

Performance Specification

Project Name: **YVAA Stock R-513 for Submittals**

Unit Tag: **YVAA0273XXX46R**

Qty.: **1**

Model: **YVAA0273**

Full Load - Design

PIN

YVAA0273DU	V46CHVBXXX	SAXLXXX60	44X0VXXV20	9W1SXGA2BM	XV3XNXXXXX	XXXSXX		
...5...10	...5...20	...5...30	...5...40	...5...50	...5...60	...5...70	...5...80	...5...90

Unit

Model No.	YVAA0273
Number of Compressors	2
Compressor Type	VSD Screw - Semi Hermetic
Number of Compressor Circuits	2
Capacity Control	10% - 100%
Refrigerant	R-513A

Performance Data

Net Cooling Capacity [tons.R]	268.2
Total Power Input [kW]	324.0
EER [Btu/W.h]	9.933
IPLV/IP [Btu/W.h]	19.16
A-Weighted Sound Power [dB(A)]	103.0
Sound Pressure (Hemispherical Method) [dB(A)]	83.0
Sound Pressure Measured at [ft]	3.28

Electrical Data

Nominal Voltage / Voltage Limits	460-3-60.0 / 414V - 508V
Compressor kW (each circuit)	150.4 / 150.3
Compressor RLA (each circuit) [A]	199.0 / 198.8
Fan QTY (each circuit)	7 / 7
Fan FLA (each circuit) [A]	2.4 / 2.4
Min. Circuit Ampacity [A]	484.9
Max. Fuse / CB Rating [A]	600.0
Unit Short Circuit Withstand [kA]	65 kA
Wires Per Phase	2
Wire Range (Lug Size)	#1 -500 kcmil
Displacement Power Factor	0.95
Control kVA	2.000



Performance Impacting Options

End User Application	Comfort Cooling
Compressor Style	Optimized Part Load Efficiency
Condenser Coil	Microchannel Coils
Fan	Low Sound Fans With Variable Speed Control
Sound Attenuation	Standard Factory Sound Kit (Level 0 Reduction)

Weight & Dimensional Data

Shipping Weight [lbs]	17659
Operating Weight [lbs]	18488
Refrigerant Charge [lbs]	267 / 267
Length [in]	335.2
Width [in]	88.3
Height [in]	94.6

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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]	124.89 / 124.77
Flow Rate [USGPM]	641.8	Number of Fans (Circuit 1 / Circuit 2)	7 / 7
Fouling Factor* [h ft ² F/Btu]	0.000100	Total Air Flow [cfm]	175000
Fluid Type*	Water	Total Fan Power [kW]	23.24
Passes*	2		
Pressure Drop [ft H ₂ O]	19.7		
Fluid Volume [USGAL]	71.1		
Evaporating Temperature [°F]	40.71		
Minimum Flow Rate [USGPM]	300.0		
Maximum Flow Rate [USGPM]	1170		

* 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. 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	268.2	324.0	9.933
75.0	80.0	201.1	161.7	14.93
50.0	65.0	134.1	73.69	21.84
25.0	55.0	67.04	32.58	24.69



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Qty.: 1

Model: YVAA0273

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	98.0	99.0	103.0	99.0	94.0	89.0	85.0	103.0
75.0	80.0	95.0	95.0	96.0	95.0	94.0	87.0	83.0	78.0	97.0
50.0	65.0	91.0	92.0	91.0	92.0	89.0	84.0	80.0	76.0	94.0
25.0	55.0	88.0	89.0	89.0	89.0	87.0	80.0	76.0	72.0	91.0

Note: Unit is equipped with 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.

Estimated Sound Pressure Levels at 3.28 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	
100.0	95.0	77.0	78.0	79.0	83.0	79.0	74.0	69.0	65.0	83.0
75.0	80.0	75.0	75.0	76.0	75.0	73.0	67.0	63.0	58.0	77.0
50.0	65.0	70.0	71.0	71.0	72.0	69.0	64.0	60.0	56.0	73.0
25.0	55.0	68.0	69.0	68.0	69.0	67.0	60.0	56.0	52.0	71.0

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]	641.8	Performance	
Pressure Drop [ft H2O]	19.7	EER [Btu/W.h]	9.933
Fluid Type	Water	IPLV.IP [Btu/W.h]	19.16
Fouling Factor [h ft2 F/Btu]	0.000100	Net Cooling Capacity [tons.R]	268.2
Fluid Volume [USGAL]	71.1		

Note: Unit rated at maximum compressor frequency.



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Project Name: **YVAA Stock R-513 for Submittals** Unit Tag: **YVAA0273XXX46R** Qty.: **1** Model: **YVAA0273**

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	268.2	324.0	9.933
75.0	80.0	201.1	161.7	14.93
50.0	65.0	134.1	73.69	21.84
25.0	55.0	67.04	32.58	24.69

Notes:

Country of Origin: Mexico

Min DSD (Factory Purpose/Use Only): 80.0 psig

Displacement Power Factor refers to compressor only. Unit Power Factor depends on fan option selected. Calculated value is available by request.

Use Copper Conductors only

The unit does not have a coil coating selected.

Actuated suction service valves ARE selected

Exclusion of actuated suction service valves will require incorporation of additional freeze protection including use of glycol, pump control or draining the evaporator.

Minimum and maximum evaporator flow information are for full load ratings with Water.

Evaporator Passes: 2, Condenser Type: M, Fan Type: V

Compliant with ASHRAE 90.1 - 2010, 2013, 2016.

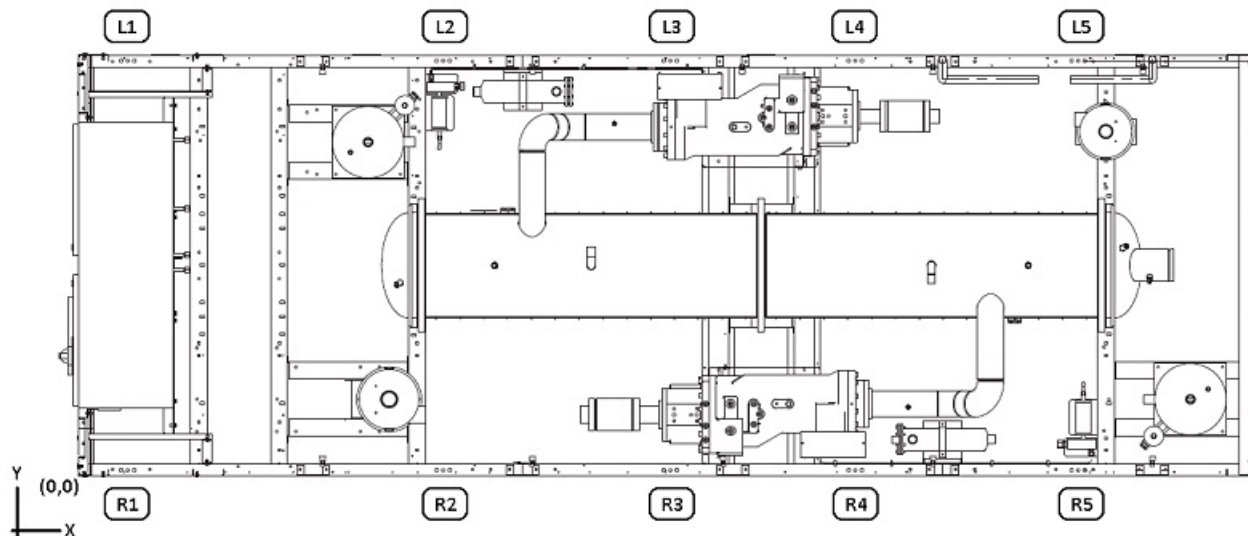
Compliant with IECC - 2012, 2015, 2018.

Field Provided Wiring for Water Box Heaters (one connection per chiller): 120-1-60, 6A.

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

Equipment Description
Base Unit (3905)
Base Unit - YVAA0273
Voltage Code - 460-3-60.0
R-513A (Fully Charged)
Standard VSD
SP Circuit Breaker W/ Lockable Handle
Connected Services Ready - BACnet/Modbus/N2
English
UL/ETL North American Safety Code
Comfort Cooling
Actuated Suction Service Valves with Filter Dryer Service Valves
Optimized Part Load Efficiency
Water Box Heaters
150 Psig DWP Waterside
One Thermal Dispersion Switch
ASME Pressure Vessel Codes
2-Pass Evaporator
Back Fluid Inlet Connection (Opposite Control Panel End)
Microchannel Coils
Low Sound Fans With Variable Speed Control
Wire/Louvered Encl Panels (Factory)
Standard Factory Sound Kit (Level 0 Reduction)
Neoprene Isolators
No Containerization Required With Shipping Bag

PIN								
YVAA0273DU	V46CHVBXXX	SAXLXXXX60	44XOVXXV20	9W1SXGA2BM	XV3XNXXXXXX	XXXSXX		
....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	10.4	1.3	029-25335-001	434002	Charcoal	728
R2	81.0	1.3	029-25335-004	434005	Charcoal	2478
R3	160.8	1.3	029-25335-002	434004	Brick Red	1653
R4	201.0	1.3	029-25335-004	434005	Charcoal	2756
R5	301.3	1.3	029-25335-002	434004	Brick Red	1653
L1	10.4	87.1	029-25335-001	434002	Charcoal	684
L2	81.0	87.1	029-25335-004	434005	Charcoal	2307
L3	160.8	87.1	029-25335-004	434005	Charcoal	1825
L4	201.0	87.1	029-25335-004	434005	Charcoal	2625
L5	301.3	87.1	029-25335-004	434005	Charcoal	1825

Total Weight (lb)		Centre of Gravity (in)	
Operating Weights (lb)	18487	Xg [in]	174.5
Shipping Weight [lb]	17659	Yg [in]	46.2

All values are de-rated by 15% apart from those which have part number. (029-25334-013 and 029-25336-014: 0% de-rated), (029-25335-004: 10% de-rated), (029-25335-001 and 029-25335-003: 25% de-rated)

1. PLACEMENT ON A LEVEL SURFACE
FREE OF OBSTRUCTIONS (INCLUDING
SNOW, FOR WINTER OPERATION) OR
AIR RECIRCULATION 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. YORK'S UNIT
CONTROLS WILL OPTIMIZE OPERATION
WITHOUT NUISANCE HIGH PRESSURE
SAFETY CUTOFF; HOWEVER, THE SYSTEM
DESIGNER MUST CONSIDER POTENTIAL
PERFORMANCE DEGRADATION. ACCESS TO
THE UNIT CONTROL CENTER ASSUMES
THE UNIT IS NO HIGHER THAN ON
SPRING ISOLATORS. RECOMMENDED
MINIMUM CLEARANCES: SIDE TO WALL - 6';
REAR TO WALL - 6'; CONTROL PANEL
TO WALL - 4'; TOP - NO
OBSTRUCTIONS ALLOWED; DISTANCE
BETWEEN ADJACENT UNITS - 10';
NO MORE THAN ONE ADJACENT WALL
MAY BE HIGHER THAN THE UNIT.

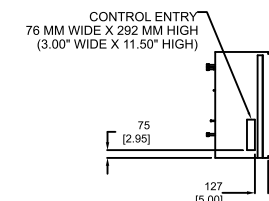
2. WEIGHT AND CENTER OF GRAVITY - REFER TO AVM REPORT.

3. WATER CONNECTIONS ARE GROOVED FOR VICTAULIC CONNECTION

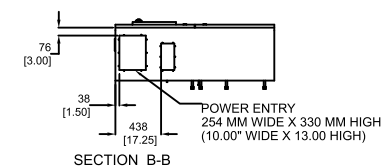
4. DIMENSIONS IN mm [INCHES].

EVAPORATOR INLET LEFT END 2 PASS 6 DIA. (150Psig DWP)
EVAPORATOR OUTLET LEFT END 2 PASS 6 DIA. (150Psig DWP)

Victaulic Grooved Nozzles (per ANSI / AWWA C-606)

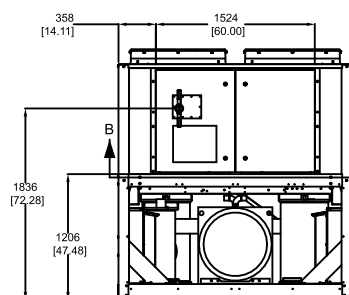
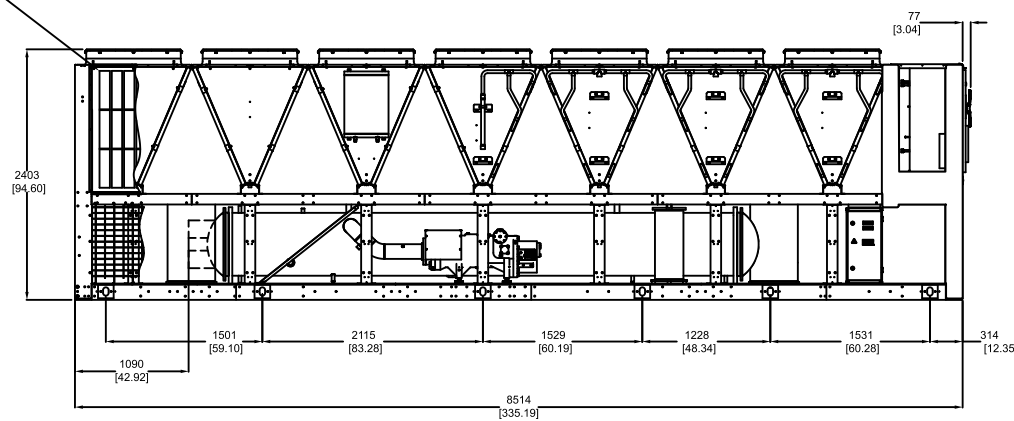
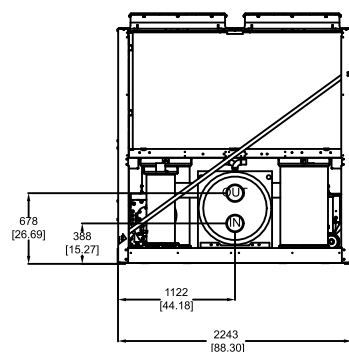


SECTION A-A



SECTION B-B

THIS UNIT IS EQUIPPED WITH WIRE GUARDS AND LOUVERS WHICH HAVE BEEN HIDDEN FOR CLARITY



YORK YVAA Air Cooled Screw Chiller
MODEL: YVAA 0273
NOT FOR CONSTRUCTION

Sold To:	
Cust Purch Order#:	6
Contract#:	

UNIT
TAG: YVAA0273XXX46F

Date: May 26, 2020
Rev. Date: May 16, 2023
Form No.: 201.28-EG1
Dwg. Lev.: 0817
Dwg. Scale: NTS

