



SPC Mechanical
 10125 Berkeley Pl Dr
 Charlotte, NC 28262

Submittal

WR2310-S081.1 Submittal

REVIEW DATE:

PROJECT NAME:

JOB NUMBER:

ARCHITECT:

ENGINEER:

PRODUCT/MATERIAL ID:

SPEC. SECTION/PARAGRAPH NO.:

SUBCONTRACTOR/SUPPLIER:

NOTES:

ARCHITECT/ENGINEER REVIEW/APPROVAL	SPC REVIEW/APPROVAL
<div style="border: 1px solid green; background-color: #e0ffe0; padding: 5px; width: fit-content;">BCU-63 THRU 81 PAGE 7</div>	<input type="checkbox"/> No Exceptions Taken
	<input type="checkbox"/> Exceptions Indicated
	<input type="checkbox"/> Rejected - Revise & Resubmit
<p>SPC'S REVIEW IS FOR CONFORMANCE WITH THE GENERAL DESIGN CONCEPT AND FOR GENERAL ARRANGEMENT ONLY. REVIEW SHALL NOT BE CONSTRUED TO MEAN THAT SPC ACCEPTS ANY DEVIATIONS FROM THE CONTRACT DOCUMENTS UNLESS NOTED AND APPROVED BY SPC AND BY THE ARCH/ENG. SUPPLIER IS RESPONSIBLE FOR ERRORS OR OMISSIONS IN THE SHOP DRAWINGS, FOR MEETING ALL REQUIREMENTS OF THE CONTRACT DOCUMENTS, FOR CONFIRMING AND CORRELATING JOBSITE DIMENSIONS, FOR INFORMATION THAT PERTAINS SOLELY TO FABRICATION PROCESSES OR TO TECHNIQUES OF CONSTRUCTION, AND FOR COORDINATION OF THE WORK, EQUIPMENT AND/OR SUPPLIES ALL MATERIAL MUST BE SHIPPED AS PER SPC PURCHASE ORDER</p>	



EQUIPMENT SUBMITTAL FOR APPROVAL

PROJECT: AESC Battery Manufacturing Plant

LOCATION: Florence, SC



Note: Picture is example only – see submittal for drawings

EQUIPMENT	Semi-Custom Air Handling Units
UNIT TAGS	VARIOUS
QUANTITY	18
SPEC SECTION	23 7313

SOLD TO:
SPC Mechanical

CONSULTANT:
I.C.Thomasson Associates

PREPARED BY:
Johnson Controls, Inc.

DATE:
August 27, 2024

REVISION:
1



Bill of Material and Scope Details

Product Type: Semi-Custom Air Handling Units

Unit Tags: Various

BILL OF MATERIAL:

<u>ITEM</u>	<u>QTY.</u>	<u>DESCRIPTION</u>	<u>TAG</u>
A.	18	<u>BYPASS COOLING UNITS (YORK BASIS OF DESIGN)</u>	BCU-63 ~ BCU-81

A. BYPASS COOLING UNITS

Furnish Eighteen (18) Indoor Air Handling Units with 460/3/60 power furnished with the following sections:

- ❖ Filter Section
- ❖ Cooling coil
- ❖ Supply Fan
- ❖ Access Segment
- ❖ HEPA Filter Section

FURNISHED WITH THE FOLLOWING FEATURES AND ACCESSORIES:

- ❖ Unit Options:
 - Unit casing deflection no greater than L/240 at 8" of static pressure
 - Maximum leakage of 1% at 8" of static pressure
 - **STAINLESS STEEL INTERIOR LINER**
 - **STAINLESS STEEL FLOOR**
 - 2" double wall construction
 - **CHAMPAGNE URETHANE EXTERIOR PAINT**
 - 6" base rail
 - Vapor proof LED lights
- ❖ Filter Segment:
 - Two (2) sets of 4" MERV 11 pleated filters
 - Two (2) sets of MERV 17 HEPA filters
 - Magnehelic filter gauge
- ❖ Cooling coil segment:
 - Stainless steel bulkhead, support, and casings
 - Stainless steel drain pan
- ❖ Supply Fans:
 - Direct drive plenum fan array
 - Premium efficiency motors
 - **One (1) VFD per fan (2 VFDs Total)**
- ❖ Start-Up & Warranty:
 - JCI Factory Startup
 - Standard Eighteen (18) month parts and labor warranty from shipment or twelve (12) months from startup, whichever occurs first.
 - **ADDITIONAL 1 YEAR OF PARTS AND LABOR WARRANTY (2 YEARS TOTAL) TO EXTEND WARRANTY THROUGH 1 YEAR POST SUBSTANTIAL COMPLETION**

To:	SPC Mechanical
Re:	AESC SC2 - Envision Battery Plant Florence, South Carolina
Date:	6/13/2024
Quote Based on Plans Dated:	4/15/2024 – PERMIT

A. BYPASS COOLING UNITS

TAG: BCU-63-81

- ❖ Provide additional unit BCU-63-81:
 - Same construction and performance as others, No Cooling Coil
-



Performance Ratings & Unit Drawings

Product Type: Semi-Custom Air Handling Units

Unit Tags: Various

Job Summary

Project Name:	Envision 2 - South Carolina		
Unit Tag(s):	BCU-63, BCU-64, BCU-65, BCU-66, BCU-67, BCU-68, BCU-69, BCU-70, BCU-71, BCU-72, BCU-73, BCU-74, BCU-75, BCU-76, BCU-77, BCU-78, BCU-79, BCU-80, BCU-81		
Quantity:	19	Environment:	Indoor



Unit Overview

Model	Airflow (CFM)	Altitude (ft)	Weight (lbs)
XTI-72x126	22,500	0	5,278

Segment Sequence

(HF XA FS)(AF)

Unit Construction

Casing Details

Segment(s)	Thickness (in)	Exterior Paint	Exterior Gauge and Material	Interior Gauge and Material	Insulation Thickness and Material	Mylar Lining	Thermal Break	Bulkhead Material
XA	2"	Champagne Urethane 3,500 Hr	18 Ga. G-90 Galvanized	20 Ga. 304 Stainless	2" Foam	-	-	None
AF, FS, HF	2"	Champagne Urethane 3,500 Hr	18 Ga. G-90 Galvanized	20 Ga. 304 Stainless	2" Foam	-	-	Galvanized Steel

Base Details

Segment(s)	Material	Paint
AF, FS, XA, HF	6" Formed Steel	None

Floor Details

Segment(s)	Gauge and Material	Paint	Insulation	Thermal Break	Attachment	Sub-Floor Gauge and Material
AF, FS, XA, HF	20 Ga. 304 Stainless	None	2"	-	Screw Down	None

Notes

Enhanced Thermal Performance construction.

Unit Electrical

Circuit Details

#	Component(s)	V/Ph/Hz	Full Load Amps (FLA)	Minimum Current Ampacity (MCA)	Maximum Overcurrent Protection (MOP)
1	Main Disconnect (on FS), FS VFD-1 (on FS), FS VFD-2 (on FS)	460/3/60	36	40.5	50
2	Light Switch (on FS)	120/1/60	-	-	15

Electrical Details

Minimum Unit SCCR	5 kA rms Symmetrical	ETL Label (UL1995/NEC-2002)	Yes
Unit Light Type	LED	Light Switch Enclosure	Indoor

Supply Fan(s)

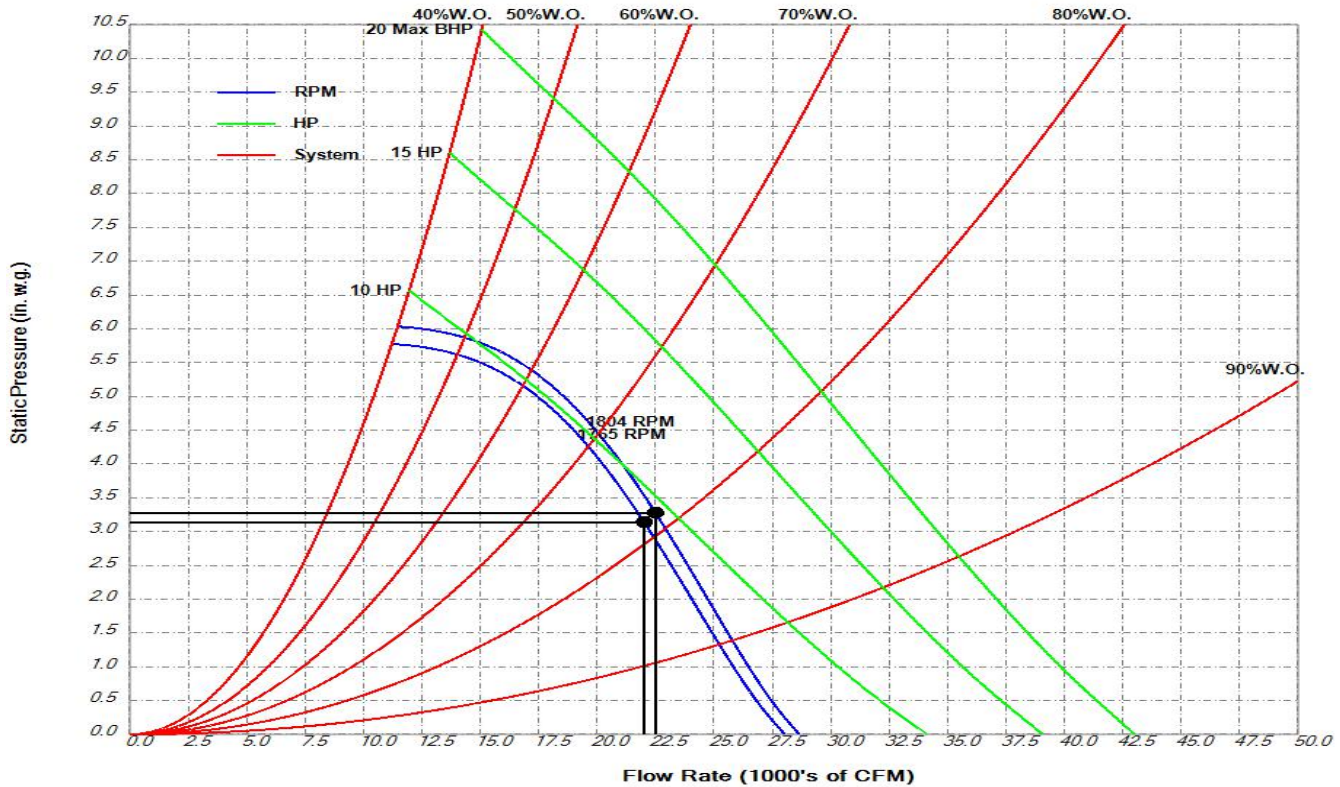
Performance Details													
Fan Manufacturer	Model	# Blades	Class	Size	% Wheel Width	% Wheel Diameter	Quantity	Airflow per Fan (CFM)	Altitude (ft)	TSP (in w.g.)	ESP (in w.g.)	Fan Speed (RPM)	Fan Power (BHP)
Lau	DDPG2	9	II	245	100	100	2	11,250	0	3.28	1.00	1,804	9.49
Max RPM	Wheel Type	Blade Type	Wheel Material	Base Material		Fan Flow Isolation	AirFlow Monitoring	Inverter Drive Balancing	Isolation Type	Thrust Restraints			
2,269	SWSI	Airfoil	Aluminum	Galvanized Steel		None	Yes (K=3092.00)	-	2" Spring	Yes			
Drive Type	FEI	FEP (KW)	Inlet Screen	Fan Cage	Fan Stand	Motor Removal Rail	Seismic Snubber						
Direct Drive	1.16	15.81	-	-	-	-	-						

Motor Details										
Type / MFG	Motor Power (HP)	V/Ph/Hz	Quantity	Insulation Class	RPM	Frame Size	FLA (Amps)	Efficiency	Location	SGR
ODP / Baldor	15.0	460/3/60	2	H	1,800	254T	18.00	Premium	Left	Yes

At Motor Synchronous Details			
TSP (in w.g.)	Total Air Flow (CFM)	Fan Speed (RPM)	Fan Power (BHP)
3.14	11,007	1,765	8.89

Notes

Certified by the AHRI Central Station Air-Handling Unit (AHU) Certification Program, based on AHRI Standard 430/431. AHRI certified units are subject to rigorous and continuous testing, have performance ratings independently measured and are third-party verified. Certified units may be found in the AHRI Directory at www.ahridirectory.org



Filter(s)

Details								
Segment	Type	Depth	Filter Loading	Media/MERV	# of Spares	Spare Filter Media	Frame Material	
AF	Primary Filter	4"	Side	Mini Pleat 60% Efficiency (MERV 11)	1	Mini Pleat 60% Efficiency (MERV 11)	Galvanized Steel	
HF	Primary Filter	11.5	Upstream	HEPA 99.97% Efficiency (Gasket Seal)	1	HEPA 99.97% Efficiency	Galvanized Steel	

Sizes						Filter Gauge Details		
Segment	Filter	1 st Filter Size H x W (in)	1 st Qty	2 nd Filter Size H x W (in)	2 nd Qty	Location	Type	Range (in w.g)
AF	Primary Filter	16x20	36	-	-	Door	Magnehelic with Flag	0 - 2.0
HF	Primary Filter	19.375x23.375	12	19.375x19.375	3	Door	Magnehelic with Flag	0 - 2.0

Notes

HEPA filters are sized as listed above (actual). All other filter types shown are nominal size.

Door(s)

Details												
Segment(s)	Location	Swing	Hinge Location	H x W x T (in)	View Port	ViewPort Wire	Test Port	Spare Gasket	Thermal Break	Fastener Type	Safety Latch	Noncontact Safety Interlock
AF	Left	Outward	Front	66 x 18 x 2	None	-	-	-	-	Plated	-	-
AF	Right	Outward	Front	66 x 18 x 2	None	-	-	-	-	Plated	-	-
FS	Left	Outward	Rear	66 x 19 x 2	None	-	-	-	-	Plated	Yes	-
XA	Left	Outward	Front	66 x 18 x 2	None	-	-	-	-	Plated	Yes	-

Motor Control(s)

VFD Details										
Segment	Type	V/Ph/Hz	Input/Output Amps*	Efficiency (%)	Heat Loss (at 100% load)	Enclosure	Bypass	Disconnect Type	RFI/EMI EMC Filter	
FS	AYK-580	460/3/60	23/23	98	322	NEMA 1	-	Fused	Yes	
FS	AYK-580	460/3/60	23/23	98	322	NEMA 1	-	Fused	Yes	

Notes (ABB VFD)

*Drives are rated for use below 3,000 ft and 104°F. Refer to the Air-Mod Engineering Guide Form 100.42-EGI (813) for additional information. Drives are current rated devices. The HP ratings provided are for reference only and are based on typical 4-pole motors at nominal voltages (NEC Table 430-150). If full motor torque is required, ensure the drive has a continuous current rating equal to, or greater than, the full load amp rating of the motor.

Storage Temperature: -40°F to 158°F (-40°C to 70°C).

Ambient Operating Temperature: Temperate 5°F to 104°F (-15°C to 40°C). De-rating to operate at 122°F (50°C).

Relative Humidity: 5% to 95% non-condensing. Maximum relative humidity is 60% in the presence of corrosive gasses.

Altitude: 100% Load Capacity (No De-rating) up to 3,300 ft. (1,000 m). 1% derating for each 330 ft. above 3,300 ft. Installations above 6,600ft. (2,000 m) require review.

If 8KHZ Switching Frequency is used, de-rate output current to 80%.

Overload Current Rating: 110% for 1 minute every 10 minutes and is capable of 130% short term-overload rating for 2 seconds our of each minute. If applicable, motor overload protection in the bypass mode is provided by a Class 20 motor overload relay.

The customer is responsible for providing either a platform/catwalk or portable means to access the VFD when the VFD is installed where the center of the handle of the disconnecting means in its uppermost position is greater than 78" above the finished floor.

Input line Impedance: 5% Equivalent Input Impedance with internal reactor(s). Patented swinging choke design for superior harmonic mitigation.

Use Copper Conductors Only. Do not use aluminum wire.

Face Velocity and Static Pressure

Summary						
Segment	Description	Face Area (ft ²)	Airflow (CFM)	Face Velocity (ft/min)	Supply Fan Static Pressure (in w.g.)	Exhaust/Return Fan Static Pressure (in w.g.)
AF	4" Mini Pleat 60% Efficiency (MERV 11)	80.0	22,500	281	0.13	0.00
AF	Dirty Filter Allowance	0.0		0	0.25	0.00
FS	External Static - User Entered	0.0		0	1.00	0.00
HF	12" HEPA 99.97% Efficiency (MERV 17)	45.6	22,500	494	1.40	0.00
HF	Dirty Filter Allowance	0.0		0	0.50	0.00
				Total	3.28	0.00

Dimensions and Weight

Details					
Segment	Description	Length ¹ (in)	Height (in)	Width ² (in)	Weight ³ (lbs)
AF	Angle Filter	36	72	126	1,482
FS	Fan (Supply)	50	72	126	2,167
XA	Access	18	72	126	318
HF	HEPA Filter	22	72	126	1,311
Overall		126			

Notes

¹The length includes bottom tier segments only.

²The width does not include coil connection extensions or door latches that extend beyond the unit casing. The width does not include the depth of any pipe chases.

³See Shipping Summary for notes on weights.

Statement of Compliance

Details

Air Handling Unit AHU's meet IBC seismic requirements for non-critical equipment ($I_p = 1.0$) for locations with design spectral response $S_d \leq 0.43$. Units must be rigid mounted.

The anchorage of the unit to the ground or building structure needs to be evaluated by and is the responsibility of the engineer of record.

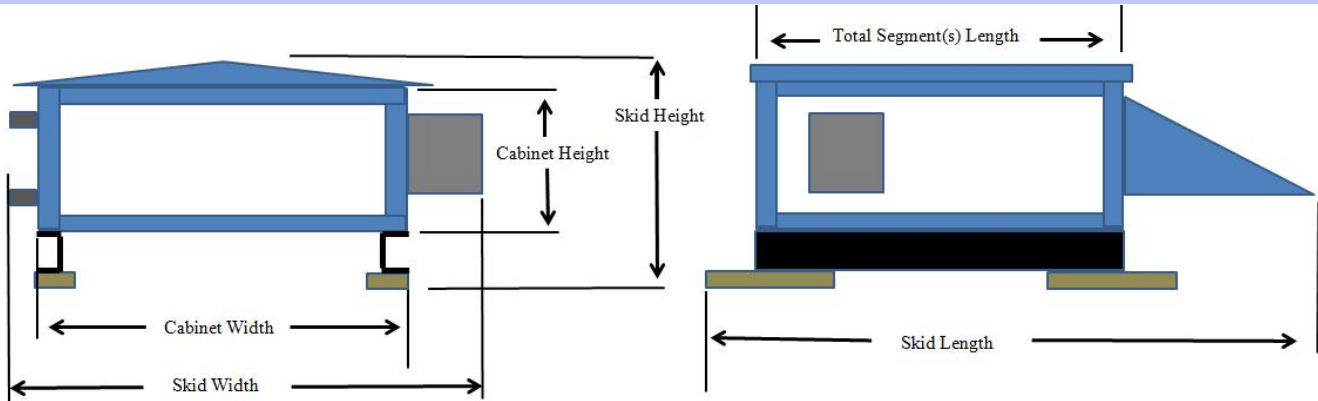
Specification of seismic requirements is the responsibility of the project design engineer. If formal certification is required, please contact your sales representative and/or application engineer for review. Certain application and site requirements may require additional cost and/or lead time.

Component locations are listed as Segment Hand (Unit Hand): ex. Left (Right). See Submittal Drawing for additional details.

Air handling unit parameters vary depending on conditions. Parameters such as airflows, air pressure drops, and coil capacities are shown for design conditions.

Shipping Summary

Details				
Skid	Skid Length (in)	Skid Height (in)	Skid Width (in)	Skid Weight (lbs)
AF	42	84	134	1,510
HF XA FS	96	84	143	3,824
Overall				5,334



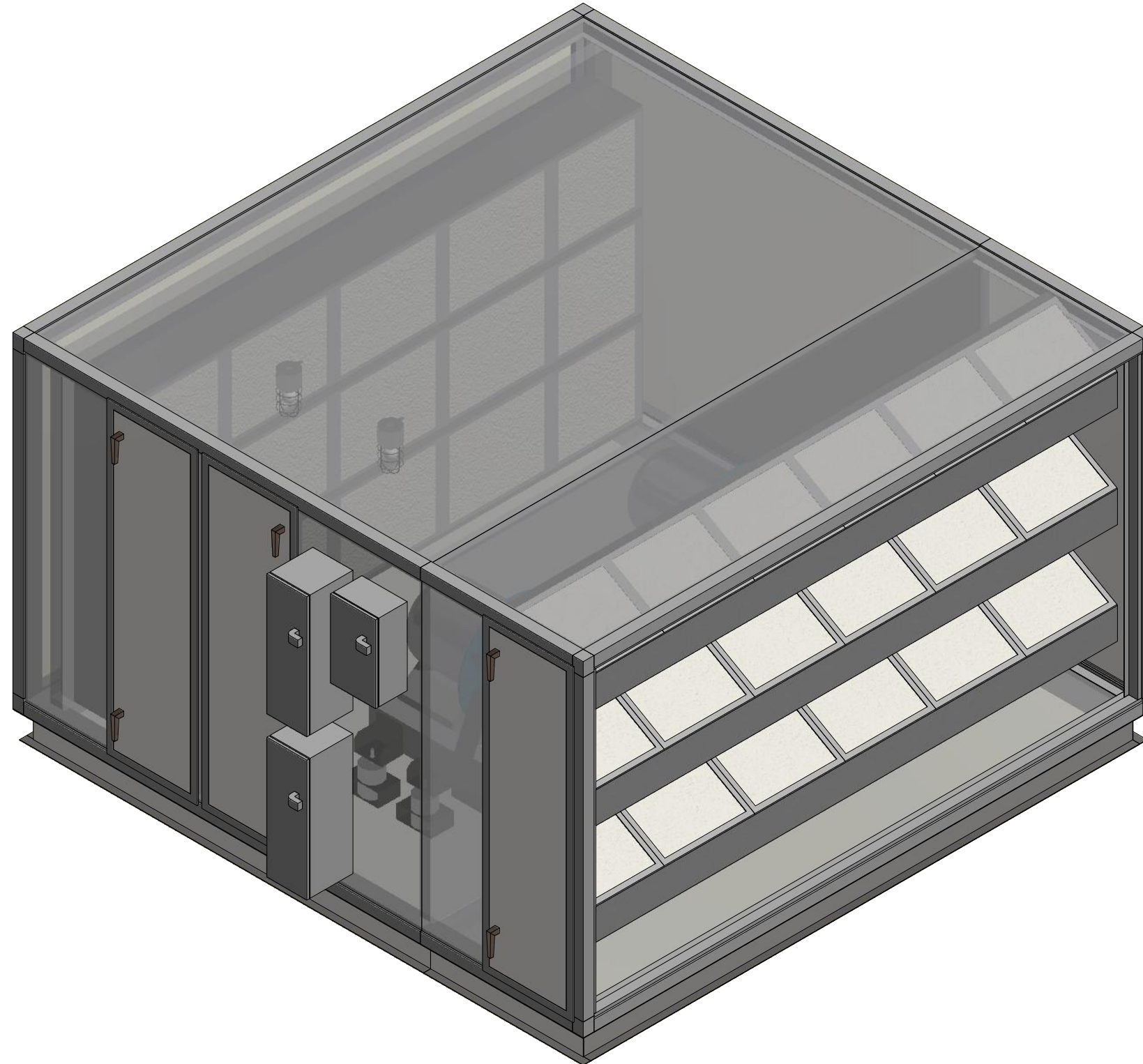
Notes

Skid Width: Total width of the shipping skid, including any items that may extend beyond the cabinet (this includes any door handles, coil connections, drain connections, lifting lugs, mounted pipe-chases, electrical/control components, tie-down brackets, side dampers).

Skid Height: Total height of the shipping skid, including any items that may extend beyond the cabinet (this includes any base-rails, shipping wood-blocks, roof peak, discharge flanges, mounted gas-furnace flue pipes).

Skid Length: Total length of the shipping skid, including any items that may extend beyond the cabinet (this includes any mounted rain-hoods, discharge flanges, tie-down brackets, shipping wood-blocks, front dampers, split connectors, electrical/control components, outrigging extensions, isolation dampers, inlet baskets).

Skid Weight: Weight values represent the estimated operational weight with a tolerance of +/- 10% for values greater than 5,000 lbs. Values less than 5,000 lbs. may have higher percentage variation but not any consequential shipping impact. Operational weight estimate includes unit shell, internal components and structure, and known ship loose and/or field-installed items (weather hoods, pipe chases, factory-provided filter media and estimated fluid weight in coils). Actual operating weight will be heavier due to additional field installed materials including but not limited to field-provided filter media, piping, control devices, and/or inertia base concrete.

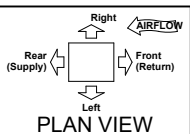


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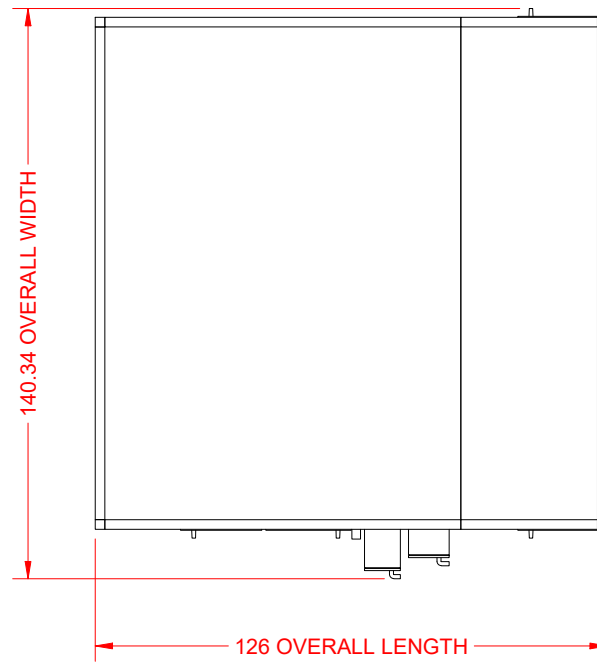
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 DESIGNATION: BCU-63-81
 PROJECT NAME: ENVISION 2 - SOUTH CAROLINA

ISOMETRIC VIEW
 SHEET 1 OF 5 CONTRACT#:
 UNIT TAG: **BCU-63**

ALL DIMENSIONS SHOWN IN: INCHES
 DRAWING SCALE: NTS
 DIMENSION TOLERANCES: UNIT (+/- 1/2"); PIPING (+/- 2")
 WEIGHT: 5278 (+/- 10%)
DRAWING NOT TO BE USED FOR CONSTRUCTION



TOP [PLAN] VIEW



NOTES:

UNITS WITH A BASERAIL AND A BOTTOM OPENING: DUCT CONNECTION FLUSH WITH THE BOTTOM OF UNIT, NOT FLUSH WITH BOTTOM OF BASERAIL.

REFER TO PERFORMANCE REPORT FOR SHIPPING SPLIT DETAILS.

ALLOW SUFFICIENT SPACE AROUND THE UNIT FOR REMOVING THE ACCESS PANELS AND VARIOUS PARTS OF THE UNIT. A MINIMUM CLEARANCE EQUAL TO THE WIDTH OF THE UNIT MUST BE PROVIDED ON ONE SIDE OF THE UNIT FOR REMOVING THE COIL OR FAN ASSEMBLY.

CONTRACTOR RESPONSIBLE FOR PENETRATIONS AND CONNECTIONS OF ALL ELECTRICAL BOXES AND INTERNAL COIL CONNECTIONS (IF PRESENT).

OVERALL DIMENSIONS ACCOUNT FOR COMPONENTS EXTENDING BEYOND UNIT CABINET IN ORDER TO CONVEY THE TRUE SPACE REQUIREMENTS FOR THE UNIT. THESE ITEMS MAY INCLUDE OUTDOOR ROOF PEAK, MOTOR CONTROL AND/OR FACTORY PACKAGE CONTROL BOXES, WEATHER HOODS, PIPE CHASES, DAMPER/LOUVER ASSEMBLIES, AND/OR UNIT BASE RAIL.

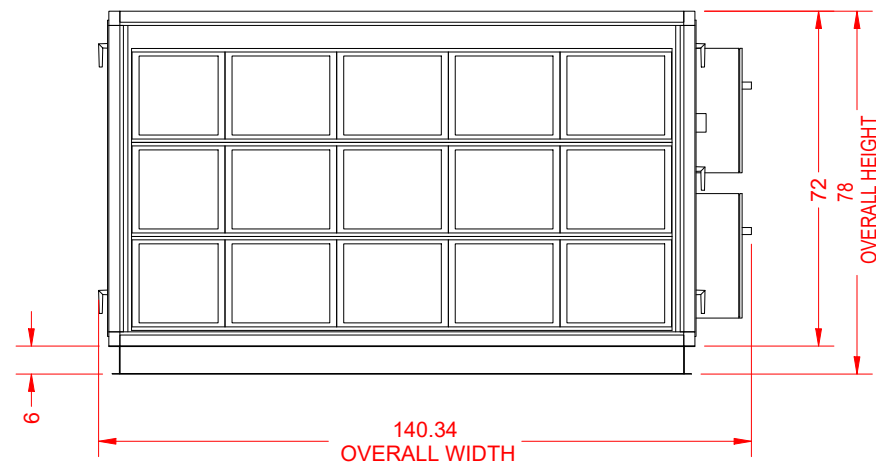
CERTAIN ITEMS MAY EXTEND BEYOND CABINET DIMENSIONS INCLUDING: COIL CONNECTIONS, ROOF TRIM, DOOR HANDLES, LIGHT SWITCHES, ELECTRICAL PANEL HANDLES, LIFTING LUGS, GAS FUEL SYSTEM, ETC.

THE OVERALL UNIT LENGTH MAY INCLUDE ADDITIONAL 1/4" PER SHIPPING SPLIT (IF APPLICABLE) FOR GASKET AND CONNECTION HARDWARE.

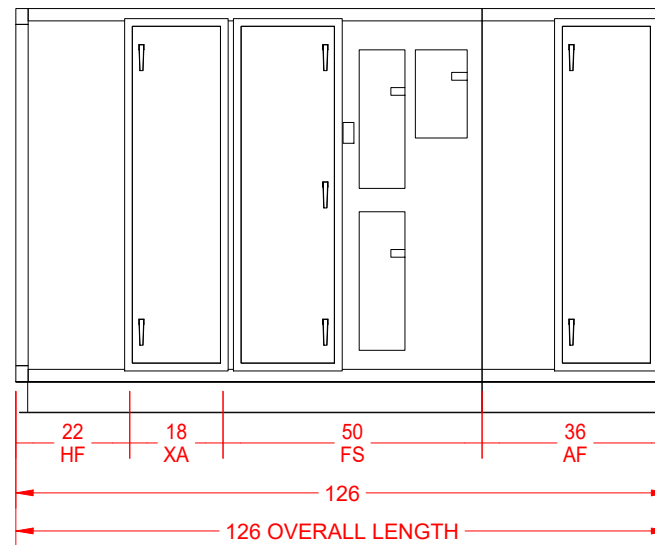
FILTER DIMENSIONS ARE NOMINAL SIZES.

ELECTRICAL DEVICES (LIGHTS, SWITCHES, PANELS, ETC.) INDICATE GENERAL AREA OF UNIT (E.G., SEGMENT); FINAL PLACEMENT DETERMINED DURING MANUFACTURING.

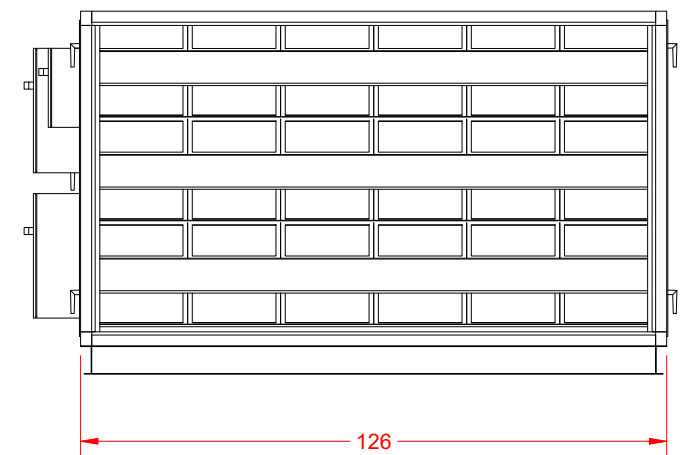
REAR VIEW



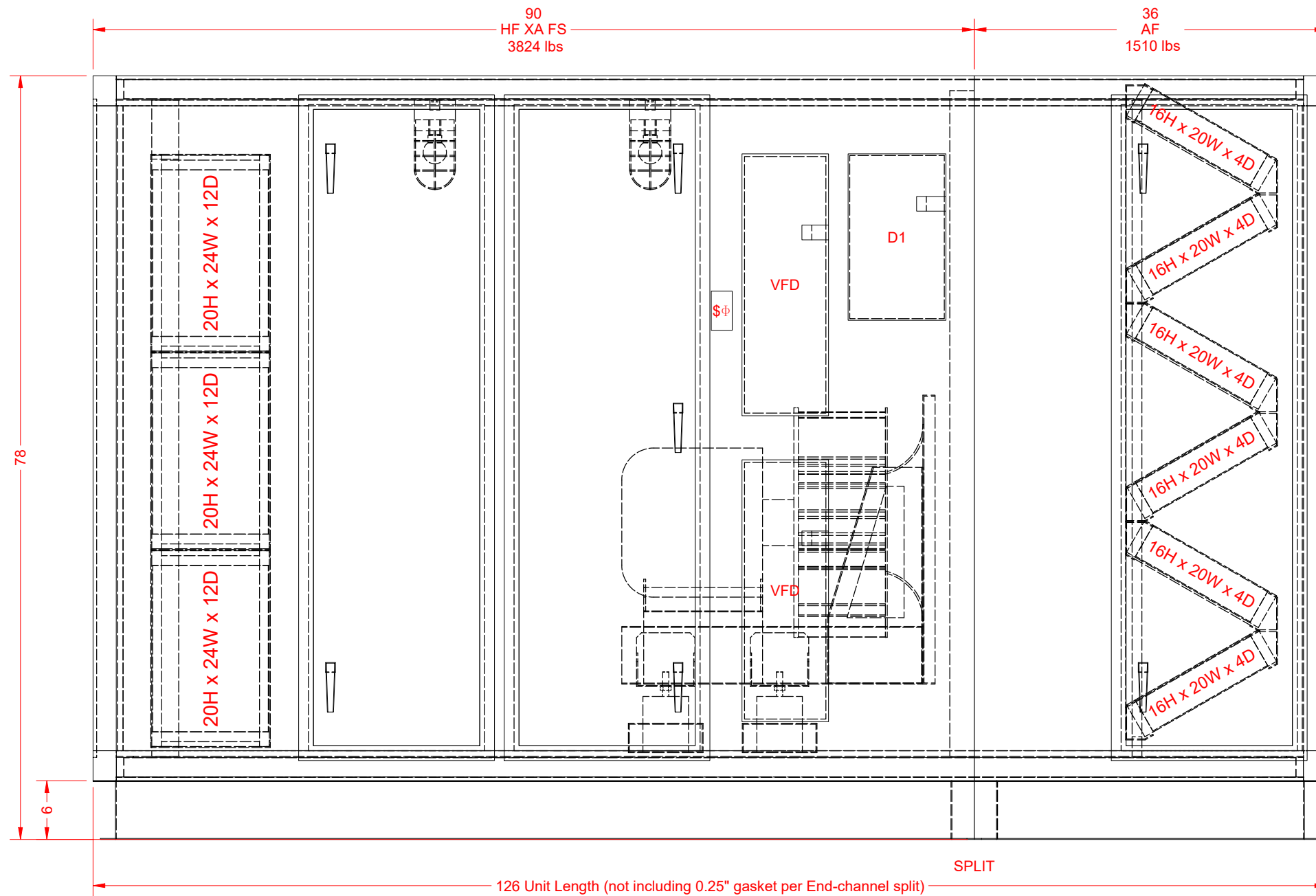
LEFT [ELEVATION] VIEW



FRONT VIEW



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				DESIGNATION: BCU-63-81		UNIT TAG: BCU-63				
				PROJECT NAME: ENVISION 2 - SOUTH CAROLINA						

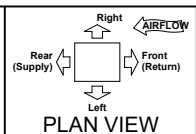


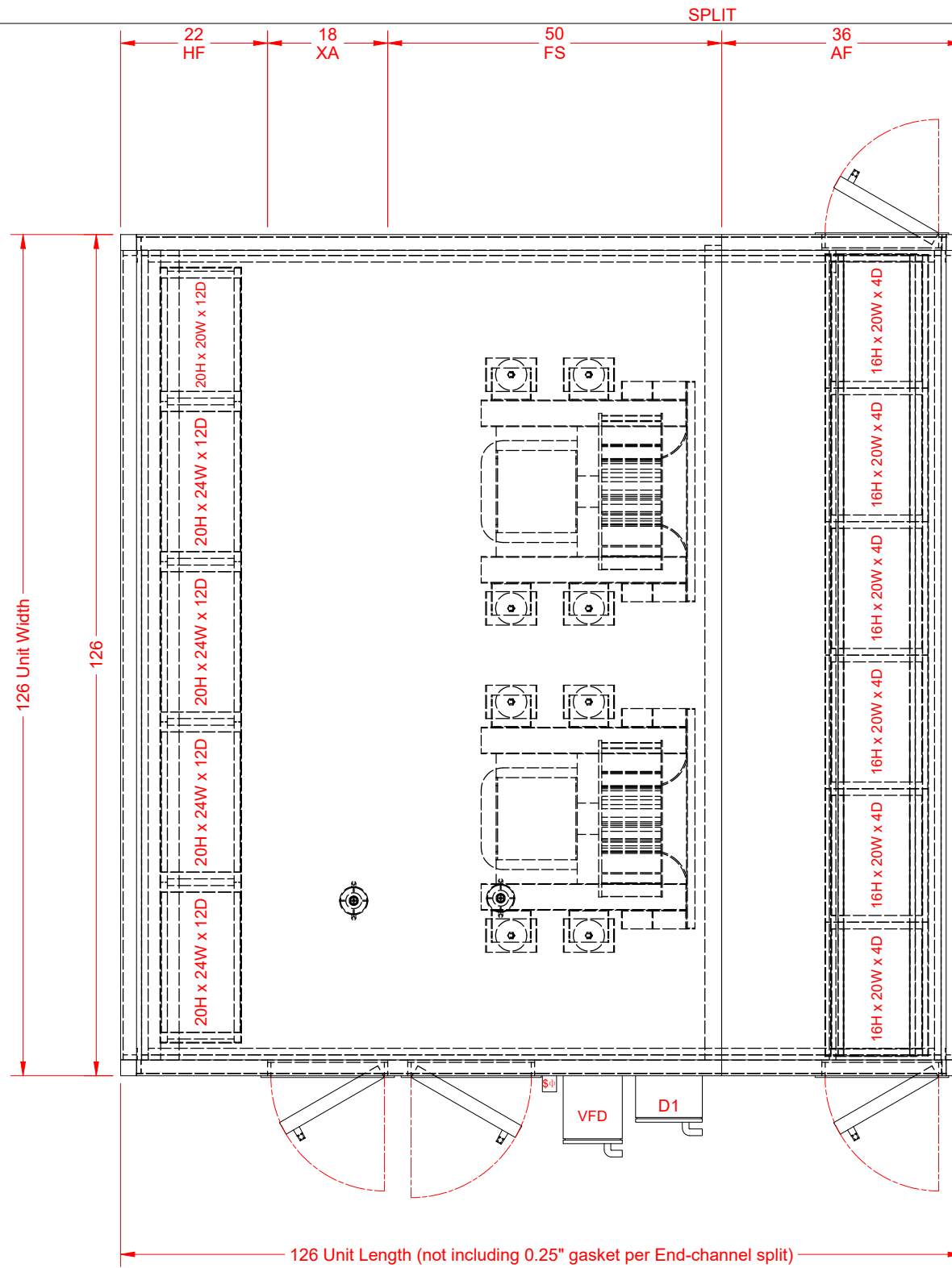
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 DESIGNATION: BCU-63-81
 PROJECT NAME: ENVISION 2 - SOUTH CAROLINA

ELEVATION VIEW
 SHEET 3 OF 5 CONTRACT#:
 UNIT TAG: **BCU-63**

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 WEIGHT: 5278 (+/- 10%)
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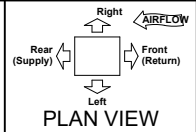


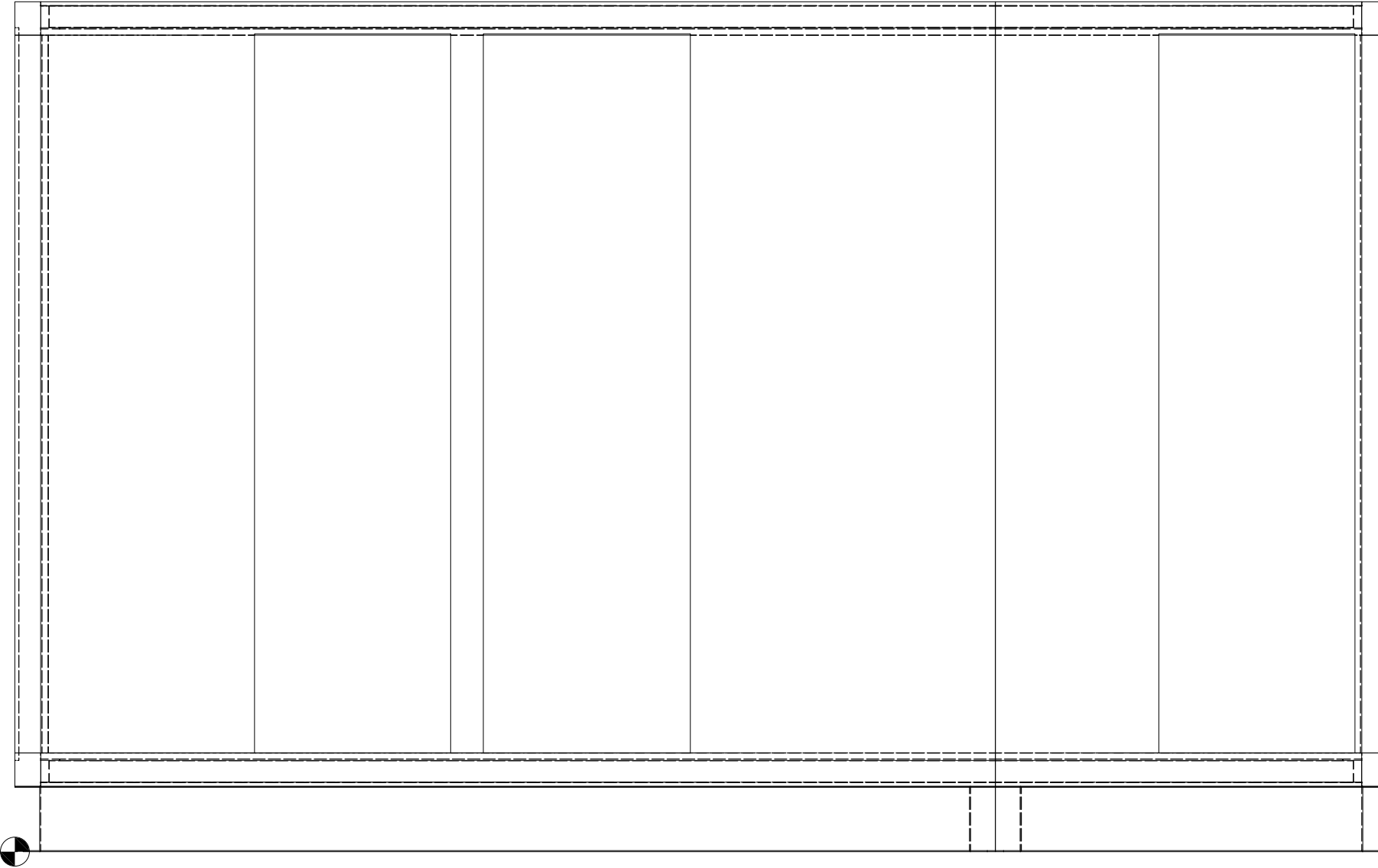
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PLAN VIEW
 SHEET 4 OF 5 CONTRACT#:
 UNIT TAG: **BCU-63**

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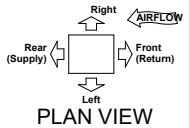


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PIPING CONNECTIONS
 SHEET 5 OF 5 CONTRACT#:
 UNIT TAG: **BCU-63**

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Startup Checklist

Product Type: Semi-Custom Air Handling Units

Unit Tags: Various



BY JOHNSON CONTROLS

AIR HANDLING UNITS

START-UP CHECKLIST

Supersedes: 100.00-CL1 (909)

Form 100.00-CL1 (313)

AIR HANDLER START-UP CHECKLIST

OFFICE LOCATION _____	UNIT TAG # _____
QUALIFIED TECHNICIAN _____	UNIT MODEL # _____
JOB NAME _____	UNIT SERIAL # _____
YORK JOB ID OR CONTRACT # _____	START DATE _____
JOB SITE LOCATION _____	
JOB SITE CONTACT AND PHONE # _____	

IMPORTANT SAFETY REQUIREMENT: FOLLOW THE LATEST "LOCK OUT TAG OUT" PROCEDURE.

PRE START-UP

GENERAL UNIT INSPECTION

Identify and perform appropriate "lock out/tag out" and safety rules. For details on points below see appropriate section of the Installation Instruction provided with each air handler.

For VFD equipped air handlers, refer to the VFD forms for additional requirements.



Serious damage to the AHU and/or system is eminent if the AHU is operated under any of the following conditions:

- **Without proper control of dampers.**
- **With smoke dampers closed.**
- **During a fire alarm or smoke purge test.**
- **Any airflow restriction greater than normal.**

Solution	AH Units	Form	102.20-OM1	Air Modulator	VFD Quick Start	Form	100.42-NO1
Custom	AH Units	Form	100.31-NOM1				

<input type="checkbox"/> Equipment received as ordered.	<input type="checkbox"/> Unit installed with proper clearances.
<input type="checkbox"/> Unit checked for damage to interior and exterior.	<input type="checkbox"/> Visually inspect roof curb for tight seal around unit.
<input type="checkbox"/> Unit installed on flat and level surface. Outdoor unit mounted within roof slope limitations where applicable.	<input type="checkbox"/> All penetrations MUST be sealed. All conduits MUST be sealed internally.
<input type="checkbox"/> Terminal screws and wiring connections secure in control, electric and Air Modulator panels.	<input type="checkbox"/> Clean air filters installed properly and secured.
<input type="checkbox"/> Air hoods installed properly.	<input type="checkbox"/> Filter gauge set to zero.
<input type="checkbox"/> Condensate drain properly trapped.	<input type="checkbox"/> All field wiring complete and inspected.
<input type="checkbox"/> All wiring and tubing connections made at shipping splits.	<input type="checkbox"/> All shipping splits sealed and secured properly.
<input type="checkbox"/> All field piping connections complete.	<input type="checkbox"/> Pipe chase floor sealed at penetrations.
<input type="checkbox"/> All shipped loose parts installed.	<input type="checkbox"/> All shipping bolts and other material have been removed. (Fan, VIFB, Energy Recovery Wheel, Damper).
<input type="checkbox"/> Installer has cleaned out interior.	<input type="checkbox"/> Damper linkage is tight and in correct "power off" position.
<input type="checkbox"/> Verify all plug-ins and wire connections are tight on UV equipment.	<input type="checkbox"/> Controls installation complete.
<input type="checkbox"/> Verify Energy Recovery Wheel turns freely and wheel segments are fully engaged.	<input type="checkbox"/> Verify all spacers removed from door edges.
<input type="checkbox"/> Verify all ductwork is complete and available for full air flow.	<input type="checkbox"/> Verify correct piping of split system. Reference Section 2 of Solution IOM & Split System Application Guide (050.40-ES3).

FAN INSPECTION	
<input type="checkbox"/> Check bearings and locking collars for properly tightened setscrews, bolts and nuts.	<input type="checkbox"/> Fan wheel properly aligned, tight on shaft and freely moving.
<input type="checkbox"/> Sheaves properly aligned and tight on shaft.	<input type="checkbox"/> Check fan base isolators and thrust restraints for proper adjustment. Note: Do not remove functional bolts from seismic isolators.
<input type="checkbox"/> Belt tension adjusted properly per drive pkg. label on fan.	
<input type="checkbox"/> Check fan alignment with unit discharge. Adjust with isolation.	<input type="checkbox"/> Fan bearings have been re-lubricated properly.

START-UP

PERFORM THE FOLLOWING STEPS IN ORDER:

Refer to safety standards. Ensure all door latches are secured before starting.

<input type="checkbox"/> 1. With all Electric Power off, all disconnect switches open and fuses removed, check each circuit with an Ohm meter to ground observing no continuity. Reinstall fuses.	<input type="checkbox"/> 8. Immediately check current draw of each leg of each motor.
<input type="checkbox"/> 2. Energize power to the unit disconnect switch.	<input type="checkbox"/> 9. VFD, refer to manufactures start up guide
<input type="checkbox"/> 3. Verify correct voltage, phase and cycles.	<input type="checkbox"/> 10. Check doors and latches for air leaks.
<input type="checkbox"/> 4. Energize fan motor(s) briefly (bump) and check for correct fan rotation.	<input type="checkbox"/> 11. Check for obvious audible leaks.
<input type="checkbox"/> 5. Check operation of dampers. Insure unit will not operate with all dampers closed.	<input type="checkbox"/> 12. Apply steam to cold coils slowly to prevent damage.
<input type="checkbox"/> 6. Energize fan motor(s). Observe fan(s) for smooth operation.	<input type="checkbox"/> 13. Observe energy recovery wheel rotation is correct.
<input type="checkbox"/> 7. Check motor nameplate Full Load Amp rating.	<input type="checkbox"/> 14. Purge on energy recovery wheel is set to specification.

RECORD DATA

POWER SUPPLY: Unit Nameplate V___ PH___ CYC, ___ Verify V _____ / _____ / _____

DATA

	SUPPLY FAN MOTOR	EXHAUST/RETURN FAN MOTOR
Nameplate	Volts _____ Amps _____	Volts _____ Amps _____
Run Amps	_____ / _____ / _____	_____ / _____ / _____
Catalog Number	_____	_____
Spec Number	_____	_____
Horse Power	_____	_____
RPM	Nameplate _____ Actual _____	Nameplate _____ Actual _____
Frame size	_____	_____
Service Factor	_____	_____
Jump (Skip) Frequencies	_____ / _____ / _____	_____ / _____ / _____
	SUPPLY FAN	EXHAUST/RETURN FAN
Manufacture Name	_____	_____
Type or Model Number	_____	_____
Code or Shop Order Number	_____	_____
Serial Number	_____	_____
	SUPPLY FAN DRIVE KIT	EXHAUST/RETURN FAN DRIVE KIT
Belts (Qty & ID#)	_____	_____
Belt Tension	Tag _____ Actual _____	Tag _____ Actual _____
Fan RPM (DN)	Tag _____ Actual _____	Tag _____ Actual _____

OTHER UTILITIES

Steam Pressure	Heating Coils _____ PSI,	Humidifier _____ PSI
Hot Water Pressure/Temp.	Supply _____ PSI, _____ °F,	Return _____ PSI, _____ °F
Chilled Water Pressure/Temp.	Supply _____ PSI, _____ °F,	Return _____ PSI, _____ °F
Potable Water Pressure	_____ PSI,	Pneumatic Air Pressure _____ PSI

MAINTENANCE

Upon completion of start-up the customer assumes responsibility for periodic maintenance of this equipment in order to continue warranty. Refer to the Installation Operation and Maintenance Manual (Form 102.20-OM1).

Customer's agent signature: _____ **Date:** _____





Submittal Approval Page

Product Type: Semi-Custom Air Handling Units

Unit Tags: Various

Equipment Release Approval Form

SUBMITTAL NOTES

The following table must be completed prior to releasing the equipment for fabrication. Please initial the column indicating the information contained in this submittal has been verified, or indicate to refer to a marked-up page.

SUBMITTAL VERIFICATION	
	Purchaser Initials
Electrical voltage and electrical connections are compatible with jobsite requirements.	
Piping / Ductwork connections shown in this submittal are correct .	
Unit tag designations are correct.	

SUBMITTAL VERIFICATION	
	Purchaser Initials
Indicate equipment configuration choices on the Equipment Release /Configuration Process form (if included on this Submittal package), and sign the form.	

Important Notes:

- 1) Actual fabrication release cannot commence until this form is signed by the customer and returned to JCI along with a release notification want date and ship to address.
- 2) Equipment "lead-time" does not start until confirmed release documentation is received, and the order is actually released to the factory.
- 3) Modifications to equipment configurations after fabrication release may impact cost and lead-time

Please fill out the following table and refer to the receiving/rigging instructions in this submittal to help ensure a smooth delivery and installation of the equipment.

DELIVERY INFORMATION	
	Please fill out information below
Contact name for coordinating delivery of equipment with transportation company	
Contact phone number	
Advance notice required from transportation company prior to delivering equipment (typically 48 hours)	
Ship to address:	
Other special shipping instructions or requirements	

CUSTOMER APPROVAL:

Customer Name: _____

Signature (*) _____

Date: _____