

Circlemiser™

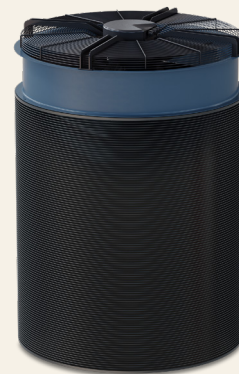
**Data center air-cooled chillers
1200-2500 kW**

Featuring an extended water-side operating envelope, magnetic-bearing compressor technology, extended-surface-area condensers, and unique cascade-flooded evaporators, Circlemiser chillers provide best-in-class power and size options, purpose-designed to meet the demands of data center cooling.



Standard features

- Turbocor® magnetic-bearing centrifugal oil-free compressor with integrated variable speed drive
- Circular condenser design (more condenser surface area and more compact product footprint)
- Cascade-flooded evaporator provides maximum energy efficiency
- Economizer brazed plate heat exchanger(s) for added efficiency optimization
- Refrigerant pump for low lift operation
- l_{cw} rating up to 50 kA in accordance with IEC 61439-1
- UPS-backed control power with fast-start capability
- BACnet IP/MSTP & Modbus



Circlemiser exclusive cylindrical condenser

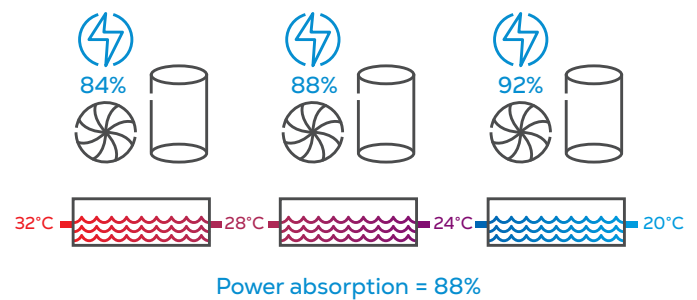
- Heat exchange surface increased by 45% compared to V-Bank condensers
- Allows for more compact chiller design (maximized kW heat rejection per square ft)
- Up to 15% improved kW/ton compared to traditional V-Bank mag-bearing chillers
- Up to 20% increased capacity compared to traditional V-Bank mag-bearing chillers of the same footprint
- Micro-channel condenser coils with epoxy coating standard



Cascade-flooded evaporator

- Multiple evaporator circuits enable compressors to operate at individual optimal evaporator temperatures
- Multiple circuits optimize resilience
- Multiple evaporator configurations designed for applications with low, medium, and high water-side delta T, allowing for continued flow rate control.

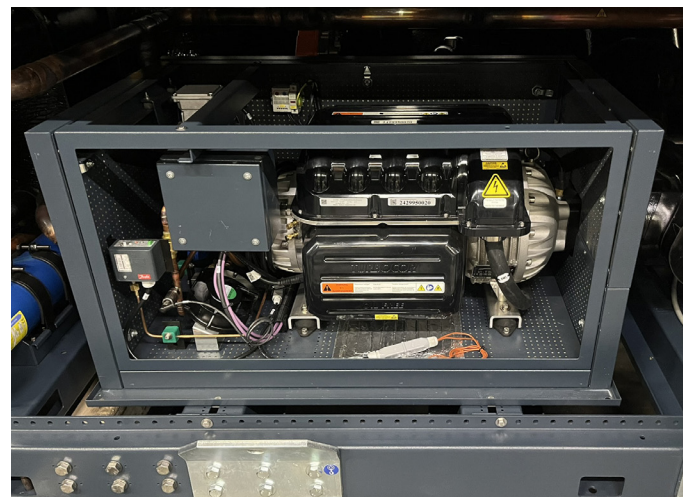
Note: Not all evaporator configurations include the cascade benefit



Note: Power percentage relative to Circlemiser V-Bank Turbocor chiller design without cascade evaporator

Available options

- Various insulated acoustic compressor enclosure options
- Cold weather package including heated compressor enclosures, insulated and heat traced refrigerant suction lines and evaporator(s), and refrigerant migration isolation valve(s)
- Active or passive harmonic filter
- Integrated pump package w/VFD
- Electrofin coating (E-coat) on condenser coils for seacoast and other areas with corrosive ambient air potential
- Separate electrical feeds for controls, optional circulating pump, convenience outlet, heat trace, etc.
- Extreme high ambient package
- Supply to return bypass circulation pump with immersion heater and controls to ensure water internal to chiller remains above freezing when main circulation pump is off
- Dynamic noise reduction controls. Schedule quieter operation as required.



Insulated acoustic compressor enclosure example

Circlemiser

Chiller refrigerant options

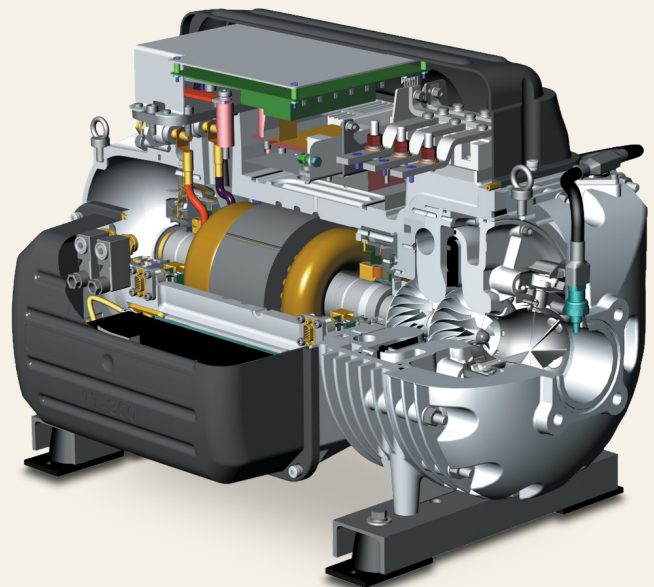
Refrigerant		GWP	Class	Compressor
R513A	Standard refrigerant option for best efficiency and size, up to 52°C ambient rating	631	A1	
R515B	Refrigerant option for extreme ambient temperature	293	A1	
R1234ze	Special option	6	A2L	

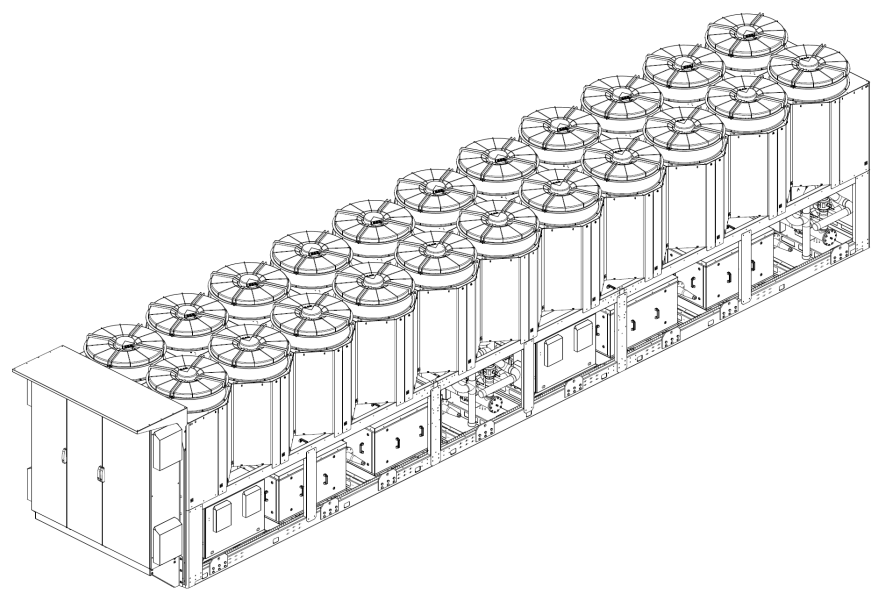
Turbocor compressor benefits

- No oil or associated management and concerns
- Unmatched energy efficiency
- Minimal maintenance
- No performance degradation
- Full digital control
- Compact design
- Very low starting current (5 amps)
- Ultra quiet (67 dBA at 10 meters)

20+ years experience with Turbocor compressor technology for air-cooled chillers

- First to market with R1234ze low GWP refrigerant in 2011
- Over 5,000 Turbocor compressors installed since 2003



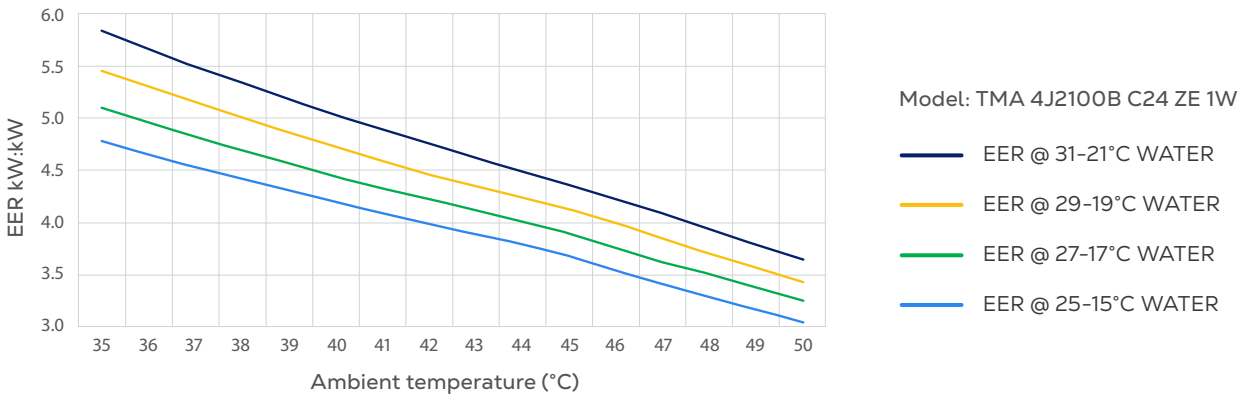


Technical specifications

	1200kW	1500kW - Small	1500kW - Large	2100kW - Small	2100kW - Large	2800kW
Circlemiser model	TMA 3J1200B C16 ZE 1W	TMA 3J1500B C18 ZE 1W	TMA 3J1800B C22 ZE 1W	TMA 4J2100B C24 ZE 1W	TMA 4J2100B C28 ZE 1W	TMA 6V2800B C32 ZE 1W
Refrigerant type	R1234ZE	R1234ZE	R1234ZE	R1234ZE	R1234ZE	R1234ZE
Ambient temperature up to (°C)	52	52	52	52	52	55
Evaporator configurations	1 or 2 Pass	1 or 2 Pass	1 or 2 Pass	1 or 2 Pass	1 or 2 Pass	1 or 2 Pass
Turbocor compressor model / qty	TG490 / 3	TG490 / 3	TG490 / 3	TG490 / 4	TG490 / 4	TG380 / 6
Number of fans	16	18	22	24	28	32
*Max capacity 45°C ambient (kW)	1450	1600	1800	2100	2500	2850**
Length, base frame (mm)	8890	9940	12000	13100	15250	17450
Width (mm)	2100	2100	2100	2100	2100	2100
Height (mm)	2600	2600	2600	2600	2800	2800
Weight (kg)	8802	9300	10726	11703	13627	14190

Notes:
1. *MSL elevation and 30/20°C water conditions (no glycol).
2. **Available version up to 3000kW.
3. Weight shown does not include all available features (integrated pump, compressor enclosures, etc.).

1750kW Constant cooling load



Find your nearest Munters office at www.munters.com
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