

Performance Specification

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

Unit Tag:
YLAA0041HJ46VSD

Qty.: **1**

Model: **YLAA0041HJ46XC**

Full Load - Design

PIN

YLAA0041HJ	46XCBBCTXA	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.	YLAA0041HJ46XCB
Number of Compressors	
Compressor Type	Scroll - Hermetic
Number of Compressor Circuits	2
Refrigerant	R454B
Performance Data	
Cooling Capacity [tons.R]	38.98
Total Power Input [kW]	39.46
EER [Btu/W.h]	11.85
IPLV/IP [Btu/W.h]	18.62
A-Weighted Sound Power [dB(A)]	93.0
Sound Pressure (Hemispherical Method) [dB(A)]	64.0
Sound Pressure Measured at [ft]	30.0
Electrical Data	
Nominal Voltage / Voltage Limits	460/3/60 / 414-506
Compressor RLA (each circuit) [A]	15.4 / 15.4 / - / 15.4 / 15.4 / -
High LRA Current (each circuit) [A]	140.0 / 140.0 / - / 140.0 / 140.0 / -
Fan QTY (each circuit)	2 / 2
Fan FLA (each circuit) [A]	4.0 / 4.0
Min. Circuit Ampacity [A]	86.0
Recommended Fuse / CB Rating [A]	100.0
Max. Inverse Time CB Rating [A]	100.0
Max. Dual Element Fuse Size [A]	100.0
Unit Short Circuit Withstand [kA]	65 kA
Wires Per Phase	1
Wire Range (Lug Size)	#4 AWG - 300 kcmil
Compressor kW	32.74



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]	3805
Operating Weight [lbs]	3825
Refrigerant Charge [lbs]	59
Length [in]	101.4
Width [in]	88.3
Height [in]	94.2



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Heat Exchanger Performance

Evaporator		Condenser (Air Cooled)	
Heat Exchanger Type	Plate Heat Exchanger	Ambient Air Temperature* [°F]	
Entering Fluid Temperature* [°F]	54.00	Altitude* [ft]	0.00
Leaving Fluid Temperature* [°F]	44.00	Condensing Temperature [°F]	111.49 / 111.49
Flow Rate [USGPM]	93.04	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]	2.6		
Evaporating Temperature [°F]	37.29		
Evaporator Pressure Drop [ft H ₂ O]	7.43		
Strainer Pressure Drop [ft H ₂ O]	0.925		
Extension Kit Pressure Drop [ft H ₂ O]	0.567		
Total Pressure Drop [ft H ₂ O]	8.92		
Fluid Connection Diameter [in]	3		
Minimum Flow Rate [USGPM]	41.00		
Maximum Flow Rate [USGPM]	224.0		

* 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]
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Performance Report

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Performance Specification

Project Name: 454B Stock AC Scrolls YLAA Submittals

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Qty.: 1

Model: YLAA0041HJ46XC

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	

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.

Estimated Sound Pressure Levels at 30.0 ft (Derived from AHRI 370 Sound Power using Hemispherical Method)

Percent Load	Ambient [°F]	Octave Band Center Frequency [Hz]								LpA
		63	125	250	500	1000	2000	4000	8000	

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]	93.04	Performance	
Pressure Drop [ft H ₂ O]	7.43	EER [Btu/W.h]	11.85
Fluid Type	Water	IPLV.IP [Btu/W.h]	18.62
Fouling Factor [h ft ² F/Btu]	0.000100	Net Cooling Capacity [tons.R]	38.98
Fluid Volume [USGAL]	2.6		

Note: Unit rated at design condition capacity.

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	38.98	39.46	11.85
82.6	80.0	32.20	24.09	16.04
55.9	80.0	21.78	15.02	17.40
59.6	65.0	23.22	13.74	20.28
28.8	65.0	11.21	6.695	20.10
29.7	55.0	11.57	6.501	21.35
29.7	55.0	11.57	6.501	21.35



Performance Report

Performance Specification

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Qty.: **1**

Model: **YLAA0041HJ46XC**

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, 2019.

Compliant with IECC - 2012, 2015, 2018.

Compliant with the requirements of the LEED Energy and Atmosphere Enhanced Refrigerant Management Credit (EA4).

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



Internal Pricing Report

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Project Name: 454B Stock AC Scrolls YLAA
SubmittalsUnit Tag:
YLAA0041HJ46VSD

Qty.: 1

Model: YLAA0041HJ46XC

Capacity [tons.R]	Refrigerant	IPLV/IP [Btu/W.h]	ASHRAE	Total Price
35.95	R454B (59 lbs)	18.62	2010,2013,2016,2019	

PIN								
YLAA0041HJ	46XCBBCTXA	SXBLXCXK44	SE1XXXHXXX	YAXGXXX3XX	XVGNXXXXXX			
....5...10	5...20	5...30	5...40	5...50	5...60	5...70	5...80	5...90

	EFT [°F]	LFT [°F]	Flow [USGPM]	PD [ft H2O]	Fluid Type	FF
Evap.	54.00	44.00	93.04	7.43	Water	0.000100
Ambient Temp. Design [°F]				Altitude [ft]		
Cond.				0.00		

Electrical Data			
Power Supply	460/3/60	Compressor kW	32.74
Min. Circuit Ampacity [A]	66.0	Total kW	39.46

Line #	Equipment Description	Qty.
01A	Base Unit/Access. (2861)	
	Base Unit - YLAA0041HJ	1
	R454B Refrigerant (Fully Charged)	1
	Voltage Code - 460/3/60	1
	Across the line starter	1
	SP Circuit Breaker w/ Lockable Handle, 65kA SCWR	1
	Control Transformer Required	1
	Both Low/High Ambient Kit	1
	Connected Services Ready - SC-Equip Board	1
	English	1
	North American Safety Code (cUL/cETL)	1
	Service Isolation Valves	1
	Electronic Expansion Valves	1
	Hot Gas Bypass required - 1 circuit	1
	Extension Kit	1
	Dispersion Switch	1
	ASME Pressure Vessel Codes	1
	Aluminum MCHX Coils	1
	No Heat Recovery	1
	Wire/Louvered Encl Panels (factory)	1
	No Acoustic Blanket required	1
	Low Sound Fans with VSD	1
	Neoprene Isolators	1
	No Pump required	1
	Subtotal	
	Warranty (Months are from date of shipment/Years are from date of start up, whichever expires first) ()	
	Unit Warranty: 18 Month (1 Year) (Std) (Parts Only)	



YLAA Air Cooled Scroll Chillers

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AVM Report

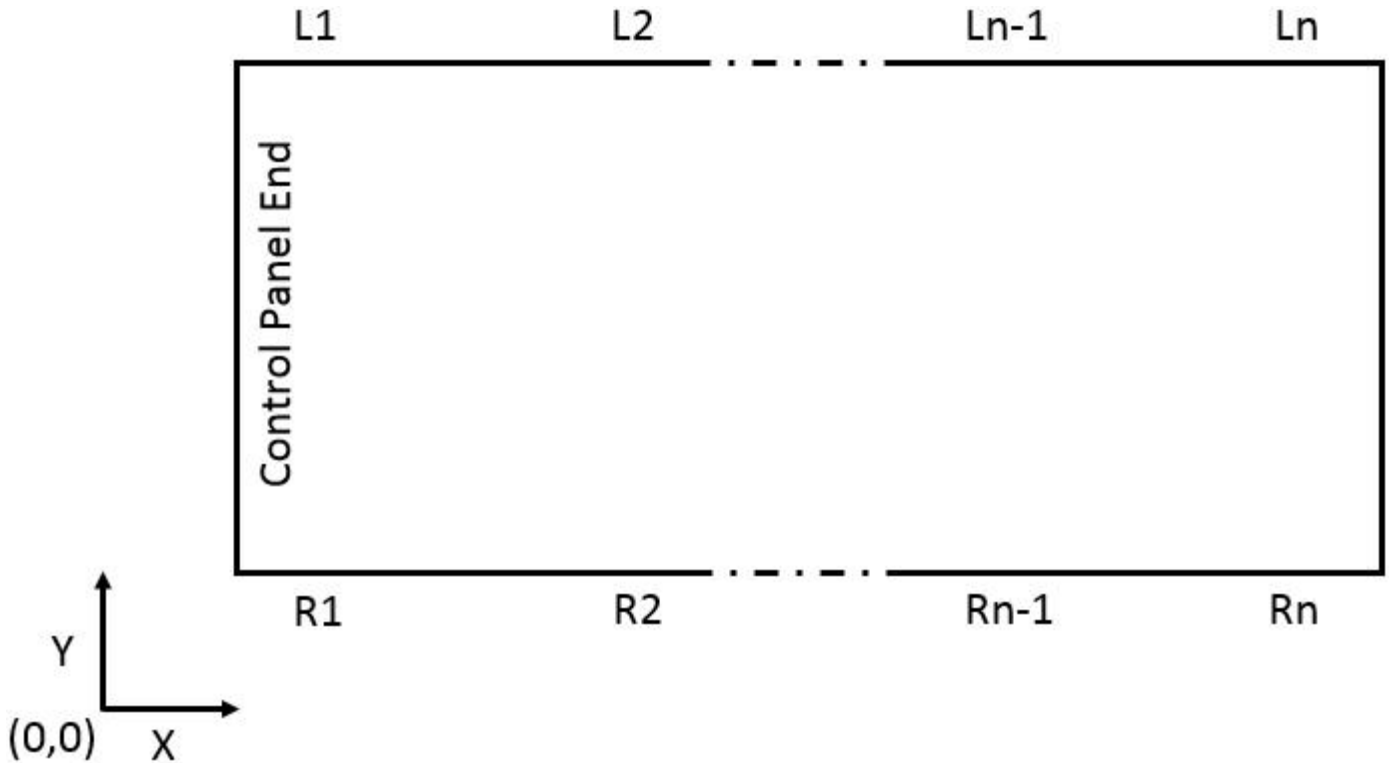
Project Name: 454B Stock AC Scrolls YLAA Submittals

Unit Tag:
YLAA0041HJ46VSD

Qty.: 1

Model No.: YLAA0041HJ46XC

PIN								
YLAA0041HJ	46XCBBCTXA	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	13.1	1.4	029-25335-002	434004	Red	993
R2	87.3	1.4	029-25335-001	434002	Charcoal	689
L1	13.1	86.9	029-25335-002	434004	Red	1192
L2	87.3	86.9	029-25335-002	434004	Red	952

Total Weight (lb)		Centre of Gravity (in)	
Shipping Weight [lb]	3806	Xg [in]	44.9
Operating Weights (lb)	3826	Yg [in]	49.3

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.

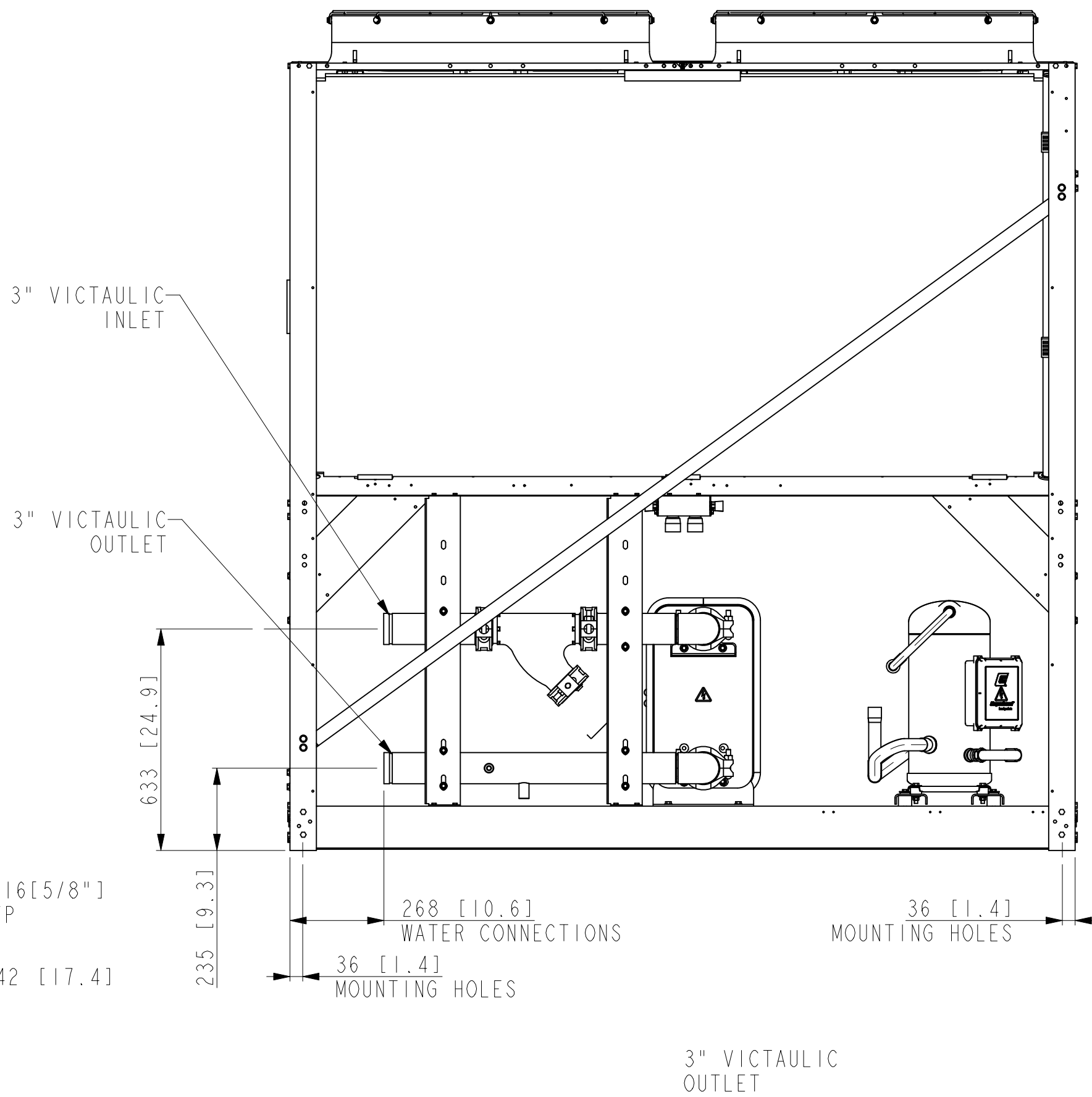
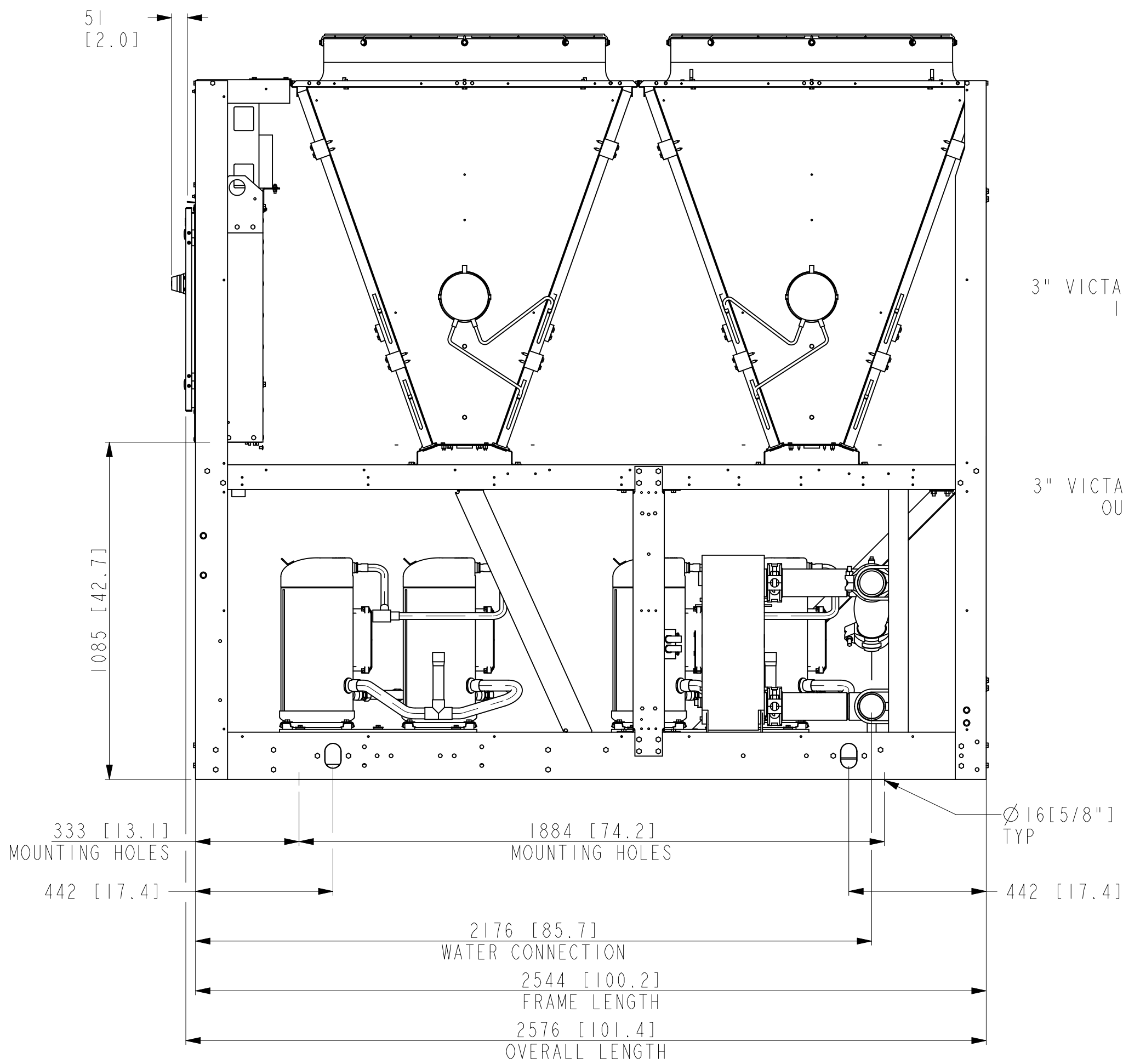
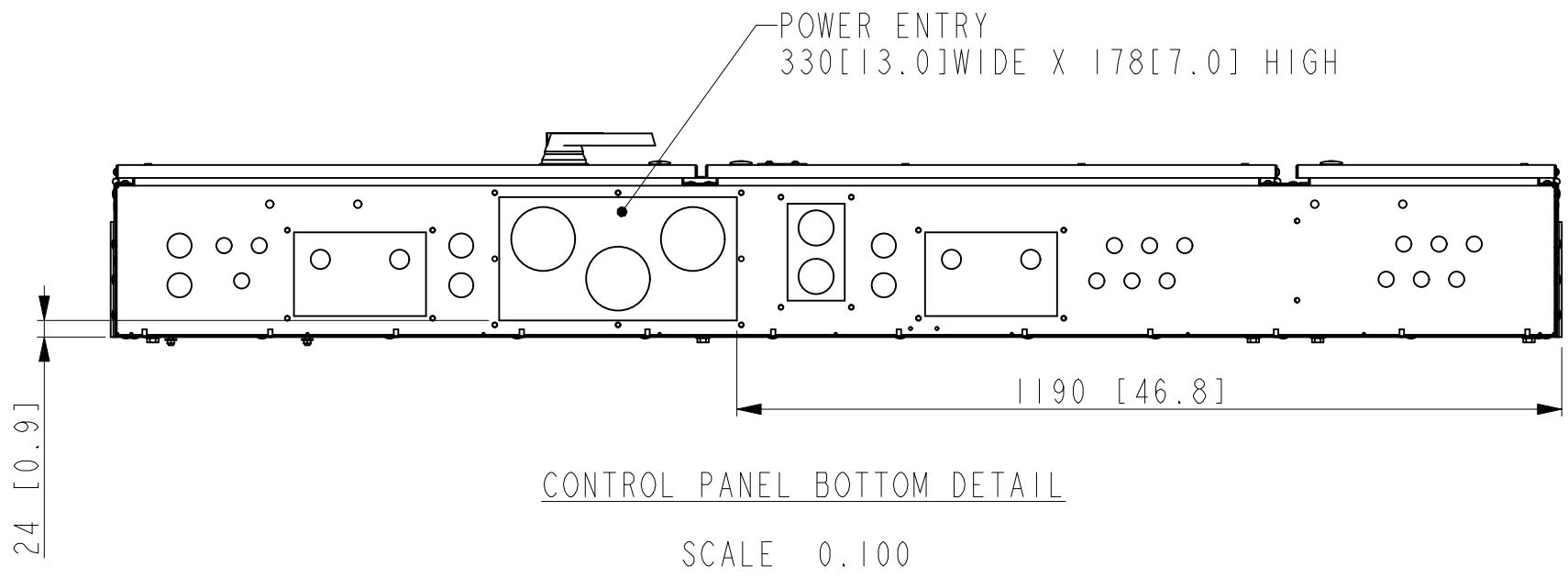
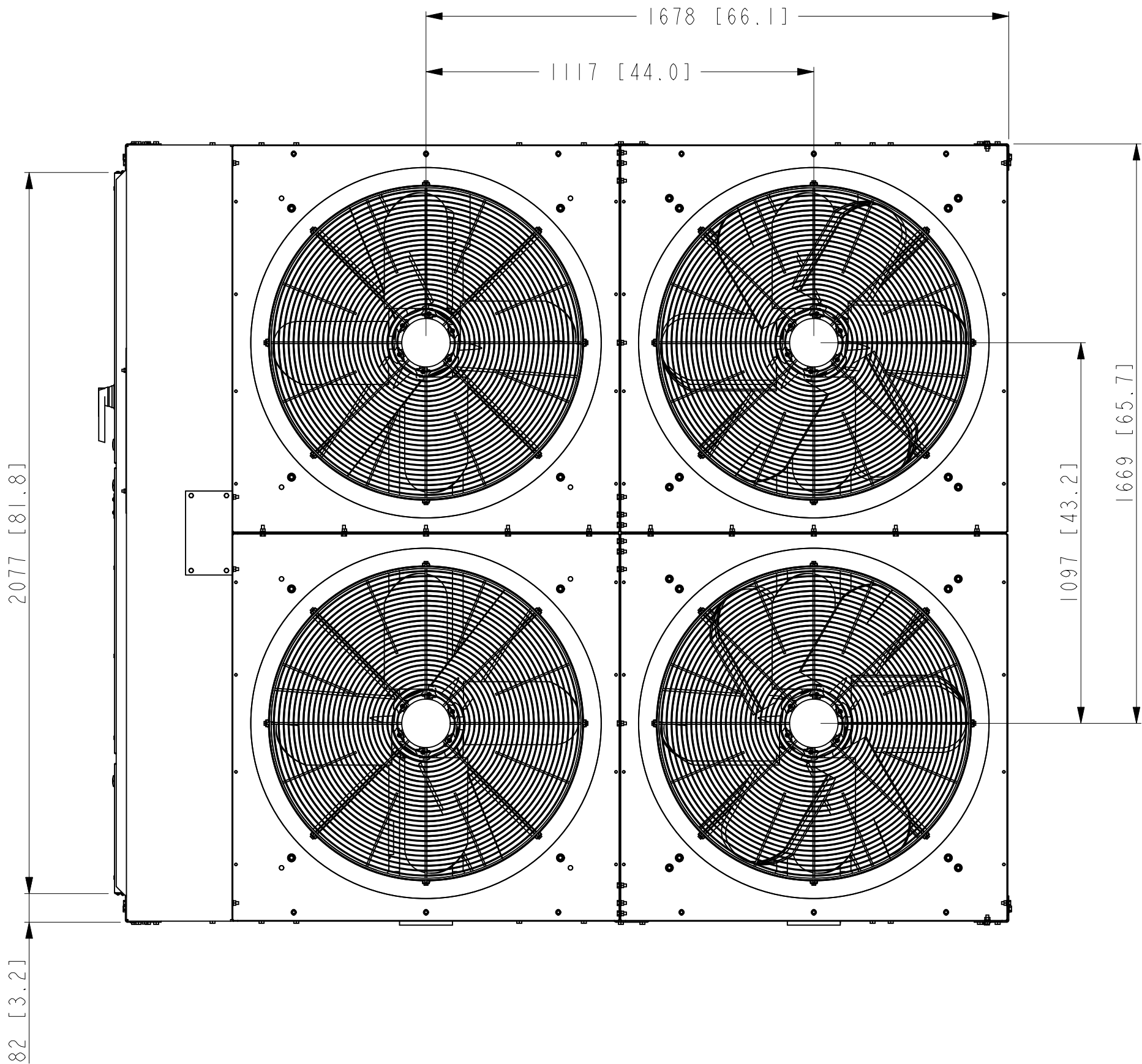
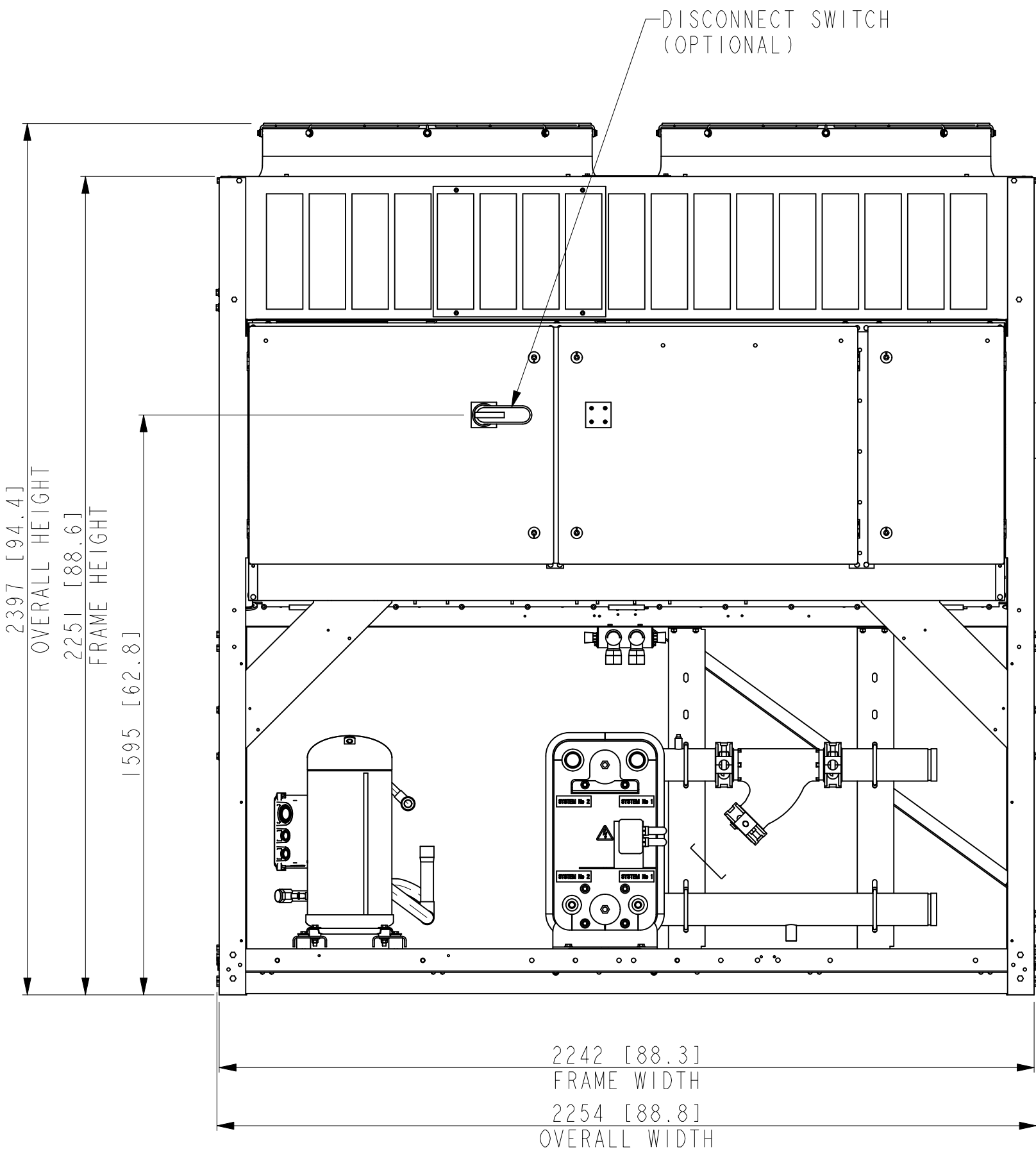
- 1.1. RECOMMENDED MINIMUM CLEARANCES:
1.1.1. SIDE TO WALL - 1828.8mm[6'1"]
1.1.2. REAR TO WALL - 1828.8mm[6'1"]
1.1.3. CONTROL PANEL TO WALL - 1219.2mm[4'1"]
1.1.4. TOP - NO OBSTRUCTIONS ALLOWED.
1.1.5. DISTANCE BETWEEN ADJACENT UNITS - 3048mm[10'1"]
1.1.6. NO MORE THAN ONE ADJACENT WALL MAY BE HIGHER 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.

THIS DRAWING IS FOR THE FOLLOWING MODELS		
YLAA 0041 HE		
YLAA 0048 HE		
YLAA 0041 HJ		
YLAA 0048 HJ		



REV.	DATE	EC. NO.	DR.	CHK.	ENG.
C	09-MAY-2023	ECN23-0279	RWA	DBN	AR
UPDATE TABLE TO INCLUDE YLAA 0041/0048 "HJ" MODELS					
CONTINUED					

CONTINUED					
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THIRD ANGLE

DO NOT SCALE

JOHNSON CONTROLS - BUILDING EFFICIENCY

507 EAST MICHIGAN STREET, MILWAUKEE, WI, 53202 USA

YLAA 4-FAN
60HZ UNITS

MATERIAL
ENG. STD.
PART NO.
CUT SIZE

DRAWN E. JONES 27-NOV-2018
MODELER E. JONES 27-NOV-2018
CHKD A. SATCH 27-NOV-2018
ENG

SCALE: 0.075
MASS (kg): 0.000

A1

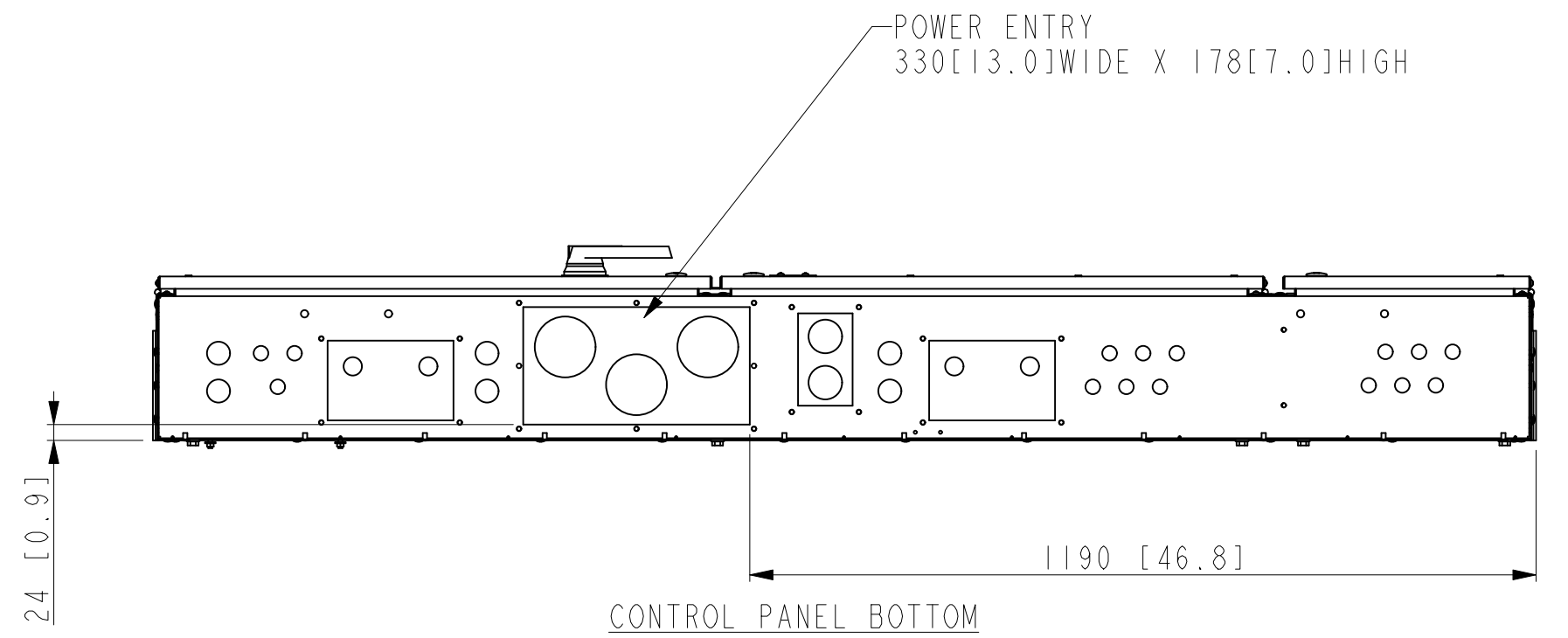
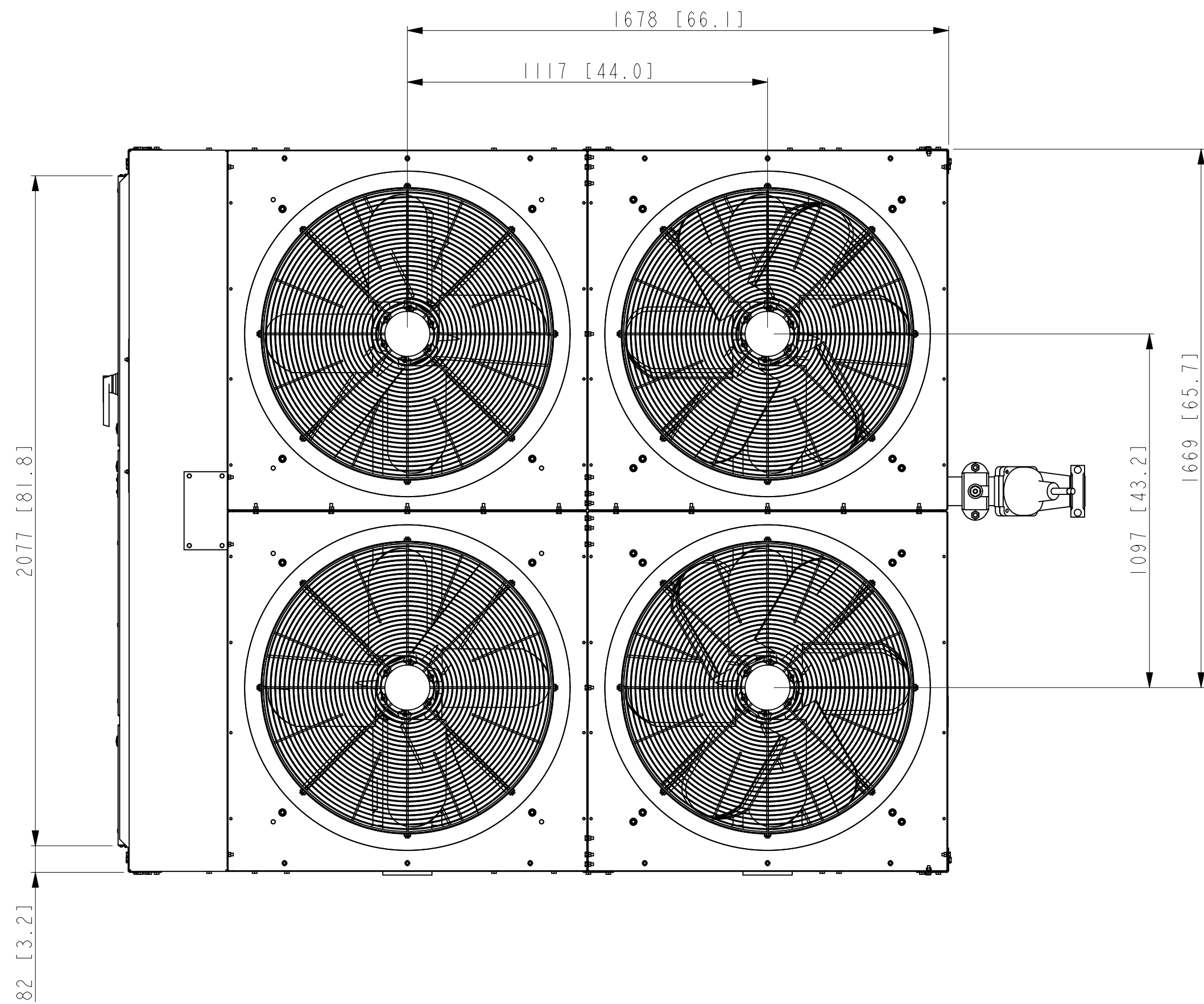
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DRAWING NUMBER
035-24059-018

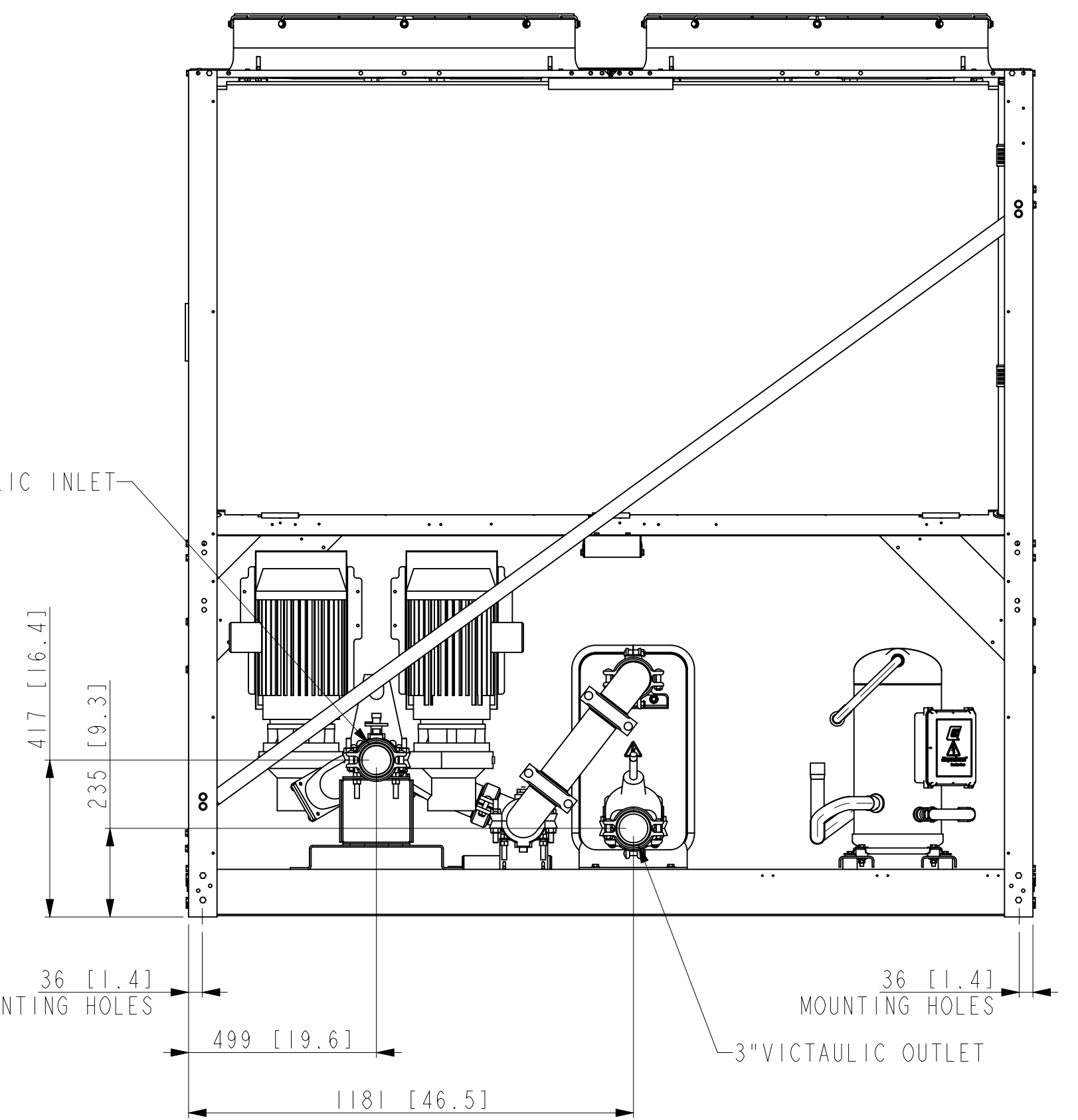
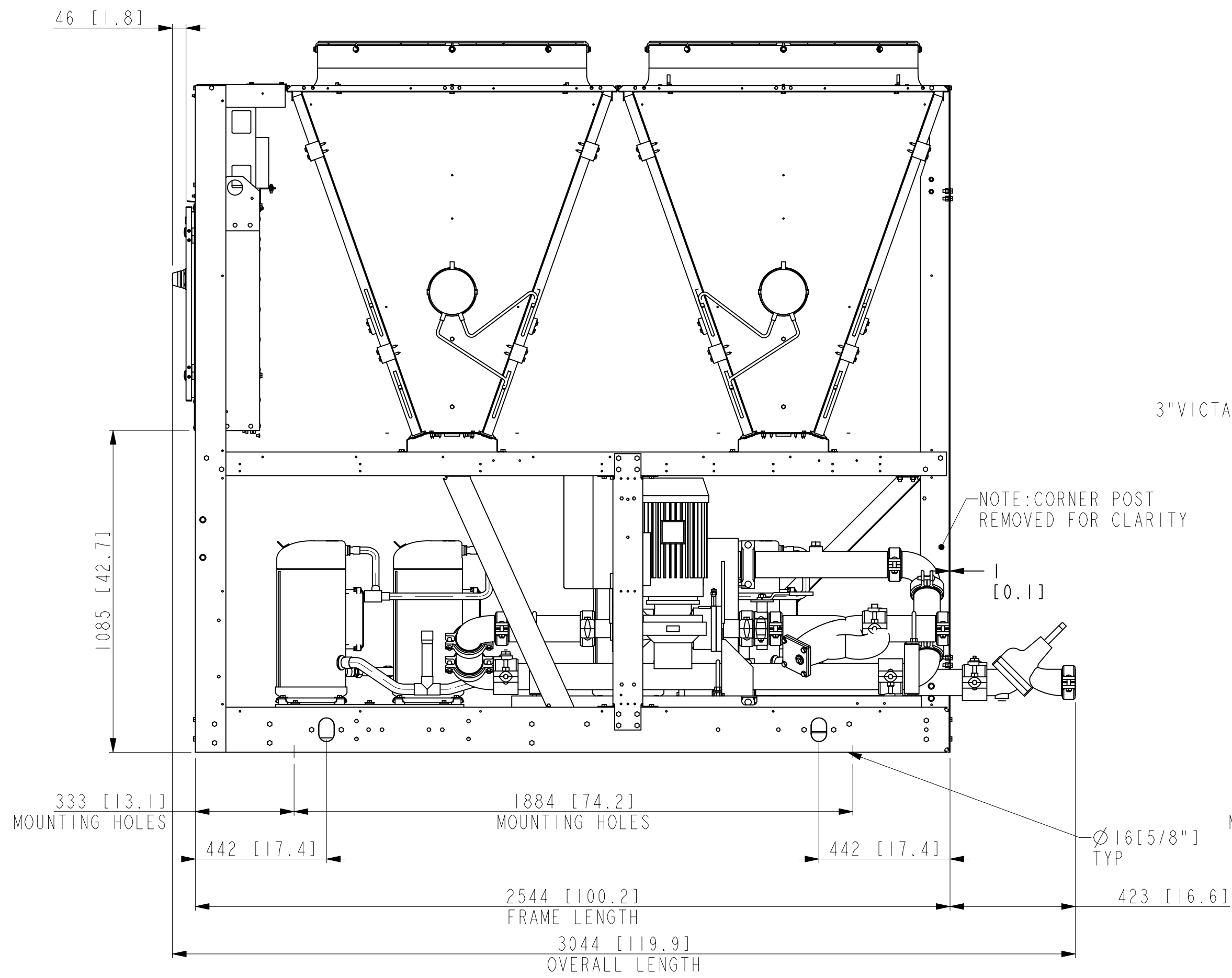
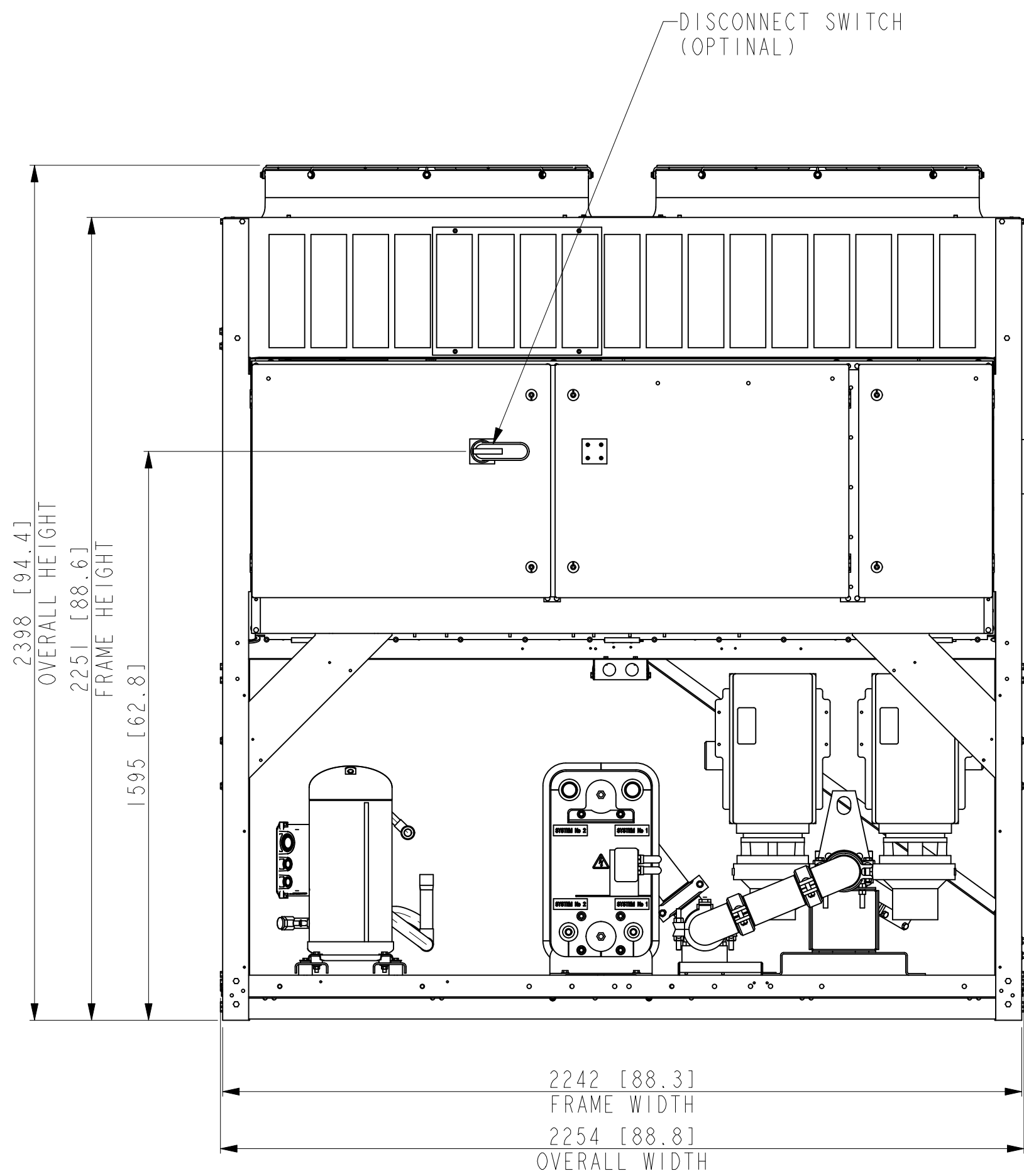
REVISION
C
VERSION
2
Eng Chg

SHEET 1 OF 2

UNIT WITH OPTIONAL PUMP KIT



SCALE 0.100



REV.	DATE	EC. NO.	DR.	CHK.	ENG.
C	09-MAY-2023	ECN23-0279	RWA	DBN	AR
UPDATE TABLE TO INCLUDE YLAA 0041/0048 "HJ" MODELS					
CONTINUED					

CONTINUED					
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THIRD ANGLE

DO NOT SCALE

JOHNSON CONTROLS - BUILDING EFFICIENCY

507 EAST MICHIGAN STREET, MILWAUKEE, WI, 53202 USA

YLAA 4-FAN
60HZ UNITS

MATERIAL
ENG. STD.
PART NO.
CUT SIZE

DRAWN E. JONES 27-NOV-2018
MODELER E. JONES 27-NOV-2018
CHKD A. SATCH 27-NOV-2018
ENG

SCALE: 0.075

MASS (kg): 0.000

ORIG. NO.:

CAGE NUMBER
66935

DRAWING NUMBER
035-24059-018

REVISION
C
VERSION
2
Eng Chg

SHEET 2 OF 2