ICE AIR
World Class Comfort®

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Fax: 914-668-5643
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www.ice-air.com

COLD CLIMATE SINGLE PACKAGED HEAT PUMP (SPXC) CERTIFIED DRAWING

DWG. NO.
SPXC-Series Submittal
REV. - 13

PROJECT		DATE	1/10/24		BY	ML	REVISIONS	
PURCHASER		P.O. #		QTY	DATE		BY	DESCRIPTION
ARCHITECT		SHIP DATE	ACCESS PANEL					
ENGINEER			WALL PLENUM					
HVAC CONTR.			LOUVER					
GEN. CONTR.			CHASSIS					

DESIGNATION	MODEL NUMBER	QTY	ACCESS PANEL		WALL PLENUM		LOUVER		ELECTRIC HEAT		DIGITAL THERMOSTAT					
			STD	SPCL	STD	SPCL	STD	SPCL			YES	NO	YES	NO	YES	NO
TOTAL																

UNIT SPECIFICATIONS+

SERIES MODEL #	8SPXC12	8SPXC18	8SPXC24
Cooling Capacity (Btu/hr) [2]	11,200	16,800	24,000
Sensible Capacity (Btu/hr) [2]	9,900	13,900	18,800
Cooling Capacity Range (Btu/hr)	9,700 - 16,700	10,500 - 19,500	13,900 - 25,600
EER2 [2]	10.7	10.8	10.7
SEER2	14.0	13.4	14.3
Cooling Operating Range	38 F TO 115 F		
Cooling Input (Watts)	1,047	1,556	2,243
Cooling Input (Amps)	5.0	7.5	10.8
Heating Capacity (Btu/hr) [3]	11,400	15,200	21,000
Heating Capacity Range (Btu/hr)	8,600 - 14,200	11,500 - 19,200	15,100 - 25,900
COP2 [3]	3.4	3.4	3.2
HSPF2	7.3	6.7	7.8
Heating Outdoor Operating Range	-5 F TO 70 F		
Heating Input (Watts)	983	1,310	1,923
Heating Input (Amps)	4.7	6.3	9.2
Voltage	208	208	208
MCA	9.8	14.8	18.8
MOP	15	20	25
Airflow (CFM)	580	760	1000
Outside Air (CFM)	60	60	60
ERV Fresh Air (CFM)	120	120	120
ERV Efficiency	60-70%		
Max External Static Pressure - ESP (in.wg.)	0.3	0.3	0.3
Weights (lbs.)	220	280	360
	LOW AMBIENT PERFORMANCE		
Heating Capacity @ 10 °F	7,100	10,700	17,400
COP @ 10 °F	2.04	1.99	2.18
Heating Capacity @ 5 °F	6,800	10,300	16,200
COP @ 5 °F	1.86	1.82	1.99
Heating Capacity @ -5 °F	5,100	8,000	15,800
COP @ -5 °F	1.52	1.5	1.72

GENERAL NOTES:

1: For use as a complete assembly only. For replacement unit applications, consult Manufacturer.

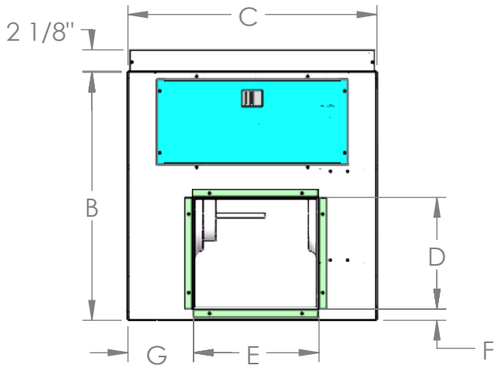
SPECIFICATION NOTES:

1. Performance data according to CAC/HP AHRI 210/240 standard.
2. Rated performances in cooling mode @ 80F/67F DB/WB Indoors and 95F/75F DB/WB Ambient
3. Rated performances in heating mode @ 70F/60F DB/WB Indoors and 47F/43F DB/WB Ambient
4. If the electric heat option is selected, the heat pump operation is disabled and electric heat enabled below -5°F (+/- 3 °F).
5. Units without electric heat will operate below -5F with derated performance. Performance below -5F has not been certified.

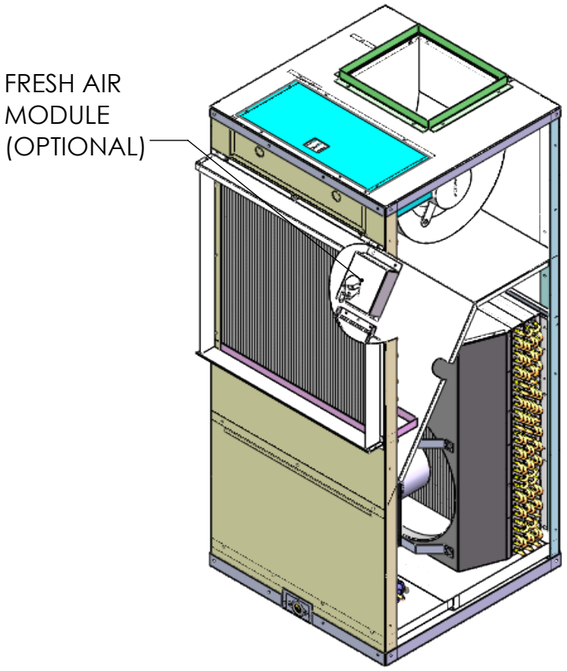
SAB-10287

REVISIONS			
REV.	DESCRIPTION	BY	DATE

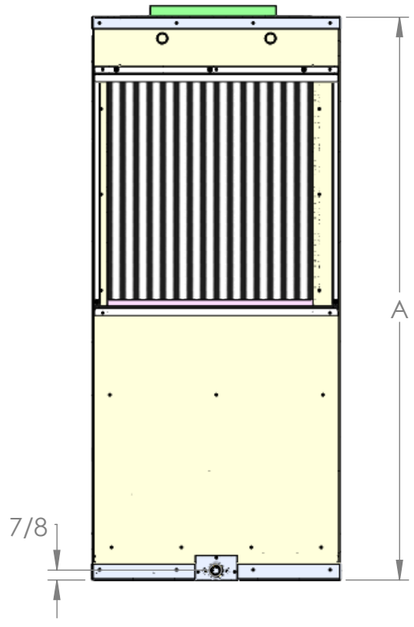
UNIT SIZE	A	B	C	D	E	F	G	H	J
12	47	23	23	8 1/2	9 1/2	2 1/4	8 1/4	20 1/2	11 1/2
18	52	23	23	10 2/5	11 7/10	2 1/4	4 1/2	28 2/5	6 4/5
24	64	26	28	10 5/8	9 1/2	2 1/4	8	32 1/2	10 1/4



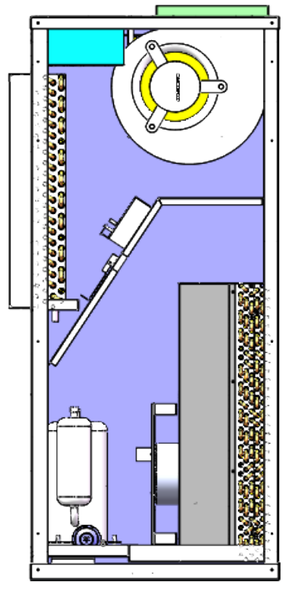
TOP VIEW



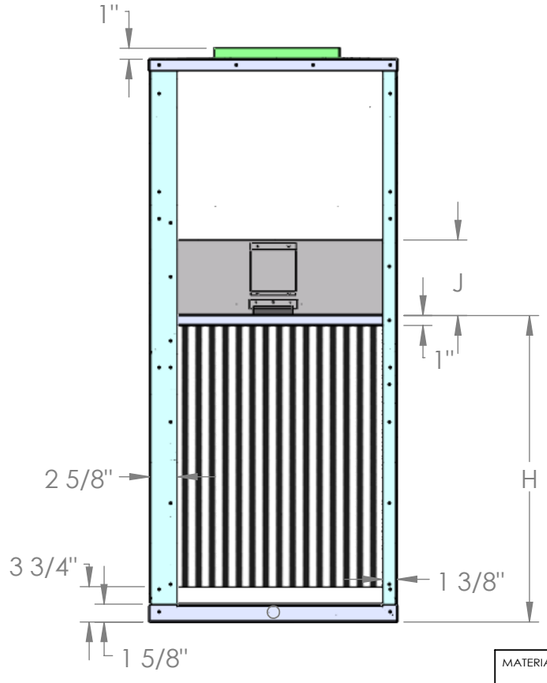
ISOMETRIC VIEW



FRONT VIEW



RIGHT VIEW



REAR VIEW

Third Angle Projection

MATERIAL:

WEIGHT (LBS): 103144.030

FINISH: N/A

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ± 1/32
ANGULAR: MACH ± ° BEND ± 1°
TWO PLACE DECIMAL ± .03
THREE PLACE DECIMAL ± .015

ICE-AIR LLC.
80 HARTFORD AVENUE
MOUNT VERNON, NY 10553

TITLE: SPXC CHASSIS DWG

MODEL BY: VP DATE: 07/20/18
DRAWING BY: JL DATE: 6/20/21

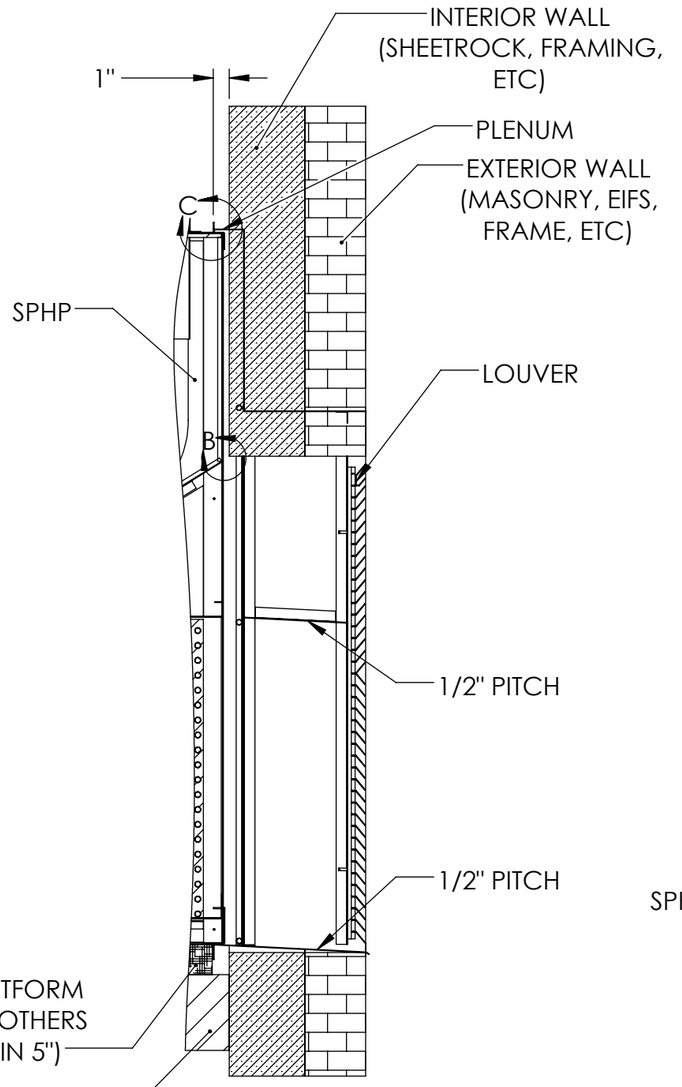
DWG. NO. SAB-10287

SIZE B | SCALE: NONE DO NOT SCALE DRAWING | SHEET 1 OF 1 | REV

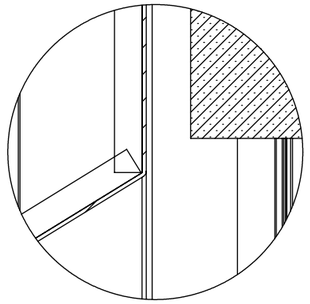
8 7 6 5 4 3 2 1

CH UNIT

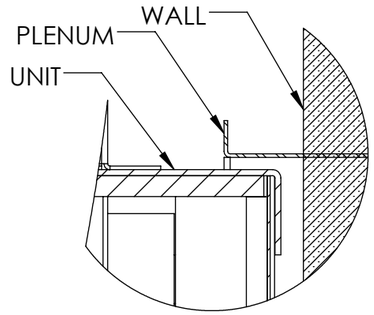
REVISIONS			
REV.	DESCRIPTION	BY	DATE



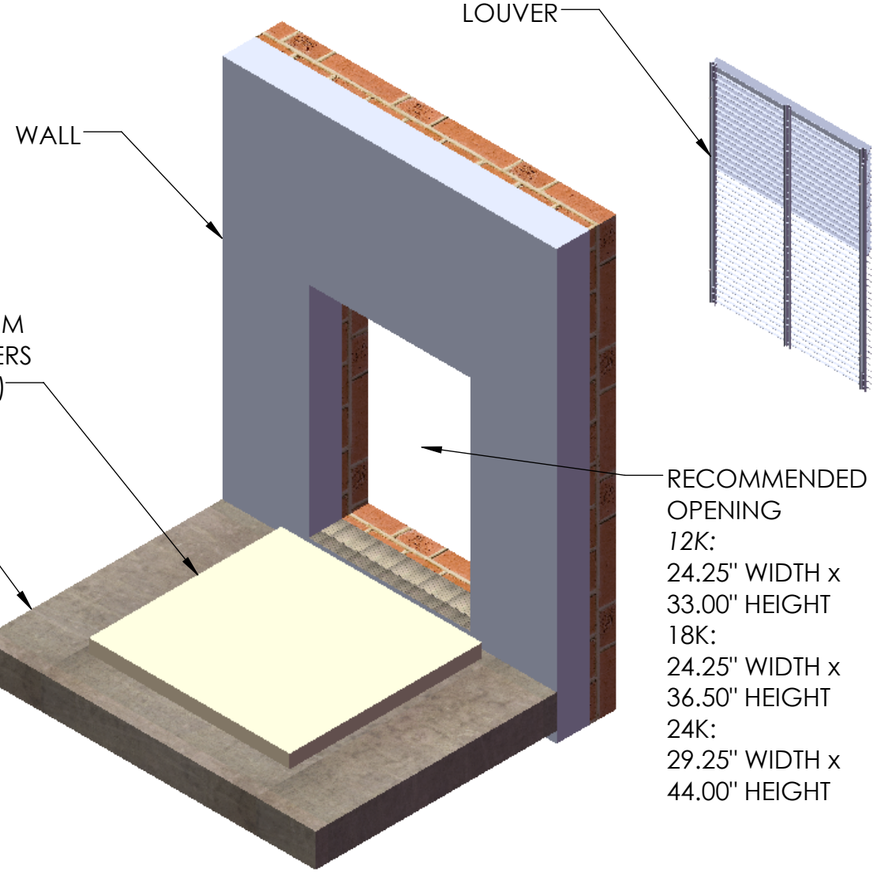
SECTION A-A
SCALE 1 : 10

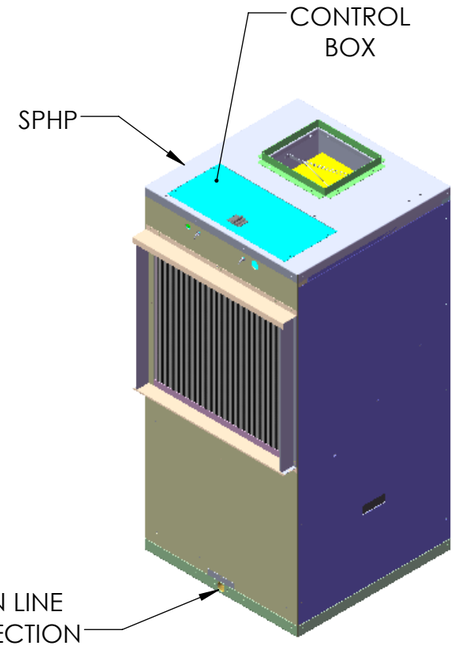


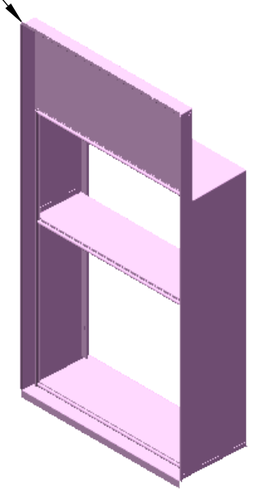
DETAIL B
SCALE 1 : 1.5



DETAIL C
SCALE 1 : 2







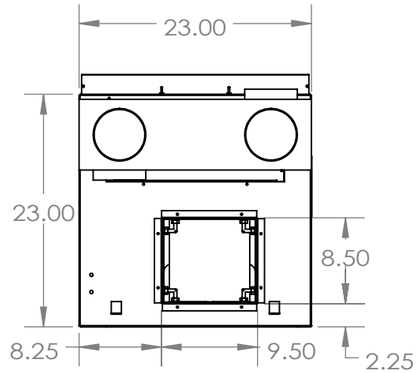
NOTE.
LOUVER CAN BE INSTALLED AFTER WALL SLEEVE.

MATERIAL:	**ICE-AIR LLC.** 80 HARTFORD AVENUE MOUNT VERNON, NY 10553
WEIGHT (LBS): 1423.40	
FINISH: N/A	TITLE: SPXC DESIGN STRAIGHT UNIT LAYOUT FOR THRU WALL SLEEVE
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/32 ANGULAR: MACH ± ° BEND ± 1° TWO PLACE DECIMAL ± .03 THREE PLACE DECIMAL ± .015	MODEL BY: VP — DATE 06/20/19 — DWG. NO. CH UNIT DRAWING BY: - — DATE: -
	SIZE B — SCALE: NONE DO NOT SCALE DRAWING — SHEET 1 OF 1 — REV

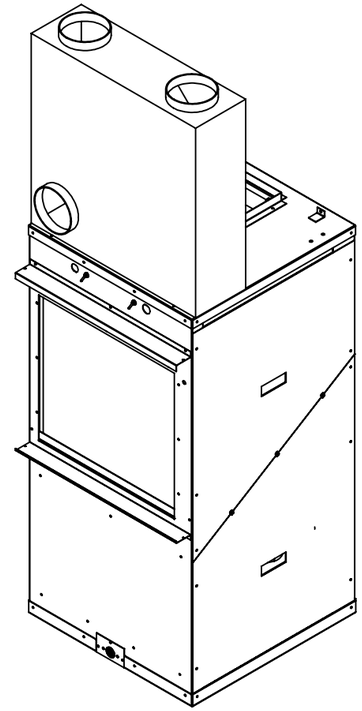
Third Angle Projection

8 7 6 5 4 3 2 1

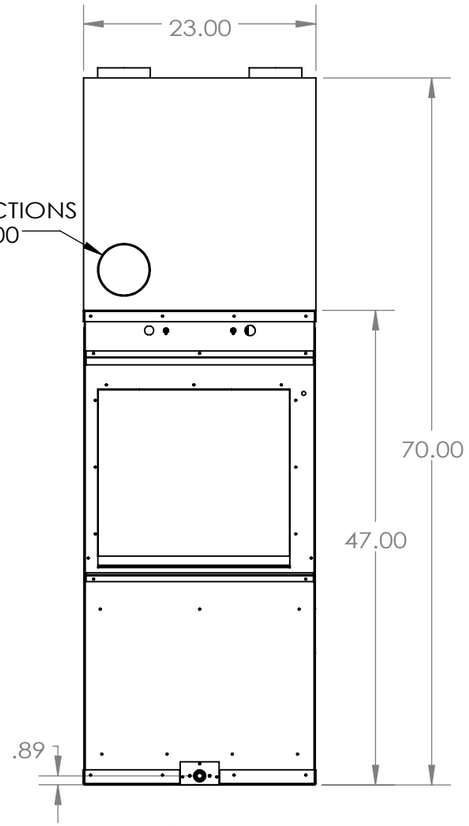
SPXC12 ERV



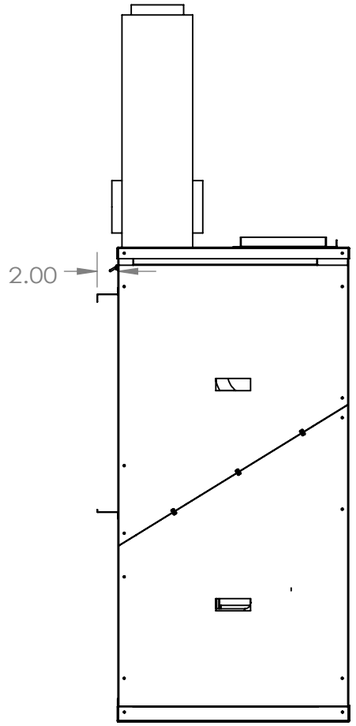
TOP VIEW



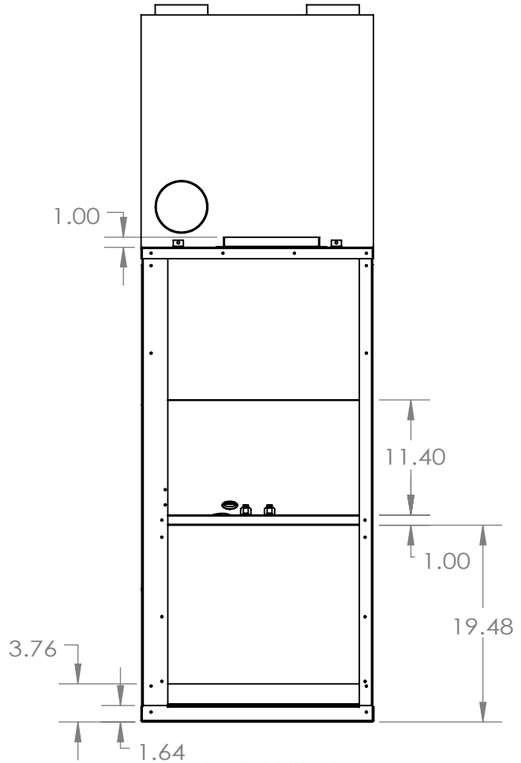
ISOMETRIC VIEW



FRONT VIEW



RIGHT VIEW



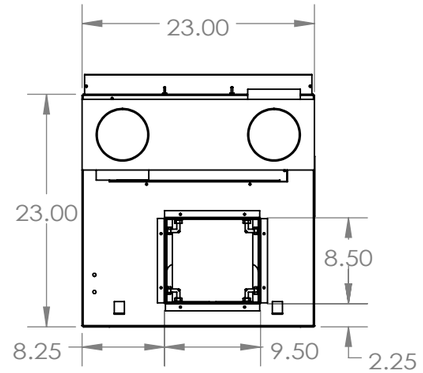
BACK VIEW

MATERIAL:	**ICE-AIR LLC.** 80 HARTFORD AVENUE MOUNT VERNON, NY 10553
WEIGHT (LBS):	
FINISH:	TITLE: SPXC12 WITH ERV BOX DESIGN
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/32 ANGULAR: MACH ± ° BEND ± 1° TWO PLACE DECIMAL ± .03 THREE PLACE DECIMAL ± .015	MODEL BY: JL — DATE 6/9/22 — DWG. NO. SAB-10287_SPXC12(ERV) DRAWING BY: JL — DATE: 6/9/22 SIZE B — SCALE: NONE DO NOT SCALE DRAWING — SHEET 1 OF 1 — REV

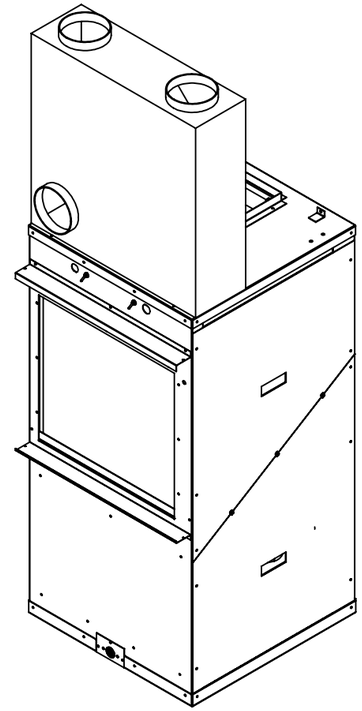
Third Angle Projection

8 7 6 5 4 3 2 1

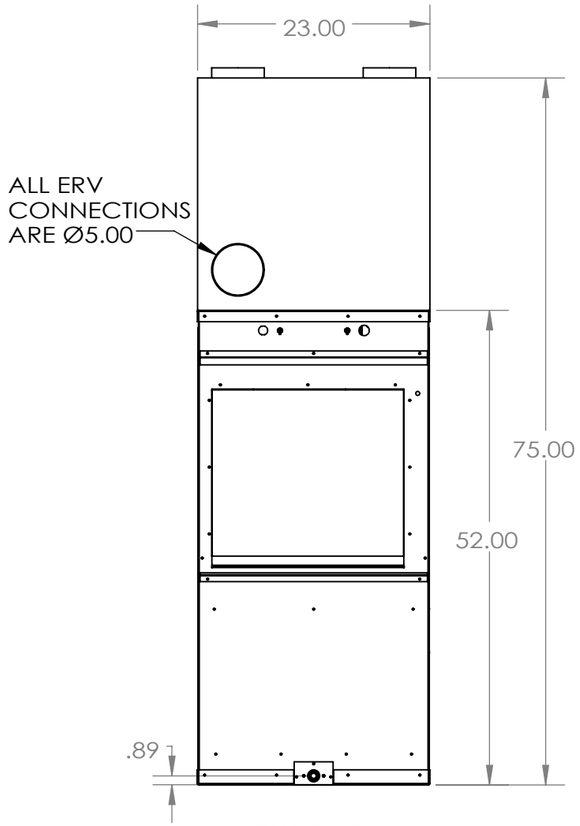
SPXC18 ERV



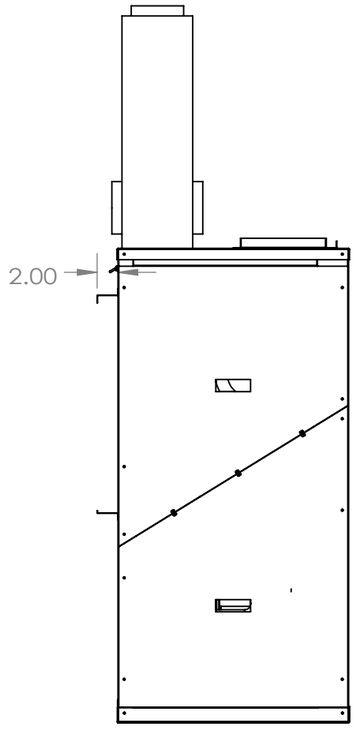
TOP VIEW



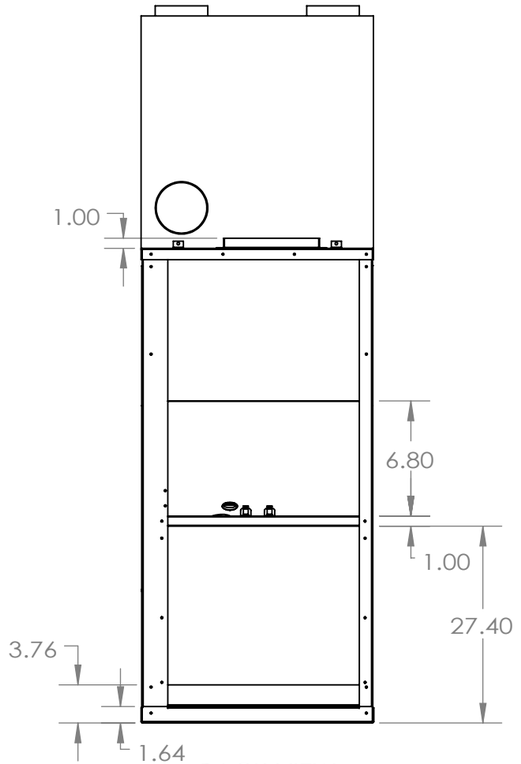
ISOMETRIC VIEW



FRONT VIEW



RIGHT VIEW



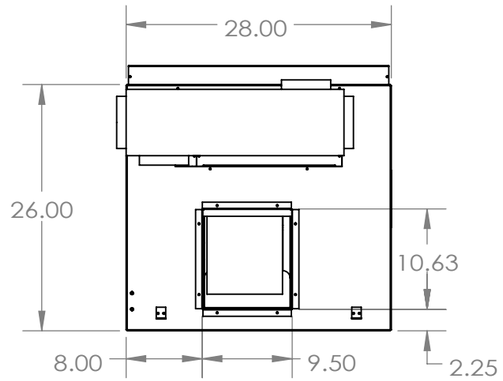
BACK VIEW

MATERIAL:	**ICE-AIR LLC.** 80 HARTFORD AVENUE MOUNT VERNON, NY 10553
WEIGHT (LBS):	
FINISH:	TITLE: SPXC18 WITH ERV BOX DESIGN
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/32 ANGULAR: MACH ± ° BEND ± 1° TWO PLACE DECIMAL ± .03 THREE PLACE DECIMAL ± .015	MODEL BY: JL — DATE 6/9/22 — DWG. NO. SAB-10287_SPXC18(ERV) DRAWING BY: JL — DATE: 6/9/22 SIZE B — SCALE: NONE DO NOT SCALE DRAWING — SHEET 1 OF 1 — REV

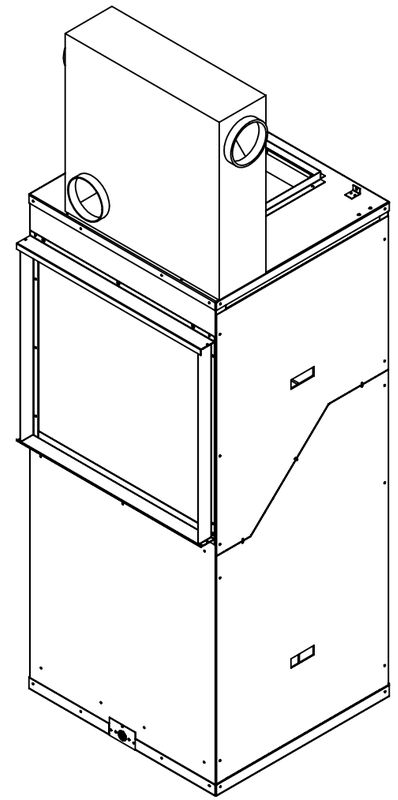
Third Angle Projection

8 7 6 5 4 3 2 1

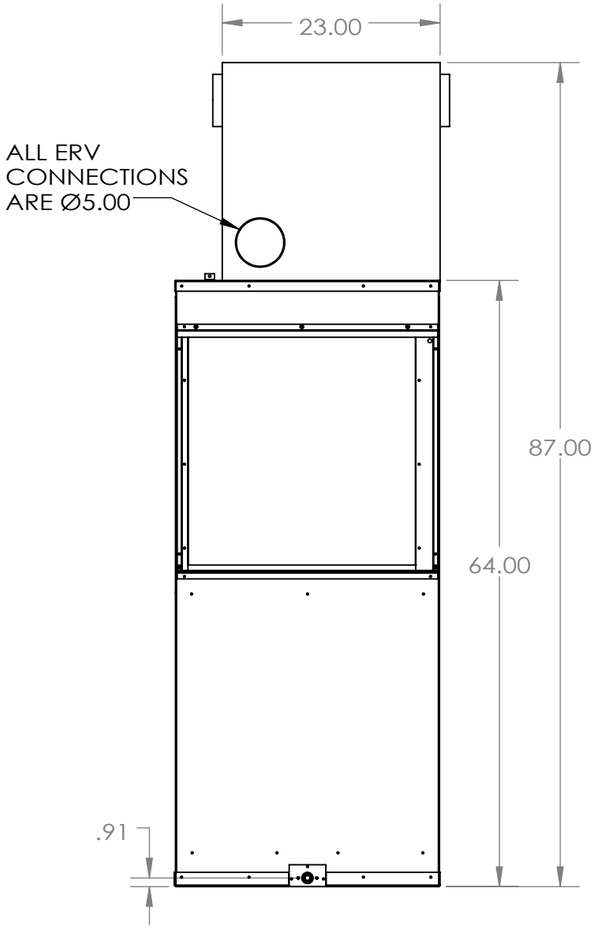
SPXC24 ERV



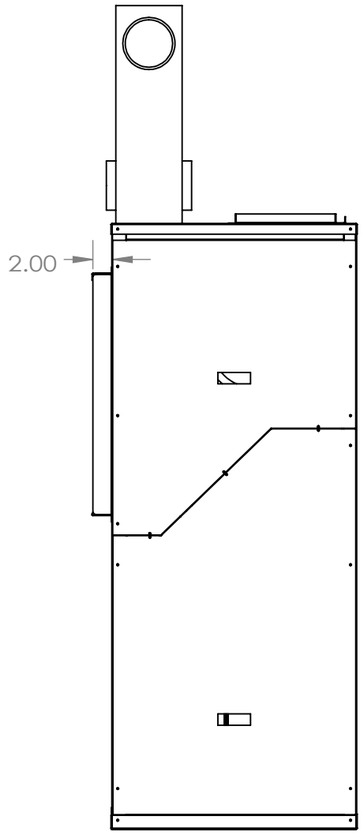
TOP VIEW



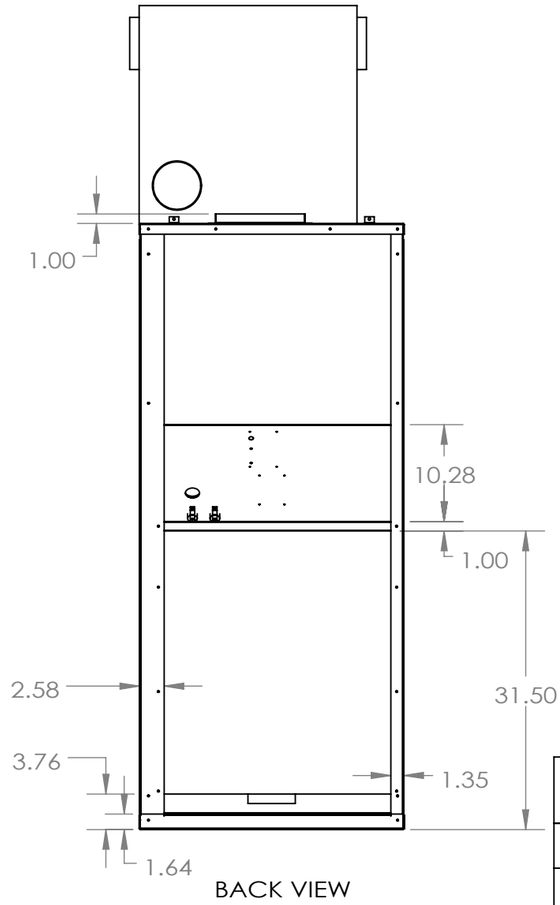
ISOMETRIC VIEW



FRONT VIEW



RIGHT VIEW



BACK VIEW

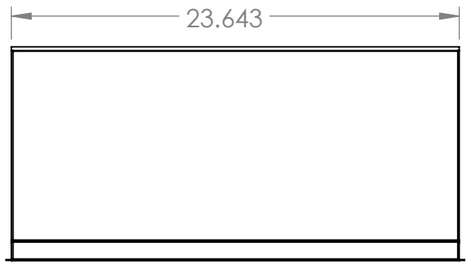
Third Angle Projection

MATERIAL:	**ICE-AIR LLC.** 80 HARTFORD AVENUE MOUNT VERNON, NY 10553
WEIGHT (LBS): N/A	
FINISH: N/A	TITLE: SPXC24 WITH ERV BOX DESIGN
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/32 ANGULAR: MACH ± ° BEND ± 1° TWO PLACE DECIMAL ± .03 THREE PLACE DECIMAL ± .015	MODEL BY: JL — DATE: 6/9/22 — DWG. NO. SAB-10287_SPXC24 (ERV) DRAWING BY: JL — DATE: 6/9/22 SIZE B — SCALE: NONE DO NOT SCALE DRAWING — SHEET 1 OF 1 — REV

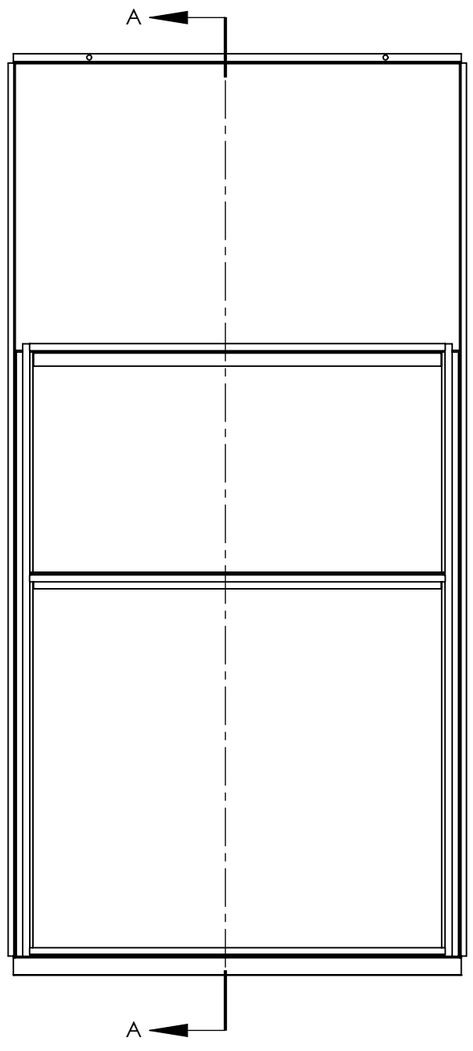
8 7 6 5 4 3 2 1

WMSPXC06A-12K(ND)

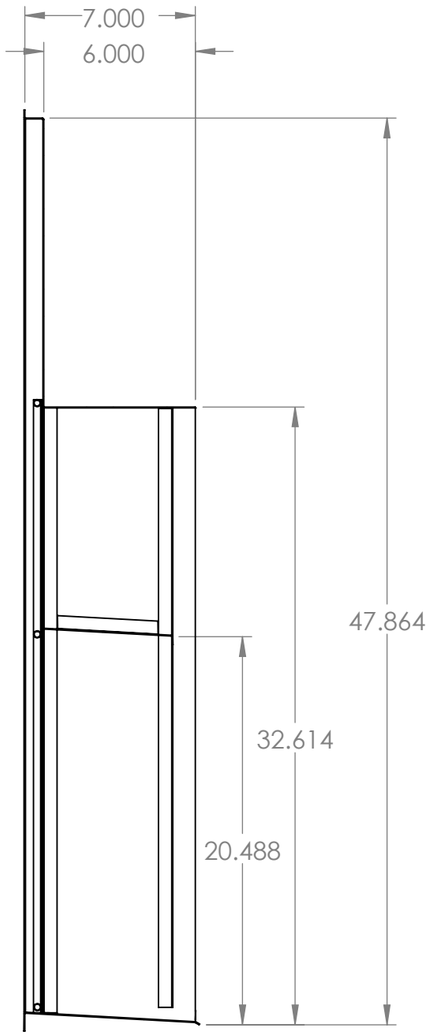
REVISIONS			
REV.	DESCRIPTION	BY	DATE
01			11/5/2019



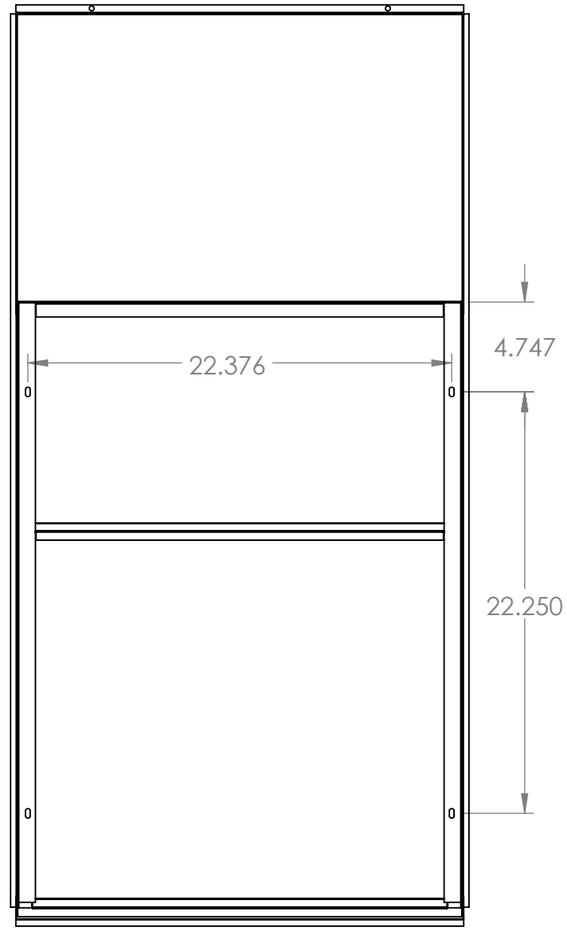
TOP VIEW



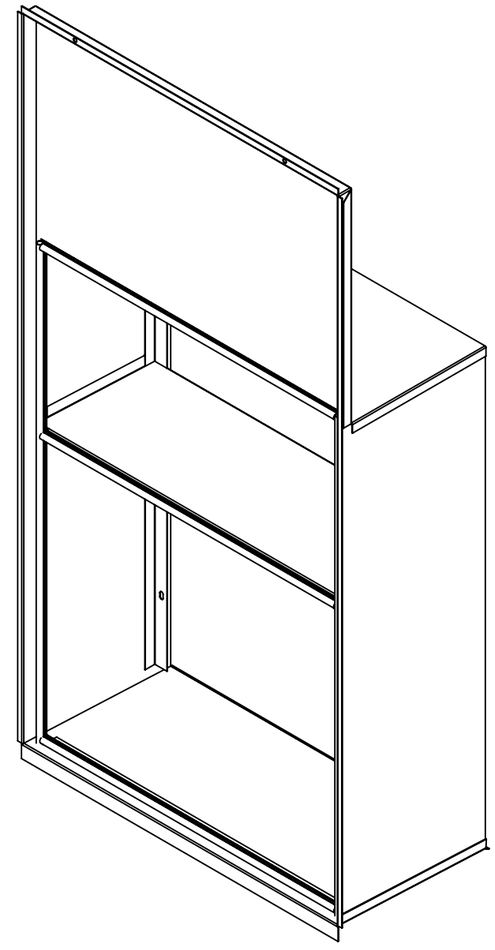
FRONT VIEW



SECTION A-A
SCALE 1 : 8



REAR VIEW



ISOMETRIC VIEW

NOTES.

1. USE SPOT WELD TO JOIN ALL PARTS.
2. RECOMMENDED OPENING IN THE WALL FOR THE PLENUM 24.250"W x 33.000"H.
3. WALL PLENUM SHOULD BE INSTALLED A MIN 5" OFF OF THE FINISHED FLOOR.

Third Angle Projection

MATERIAL:

WEIGHT (LBS): 25.75

FINISH: N/A

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ± 1/32
ANGULAR: MACH ± ° BEND ± 1°
TWO PLACE DECIMAL ± .03
THREE PLACE DECIMAL ± .015

ICE-AIR LLC.
80 HARTFORD AVENUE
MOUNT VERNON, NY 10553

TITLE: SPXC NEW DESIGN STRAIGHT UNIT 12K PLENUM WITH PITCH 1/2", 6.000" DEEP, WITH 1" RECESS FOR UNIT

MODEL BY: VP | DATE 04/27/20 | DWG. NO. WMSPXC06A-12K (ND)

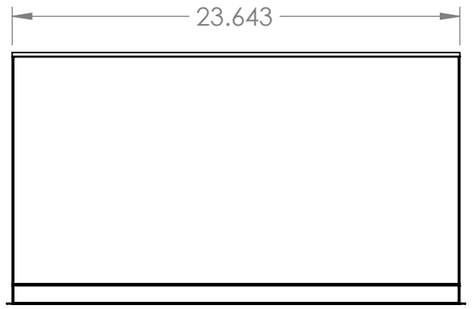
DRAWING BY: JL | DATE: 6/21/21

SIZE B | SCALE: NONE DO NOT SCALE DRAWING | SHEET 1 OF 1 | REV A

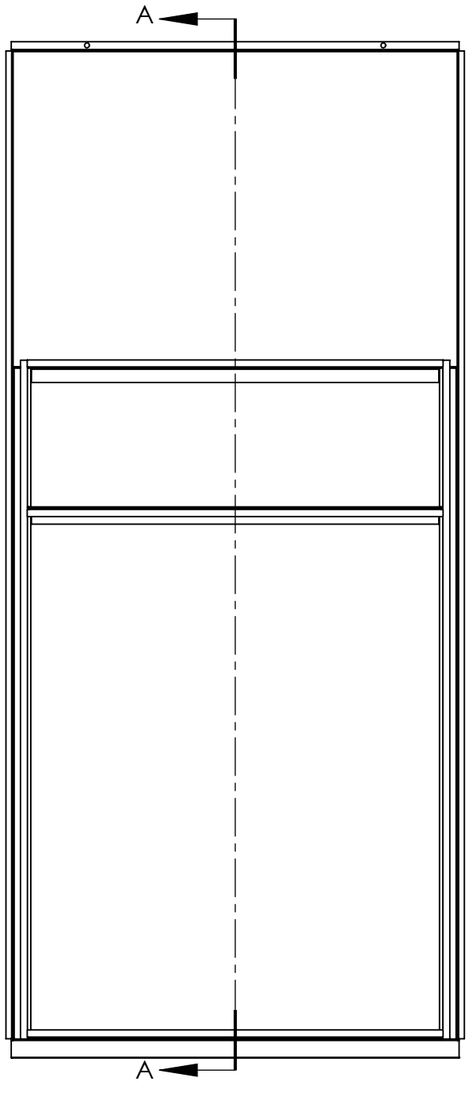
8 7 6 5 4 3 2 1

WMSPXC06A-18K(ND)

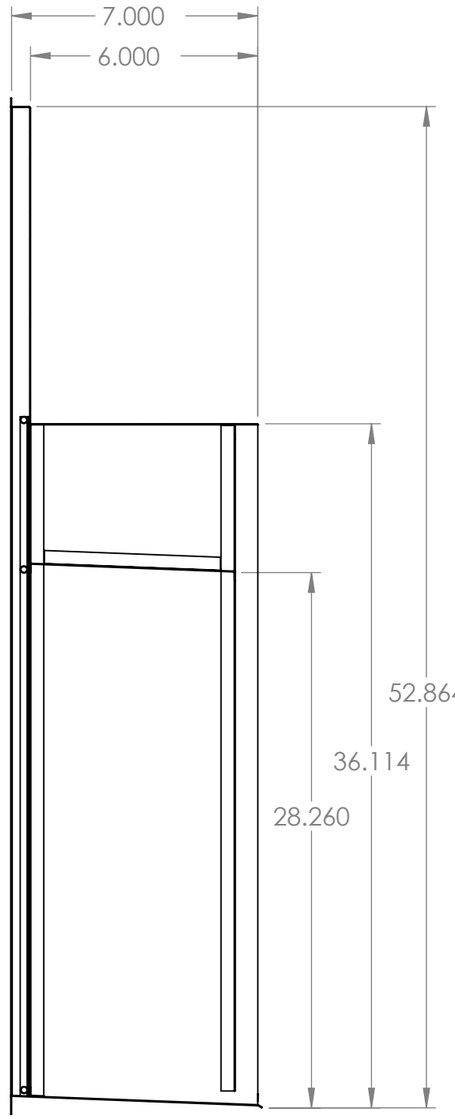
REVISIONS			
REV.	DESCRIPTION	BY	DATE



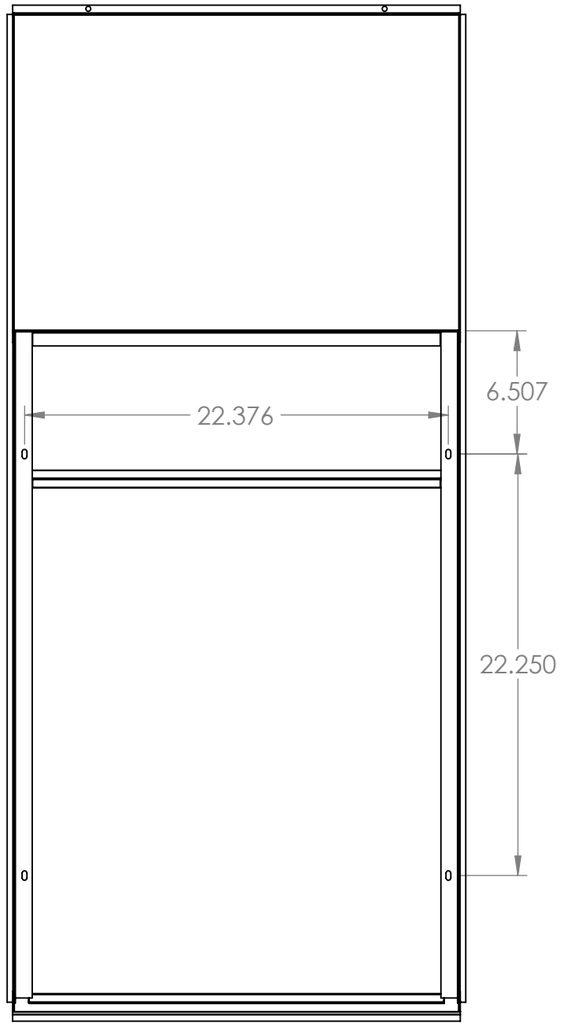
TOP VIEW



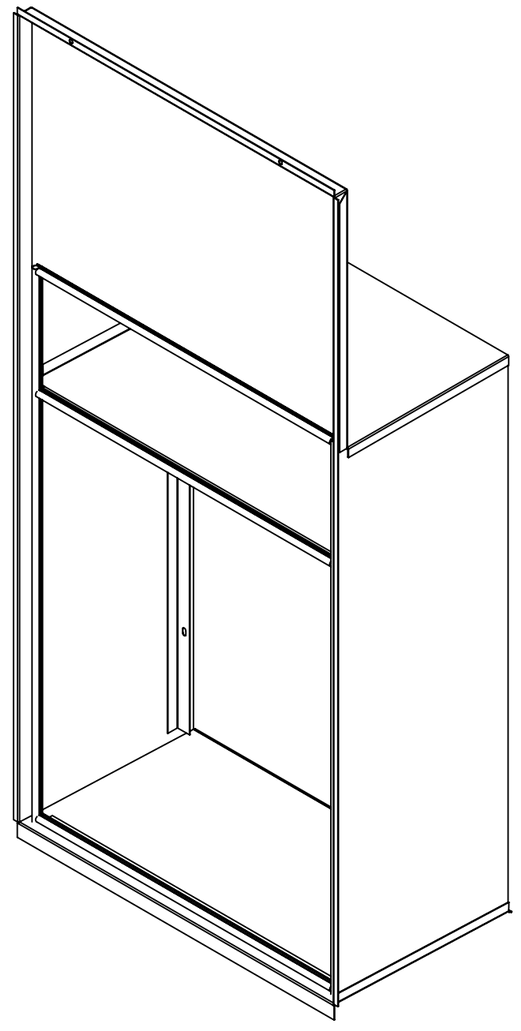
FRONT VIEW



SECTION A-A
SCALE 1 : 8



REAR VIEW



ISOMETRIC VIEW

NOTES.
1. USE SPOT WELD TO JOIN ALL PARTS.
2. RECOMMENDED OPENING IN THE WALL FOR THE PLENUM 24.250"W x 36.500"H.
3. WALL PLENUM SHOULD BE INSTALLED A MIN 5" OFF OF THE FINISHED FLOOR.

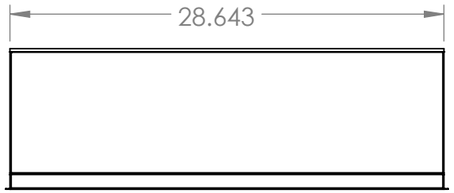
Third Angle Projection

MATERIAL:	**ICE-AIR LLC.** 80 HARTFORD AVENUE MOUNT VERNON, NY 10553
WEIGHT (LBS): 35.35	
FINISH: N/A	TITLE: SPXC STRAIGHT UNIT 18K PLENUM WITH PITCH 1/2" 12.000" DEEP WITH 1" RECESS FOR UNIT
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/32 ANGULAR: MACH ± ° BEND ± 1° TWO PLACE DECIMAL ± .03 THREE PLACE DECIMAL ± .015	MODEL BY: VP · DATE 08/09/22 · DWG. NO. WMSPXC06A-18K (ND) DRAWING BY: · DATE:
SIZE B	SCALE: NONE DO NOT SCALE DRAWING · SHEET 1 OF 1 · REV 01

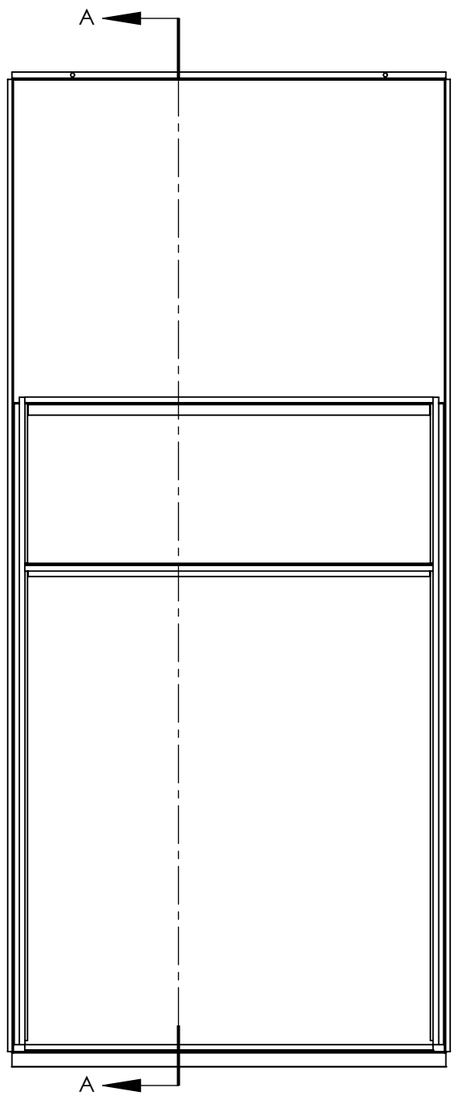
8 7 6 5 4 3 2 1

WMSPXC06A-24K (ND)

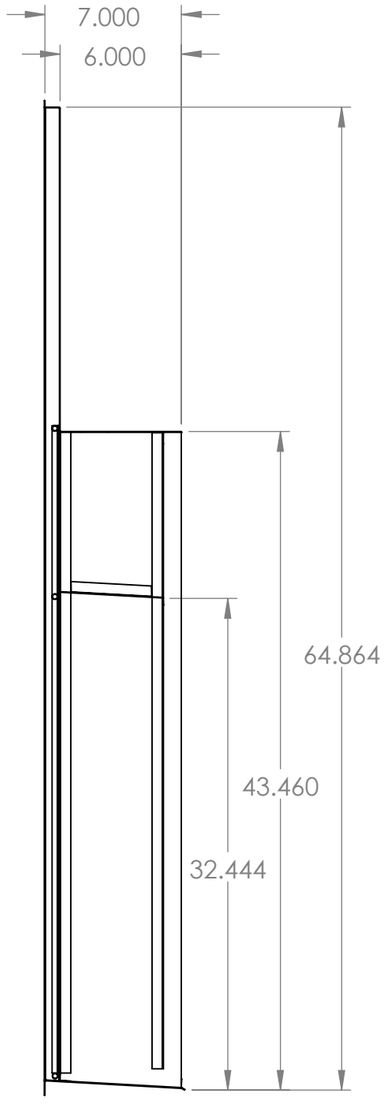
REVISIONS			
REV.	DESCRIPTION	BY	DATE
01			11/5/2019



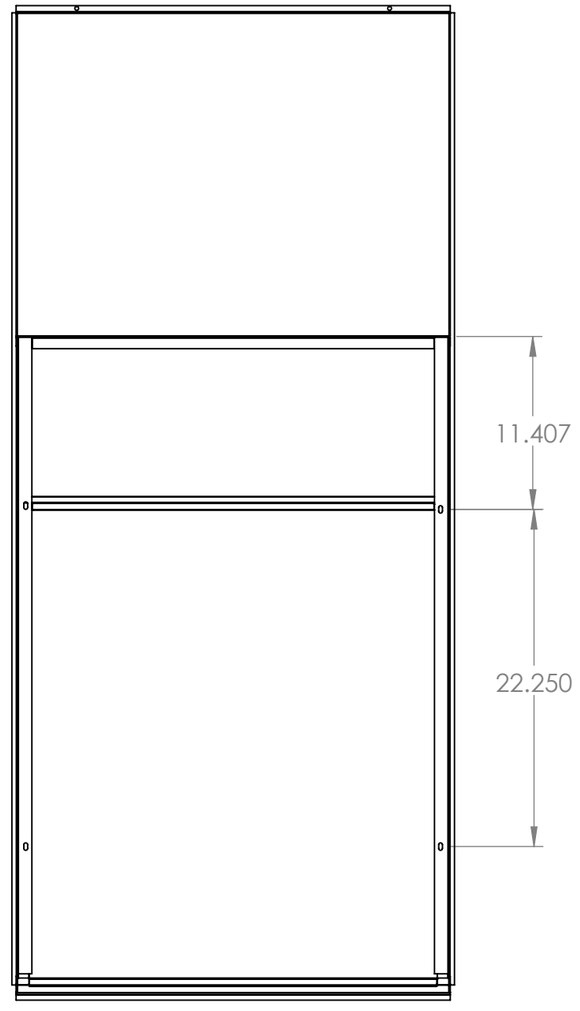
TOP VIEW



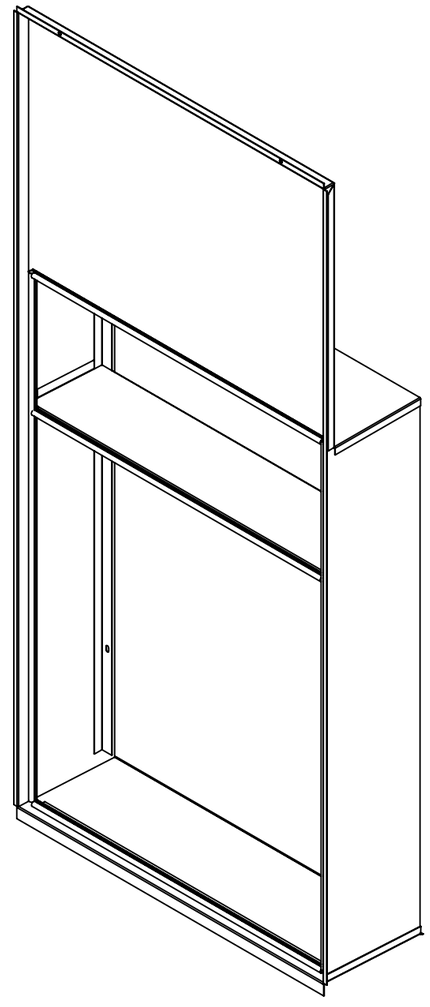
FRONT VIEW



SECTION A-A
SCALE 1 : 10



REAR VIEW



ISOMETRIC VIEW

NOTES.

1. USE SPOT WELD TO JOIN ALL PARTS.
2. RECOMMENDED OPENING IN THE WALL FOR THE PLENUM 29.250"W x 44.000"H.
3. WALL PLENUM SHOULD BE INSTALLED A MIN 5" OFF OF THE FINISHED FLOOR.

Third Angle Projection

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ± 1/32
ANGULAR: MACH ± ° BEND ± 1°
TWO PLACE DECIMAL ± .03
THREE PLACE DECIMAL ± .015

MATERIAL:

WEIGHT (LBS): 27.44

FINISH: N/A

ICE-AIR LLC.
80 HARTFORD AVENUE
MOUNT VERNON, NY 10553

TITLE: SPXC NEW DESIGN STRAIGHT UNIT 24K PLENUM WITH PITCH 1/2" 6.000" DEEP WITH 1" RECESS FOR UNIT

MODEL BY: AP | DATE 03/19/21 | DWG. NO.

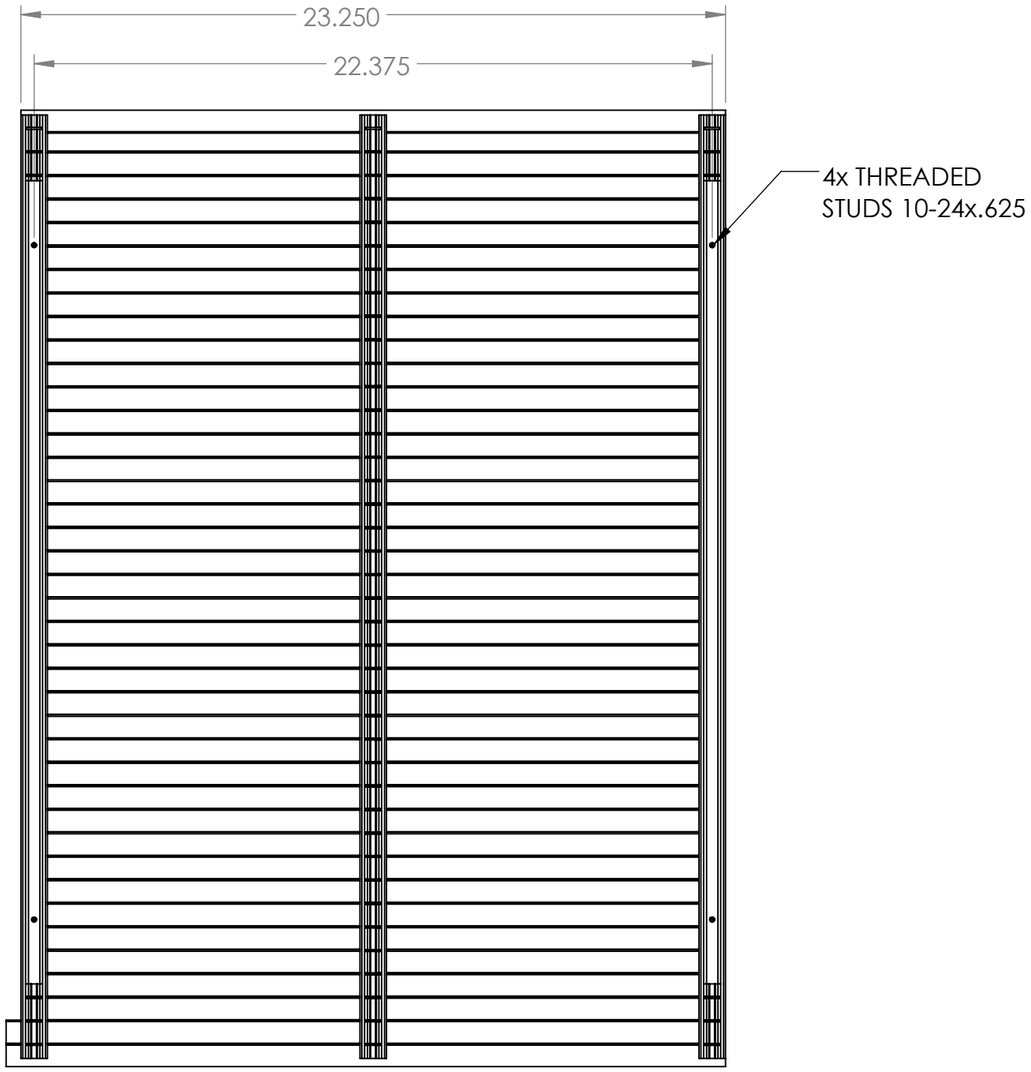
DRAWING BY: JL | DATE: 06/09/22 | WMSPXC06A-24K (ND)

SIZE **B** | SCALE: NONE DO NOT SCALE DRAWING | SHEET 5 OF 5 | REV 01

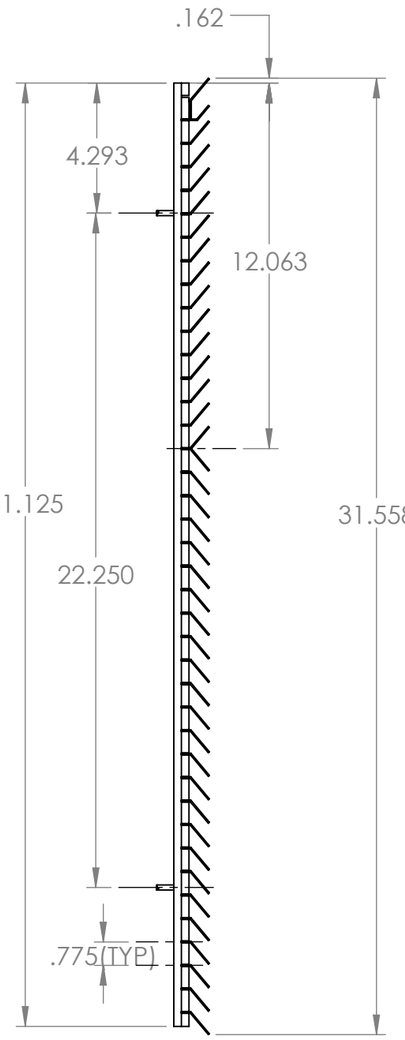
8 7 6 5 4 3 2 1

AHB-10518

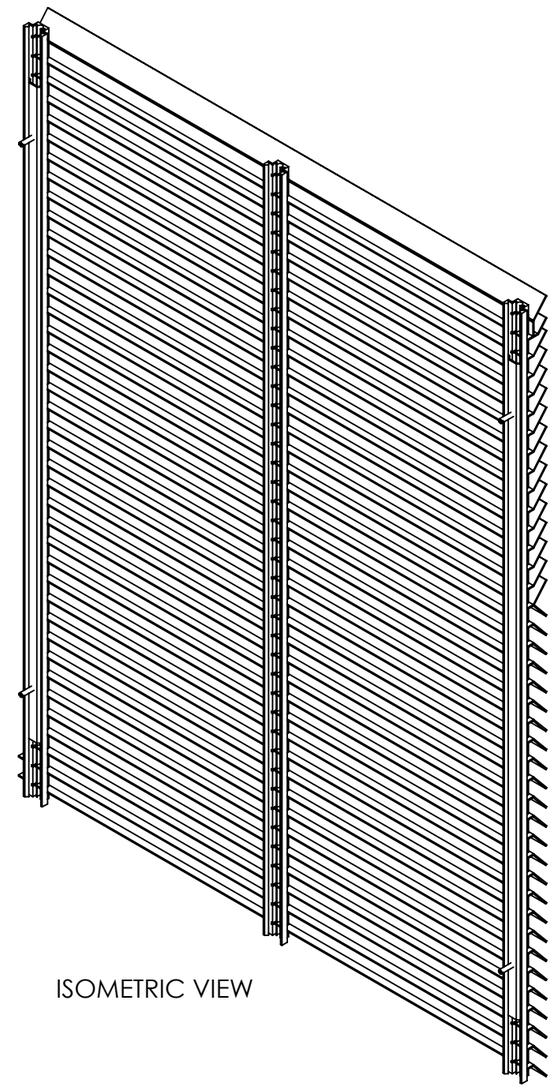
REVISIONS			
REV.	DESCRIPTION	BY	DATE
01			9/19/2019



FRONT VIEW



RIGHT VIEW



ISOMETRIC VIEW

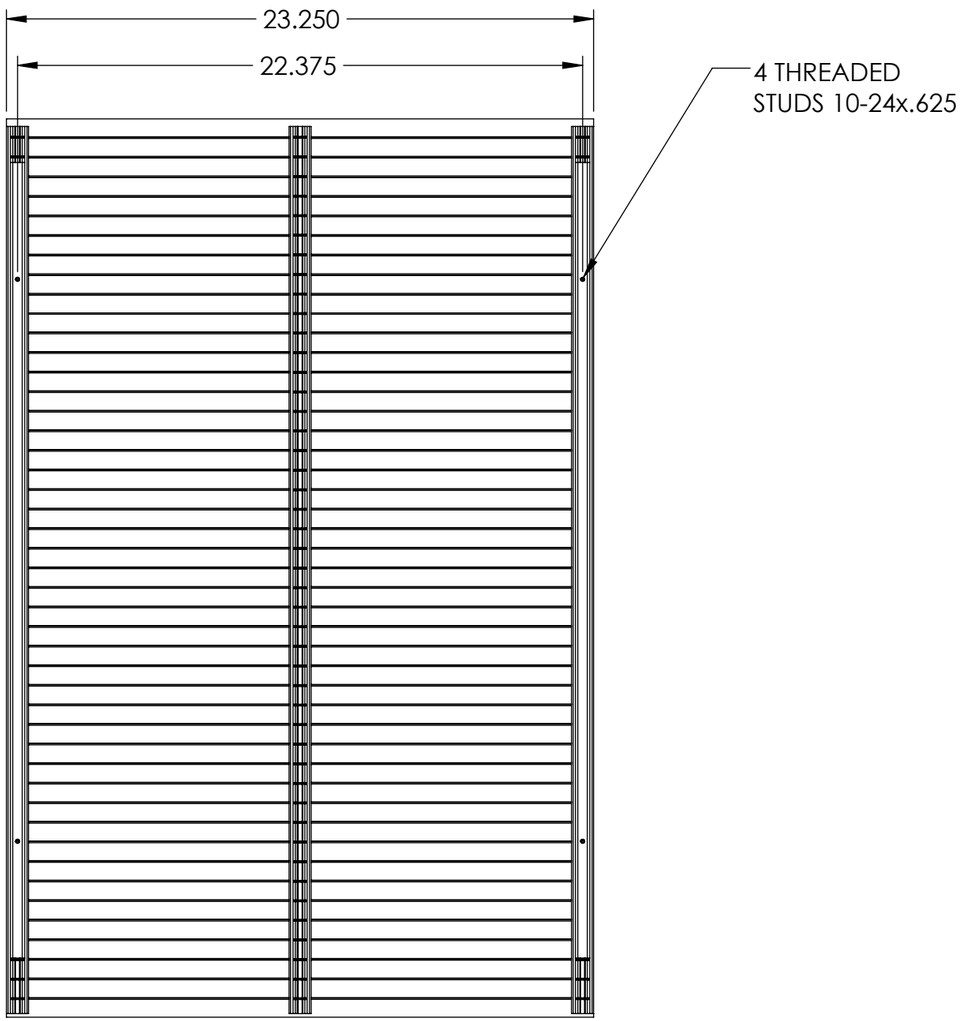
MATERIAL: Anodized Aluminum	**ICE-AIR LLC.** 80 HARTFORD AVENUE MOUNT VERNON, NY 10553
WEIGHT (LBS): 2.68	
FINISH: AS REQ. ON P.O.	TITLE: SPXC NEW DESIGN LOUVER WITH SPLIT AIR FLOW FOR 12K
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/32 ANGULAR: MACH ± ° BEND ± 1° TWO PLACE DECIMAL ± .03 THREE PLACE DECIMAL ± .015	MODEL BY: VP DATE 09/19/19 DWG. NO. AHB-10518 DRAWING BY: DATE: SIZE B SCALE: NONE DO NOT SCALE DRAWING SHEET 1 OF 1 REV 01

Third Angle Projection

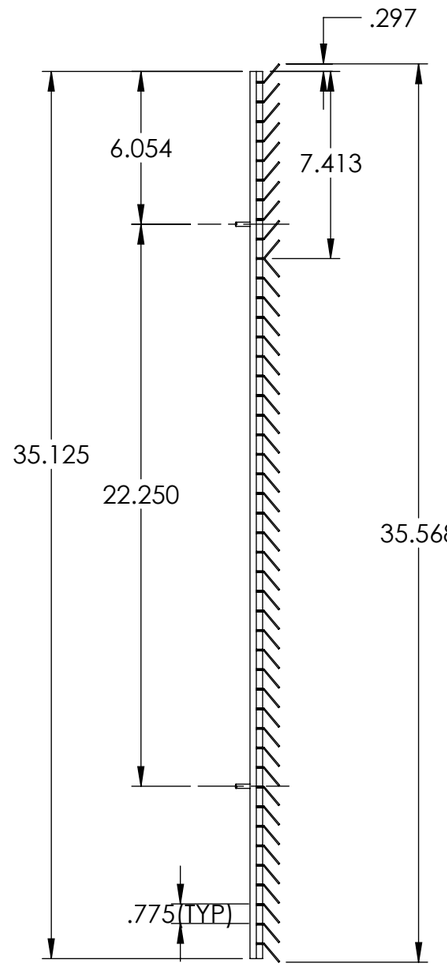
8 7 6 5 4 3 2 1

AHB-10809

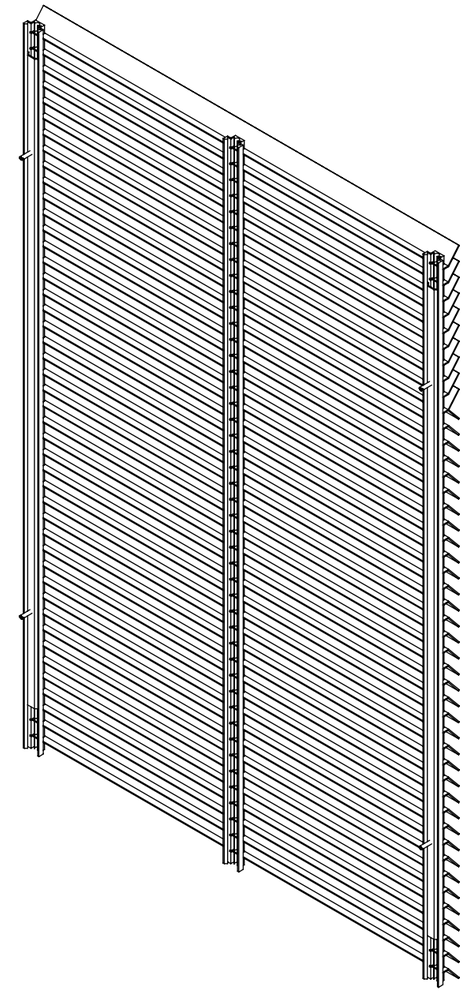
REVISIONS			
REV.	DESCRIPTION	BY	DATE
A			4/26/2021



FRONT VIEW



RIGHT VIEW



ISOMETRIC VIEW

Third Angle Projection

MATERIAL: Anodized Aluminum

WEIGHT (LBS): 3.01

FINISH: AS REQ. ON P.O.

UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
TOLERANCES:
FRACTIONAL ± 1/32
ANGULAR: MACH ± ° BEND ± 1°
TWO PLACE DECIMAL ± .03
THREE PLACE DECIMAL ± .015

ICE-AIR LLC.
80 HARTFORD AVENUE
MOUNT VERNON, NY 10553

TITLE: SPAC 18K NEW DESIGN LOUVER WITH SPLIT AIR FLOW

MODEL BY: VP | DATE: 02/19/21 | DWG. NO. AHB-10809

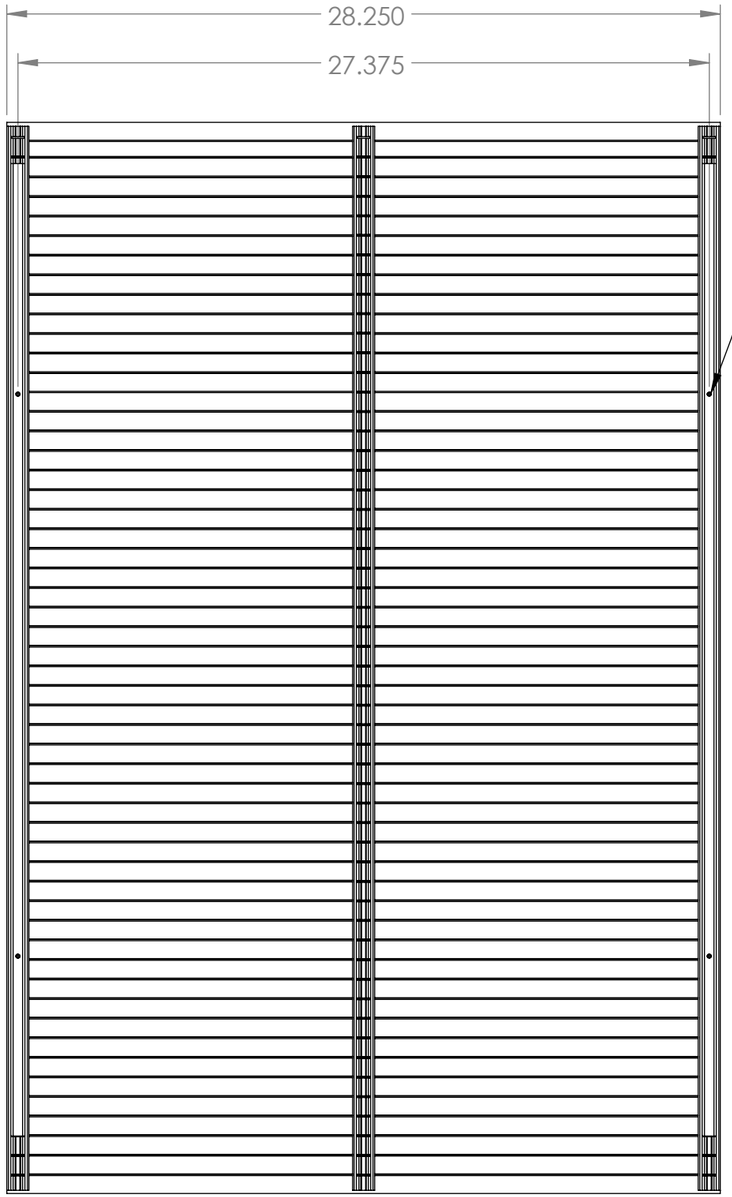
DRAWING BY: - | DATE: -

SIZE B | SCALE: NONE DO NOT SCALE DRAWING | SHEET 1 OF 1 | REV A

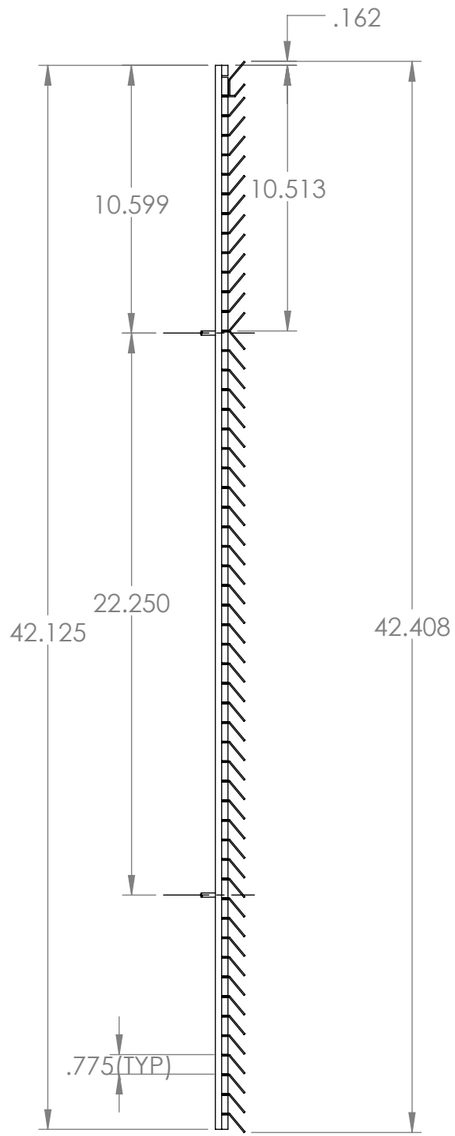
8 7 6 5 4 3 2 1

AHB-10810-BRKF

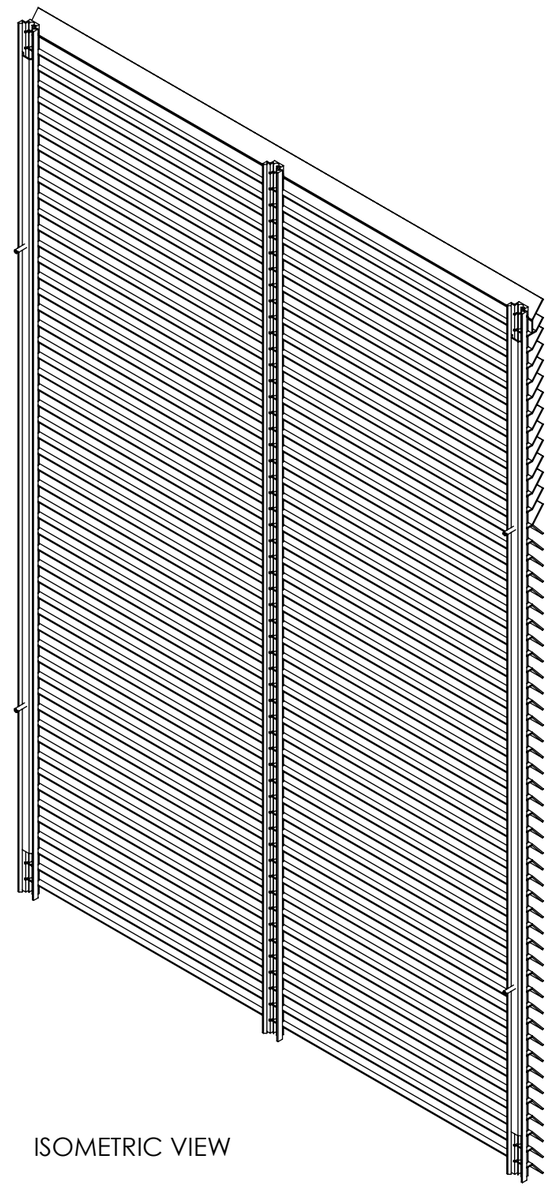
REVISIONS			
REV.	DESCRIPTION	BY	DATE
01			3/23/2021



FRONT VIEW



RIGHT VIEW



ISOMETRIC VIEW

MATERIAL: Anodized Aluminum	**ICE-AIR LLC.** 80 HARTFORD AVENUE MOUNT VERNON, NY 10553
WEIGHT (LBS): 4.22	
FINISH: AS REQ. ON P.O.	TITLE: SPXC 24K NEW DESIGN LOUVER WITH SPLIT AIR FLOW
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± 1/32 ANGULAR: MACH ± ° BEND ± 1° TWO PLACE DECIMAL ± .03 THREE PLACE DECIMAL ± .015	MODEL BY: VP DATE: 02/19/21 DWG. NO. AHB-10810-BRKF DRAWING BY: - DATE: -
	SIZE B · SCALE: NONE DO NOT SCALE DRAWING · SHEET 1 OF 1 · REV 01

Third Angle Projection

8 7 6 5 4 3 2 1

PRODUCT SPECIFICATIONS
SINGLE PACKAGED HEAT PUMP (SPHP)

ICE AIR HI SPEC™ UNITS
'SPXC' SERIES UNITS

1. Equipment: Provide "SPXC" Series Single Packaged Heat pump (SPHP), as manufactured by Ice Air, LLC.

2. Components: Heat Pump to consist of wall plenum, exterior louver, cooling/heating chassis and front panel. Units to operate at 208 / 230-volt, single phase, 60 hertz circuits.

3. Wall Plenum: Wall plenum exterior dimensions to be 32.625" high x 23.625" wide, 36.625" high x 23.625" wide or 43.50" high x 28.625" wide to comply with US DOE requirements for new construction SPACs. Smaller dimension wall plenums are not acceptable under DOE regulations. Wall plenum to be factory fabricated of 18 gauge galvanized steel and to be shipped with a mechanically-attached temporary coated cardboard filler panel at the exterior for weather protection. Cardboard filler panel to be removed prior to chassis and louver installation. Wall plenum to have built-in pitch of at least ½" and to be fabricated with an angled rain lip for proper drainage to the exterior of the building. Wall plenums for masonry locations to be factory fabricated to match the full wall depth at each location; wall plenums with field-installed extension pieces are not acceptable.

4. Louvers (Optional): Exterior louver to be horizontal, extruded aluminum blade-type construction with clear anodized (painted Duranar) finish. Louver to be supplied with stainless steel fastening hardware and must be capable of being installed from within the wall plenum, supplied for all through wall locations

5. Chassis: Cooling chassis to be a self-contained, assembly consisting of a sealed refrigerant system, evaporator and condenser sections with separate Electronically Commutated (EC) motors (single motor units are not acceptable), motorized outside fresh air damper, (optional) remote mounted thermostats and (optional) a non-fused disconnect. Provide throwaway filter with each unit.

5a. Refrigeration System: Sealed refrigerant system to consist of enhanced vapor injection (EVI) variable speed compressor, copper tube / aluminum fin evaporator and condenser coils, refrigeration metering device consisting of a capillary tube expansion system, a reversing valve and interconnecting tubing. System to be factory charged and sealed and capable of operating in the cooling mode to an outdoor ambient temperature of 38 °F. All units to be manufactured with R410A Green refrigerant; units containing R22 or R407C refrigerant are not acceptable.

5b. Heat Pump System: Heat Pump operation using reverse heating cycle. System to be factory charged and sealed and capable of operating in the heat pump mode until an outdoor ambient temperature of -5 °F. Electric heating element will automatically energize (manual activation switch available).

5c. Evaporator Section: Evaporator motor and blower wheel to be mounted behind the evaporator coil. Blower wheel to be fabricated from aluminum and to be directly driven by a multi-speed EC motor with built-in thermal overload protector. Evaporator section to contain an integral stamped and powder coated steel drain pan, draining into one 3/4” O.D. drain hose.

5d. Condenser Section: Condenser section to contain a separate EC motor and plastic or metal propeller fan with an integral slinger ring. Condenser motor to cycle with compressor and to run during the cooling and heating cycle.

5e. Condensate Disposal (Cooling): Condensate to drain from the indoor base pan into the lower galvanized steel condenser base pan through one 3/4” O.D. drain hose. Condensate disposal to be accomplished by the entrainment of water particles in the condenser air stream and evaporation upon the hot condenser coil. Building condensate drain lines may be required.

5f. Condensate Disposal (Heating): Condensate to drain from the indoor base pan into the lower galvanized steel condenser base pan through one 3/4" O.D. drain hose. At extreme cold conditions, outdoor ambient temperature of 37F and below, a drain pan heater will be energized periodically to ensure condensate water does not freeze and allow for proper drainage.

5g. Chassis Sheet Metal: Chassis sheet metal parts to be manufactured entirely of 18 gauge and 20 gauge galvanized steel. Chassis base pan to be powder coated inside and out to prevent corrosion of sheet metal pan. Chassis will slide into the wall plenum interior flanges and creates a positive weather seal using crushable pressure-sensitive foam tape, thereby preventing air and water infiltration. Chassis seal must be an integral part of unit construction, use of attached sealing angles or channels is not acceptable.

5h. Unit Controls (Optional): Unit controls to include a wall-mounted digital controller with integral electronic thermostat. Controller to be seven-day programmable type. Interior room temperature, and Freezestat to be mounted on the evaporator coil only (condenser mounted freezestats are unacceptable) to provide true temperature readings.

5i. Outside Air: Provide manual outside air damper with chassis mounted actuator. (Optional) motorized damper could also be supplied by special request.

6. Front access panel (Optional): Front access panel to be fabricated from 20 gauge galvanized steel. Panel to be finished in (Antique White) (Arctic White) baked powder coat finish. Front access panel to mount to closet jam.

7. Warranty and Code Compliance: Unit to be guaranteed free of defects in material and workmanship for one year from date of delivery. Units to be ETL listed for safety in the United States and Canada, to have New York City MEA and BEC approvals, to be in compliance with all local, state and federal energy efficiency and building codes and to be tested in accordance with current ARI standards.