

Performance Specification

Project Name: **Augustana Chilled Water Project**

Unit Tag: **CH-2**

Qty.: **1**

Model: **YLAA0155SJ17XF**

Full Load - Design

PIN

YLAA0155SJ	17XFBBCXTA	SXBLXCXX44	XE1XXHXXX	YAXGXXX7XX	XVGNXXXXXX			
...5...10	...5...20	...5...30	...5...40	...5...50	...5...60	...5...70	...5...80	...5...90

Unit	
Model No.	YLAA0155SJ17XFB
Number of Compressors	5
Compressor Type	Scroll - Hermetic
Number of Compressor Circuits	2
Refrigerant	R454B
Performance Data	
Cooling Capacity [tons.R]	135.5
Total Power Input [kW]	178.6
EER [Btu/W.h]	9.102
NPLV.IP [Btu/W.h]	16.98
A-Weighted Sound Power [dB(A)]	97.0
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)	4 / 4
Fan FLA (each circuit) [A]	7.6 / 7.6
Min. Circuit Ampacity [A]	628.0
Recommended Fuse / CB Rating [A]	700.0
Max. Inverse Time CB Rating [A]	700.0
Max. Dual Element Fuse Size [A]	700.0
Unit Short Circuit Withstand [kA]	65 kA
Wires Per Phase	3 + 2
Wire Range (Lug Size)	#2/0 AWG - 400 kcmil + 250 - 500 kcmil
Compressor kW	165.1



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]	7198
Operating Weight [lbs]	7306
Refrigerant Charge [lbs]	122
Length [in]	187.7
Width [in]	88.3
Height [in]	94.2



Performance Report

Performance Specification

Page 2 of 4

Project Name: **Augustana Chilled Water Project**Unit Tag: **CH-2**Qty.: **1**Model: **YLAA0155SJ17XF**

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]	5400
Leaving Fluid Temperature* [°F]	44.00	Condensing Temperature [°F]	130.43 / 121.10
Flow Rate [USGPM]	341.7	Number of Fans	4 / 4
Fouling Factor* [h ft ² F/Btu]	0.000100	Total Air Flow [cfm]	120000
Fluid Type* / Concentration* [%]	Propylene Glycol / 35.0	Total Fan Power [kW]	13.44
Fluid Volume [USGAL]	13.2		
Evaporating Temperature [°F]	37.35		
Evaporator Pressure Drop [ft H ₂ O]	14.4		
Strainer Pressure Drop [ft H ₂ O]	3.07		
Extension Kit Pressure Drop [ft H ₂ O]	7.11		
Total Pressure Drop [ft H ₂ O]	24.5		
Fluid Connection Diameter [in]	4		
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 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. Unit contains freeze protection fluids in the evaporator with a leaving chilled fluid temperature above 32 DEG F [0 DEG C] and is certified when rated per the Standard with water.



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	135.5	178.6	9.102
91.7	80.1	124.3	114.2	13.05
68.5	80.1	92.78	81.84	13.60
50.6	65.1	68.51	42.97	19.13
23.9	65.1	32.42	20.55	18.93
25.2	55.0	34.19	18.71	21.94
25.2	55.0	34.19	18.71	21.94

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	99.0	98.0	94.0	95.0	92.0	88.0	85.0	82.0	97.0
91.7	80.1	98.0	96.0	93.0	93.0	90.0	87.0	83.0	81.0	95.0
68.5	80.1	94.0	93.0	89.0	90.0	88.0	84.0	81.0	78.0	92.0
50.6	65.1	90.0	89.0	85.0	86.0	85.0	81.0	78.0	76.0	89.0
23.9	65.1	85.0	83.0	80.0	82.0	81.0	78.0	74.0	72.0	85.0
25.2	55.0	85.0	83.0	80.0	82.0	81.0	78.0	74.0	72.0	85.0
25.2	55.0	85.0	83.0	80.0	82.0	81.0	78.0	74.0	72.0	85.0

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]	341.7	Performance	
Pressure Drop [ft H2O]	11.9	EER [Btu/W.h]	9.932
Fluid Type	Water	IPLV.IP [Btu/W.h]	17.75
Fouling Factor [h ft2 F/Btu]	0.000100	Net Cooling Capacity [tons.R]	143.2
Fluid Volume [USGAL]	13.2		

Note: Unit rated at design condition capacity.



Performance Report

Performance Specification

Page 4 of 4

Project Name: **Augustana Chilled Water Project**

Unit Tag: **CH-2**

Qty.: **1**

Model: **YLAA0155SJ17XF**

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	143.2	173.0	9.932
90.4	80.0	129.4	110.8	14.02
66.9	80.0	95.79	79.36	14.48
73.0	65.0	104.5	68.69	18.26
48.5	65.0	69.46	41.92	19.89
51.2	55.0	73.24	38.50	22.83
24.2	55.0	34.63	18.26	22.76

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.