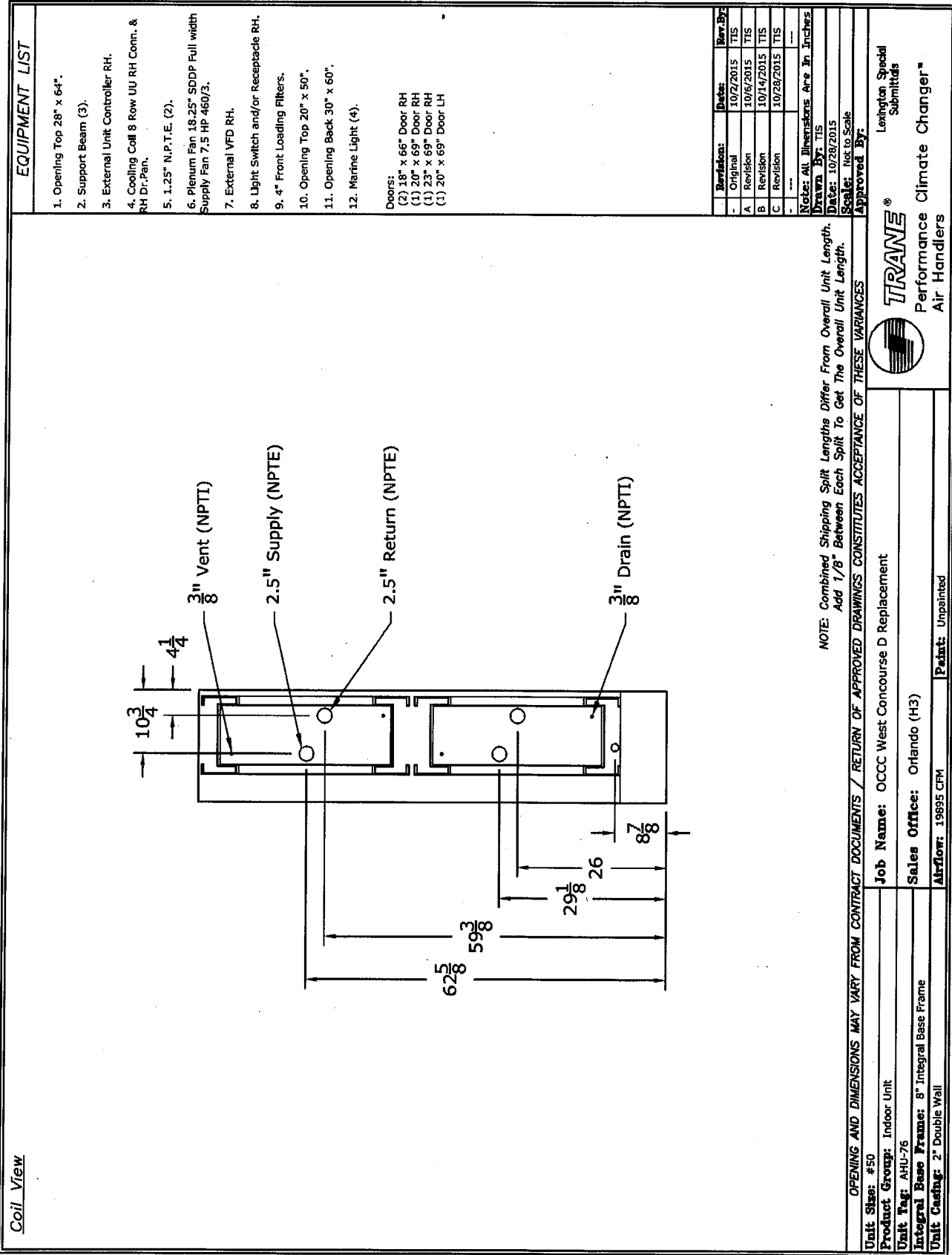
TRANE
 Performance Climate Changer™
 Air Handlers

Job Name: OCCC West Concourse D Replacement
Sales Office: Orlando (H3)
Airflow: 19895 CFM | **Paint:** Unpainted

Unit Size: #50
Product Group: Indoor Unit
Unit Tag: AHU-76
Integral Base Frame: 8" Integral Base Frame
Unit Castag: 2" Double Wall

OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES

NOTE: Combined Shipping Split Lengths Differ From Overall Unit Length.
 Add 1/8" Between Each Split To Get The Overall Unit Length.



Coil View

EQUIPMENT LIST

1. Opening Top 28" x 64".
2. Support Beam (3).
3. External Unit Controller RH.
4. Cooling Coil 8 Row UU RH Conn. & RH Dr. Pan.
5. 1.25" N.P.T.E. (2).
6. Plenum Fan 18.25" SDDP Full width Supply Fan 7.5 HP 460/3.
7. External VFD RH.
8. Light Switch and/or Receptacle RH.
9. 4" Front Loading Filters.
10. Opening Top 20" x 50".
11. Opening Back 30" x 60".
12. Marine Light (4).

Doors:
 (2) 18" x 66" Door RH
 (1) 20" x 69" Door RH
 (1) 23" x 69" Door RH
 (1) 20" x 69" Door LH

Revision	Date	Rev. By
-	Original	TIS
A	10/2/2015	TIS
B	10/6/2015	TIS
C	10/14/2015	TIS
D	10/28/2015	TIS

Notes: ALL DIMENSIONS ARE IN INCHES
 Drawn By: TIS
 Date: 10/28/2015
 Scale: Not to Scale
 Approved By:

NOTE: Combined Shipping Split Lengths Differ From Overall Unit Length. Add 1/8" Between Each Split To Get The Overall Unit Length.

TRANE®	Lexington Special Submittals
Performance Climate Changer™	
Air Handlers	

OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES	Job Name: OCCC West Concourse D Replacement
Unit Size: #50	Sales Office: Orlando (H3)
Product Group: Indoor Unit	Airflow: 19895 CFM
Unit Tag: AHU-76	Paint: Unpainted
Integral Base Frame: 8" Integral Base Frame	
Unit Casting: 2" Double Wall	

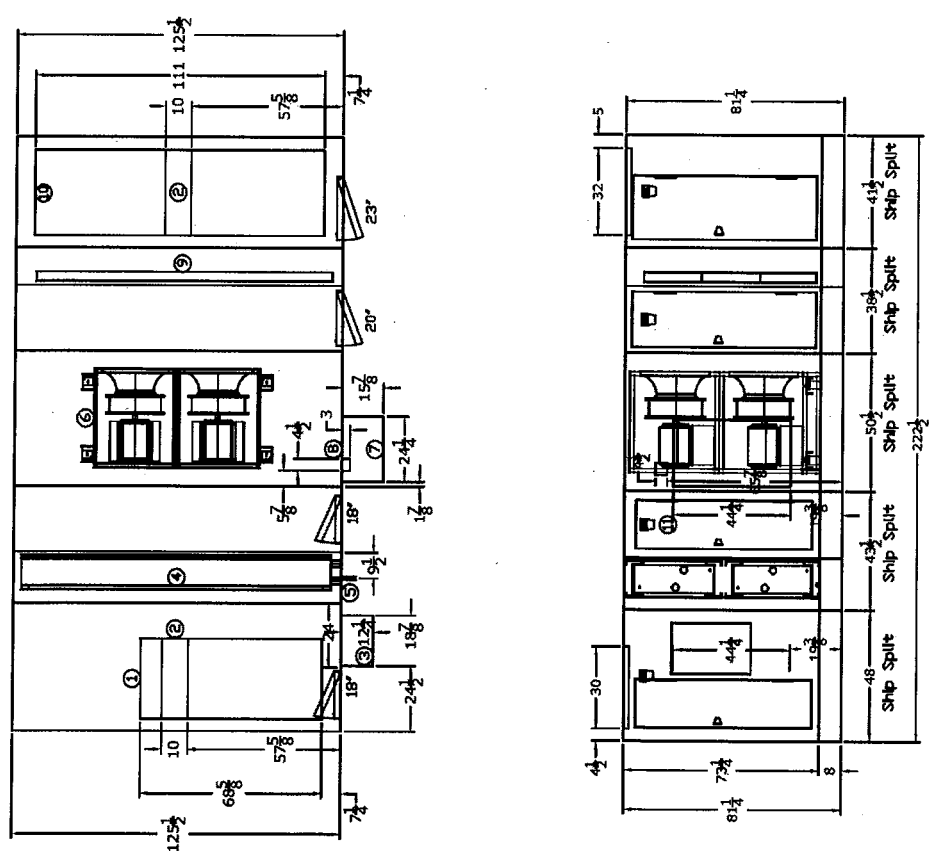
EQUIPMENT LIST

1. Opening Top 30" x 68.625".
 2. Support Beam (2).
 3. External Unit Controller RH.
 4. Cooling Coil 8 Row UU RH Conn. & RH Dr.Pan.
 5. 1.25" N.P.T.E.
 6. Plenum Fan 18.25" SDDP Full width Supply Fan 7.5 HP 460/3.
 7. External VFD RH.
 8. Light Switch and/or Receptacle RH.
 9. 4" Front Loading Filters.
 10. Opening Top 32" x 111".
 11. Marine Light (4).
- Doors:
 (2) 18" x 66" Door RH
 (1) 20" x 69" Door RH
 (1) 23" x 69" Door RH

Revisions:	Date:	Rev. By:
- Original	10/2/2015	TIS
A Revision	10/6/2015	TIS
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-	-	-

Note: All Dimensions Are In Inches
 Drawn By: TIS
 Date: 10/6/2015
 Scale: Not to Scale
 Approved By:

Elevation View/Plan View



NOTE: Combined Shipping Split Lengths Differ From Overall Unit Length.
 Add 1/8" Between Each Split To Get The Overall Unit Length.



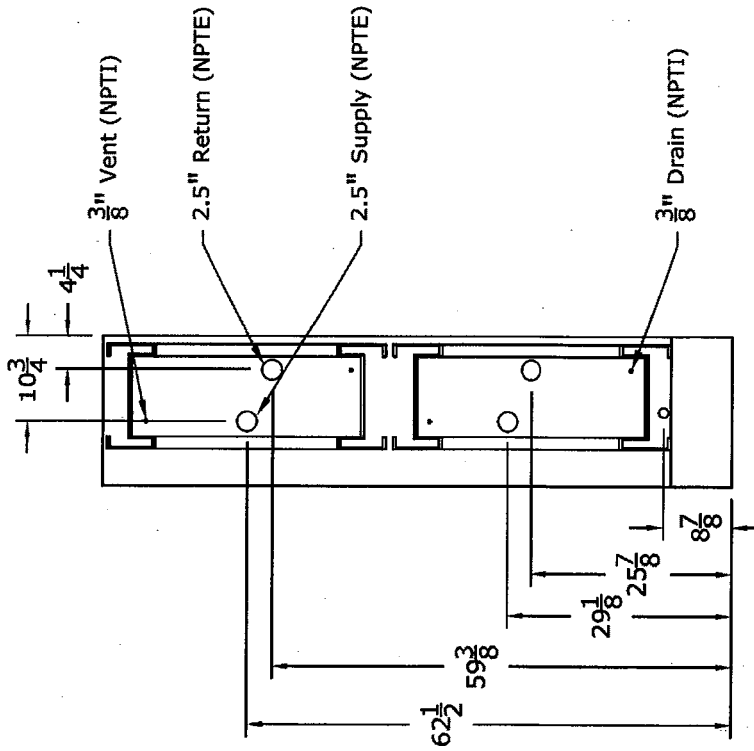
TRANE
 Performance Climate Changer™
 Air Handlers

Job Name: OCCC West Concourse D Replacement
 Sales Office: Orlando (H3)
 Airflow: 22500 CFM
 Paint: Unpainted

Unit Size: #50
 Product Group: Indoor Unit
 Unit Tag: AHU-77
 Integral Base Frame: 8" Integral Base Frame
 Unit Casag: 2" Double Wall

Lexington Speed Submitals

Coil View



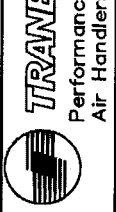
EQUIPMENT LIST

1. Opening Top 30" x 66.625".
 2. Support Beam (2).
 3. External Unit Controller RH.
 4. Cooling Coil 8 Row UU RH Conn. & RH Dr. Pan.
 5. 1.25" N.P.T.E.
 6. Plenum Fan 18.25" SDDP Full width Supply Fan 7.5 HP 450/3.
 7. External VFD RH.
 8. Light Switch and/or Receptacle RH.
 9. 4" Front Loading Filters.
 10. Opening Top 32" x 111".
 11. Marine Light (4).
- Doors:
 (2) 18" x 66" Door RH
 (1) 20" x 69" Door RH
 (1) 23" x 69" Door RH

Revision	Date	Rev. By
- Original	10/2/2015	TIS
A Revision	10/6/2015	TIS
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-	-	-
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Note: All Dimensions Are In Inches
 Drawn By: TIS
 Date: 10/6/2015
 Scale: As to Scale
 Approved By:

NOTE: Combined Shipping Split Lengths Differ From Overall Unit Length.
 Add 1/8" Between Each Split To Get The Overall Unit Length.



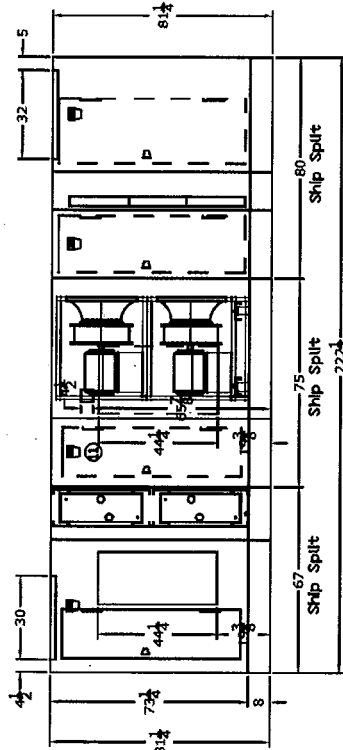
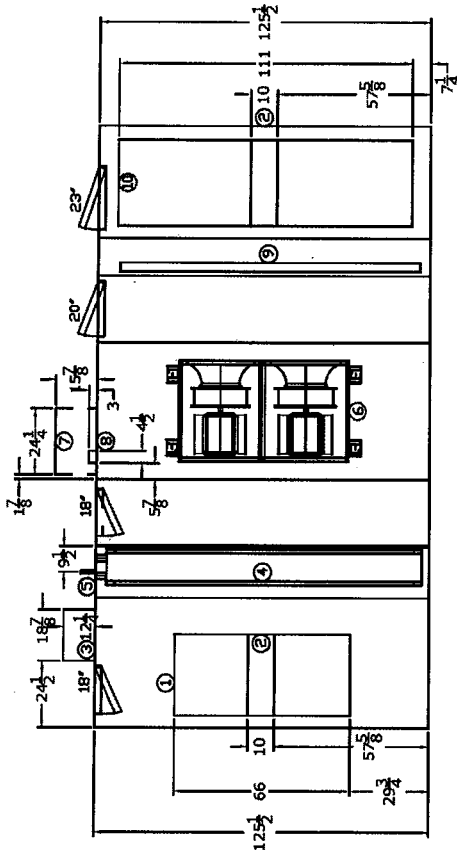
Performance Climate Changer™
 Air Handlers

Job Name: OCCC West Concourse D Replacement
 Sales Office: Orlando (H3)
 Airflow: 22500 CFM
 Paint: Unpainted

Unit Size: #50
 Product Group: Indoor Unit
 Unit Tag: AHU-77
 Integral Base Frame: 8" Integral Base Frame
 Unit Castings: 2" Double Wall

Lenington Special Submittals

Elevation View/Plan View



EQUIPMENT LIST

1. Opening Top 30" x 66".
 2. Support Beam (2).
 3. External Unit Controller LH.
 4. Cooling Coil 8 Row UUI LH Conn. & LH Dr. Pan.
 5. 1.25" N.P.T.E.
 6. Plenum Fan 18.25" SDDP Full width Supply Fan 7.5 HP 460/3.
 7. External VFD LH.
 8. Light Switch and/or Receptacle LH.
 9. 4" Front Loading Filters.
 10. Opening Top 32" x 111".
 11. Marine Light (4).
- Doors:
 (2) 18" x 66" Door LH
 (1) 20" x 69" Door LH
 (1) 23" x 69" Door LH

Revisions:	Date:	Rev. By:
- Original	10/2/2015	TIS
A Revision	10/6/2015	TIS
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-	-	-
-	-	-

Note: All Dimensions Are In Inches
 Drawn By: TIS
 Date: 10/6/2015
 Scale: Not to Scale
 Approved By:

NOTE: Combined Shipping Split Lengths Differ From Overall Unit Length.
 Add 1/8" Between Each Split To Get The Overall Unit Length.
 RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES

TRANE
 Performance Climate Changer™
 Air Handlers

Lenington Speedl
 Submittals

Unit Size: #50
 Product Group: Indoor Unit
 Unit Tag: AHU-78
 Integral Base Frame: 8" Integral Base Frame
 Unit Cabinet: 2" Double Wall

Job Name: OCCC West Concourse D Replacement
 Sales Office: Orlando (H3)
 Airflow: 19350 CFM
 Paint: Unpainted

EQUIPMENT LIST

1. Opening Top 30" x 66".
2. Support Beam (2).
3. External Unit Controller LH.
4. Cooling Coil 8 Row UU LH Conn. & LH Dr. Pan.
5. 1.25" N.P.T.E.
6. Plenum Fan 18.25" SDDP Full width Supply Fan 7.5 HP 460/3.
7. External VFD LH.
8. Light Switch and/or Receptacle LH.
9. 4" Front Loading Filters.
10. Opening Top 32" x 111".
11. Marine Light (4).

Doors:
 (2) 18" x 66" Door LH
 (1) 20" x 69" Door LH
 (1) 23" x 69" Door LH

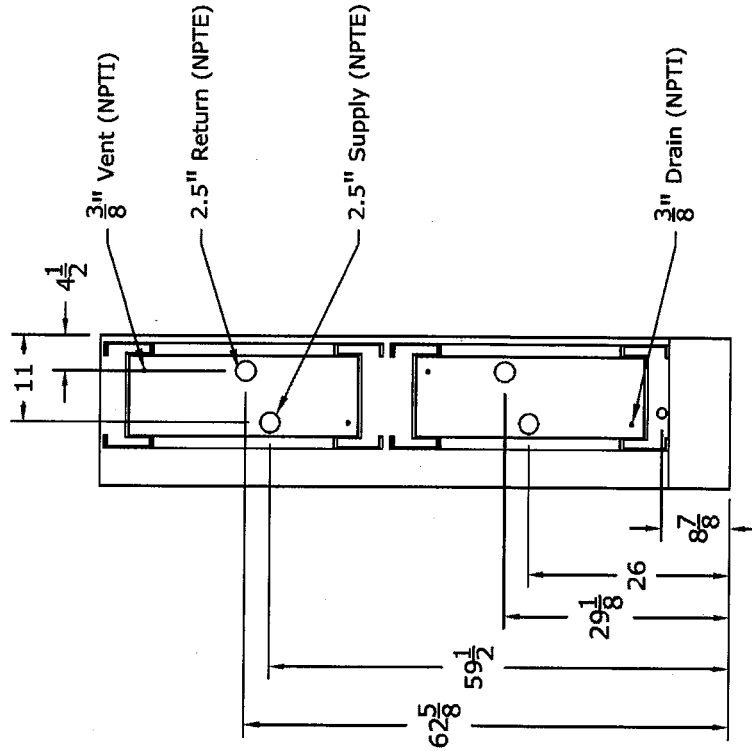
Revisions:	Date:	Rev. By:
- Original	10/2/2015	TIS
A Revision	10/6/2015	TIS
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Note: All Dimensions Are In Inches
 Drawn By: TIS
 Date: 10/6/2015
 Scale: Not to Scale
 Approved By:

TRANE
 Performance Climate Changer™
 Air Handlers

Lexington Special Submittals

Coil View



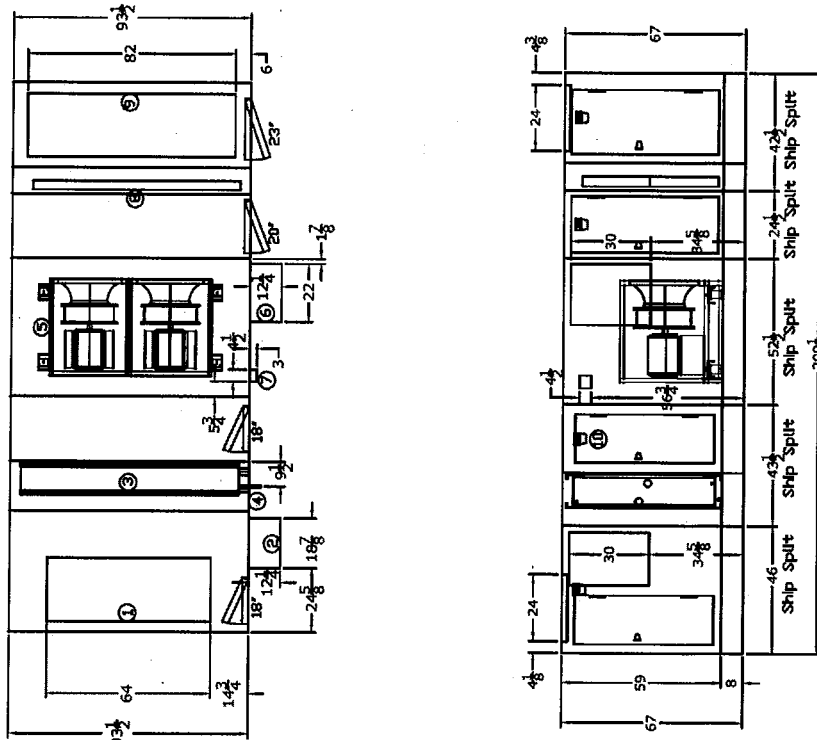
NOTE: Combined Shipping Split Lengths Differ From Overall Unit Length.
 Add 1/8" Between Each Split To Get The Overall Unit Length.

OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES

Unit Size: #50
 Product Group: Indoor Unit
 Unit Tag: AHU-78
 Integral Base Frame: 8" Integral Base Frame
 Unit Casing: 2" Double Wall

Job Name: OCCC West Concourse D Replacement
 Sales Office: Orlando (H3)
 Airflow: 19350 CFM
 Paint: Unpainted

Elevation View/Plan View



EQUIPMENT LIST

1. Opening Top 24" x 64".
 2. External Unit Controller RH.
 3. Cooling Coil 8 Row UU RH Conn. & RH Dr. Pan.
 4. 1" N.P.T.E.
 5. Plenum Fan 22.25" DDP Full width Supply Fan 7.5 HP 460/3.
 6. External VFD RH.
 7. Light Switch and/or Receptacle rht.
 8. 4" Front Loading Filters.
 9. Opening Top 24" x 82".
 10. Marine Light (4).
- Doors:
 (2) 18" x 52" Door RH
 (1) 20" x 55" Door RH
 (1) 23" x 55" Door RH

Revisions:	Date:	Drawn By:
- Original	10/2/2015	TIS
A Revision	10/6/2015	TIS
C Revision	10/28/2015	TIS

Note: All Dimensions Are In Inches
 Drawn By: TIS
 Date: 10/28/2015
 Scale: Not to Scale
 Approved By:

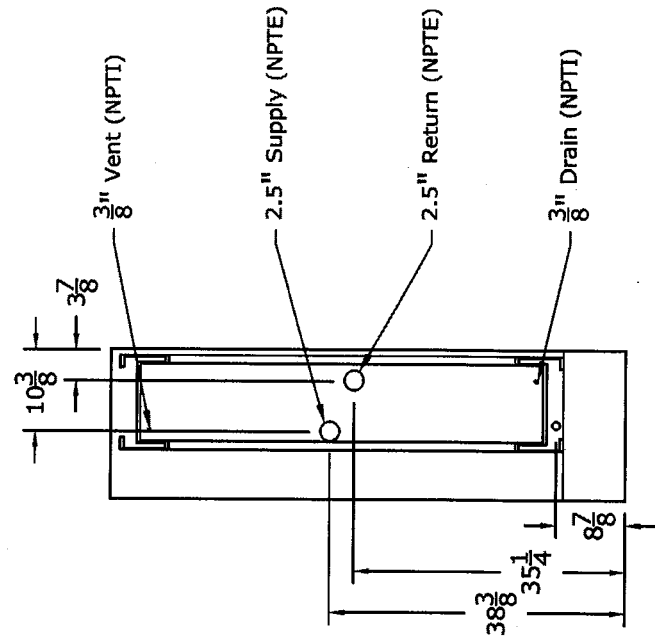
NOTE: Combined Shipping Split Lengths Differ From Overall Unit Length.
 Add 1/8" Between Each Split To Get The Overall Unit Length.
 OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES

Unit Size: #30	Job Name: OCCC West Concourse D Replacement
Product Group: Indoor Unit	Sales Office: Orlando (H3)
Unit Tag: AHU-79	Airflow: 13145 CFM
Integral Base Frame: 8" Integral Base Frame	Paint: Unpainted
Unit Casing: 2" Double Wall	



Lexington Special Submittals

Coil View



EQUIPMENT LIST

1. Opening Top 24" x 64".
2. External Unit Controller RH.
3. Cooling Coil 8 Row UU RH Conn. & RH Dr. Pan.
4. 1" N.P.T.E.
5. Plenum Fan 22.25" DDP Full width Supply Fan 7.5 HP 460/3.
6. External VFD RH.
7. Light Switch and/or Receptacle RH.
8. 4" Front Loading Filters.
9. Opening Top 24" x 82".
10. Marine Light (4).

Doors:
 (2) 18" x 52" Door RH
 (1) 20" x 55" Door RH
 (1) 23" x 55" Door RH

Revisions:	Date:	Rev. By:
-	Original	TIS
A	10/2/2015	TIS
B	10/6/2015	TIS
C	10/28/2015	TIS
-	---	---
-	---	---

Note: All Dimensions are in Inches
 Drawn By: TIS
 Date: 10/28/2015
 Scale: Not to Scale
 Approved By:

NOTE: Combined Shipping Split Lengths Differ From Overall Unit Length.
 Add 1/8" Between Each Split To Get The Overall Unit Length.

OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES



TRANE
 Performance Climate Changer™
 Air Handlers

Job Name: OCCC West Concourse D Replacement

Sales Office: Orlando (H3)

Airflow: 1,314.5 CFM

Paint: Unpainted

Unit Size: #30

Product Group: Indoor Unit

Unit Tag: AHU-79

Integral Base Frame: 8" Integral Base Frame

Unit Casing: 2" Double Wall

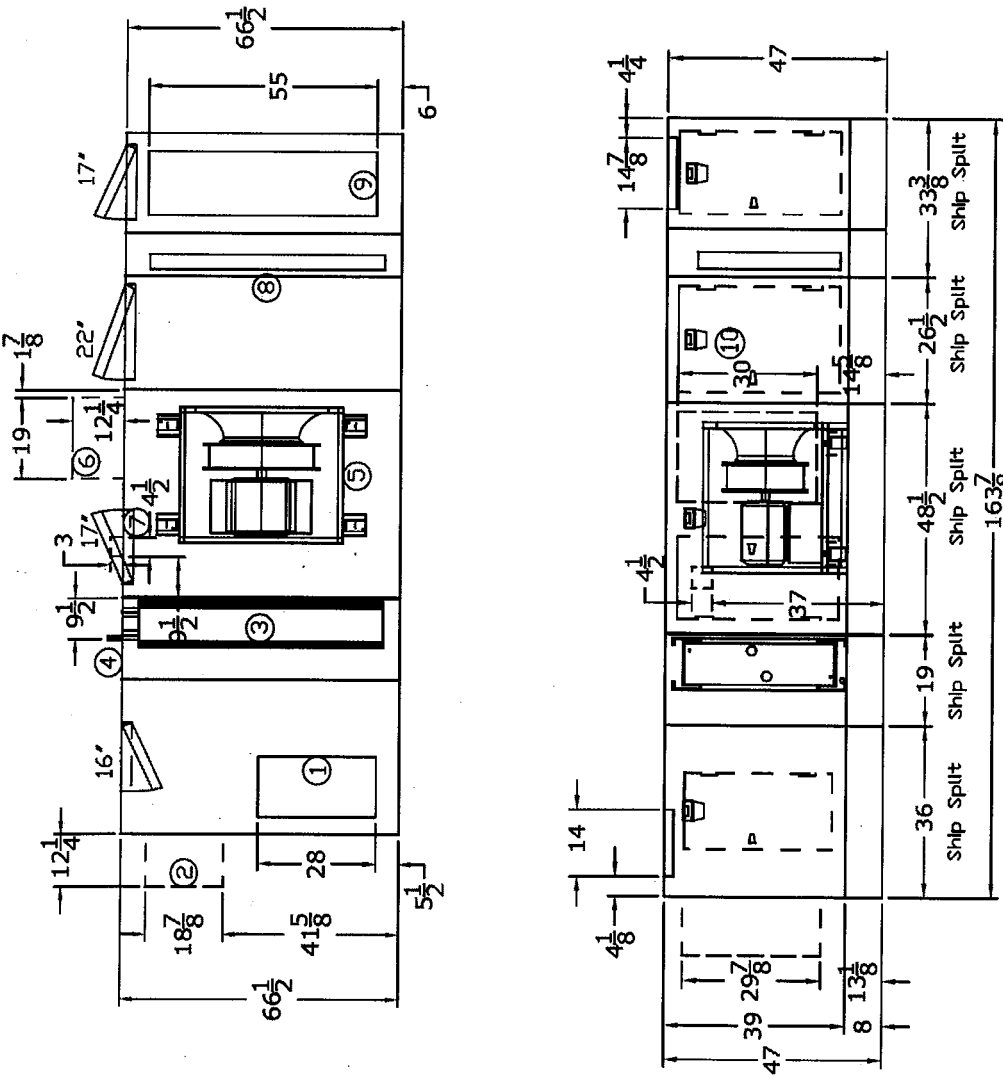
Lexington Special
 Submittals

EQUIPMENT LIST

1. Opening Top 14" x 28".
2. External Unit Controller Front LH.
3. Cooling Coil 6 Row UU LH Conn. & LH Dr. Pan.
4. 1" N.P.T.E.
5. Plenum Fan 22.25" DDP 80% width Supply Fan 5 HP 460/3.
6. External VFD LH.
7. Light Switch and/or Receptacle LH.
8. 4" Front Loading Filters.
9. Opening Top 15" x 55".
10. Marine Light (4).

Doors:
 (1) 16" x 32" Door LH
 (2) 17" x 35" Door LH
 (3) 22" x 35" Door LH

Elevation View/Plan View



NOTE: Combined Shipping Split Lengths Differ From Overall Unit Length.
 Add 1/8" Between Each Split to Get The Overall Unit Length.

Revision:	Date:	Rev. By:
- Original	10/2/2015	TIS
A Revision	10/6/2015	TIS
B Revision	10/14/2015	TIS
C Revision	10/28/2015	TIS

Note: All Dimensions Are In Inches
 Drawn By: TIS
 Date: 10/28/2015
 Scale: Not to Scale
 Approved By:

TRANE®
 Performance Climate Changer™
 Air Handlers

Leighton Special
 Submittals

Unit Size: #12	Job Name: OCCC West Concourse D Replacement
Product Group: Indoor Unit	Sales Office: Orlando (H3)
Unit Tag: AHU-80	Airflow: 4180 CFM
Integral Base Frame: 8" Integral Base Frame	Paint: Unpainted
Unit Ceiling: 2" Double Wall	

EQUIPMENT LIST

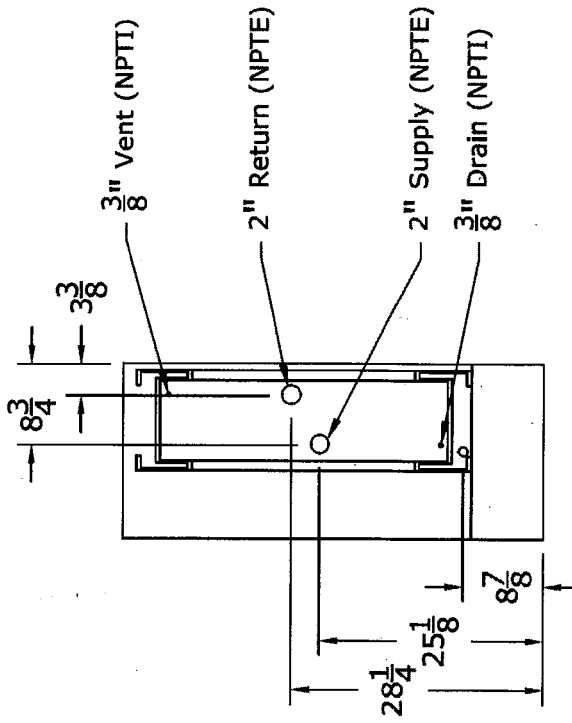
1. Opening Top 14" x 28".
2. External Unit Controller Front LH.
3. Cooling Coil 6 Row UU LH Conn. & LH Dr. Pan.
4. 1" N.P.T.E.
5. Plenum Fan 22.25" DDP 80% width Supply Fan 5 HP-460/3.
6. External VFD LH.
7. Light Switch and/or Receptacle LH.
8. 4" Front Loading Filters.
9. Opening Top 15" x 55".
10. Marine Light (4).

Doors:
 (1) 16" x 32" Door LH
 (2) 17" x 35" Door LH
 (1) 22" x 35" Door LH

Revisions:	Date:	Rev. By:
-	Original	TIS
A	Revision	TIS
B	Revision	TIS
C	Revision	TIS

Notes: All Dimensions are in Inches
 Drawn By: TIS
 Date: 10/28/2015
 Scale: Not to Scale
 Approved By:

Coil View



NOTE: Combined Shipping Split Lengths Differ From Overall Unit Length.
 Add 1/8" Between Each Split To Get The Overall Unit Length.

OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES

Unit Size: #12
 Product Group: Indoor Unit
 Unit Tag: AHU-80
 Integral Base Frame: 8" Integral Base Frame
 Unit Casing: 2" Double Wall
 Paint: Unpainted

Job Name: OCCC West Concourse D Replacement

Sales Office: Orlando (H3)

Airflow: 4180 CFM



TRANE
 Performance Climate Changer™
 Air Handlers

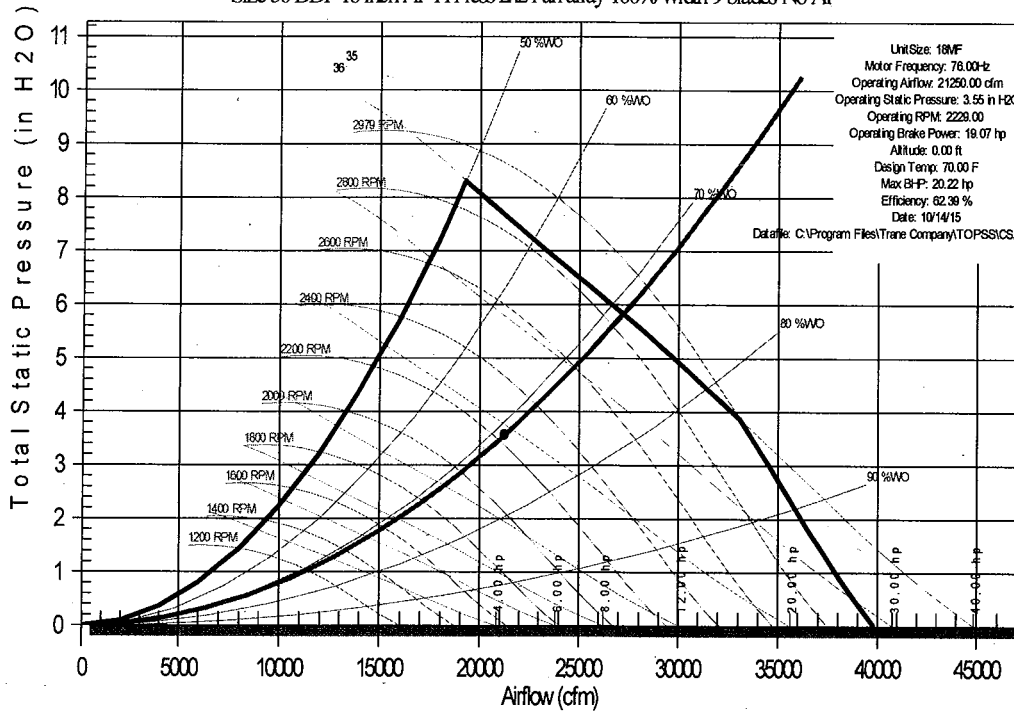
Lexington Speedi
 Submittals

Fan Curve - Performance Climate Changer

Item: A1 Qty: 1 Tag(s): AHU-75

Supply

Size 50 DDP 18 inch AF H Press 2x2 Fan array 100% Width 9 blades No AP



Size 50 DDP 18 inch AF H Press 2x2 Fan array 100% Width 9 blades No AP

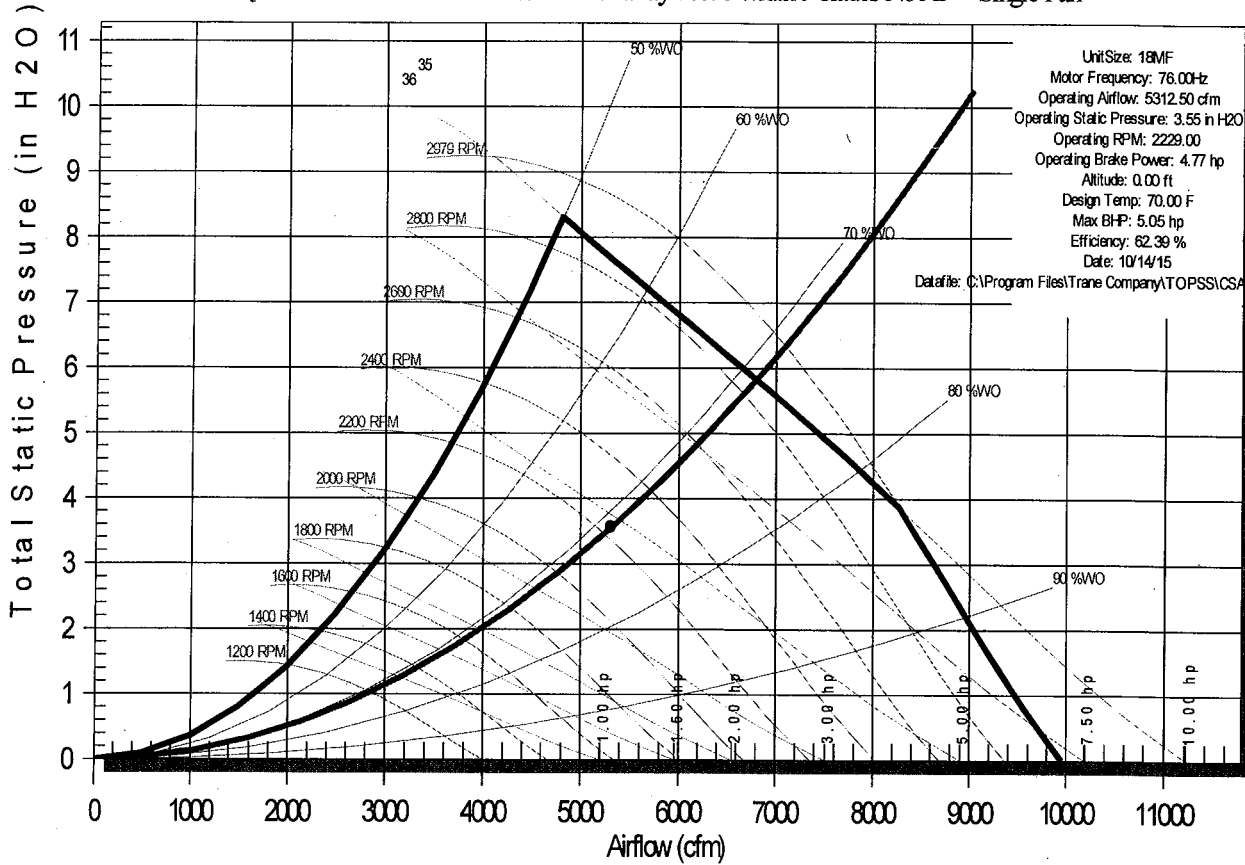
	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Casing	78	77	76	76	75	65	63	58
Return	75	74	75	72	72	74	72	67
Supply Top	69	73	77	78	80	77	72	64
Outdoor	73	69	74	70	70	70	67	62

Fan Curve - Performance Climate Changer

Item: A1 Qty: 1 Tag(s): AHU-75

Supply

Size 50 DDP 18 inch AF H Press 2x2 Fan array 100% Width 9 blades No AP - Single Fan



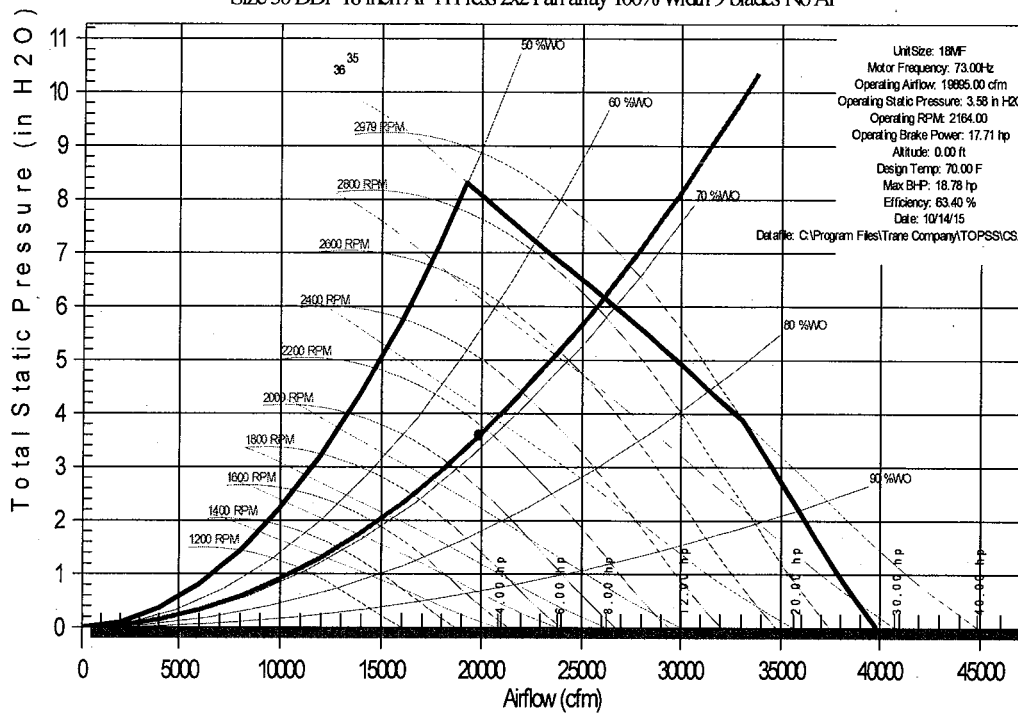
fans.ran

Fan Curve - Performance Climate Changer

Item: A2 Qty: 1 Tag(s): AHU-76

Supply

Size 50 DDP 18 inch AF H Press 2x2 Fan array 100% Width 9 blades No AP



Unit Size: 18MF
 Motor Frequency: 73.00Hz
 Operating Airflow: 19865.00 cfm
 Operating Static Pressure: 3.58 in H₂O
 Operating RPM: 2164.00
 Operating Brake Power: 17.71 hp
 Altitude: 0.00 ft
 Design Temp: 70.00 F
 Max BHP: 18.78 hp
 Efficiency: 63.40 %
 Date: 10/14/15
 Details: C:\Program Files\Trane Company\TOPSSICS\ans.ran

Size 50 DDP 18 inch AF H Press 2x2 Fan array 100% Width 9 blades No AP

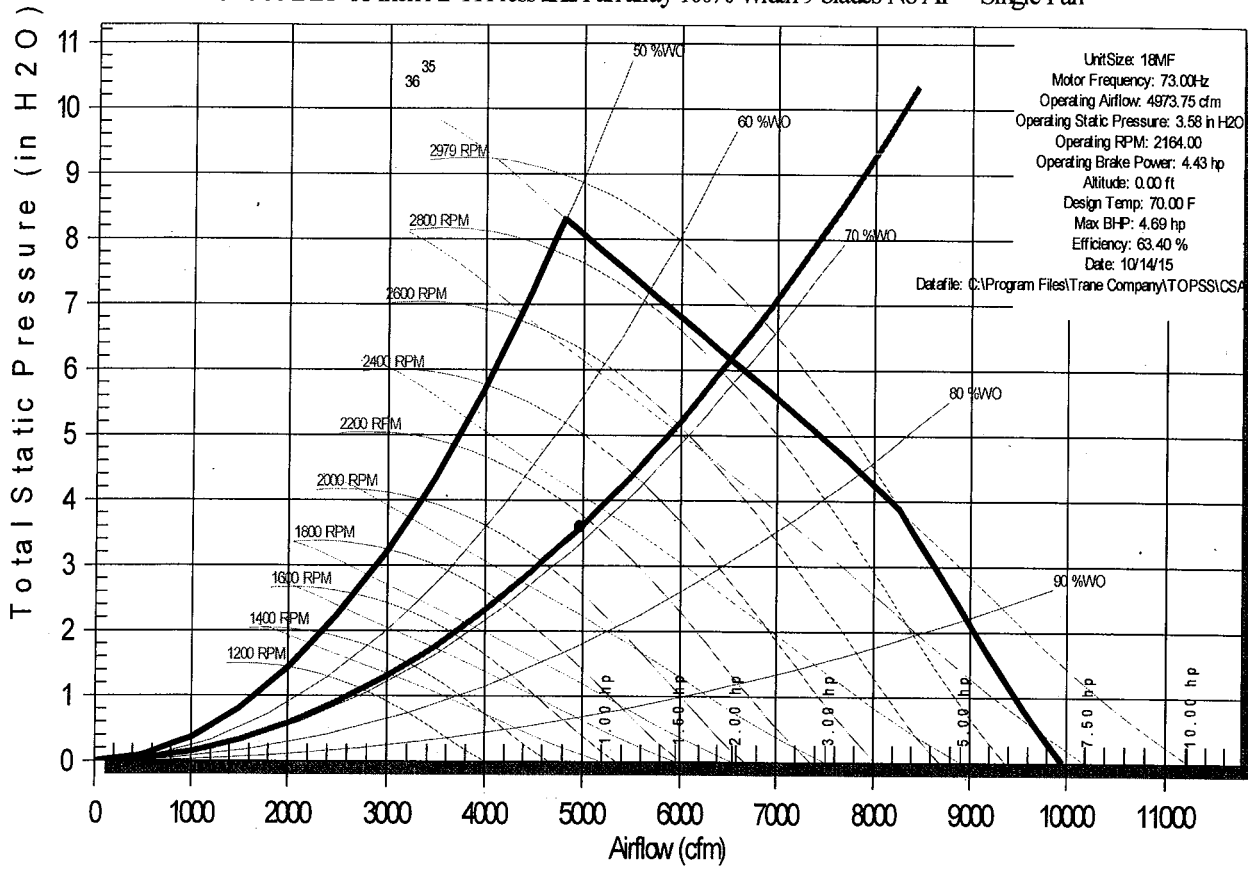
	63Hz	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz	8kHz
Casing	78	76	76	74	74	64	63	58
Return	74	74	74	71	71	73	71	66
Supply Top	68	72	76	77	78	76	71	63
Outdoor	72	68	74	69	69	69	67	61

Fan Curve - Performance Climate Changer

Item: A2 Qty: 1 Tag(s): AHU-76

Supply

Size 50 DDP 18 inch AF H Press 2x2 Fan array 100% Width 9 blades No AP - Single Fan

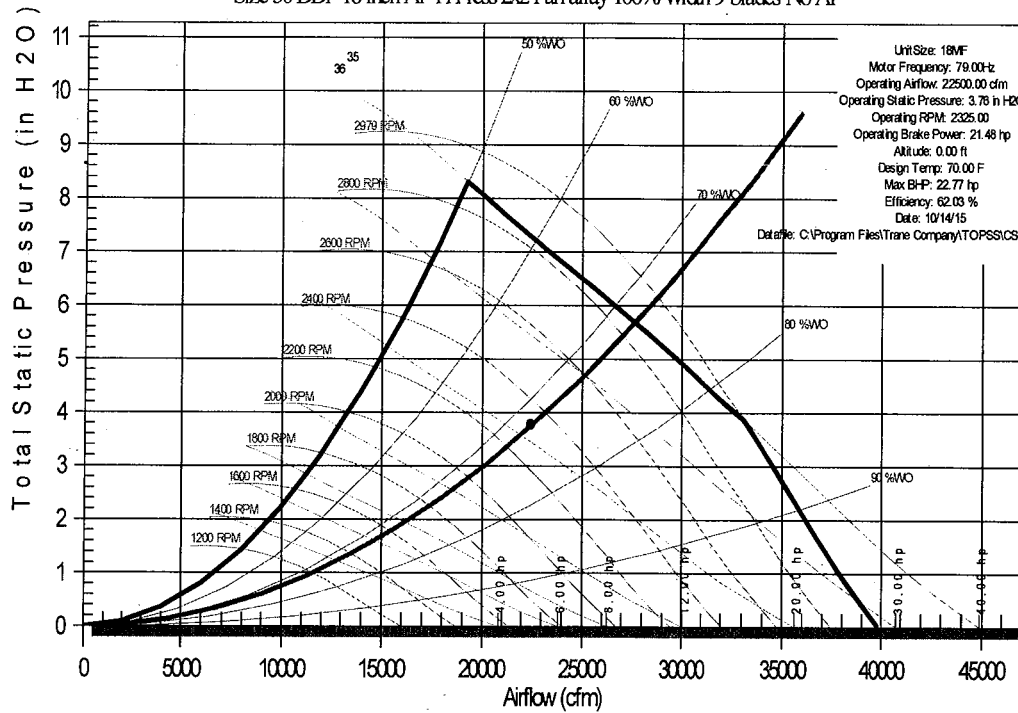


Fan Curve - Performance Climate Changer

Item: A3 Qty: 1 Tag(s): AHU-77

Supply

Size 50 DDP 18 inch AF H Press 2x2 Fan array 100% Width 9 blades No AP



Size 50 DDP 18 inch AF H Press 2x2 Fan array 100% Width 9 blades No AP

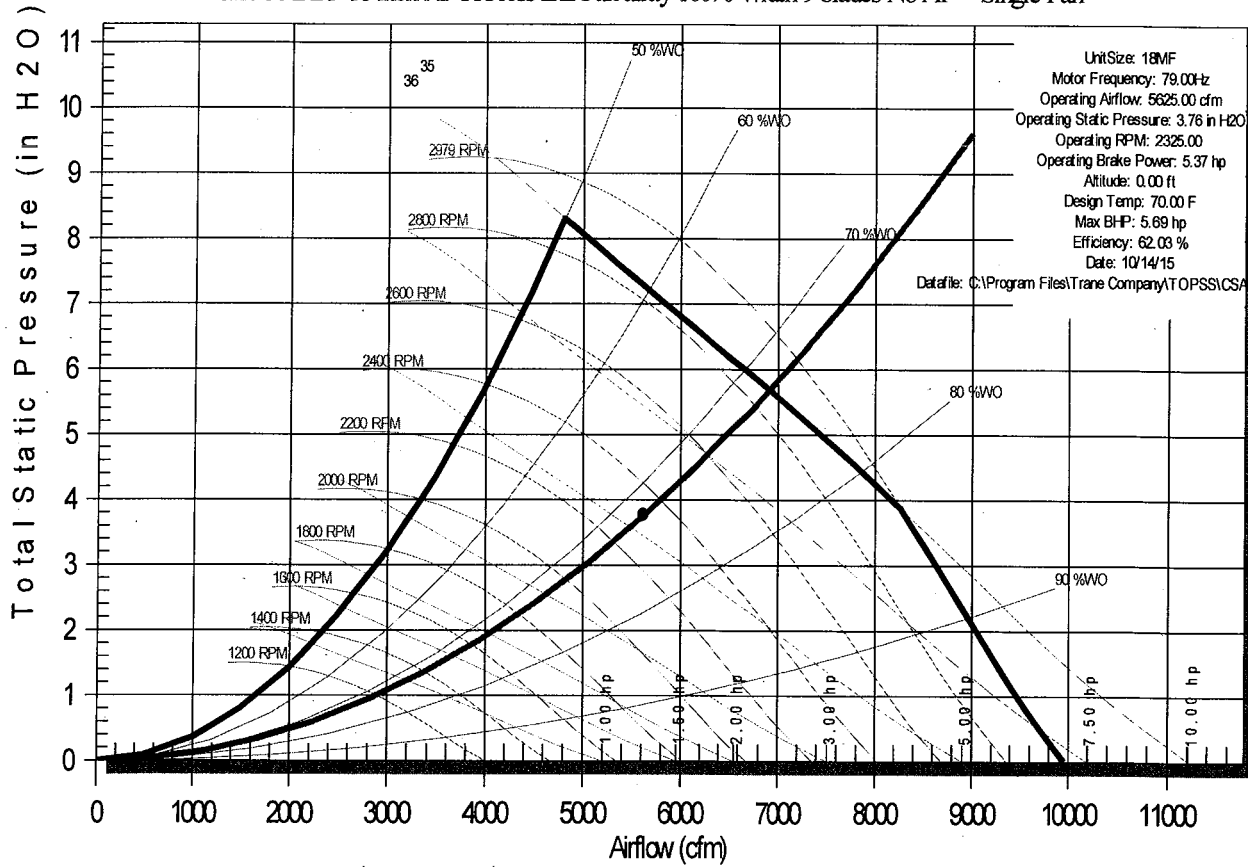
	63Hz	125Hz	250Hz	500Hz	1 kHz	2 kHz	4 kHz	8 kHz
Casing	79	78	77	77	76	66	64	59
Supply Top	70	74	77	79	80	78	73	65
Outdoor	78	73	76	76	76	76	74	69

Fan Curve - Performance Climate Changer

Item: A3 Qty: 1 Tag(s): AHU-77

Supply

Size 50 DDP 18 inch AF H Press 2x2 Fan array 100% Width 9 blades No AP - Single Fan

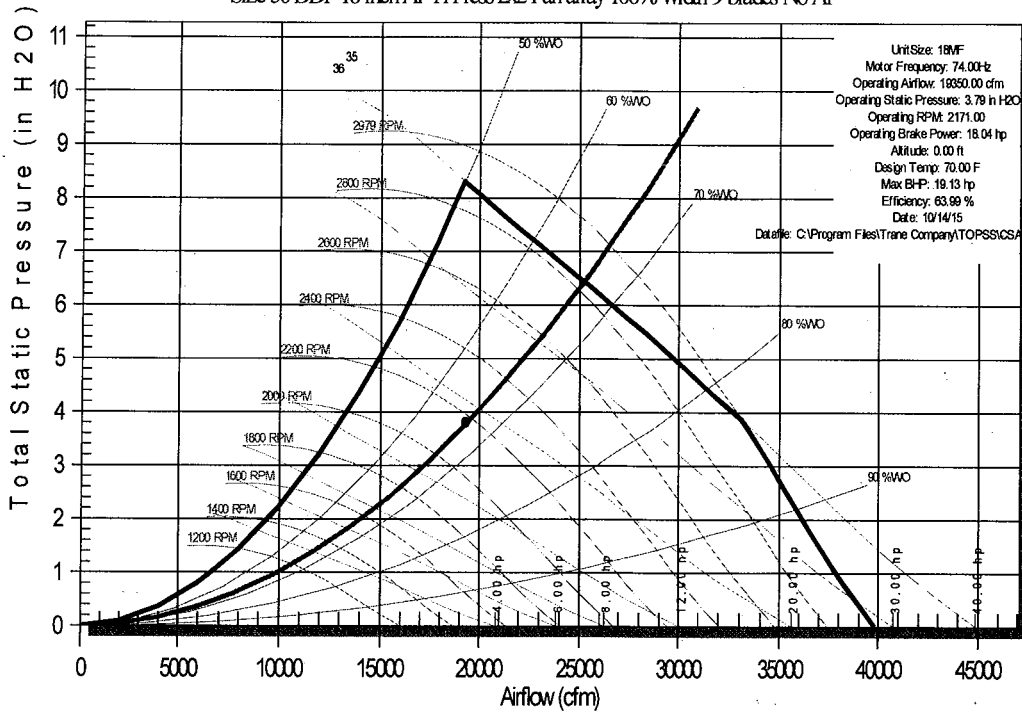


Fan Curve - Performance Climate Changer

Item: A4 Qty: 1 Tag(s): AHU-78

Supply

Size 50 DDP 18 inch AF H Press 2x2 Fan array 100% Width 9 blades No AP



Unit Size: 18WF
 Motor Frequency: 74.00Hz
 Operating Airflow: 18950.00 cfm
 Operating Static Pressure: 3.78 in H₂O
 Operating RPM: 2171.00
 Operating Brake Power: 18.04 hp
 Altitude: 0.00 ft
 Design Temp: 70.00 F
 Max BHP: 19.13 hp
 Efficiency: 63.99 %
 Date: 10/14/15
 Datafile: C:\Program Files\Trane Company\TOPSSICS\ans.ran

Size 50 DDP 18 inch AF H Press 2x2 Fan array 100% Width 9 blades No AP

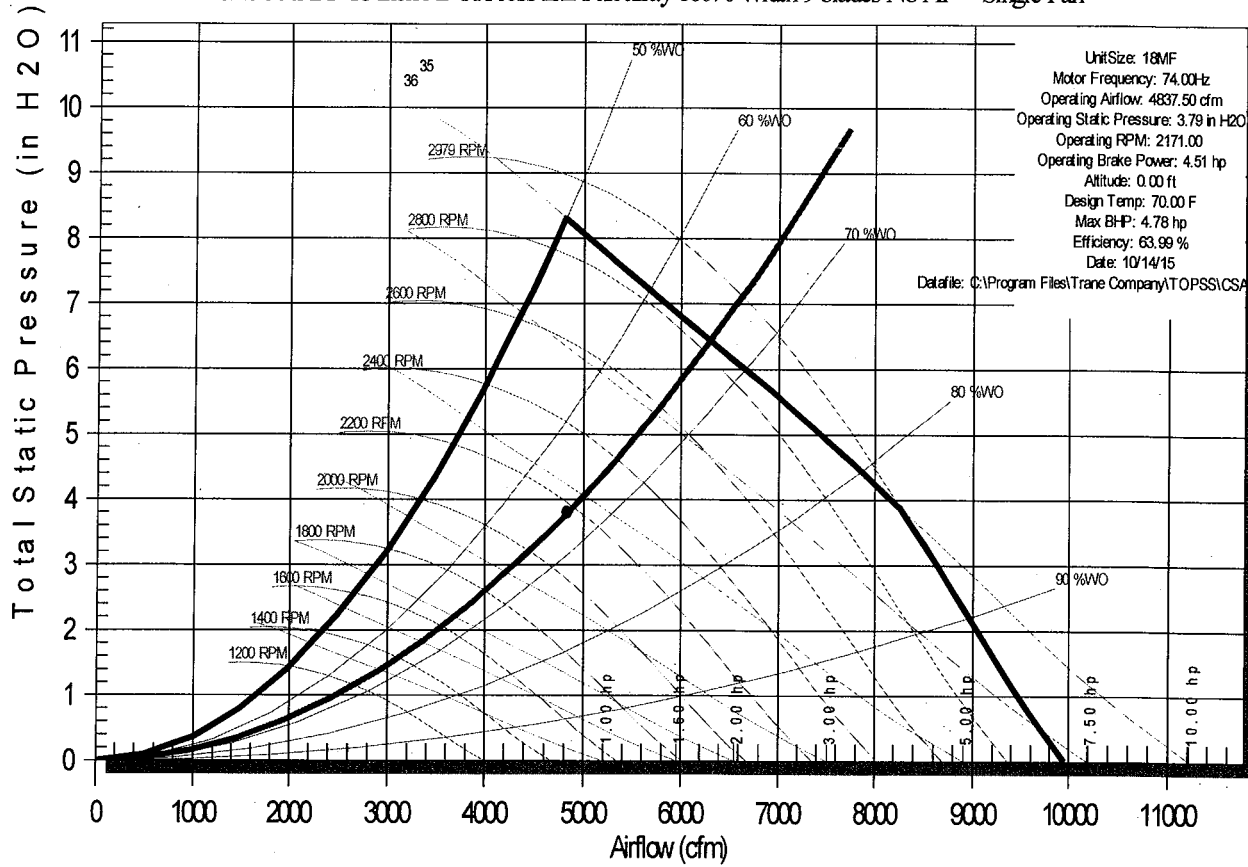
	63-hz	125-hz	250-hz	500-hz	1 kHz	2 kHz	4 kHz	8 kHz
Casing	78	77	76	74	74	64	63	59
Supply Top	68	72	76	77	78	76	71	63
Outdoor	77	71	75	74	74	74	72	66

Fan Curve - Performance Climate Changer

Item: A4 Qty: 1 Tag(s): AHU-78

Supply

Size 50 DDP 18 inch AF H Press 2x2 Fan array 100% Width 9 blades No AP - Single Fan

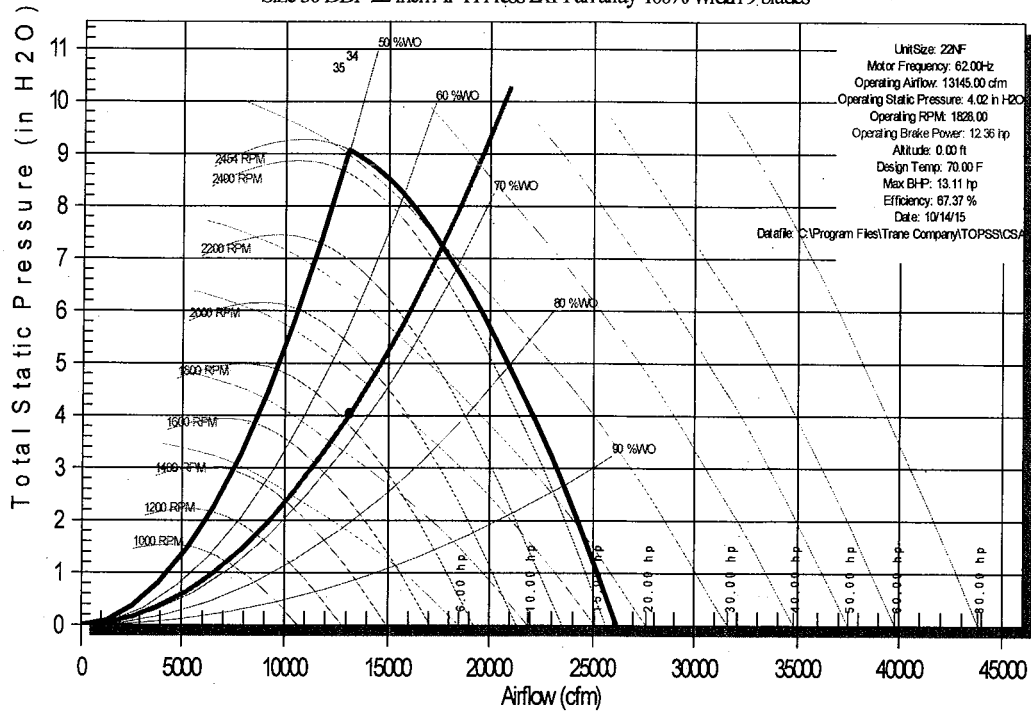


Fan Curve - Performance Climate Changer

Item: A5 Qty: 1 Tag(s): AHU-79

Supply

Size 30 DDP 22 inch AF H Press 2x1 Fan array 100% Width 9 blades



Size 30 DDP 22 inch AF H Press 2x1 Fan array 100% Width 9 blades

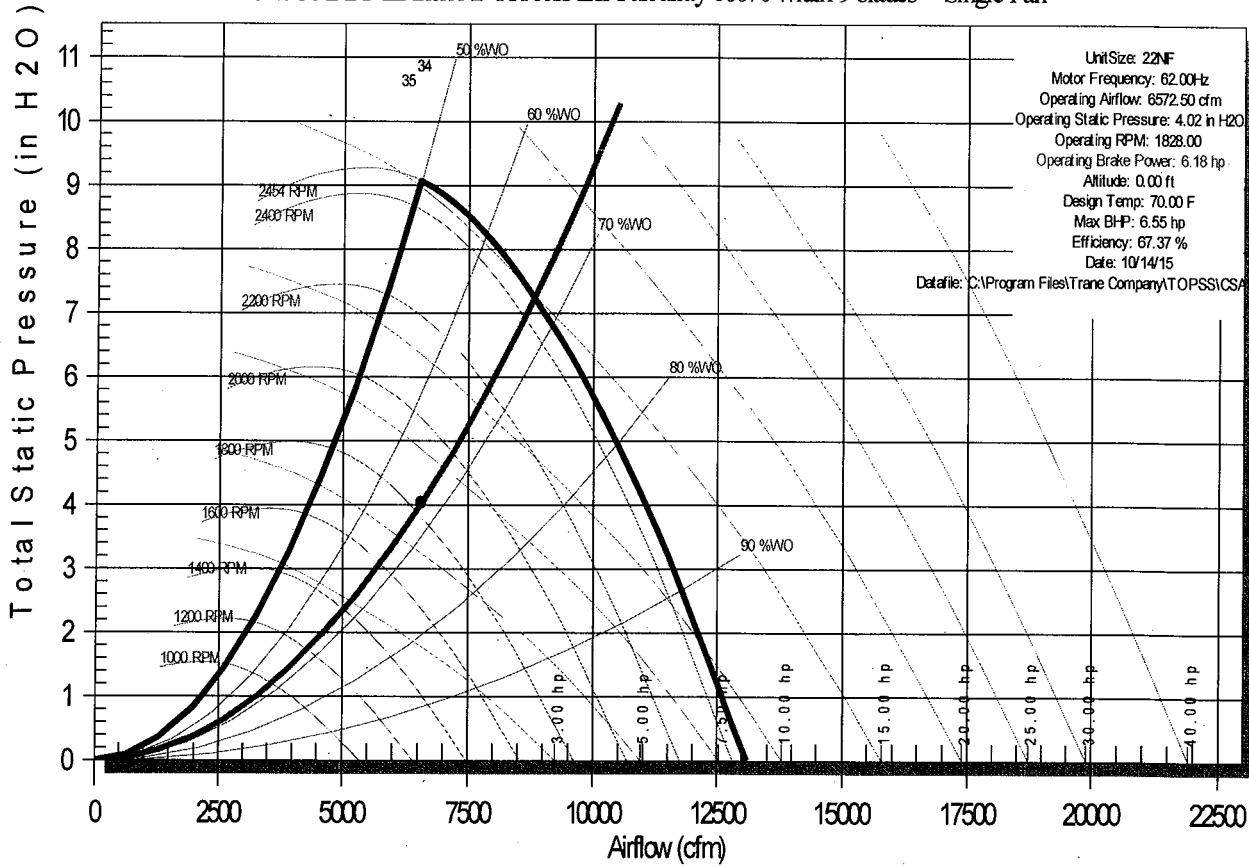
	63Hz	125Hz	250Hz	500Hz	1 kHz	2 kHz	4 kHz	8 kHz
Casing	80	76	82	77	76	67	62	60
Supply Top	68	77	78	77	75	70	68	60
Outdoor	74	73	87	76	74	73	71	65

Fan Curve - Performance Climate Changer

Item: A5 Qty: 1 Tag(s): AHU-79

Supply

Size 30 DDP 22 inch AF H Press 2x1 Fan array 100% Width 9 blades - Single Fan

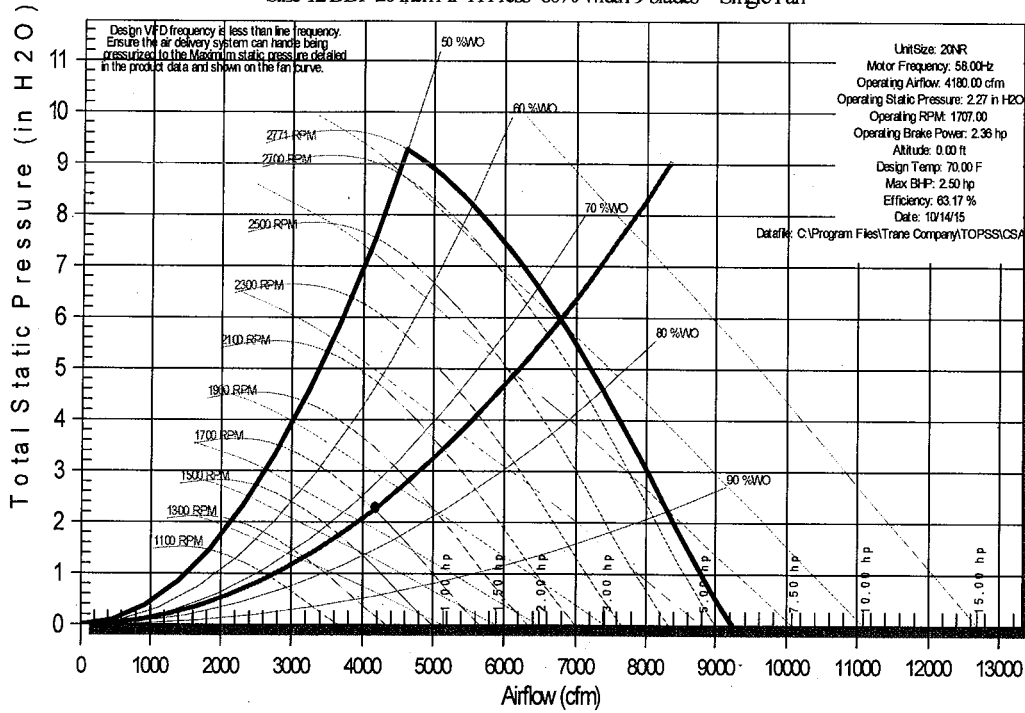


Fan Curve - Performance Climate Changer

Item: A6 Qty: 1 Tag(s): AHU-80

Supply

Size 12 DDP 20 inch AF H Press 80% Width 9 blades - Single Fan



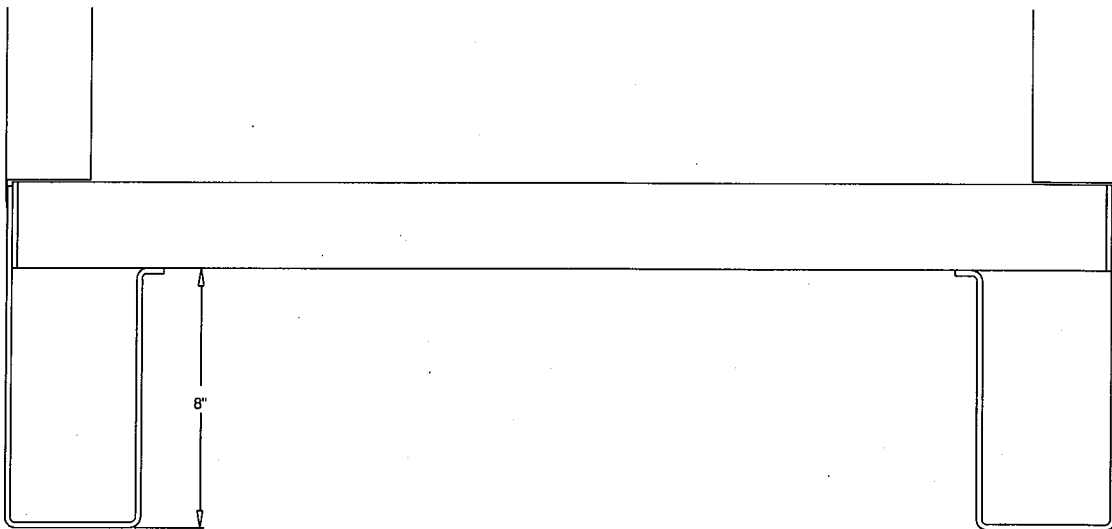
Size 12 DDP 20 inch AF H Press 80% Width 9 blades

	63-hz	125-hz	250-hz	500-hz	1 kHz	2 kHz	4 kHz	8 kHz
Casing	69	67	75	65	65	50	47	43
Return	67	63	74	67	61	62	61	53
Supply Top	66	66	71	64	65	60	58	50

Accessory - Performance Climate Changer

Item: A1 - A6 Qty: 6 Tag(s): AHU-75, AHU-76, AHU-77, AHU-78, AHU-79, AHU-80

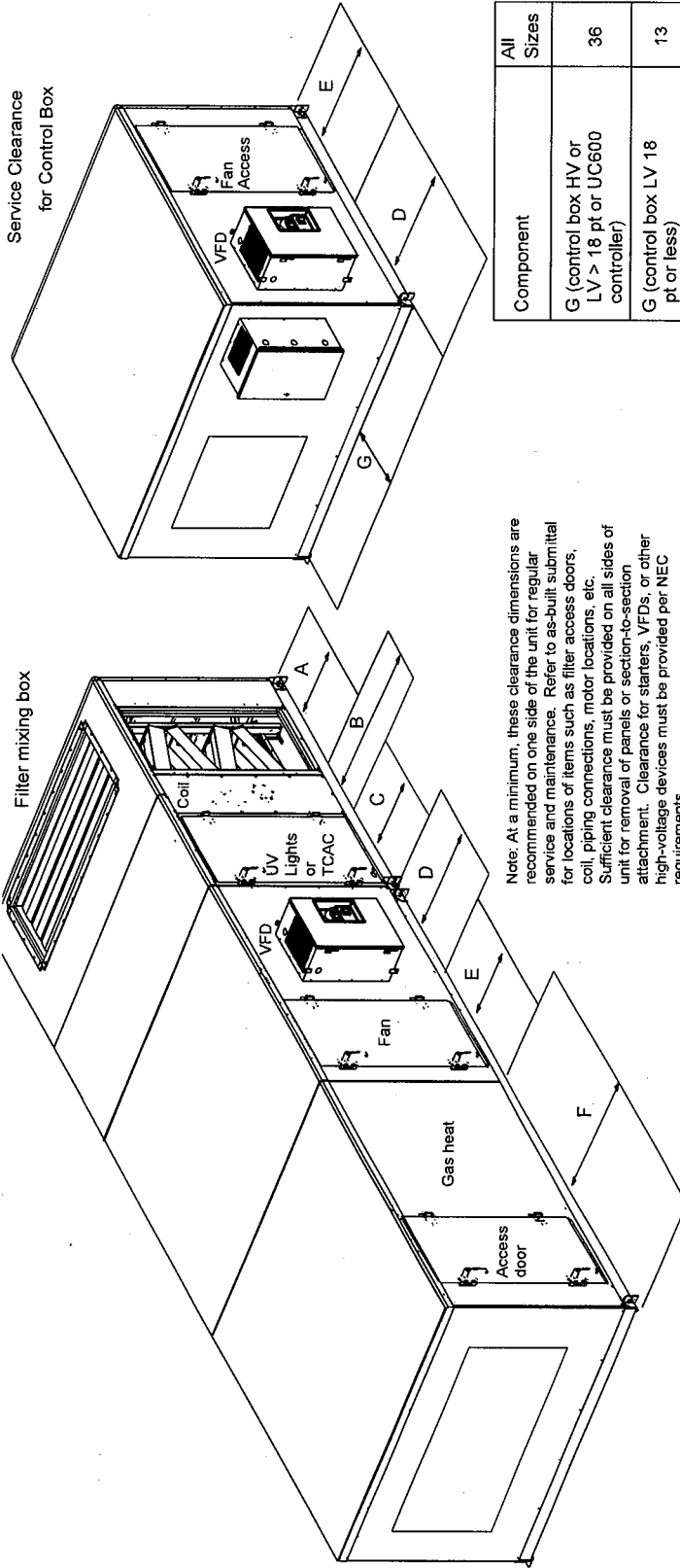
Base Detail



Accessory - Performance Climate Changer

Item: A1 - A6 Qty: 6 Tag(s): AHU-75, AHU-76, AHU-77, AHU-78, AHU-79, AHU-80

EXAMPLE UNIT - NOT CONFIGURED AS SELECTED.



Note: At a minimum, these 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.

Component	All Sizes
G (control box HV or LV > 18 pt or UC600 controller)	36
G (control box LV 18 pt or less)	13

Component	3	4	6	8	10	12	14	17	21	21	25	25	30	30	35	40	40	40	40	40	40	40	50	50	57	57	57	66	80	100	120	
A (filter)	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	56	58	58	
B (coil, humidifier)	48	59	66	77	82	87	87	87	95	95	95	95	109	87	115	96	128	96	141	110	141	110	141	110	141	110	156	170	197	197		
C (UV Lights)	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	
C (TCAC)	43	59	59	63	75	81	83	83	58	75	58	75	83	83	75	59	83	83	83	83	83	83	83	83	83	83	83	83	83	83	83	
D (External Starter, VFD, LV box or Overload box)	61	61	61	61	61	61	61	61	64	64	64	64	64	64	64	64	64	64	64	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	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	51	66	58	66	60	70	60	77	66	77	66	77	66	77	66	93	101	101	101	101	
F (Gas Heat Ext Vestible)	N/A	N/A	89	90	108	100	100	105	115	N/A	115	N/A	118	N/A	136	N/A	140	N/A	156	N/A	156	N/A	156	N/A	N/A	170	179	180	180	N/A	N/A	
F (Gas Heat Int Vestible)	N/A	N/A	56	63	74	79	84	84	92	N/A	92	N/A	106	N/A	112	N/A	125	N/A	138	N/A	138	N/A	138	N/A	138	N/A	153	167	167	194	194	

Accessory - Performance Climate Changer

Item: A1 - A6 Qty: 6 Tag(s): AHU-75, AHU-76, AHU-77, AHU-78, AHU-79, AHU-80

Low Limit Switch

SPECIFICATIONS:

CONTACT ACTION: DPST, AUTO

RESET

ELECTRICAL:

4-WIRE, 2-CIRCUIT (SEE NOTE)								
POLE NUMBER	LINE-M2 (MAIN)				LINE-M1 (AUXILIARY)			
MOTOR RATING	120V	208V	240V	277V	120V	208V	240V	277V
AC FULL LOAD AMP	16.0	9.2	8.0	--	6.0	3.3	3.0	--
AC LOCKED ROTOR AMP	96.0	55.2	48.0	--	36.0	19.8	18.0	--
AC NON-INDUCTIVE AMP	16.0	9.2	8.0	7.2	6.0	6.0	6.0	6.0
PILOT DUTY-BOTH POLES	125VA, 120 TO 600 VAC 57.5VA, 120 TO 300 VDC							

CAPILLARY: Ø.187 (STYLE 9)

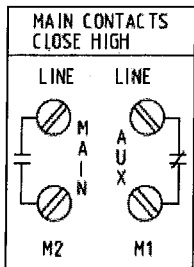
MATERIAL: COLD ROLLED STEEL

FINISH: GRAY BAKED ENAMEL

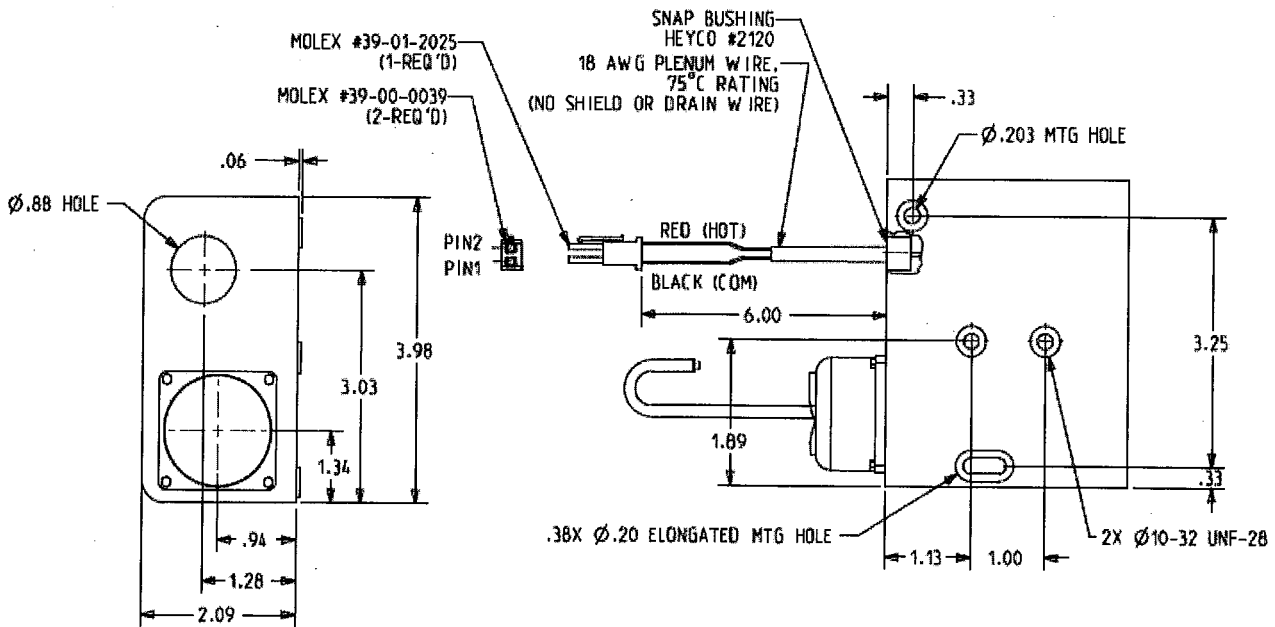
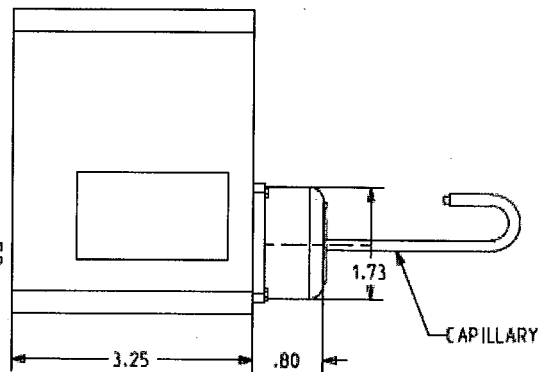
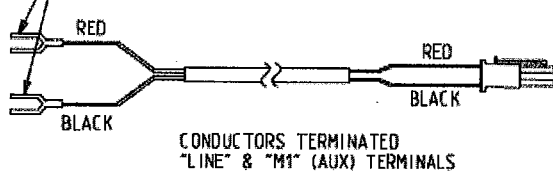
MOUNTING: COME WITH MOUNTING BRACKET ATTACHED.

NOTE: THESE ELECTRICAL CHARACTERISTICS ONLY APPLY WHEN THE WIRE ASSEMBLY IS REMOVED. THE SWITCH IS LIMITED TO 100VA @ 30VAC WITH THE WIRE ASSEMBLY

CONTACT SWITCH ACTION
(AUTO RESET)
ON TEMP INCREASE ABOVE
SET POINT:
M1 - OPENS
M2 - CLOSES

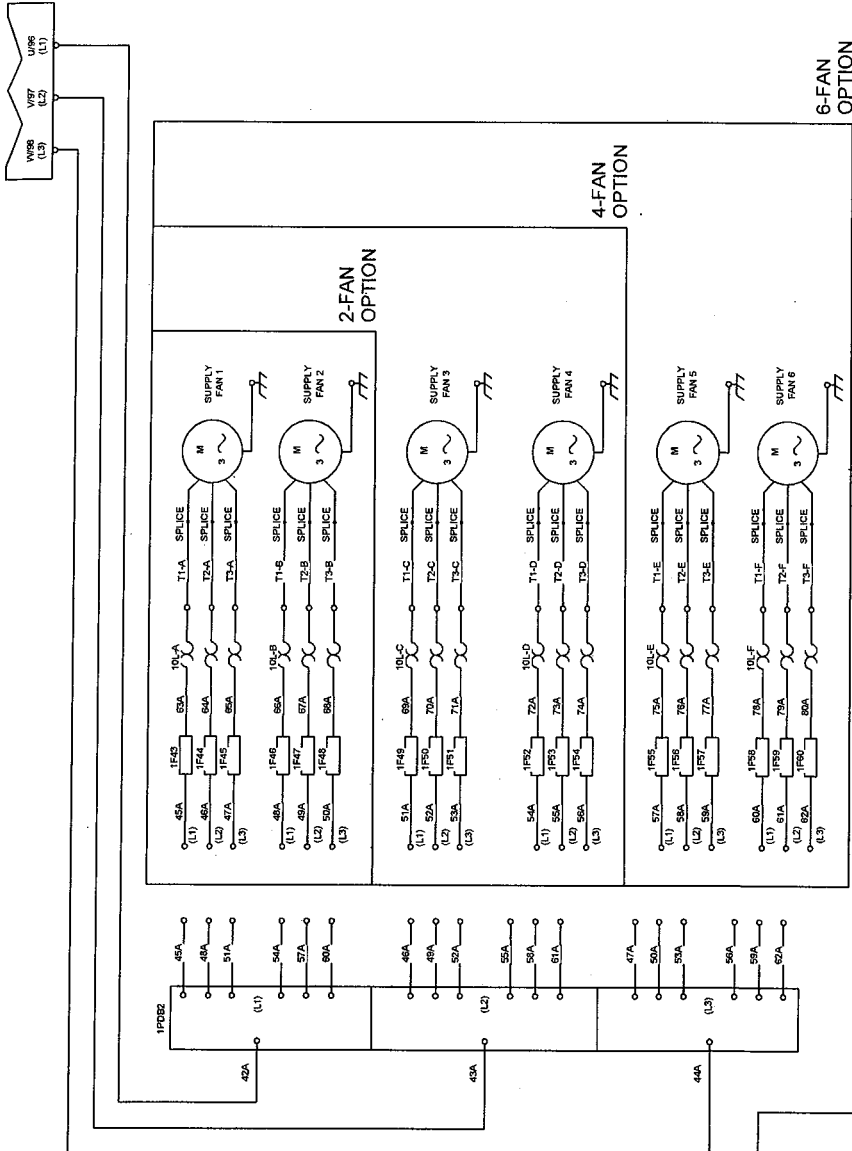


FORK TONGUE - NYLON INSULATED
TERMINAL (CRIMP)
(TYPE OF 2)



Accessory - Performance Climate Changer

Item: A1 - A5 Qty: 5 Tag(s): AHU-75, AHU-76, AHU-77, AHU-78, AHU-79



DEVICE DESIGNATION	LEGEND	DESCRIPTION
IC811		CIRCUIT BREAKER
IP817		PRIMARY CONTROLLER FUSE
IP818		VPD FUSES
IP819		START / STOP RELAY
IP820		POWER DISTRIBUTION BLOCK
IP821		TERMINAL STRIP CONTROL CIRCUIT
IP822		VEED CONTROLLER
IP823		MOTORS (FAN ARRAY)
IP824		START / STOP RELAY (FAN ARRAY)
IP825		OVERLOAD RELAYS (FAN ARRAY)
IP826		POWER DISTRIBUTION BLOCK (FAN ARRAY)

- NOTES:
- 1 DASHED LINES INDICATE RECOMMENDED FIELD WIRING BY OTHERS. SCHEMATIC FOR SPECIFIC DETAIL.
 - 2 ALL FIELD WIRING MUST BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND ANY APPLICABLE LOCAL REQUIREMENTS. COUNTRIES APPLICABLE NATIONAL AND/OR LOCAL REQUIREMENTS SHALL APPLY. FIELD CONDUCTORS SHALL HAVE INSULATION RATING NOT LESS THAN 900V COPPER CONDUCTORS ONLY.
 - 3 MINIMUM CIRCUIT AMPACITY, MAXIMUM FUSE SIZE, AND DISCONNECT SIZE ARE CALCULATED BASED ON THE INVERTER INPUT LINE CODES PER ARTICLE 430.2 OF THE NATIONAL ELECTRICAL CODE.
 - 4 PROGRAM TERMINAL 18 AS RUN.
 - 5 PROGRAM TERMINAL 27 INV. COASTING STOP.
 - 6 CLOSES TO RUN AUTO MODE OR BYPASS AUTO FOR OPTION VFD OR STARTER.
 - 7 RELAY(S)-CONTACTS: SILVER-CADMIUM OXIDE: 1/8 HP 5AMP @ 120V AC, 1/3 HP 5AMP @ 240V AC. SEE 24V SCHEMATIC DIAGRAM FOR COIL CONNECTIONS AND ACTUAL QUANTITY OF TRANSFORMER RELAYS.
 - 8 IF UNIT HAS SHIPPING SPLITS, WIRING WILL TERMINATE TO MODULE AT EACH SHIPPING SPLIT.
 - 9 ATTACH GROUND OR EQUIPMENT GROUND.
 - 10 AIRFLOW SWITCH INPUT. REFER TO LOW VOLTAGE SCHEMATIC.

WARNING
HAZARDOUS VOLTAGE!
DISCONNECT ALL ELECTRIC POWER INCLUDING REMOTE DISCONNECTS AND FOLLOW LOCK OUT AND TAG PROCEDURES BEFORE WORKING ON THIS UNIT. ALL MOTOR CAPACITORS MUST BE FULLY CHARGED. UNITS WITH VARIABLE SPEED DRIVE. REFER TO DRIVE INSTRUCTIONS FOR CAPACITOR DISCHARGE. FAILURE TO DO THE ABOVE BEFORE SERVICE MAY RESULT IN DEATH OR SERIOUS INJURY.

AVERTISSEMENT
TENSION DANGEREUSE!
COUPER TOUTES LES TENSIONS ET OUVRIRE LES SECTIONNEURS A DISTANCE. PUIS SUIVRE LES PROCÉDURES DE VERROUILLAGE ET DES ÉTIQUETTES AVANT DE TRAVAILLER SUR L'ÉQUIPEMENT. LES CONDENSATEURS DES MOTEURS SONT DÉCHARGÉS, DANS LE CAS D'UNITÉS COMPORTANT DES ENTRAÎNEMENTS A VITESSE VARIABLE. SE REPORTER AUX INSTRUCTIONS POUR DÉCHARGER LES CONDENSATEURS. NE PAS RESPECTER CES MESURES DE PRÉCAUTION PEUT ENTRAÎNER DES BLESSURES GRAVES POUVANT ÊTRE MORTELLES.

ADVERTENCIA
¡VOLTAJE PELIGROSO!
DESCONECTE TODA LA ENERGÍA ELÉCTRICA INCLUIDOS LOS DESCONECTORES REMOTOS Y SIGA LOS PROCEDIMIENTOS DE CERRER Y ETIQUETADO ANTES DE PROCEDER AL SERVICIO. ASEGURESE DE QUE TODOS LOS CONDENSADORES DE LOS MOTORES SEAN DESCARGADOS EL VOLTAJE ALMACENADO. PARA LAS UNIDADES CON ELE DE DIRECCIÓN DE VELOCIDAD VARIABLE. REVISAR LAS INSTRUCCIONES PARA LA DESCARGA DE LOS CONDENSADORES. EL NO RESALZAR LO ANTERIORMENTE INDICADO, PODRÍA 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.

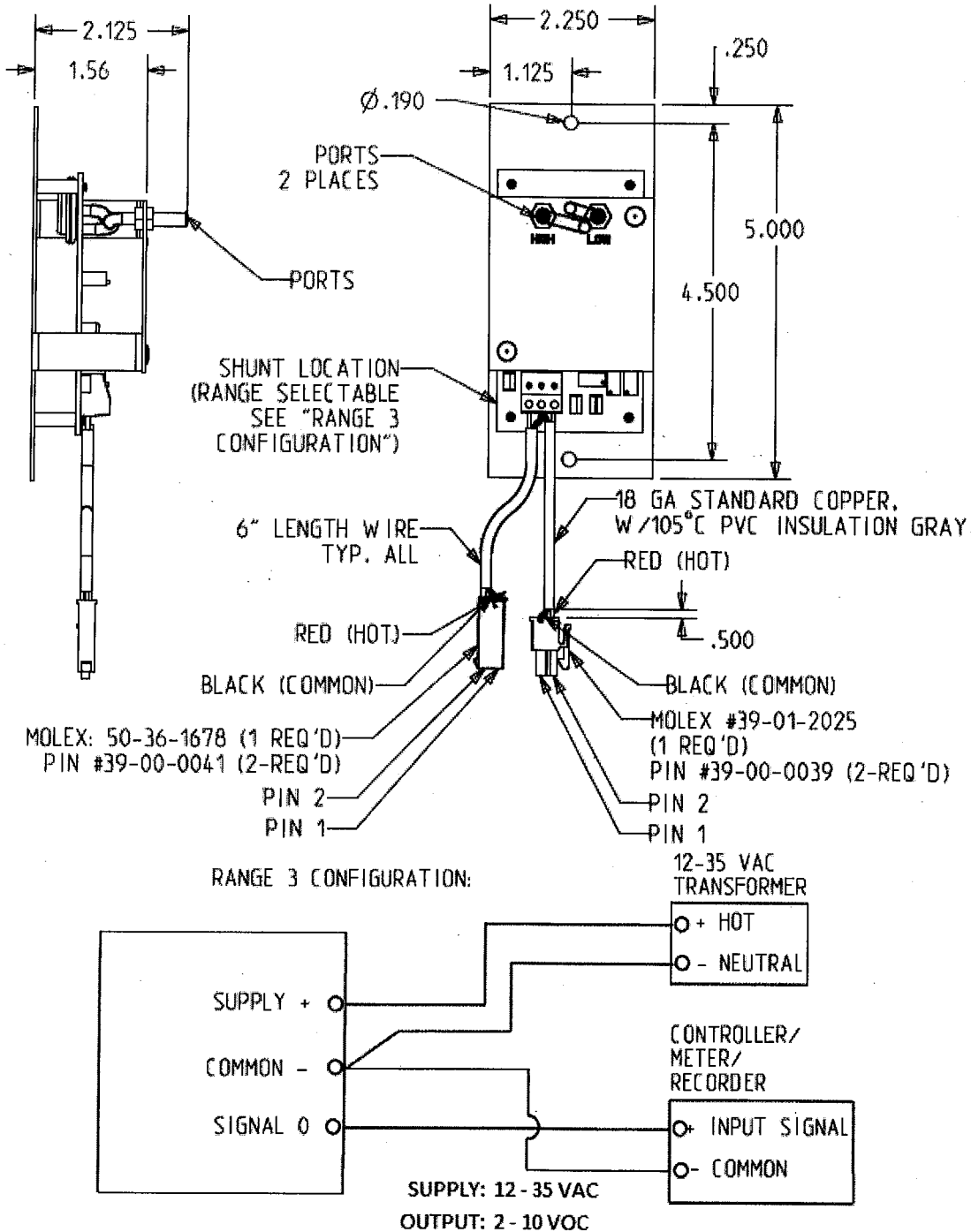
ATTENTION
N'UTILISER QUE DES CONDUCTEURS EN CUIVRE!
LES BORNES DE L'UNITÉ NE SONT PAS CONÇUES POUR ACCEPTER D'AUTRES TYPES DE CONDUCTEURS. L'UTILISATION D'AUTRES TYPES DE CONDUCTEUR PEUT ENDOMMAGER L'ÉQUIPEMENT.

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

Item: A1 - A6 Qty: 6 Tag(s): AHU-75, AHU-76, AHU-77, AHU-78, AHU-79, AHU-80

Flow Meter



NOTE:

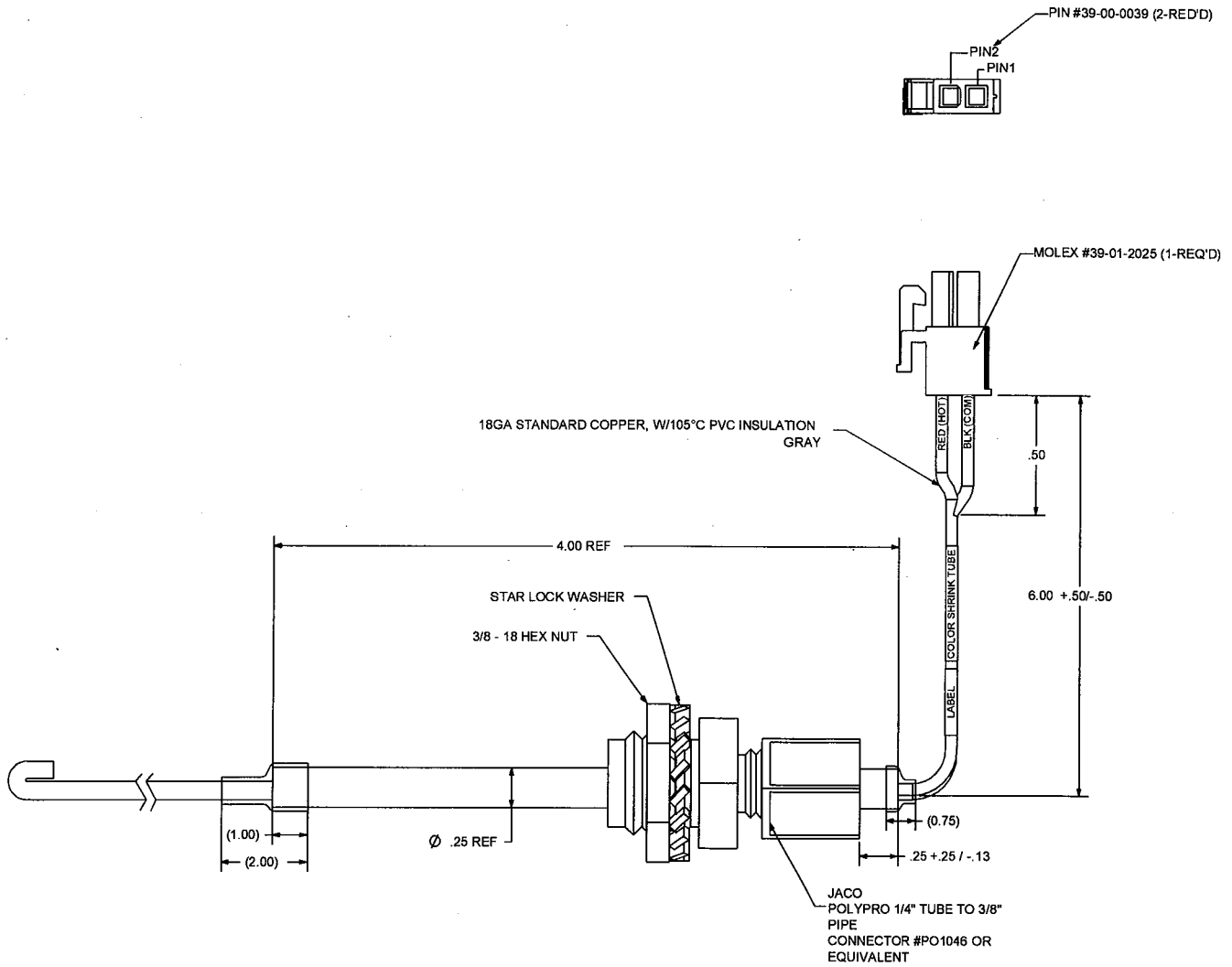
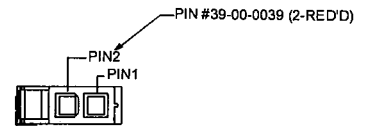
1. OVERPRESSURE: 10 PSID
2. PRESSURE CONNECTIONS 3/16 OD BARBED FITTING FOR 1/4 TUBING
3. OPERATING TEMP RANGE: 0 - 175 F
4. LOAD IMPEDANCE: 1 K OHMS MIN (VDC OUTPUT UNITS)
5. 3 WIRE OUTPUT
6. TERMINATION: UNPLUGGABLE SCREW TERMINAL BLOCK
7. PART TO BE LABELED WITH TRANE P/N
8. PART TO BE LABELED WITH 2D BARCODE PER ES.
9. COATING TO BE APPLIED TO CIRCUIT BOARD AS PER S65380048

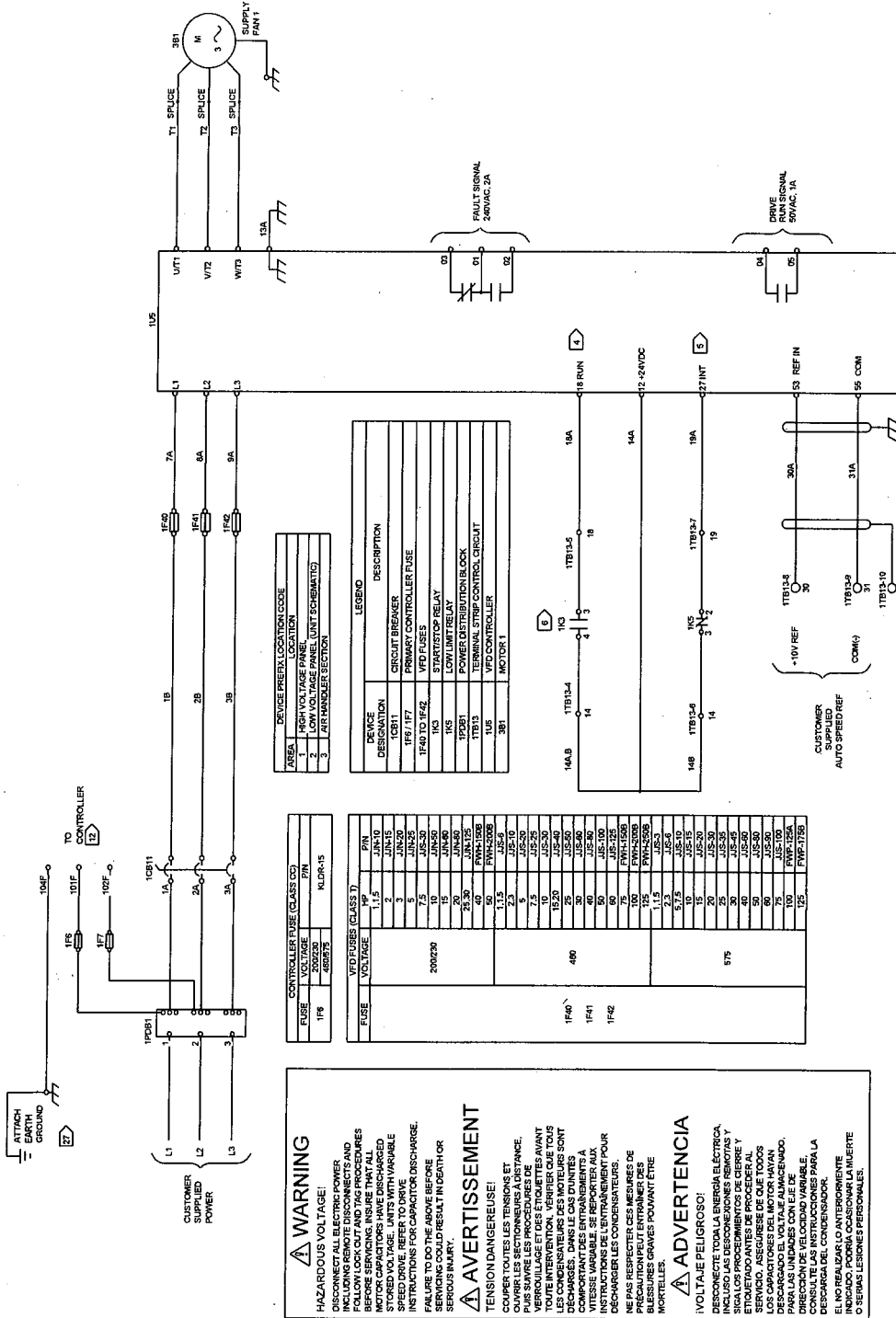
Accessory - Performance Climate Changer

Item: A1 - A6 Qty: 6 Tag(s): AHU-75, AHU-76, AHU-77, AHU-78, AHU-79, AHU-80

Averaging Temperature Sensor

SENSOR ELEMENT	SENSOR RATING	TCR	SHRINK TUBE COLOR
THERMISTOR	20,000 Ω TYPE IV	4140°K NOMINAL	BLUE





AREA	DEVICE	DESCRIPTION
1	1CB11	CIRCUIT BREAKER
2	1F7 / 1F7	PRIMARY CONTROLLER FUSE
3	1F40 TO 1F42	VFD FUSES
4	1K3	START/STOP RELAY
5	1P201	POWER DISTRIBUTION BLOCK
6	1U5	TERMINAL STRIP CONTROL CIRCUIT
7	1U5	VFD CONTROLLER
8	381	MOTOR 1

FUSE	VOLTAGE	AMP	TYPE
1F8	200V-230	400A	NLDR-15
1F7	480V	25A	JUN-10
1F40	200V-230	7.5A	JUN-15
1F41	200V-230	10A	JUN-20
1F42	200V-230	20A	JUN-25
1K3	480V	100A	JUN-100
1P201	480V	100A	JUN-100
381	480V	100A	JUN-100

WARNING
 HAZARDOUS VOLTAGE!
 DISCONNECT ALL ELECTRIC POWER INCLUDING REMOTE DISCONNECTS AND LOCK OUT TAG OUT PROCEDURES BEFORE SERVICING. UNITS WITH STORED VOLTAGE. UNITS WITH VARIABLE FREQUENCY DRIVE REFER TO DRIVE INSTRUCTIONS BEFORE SERVICING. FAILURE TO DO THIS MAY RESULT IN DEATH OR SERIOUS INJURY.

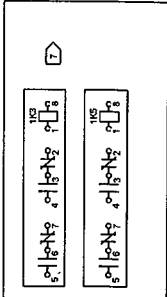
AVERTISSEMENT
 TENSION DANGEREUSE!
 COUPER TOUTES LES TENSIONS ET VERROUILLAGE ET DES ÉTOUILLER AVANT TOUTE INTERVENTION. VÉRIFIER QUE TOUTES LES UNITÉS AVEC TENSION STOCKÉE SONT DÉCHARGÉES, DANS LE CAS D'UNITÉS À COMPORTEMENT D'ENTRAÎNEMENT À VITESSE VARIABLE RÉFÉREZ-VOUS AUX INSTRUCTIONS DE SERVICE POUR DÉCHARGER LES CONDENSATEURS. NE PAS RESPECTER CES MESURES DE PRÉCAUTION PEUT ENTRAINER DES BLESSURES GRAVES POUVANT ÊTRE MORTELLES.

ADVERTENCIA
 ¡VOLTAJE PELIGROSO!
 DESCONECTE TODA LA ENERGÍA ELÉCTRICA, INCLUIDO LAS DESCONEXIONES REMOTAS Y EL BLOQUEO Y ETIQUETADO ANTES DE PROCEDER AL SERVICIO. ASEGURESE DE QUE TODOS LOS CAPACITORES DEL MOTOR HAYAN SIDO DESCARGADOS ANTES DE SERVICIO. PARA LAS UNIDADES CON EJE DE ENTRENAMIENTO DE VELOCIDAD VARIABLE, REFERIRSE A LAS INSTRUCCIONES PARA LA DESCARGA DE LOS CONDENSADORES. EL NO REALIZARLO ANTES DE SERVICIO INDICADO, PODRÁ 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 TERMINAUX DE L'UNITÉ NE SONT PAS CONÇUS POUR RECEVOIR D'AUTRES TYPES DE CONDUCTEURS. L'UTILISATION DE TOUT AUTRE CONDUCTEUR PEUT ENDOMMAGER L'ÉQUIPEMENT.

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.

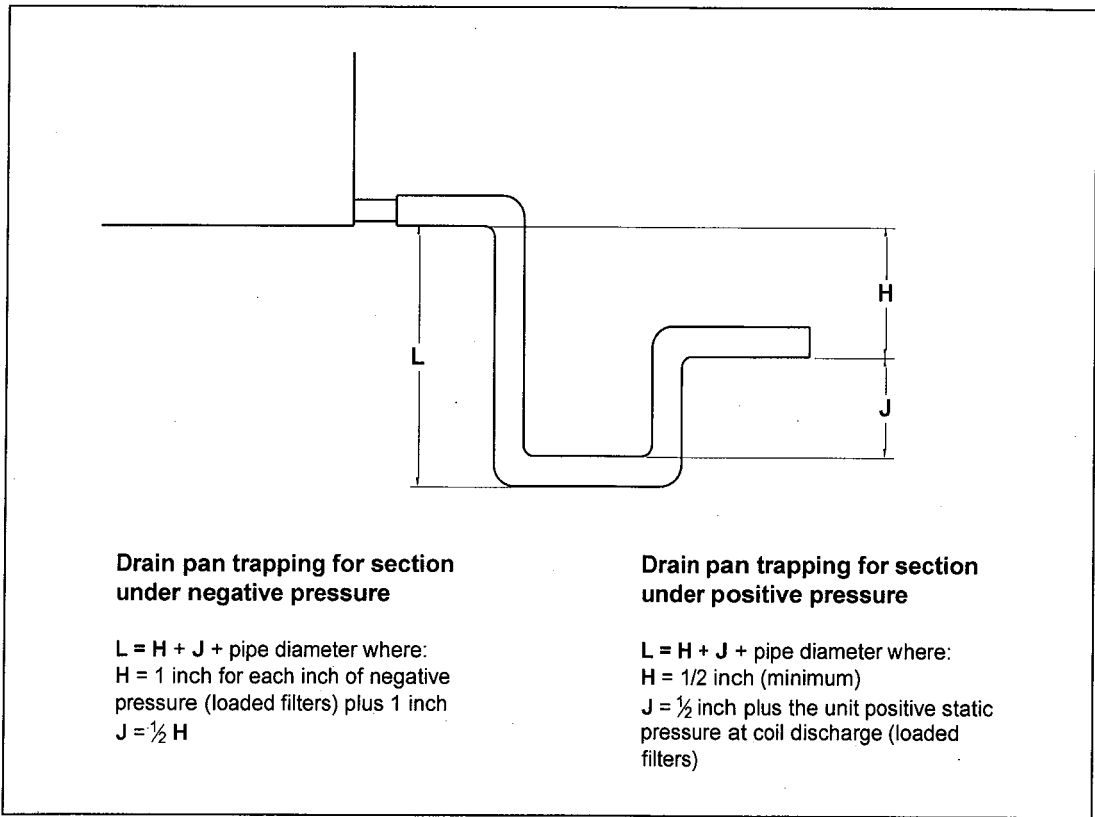


- NOTES:**
- DASHED LINES INDICATE RECOMMENDED FIELD WIRING BY OTHERS. PHANTOM LINES INDICATE CONTROL OPTION. REF. CONTROL PANEL SCHEMATIC FOR SPECIFIC DETAIL.
 - ALL FIELD WIRING MUST BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC) AND ALL APPLICABLE NATIONAL AND/OR LOCAL REQUIREMENTS SHALL APPLY. FIELD CONDUCTORS SHALL HAVE INSULATION RATING NOT LESS THAN 600V COPPER CONDUCTORS ONLY.
 - THE MINIMUM CIRCUIT AMPACITY, THE MAXIMUM FUSE SIZE, AND DISCONNECT SIZE SHALL BE AS SHOWN ON THIS SCHEMATIC. INPUT LINE CURRENTS PER ARTICLE 430.2 OF THE NATIONAL ELECTRICAL CODE.
 - PROGRAM TERMINAL 18 AS RUN.
 - CLOSES TO RUN/AUTO MODE OR BYPASS AUTO FOR OPTION VFD OR STARTER.
 - RELAYS - CONTACTS SILVER-CADMIUM OXIDE, 18 HP 5AMP @ 120V AC, 10 HP 5AMP @ 240V AC. SEE AW SCHEMATIC DIAGRAM FOR COIL CONNECTIONS AND ACTUAL QUANTITY OF TRANSFORMER RELAYS.
 - SHIPPING SPLICING SPLITS WIRING WILL TERMINATE TO MODULE AT EACH SHIPPING SPLIT.
 - ATTACH GROUND OR EQUIPMENT GROUND.

Accessory - Performance Climate Changer

Trap Schedule

Item: A1 - A6 Qty: 6 Tag(s): AHU-75, AHU-76, AHU-77, AHU-78, AHU-79, AHU-80



Unit Tag(s)	Unit Size	Entering Ext. Static Pressure (in H2O)	Discharge Ext. Static Pressure (in H2O)	Drain pan Section Location	Recommended Trap Dimensions ¹			Selected Baseraill Height (in) ¹
					H (in)	J (in)	L (in)	
AHU-75 ²	Unit size 50	0.900	0.900	Coil section [6]	0.500	1.589	3.339	8.000
AHU-76 ²	Unit size 50	1.000	1.000	Coil section [6]	0.500	1.613	3.363	8.000
AHU-77 ²	Unit size 50	1.000	1.000	Coil section [6]	0.500	1.607	3.357	8.000
AHU-78 ²	Unit size 50	1.150	1.150	Coil section [6]	0.500	1.737	3.487	8.000
AHU-79 ²	Unit size 30	1.150	1.150	Coil section [6]	0.500	1.697	3.197	8.000
AHU-80 ²	Unit size 12	0.500	0.500	Coil section [5]	0.500	1.073	2.573	8.000

¹ To ensure proper condensate trapping the field installed housekeeping pad height is the responsibility of the contractor.

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 - A6 Qty: 6 Tag(s): AHU-75, AHU-76, AHU-77, AHU-78, AHU-79, AHU-80

Unit Tag(s)	Unit Size	Filter Location	Filter Arrangement	Filter Depth	Filter Type	MERV Rating	Filter Quantity	Filter Size
AHU-75	Unit size 50	Filter section [2]	Front load filter	4" Front load filter frame	No prefilter	MERV 14	5	12in.x24in.
					4in. cartridge-premium - run set		10	24in.x24in.
AHU-76	Unit size 50	Filter section [2]	Front load filter	4" Front load filter frame	No prefilter	MERV 14	5	12in.x24in.
					4in. cartridge-premium - run set		10	24in.x24in.
AHU-77	Unit size 50	Filter section [2]	Front load filter	4" Front load filter frame	No prefilter	MERV 14	5	12in.x24in.
					4in. cartridge-premium - run set		10	24in.x24in.
AHU-78	Unit size 50	Filter section [2]	Front load filter	4" Front load filter frame	No prefilter	MERV 14	5	12in.x24in.
					4in. cartridge-premium - run set		10	24in.x24in.
AHU-79	Unit size 30	Filter section [2]	Front load filter	4" Front load filter frame	No prefilter	MERV 14	2	24in.x12in.
					4in. cartridge-premium - run set		6	24in.x24in.
AHU-80	Unit size 12	Filter section [2]	Front load filter	4" Front load filter frame	No prefilter	MERV 14	1	24in.x12in.
					4in. cartridge-premium - run set		2	24in.x24in.

Field Wiring - Performance Climate Changer**MCA MOP Schedule****Item: A1 - A6 Qty: 6 Tag(s): AHU-75, AHU-76, AHU-77, AHU-78, AHU-79, AHU-80**

Unit Tag(s)	Circuit	Circuit Description	Voltage/Phase/Hz	MCA (A)	MOP (A)
AHU-75, AHU-76, AHU-77, AHU-78 ³	1	Supply fan + controls-LL + lights+switch	460/3/60	51.30	90.00
AHU-79 ³	1	Supply fan + controls-LL + lights+switch	460/3/60	27.55	45.00
AHU-80 ³	1	Supply fan + controls-LL + lights+switch	460/3/60	11.55	15.00

³ To maintain the 65kA short circuit current rating (SCCR) with the single point power selection, dedicated class J or T fusing needs to be field installed. There is a maximum allowable fuse size as follows: 150 amps (conductor size 1-6) or 200 amps (conductor size 2/0-6) for a 65 A or less supply panel FLA, 200 amps (conductor size 2/0-6) or 400 amps (conductor size 400-3/0) for a 65.01 A to 90 A supply panel FLA, and 200 amps (conductor size 2/0-4) or 600 amps (conductor size 500-3/0) for a 90.01 A to 160 A supply panel FLA.

Field Installed Options - Part/Order Number Summary

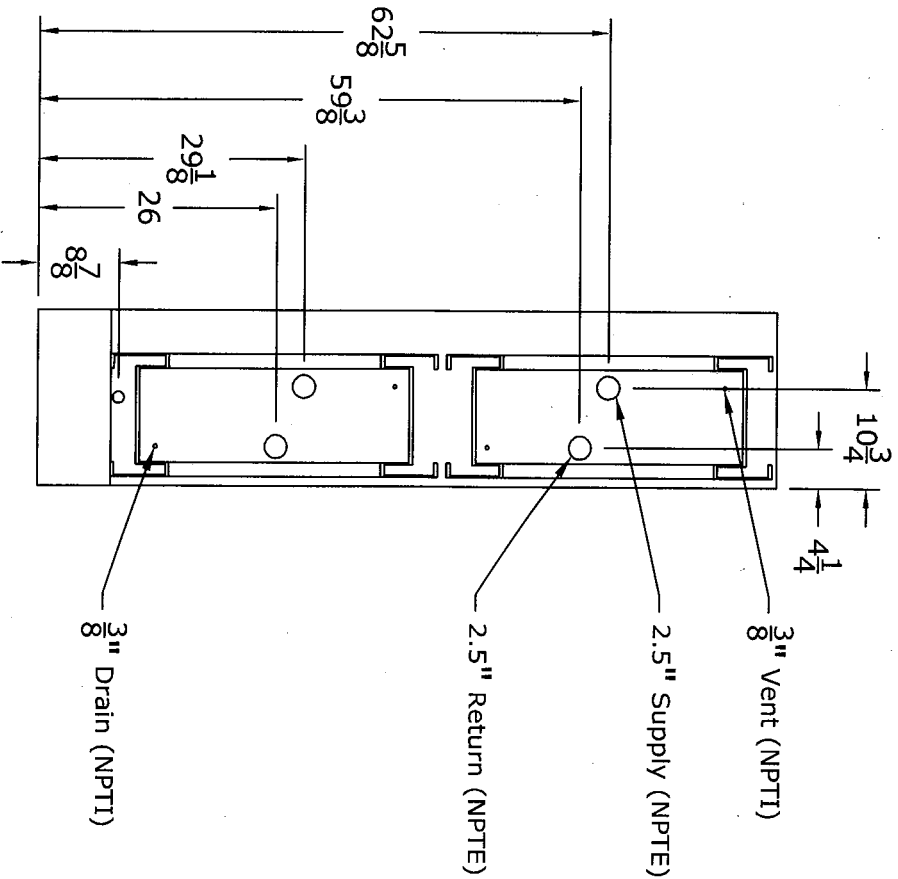
This is a report to help you locate field installed options that arrive at the jobsite. This report provides part or order numbers for each field installed option, and references it to a specific product tag. It is NOT intended as a bill of material for the job.

Product Family - Performance Climate Changer

Item	Tag(s)	Qty	Description	Model Number
A1	AHU-75	1	Performance Climate Changer (CSAA)	CSAA050UA
A2	AHU-76	1	Performance Climate Changer (CSAA)	CSAA050UA
A3	AHU-77	1	Performance Climate Changer (CSAA)	CSAA050UA
A4	AHU-78	1	Performance Climate Changer (CSAA)	CSAA050UA
A5	AHU-79	1	Performance Climate Changer (CSAA)	CSAA030UA
A6	AHU-80	1	Performance Climate Changer (CSAA)	CSAA012UA

Field Installed Option Description	Part/Ordering Number
4in. cartridge- premium - run set	

Coil View



EQUIPMENT LIST

1. Opening Top 28" x 64".
2. Support Beam (3).
3. External Unit Controller RH.
4. Cooling Coil 8 Row UU RH Conn. & RH Dr. Pan.
5. 1.25" N.P.T.E. (2).
6. Plenum Fan 18.25" SDDP Full width Supply Fan 7.5 HP 460/3.
7. External VFD RH.
8. Light Switch and/or Receptacle RH.
9. 4" Front Loading Filters.
10. Opening Top 20" x 50".
11. Opening Back 30" x 60".
12. Marine Light (4).

- Doors:
- (2) 18" x 66" Door RH
 - (1) 20" x 69" Door RH
 - (1) 23" x 69" Door RH
 - (1) 20" x 69" Door LH

Revision:	Date:	Rev. By:
Original	10/2/2015	TIS
A Revision	10/6/2015	TIS
B Revision	10/14/2015	TIS
C Revision	10/28/2015	TIS

Note: All Dimensions Are In Inches
 Drawn By: TIS
 Date: 10/28/2015
 Scale: Not to Scale
 Approved By:

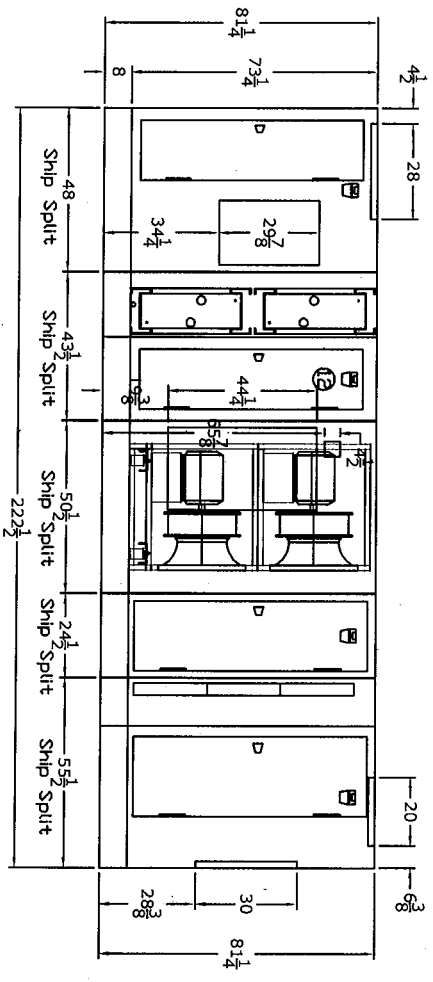
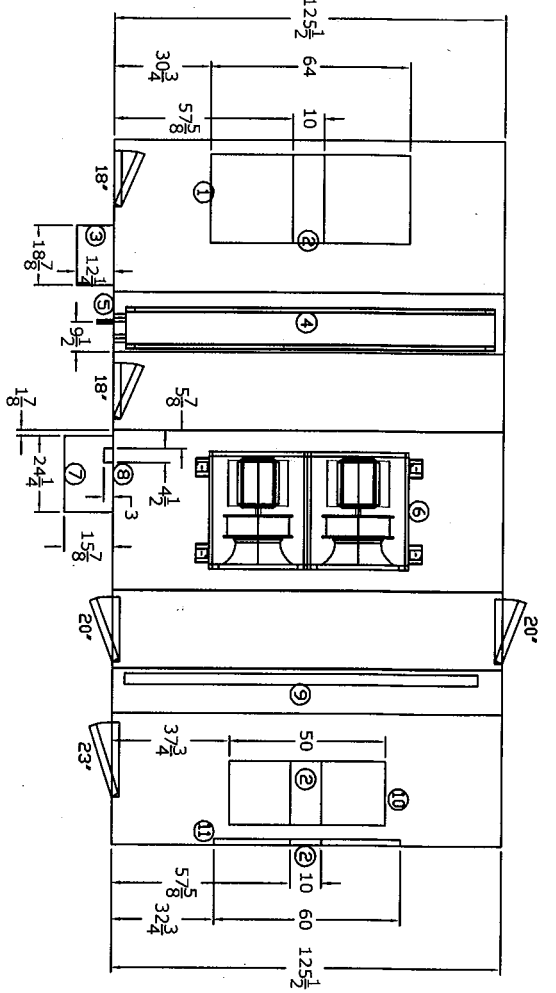
NOTE: Combined Shipping Split Lengths Differ From Overall Unit Length.
 Add 1/8" Between Each Split To Get The Overall Unit Length.

Unit Size: #50
 Product Group: Indoor Unit
 Unit Tag: AHU-76
 Integral Base Frame: 8" Integral Base Frame
 Unit Casing: 2" Double Wall

Job Name: OCCC West Concourse D Replacement
 Sales Office: Orlando (H3)
 Airtlow: 19895 CFM
 Paint: Unpainted

Performance Climate Changer™
 Lexington Special Submittals
 Air Handlers

Elevation View/Plan View



EQUIPMENT LIST

1. Opening Top 28" x 64".
2. Support Beam (3).
3. External Unit Controller RH.
4. Cooling Coil 8 Row UJ RH Conn. & RH Dr. Fan.
5. 1.25" N.P.T.E. (2).
6. Plenum Fan 18.25" SDDP Full width Supply Fan 7.5 HP 460/3.
7. External VFD RH.
8. Light Switch and/or Receptacle RH.
9. 4" Front Loading Filters.
10. Opening Top 20" x 50".
11. Opening Back 30" x 60".
12. Marine Light (4).

- Doors:
- (2) 18" x 66" Door RH
 - (1) 20" x 69" Door RH
 - (1) 23" x 69" Door RH
 - (1) 20" x 69" Door LH

Revision:	Date:	Rev. By:
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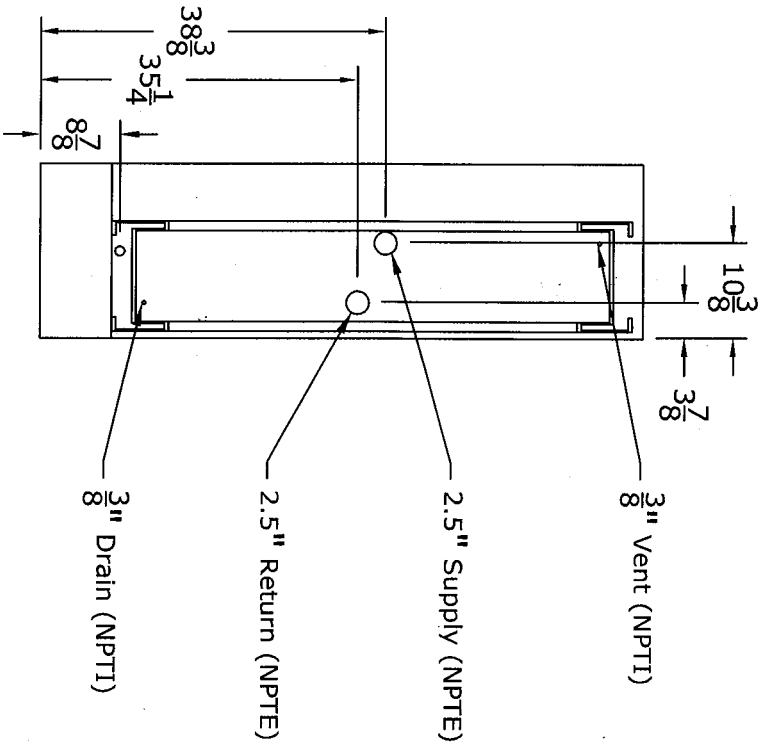
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OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES

Unit Size: #50	Job Name: OCCC West Concourse D Replacement
Product Group: Indoor Unit	Sales Office: Orlando (H3)
Unit Tag: AHU-76	Paint: Unpainted
Integral Base Frame: 8" Integral Base Frame	Airflow: 19895 CFM
Unit Casing: 2" Double Wall	

Lexington Special
 Submittals
 Performance Climate Changer™
 Air Handlers

Coil View



NOTE: Combined Shipping Split Lengths Differ From Overall Unit Length.
Add 1/8" Between Each Split To Get The Overall Unit Length.

OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES

Unit Size: #30
Product Group: Indoor Unit
Unit Tag: AHU-79
Integral Base Frame: 8" Integral Base Frame
Unit Casing: 2" Double Wall

Job Name: OCCC West Concourse D Replacement
Sales Office: Orlando (H3)
Airflow: 13145 CFM
Paint: Unpainted

EQUIPMENT LIST

- Opening Top 24" x 64".
 - External Unit Controller RH.
 - Cooling Coil 8 Row UU RH Conn. & RH Dr. Pan.
 - 1" N.P.T.E.
 - Plenum Fan 22.25" DDP Full width Supply Fan 7.5 HP 460/3.
 - External VFD RH.
 - Light Switch and/or Receptacle rh.
 - 4" Front Loading Filters.
 - Opening Top 24" x 82".
 - Marine Light (4).
- Doors:
- (2) 18" x 52" Door RH
 - (1) 20" x 55" Door RH
 - (1) 23" x 55" Door RH

Revision:	Date:	Rev By:
- Original	10/2/2015	TIS
A Revision	10/6/2015	TIS
C Revision	10/28/2015	TIS

Note: All Dimensions Are In Inches

Drawn By: TIS

Date: 10/28/2015

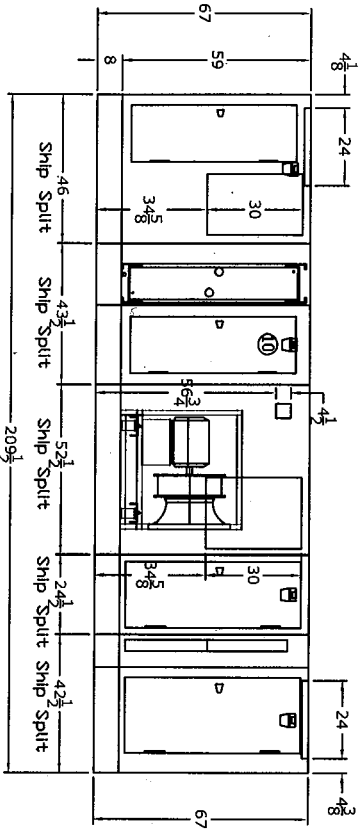
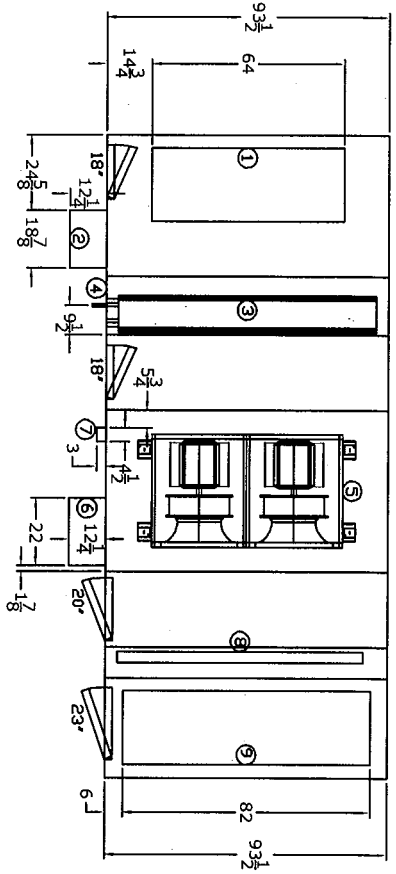
Scale: Not to Scale

Approved By:

TRANE[®]
Performance Climate Changer™
Air Handlers

Lexington Special Submittals

Elevation View/Plan View



EQUIPMENT LIST

1. Opening Top 24" x 64"
 2. External Unit Controller RH.
 3. Cooling Coil 8 Row UU RH Conn. & RH Dr.Pan.
 4. 1" N.P.T.E.
 5. Plenum Fan 22.25" DDP Full width Supply Fan 7.5 Hp 460/3.
 6. External VFD RH.
 7. Light Switch and/or Receptacle RH.
 8. 4" Front Loading Filters.
 9. Opening Top 24" x 82".
 10. Marine Light (4).
- Doors:
- (2) 18" x 52" Door RH
 - (1) 20" x 55" Door RH
 - (1) 23" x 55" Door RH

Revisions:	Date:	Rev By:
-	Original	10/27/2015 TIS
A	Revision	10/6/2015 TIS
C	Revision	10/28/2015 TIS
-	-	-
-	-	-

Note: All Dimensions Are In Inches
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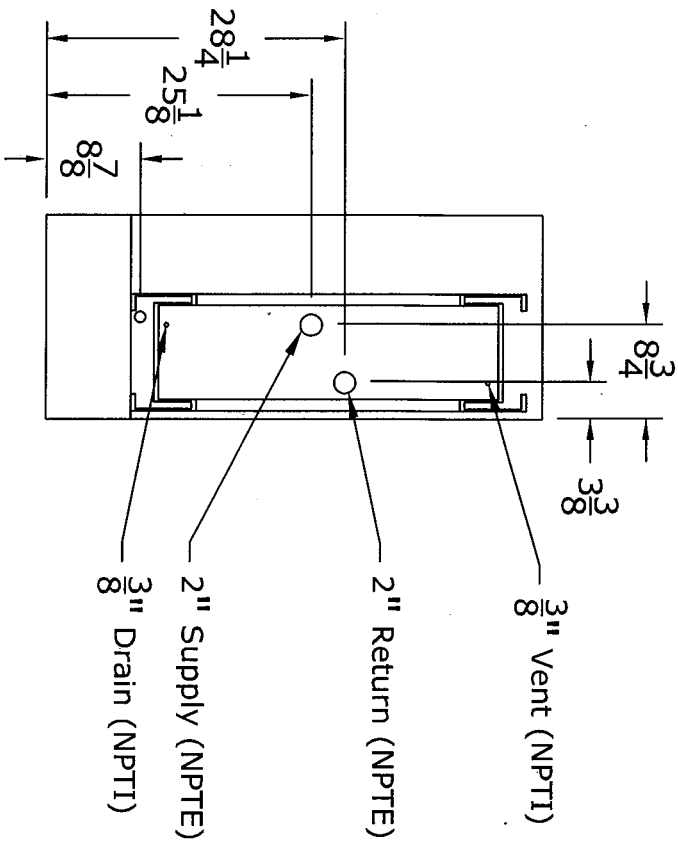
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OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES

Unit Size: #30	Job Name: OCCC West Concourse D Replacement
Product Group: Indoor Unit	Sales Office: Orlando (H3)
Unit Tag: AHU-79	Airflow: 13145 CFM
Integral Base Frame: 8" Integral Base Frame	Paint: Unpainted
Unit Casing: 2" Double Wall	

TRANE
 Performance Climate Changer™
 Lexington Special Submittals
 Air Handlers

Coil View



EQUIPMENT LIST

1. Opening Top 14" x 28".
 2. External Unit Controller Front LH.
 3. Cooling Coil 6 Row UU LH Conn. & LH Dr. Pan.
 4. 1" N.P.T.E.
 5. Plenum Fan 22.25" DDP 80% width Supply Fan 5 HP 460/3.
 6. External VFD LH.
 7. Light Switch and/or Receptacle LH.
 8. 4" Front Loading Filters.
 9. Opening Top 15" x 55".
 10. Marine Light (4).
- Doors:
- (1) 16" x 32" Door LH
 - (2) 17" x 35" Door LH
 - (1) 22" x 35" Door LH

Revision:	Date:	Rev By:
- Original	10/2/2015	TIS
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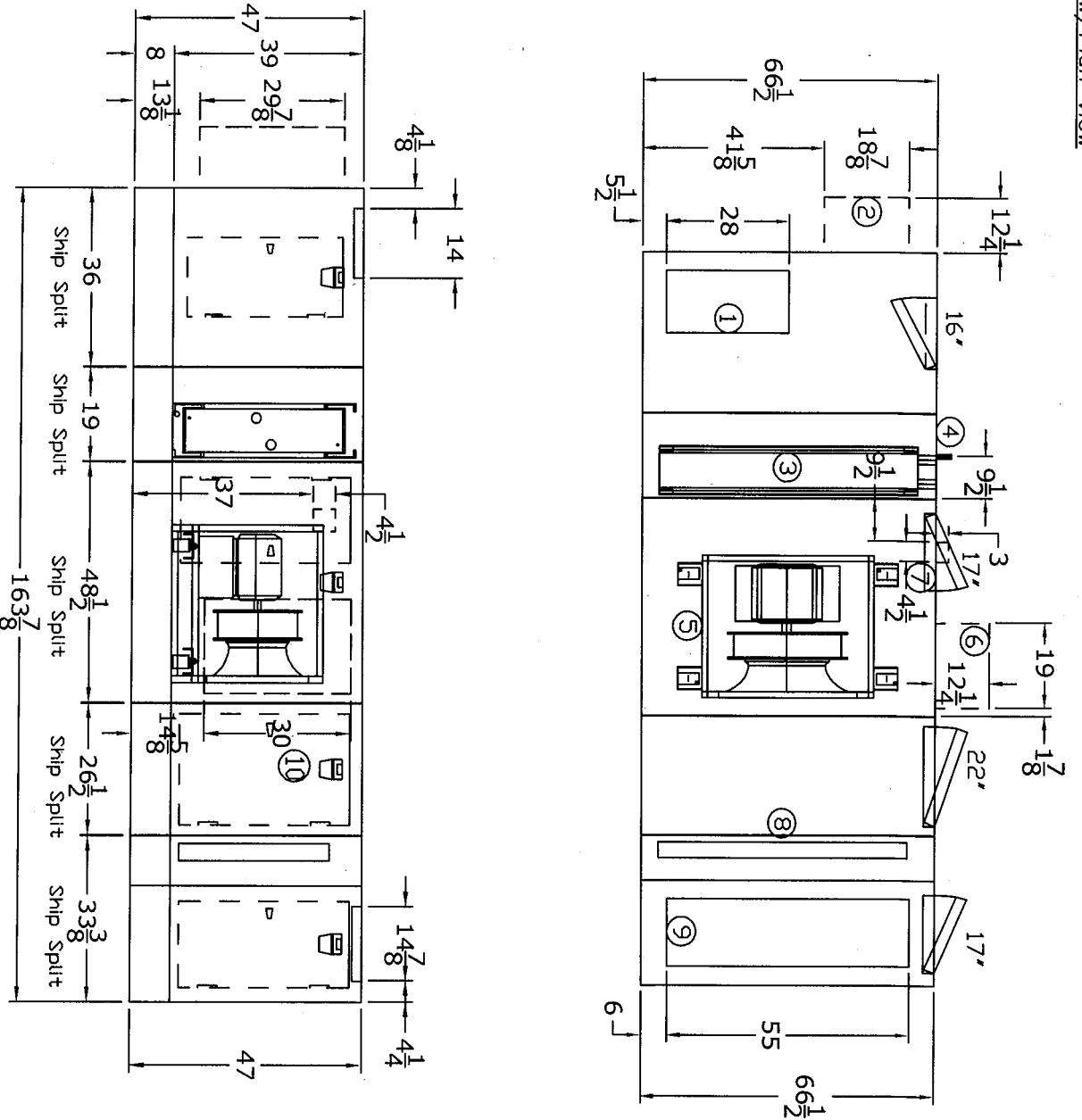
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OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES

Unit Size: #12	Job Name: OCCC West Concourse D Replacement
Product Group: Indoor Unit	Sales Office: Orlando (H3)
Unit Tag: AHU-80	Airflow: 4180 CFM
Integral Base Frame: 8" Integral Base Frame	Paint: Unpainted
Unit Casing: 2" Double Wall	

Lexington Special Submittals
Performance Climate Changer™
Air Handlers

Elevation View/Plan View



EQUIPMENT LIST

1. Opening Top 14" x 28"
 2. External Unit Controller- Front LH.
 3. Cooling Coil 6 Row UU LH Conn. & LH Dr. Pan.
 4. 1" N.P.T.E.
 5. Plenum Fan 22.25" DDP 80% width Supply Fan 5 Hp 460/3.
 6. External VFD LH.
 7. Light Switch and/or Receptacle LH.
 8. 4" Front Loading Filters.
 9. Opening Top 15" x 55".
 10. Marine Light (4).
- Doors:
- (1) 16" x 32" Door- LH
 - (2) 17" x 35" Door- LH
 - (1) 22" x 35" Door- LH

NOTE: Combined Shipping Split Lengths Differ From Overall Unit Length.
Add 1/8" Between Each Split To Get The Overall Unit Length.

Revisions:	Date:	Rev. By:
- Original	10/2/2015	TIS
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OPENING AND DIMENSIONS MAY VARY FROM CONTRACT DOCUMENTS / RETURN OF APPROVED DRAWINGS CONSTITUTES ACCEPTANCE OF THESE VARIANCES

Unit Size: #12	Job Name: OCCC West Concourse D Replacement
Product Group: Indoor Unit	Sales Office: Orlando (H3)
Unit Tag: AHU-80	Airflow: 4180 CFM
Integral Base Frame: 8" Integral Base Frame	Paint: Unpainted
Unit Casing: 2" Double Wall	

TRANE
Performance Climate Changer™
Lexington Special Submittals
Air Handlers

LEVEL III

Chapin Theater (W320)

- 2,643 seats (1,696 seats on Level III)
- 4 dressing rooms, plus one green room
- 97,000 watt audio system and extensive in-house lighting
- Full proscenium stage with fly system

Meeting Rooms

Total Meeting Room Space

97,675 square feet

- 19 meeting rooms/58 breakouts

Lecture Hall (W300)

- 160 seats

Full-service restaurant

- Osprey Café

7 Show Manager Offices

(Overlooking exhibit hall floors)

The West Building's 160-seat lecture hall offers translation booth capabilities, a permanent curtained stage and green room.

The 2,643-seat Chapin Theater functions as a venue for entertainment, general sessions and product launches.



The Westwood Lobby entrance offers direct access from the parking lot into the facility and an alternate entrance to the Chapin Theater.

