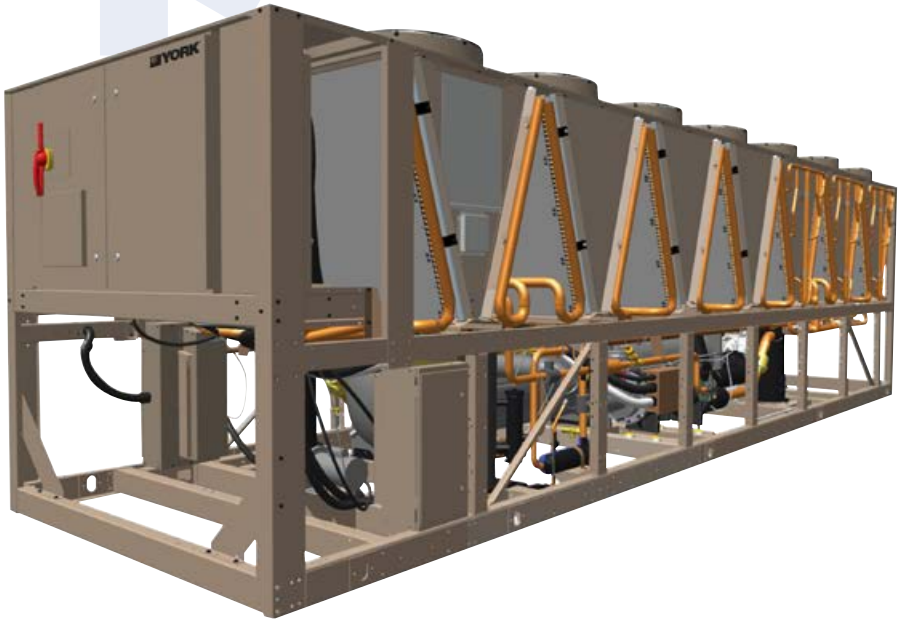
YVFA
Air-cooled VSD screw chiller with integrated Free-cooling

Cooling capacities from 525 kW to 1575 kW

At Eurovent Standard Conditions this equipment meets A Class energy efficiency levels.



Compatible range

Features

- Available in Open and Closed (glycol free) loop configurations.
- Optimized Annual Energy Savings thanks to the unique combination of the YORK Variable Speed Drive technology expertise and the sophisticated free-cooling controls.
- Reduced installation footprint, thanks to the integration of the free-coolingcoils together with the chiller.
- Lower ambient operating range when in free-cooling mode, compared to standard units.

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
- Desuperheater

YVFA free-cooling chillers are available in open- or closed-loop configurations to maximize efficiency for your specific type od building

Open-loop configuration

Open-loop design permits building glycol to flow through the free cooling coils directly, with the best performance and the lowest first cost.

Closed-loop configuration

Closed-loop design integrates a brazed plate heat exchanger and pump loop. The building water loop is isolated from the free cooling coils, and the YVFA pump circulates glycol between the brazed plate heat exchanger and the free cooling coils. This provides the lowest pump pressure drop and a building loop that's glycol-free.

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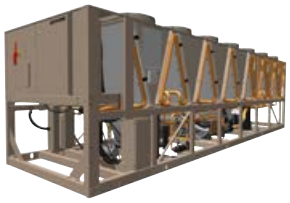
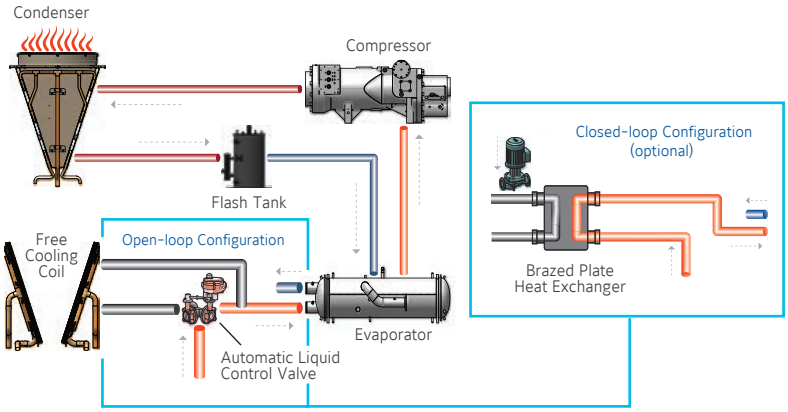
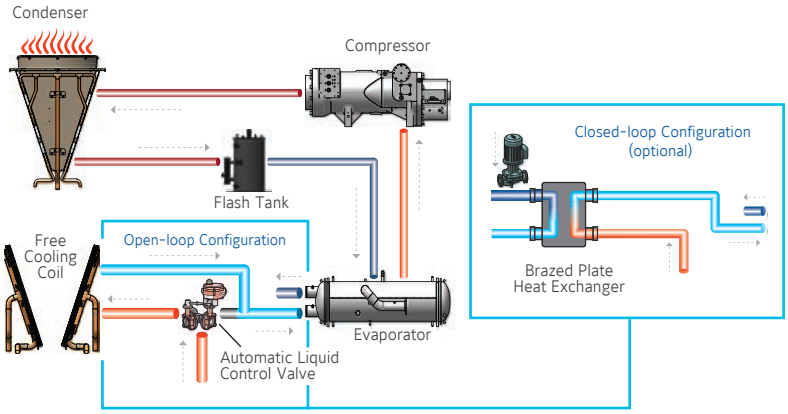


Saving energy is simple in every situation



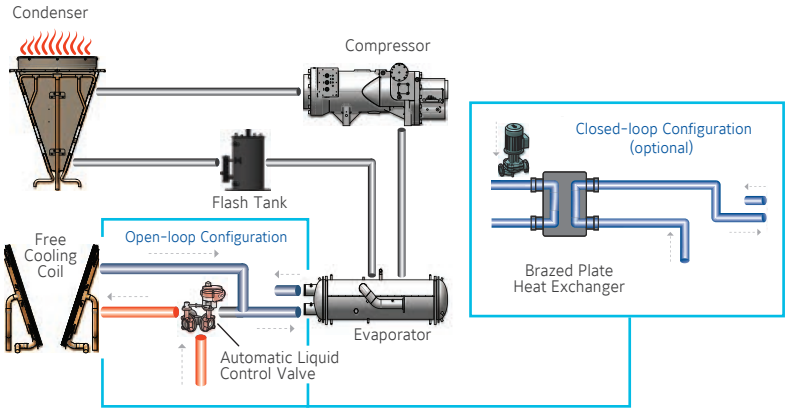
1 Mechanical Cooling Mode

When it's too warm to use ambient air for cooling, the YVFA performs as a standard chiller. The automatic flow-control valve in the open-loop configuration bypasses the free-cooling coils to reduce pump energy. When either cooling load or ambient temperature are less than full design condition, the variable-speed screw compressors and condenser fans modulate to optimize energy use. In a closed-loop configuration, the free-cooling coils are also bypassed.



2 Hybrid Cooling Mode

When ambient temperatures permit, liquid flow through the free-cooling coils is enabled. This pre-cooling reduces energy use while the compressors deliver final cooling to meet setpoint. Thanks to YORK® VSD Screw technology, at reduced ambient the compressors may draw less power than the fan motors required to move air through the free-cooling coils. Advanced controls provide the most efficient operation rather than simply shutting off compressors as quickly as possible. The Annual Energy Cost Report demonstrates the benefit of this intelligent control.



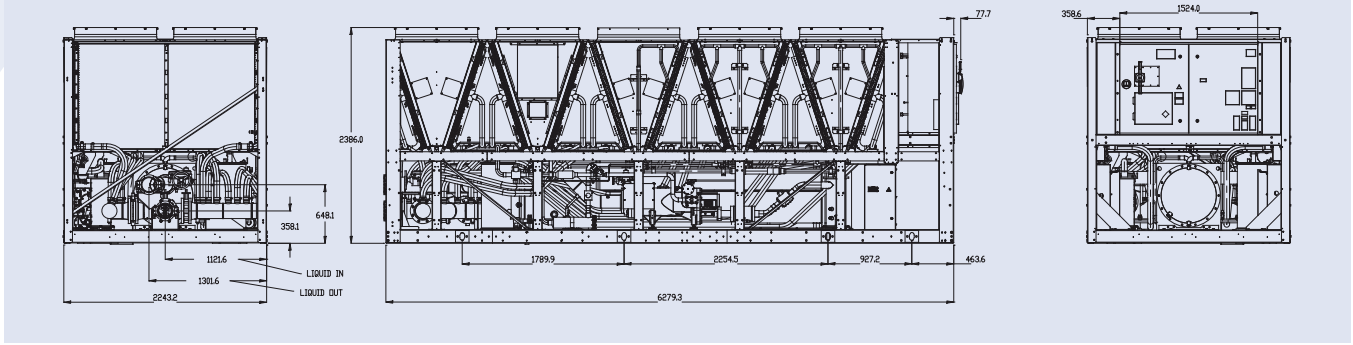
3 Free Cooling Mode

At lower ambient temperatures, full cooling load can be most efficiently delivered by the free-cooling coils. Compressors are shut off and the VSD fans are modulated to meet the cooling setpoint.

Dimensions and hydraulic connections

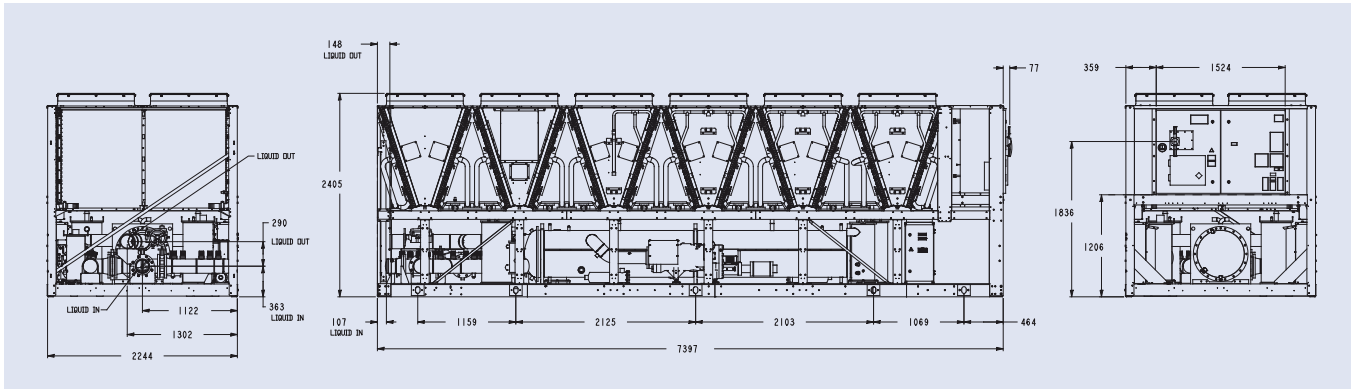
Open-loop configuration models

YVFA 0539 OL



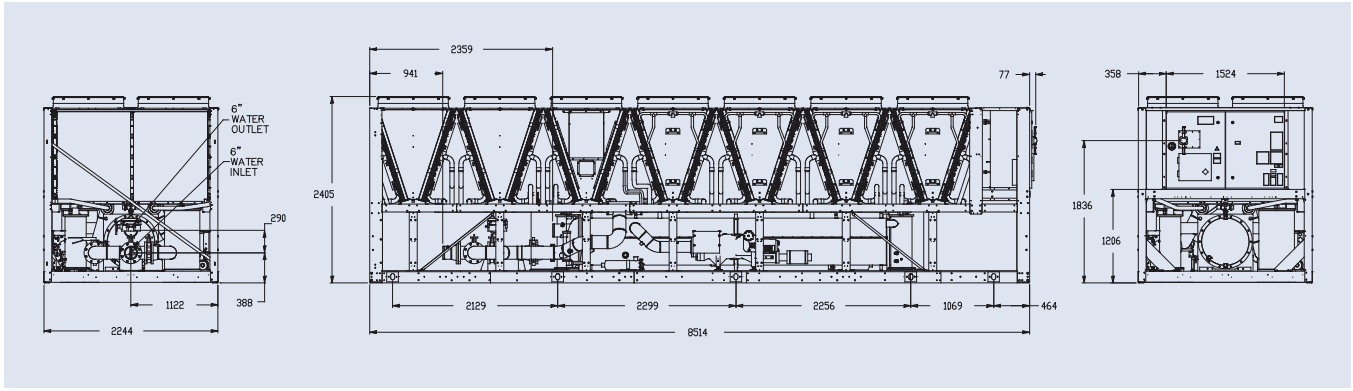
All dimensions in mm. Drawings not a scale.

YVFA 0709 OL



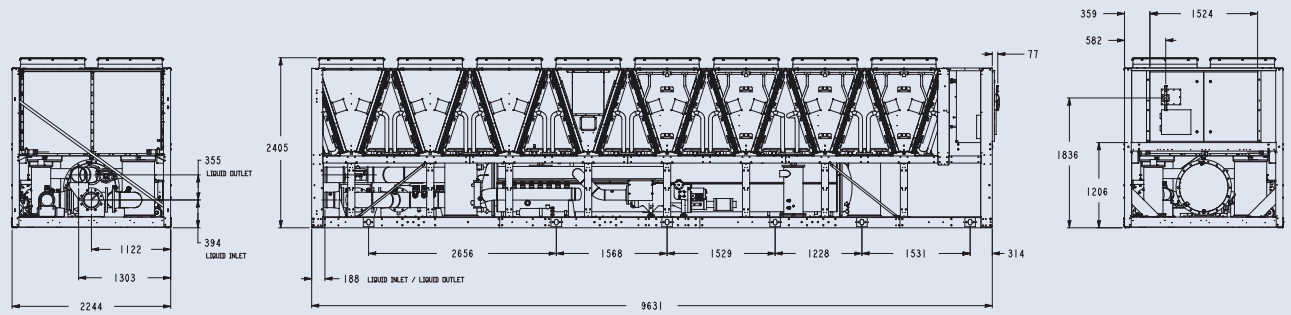
All dimensions in mm. Drawings not a scale.

YVFA 0889 OL



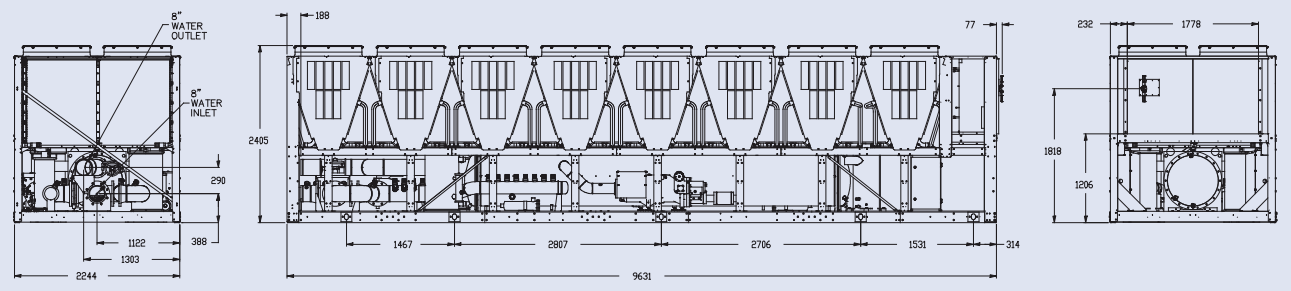
All dimensions in mm. Drawings not a scale.

YVFA 1009 OL



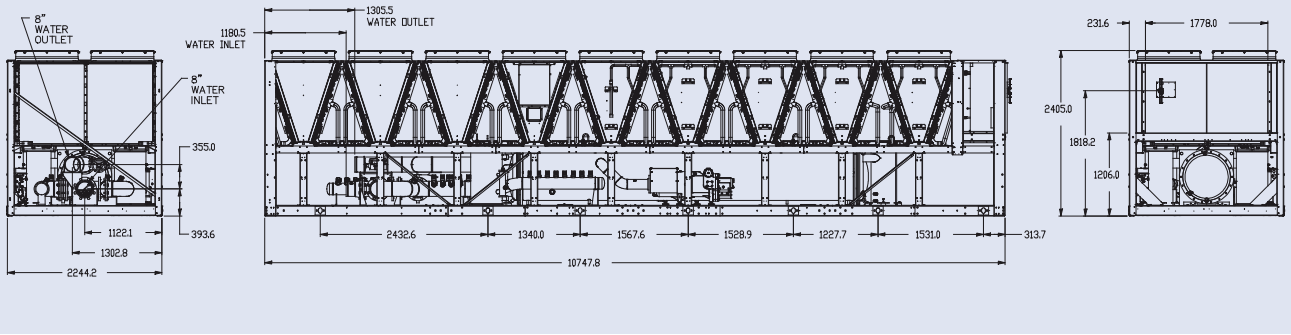
All dimensions in mm. Drawings not a scale.

YVFA 1069 OL



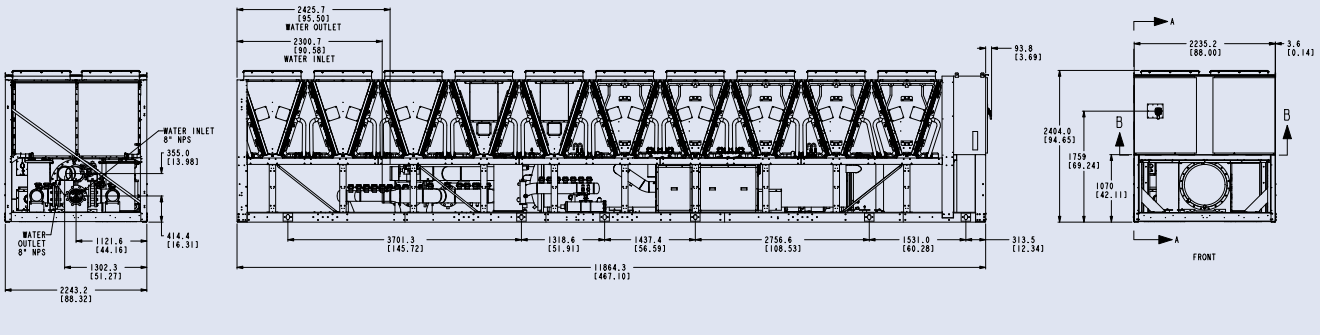
All dimensions in mm. Drawings not a scale.

YVFA 1239 OL



All dimensions in mm. Drawings not a scale.

YVFA 1419 & 1589 OL

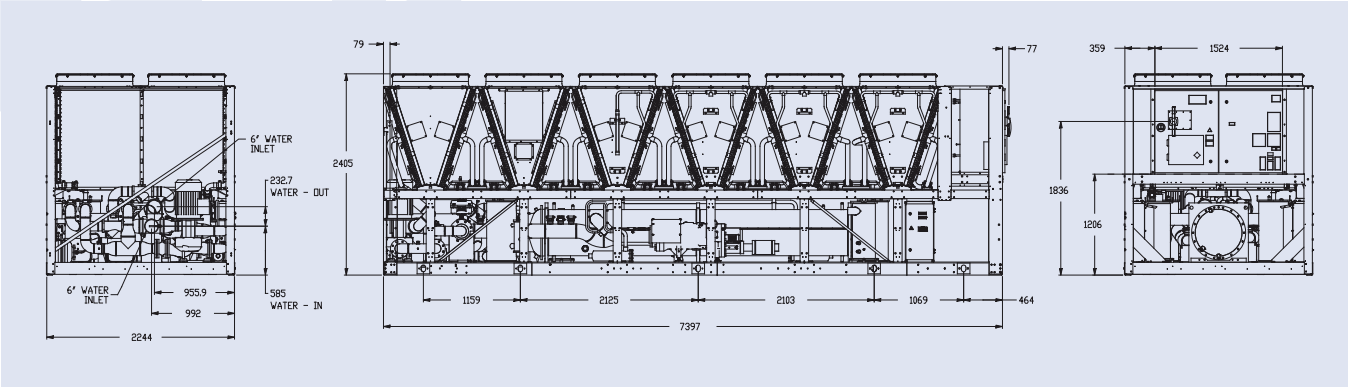


All dimensions in mm. Drawings not a scale.

Dimensions and hydraulic connections

Closed-loop configuration models

YVFA 0709 CL



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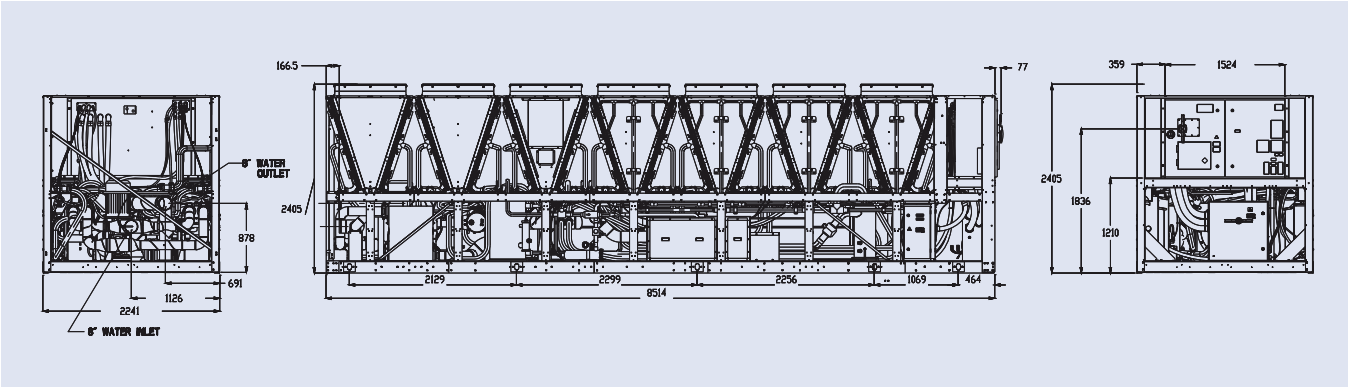
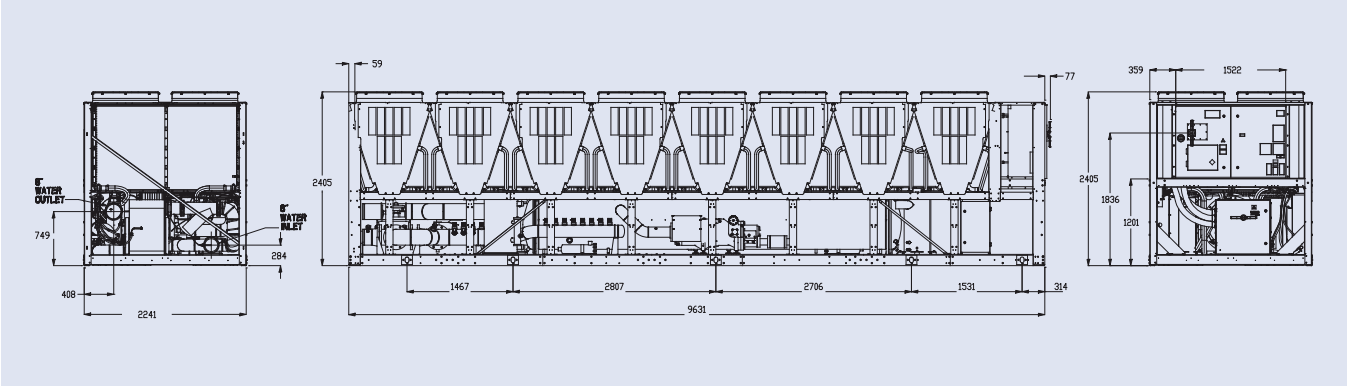
YVFA 0889 CL



All dimensions in mm. Drawings not a scale.

YVFA 1069 CL



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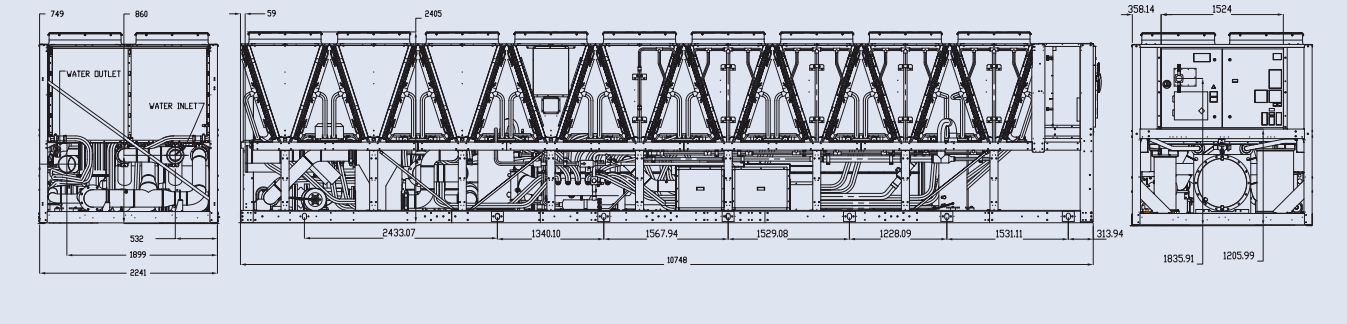
Dimensions and hydraulic connections

Closed-loop configuration models

YVFA 1239 CL



All dimensions in mm. Drawings not a scale.

Application flexibility (*) example of selections

YVFA	0539	0709	0889	1009	1069	1239	1419	1589
Mechanical Cooling capacity (kW)	529	657	846	946	1050	1213	1378	1473
Full Load Efficiency (EER) - Mechanical	3.03	3.00	3.05	3.19	3.07	2.98	2.89	2.84
Part Load Efficiency (SEPR) - Mechanical	6.13	6.14	6.33	6.62	6.35	6.01	6.07	6.03
Sound power level (dBA) - Mechanical	103	104	106	105	106	109	110	110
Total Temperature Free-Cooling (°C)	0.5	0.2	-0.7	-0.5	-1.5	-1.8	-2.1	-2.8
Efficiency during Hybrid Mode	8-40	6-40	6-35	6-35	5-28	5-24	5-27	5-28
Efficiency during Total Free-Cooling Mode	40-115	40-125	35-125	35-135	28-125	24-125	27-125	28-115

Cooling Capacity at: entering/leaving chilled water temperature 15°C/10°C (30% Glycol), ambient temperature 35°C
Sound Pressure according to Eurovent conditions.
(*) YVFA is a tailor and tune chiller. Its peformance 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 R134a refrigerant.
For R513a information contact your JCI Representative.
For tailored and tuned performance based on your specific project requirements, and for more information, please contact your Johnson Controls representative.
The above data is based on Johnson Control's selection software YORKworks 18.06. Please refer to the latest version of the software for specific projects.

Technical data

YVFA			0539	0709	0889	1009	1069	1239	1419	1589
Dimensions	Length	mm	6280	7397	8514	9631	9631	10748	11864	
	Width	mm	2242						2243	
	Height	mm	2405						2404	
Operating weight kg			7394	8504	10396	11842	11884	12900	14131	17140
Refrigerant charge kg			172	164	216	246	262	282	365	368