

Performance Specification

Project Name: **454B Stock AC Scrolls YLAA Submittals**

Unit Tag:
YLAA0089SJ46VSD

Qty.: **1**

Model: **YLAA0089SJ46XF**

Full Load - Design

PIN

YLAA0089SJ	46XFBCTXA	SXBLXCXX44	SE1XXXHXXX	YAXGXXX3XX	XVXNXXXXXX			
...5...10	...5...20	...5...30	...5...40	...5...50	...5...60	...5...70	...5...80	...5...90

Unit	
Model No.	YLAA0089SJ46XFB
Number of Compressors	6
Compressor Type	Scroll - Hermetic
Number of Compressor Circuits	2
Refrigerant	R454B
Performance Data	
Cooling Capacity [tons.R]	80.58
Total Power Input [kW]	96.02
EER [Btu/W.h]	10.07
IPLV/IP [Btu/W.h]	17.56
A-Weighted Sound Power [dB(A)]	94.0
Electrical Data	
Nominal Voltage / Voltage Limits	460/3/60 / 414-506
Compressor RLA (each circuit) [A]	26.9 / 26.9 / 26.9 / 26.9 / 26.9 / 26.9
High LRA Current (each circuit) [A]	180.0 / 180.0 / 180.0 / 180.0 / 180.0 / 180.0
Fan QTY (each circuit)	2 / 2
Fan FLA (each circuit) [A]	4.0 / 4.0
Min. Circuit Ampacity [A]	188.0
Recommended Fuse / CB Rating [A]	200.0
Max. Inverse Time CB Rating [A]	200.0
Max. Dual Element Fuse Size [A]	200.0
Unit Short Circuit Withstand [kA]	65 kA
Wires Per Phase	1
Wire Range (Lug Size)	#4 AWG - 300 kcmil
Compressor kW	89.30



Performance Impacting Options

Starter Type	Across the line starter
Power Factor Correction Capacitor	No Power Capacitor required
Remote Evaporator	Standard Cooler required
Sound Kit	No Acoustic Blanket required
Fan	Low Sound Fans with VSD

Weight & Dimensional Data

Shipping Weight [lbs]	4537
Operating Weight [lbs]	4610
Refrigerant Charge [lbs]	71
Length [in]	116.1
Width [in]	88.3
Height [in]	94.2



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Page 2 of 4

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Heat Exchanger Performance

Evaporator		Condenser (Air Cooled)	
Heat Exchanger Type	Plate Heat Exchanger	Ambient Air Temperature* [°F]	95.0
Entering Fluid Temperature* [°F]	54.00	Altitude* [ft]	0.00
Leaving Fluid Temperature* [°F]	44.00	Condensing Temperature [°F]	125.92 / 125.92
Flow Rate [USGPM]	192.3	Number of Fans	2 / 2
Fouling Factor* [h ft ² F/Btu]	0.000100	Total Air Flow [cfm]	60000
Fluid Type*	Water	Total Fan Power [kW]	6.720
Fluid Volume [USGAL]	8.8		
Evaporating Temperature [°F]	39.48		
Evaporator Pressure Drop [ft H ₂ O]	6.48		
Strainer Pressure Drop [ft H ₂ O]	3.69		
Extension Kit Pressure Drop [ft H ₂ O]	2.02		
Total Pressure Drop [ft H ₂ O]	12.2		
Fluid Connection Diameter [in]	3		
Minimum Flow Rate [USGPM]	100.0		
Maximum Flow Rate [USGPM]	400.0		

* Designates user specified input

Certified in accordance with the AHRI Air-Cooled Water-Chilling Packages Using Vapor Compression Cycle Certification Program, which is based on AHRI Standard 550/590 (I-P) and AHRI Standard 551/591 (SI). Certified units may be found in the AHRI Directory at www.ahridirectory.org.



Part Load Performance (Based on Standard AHRI Unloading)

Percent Load	Ambient [°F]	Capacity [tons.R]	Power Input [kW]	Unit Efficiency [Btu/W.h]
100.0	95.0	80.58	96.02	10.07
75.1	80.0	60.51	50.84	14.28
55.9	80.0	45.05	36.47	14.82
60.7	65.0	48.91	31.73	18.50
40.1	65.0	32.28	19.37	20.00
41.9	55.0	33.76	17.36	23.33
20.2	55.0	16.27	8.405	23.23



Performance Report

Page 3 of 4

Performance Specification

Project Name: **454B Stock AC Scrolls YLAA Submittals**Unit Tag:
YLAA0089SJ46VSDQty.: **1**Model: **YLAA0089SJ46XF**

Sound Power Levels (In Accordance with AHRI 370)

Percent Load	Ambient [°F]	Octave Band Center Frequency [Hz]								LWA
		63	125	250	500	1000	2000	4000	8000	
100.0	95.0	96.0	95.0	91.0	91.0	88.0	87.0	81.0	77.0	94.0
75.1	80.0	90.0	89.0	85.0	86.0	82.0	83.0	76.0	72.0	89.0
55.9	80.0	84.0	83.0	80.0	81.0	78.0	82.0	74.0	67.0	86.0
60.7	65.0	72.0	68.0	69.0	78.0	76.0	81.0	72.0	63.0	84.0
40.1	65.0	70.0	67.0	67.0	76.0	74.0	79.0	70.0	61.0	82.0
41.9	55.0	70.0	67.0	67.0	76.0	74.0	79.0	70.0	61.0	82.0
20.2	55.0	67.0	64.0	64.0	73.0	71.0	76.0	67.0	58.0	79.0

Note: Unit is equipped with Low Sound Fans with VSD.

Measurement of sound pressure used to obtain the sound power data presented is based on AHRI-370.

Air-cooled chillers are rated in terms of sound power not sound pressure. Johnson Controls provides estimates of sound pressure, but this is not the rating metric.

For an air-cooled chiller, sound pressure calculated from sound power varies depending on how the chiller is assumed to behave, i.e. the radiation model. In other words, determining sound pressure from sound power requires making assumptions that result in different answers at a given distance from the chiller. The environment also influences sound pressure in the field installation. Sound pressure estimation radiation models pertaining to air-cooled chillers include the 'traditional' hemispherical model, parallelepiped model and equivalent hemispherical model.

Regarding sound power, Johnson Controls references tolerance limits based on ASHRAE guidelines. These are +/- 6dB in the 63Hz octave band, +/- 4dB in all other octave bands and +/- 3dB for the overall dBA.

Tolerance limits are based on uncertainties associated with:

1. Measurement Test Procedure
2. Repeatability
3. Production / Manufacturing Variability

Standard deviation associated with air-cooled chiller sound data is a measure of spread i.e. it indicates the range of probability of sound levels. Note that for operating conditions other than AHRI's Standard Rating Condition, higher levels of uncertainty can be expected.

Lead times for factory performance testing depend on test laboratory availability. Please confirm with Johnson Controls Customer Service.

Performance at AHRI Conditions

Evaporator		Condenser	
EFT [°F]	54.00	Ambient Temp. [°F]	95.0
LFT [°F]	44.00	Altitude [ft]	0.00
Flow Rate [USGPM]	192.3	Performance	
Pressure Drop [ft H2O]	6.48	EER [Btu/W.h]	10.07
Fluid Type	Water	IPLV.IP [Btu/W.h]	17.56
Fouling Factor [h ft2 F/Btu]	0.000100	Net Cooling Capacity [tons.R]	80.58
Fluid Volume [USGAL]	8.8		

Note: Unit rated at design condition capacity.



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Page 4 of 4

Performance Specification

Project Name: **454B Stock AC Scrolls YLAA**
Submittals

Unit Tag:
YLAA0089SJ46VSD

Qty.: **1**

Model: **YLAA0089SJ46XF**

Part Load Performance (Based on AHRI 550/590 - 2018 (IP))

Percent Load	Ambient [°F]	Capacity [tons.R]	Power Input [kW]	Unit Efficiency [Btu/W.h]
100.0	95.0	80.58	96.02	10.07
75.1	80.0	60.51	50.84	14.28
55.9	80.0	45.05	36.47	14.82
60.7	65.0	48.91	31.73	18.50
40.1	65.0	32.28	19.37	20.00
41.9	55.0	33.76	17.36	23.33
20.2	55.0	16.27	8.405	23.23

Notes:

Country of Origin: Mexico

Min flow rate is for chillers using water. For glycol chillers please contact the application engineering team.

This unit does not have a coil coating selected.

Compliant with ASHRAE 90.1 - 2010, 2013, 2016.

Compliant with IECC - 2012, 2015, 2018.

Compliant with the requirements of the LEED Energy and Atmosphere Enhanced Refrigerant Management Credit (EAc4).

The product image shown is for illustrative purposes only and is not representative of selected options.

Equipment Description
Base Unit/Access. (2937)
Base Unit - YLAA0089SJ
R454B Refrigerant (Fully Charged)
Voltage Code - 460/3/60
Across the line starter
SP Circuit Breaker w/ Lockable Handle, 65kA SCWR
Control Transformer Required
Both Low/High Ambient Kit
Connected Services Ready - SC-Equip Board
English
North American Safety Code (cUL/cETL)
Service Isolation Valves
Electronic Expansion Valves
Hot Gas Bypass required - 1 circuit
Extension Kit
Dispersion Switch
ASME Pressure Vessel Codes
Aluminum MCHX Coils
No Heat Recovery
Wire/Louvered Encl Panels (factory)
No Acoustic Blanket required
Low Sound Fans with VSD
Neoprene Isolators
No Pump required



YLAA Air Cooled Scroll Chillers

Page 1 of 1

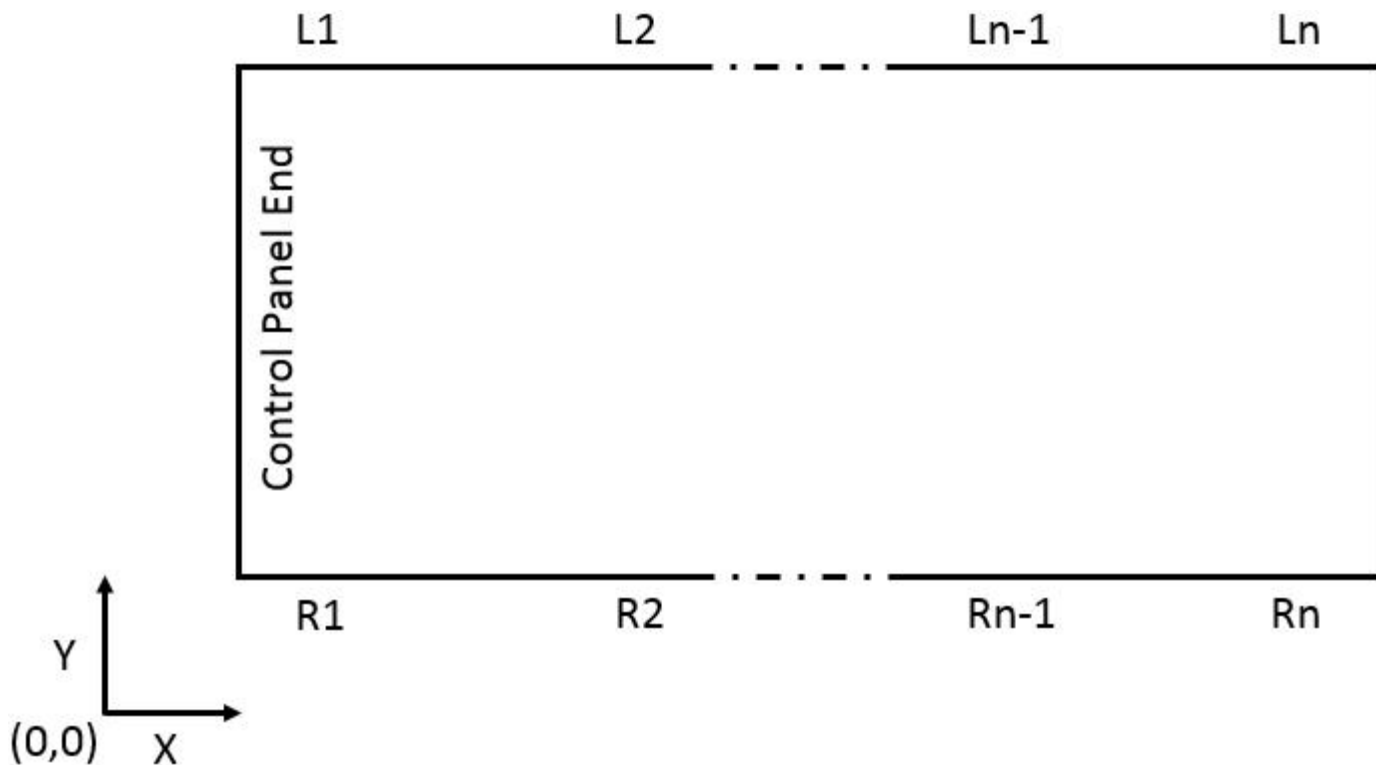
AVM Report

Project Name: 454B Stock AC Scrolls YLAA
SubmittalsUnit Tag:
YLAA0089SJ46VSD

Qty.: 1

Model No.: YLAA0089SJ46XF

PIN								
YLAA0089SJ	46XFBCTXA	SXBLXCXX44	SE1XXXHXXX	YAXGXXX3XX	XVXNXXXXXX			
....5...10	5...20	5...30	5...40	5...50	5...60	5...70	5...80	5...90



LOCATION	X Distance (in)	Y Distance (in)	JCI PART NUMBER	SAP NUMBER	COLOUR	Operating Weights (lb)
R1	19.5	1.4	029-25335-002	434004	Red	1011
R2	95.1	1.4	029-25335-002	434004	Red	945
L1	19.5	86.9	029-25335-002	434004	Red	1275
L2	95.1	86.9	029-25335-002	434004	Red	1378

Total Weight (lb)		Centre of Gravity (in)	
Operating Weights (lb)	4609	Xg [in]	57.6
Shipping Weight [lb]	4536	Yg [in]	50.6

NOTES:
1. PLACEMENT ON A LEVEL SURFACE FREE OF OBSTRUCTIONS (INCLUDING SNOW, FOR WINTER OPERATION) OR AIR RE-CIRCULATION ENSURES RATED PERFORMANCE, RELIABLE OPERATION AND EASE OF MAINTENANCE. SITE RESTRICTIONS MAY COMPROMISE MINIMUM CLEARANCES INDICATED BELOW, RESULTING IN UNPREDICTABLE AIR FLOW PATTERNS AND POSSIBLE DIMINISHED PERFORMANCE. JOHNSON CONTROLS UNIT CONTROLS WILL OPTIMIZE OPERATION WITHOUT NUISANCE HIGH PRESSURE SAFETY CUTOUT. HOWEVER, THE SYSTEM DESIGNER MUST CONSIDER POTENTIAL PERFORMANCE DEGRADATION.

- 1.1. RECOMMENDED MINIMUM CLEARANCES:
1.1.1. SIDE TO WALL - 1828.8mm[6']
1.1.2. REAR TO WALL - 1828.8mm[6']
1.1.3. CONTROL PANEL TO WALL - 1219.2mm[4']
1.1.4. TOP - NO OBSTRUCTIONS ALLOWED.
1.1.5. DISTANCE BETWEEN ADJACENT UNITS - 3048mm[10']
1.1.6. NO MORE THAN ONE ADJACENT WALL MAY BE HIGHER THAN UNIT.

2. WEIGHT AND CENTER OF GRAVITY - REFER TO AVM REPORT.

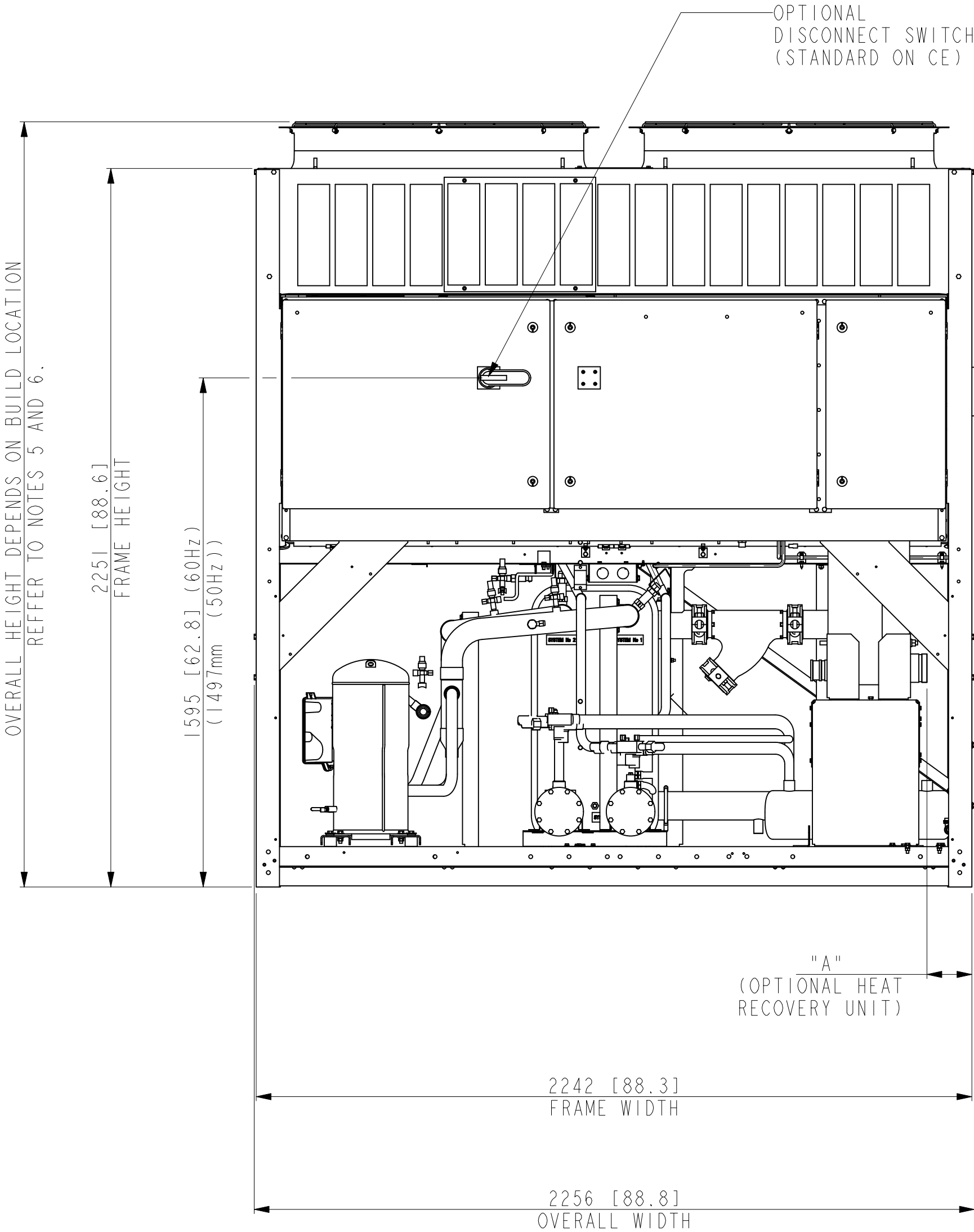
3. INSTALLING CONTRACTOR MUST INCLUDE VENT AND DRAIN ACCOMMODATIONS IN CHILLED WATER PIPING NEAR THE EVAPORATOR.

4. NUMBER OF COMPRESSORS MAY VARY FROM DRAWING.
4.1. REFER TO YORKworks REPORTS.

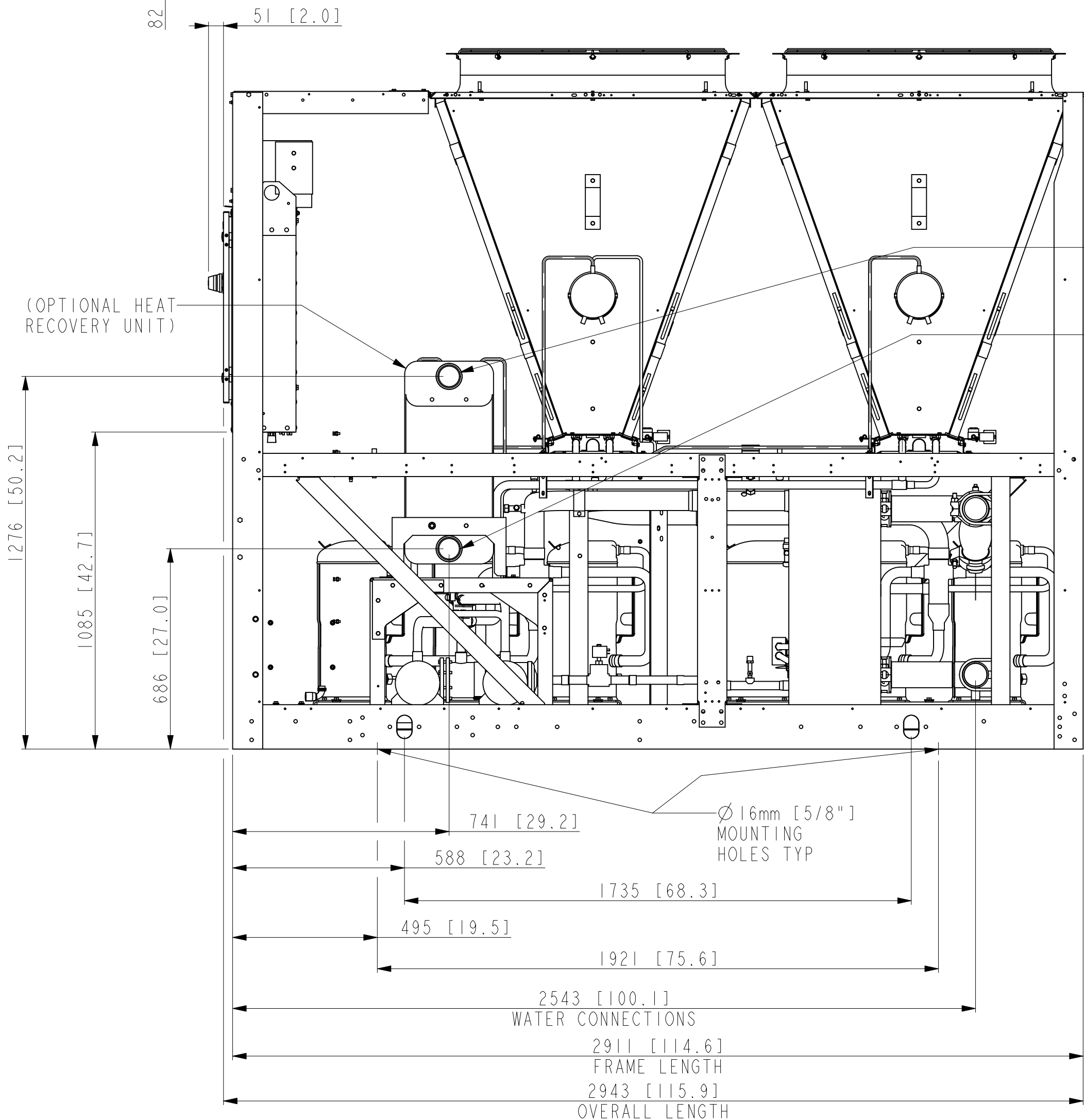
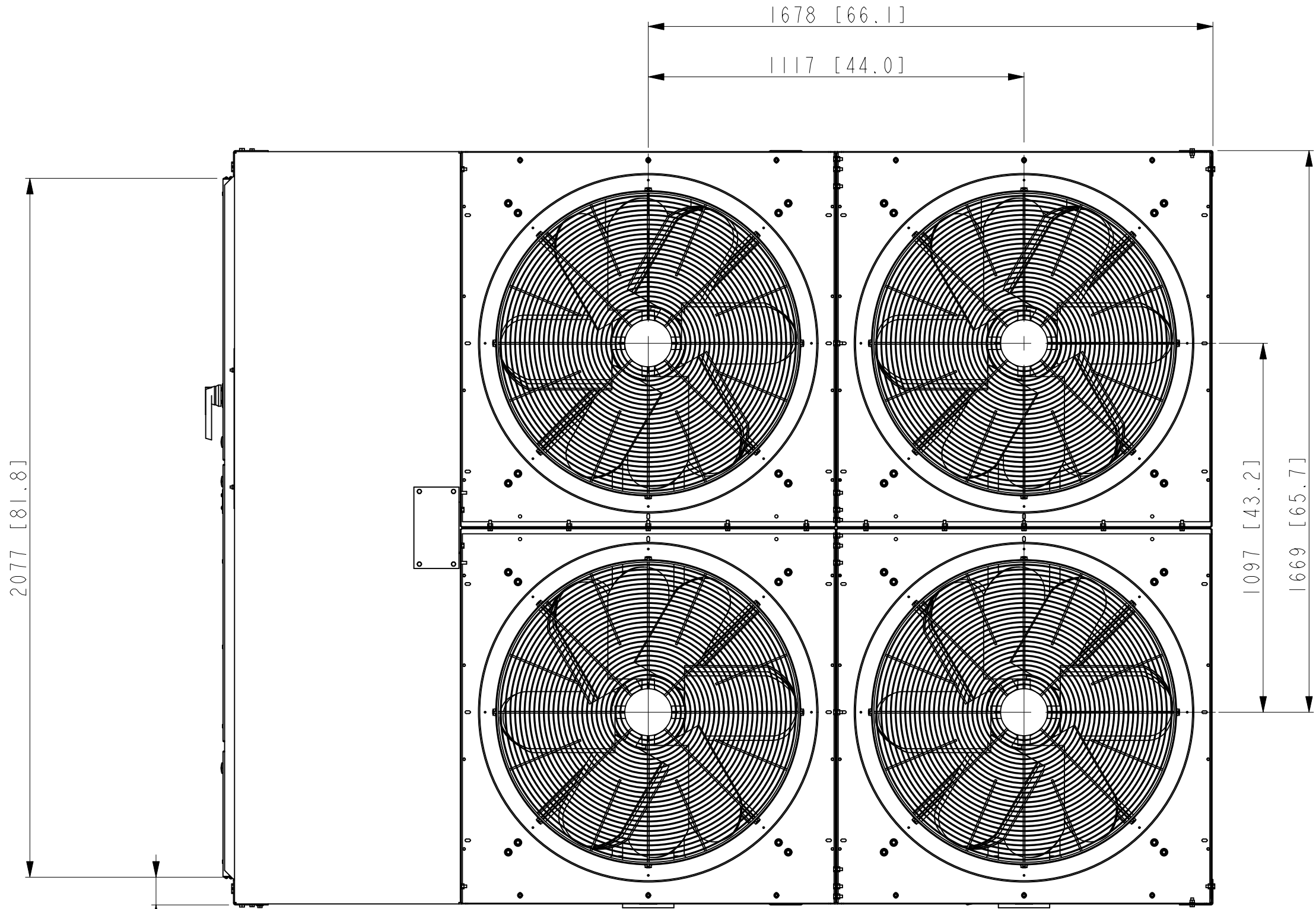
5. OVERALL HEIGHT OF UNIT IS 2394.6mm-[94.27"] ON MONTERREY, MEXICO AND SAN ANTONIO, TEXAS BUILDS AND EUROPEAN BUILDS (VSD FANS ONLY).

6. ON EUROPEAN BUILDS,OVERALL HEIGHT OF UNIT IS 2507.0mm-[98.70"] WITH STANDARD FANS AND IS 2541.0mm [100.04"] WITH LOW AMBIENT KIT AND WITH C FAN.

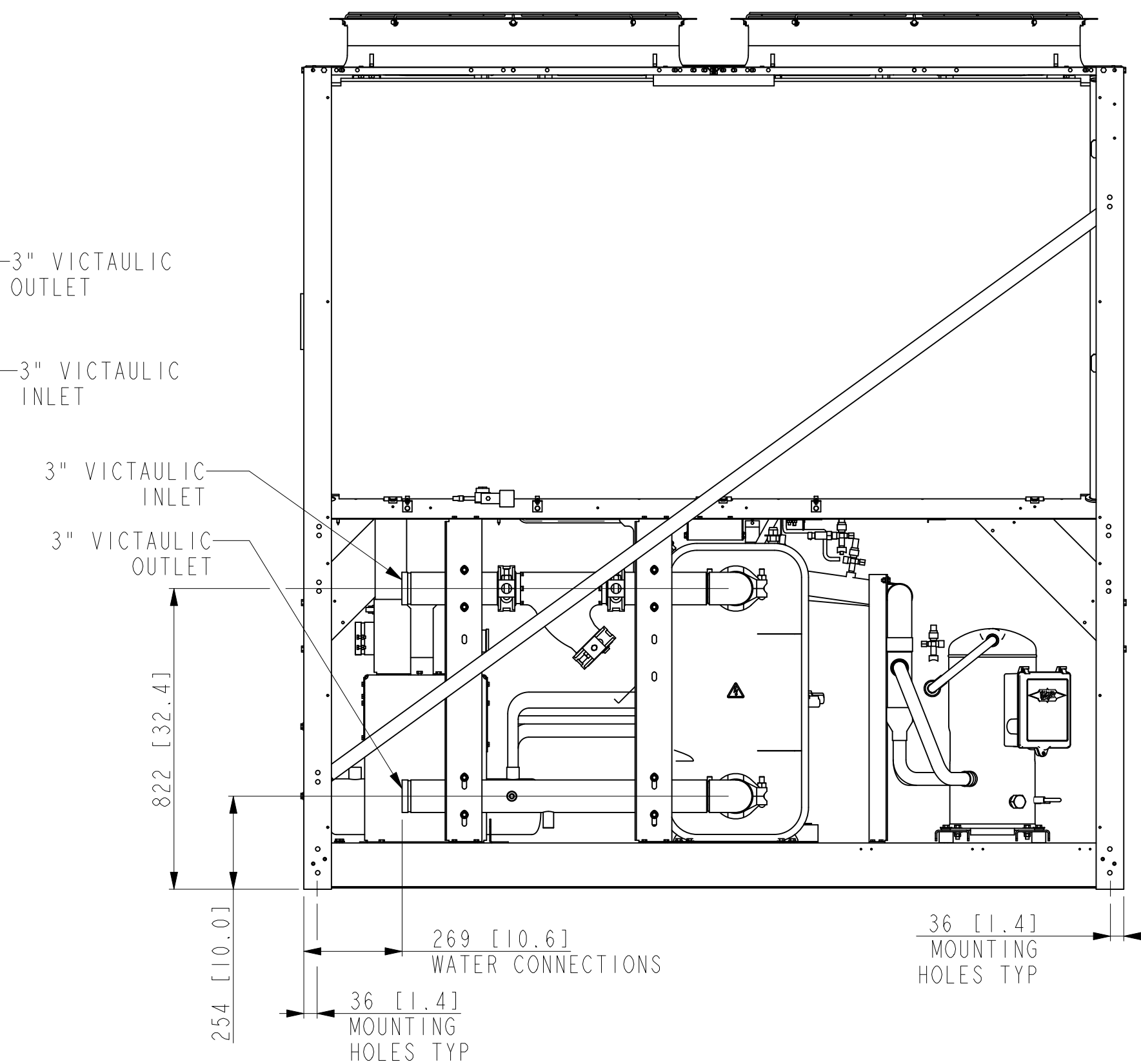
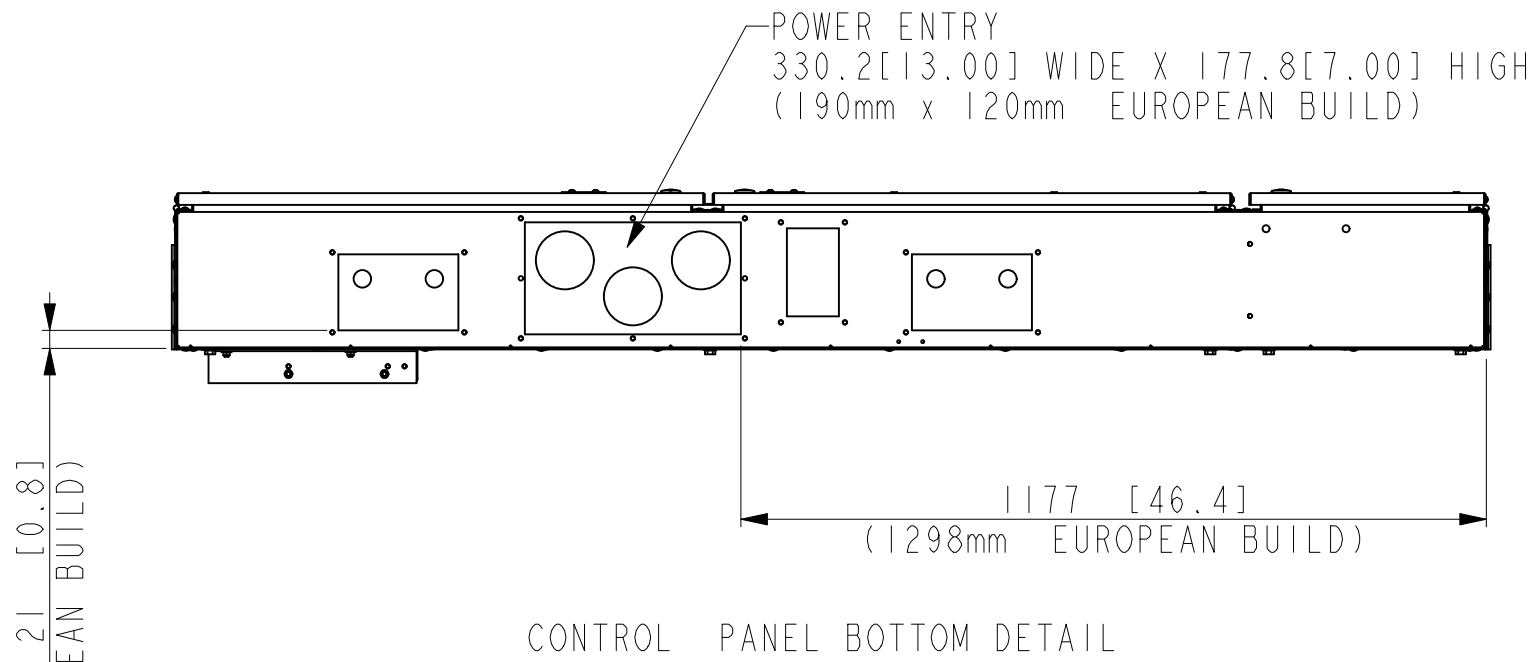
7. FOR MONTERREY, MEXICO, SAN ANTONIO, TEXAS AND EUROPEAN BUILDS ONLY.



THIS DRAWING PERTAINS TO THE FOLLOWING MODELS:		
YLAA 0070 SE	YLAA 0241 SE	YLAA 0262 HE
YLAA 0080 SE	YLAA 0261 HE	YLAA 0221 HJ
YLAA 0089 SE	YLAA 0286 SE	YLAA 0262 HJ
YLAA 0221 HE	YLAA 0320 SE	YLAA 0286 SJ



MODEL NUMBER	DIMENSION "A"	MODEL NUMBER	DIMENSION "A"
YLAA 0070 SE	141 [5.6]	YLAA 0221 HJ	227 [8.9]
YLAA 0080 SE	141 [5.6]	YLAA 0262 HJ	227 [8.9]
YLAA 0089 SE	141 [5.6]	YLAA 0286 SJ	141 [5.6]
YLAA 0221 HE	227 [8.9]		
YLAA 0241 SE	227 [8.9]		
YLAA 0261 HE	227 [8.9]		
YLAA 0262 HE	227 [8.9]		
YLAA 0286 SE	141 [5.6]		
YLAA 0320 SE	141 [5.6]		



THIRD ANGLE

DO NOT SCALE

Johnson Controls

JOHNSON CONTROLS - BUILDING EFFICIENCY

507 EAST MICHIGAN STREET, MILWAUKEE, WI, 53202 USA

REV. DATE EC. NO. DR. CHK. ENG. J 09-JUN-2020 ECN20-0441 GT AS XW

NOTE 6 AMENDED DIM 2541MM WAS 2535MM. FAN TERMINAL BOX 6MM HIGHER.

CONTINUED

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SCALE: 0.075 MASS (kg): 0.000

ORIG. NO.:

CAGE NUMBER 66935

DRAWING NUMBER 035-24059-002

REVISION J

VERSION I

SHEET 1 OF 1

Released