AirBoost MAG

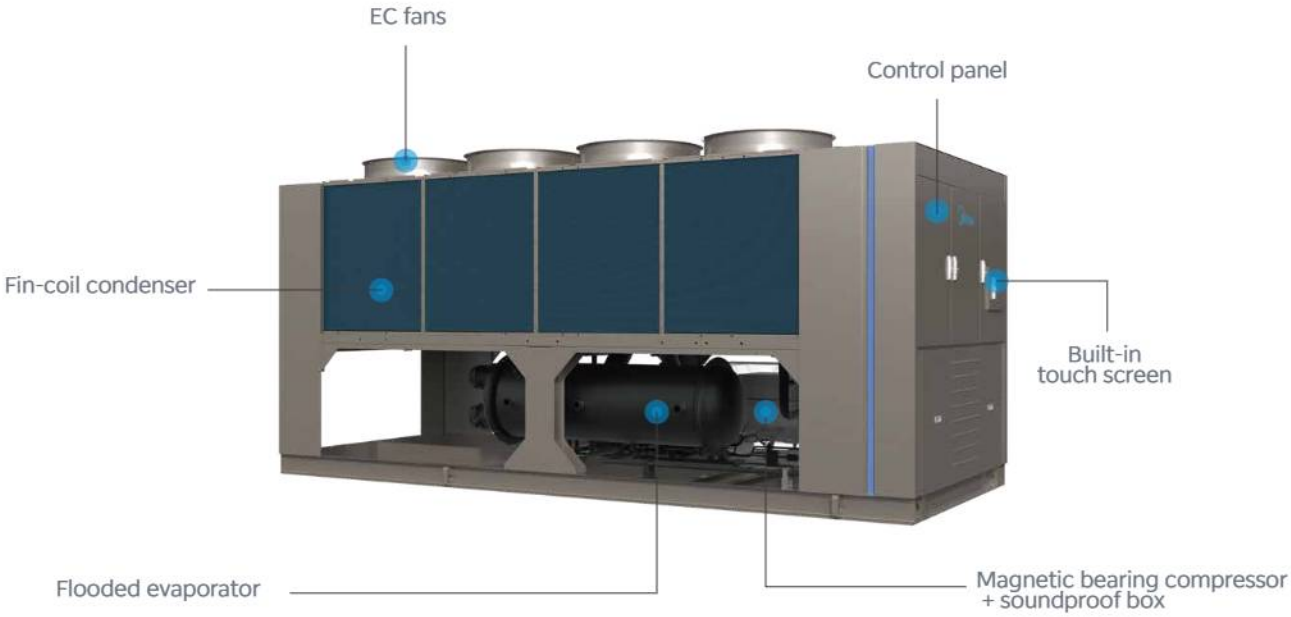
Air-Cooled Magnetic Bearing Centrifugal Chiller



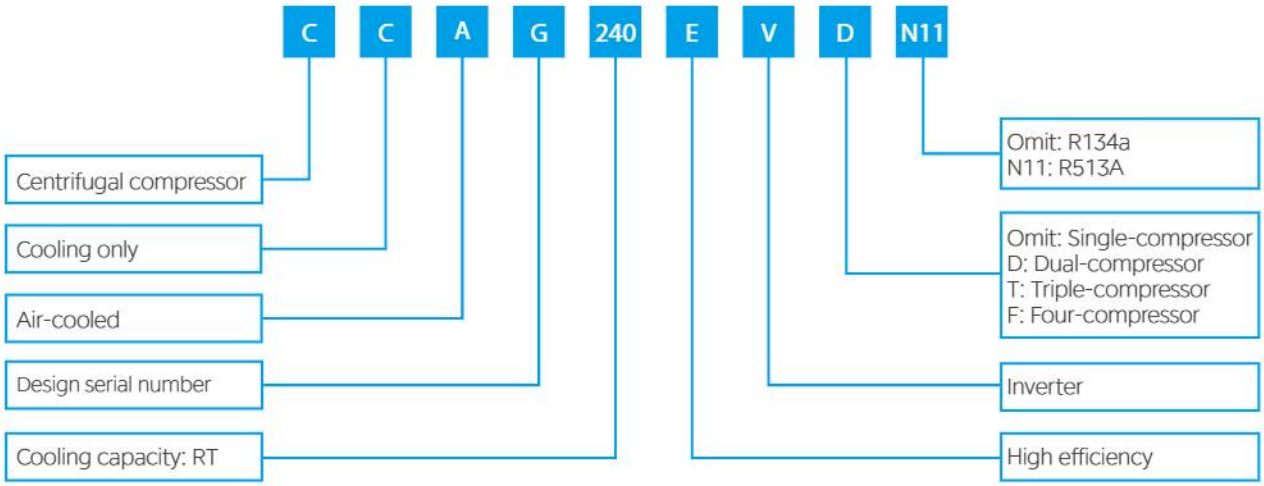
2026

OVERVIEW

Midea AirBoost MAG air-cooled magnetic bearing centrifugal chiller utilizes patented magnetic bearing technology. In addition to being highly efficient, stable and reliable, it features a wide operating range, quiet operation and less maintenance. The system incorporates an array of Midea core technologies including back-to-back two-stage compression, aerodynamic technology, magnetic bearing control, and high-efficiency permanent-magnet synchronous motors. It is your best choice in a variety of applications including commercial buildings, data centers, hospitals, shopping malls, airports, hotels and industrial buildings, providing customers with an efficient and energy-saving green building solution.



Nomenclature



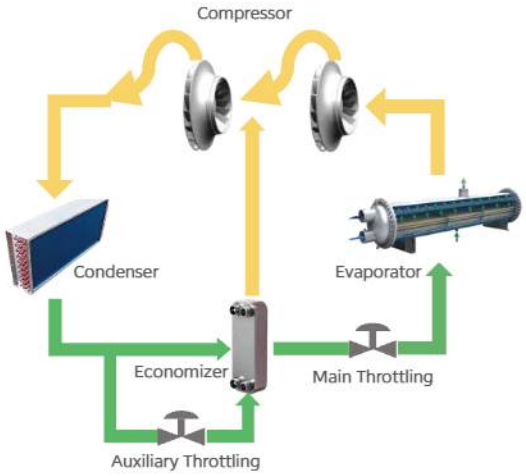
Note:

Units ranging from 70 RT to 240 RT are available as single-compressor or dual-compressor configurations. Dual-unit combinations are designed to enhance cooling capacity, with a maximum capacity reaching 480 RT.

HIGH EFFICIENCY WITH SUPERIOR ENERGY SAVINGS

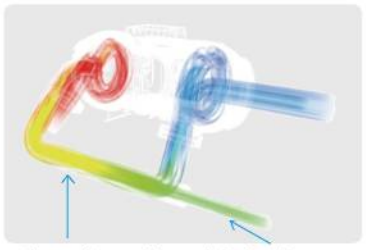
Two-stage compression, enhanced vapor injection technology

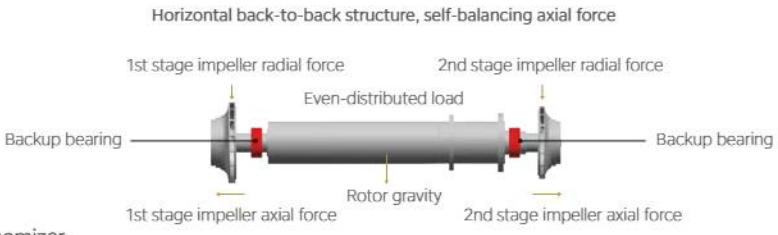
Two-stage compression with enhanced vapor injection technology is 6% more efficient than single-stage compression.



Aerodynamic technology

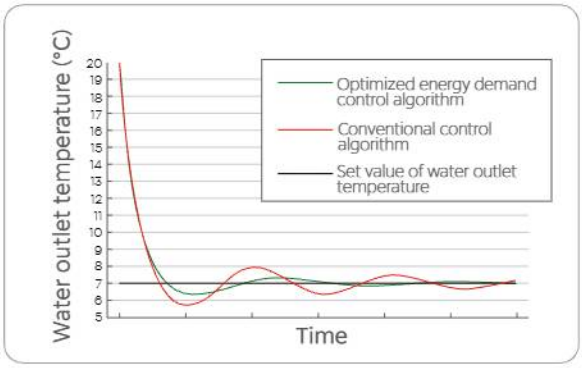
- The three-dimensional enclosed impeller design ensures evenly distributed axial gas inflow into the second-stage impeller, with full flow field optimization for enhanced compressor efficiency.
- The pipe-type reflux device optimizes gasflow for smoother delivery, while the economizer enables more even gas distribution. This optimized flow field improves adaptability with smaller cooling capacities while increasing efficiency under partial loads.
- Innovative, industry-first back-to-back compression reduces axial force by 90%.





Adaptive load management and efficiency enhancement technology

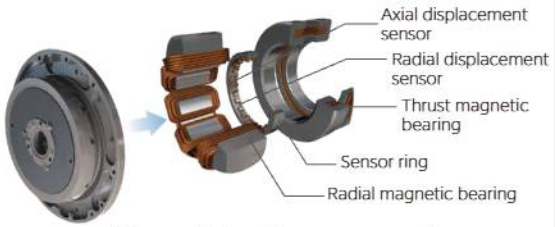
- Utilizing multi-dimensional cooperative control technology, the unit automatically responds to environmental and other factors to accurately control outlet water temperature fluctuation to under ±0.1 °C.
- Innovative technologies such as virtual load measurement and water-system capacity identification reduce the frequency of startups and stops, increasing efficiency under partial load conditions by 2% to 12%.



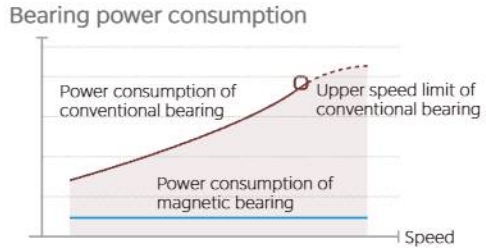
HIGH EFFICIENCY WITH SUPERIOR ENERGY SAVINGS

Magnetic bearing technology

- Our industrial-grade magnetic bearing assembly is designed with radial and thrust magnetic bearings, along with position sensors. It features low power consumption, high bearing capacity, and exceptional reliability.
- Magnetic bearing power consumption is less than 0.4 kW, only 2%-10% of that of conventional oil bearings. Breaks through the upper speed limits of conventional oil bearings, significantly reducing power consumption at high speed: Unlike oil bearings, magnetic bearings become more efficient as speed increases.



Magnetic bearing component

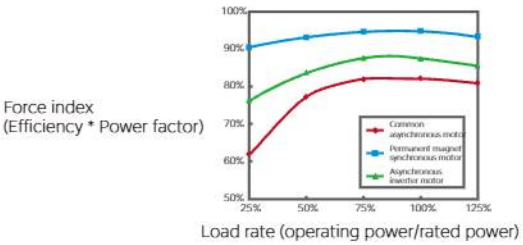


Power consumption comparison of bearings

Permanent magnet synchronous motor technology

- Motor efficiency exceeds 96% in the full operating range, with highest efficiency of up to 97%.
- Space Vector Pulse Width Modulation (SVPWM) technology is employed for precise speed regulation and motor control, allowing the system to quickly adapt to changing operating conditions. This technology ensures low startup and operating current, leading to reduced electricity costs and distribution cost over the unit's lifespan. Additionally, an innovative vapor injection valve adaptively adjusts to optimize the vapor injection process for maximum efficiency.

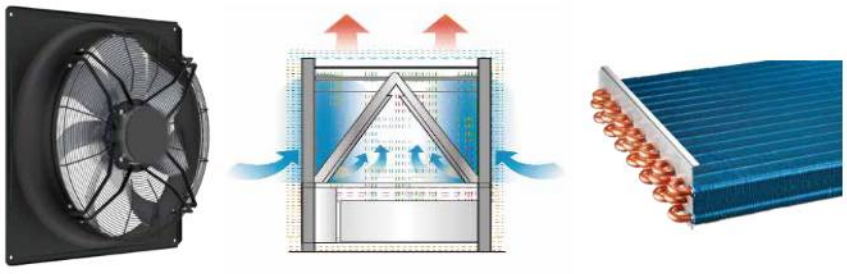




HIGH EFFICIENCY WITH SUPERIOR ENERGY SAVINGS

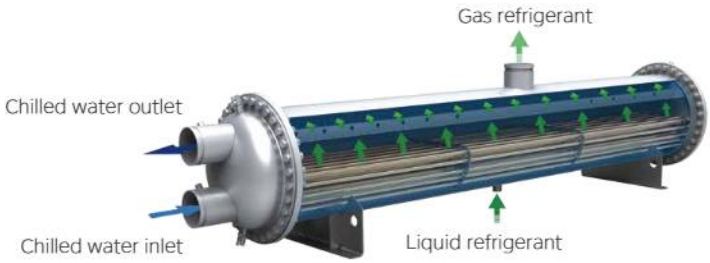
High efficiency air side heat exchanger

- The main features of EC fans are compactness, low noise level and exceptional efficiency. The variable speed drive fans react continuously to load variations ensuring maximum efficiency especially at partial loads. Compared to conventional fans energy savings of 30% can be achieved.
- Inverted M-type air-side heat exchanger, the airflow is evenly distributed to achieve high efficiency heat exchange.
- High efficiency inner-threaded pipes and high quality arc-shaped window aluminum fins are closely combined by mechanical expansion pipe to improve heat transfer efficiency, reduce pressure loss and wind noise.
- Professional temperature field simulation, optimized design.



High efficiency flooded evaporator

- A specialized refrigerant distributor ensures even distribution, optimizing the temperature field and raising the evaporation temperature, thereby increasing overall operating efficiency.
- Specially-designed baffle plate prevents liquid from being sucked inside the compressor, protecting it from potential damage while improving reliability.
- Water boxes at both ends can be disassembled for easy maintenance.



High precision EXV

- Internationally renowned brands, stable and reliable quality.
- Responsive, no hysteresis, improve unit energy efficiency.
- PID high-precision adjustment to ensure that the whole situation is stable and efficient operation.



High precision EXV

Traditional thermal expansion valve

RELIABILITY & DURABILITY

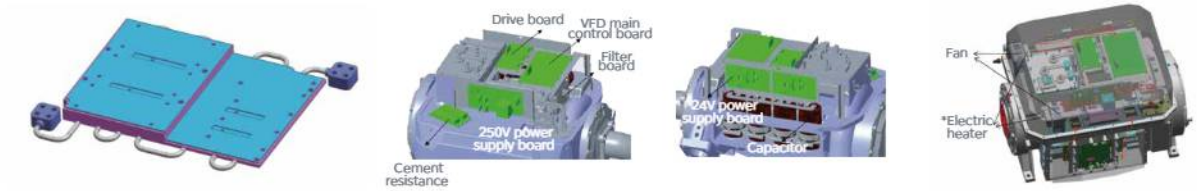
Mechanical and electrical control integration

- The magnetic bearing compressor, motor, bearing control, and VFD are combined into a single, unified design, reducing the compressor system's overall size by 50% compared to conventional systems.
- The compressor features IP65 protection, ensuring it is safeguarded against water, fire, corrosion, and dust.



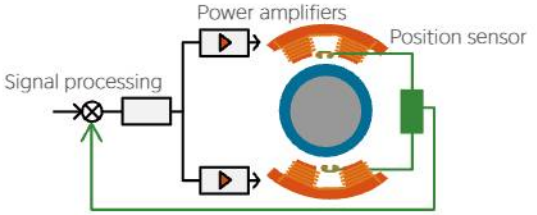
Integrated thermal management system

- Integrated 3D ultra-efficient phase change liquid cooling technology, no power loss, high reliability.
- IC side board partition thermal management technology makes full use of the space in the cavity for distributed layout to avoid local hot spots. Capacitors and cement resistors use high thermal conductivity interface materials to conduct heat to the casing for effective dissipation. Compared to the industry split architecture, the cooling capacity is improved by 265%.
- Additionally, integrated circulation cooling/insulation technology is used for the VFD chamber and the compressor MBC chamber to address the challenges of high-temperature operation and low-temperature storage environments for air-cooled units. Conventional storage ambient temperature -25 ℃ to 70 ℃ (*customizable -40 ℃, the electric heater is required).

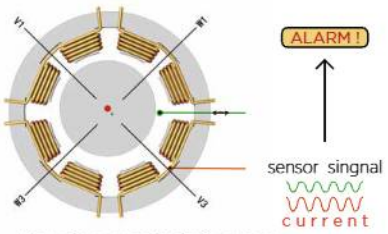


High-precision magnetic bearing control technology

- The bearing control system adopts smart vibration compensation technology through high-frequency position detection and control, effectively reducing the impact of unbalance on shaft vibration.
- The high-efficiency magnetic bearing 5-degree-of-freedom position control technology can monitor and correct the levitation position of the bearing in real time. The position detection frequency is 400,000 times per second.
- With a small bearing clearance of just 75 μm, the rotor's displacement precision reaches 0.5 μm in static levitation.



Prospective bearing control principle

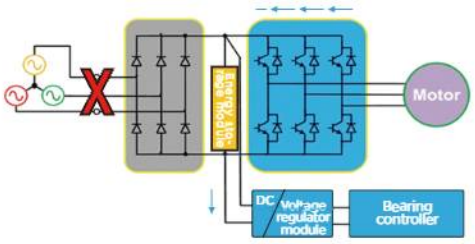


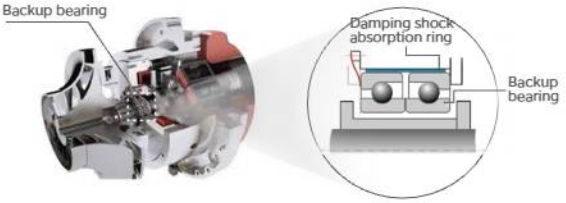
Bearing control diagram

RELIABILITY & DURABILITY

Power-off dual protections

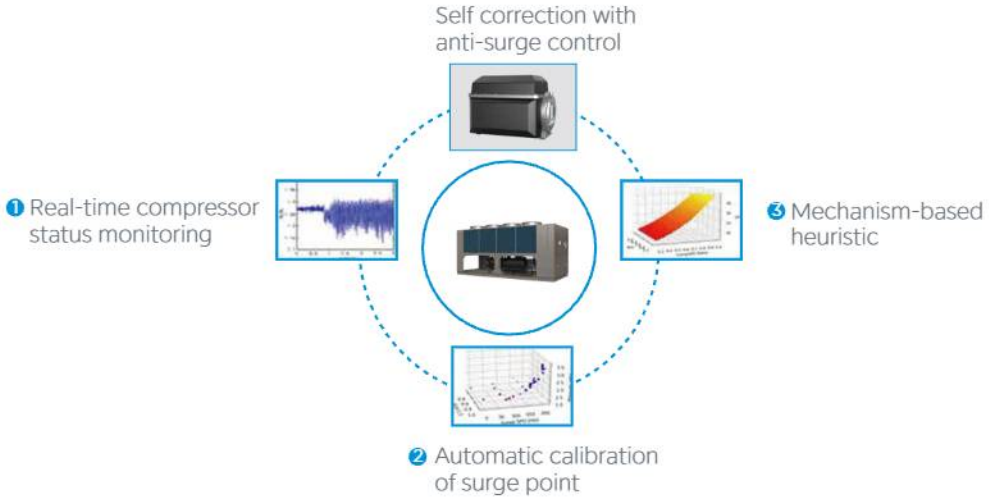
- Continuous self-generation mode: switches to generator mode, continuously supplying power to the magnetic bearings. This ensures the rotor lands smoothly, preventing damage.
- Ultra-long-life double-row backup bearing: the compressor can continue operating normally and stably, even after enduring over 300 consecutive hard drops of the rotor shaft from high speeds.





Intelligent and super anti-surge technology

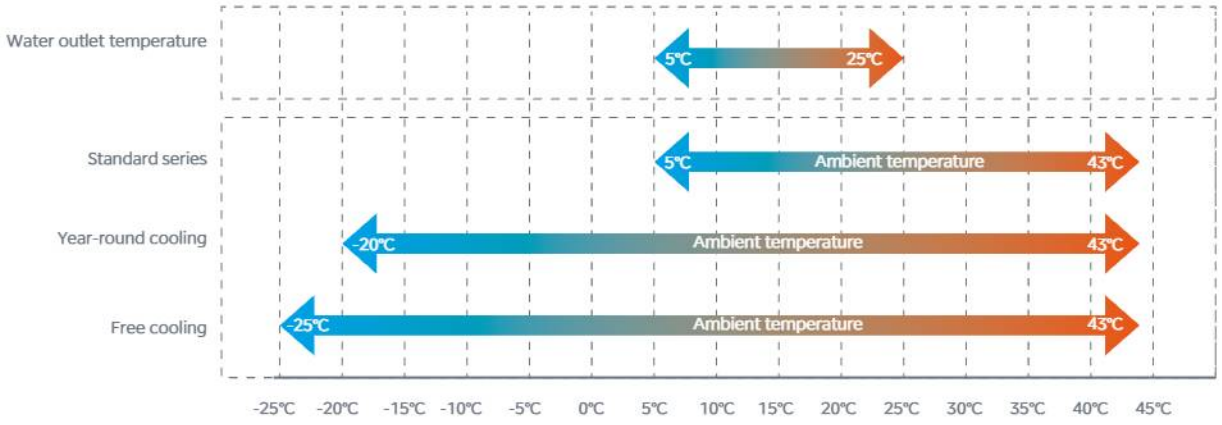
- The magnetic bearing system utilizes nonlinear model disturbance tracking control technology to prevent compressor damage.
- By reducing the current to the bearing controller by 90%, the system's control reliability is significantly improved.
- The super anti-surge protection allows the system to endure up to 500 continuous surges.



WIDE OPERATION RANGE
LESS MAINTENANCE AND LOWER COST

Wide operation range

The unit can operate stably under extreme conditions, ambient temperature ranging from -25 °C to 43 °C. Water outlet temperature ranging from 5 °C to 25 °C.



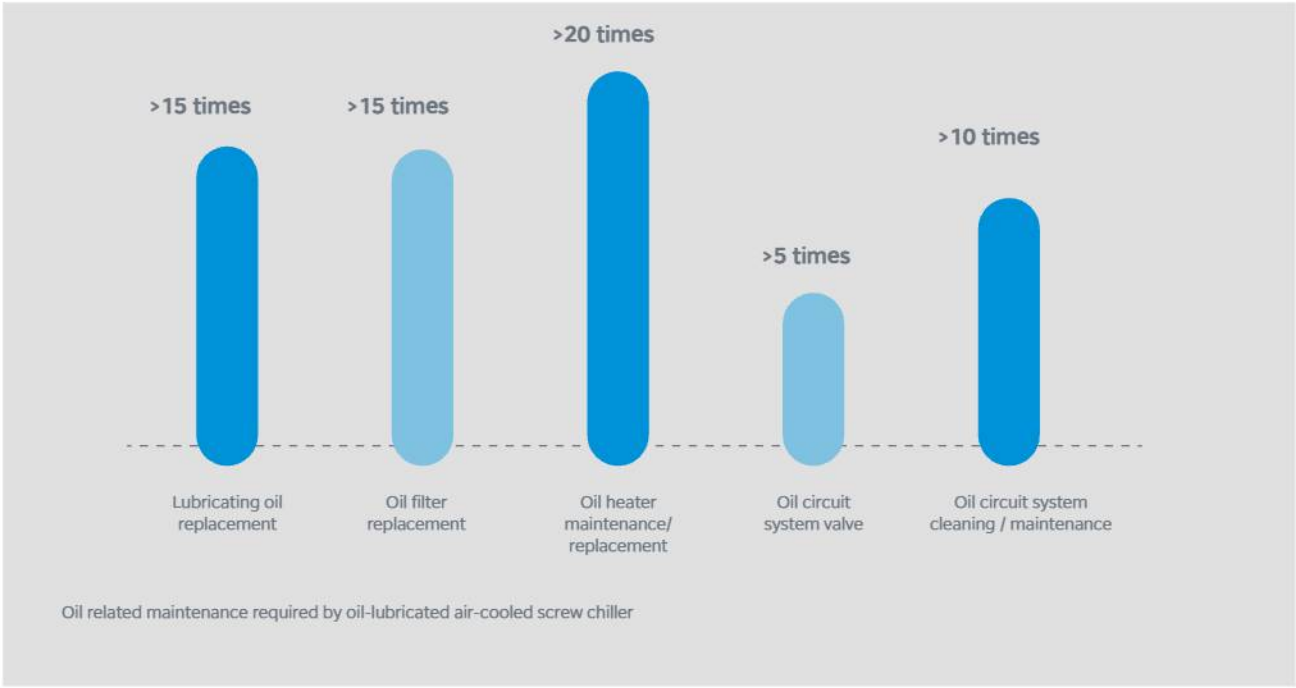
Notes:

Year-round cooling and Free cooling series need to be customized.

Standard water outlet temperature is 5 ℃ to 15 ℃ and higher temperature need to be customized.

Less maintenance and lower cost

Oil-free operation, less maintenance items, and avoidance of energy efficiency degradation caused by oil in the system, reducing maintenance costs and operating expenses.



Oil related maintenance required by oil-lubricated air-cooled screw chiller

ENVIRONMENTAL-FRIENDLY

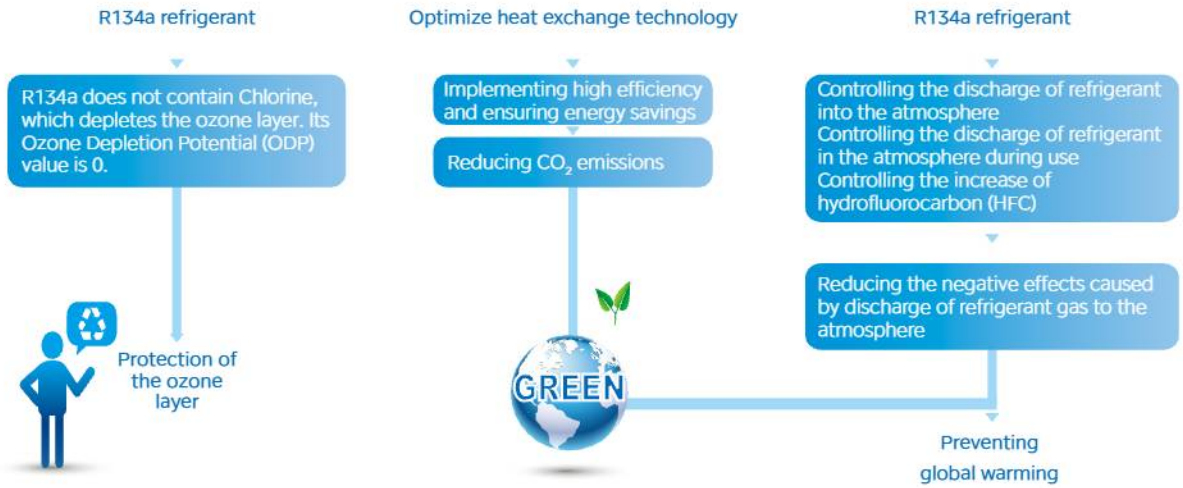
Quiet operation

Adopting multiple noise reduction measures, such as frictionless magnetic bearing, optimized aerodynamic design, standard EC fan, standard compressor soundproof box, the sound pressure level of the unit can be as low as 75 dB(A).



Eco-friendly refrigerant

R134a eco-friendly refrigerant achieves high cooling efficiency, without depleting the ozone layer. This refrigerant complies with the Montreal Protocol.



INTELLIGENT CONTROL
HIGHLY CUSTOMIZABLE

7-inch colour touch screen

- 7-inch colour touch screen.
- Real-time operating parameters display (temperature, pressure, etc.)
- Three-level password setting to prevent unauthorized operation.
- Detailed fault information recording.
- Power-off memory function.
- Timed ON/OFF.
- Master & Slave, Back-up, Duty cycling.
- Compatible with QuickView, M1 Gateway, Midea Intelligent Chiller Plant Management (iCPM) and M-BMS.



Options

- Free cooling
- Supports UPS and ATS functions
- Quick start
- Low harmonic, THDI<5%
- 16 ℃ to 25 ℃ water outlet temperature
- Large temperature difference and small flow rate, with a maximum temperature difference of 10 ℃
- Year-round cooling
- Single/dual pump hydraulic module
- Single power connection for dual-compressor units
- Single water inlet/outlet for standard dual-unit combination models
- High concentration antifreeze (45%)
- Overall unit IP55
- PLC
- Heavy anti-corrosion treatment
- R513A refrigerant
- QuickView
- M1 Gateway
- Midea Intelligent Chiller Plant Management (iCPM)
- M-BMS

Note: For options, please consult the factory according to the order requirements.

Specifications

R134a

Model			CCAG70EV	CCAG80EV	CCAG90EV	CCAG100EV	CCAG110EV
Nominal parameters	Cooling capacity	kW	248.2	281.2	316.6	352.2	387.3
		Ton	70	80	90	100	110
	Power input	kW	66.44	76.84	87.83	92.11	105.7
	Cooling COP	kW/kW	3.735	3.659	3.604	3.823	3.664
	IPLV.IP	kW/kW	6.198	6.204	6.154	6.371	6.344
Compressor	Type	/	Magnetic bearing centrifugal compressor				
	Quantity	/	1	1	1	1	1
Energy regulation mode		/	VFD+IGV				
Refrigerant	Type	/	R134a				
	Charge amount	kg	160	160	160	160	160
Power supply		/	380 V 3~ 50 Hz				
Air side heat exchanger	Type	/	Fin-coil				
	No. of fans	/	6	6	6	8	8
	No. of rows	/	4	4	4	3	3
	Motor power input	kW	1.9	1.9	1.9	1.9	1.9
Electrical information	Cooling full load amps	A	110.4	127.4	145.3	152.9	175.1
	Maximum operating amps	A	175.0	175.0	175.0	223.3	223.3
Water side heat exchanger	Type	/	Shell and tube				
	Water flow	m^3/h	42.53	48.18	54.24	60.35	66.37
	Fluid type	/	Fresh water				
	Water side pressure drop	kPa	42.6	53.6	66.5	48.2	56.8
	Water pipe connection	mm	DN150	DN150	DN150	DN150	DN150
	Max. working pressure	MPa	1.0				
Unit dimensions	Length	mm	4235	4235	4235	5240	5240
	Width	mm	2300	2300	2300	2300	2300
	Height	mm	2565	2565	2565	2565	2565
Unit weight		kg	3600	3600	3600	3800	3800
Operating weight		kg	3800	3800	3800	4000	4000

Note:

1. Performance and efficiency are based on AHRI 551/591.
   Cooling: chilled water inlet/outlet=12 °C(53.6 °F)/7 °C(44.6 °F); fouling factor=0.0180 m^2*°C/kW(0.000102 h*ft^2*°F/Btu), outdoor ambient temperature 35 °C(95 °F) DB.
2. As a result of the continuous improvement of the product, the above parameters may be changed, please refer to the product nameplate and in-kind.

Specifications

R134a

Model			CCAG120EV	CCAG140EVD	CCAG160EVD	CCAG180EVD
Nominal parameters	Cooling capacity	kW	422.1	496.4	564.8	633.1
		Ton	120	140	160	180
	Power input	kW	116.9	132.9	154.3	175.7
	Cooling COP	kW/kW	3.612	3.735	3.660	3.604
	IPLV.IP	kW/kW	6.317	6.204	6.221	6.184
Compressor	Type	/	Magnetic bearing centrifugal compressor			
	Quantity	/	1	1|1	1|1	1|1
Energy regulation mode		/	VFD+IGV			
Refrigerant	Type	/	R134a			
	Charge amount	kg	160	195|195	195|195	195|195
Power supply		/	380 V 3~ 50 Hz			
Air side heat exchanger	Type	/	Fin-coil			
	No. of fans	/	8	12	12	12
	No. of rows	/	3	4	4	4
	Motor power input	kW	1.9	1.9	1.9	1.9
Electrical information	Cooling full load amps	A	193.4	220.8	255.8	290.6
	Maximum operating amps	A	223.3	343.2	343.2	343.2
Water side heat exchanger	Type	/	Shell and tube			
	Water flow	m^3/h	72.33	85.07	96.79	108.5
	Fluid type	/	Fresh water			
	Water side pressure drop	kPa	65.4	60.2	75.8	93.1
	Water pipe connection	mm	DN150	DN150	DN150	DN150
	Max. working pressure	MPa	1.0			
Unit dimensions	Length	mm	5240	7410	7410	7410
	Width	mm	2300	2300	2300	2300
	Height	mm	2565	2565	2565	2565
Unit weight		kg	3800	7090	7090	7090
Operating weight		kg	4000	7590	7590	7590

Note:

1. Performance and efficiency are based on AHRI 551/591.
   Cooling: chilled water inlet/outlet=12 °C(53.6 °F)/7 °C(44.6 °F); fouling factor=0.0180 m^2*°C/kW(0.000102 h*ft^2*°F/Btu), outdoor ambient temperature 35 °C(95 °F) DB.
2. As a result of the continuous improvement of the product, the above parameters may be changed, please refer to the product nameplate and in-kind.

Specifications

R134a

Model			CCAG200EVD	CCAG220EVD	CCAG240EVD
Nominal parameters	Cooling capacity	kW	703.5	774.6	844.2
		Ton	200	220	240
	Power input	kW	192.6	211.4	233.7
	Cooling COP	kW/kW	3.653	3.664	3.612
	IPLV.IP	kW/kW	6.124	6.357	6.305
Compressor	Type	/	Magnetic bearing centrifugal compressor		
	Quantity	/	1|1	1|1	1|1
Energy regulation mode		/	VFD+IGV		
Refrigerant	Type	/	R134a		
	Charge amount	kg	205|205	220|220	220|220
Power supply		/	380 V 3~ 50 Hz		
Air side heat exchanger	Type	/	Fin-coil		
	No. of fans	/	14	16	16
	No. of rows	/	3	3	3
	Motor power input	kW	1.9	1.9	1.9
Electrical information	Cooling full load amps	A	318.8	350.2	386.8
	Maximum operating amps	A	374.5	449.9	449.9
Water side heat exchanger	Type	/	Shell and tube		
	Water flow	m^3/h	120.5	132.7	144.7
	Fluid type	/	Fresh water		
	Water side pressure drop	kPa	84.4	72.6	86.4
	Water pipe connection	mm	DN150	DN150	DN150
	Max. working pressure	MPa	1.0		
Unit dimensions	Length	mm	8415	9420	9420
	Width	mm	2300	2300	2300
	Height	mm	2565	2565	2565
Unit weight		kg	7210	7640	7640
Operating weight		kg	7710	8140	8140

Note:

1. Performance and efficiency are based on AHRI 551/591.
   Cooling: chilled water inlet/outlet=12 °C(53.6 °F)/7 °C(44.6 °F); fouling factor=0.0180 m^2*°C/kW(0.000102 h*ft^2*°F/Btu), outdoor ambient temperature 35 °C(95 °F) DB.
2. As a result of the continuous improvement of the product, the above parameters may be changed, please refer to the product nameplate and in-kind.

Specifications

R134a

Model			CCAG280EVT	CCAG320EVF	CCAG360EVF
Nominal parameters	Cooling capacity	kW	986.9	1130	1266
		Ton	280	320	360
	Power input	kW	271.2	308.6	351.3
	Cooling COP	kW/kW	3.639	3.660	3.604
	IPLV.IP	kW/kW	6.276	6.247	6.224
Compressor	Type	/	Magnetic bearing centrifugal compressor		
	Quantity	/	1|1/1	1|1/1|1	1|1/1|1
Energy regulation mode		/	VFD+IGV		
Refrigerant	Type	/	R134a		
	Charge amount	kg	195|195/160	195|195/195|195	195|195/195|195
Power supply		/	380 V 3~ 50 Hz		
Air side heat exchanger	Type	/	Fin-coil		
	No. of fans	/	12/8	12/12	12/12
	No. of rows	/	4/3	4/4	4/4
	Motor power input	kW	1.9/1.9	1.9/1.9	1.9/1.9
Electrical information	Cooling full load amps	A	255.8/193.4	255.8/255.8	290.6/290.6
	Maximum operating amps	A	343.2/223.3	343.2/343.2	343.2/343.2
Water side heat exchanger	Type	/	Shell and tube		
	Water flow	m^3/h	96.79/72.33	96.79/96.79	108.5/108.5
	Fluid type	/	Fresh water		
	Water side pressure drop	kPa	75.8	75.8	93.1
	Water pipe connection	mm	DN150/DN150	DN150/DN150	DN150/DN150
	Max. working pressure	MPa	1.0		
Unit dimensions	Length	mm	12650	15320	15320
	Width	mm	2300	2300	2300
	Height	mm	2565	2565	2565
Unit weight		kg	7090/3800	7090/7090	7090/7090
Operating weight		kg	7590/4000	7590/7590	7590/7590

Note:

1. Performance and efficiency are based on AHRI 551/591.
   Cooling: chilled water inlet/outlet=12 °C(53.6 °F)/7 °C(44.6 °F); fouling factor=0.0180 m^2*°C/kW(0.000102 h*ft^2*°F/Btu), outdoor ambient temperature 35 °C(95 °F) DB.
2. As a result of the continuous improvement of the product, the above parameters may be changed, please refer to the product nameplate and in-kind.

Specifications

R134a

Model			CCAG400EVF	CCAG440EVF	CCAG480EVF
Nominal parameters	Cooling capacity	kW	1407	1548	1688
		Ton	400	440	480
	Power input	kW	385.1	426.3	467.5
	Cooling COP	kW/kW	3.653	3.630	3.612
	IPLV.IP	kW/kW	6.125	6.345	6.415
Compressor	Type	/	Magnetic bearing centrifugal compressor		
	Quantity	/	1|1/1|1	1|1/1|1	1|1/1|1
Energy regulation mode		/	VFD+IGV		
Refrigerant	Type	/	R134a		
	Charge amount	kg	205|205/205|205	220|220/205|205	220|220/220|220
Power supply		/	380 V 3~ 50 Hz		
Air side heat exchanger	Type	/	Fin-coil		
	No. of fans	/	14/14	16/14	16/16
	No. of rows	/	3/3	3/3	3/3
	Motor power input	kW	1.9/1.9	1.9/1.9	1.9/1.9
Electrical information	Cooling full load amps	A	318.8/318.8	386.8/318.8	386.8/386.8
	Maximum operating amps	A	374.5/374.5	449.9/374.5	449.9/449.9
Water side heat exchanger	Type	/	Shell and tube		
	Water flow	m^3/h	120.5/120.5	144.7/120.5	144.7/144.7
	Fluid type	/	Fresh water		
	Water side pressure drop	kPa	84.4	86.4	86.4
	Water pipe connection	mm	DN150/DN150	DN150/DN150	DN150/DN150
	Max. working pressure	MPa	1.0		
Unit dimensions	Length	mm	16830	17835	18840
	Width	mm	2300	2300	2300
	Height	mm	2565	2565	2565
Unit weight		kg	7210/7210	7640/7210	7640/7640
Operating weight		kg	7710/7710	8140/7710	8140/8140

Note:

1. Performance and efficiency are based on AHRI 551/591.
   Cooling: chilled water inlet/outlet=12 °C(53.6 °F)/7 °C(44.6 °F); fouling factor=0.0180 m^2*°C/kW(0.000102 h*ft^2*°F/Btu), outdoor ambient temperature 35 °C(95 °F) DB.
2. As a result of the continuous improvement of the product, the above parameters may be changed, please refer to the product nameplate and in-kind.

Specifications

R513A

Model			CCAG70EVN11	CCAG80EVN11	CCAG90EVN11	CCAG100EVN11	CCAG110EVN11
Nominal parameters	Cooling capacity	kW	248.2	281.2	316.6	352.2	387.3
		Ton	70	80	90	100	110
	Power input	kW	68.64	79.45	90.88	95.18	109.3
	Cooling COP	kW/kW	3.616	3.539	3.483	3.700	3.543
	IPLV.IP	kW/kW	6.012	6.013	5.961	6.185	6.155
Compressor	Type	/	Magnetic bearing centrifugal compressor				
	Quantity	/	1	1	1	1	1
Energy regulation mode		/	VFD+IGV				
Refrigerant	Type	/	R513A				
	Charge amount	kg	160	160	160	160	160
Power supply		/	380 V 3~ 50 Hz				
Air side heat exchanger	Type	/	Fin-coil				
	No. of fans	/	6	6	6	8	8
	No. of rows	/	4	4	4	3	3
	Motor power input	kW	1.9	1.9	1.9	1.9	1.9
Electrical information	Cooling full load amps	A	113.9	131.6	150.3	157.9	181.0
	Maximum operating amps	A	175.0	175.0	175.0	223.3	223.3
Water side heat exchanger	Type	/	Shell and tube				
	Water flow	m^3/h	42.53	48.18	54.24	60.35	66.37
	Fluid type	/	Fresh water				
	Water side pressure drop	kPa	42.6	53.6	66.5	48.2	56.8
	Water pipe connection	mm	DN150	DN150	DN150	DN150	DN150
	Max. working pressure	MPa	1.0				
Unit dimensions	Length	mm	4235	4235	4235	5240	5240
	Width	mm	2300	2300	2300	2300	2300
	Height	mm	2565	2565	2565	2565	2565
Unit weight		kg	3600	3600	3600	3800	3800
Operating weight		kg	3800	3800	3800	4000	4000

Note:

1. Performance and efficiency are based on AHRI 551/591.
   Cooling: chilled water inlet/outlet=12 °C(53.6 °F)/7 °C(44.6 °F); fouling factor=0.0180 m^2*°C/kW(0.000102 h*ft^2*°F/Btu), outdoor ambient temperature 35 °C(95 °F) DB.
2. As a result of the continuous improvement of the product, the above parameters may be changed, please refer to the product nameplate and in-kind.

Specifications

R513A

Model			CCAG120EVN11	CCAG140EVDN11	CCAG160EVDN11	CCAG180EVDN11	CCAG200EVDN11
Nominal parameters	Cooling capacity	kW	422.1	496.4	564.8	633.1	703.5
		Ton	120	140	160	180	200
	Power input	kW	120.9	137.3	159.6	181.8	199.2
	Cooling COP	kW/kW	3.490	3.615	3.539	3.483	3.532
	IPLV.IP	kW/kW	6.125	6.010	6.027	5.988	5.934
Compressor	Type	/	Magnetic bearing centrifugal compressor				
	Quantity	/	1	1|1	1|1	1|1	1|1
Energy regulation mode		/	VFD+IGV				
Refrigerant	Type	/	R513A				
	Charge amount	kg	160	195|195	195|195	195|195	205|205
Power supply		/	380 V 3~ 50 Hz				
Air side heat exchanger	Type	/	Fin-coil				
	No. of fans	/	8	12	12	12	14
	No. of rows	/	3	4	4	4	3
	Motor power input	kW	1.9	1.9	1.9	1.9	1.9
Electrical information	Cooling full load amps	A	200.0	228.0	264.4	300.6	329.7
	Maximum operating amps	A	223.3	343.2	343.2	343.2	374.5
Water side heat exchanger	Type	/	Shell and tube				
	Water flow	m^3/h	72.33	85.07	96.79	108.5	120.5
	Fluid type	/	Fresh water				
	Water side pressure drop	kPa	65.4	60.2	75.8	93.1	84.4
	Water pipe connection	mm	DN150	DN150	DN150	DN150	DN150
	Max. working pressure	MPa	1.0				
Unit dimensions	Length	mm	5240	7410	7410	7410	8415
	Width	mm	2300	2300	2300	2300	2300
	Height	mm	2565	2565	2565	2565	2565
Unit weight		kg	3800	7090	7090	7090	7210
Operating weight		kg	4000	7590	7590	7590	7710

Note:

1. Performance and efficiency are based on AHRI 551/591.
   Cooling: chilled water inlet/outlet=12 °C(53.6 °F)/7 °C(44.6 °F); fouling factor=0.0180 m^2*°C/kW(0.000102 h*ft^2*°F/Btu), outdoor ambient temperature 35 °C(95 °F) DB.
2. As a result of the continuous improvement of the product, the above parameters may be changed, please refer to the product nameplate and in-kind.

Specifications

R513A

Model			CCAG220EVDN11	CCAG240EVDN11	CCAG280EVTN11	CCAG320EVFN11
Nominal parameters	Cooling capacity	kW	774.6	844.2	986.9	1130
		Ton	220	240	280	320
	Power input	kW	218.6	241.9	280.5	319.2
	Cooling COP	kW/kW	3.543	3.490	3.518	3.539
	IPLV.IP	kW/kW	6.163	6.109	6.081	6.052
Compressor	Type	/	Magnetic bearing centrifugal compressor			
	Quantity	/	1|1	1|1	1|1/1	1|1/1|1
Energy regulation mode		/	VFD+IGV			
Refrigerant	Type	/	R513A			
	Charge amount	kg	220|220	220|220	195|195/160	195|195/195|195
Power supply		/	380 V 3~ 50 Hz			
Air side heat exchanger	Type	/	Fin-coil			
	No. of fans	/	16	16	12/8	12/12
	No. of rows	/	3	3	4/3	4/4
	Motor power input	kW	1.9	1.9	1.9/1.9	1.9/1.9
Electrical information	Cooling full load amps	A	362.1	400.1	264.4/200.0	264.4/264.4
	Maximum operating amps	A	449.9	449.9	343.2/223.3	343.2/343.2
Water side heat exchanger	Type	/	Shell and tube			
	Water flow	m^3/h	132.7	144.7	96.79/72.33	96.79/96.79
	Fluid type	/	Fresh water			
	Water side pressure drop	kPa	72.6	86.4	75.8	75.8
	Water pipe connection	mm	DN150	DN150	DN150/DN150	DN150/DN150
	Max. working pressure	MPa	1.0			
Unit dimensions	Length	mm	9420	9420	12650	15320
	Width	mm	2300	2300	2300	2300
	Height	mm	2565	2565	2565	2565
Unit weight		kg	7640	7640	7090/3800	7090/7090
Operating weight		kg	8140	8140	7590/4000	7590/7590

Note:

1. Performance and efficiency are based on AHRI 551/591.
   Cooling: chilled water inlet/outlet=12 °C(53.6 °F)/7 °C(44.6 °F); fouling factor=0.0180 m^2*°C/kW(0.000102 h*ft^2*°F/Btu), outdoor ambient temperature 35 °C(95 °F) DB.
2. As a result of the continuous improvement of the product, the above parameters may be changed, please refer to the product nameplate and in-kind.

Specifications

R513A

Model			CCAG360EVFN11	CCAG400EVFN11	CCAG440EVFN11	CCAG480EVFN11
Nominal parameters	Cooling capacity	kW	1266	1407	1548	1688
		Ton	360	400	440	480
	Power input	kW	363.5	398.4	441.1	483.8
	Cooling COP	kW/kW	3.483	3.532	3.509	3.490
	IPLV.IP	kW/kW	6.026	5.936	6.149	6.216
Compressor	Type	/	Magnetic bearing centrifugal compressor			
	Quantity	/	1|1/1|1	1|1/1|1	1|1/1|1	1|1/1|1
Energy regulation mode		/	VFD+IGV			
Refrigerant	Type	/	R513A			
	Charge amount	kg	195|195/195|195	205|205/205|205	220|220/205|205	220|220/220|220
Power supply		/	380 V 3~ 50 Hz			
Air side heat exchanger	Type	/	Fin-coil			
	No. of fans	/	12/12	14/14	16/14	16/16
	No. of rows	/	4/4	3/3	3/3	3/3
	Motor power input	kW	1.9/1.9	1.9/1.9	1.9/1.9	1.9/1.9
Electrical information	Cooling full load amps	A	300.6/300.6	329.7/329.7	400.1/329.7	400.1/400.1
	Maximum operating amps	A	343.2/343.2	374.5/374.5	449.9/374.5	449.9/449.9
Water side heat exchanger	Type	/	Shell and tube			
	Water flow	m^3/h	108.5/108.5	120.5/120.5	129.8/108.3	144.7/144.7
	Fluid type	/	Fresh water			
	Water side pressure drop	kPa	93.1	84.4	86.4	86.4
	Water pipe connection	mm	DN150/DN150	DN150/DN150	DN150/DN150	DN150/DN150
	Max. working pressure	MPa	1.0			
Unit dimensions	Length	mm	15320	16830	17835	18840
	Width	mm	2300	2300	2300	2300
	Height	mm	2565	2565	2565	2565
Unit weight		kg	7090/7090	7210/7210	7640/7210	7640/7640
Operating weight		kg	7590/7590	7710/7710	8140/7710	8140/8140

Note:

1. Performance and efficiency are based on AHRI 551/591.
   Cooling: chilled water inlet/outlet=12 °C(53.6 °F)/7 °C(44.6 °F); fouling factor=0.0180 m^2*°C/kW(0.000102 h*ft^2*°F/Btu), outdoor ambient temperature 35 °C(95 °F) DB.
2. As a result of the continuous improvement of the product, the above parameters may be changed, please refer to the product nameplate and in-kind.

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