

Project Name: **Rock Island High School**

Unit Tag: **CH-6**

Qty.: **1**

Model: **YVAA0361**
**Full Load - Design**
**PIN**

YVAA0361B2	046AHVPFXX	SANLXUSNxD	BXXXXAXI JL	BW1SXDA2M4	XVA0713XXX	XRNSGXXVX3	IPLPJPSAX2	205G621260
....5...10	....5...20	....5...30	....5...40	....5...50	....5...60	....5...70	....5...80	....5...90
5G621J1XXY	XMXX004454	0950275138	00057DBXXT					
....5...100	....5...110	....5...120	....5...130					

**Unit**

Model No.	YVAA0361
Number of Compressors	2
Compressor Type	VSD Screw - Semi Hermetic
Number of Compressor Circuits	2
Capacity Control	10% - 100%
Refrigerant	R-513A
<b>Performance Data</b>	
Net Cooling Capacity [tons.R]	275.0
Total Input Power [kW]	286.5
EER [Btu/W.h]	11.52
IPLV/IP [Btu/W.h]	22.04
A-Weighted Sound Power [dB(A)]	100.0
<b>Electrical Data</b>	
Nominal Voltage / Voltage Limits	460/3/60.0 / 414V - 508V
Compressor kW (each circuit)	88.48 / 170.0
Compressor RLA (each circuit) [A]	180.6 / 349.8
Fan QTY (each circuit)	7 / 13
Fan Drive Rated Input Current (each system) [A]	44.0 / 44 , 34
Min. Circuit Ampacity (each system) [A]	255.2 / 481.5
Max. Fuse / CB Rating (each system) [A]	400.0 / 800.0
Unit Short Circuit Withstand [kA]	50 kA@480V
Displacement Power Factor	0.95
Control kVA	3.000


**Performance Impacting Options**

Compressor Style	Maximum Part Load Efficiency
Condenser Coil	4G Microchannel Coil - 25mm
Fan	Low Sound Fans With Variable Speed Control
Sound Attenuation	Additional Compressor Enclosure Sound Kit (Level 1 Reduction)
<b>Weight &amp; Dimensional Data</b>	
Shipping Weight [lbs]	23386
Operating Weight [lbs]	24657
Refrigerant Charge [lbs]	220 / 320
Length [in]	467.1
Width [in]	88.3
Height [in]	92.8



# Performance Report

## Performance Specification

Page 8 of 66

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Heat Exchanger Performance			
Evaporator		Condenser (Air Cooled)	
Heat Exchanger Type	Hybrid Falling Film	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]	117.00 / 117.75
Flow Rate [USGPM]	658.2	Number of Fans (Circuit 1 / Circuit 2)	7 / 13
Fouling Factor* [h ft <sup>2</sup> F/Btu]	0.000100	Total Air Flow [cfm]	225698
Fluid Type*	Water	Total Fan Power [kW]	28.02
Passes*	2		
Pressure Drop [ft H <sub>2</sub> O]	13.2		
Fluid Volume [USGAL]	151.9		
Evaporating Temperature [°F]	41.51 / 42.91		
Minimum Flow Rate [USGPM]	450.0		
Maximum Flow Rate [USGPM]	1570		
Bundle Code (System 1 / System 2)	Tube Bundle G (3/4") / Tube Bundle G (3/4")		

\* 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](http://www.ahridirectory.org). Auxiliary components included in total KW - Oil heaters, Chiller controls. Auxiliary power is already included in the compressor and fan power



## 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	275.0	286.5	11.52
75.0	80.0	206.2	147.3	16.81
50.0	65.0	137.5	66.15	24.94
25.0	55.0	68.75	27.20	30.33



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Page 9 of 66

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### 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	99.0	100.0	99.0	96.0	90.0	86.0	81.0	100.0
75.0	80.0	95.0	94.0	95.0	96.0	92.0	86.0	82.0	77.0	97.0
50.0	65.0	89.0	90.0	90.0	91.0	87.0	81.0	78.0	74.0	92.0
25.0	55.0	85.0	84.0	85.0	86.0	83.0	77.0	74.0	69.0	87.0

Note: Unit is equipped with Additional Compressor Enclosure Sound Kit (Level 1 Reduction) and Low Sound Fans With Variable Speed Control.

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
Performance			
Flow Rate [USGPM]	658.2	EER [Btu/W.h]	11.52
Pressure Drop [ft H <sub>2</sub> O]	13.2	IPLV/IP [Btu/W.h]	22.04
Fluid Type	Water	Net Cooling Capacity [tons.R]	275.0
Fouling Factor [h ft <sup>2</sup> F/Btu]	0.000100		
Fluid Volume [USGAL]	151.9		

Note: Unit rated at design condition capacity.

### Part Load Performance (Based on AHRI 550/590 - 2023 (IP))

Percent Load	Ambient [°F]	Capacity [tons.R]	Power Input [kW]	Unit Efficiency [Btu/W.h]
100.0	95.0	275.0	286.5	11.52
75.0	80.0	206.2	147.3	16.81
50.0	65.0	137.5	66.15	24.94
25.0	55.0	68.75	27.20	30.33