1703-1C1612

Commercial Air Conditioners **2017**

INVERTER

DC Inverter

Aqua Mini Chiller & Fan Coil Units

Quality Assurance ISO 9001

Environmental Management ISO 14001

Occupational Health and Safety Assessment OHSAS 18001

Midea CAC After-service Application

iOS Version

Android Version

Midea CAC News Application

iOS Version

Commercial Air Conditioner Division

Midea Group

Add.: Midea Headquarters Building, 6 Midea Avenue, Shunde, Foshan, Guangdong, China

Postal code: 528311

Tel: +86-757-26338346 Fax: +86-757-22390205

cac.midea.com global.midea.com

Note: Product specifications change from time to time as product improvements and developments are released and may vary from those in this document.

Midea CAC

Midea CAC is a key division of the Midea Group, a leading producer of consumer appliances and provider of heating, ventilation and air conditioning solutions. Midea CAC has continued with the tradition of innovation upon which it was founded, and emerged as a global leader in the HVAC industry. A strong drive for advancement has created a groundbreaking R&D department that has placed Midea CAC at the forefront of a competitive field. Through these independent efforts and joint cooperation with other global enterprises, Midea has supplied thousands of innovative solutions to customers worldwide.

There are three production bases: Shunde, Chongqing and Hefei.
MCAC Shunde: 38 product lines focusing on VRF, Split Products, Heat Pump Water Heaters, and AHU/FCU.
MCAC Chongqing: 14 product lines focusing on Water Cooled Centrifugal/Screw/Scroll Chillers, Air Cooled Screw/Scroll Chillers, and AHU/FCU.
MCAC Hefei: 11 product lines focusing on VRF, Chillers, and Heat Pump Water Heaters.

Midea Company Introduction

Midea CAC Introduction

2016 » Strategic alliance between Midea and Italy's Clivet
2015 » JV with Carrier in China in chiller field, launched the unitary all DC inverter type Aqua Mini Chiller
2014 » Launched the DC Inverter Fan Coil Units
2013 » Launched the super high efficiency centrifugal chiller with full falling film technology
2012 » Formed Midea-Carrier JV.Company in India and HK
2010 » Built the 3rd manufacturing base in Hefei
2009 » Launched the unitary fixed type Aqua Mini Chiller
2008 » Launched the split digital type Aqua Mini Chiller
2006 » Launched the first VSD centrifugal chiller
2004 » Acquired MGRE entered the chiller industry
2001 » Cooperated with Copeland to develop the digital scroll VRF system
2000 » Developed the first inverter VRF with Toshiba
1999 » Entered the CAC field

Reference Projects

Hotel »

① ASEM Resort Villa（Five Star）
② Sheraton Bandara Resort Hotel（Five Star）
③ Aston Kuta Bali Hotel（Five Star）

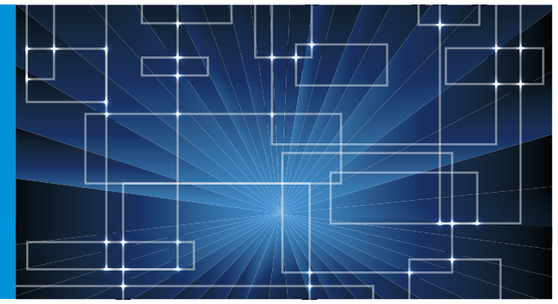
Residential »

① Vanke Estate（Rancho Santa Fe Villas）
② Al Sila'a Emirati Housing Development（448 Villas）
③ Agile Estate（Clear Water Bay）

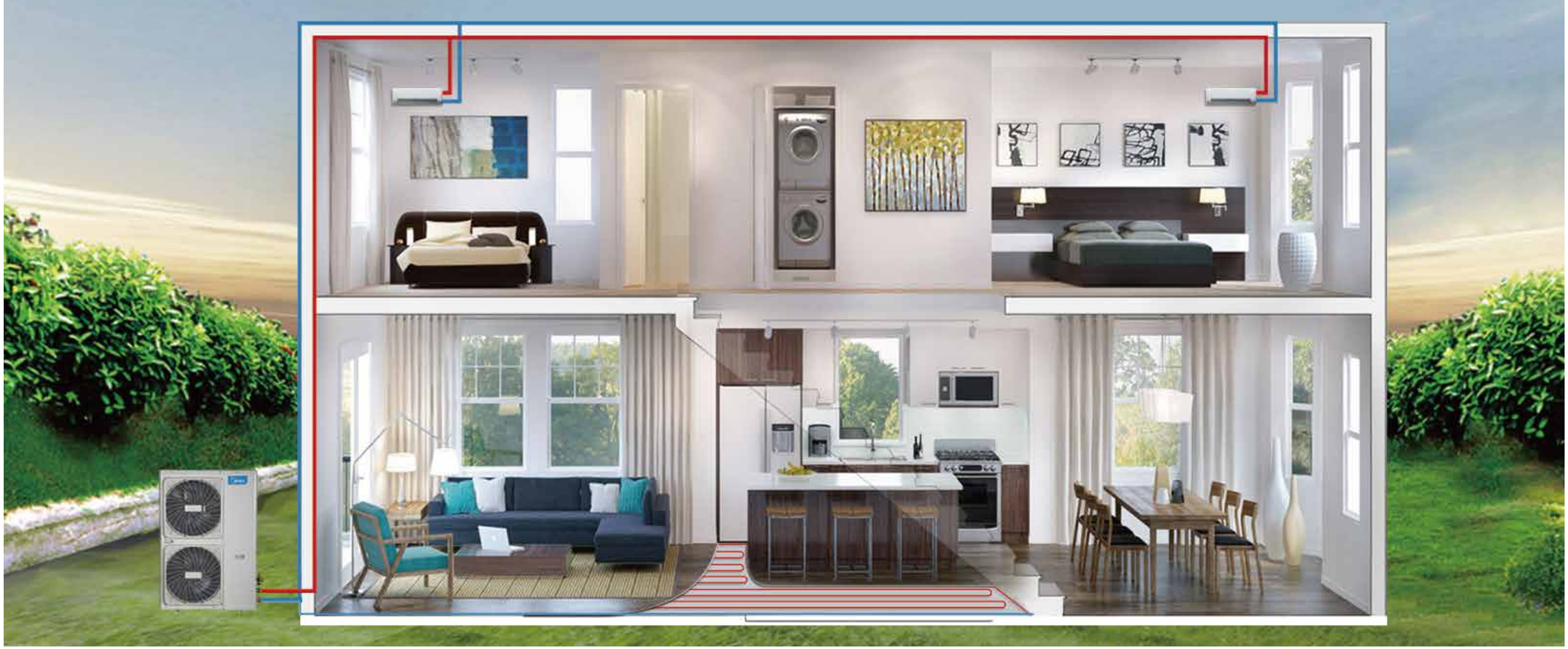
Selection Software

INVERTER

Contents



Aqua Mini Chiller



Aqua Mini Chiller

Midea DC Inverter Air-cooled Mini Chiller has unitary structure design and hydraulic module is built in the outdoor unit. It is air-cooled water heat pump chiller so there is no need of cooling water tower at the condensing side.

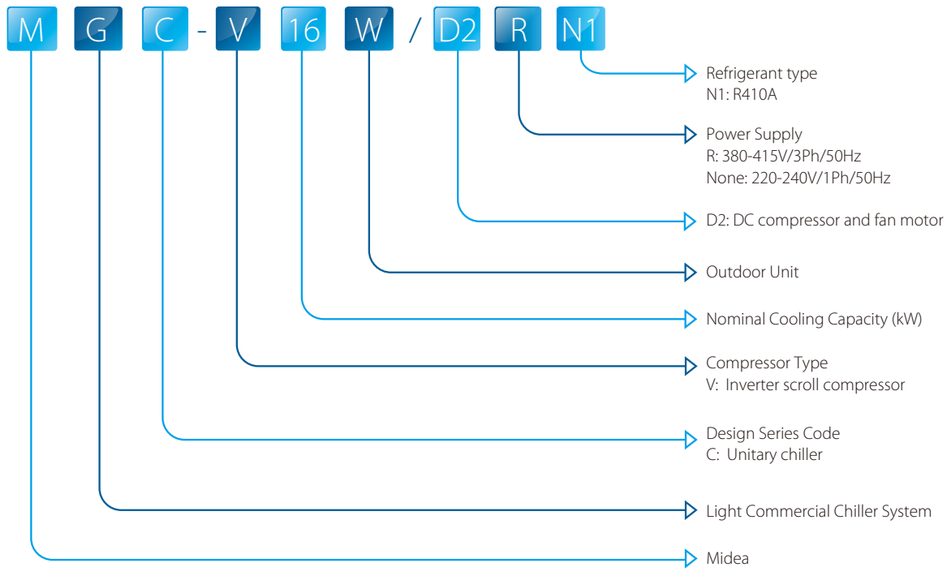
DC inverter Mini chillers' cooling capacity range is from 5kW to 18kW and it can freely combine with fan coil units and floor heating. These units are designed for residential applications or light commercial applications that require cold or hot water.

They are silent and compact units, easy to install and maintain. All units' energy efficiency at part load is A^+ rated. Their high energy efficiency and high reliability ensure low running cost. So they are widely applied in apartments, villas, small business office buildings as well as restaurants, etc.

Product Lineup

Capacity (kW)	5	7	10	12	14	16	18
Appearance / Power Supply							
220-240V/1Ph/50Hz	●	●	●	●			
380-415V/3Ph/50Hz				●	●	●	
208-230V/1Ph/60Hz			●				●

Nomenclature



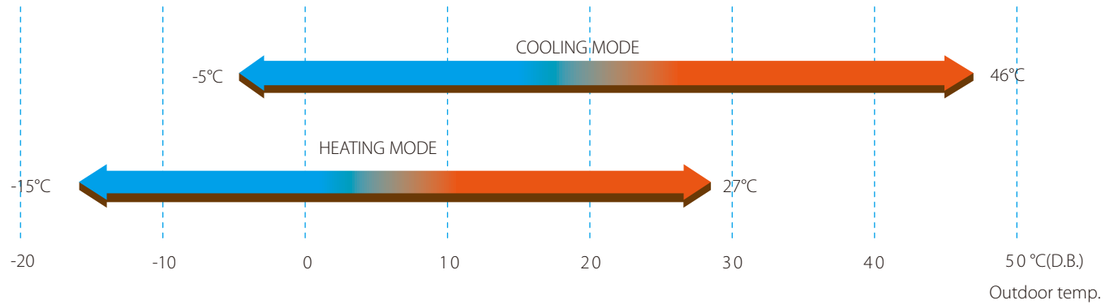
Aqua Mini Chiller

Features

Wide application range »

- Nine models with cooling capacities from 5kW to 18kW and heating capacities from 5.5kW to 18.5kW. Multiple power supply options.
- Freely combine with fan coil units and floor coils. Home owners may choose the best types according to their design taste (for interior) or functional needs.

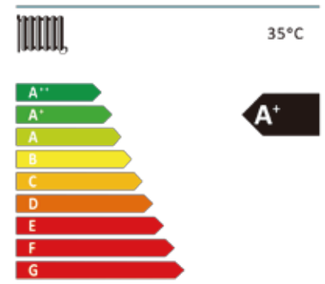
- Wide operation temperature range



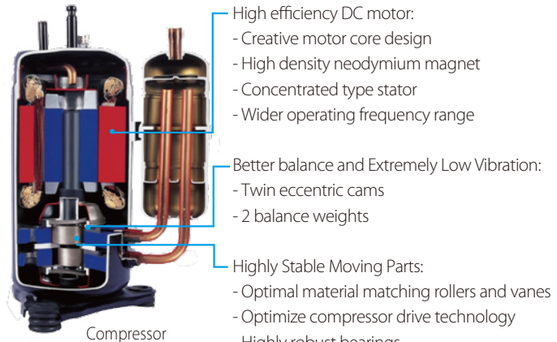
- Wide range of outlet water temperature
  The water outlet temperature is 4-55℃.

A⁺ rated energy efficiency at part load »

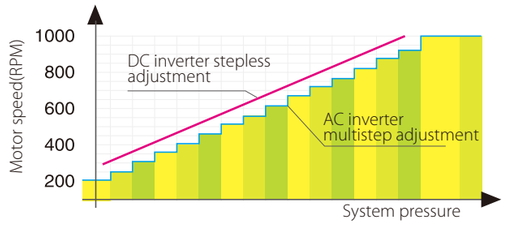
The DC inverter chiller integrates the latest technological innovations and ensures precise temperature regulation and highly efficient energy usage, making a significant contribution to the limiting the impact on the environment.



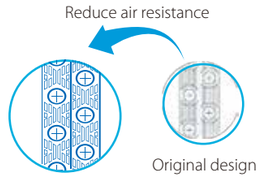
- DC inverter compressor
  Twin rotary DC inverter compressor is used. The output of the outdoor unit can be adjusted precisely according to the energy demanded.

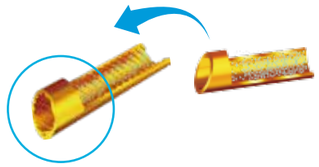


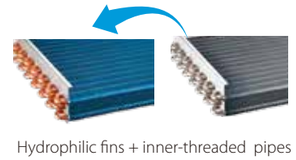
- DC fan motor
  High efficiency DC fan motor saved power up to 50%.



- High performance heat exchanger





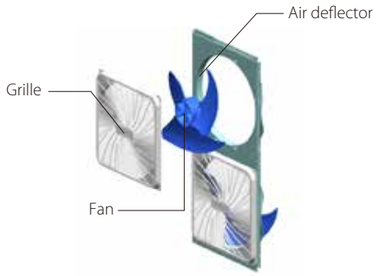


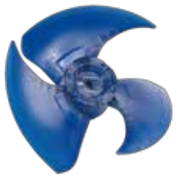
The new designed window fins enlarge the heat-exchanging area, decrease the air resistance, save more power and enhance heat exchange performance.
Hydrophilic film fins and inner-threaded copper pipes optimize heat exchange efficiency.
The specially coated blue fins enhance durability and protect against corrosion from air, water and other corrosive agents, assures a longer coil service life.

Aqua Mini Chiller

Advanced technology »

- DC inverter technology, optimally designed fan shape and air discharge grille ensure low sound values.

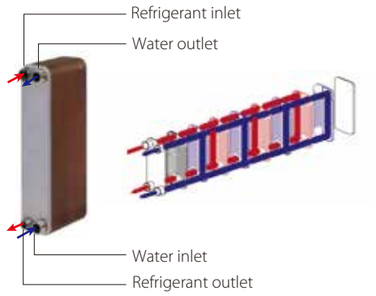




Powerful Large Propeller

Newly Designed Fan Guard

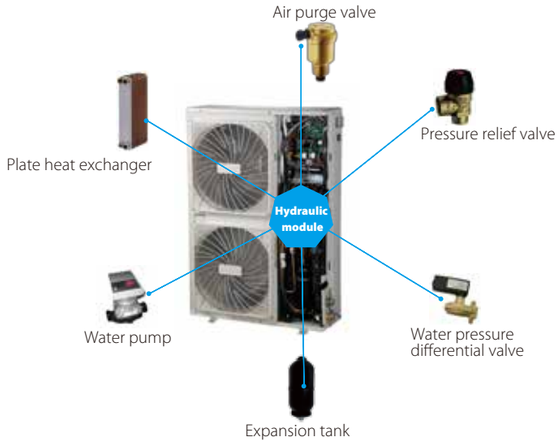
- EXV is used for stable and accurate gas flow control.
- High efficiency plate heat exchanger
  Plate heat exchanger uses metal plates to transfer heat between refrigerant and water. The fluids are exposed to a much larger surface area because the fluids spread out over the plates, so both heat transfer efficiency and heat exchanger speed are greatly improved.
  Multi protections including voltage protection, current protection, anti-freezing protection and water flow protection ensure system safety running.



- High efficiency water pump
  The water pump used is compliance with Erp directive, which is A degrade efficiency standard.

Easy installation »

- Compact structure design and leak-tight refrigerant circuit save you much installation labor.
- The chillers are equipped with a hydronic module integrated into the unit chassis, limiting the installation to straight-forward operations like connection of the power supply, the water supply and the air distribution FCUs.
- The units are equipped with axial fans so they can be installed directly outdoors.



Easy control »

- Remote ON/OFF and remote cool/heat functions.

- Controller built-in in unit panel used to perform all related operations as the user interface as well as fast diagnosis of possible incidents and their history.

- ON/OFF & Mode selection
- Temperature adjust
- Timer setting
- Fast diagnosis

- Optional wired controller for easy operation.
  - Touch key operation
  - LCD displays operation parameters
  - Multiple timers
  - Real-time clock

Note: When the wired controller is connected, the built-in controller is only for display, check and diagnosis functions.

Specifications

220-240V/1Ph/50Hz

Model			MGC-V5W/D2N1	MGC-V7W/D2N1	MGC-V10W/D2N1	MGC-V12W/D2N1
Power supply		V/Ph/Hz	220-240/1/50			
Cooling[1]	Capacity	kW	5.0(1.9-5.8)	7.0(2.1-7.8)	10.0(2.9-10.5)	11.2(3.1-12.0)
	Rated input	kW	1.55	2.26	3.03	3.50
	Rated current	A	6.8	9.9	13.0	15.4
	EER		3.23	3.10	3.30	3.20
	SEER		4.22	3.76	3.89	4.09
Cooling[2]	Capacity	kW	5.6	8.0	10.6	12.2
	Rated current	kW	11.5	18.5	23.0	26.5
	EER		4.87	4.32	4.24	4.60
Heating[3]	Capacity	kW	6.2(2.1-7.0)	8.0(2.3-9.0)	11.0(3.2-12.0)	12.3(3.3-13.2)
	Rated input	kW	1.90	2.54	3.24	3.78
	Rated current	A	8.3	11.0	13.8	16.6
	COP		3.26	3.15	3.4	3.25
Heating[4]	Capacity	kW	6.2	8.6	11.5	13.0
	Rated current	kW	1.35	2.10	2.65	2.92
	COP		4.60	4.10	4.34	4.45
	SCOP		3.55	3.46	3.34	3.46
Seasonal space heating energy efficiency (ηs)			138.9%	135.3%	130.7%	135.4%
Seasonal space heating energy efficiency class			A+	A+	A+	A+
Max. input current		A	11.4	13.7	25	19.1
Compressor	Type		Rotary			
Outdoor fan	Motor type		DC Motor			
	Air flow	m^3/h	5,100	5,100	7,000	7,000
Air heat exchanger	Type		Fin-coil			
Water heat exchanger	Type		Plate heat exchanger			
	Water volume	L	0.53	0.53	0.7	0.78
	Water flow	m^3/h	0.86	1.20	1.72	1.92
	Water pressure drop	kPa	15	15	18	18
Water pump	Pump head	m	5.5	5.5	8.5	8.5
	Water volume	L/min	4	4	4	4
Expansion tank volume		L	2	2	3	3
Refrigerant	Type		R410A			
	Charged volume	kg	2.5	2.5	2.8	2.8
Throttle type			Electronic expansion valve			
Sound power level		dB(A)	63	66	68	68
Sound pressure level[5]		dB(A)	58	58	59	59
Unit net dimension (W×H×D)		mm	990×966×354	990×966×354	970×1,327×400	970×1,327×400
Packing dimension (W×H×D)		mm	1,120×1,100×435	1,120×1,100×435	1,082×1,456×435	1,082×1,456×435
Net/ Gross weight		kg	81/91	81/91	110/121	110/121
The Max. and Min. wate rinlet pressure[6]		kPa	500/150			
Pipe connections	Water inlet/outlet	inch	1″	1″	1-1/4″	1-1/4″
Controller			Electronic controller (standard), wired controller (optional)			
Ambient temperature range	Cooling	℃	-5-46			
	Heating	℃	-15-27			
Water outlet temperature range	Cooling	℃	4-20			
	Heating	℃	30-55			

Nominal capacity is based on the following conditions:
1. Condenser air in 35℃. Evaporator water in/out 12/7℃
2. Condenser air in 35℃. Evaporator water in/out23/18℃
3. Evaporator air in 7℃ ℃85% R.H., Condenser water in/out 40/45℃
4. Evaporator air in 7℃ ℃85% R.H., Condenser water in/out 30/35℃
5. At 1m in open field fan side (sound pressure)
6. The maximum and minimum operating pressure values refer to the activation of the pressure switches
7. The above data test reference standard EN14511:2013; EN14825:2013; EN50564:2011; EN12102:2011; (EU)No:811:2013; (EU)No:813:2013; OJ 2014/C 207/02:2014

380-415V/3Ph/50Hz

Model			MGC-V12W/D2RN1	MGC-V14W/D2RN1	MGC-V16W/D2RN1
Power supply		V/Ph/Hz	380-415/ 3/50		
Cooling[1]	Capacity	kW	11.2(3.1-12.0)	12.5(3.3-14.0)	14.5(3.5-15.5)
	Rated input	kW	3.38	3.91	4.68
	Rated current	A	5.5	6.4	7.7
	EER		3.31	3.20	3.10
	SEER		4.16	4.27	4.38
Cooling[2]	Capacity	kW	12.2	14.2	15.6
	Rated input	W	2.60	3.10	3.60
	EER		4.70	4.58	4.33
Heating[3]	Capacity	kW	12.3(3.3-13.2)	13.8(3.5-15.4)	16.0(3.7-17.0)
	Rated input	kW	3.72	4.25	4.85
	Rated current	A	6.1	7.0	8.0
	COP		3.31	3.25	3.30
Heating[4]	Capacity	kW	13.0	15.1	16.5
	Rated input	kW	2850	3350	3920
	COP		4.56	4.51	4.21
	SCOP		3.66	3.78	3.39
Seasonal space heating energy efficiency (ηs)			143.5%	148.3%	132.6%
Seasonal space heating energy efficiency class			A+	A+	A+
Max. input current		A	8.9	9.6	10.1
Compressor	Type		Rotary		
Outdoor fan	Motor type		DC motor		
	Air flow	m^3/h	7,000	7,000	7,000
Air heat exchanger	Type		Fin-coil		
Water heat exchanger	Type		Plate		
	Water volume	L	0.78	0.78	1.06
	Water flow	m^3/h	1.92	2.15	2.49
	Water pressure drop	kPa	18	18	19
Water pump	Pump head	m	8.5	8.5	8.5
	Water volume	L/min	4	4	4
Expansion tank volume		L	3	3	3
Refrigerant	Type		R410A		
	Charged volume	kg	2.8	2.9	3.2
Throttle type			Electronic expansion valve		
Sound power level		dB(A)	68	70	72
Sound pressure level[5]		dB(A)	62	62	62
Unit net dimension (W×H×D)		mm	970×1,327×400		
Packing dimension (W×H×D)		mm	1,082×1,456×435		
Net/ Gross weight		kg	110/121	111/122	111/122
The Max. and Min. water inlet pressure[6]		kPa	500/150		
Pipe connections	Water inlet/outlet	inch	1-1/4″		
Controller			Electronic controller (standard), wired controller (optional)		
Ambient temperature range	Cooling	℃	-5-46		
	Heating	℃	-15-27		
Water outlet temperature range	Cooling	℃	4-20		
	Heating	℃	30-55		

Nominal capacity is based on the following conditions:
1. Condenser air in 35℃. Evaporator water in/out 12/7℃
2. Condenser air in 35℃. Evaporator water in/out23/18℃
3. Evaporator air in 7℃ ℃85% R.H., Condenser water in/out 40/45℃
4. Evaporator air in 7℃ ℃85% R.H., Condenser water in/out 30/35℃
5. At 1m in open field fan side (sound pressure)
6. The maximum and minimum operating pressure values refer to the activation of the pressure switches
7. The above data test reference standard EN14511:2013; EN14825:2013; EN50564:2011; EN12102:2011; (EU)No:811:2013; (EU)No:813:2013; OJ 2014/C 207/02:2014

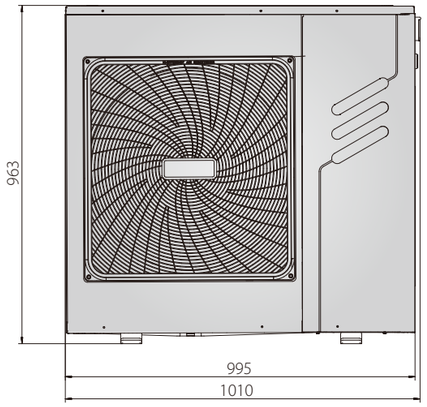
208-230V/1Ph/60Hz

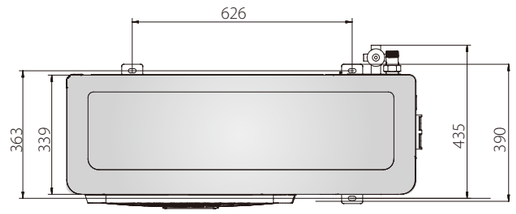
Model			MGC-V10W/D2VN1	MGC-V18W/D2VN1
Power supply		V/Ph/Hz	208-230/1/60	
Cooling	Capacity	kBtu/h	36.0(10.0-37.0)	58.0(13.0-62.0)
		kW	10.0(2.9-10.5)	17.0(3.8-18.0)
	Input	kW	3.11	5.60
	EER		3.39	3.10
Heating	Capacity	kBtu/h	38.0(11.0 -41.0)	63.0(14.0-65.0)
		kW	11.0(3.2-12.0)	18.5(4.0-19.0)
	Input	kW	3.14	5.78
	COP		3.50	3.20
Max input current		A	8.9	9.6
Compressor	Type		Rotary	
Outdoor fan	Motor type		DC motor	
	Air flow	CFM(m^3/h)	4,120(7,000)	4,120(7,000)
Air heat exchanger	Type		Fin-coil	
Water heat exchanger	Type		Plate	
	Water volume	L	0.7	1.06
	Water flow	CFM(m^3/h)	1.01(1.72)	1.72(2.92)
	Water pressure drop	kPa	18	23
Water pump	Pump head	m	8	8
	Water volume	L/min	4	4
Expansion tank volume		L	3	3
Refrigerant	Type		R410A	
	Charged volume	lbs/kg	6.2/2.8	7.5/3.4
Throttle type			Electronic expansion valve	
Sound pressure level[3]		dB(A)	56	60
Unit net dimension (W×H×D)		inch	38-3/16×52-1/4×31-1/2	
		mm	970×1,327×400	
Packing dimension (W×H×D)		inch	42-19/32×57-21/64×17-1/8	
		mm	1,082×1,456×435	
Net/ Gross weight		lbs	243/267	247/271
		kg	110/121	112/123
The Max and Min. wate rinlet pressure[4]		kPa	500/150	
Pipe connections	Water inlet/outlet	inch	1-1/4"	
Controller			Electronic controller (standard), wired controller (optional)	
Ambient temperature range	Cooling	℃	-5-46	
	Heating	℃	-15-27	
Water outlet temperature range	Cooling	℃	4-20	
	Heating	℃	30-55	

1. Cooling: Chilled water inlet/outlet temperature: 12/7℃,outdoor ambient temperature 35℃ DB.
2. Heating: Warm water inlet/outlet temperature: 40/45℃,outdoor ambient temperature 7℃ DB/6℃ WB .
3. At 1m in open field fan side (sound pressure)
4. The maximum and minimum operating pressure values refer to the activation of the pressure switches

Unit Dimensions (Unit: mm)

5/7kW »





10-18kW »