

AIRSYS

# VectorCool™

## Magnetic-Bearing Centrifugal Chiller

The VectorCool oil-free centrifugal chiller delivers unmatched energy performance for today's high-performance data centres. Available in 500kW, 1MW, and 2MW models, VectorCool is purpose-built for hybrid air and liquid cooling, it's engineered to adapt seamlessly to future liquid-only operation, intelligently managing high supply water temperatures and  $\Delta T$  (up to 16°C) to maintain optimal efficiency under any load. Chillers are designed to operate continuously up to 55°C ambient temperature.



The VectorCool's magnetic-bearing compressors use 30% less energy, while VFD pumps enable seamless free-cooling for up to 90% savings. With innovative patented technology, the VectorCool delivers higher efficiency, zero water use, and reliable operation, supporting both serial and parallel loops for fully integrated air and liquid cooling performance.



**Low Water Flow**  
Up to 50% Less Pump Energy Consumption



**Optimized Performance**  
Driven by Patented Series Counterflow Technology



**More Free Cooling**  
Delivering 20-70% Energy Savings Based on Climate

# VectorCool™

## Technical Specifications



Specification	VectorCool 500kW		VectorCool 1MW	
Unit Dimensions (W x D x H)	6350 mm x 2286 mm x 2515 mm 250" x 90" x 99"		11608 mm x 2286 mm x 2515 mm 457" x 90" x 99"	
Shipping Weight <sup>(3)</sup>	6,728 kg.   14,832 lbs.		12,463 kg.   27,476 lbs.	
Operating Weight	7,229 kg.   15,937 lbs.		13,456 kg.   29,666 lbs.	
Water Pipe Diameter	101.6 mm   4"		127 mm   5"	
Refrigerant	R515B/R1234ze		R515B/R1234ze	
<b>COMPRESSOR</b>				
Type & Quantity	(1) Magnetic Levitation Centrifugal		(2) Magnetic Levitation Centrifugal	
<b>ELECTRICAL DATA</b>				
Power Supply	460V/3PH/60HZ		460V/3PH/60HZ	
FLA	223 A		353 A	
MCA	279 A		442 A	
MOP	320 A		480 A	
<b>MECHANICAL COOLING</b>	<b>Condition 1 <sup>(1)</sup></b>	<b>Condition 2 <sup>(2)</sup></b>	<b>Condition 1 <sup>(1)</sup></b>	<b>Condition 2 <sup>(2)</sup></b>
Cooling Capacity	500 kw   142.2 ton	500 kw   142.2 ton	1000 kW   284.3 ton	1000 kw   284.3 ton
Power Input	118 kW	120 kW	198 kW	214 kW
COP	0.8300 kW/ton	0.8441 kW/ton	0.6964 kW/ton	0.7526 kW/ton
<b>FREE COOLING</b>				
Free Cooling Capacity	500 kW		1000 kW	
Water Flow Rate	28.25 m³/h   124.38 gpm		56.5 m³/h   248.76 gpm	
<b>EVAPORATOR</b>				
Type & Quantity	(1) Flooded Type		(2) Flooded Type	
Pressure Drop	60.7 kPa   8.8 psid	142.7 kPa   20.7 psid	65.5 kPa   9.5 psid	155.1 kPa   22.5 psid
<b>CONDENSER</b>				
Airflow	125,001 m³/h   73,573 CFM		250,001 m³/h   147,145 CFM	
Type & Quantity	(6) V-type Microchannel		(12) V-type Microchannel	
<b>CONDENSER FAN</b>				
Type & Quantity	(6) EC Axial		(12) EC Axial	
<b>WATER PUMP</b>				
Type & Quantity	(1) Variable Frequency Centrifugal		(1) Variable Frequency Centrifugal	
<b>NOISE</b>				
Full Sound Power Level	94 dB(A)		97 dB(A)	

Notes: (1) inlet/outlet water temperature 35/20°C, ambient temperature 35°F; (2) inlet/outlet water temperature 30/20°C, ambient temperature 35°F;(3) includes refrigerant