

Project Name: **Keith Industrial Group**

Unit Tag: **CH-4**

Qty.: **1**

Model: **YLAA0120SJ17XF**

Full Load - Design

PIN

YLAA0120SJ	17XFBBXTXA	SXBLXCXX44	XE1XXXHXXX	YAXGXXX3XX	XVGNXXXXXX			
...5...10	...5...20	...5...30	...5...40	...5...50	...5...60	...5...70	...5...80	...5...90

Unit	
Model No.	YLAA0120SJ17XFB
Number of Compressors	4
Compressor Type	Scroll - Hermetic
Number of Compressor Circuits	2
Refrigerant	R454B
Performance Data	
Cooling Capacity [tons.R]	118.2
Total Power Input [kW]	141.7
EER [Btu/W.h]	10.01
IPLV/IP [Btu/W.h]	17.09
A-Weighted Sound Power [dB(A)]	96.0
Electrical Data	
Nominal Voltage / Voltage Limits	200-208/3/60 / 180-220
Compressor RLA (each circuit) [A]	106.2 / 106.2 / - / 106.2 / 106.2 / -
High LRA Current (each circuit) [A]	652.0 / 652.0 / - / 652.0 / 652.0 / -
Fan QTY (each circuit)	3 / 3
Fan FLA (each circuit) [A]	7.6 / 7.6
Min. Circuit Ampacity [A]	507.0
Recommended Fuse / CB Rating [A]	600.0
Max. Inverse Time CB Rating [A]	600.0
Max. Dual Element Fuse Size [A]	600.0
Unit Short Circuit Withstand [kA]	5 kA
Wires Per Phase	3 + 2
Wire Range (Lug Size)	#2/0 AWG - 400 kcmil + 250 - 500 kcmil
Compressor kW	131.6



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]	5587
Operating Weight [lbs]	5695
Refrigerant Charge [lbs]	91
Length [in]	142.7
Width [in]	88.3
Height [in]	94.2



Performance Report

Performance Specification

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Project Name: **Keith Industrial Group**Unit Tag: **CH-4**Qty.: **1**Model: **YLAA0120SJ17XF**

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]	125.35 / 125.35
Flow Rate [USGPM]	282.2	Number of Fans	3 / 3
Fouling Factor* [h ft ² F/Btu]	0.000100	Total Air Flow [cfm]	90000
Fluid Type*	Water	Total Fan Power [kW]	10.08
Fluid Volume [USGAL]	13.2		
Evaporating Temperature [°F]	40.70		
Evaporator Pressure Drop [ft H ₂ O]	8.24		
Strainer Pressure Drop [ft H ₂ O]	7.81		
Extension Kit Pressure Drop [ft H ₂ O]	4.08		
Total Pressure Drop [ft H ₂ O]	20.1		
Fluid Connection Diameter [in]	3		
Minimum Flow Rate [USGPM]	150.0		
Maximum Flow Rate [USGPM]	625.0		

* 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	118.2	141.7	10.01
83.2	80.0	98.39	86.49	13.65
55.4	80.0	65.55	52.19	15.07
60.7	65.0	71.80	45.16	19.08
28.8	65.0	34.04	21.73	18.80
30.3	55.0	35.84	19.86	21.66
30.3	55.0	35.84	19.86	21.66

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Project Name: **Keith Industrial Group**

Unit Tag: **CH-4**

Qty.: **1**

Model: **YLAA0120SJ17XF**

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	98.0	97.0	93.0	93.0	91.0	87.0	84.0	81.0	96.0
83.2	80.0	96.0	94.0	91.0	91.0	89.0	85.0	82.0	79.0	94.0
55.4	80.0	90.0	89.0	85.0	87.0	85.0	82.0	78.0	76.0	90.0
60.7	65.0	90.0	89.0	85.0	87.0	85.0	82.0	78.0	76.0	90.0
28.8	65.0	87.0	86.0	82.0	84.0	82.0	79.0	75.0	73.0	87.0
30.3	55.0	87.0	86.0	82.0	84.0	82.0	79.0	75.0	73.0	87.0
30.3	55.0	87.0	86.0	82.0	84.0	82.0	79.0	75.0	73.0	87.0

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]	282.2	Performance	
Pressure Drop [ft H2O]	8.24	EER [Btu/W.h]	10.01
Fluid Type	Water	IPLV.IP [Btu/W.h]	17.09
Fouling Factor [h ft2 F/Btu]	0.000100	Net Cooling Capacity [tons.R]	118.2
Fluid Volume [USGAL]	13.2		

Note: Unit rated at design condition capacity.

Project Name: **Keith Industrial Group**Unit Tag: **CH-4**Qty.: **1**Model: **YLAA0120SJ17XF****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	118.2	141.7	10.01
83.2	80.0	98.39	86.49	13.65
55.4	80.0	65.55	52.19	15.07
60.7	65.0	71.80	45.16	19.08
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30.3	55.0	35.84	19.86	21.66

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.

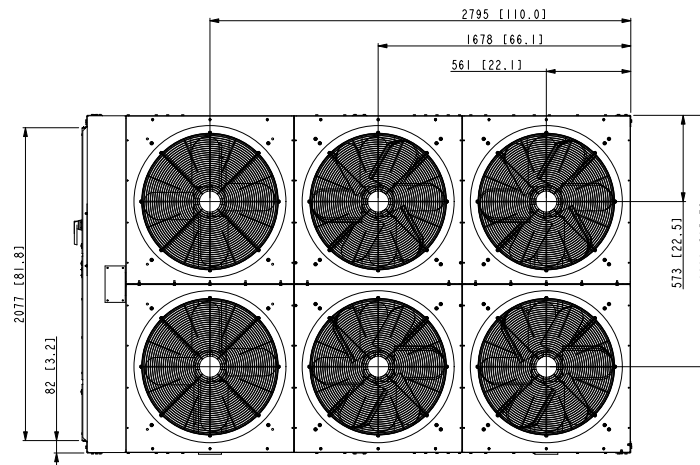
Compliant with ASHRAE 90.1 - 2010, 2013, 2016, 2019, 2022.

Compliant with IECC - 2012, 2015, 2018.

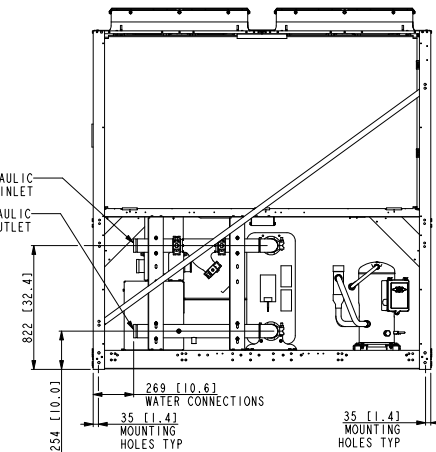
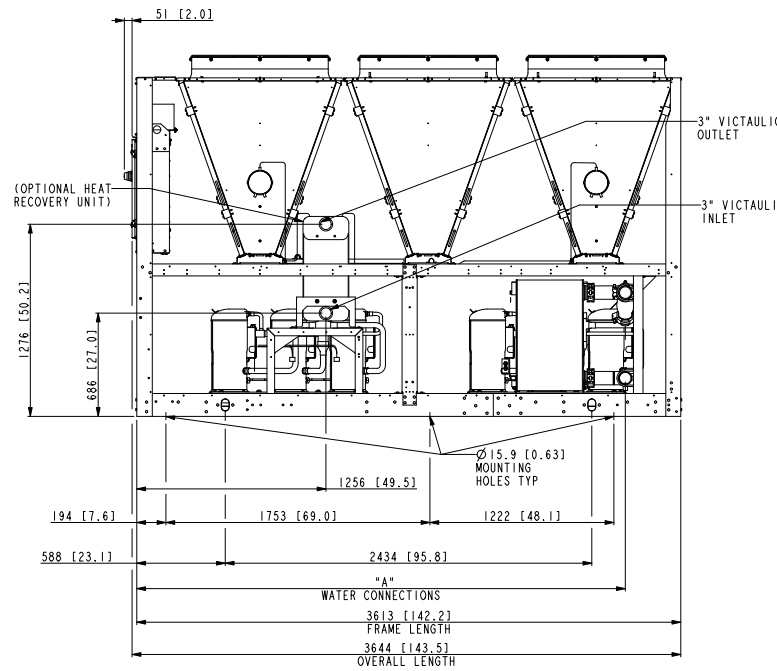
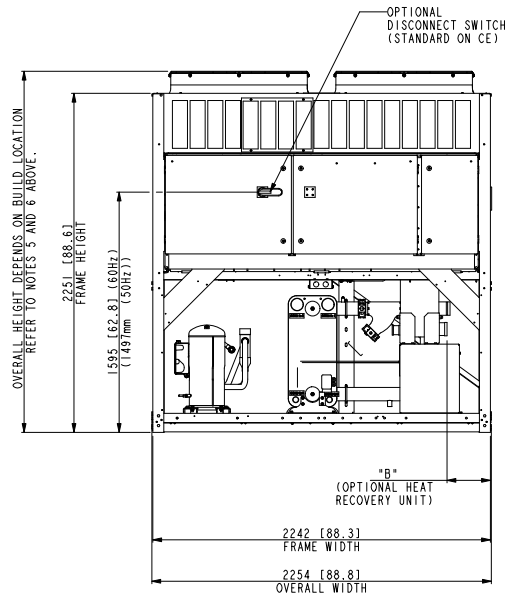
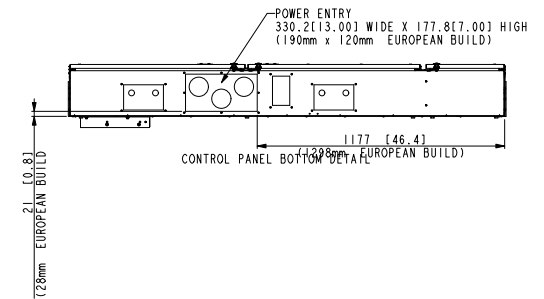
Compliant with the requirements of the LEED Energy and Atmosphere Enhanced Refrigerant Management Credit (EAc4).

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

- 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 CUTOFF. HOWEVER, THE SYSTEM DESIGNER MUST CONSIDER POTENTIAL PERFORMANCE DEGRADATION.
 - 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.



MODEL NUMBER	DIMENSION "A"	DIMENSION "B"
YLAA 0092 HE, HJ	3244 [127.7]	288 [11.3]
YLAA 0101 HE, HJ	3249 [127.9]	288 [11.3]
YLAA 0115 SE, SJ	3246 [127.8]	288 [11.3]
YLAA 0120 SE, SJ	3361 [132.3]	288 [11.3]
YLAA 0350 HE	3245 [127.8]	288 [11.3]
YLAA 0350 HJ	3245 [127.8]	288 [11.3]
YLAA 0390 HE	3360 [132.3]	288 [11.3]
YLAA 0391 HE	3360 [132.3]	288 [11.3]
YLAA 0392 HE	3245 [127.8]	288 [11.3]
YLAA 0392 HJ	3245 [127.8]	288 [11.3]
YLAA 0435 SE	3245 [127.8]	221 [8.7]
YLAA 0485 SE	3364 [132.4]	221 [8.7]



THIS DRAWING PERTAINS TO THE FOLLOWING MODELS:			
YLAA 0092 HE	YLAA 0350 HE	YLAA 0391 HE	YLAA 0092 HJ
YLAA 0101 HE	YLAA 0390 HE	YLAA 0392 HE	YLAA 0101 HJ
YLAA 0115 SE	YLAA 0435 SE	YLAA 0350 HJ	YLAA 0115 SJ
YLAA 0120 SE	YLAA 0485 SE	YLAA 0392 HJ	YLAA 0120 SJ

REV.	DATE	EC. NO.	DR.	CHK.	ENG.
L	08-MAY-2023	ECR23-0279	RWA	DBN	AR
UPDATE TABLES TO INCLUDE YLAA 0092/0101 "HJ" AND YLAA 0115/0120 "SJ" MODELS					
REVISION					

CONTINUED

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		JOHNSON CONTROLS - BUILDING EFFICIENCY	
507 EAST MICHIGAN STREET, MILWAUKEE, WI, 53202 USA			
DO NOT SCALE	YLAA 6-FAN 50HZ & 60HZ WITH OPTIONAL HEAT RECOVERY	MATERIAL N/A	ENG. STD. N/A
DRAWN M. LUPTON 04-DEC-2013	MODELER M. LUPTON 04-DEC-2013	COT. SIZE N/A	DRAWING NUMBER
CHKD A. SATCH 04-DEC-2013	ENG	CAGE NUMBER	REVISION
SCALE: 0.000	MASS (kg): 0.000	ORIG. NO.:	VERSION
		SHEET 1 OF 1	
		Eng Ckg	



YLAA Air Cooled Scroll Chillers

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AVM Report

Project Name: **Keith Industrial Group**

Unit Tag: **CH-4**

Qty.: **1**

Model: **YLAA0120SJ17XF**

PIN

YLAA0120SJ	17XFBBXTXA	SXBLXCXX44	XE1XXXHXXX	YAXGXXX3XX	XVGNXXXXXX			
....5...10	....5...20	....5...30	....5...40	....5...50	....5...60	....5...70	....5...80	....5...90

L1

L2

Ln-1

Ln

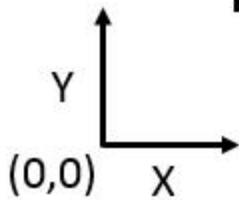
Control Panel End

R1

R2

Rn-1

Rn



LOCATION	X Distance (in)	Y Distance (in)	JCI PART NUMBER	SAP NUMBER	COLOUR	Operating Weights (lb)
R1	7.6	1.4	029-25335-001	434002	Charcoal	770
R2	76.6	1.4	029-25335-002	434004	Red	999
R3	124.7	1.4	029-25335-001	434002	Charcoal	655
L1	7.6	86.9	029-25335-002	434004	Red	947
L2	76.6	86.9	029-25335-002	434004	Red	1502
L3	124.7	86.9	029-25335-001	434002	Charcoal	822

Total Weight (lb)		Centre of Gravity (in)	
Shipping Weight [lb]	5586	Xg [in]	68.3
Operating Weights (lb)	5695	Yg [in]	50.5



Chiller Options

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Project Name: **Keith Industrial Group** Unit Tag: **CH-4** Qty.: **1** Model: **YLAA0120SJ17XF**

Capacity [tons.R]	Refrigerant	IPLV.IP [Btu/W.h]	ASHRAE	Total Price
118.2	R454B (91 lbs)	17.09	2010,2013,2016,2019,2022	9899 999

PIN							
YLAA0120SJ	17XFBBXTXA	SXBLXCXX44	XE1XXXHXXX	YAXGXXX3XX	XVGNXXXXXX		
....5...10	....5...20	....5...30	....5...40	....5...50	....5...60	....5...70	....5...80

	EFT [°F]	LFT [°F]	Flow [USGPM]	PD [ft H2O]	Fluid Type	FF
Evap.	54.00	44.00	282.2	8.24	Water	0.000100
Ambient Temp. Design [°F]				Altitude [ft]		
Cond.	95.0			0.00		

Electrical Data			
Power Supply	200-208/3/60	Compressor kW	131.6
Min. Circuit Ampacity [A]	507.0	Total kW	141.7

Line #	Equipment Description	Qty.
01A	Base Unit/Access. (2907)	
	Base Unit - YLAA0120SJ	1
	R454B Refrigerant (Fully Charged)	1
	Voltage Code - 200-208/3/60	1
	Across the line starter	1
	SP Circuit Breaker w/ Lockable Handle	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
	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
	GPS Tracking Device	1
	Neoprene Isolators	1
	No Pump required	1

Project Name: Keith Industrial Group

MLP Effective Date: 01/15/2024

Unit Name: Unit 4

Version: SN23.12a

CHL2024-02.001

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