

# New generation YVAA Air-cooled VSD screw chiller

Cooling capacities from 500 kW to 2000 kW



Also available with R134a



The new generation YVAA air-cooled, variable-speed drive screw chiller from YORK® is designed to improve reliability and performance through proven technology and a customizable, highly optimized design.

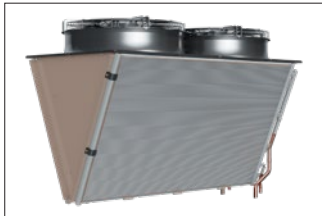
## Features

- **Greater flexibility with configurability**
- **Reduced footprint with maintained performance**
- **Improved peak efficiency**
- **Sustainability. Minimise your environmental impact dramatically**

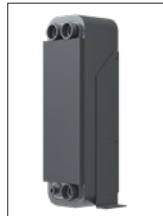
## Options/Accessories

- BMS Interfacing options
- Advanced Controls (Silent Night, Quick Restart)
- Low temperature application options
- Dual pressure relief valves
- Flow switch
- Epoxy treatment Microchannel Coils
- Fan options
- Enclosure options
- Sound attenuation options
- Anti-vibration mounts options

### Heat exchanger performance

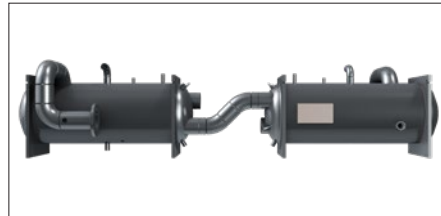


- Condenser design optimized for higher system efficiency
- New MCHX design improves heat transfer



- New brazed plate heat exchanger economizer

### Series flow evaporator



- Higher efficiency
- Greater flexibility for performance optimization
- -12°C to 21°C operating range

### EC fan



- Higher efficiency with variable speed drive EC motor fan
- Containerized option – able to ship in a closed container saving freight cost
- Delivering real world annual energy consumption savings
- Sound Reduction

# Air-cooled VSD screw chiller

YVAAB 0571 to 1731



## Application flexibility (\*) example of selections

YVAA-B	0571	0586	0599	0616	0671	0686	0699	0701	0741	0754	0756	0769
Cooling capacity (kW)	529.5	544.5	589.5	599.5	644.4	679.3	689.4	699.3	719.3	739.3	749.3	759.2
EER	3.09	3.20	3.21	3.25	3.11	3.13	3.22	2.88	3.06	3.15	3.19	3.29
SEER	4.73	4.86	4.99	5.07	4.97	5.07	5.18	4.63	4.89	5.09	5.19	5.32
$\eta_{s,c}$	186	192	197	200	196	200	204	182	193	201	205	210
Sound power level (dBA)	96	95	96	96	96	97	97	94	95	95	95	97

YVAA-B	0782	0796	0809	0824	0866	0894	0919	0921	0924	0936	0949	1034
Cooling capacity (kW)	779.3	789.3	799.2	819.2	859.2	899.1	909.1	919.3	929.1	949.3	969.3	1029
EER	3.18	3.26	3.33	3.15	3.26	3.07	3.17	3.07	3.21	3.14	3.19	3.24
SEER	5.19	5.30	5.43	5.23	5.45	5.19	5.33	5.22	5.45	5.34	5.46	5.47
$\eta_{s,c}$	205	209	214	206	215	205	210	206	215	211	216	216
Sound power level (dBA)	98	98	97	96	96	98	97	97	97	99	98	98

YVAA-B	1076	1089	1134	1161	1174	1271	1381	1409	1549	1606	1649	1731
Cooling capacity (kW)	1079	1099	1139	1159	1189	1269	1379	1449	1549	1599	1699	1899
EER	3.23	3.26	3.15	3.20	3.22	3.10	3.06	3.08	2.98	3.05	2.97	2.43
SEER	5.54	5.58	5.35	5.43	5.51	5.43	5.41	5.52	5.37	5.51	5.49	4.87
$\eta_{s,c}$	219	220	211	214	218	214	213	218	212	218	217	192
Sound power level (dBA)	99	99	100	99	98	98	99	100	100	100	101	110

Net values at Eurovent nominal conditions for models using R513A: Cooling capacities in kW given for 7°C water leaving temperature  $\Delta t$  5°C and 35°C ambient temperature. SEER calculated according to EN14511 and EN14825.

Ecodesign figures are calculated following variable water and variable outlet approach (VW/VO). For other Ecodesign calculations, such as SEPR Medium and High temperature for process application, please contact your JCI representative.

(\*) New generation YVAA is a tailor and tune chiller. Its performance will be factory-adjusted to match the exact site requirements based on the specific project operating conditions. The table above shows only a representative sample of performance points based on generic project operating conditions working with R513A refrigerant, optimized compressor and high efficiency fans Variable Speed EC motor.

For tailored and tuned performance based on your specific project requirements, and for more information, please contact your Johnson Controls representative. Please refer to the latest version of the software for specific projects.

## Technical data

YVAA-B			0571	0586	0599	0616	0671	0686	0699	0701	0741	0754	0756	0769
Dimensions	Length	mm	5163	6274	7397		6274	7397		5163	6274	7397	8514	9631
	Width	mm	2243											
	Height *	mm	2358											
Operating weight	kg		5268	6122	6516	6946	6198	6592	7021	5841	6234	6628	7022	6957
Refrigerant charge	kg		69/69	75/75	81/81	89/89	82/69	89/75	97/83	70/70	76/76	82/82	89/89	95/95

YVAA-B			0782	0796	0809	0824	0866	0894	0919	0921	0924	0936	0949	1034
Dimensions	Length	mm	7397	8514	9631	7397	9631	7397	8514	7397	9631	8514	9631	
	Width	mm	2243											
	Height *	mm	2358											
Operating weight	kg		6597	6992	7387	7100	7949	7114	7509	7913	7904	7847	8703	8962
Refrigerant charge	kg		90/90	97/97	103/103	102/84	115/97	96/96	102/102	103/103	109/109	109/109	115/115	124/109

YVAA-B			1076	1089	1134	1161	1174	1271	1381	1409	1549	1606	1649	1731
Dimensions	Length	mm	10748	11865	9631	10748	11865		14105	11865	14105	14105	15222	11865
	Width	mm	2243											
	Height *	mm	2358											
Operating weight	kg		7957	8245	9122	8117	8405	9008	9160	9721	10919	11479	11769	10136
Refrigerant charge	kg		131/115	131/128	118/118	124/124	131/131	166/109	160/118	173/131	147/147	160/160	166/166	147/147

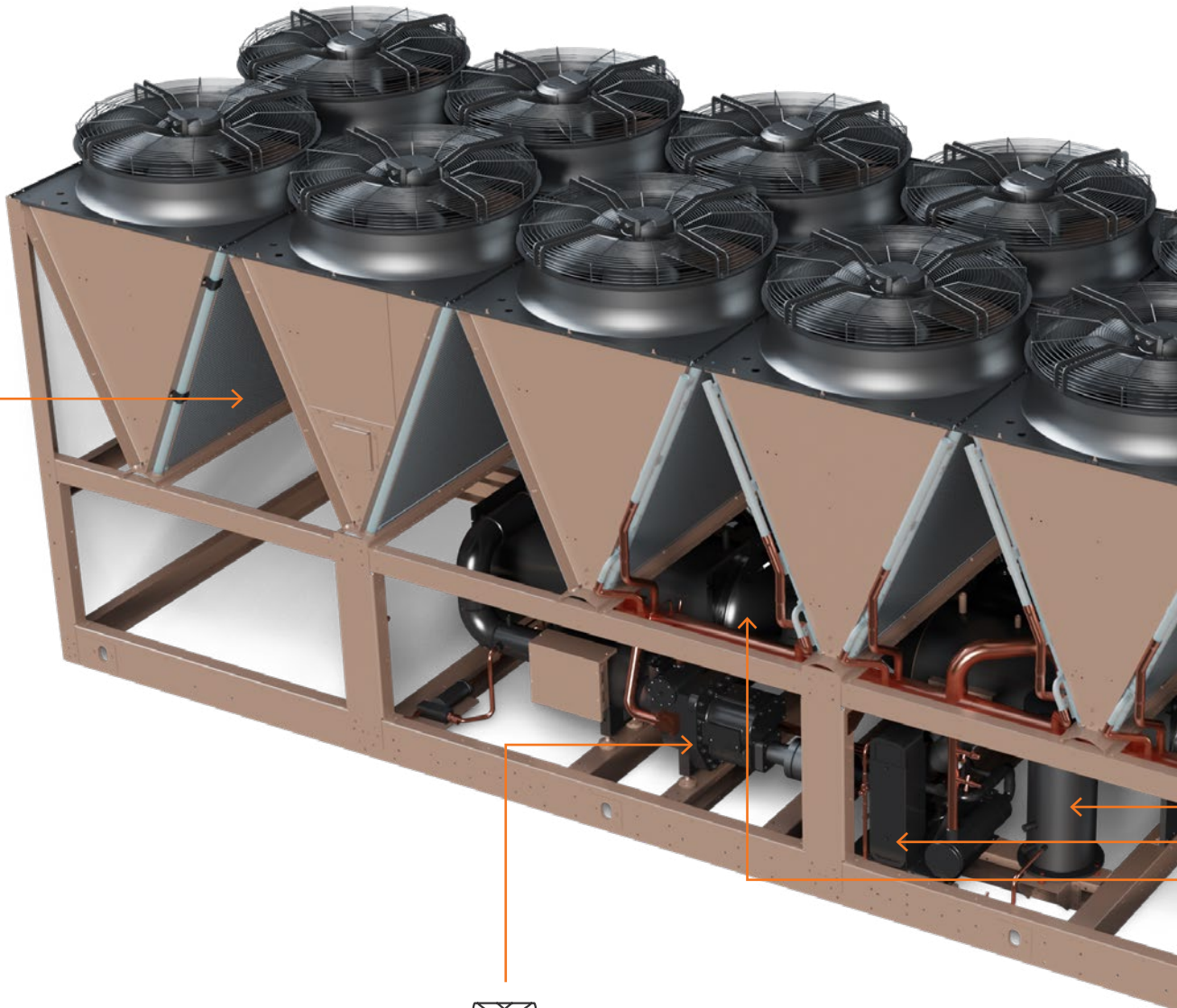
\* The indicated height refers to the model with Standard fans.



Manufacturer reserves the rights to change specifications without prior notice.

# Proven Technology

Over decades of use, and more than 22,000 units installed globally, the YVAA chiller has excelled in a variety of applications while defining what's possible in air-cooled chiller technology and durability. Our highly optimized component choices make the new generation YVAA a more flexible, more reliable option for energy-efficient cooling and sustainability.



## Microchannel condenser coil

Carefully designed and tested for the unique conditions a building's HVAC system experiences, our next-generation microchannel heat exchangers use parallel flow aluminum alloy tubes that are easy to clean. Plus, our microchannel heat exchangers feature coating options that help increase reliability and durability in harsh environments.



## Optimized compressors with patented, variable volume index (VI) technology

With decades of experience varying compressor speeds, the YVAA incorporates advanced, patented technology in a proven design. Our VI design optimizes the compression ratio of the compressor to match the conditions between the evaporator and condenser. This optimized compression ratio prevents over-compression to minimize energy consumption. Every compressor is run-tested at the end of the production line to ensure reliable operation.



## EC and VSD Fans

Higher efficiency variable speed EC motor fans deliver energy consumption savings and sound reduction. VSD fans offer excellent efficiency with lower first cost and proven performance.



## Quick Start

The optional Quick Start feature enables an industry-leading compressor restart of 34 seconds after power is restored. And because YVAA chillers contain a variable-speed drive, there is no inrush of current, so all compressors can be started together. This allows a faster ramp-up to full capacity than is possible with a typical chiller.



## Smarter controls

Our built-in controls tolerate large variants in input power, shifts in liquid temperatures and changes in environmental conditions to maximize chiller uptime. And our controls integrate with industry standard Building Automation Systems (BAS) and the world-class Metasys controls system for greater building energy management efficiency. Optional Mobile Access Port (MAP) provides remote monitoring for predictive maintenance, resulting in dependable operation.



## Variable-speed drive

Four decades ago, we introduced the first variable-speed drive (VSD) chiller. Our first VSD, air-cooled chiller came in 2004, and we've since installed more VSD chillers than all other manufacturers combined. VSDs help reduce energy consumption – particularly at off-design conditions – and can help lower annual energy costs as much as 50%. Our patented, liquid-cooled VSDs also require less maintenance, with glycol replacement required only every five years. And the variable-speed design dramatically reduces sound levels at offdesign conditions – up to 16 dBA. Designed and manufactured by Johnson Controls, a 100% liquid-cooled VSD is standard on the YVAA range.



## Oil separator

The YVAA oil management system uses differential pressure to ensure proper oil flow and eliminate the need for mechanical oil pumps.



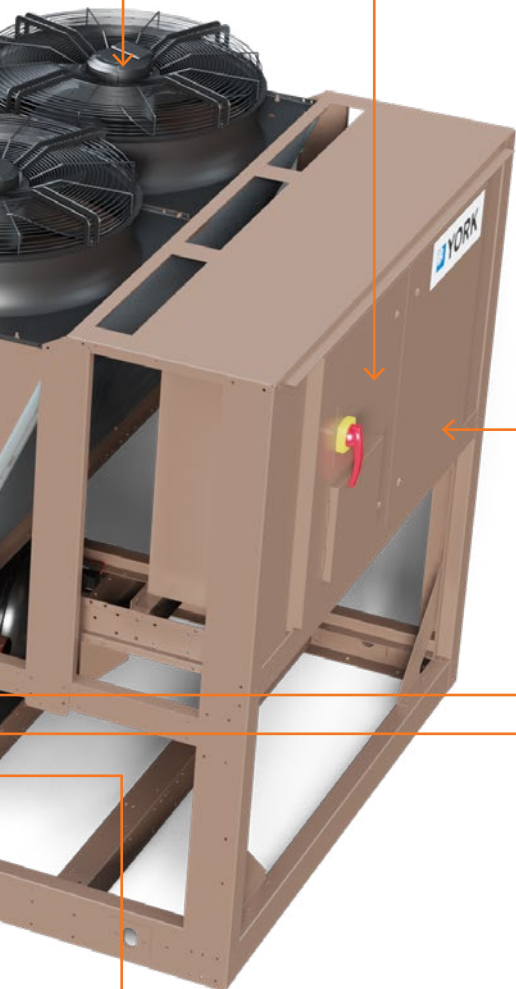
## High-efficiency economizer

Our high-efficiency economizer boosts capacity, improves system efficiency and reduces operating costs.



## Hybrid falling film series flow evaporator

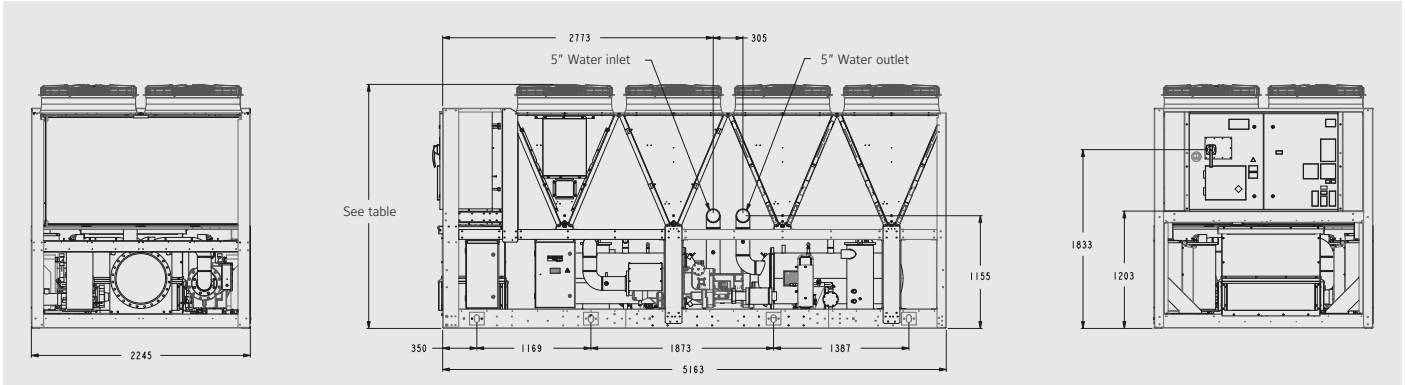
A patented, hybrid falling film shell and tube style of series flow evaporators provides a higher energy efficiency, minimize refrigerant charge up to 15% and offer a greater flexibility for performance optimization. Also it allows a wide operating range (-12°C to 21°C).



# Dimensions and hydraulic connections

All drawings are for two pass evaporator. For other configurations, please, contact JCI.

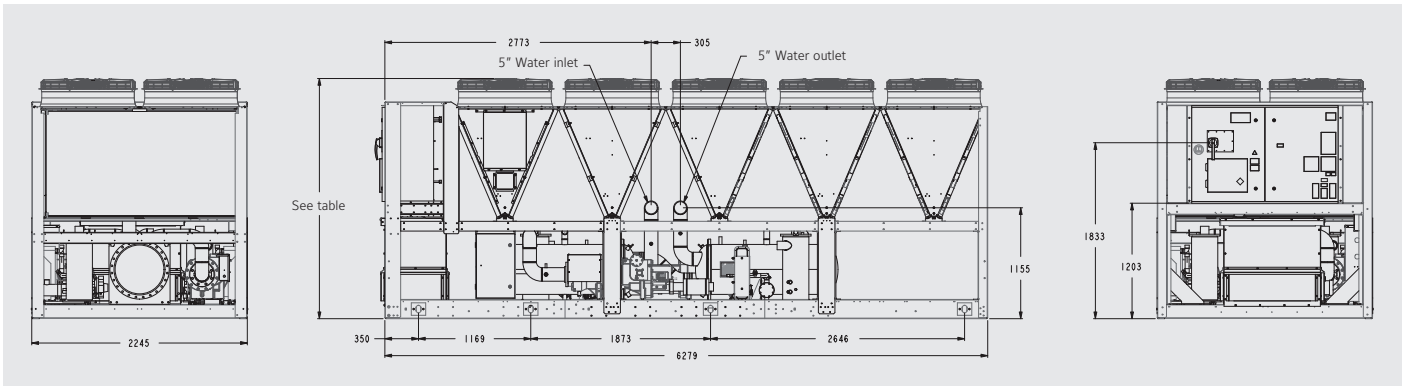
## YVAA-B 0571 and 0701



Unit height	EC Fans	Standard fans
<b>YVAA-B 0571 &amp; 0701</b>	2501	2358

All dimensions in mm. Drawings not in scale.

## YVAA-B 0586, 0671 and 0741



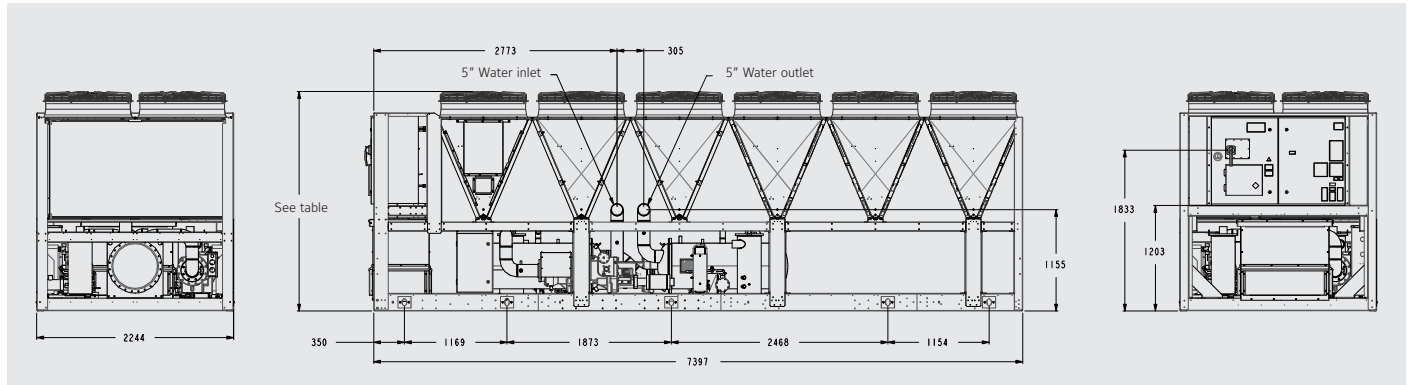
Unit height	EC Fans	Standard fans
<b>YVAA-B 0586, 0671 &amp; 0741</b>	2501	2358

All dimensions in mm. Drawings not in scale.

# Dimensions and hydraulic connections

All drawings are for two pass evaporator. For other configurations, please, contact JCI.

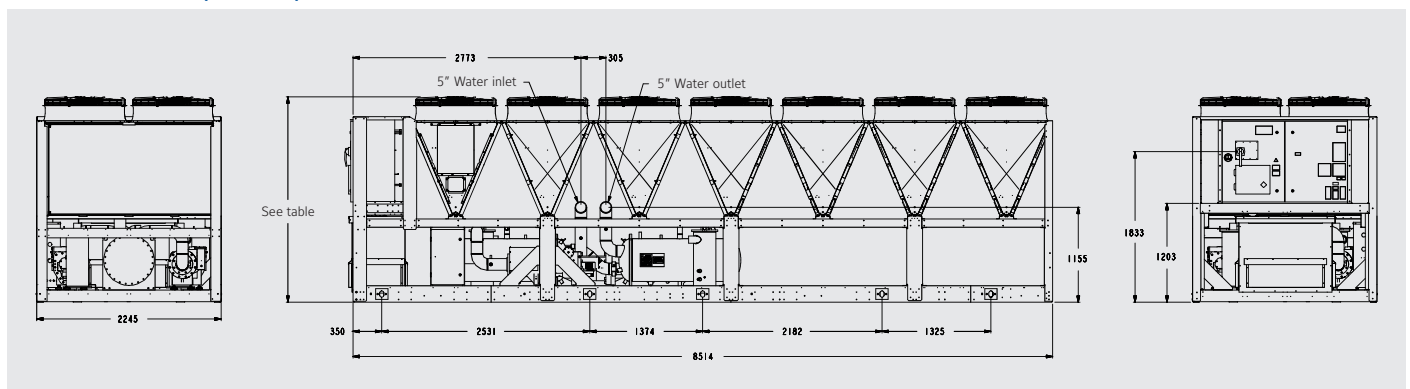
## YVAA-B 599, 0616, 0686, 0699, 0754, 0782, 0824, 0894 and 0921



Unit height	EC Fans	Standard fans
YVAA-B 0599, 0616, 0686, 0699, 0754, 0782, 0824, 0894 & 0921	2501	2358

All dimensions in mm. Drawings not in scale.

## YVAA-B 0756, 0796, 0919 and 0936



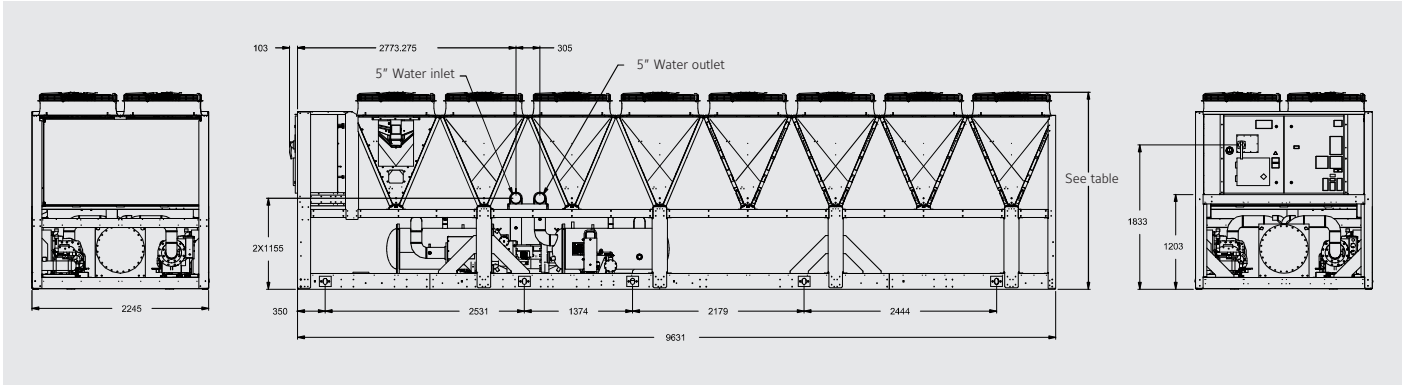
Unit height	EC Fans	Standard fans
YVAA-B 0756, 0796, 0919 & 0936	2501	2358

All dimensions in mm. Drawings not in scale.

# Dimensions and hydraulic connections

All drawings are for two pass evaporator. For other configurations, please, contact JCI.

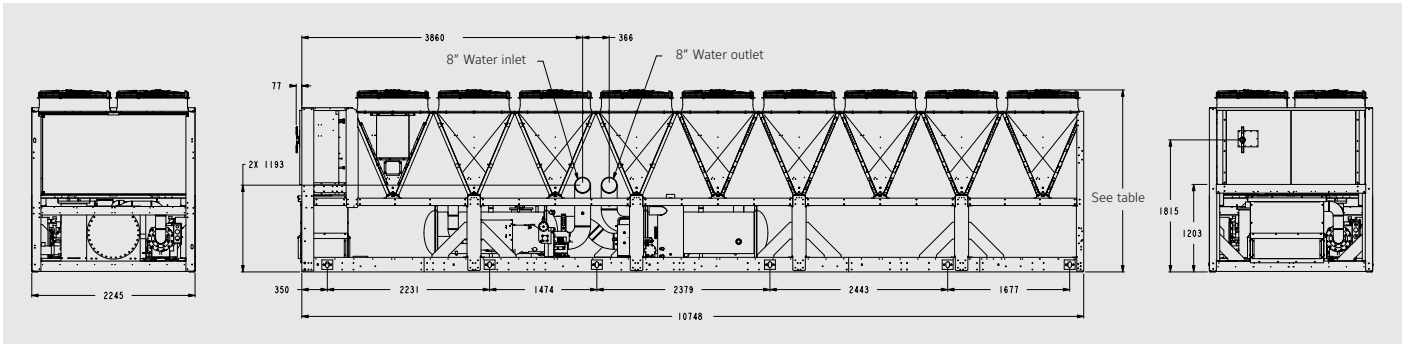
## YVAA-B 0769, 0809, 0866, 0924, 0949, 1034 and 1134



Unit height	EC Fans	Standard fans
YVAA-B 0769, 0809, 0866, 0924, 0949, 1034 & 1134	2501	2358

All dimensions in mm. Drawings not in scale.

## YVAA-B 1076 and 1161



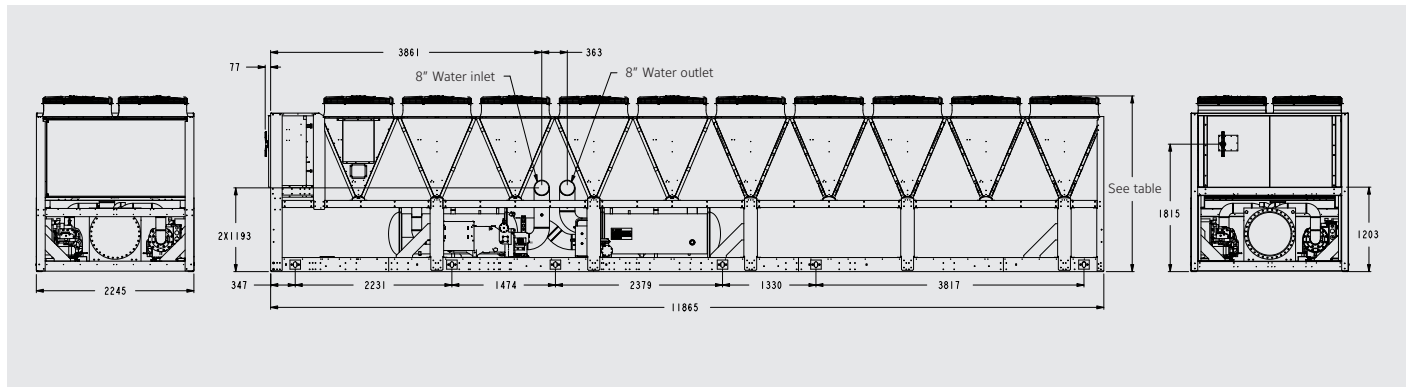
Unit height	EC Fans	Standard fans
YVAA-B 1076 & 1161	2501	2358

All dimensions in mm. Drawings not in scale.

# Dimensions and hydraulic connections

All drawings are for two pass evaporator. For other configurations, please, contact JCI.

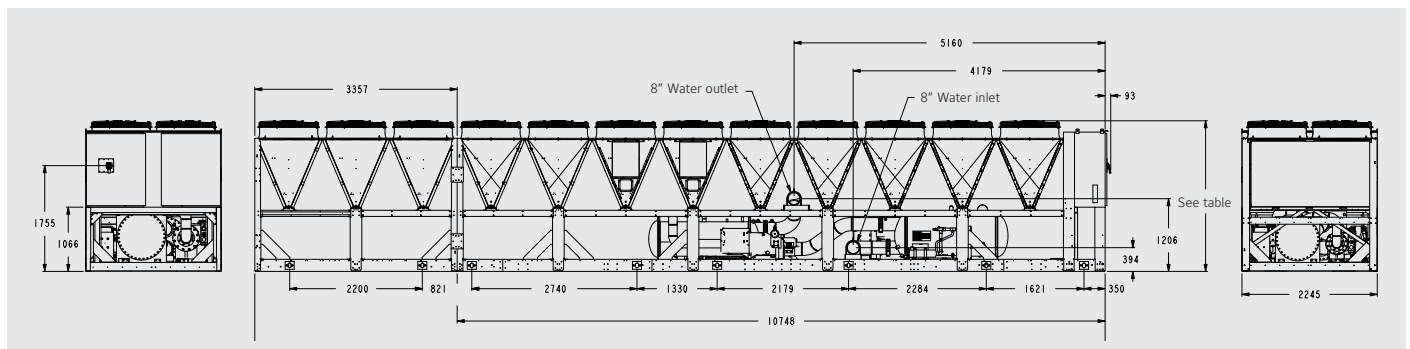
## YVAA-B 1089, 1174, 1271, 1381, 1549 and 1731



Unit height	EC Fans	Standard fans
YVAA-B 1089, 1174, 1271, 1381, 1549 & 1731	2501	2358

All dimensions in mm. Drawings not in scale.

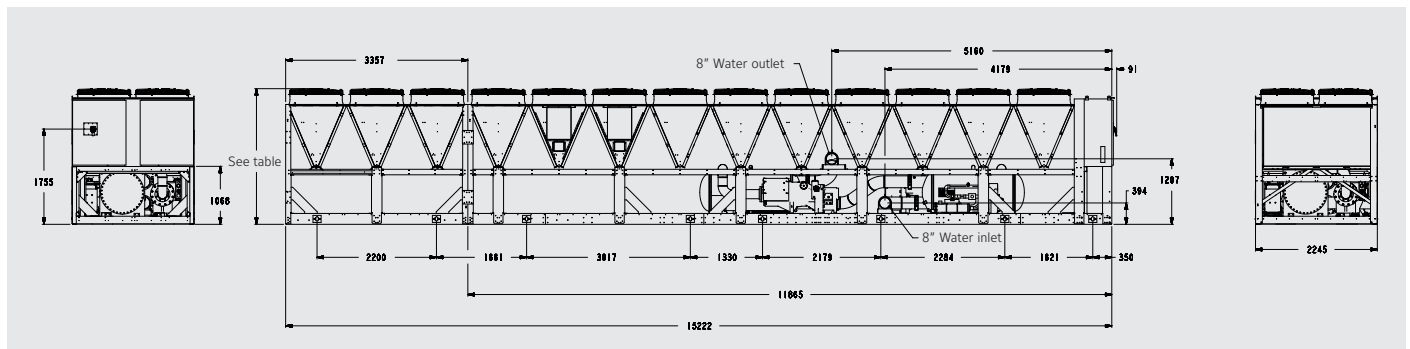
## YVAA-B 1409 and 1606



Unit height	EC Fans	Standard fans
YVAA-B 1409 & 1606	2501	2358

All dimensions in mm. Drawings not in scale.

## YVAA-B 1649



Unit height	EC Fans	Standard fans
YVAA-B 1649	2501	2358

All dimensions in mm. Drawings not in scale.