

YORK[®] Air Cooled Scroll DC Inverter Chiller and Heat Pump

YMAA0045 to 0260 / YMPA0045 to 0260

A complete range from 44kW to 255kW



Exceeding Efficiency Standards

The YORK® YMAA and YMPA Series Air-cooled DC Inverter Scroll Chiller and Heat Pump have been designed to meet tomorrow's efficiency standards today. Delivering performance beyond typical chiller and heat pump efficiency levels, the YORK® YMAA and YMPA Series meets or exceeds stringent regulatory requirements (see chart, below) through an optimized combination of YORK® efficiency-enhancing technologies.

Direct current (DC) inverter technology provides variable capacity control and allows YMAA and YMPA Series chiller compressors to operate more efficiently across all cooling-load and ambient temperature conditions versus constant-speed chillers that use a step unloading design.

Electronically commutated (EC) fans use more efficient motors and better aerodynamics to improve overall system efficiency and sound performance, particularly at part-load. At reduced ambient temperatures, the head pressure control varies fan speeds to optimize the system efficiency and ensure reliable operation. This combination of variable speed compressor and fans provides a displacement power factor as high as 0.93, lowering electricity costs.

High efficiency brazed plate heat exchanger uses less refrigerant and transfers heat from the liquid to refrigerant more efficiently, providing excellent heat transfer performance in a compact size. This also results in a lower water side pressure drop, allowing the use of smaller pumps and further minimizing building power consumption.

Tandem compressor design uses several circuits, which improves off-design and part-load efficiency by using the entire surface area of the heat exchanger at all conditions while also providing partial redundancy.



Performance Without Compromise

The YORK® YMAA and YMPA Series is a no-compromise solution for a variety of climates and locations. Built specifically to deliver better performance through a wider operating envelope, the YMAA and YMPA chiller and heat pump can maintain efficiency in a variety of conditions without kits or add-ons – down to an impressive -18°C ambient in cooling mode and -15°C ambient in heating mode.

With the smallest footprint across the widest capacity range on the market, the YORK® YMAA and YMPA Series is also the perfect solution for high performance in smaller spaces. Installation is simplified with a compact size that permits forklift loading, and a modular configuration allows units to be arranged in varying footprints to fit different space requirements. This unique modularity means capacity can be increased incrementally as buildings are being constructed or spaces are becoming occupied. And if maintenance is required, other modules in the system will continue to operate, helping to reduce downtime and loss of capacity.

We want to ensure our neighbors are comfortable too, even in retrofits. That's why our systems offer two levels of sound performance. If requirements call for sound attenuation beyond our standard low-noise levels, an optional Ultra Quiet Kit can further reduce sound power by an impressive 6 dBA, providing one of the quietest units available.



Advanced Control Made Easy

Comfort, productivity and up to half of the energy used in your building – these are all factors affected by how your chiller operates and how it interacts with other components in your HVAC&R system.

YORK® YMAA and YMPA Series with advanced, embedded control capability allows multiple chillers and/or heat pumps to be connected and monitored through a single controller.

Each unit comes equipped with a touch-screen display featuring an easy-to-use, web-style interface and intuitive navigation for easy access to operational data. Information can be displayed in multiple languages, and setup is very easy. Maximum 32 units of model 0045-0130 can be group controlled through one single controller, and maximum 16 units of model 0160-0260 through one single controller.

In addition, YORK® YMAA and YMPA Series provides added flexibility with standard BACnet MS/TP and Modbus RTU connectivity for communication with virtually any building management system.

Fig 1: Modular Group Control

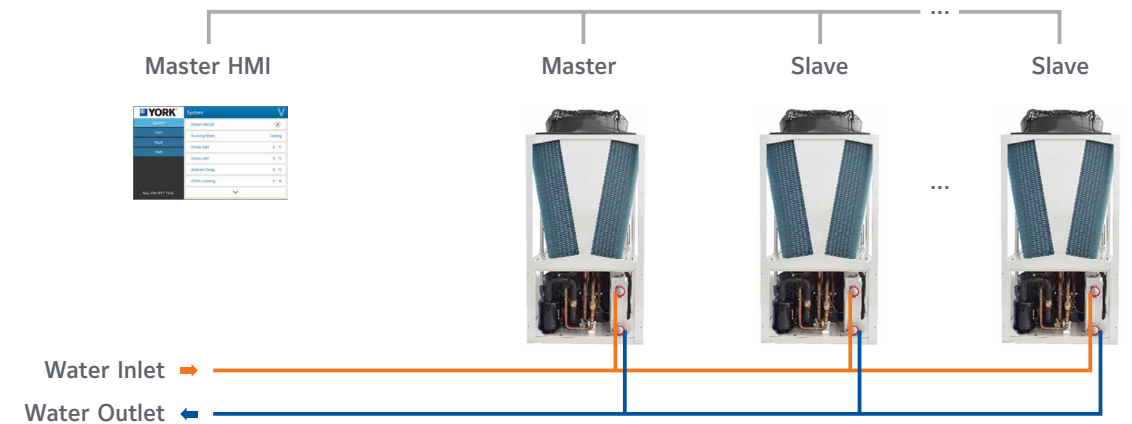
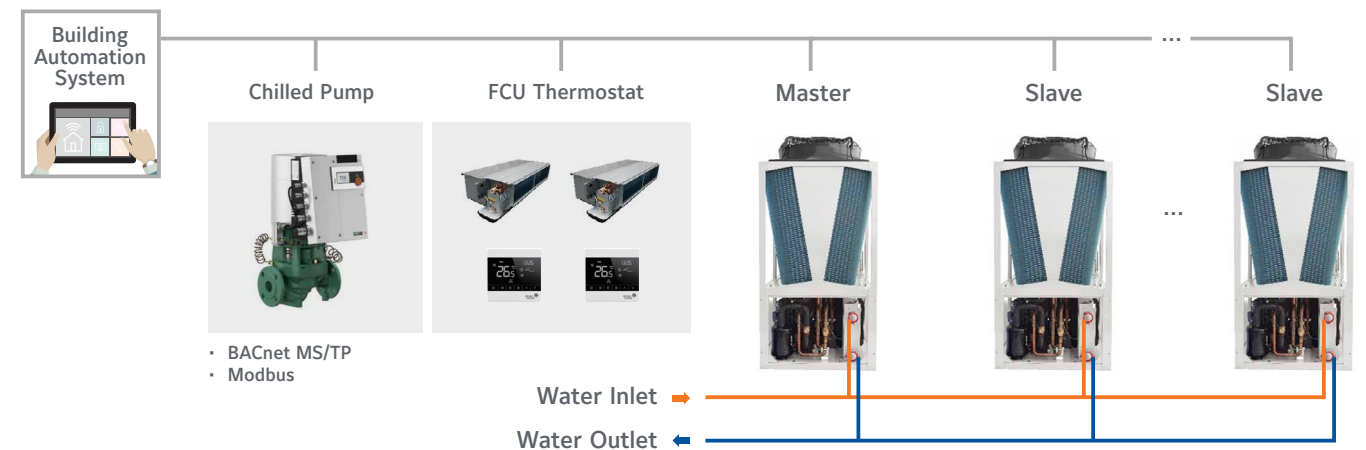


Fig 2: Smart Remote Control



A History of Reliability

When your reputation is at stake, count on efficient, reliable cooling and heating solutions from YORK® to lower costs and maximize uptime with dependability you can count-on. Our locally based stocking allows quick shipment to European locations. And with our units shipping as a complete package, everything arrives at the same time. We also offer a variety of standardized, locally stocked parts to ensure our systems continue to provide maximum uptime in every installation.

With the YORK® YMAA and YMPA Series Air-cooled Scroll Chiller and Heat Pump, we're building on our legacy of cooling solutions and technology leadership. We don't judge success based on theoretical findings, but real-world experience. Our first-generation modular chiller was built over a decade ago. We use DC inverter technology proven in over three decades of use. Our use of inverter scroll technology dates to 1985. And every new YORK® chiller is subjected to a Highly Accelerated Life Test (HALT) during the design product development stages, allowing us to simulate a variety of extreme conditions and ensuring long-term operational reliability and quality. But our pursuit of quality doesn't stop there.

- **Decades of extensive air-cooled expertise** is backed by proven components used in installations across the globe and in a variety of conditions.
- **Tandem compressor management** improves overall reliability by balancing system operation time between each compressor.
- **Smart logic controller** coordinates and optimizes units for off-design and part-load operation.
- **Intelligent defrost** optimizes the sequencing of the defrost cycle and allows the remaining modules in the system to continue to provide heat, reducing interruptions.
- **Compliance and certifications** include EcoDesign 2021 regulatory compliance, Eurovent certification and CE/PED certification.



The YORK® YMAA and YMPA Series is a no-compromise solution that delivers industry-leading efficiency, unmatched flexibility, world-class sound performance, extensive control capability and long-lasting reliability. These highly optimized designs use advanced components and innovative thinking to provide the best-in-class performance only the world-leader in chiller solutions could deliver.

Model		YMAA Series Chiller and YMPA Series Heat Pump										
		0045	0065	0080	0100	0130	0160	0200	0230	0260		
Performance	Cooling capacity, YMAA/YMPA series	kW	45	60	78	99	122	159	188	222	255	
	Total power input, YMAA/YMPA series	kW	15.3	21.2	24.8	32.6	40.8	50.5	61.1	70.8	82.0	
	Full load cooling EER, YMAA/YMPA series		2.92	2.83	3.15	3.04	3.00	3.16	3.08	3.14	3.11	
	Heating capacity, YMPA series	kW	49	60	87	99	131	161	190	230	255	
	Total power input, YMPA series	kW	16.1	19.7	26.5	31.3	43.8	48.9	58.7	70.9	78.8	
	Full load heating COP, YMPA, series		3.06	3.07	3.28	3.15	3.00	3.29	3.24	3.24	3.24	
Capacity steps			Stepless (Inverter)									
Refrigerant	Sound Power level STD / LN	dB(A)	80/75	82/77	81/77	83/79	84/80	86/82	87/82	88/83	89/84	
	Refrigerant circuits	#	1	1	2	2	2	3	3	4	4	
		kg	9.5	12.3	8.5	9.5	11.4	9.5	11	9.5	11.4	
	Refrigerant (R410A) charge / circuit		-	-	9.05	11	11.4	10	10.5	11	11.4	
Compressor	Compressor type		DC Scroll Inverter + Scroll									
	Quantity	#	2	2	3	3	4	5	6	7	8	
Air side heat exchanger	Fan Motor type		EC motor									
	Fans quantity	#	1	1	2	2	2	3	3	4	4	
	Working ambient temp. cooling mode	°C	-18 ~ 48°C									
	Working ambient temp. heat. mode	°C	-15 ~ 25°C									
Water side heat exchanger	Type		Plate Heat Exchanger									
	Unit water volume (w/o pump kit)	l	7	10	14	16	16	27	29	32	34	
	Nominal water flow	l/s	2.2	2.9	3.8	4.8	5.9	7.4	9.1	10.5	11.9	
	Pressure drop	kPa	30	30	28	32	36	23	29	41	38	
	Working range water leaving temp. cooling	°C	-8 ~ 20°C									
	Working range water leaving temp. heating	°C	25 ~ 55°C									
Dimensions & Weight	Water connections type		Victaulic									
	Height, base model	mm	2440					2500				
	Width, base model	mm	1200					3050				
	Length, base model	mm	1500			2240			2240			
	Height, w/ hydro kits (single VSD pump, std head)	mm	2440					2500				
	Width, w/ hydro kits (single VSD pump, std head)	mm	1200					3050				
	Length, w/ hydro kits (single VSD pump, std head)	mm	2300			3040			2240			
	Shipping weight, base model	kg	605	625	919	944	1023	1895	1974	2203	2282	
	Operation weight, base model	kg	587	610	893	920	999	1922	2003	2235	2316	
	Shipping weight, w/ hydro kits (single VSD pump, std head)	kg	806	826	1131	1156	1235	2071	2150	2379	2458	
Operating weight, w/ hydro kits (single VSD pump, std head)	kg	782	805	1105	1132	1211	2115	2196	2428	2509		
Electrical features	Voltage / Phases / Frequency	V/ph/hz	400 / 3 / 50+N+E									

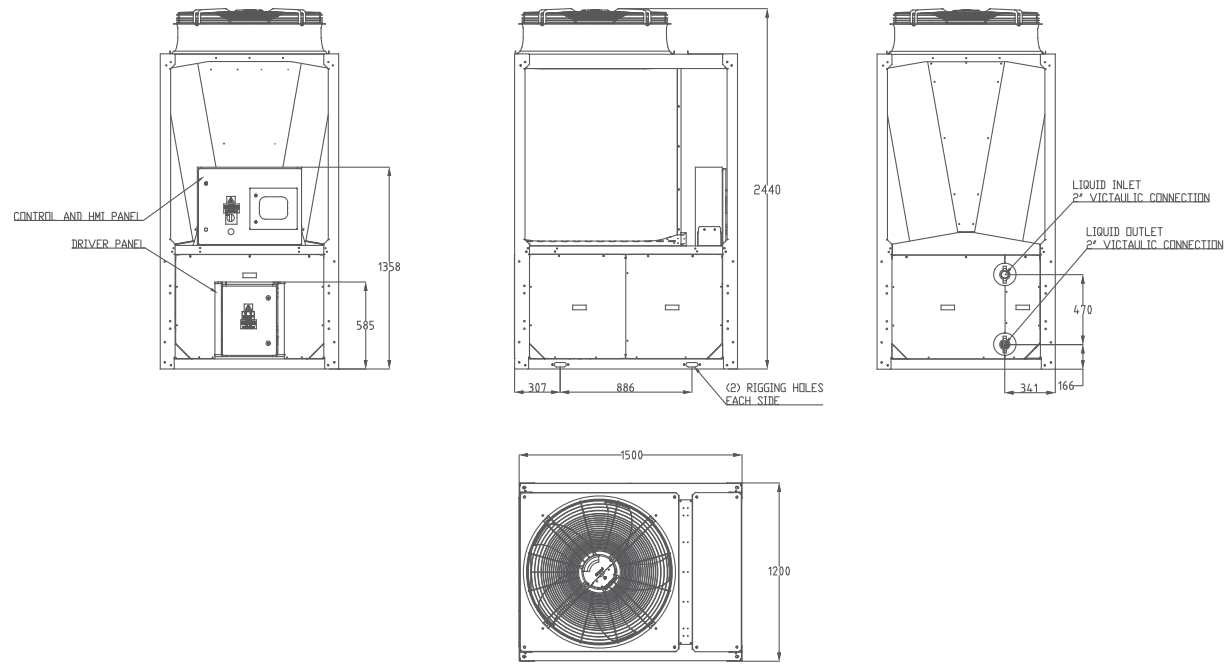
YMAA: Cooling only units models.

YMPA: Air to water heat pump models.

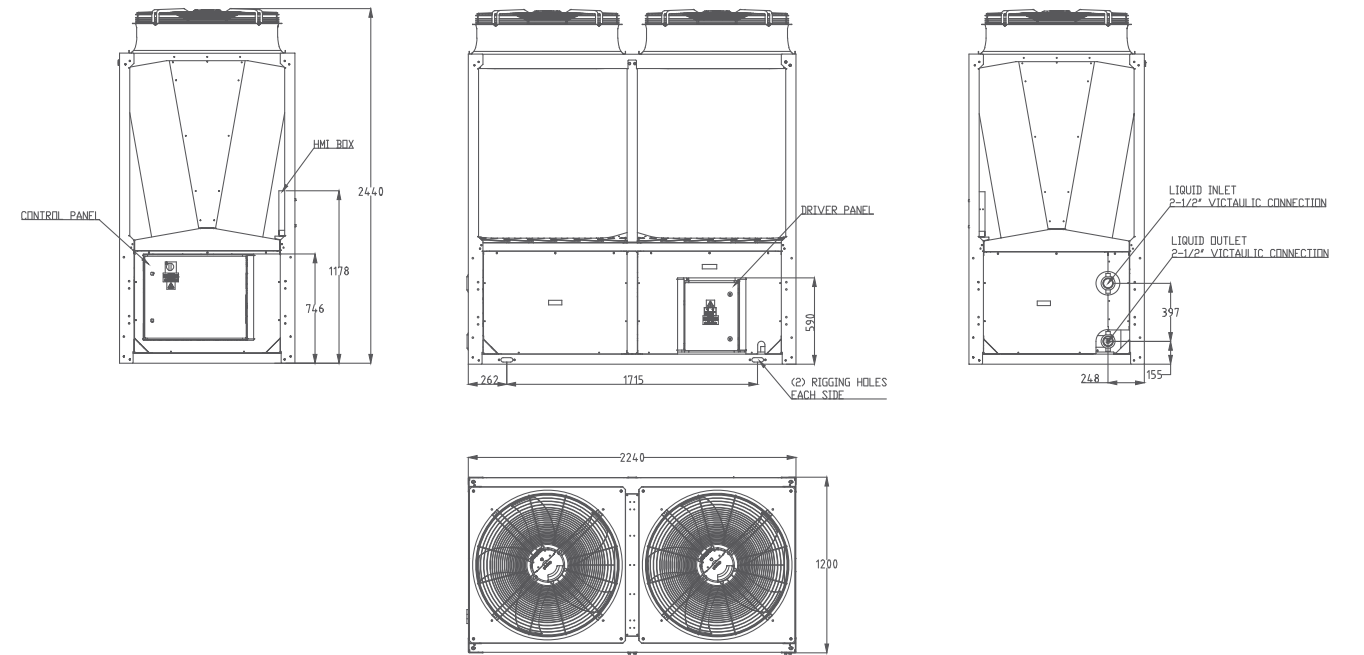
Nominal conditions: Cooling capacities in kW given for 7°C water leaving temperature Δt 5°C and 35°C ambient temperature
 Heating capacities in kW given for 45°C water leaving temperature and 7°C ambient temperature
 SEER and SCOP calculated according to EN14511 and EN14825
 ηs and SEPR calculated according to Ecodesign regulation for chillers comfort cooling and heating and process cooling (813/2013, 1095/2015 and 2281/2016)

Dimensions and hydraulic connections

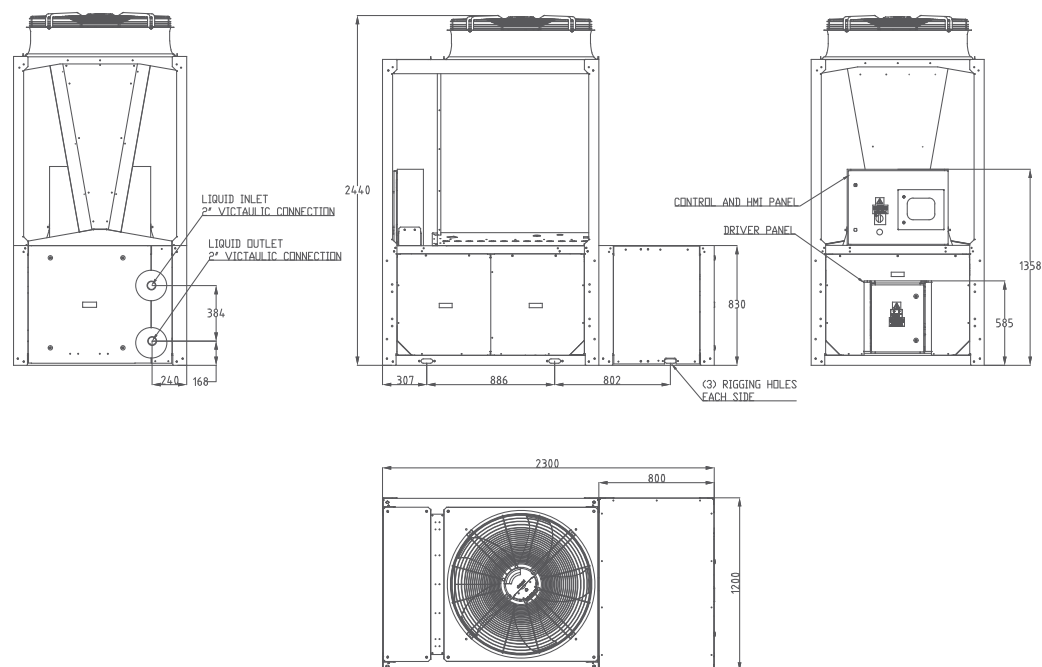
YMAA, YMPA0045 and 0065 Single unit



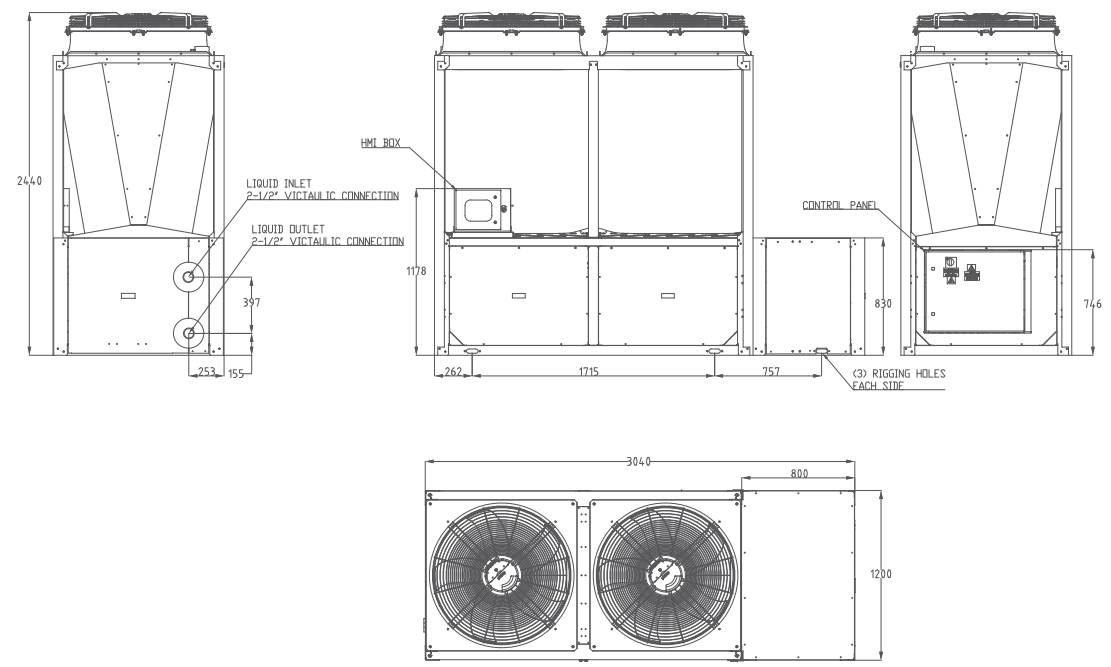
YMAA, YMPA0080 to 0130 Single unit



YMAA, YMPA0045 and 0065 Single unit with hydraulic kits

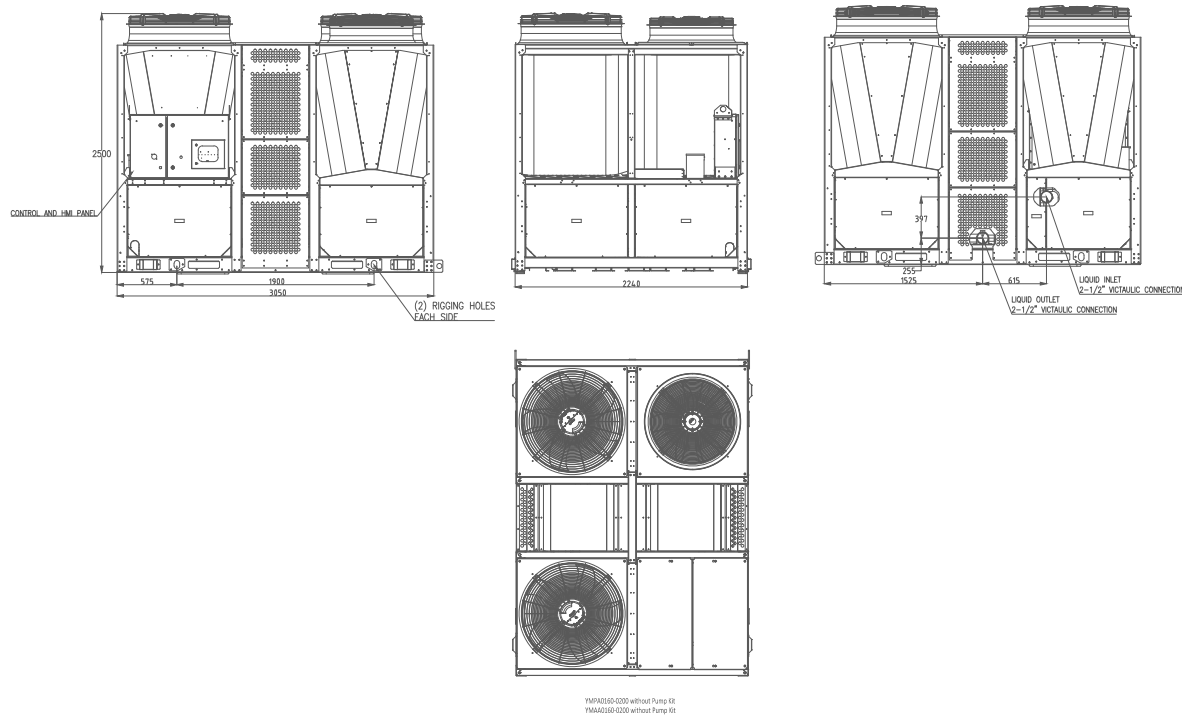


YMAA, YMPA0080 to 0130 Single unit with hydraulic kits

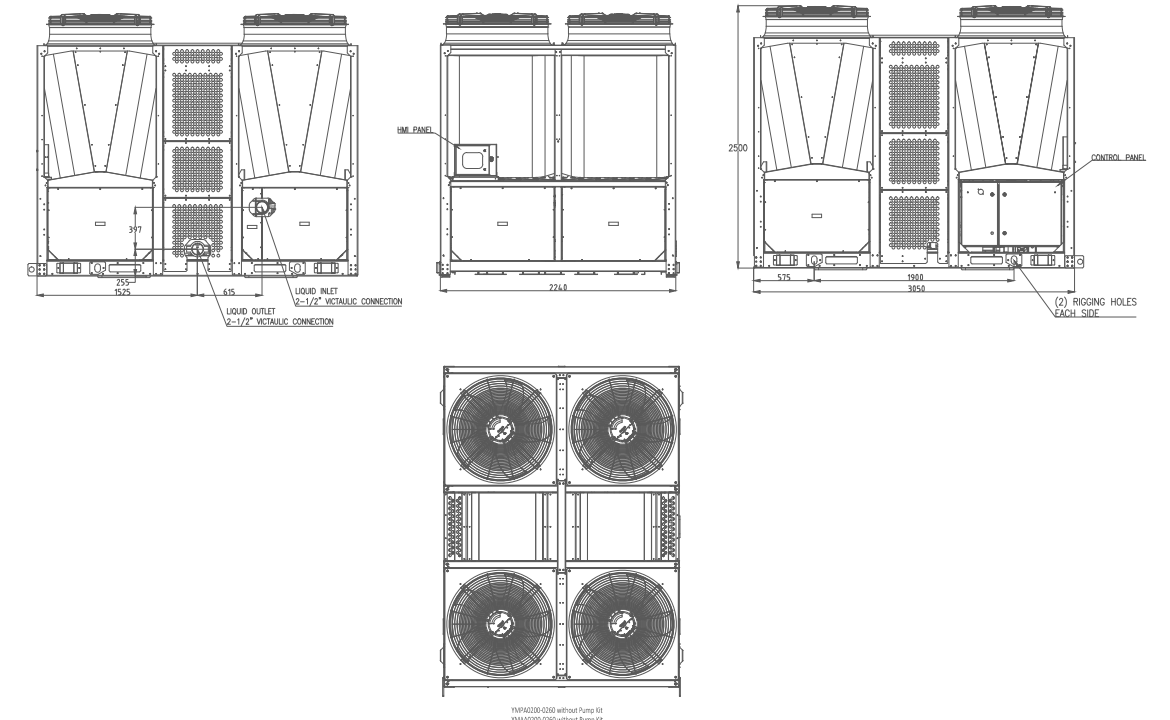


Dimensions and hydraulic connections

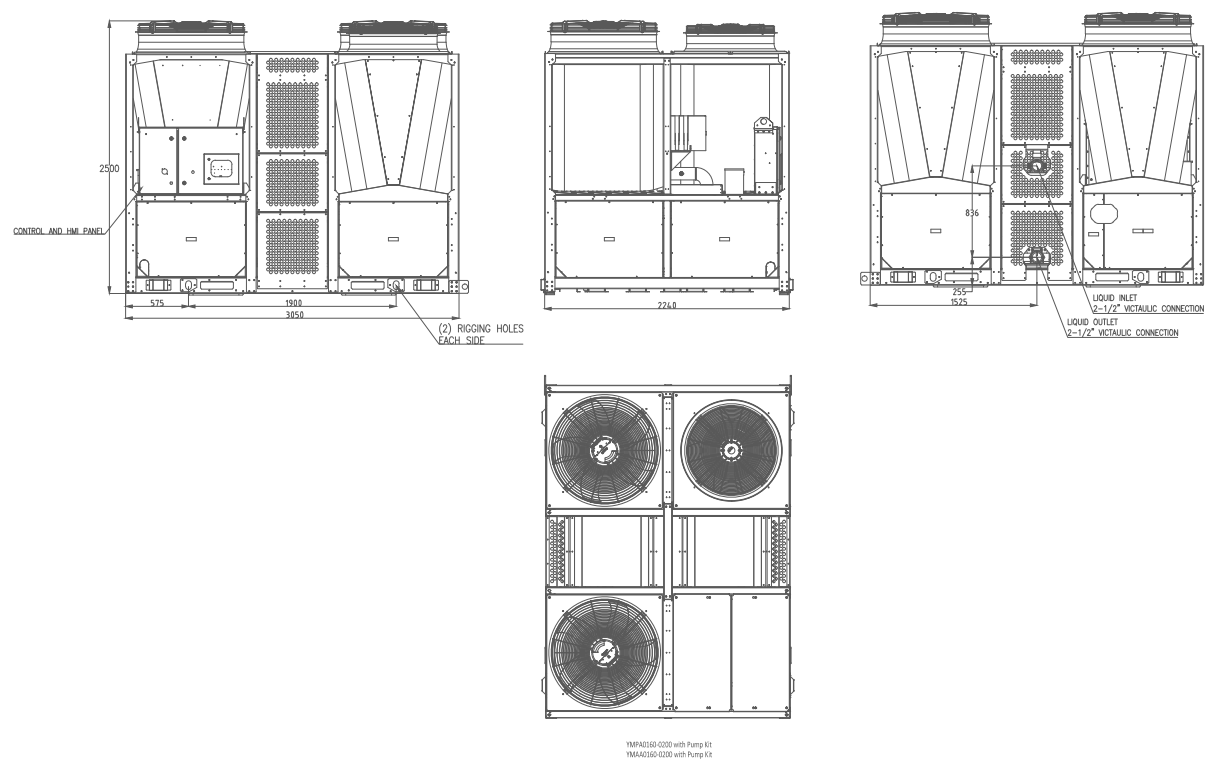
YMAA, YMPA0160 and 0200 Single unit



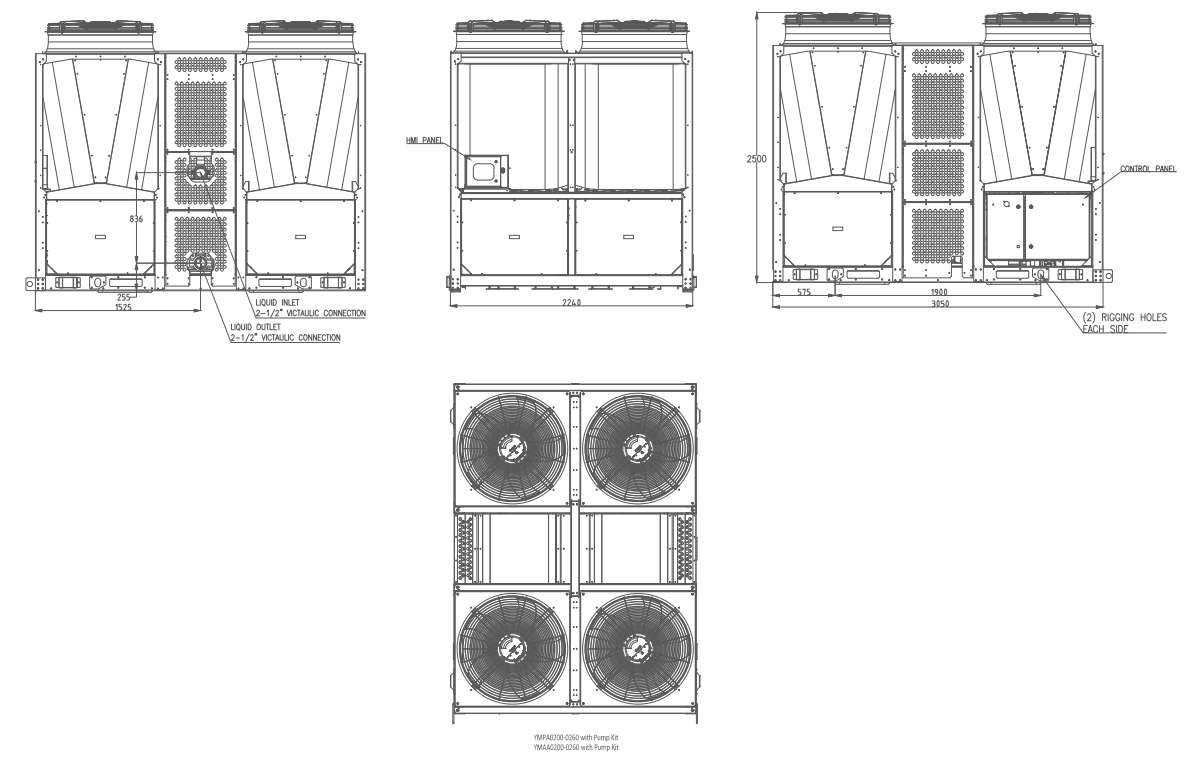
YMAA, YMPA0230 and 0260 Single unit



YMAA, YMPA0160 and 0200 Single unit with hydraulic kits



YMAA, YMPA0230 and 0260 Single unit with hydraulic kits



About Johnson Controls Building Technologies and Solutions

Johnson Controls Building Technologies & Solutions is making the world safer, smarter and more sustainable – one building at a time. Our technology portfolio integrates every aspect of a building – whether security systems, energy management, fire suppression or HVACR – to ensure that we exceed customer expectations at all times. We operate in more than 150 countries through our unmatched network of branches and distribution channels, helping building owners, operators, engineers and contractors enhance the full lifecycle of any facility. Our arsenal of brands includes some of the most trusted names in the industry, such as Tyco®, YORK®, *Metasys*®, Ruskin®, Frick®, PENN®, Sabroe®, Simplex® and Grinnell®.

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