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1.Maybe there are some differences between the actual products and products in the catalogue,please consult actual goods while buying.2.Through careful verification, if there are any printing mistakes and omissions in the catalogue,Kingair will not take the responsibility.3.The specification parameter is changed because the products are improved, forgive us for not issuing a separate notice.The detail parameter please subject to nameplate of the product.

Precision Industrial Chiller



Zhejiang King Conditioning Equipment Co.,Ltd. Profile

Zhejiang King Conditioning Equipment Co., Ltd. is the main manufacturer in domestic air conditioner field. It is a wholly-owned subsidiaries founded by Zhejiang Refrigeration Industry Co., Ltd in year 2009. Total land area is 53000 square meters, built-up area 40000 square meters, total investment 220 million, registered capital 80 million. Address is 104, 329 national trunk way and Hu Hang Yong express way, economic developed zone, Shangyu, Zhejiang, which is easily accessible.

Kingair has staffs more than 450, including about 150 professional engineers; it also has a high level and high-quality R&D department; it has advanced manufacturing and testing equipments such as AMADA CNC punching machine, bending machine, fin press machine, vertical type tube expanding machine, tube bender, safety performance test machine, helium mass spectrometer leak detector, high sensitivity halide leak detector etc; it has a modernization air conditioning large comprehensive test center as well.

With the enlarged of enterprise scale and sales network, Kingair has set up over 40 sales centers and offices in Beijing, Xian,Shenyang, Shanghai, Hangzhou, Chendu, Chongqin, Dongguan, Neimeng etc. Perfect quality and reliable after sales service make Kingair survive for about a half century. Kingair sales keep in growing and also successfully penetrating international market.

Kingair History:

- 1966 Kingair established in Taiwan
- 1993 Zhejiang King Refrigeration Industry Co., LTD started construction in Shangyu
- 1997 Obtained ISO9001 certification and being awarded most trustworthy air conditioner equipment manufacturer
- 2000 Obtained ISO14001 certification
- 2005 Being awarded first batch energy saving capability product manufacture enterprise.
- 2006 Dongguan plant started construction
- 2006 Shanghai Songjiang plant started construction
- 2006 Chendu plant started construction
- 2006 Developed the first ever-China made nuclear plant chiller
- 2007 Kingair test center was certified by CNAS and being the "National Testing Center"
- 2008 Kingair Shanghai enter into the union of hot water heat pump
- 2010 Zhejiang King Conditioning Co., Ltd. started construction

Contents

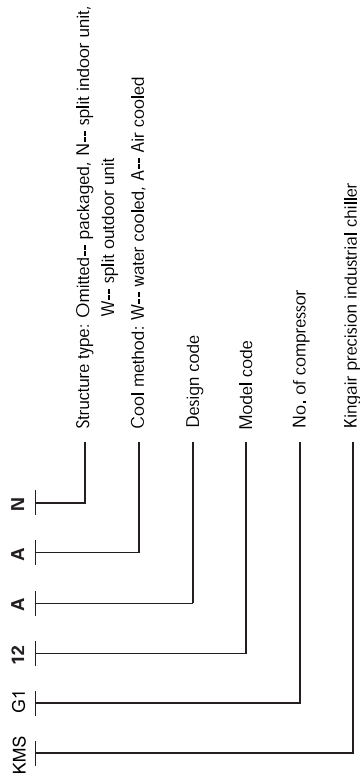
■ Product Introduction	02
■ Nomenclature.....	02
■ Application.....	03
■ Product Features	04
■ Specification Parameter (Water Cooled)	06
■ Specification Parameter (Air Cooled)	07
■ Specification Parameter (Split Type Air Cooled).....	08
■ Correction Factor (Water Cooled).....	09
■ Correction Factor (Air Cooled)	10
■ Unit Outline Dimension.....	11
■ Wiring	13



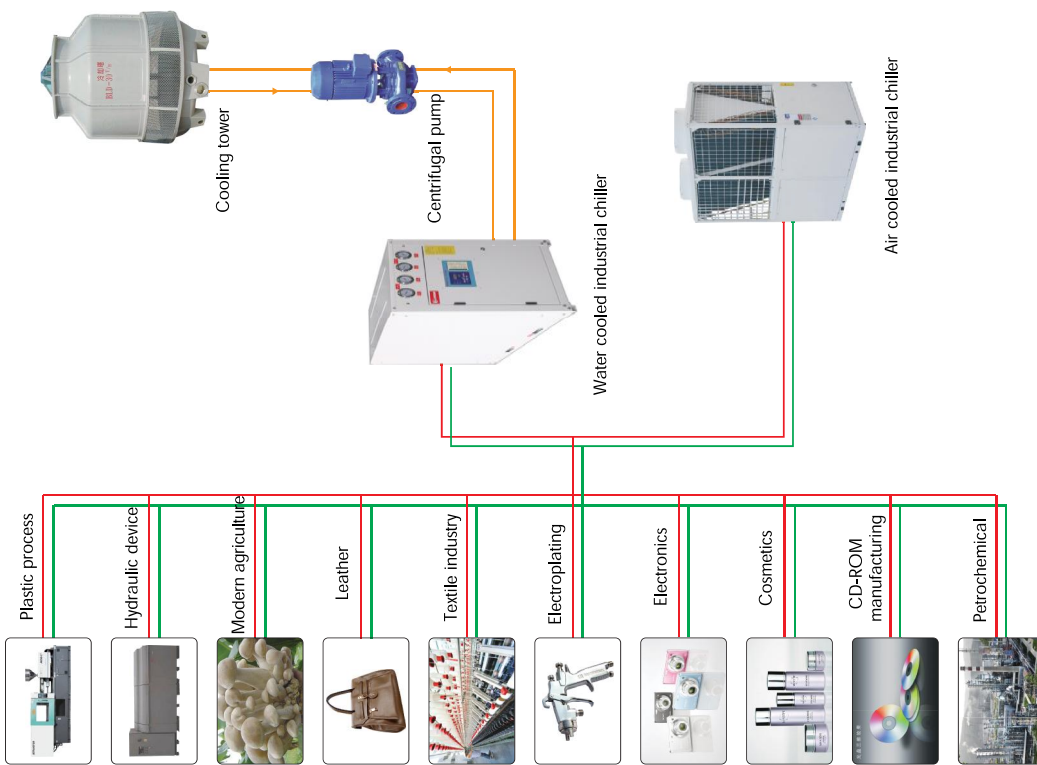
Product Introduction

Precision industrial chiller is exclusive design for industry process cooling. It is a new generation water cooled chiller. It can accurately control various water temperatures to increase the production efficiency and product quality. It possess many features including high efficiency and energy saving, stable and reliable, intelligent controlling, easy maintenance etc. Hence, it is widely applied in plastic processing, hydraulic equipment, modern agriculture, electroplating industry, leather processing industry, pharmaceutical industry, machinery manufacturing etc. It is a perfect partner for modern industry producing.

Nomenclature



Application



Product Features

KMS series precision industrial chiller applied newest technology of refrigerant conditioner, design and manufacturing in according with national standard, gathered multi technologies such as high efficiency scroll compressor which is exclusive designed for industry, strengthened heat transfer technology, speed adjustment technology for fan, auto anti-freezing, intelligent controlling etc.

High efficiency and energy saving

- Advanced high efficient scroll compressor to minimize the noise and the vibration, and also improve the COP 5% comparing with the normal compressor.
- Apply enhanced heat transfer technology, strengthened heat transfer efficiency of evaporator and condenser, increase the evaporating temperature, decrease the condensing temperature, and improve the unit's efficiency obviously.

☆ High efficient evaporator

- ① For small capacity unit, it applies patent designed high efficient detour flow type tube in water tank evaporator. By using water baffle enlarges the turbulence to improve the heat transfer efficiency. Thanks to that COP could be improved over 6%.
- ② For large capacity unit, it applies high efficient tube in shell evaporator. It utilizes high efficient inner groove copper tube to increase the heat transfer area, the amount of evaporation core and the turbulivity. Hence, it extremely improved the coefficient of heat exchanger and the COP.

☆ High efficient condenser

- ① Water cooled condenser adopts patent gear type high efficient copper tube. The inner and outside of heat exchange tube apply newest strengthened heat transfer technology, the heat transfer rate is over 30% above the conventional evaporator, effectively reduce the unit's condensing temperature.
- ② Air cooled condenser adopts micro-channel heat exchanger or high efficient cooper tube and fin heat exchanger. For micro-channel heat exchanger, it distributes evenly, light weight, small size and high heat transfer efficiency; for cooper tube and fin heat exchanger, its fin is under anticorrosion treatment, high efficient inner grooved tube and optimized tube arrangement. Total heat transfer rate is 30% higher comparing with normal heat exchanger.



High efficient scroll compressor



Water tank evaporator



Inner groove copper tube



Patent gear type condensing tube



Patent aluminum fin

Stable and reliable

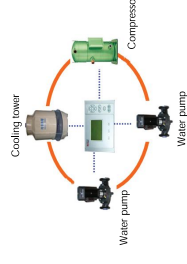
- Adopt hermetic high reliable scroll compressor equipped with overheat protector, stable operation, low noise, high COP and longer lifespan.
- Main accessories in refrigeration system are both from European, America and Japan etc., stable quality.
- The application of fan speed adjustment technology and cooling tower fan interlock controlling with unit controls the condensing pressure efficiently and ensures stable and reliable operating.
- Chiller realizes real-time supervisory for high low pressure, discharge temperature, operating current and water temperature to ensure the safety running.
- Water flow protection, anti-freezing protection, low pressure protection and water temperature monitor to avoid evaporator freezing crack.
- Strictly seamless and vacuum test ensures no leakage for total unit or components.
- Under anticorrosion, durability and performance test to ensure every unit in high reliability.

Quiet operation

- Adopt hermetic high reliable scroll compressor, low noise and small vibration.
- Adopt quiet axial fan which is in accordance with fluids aerodynamic theory.

Advanced control

- Advanced microcomputer controller, auto mode or manual mode is for your option.
- Friendly and beautiful interface, easy operation; user is only to open/close the unit, select the mode and set the water temperature.
- Auto capacity regulating, water temperature control accuracy is as high as ± 0.5 to meet with the process requirements.
- Condensing fan speed control, interlock controlling function of cooled water pump and cooling tower.
- Unit auto anti-freezing function



Specification Parameter(Water Cooled)

Model	380V/3N ~ 50Hz											
	MS103AW	MS105AW	MS107AW	MS110AW	MS112AW	MS1215AW	MS122AW	MS1224AW	MS130AW	MS136AW	MS140AW	MS146AW
Cooling Capacity	kW	9.8	15	20.1	30.2	34.6	51.5	63.4	72.6	96.1	106.9	126.8
	kcal/h	8428	12900	17286	25972	29756	44290	54524	62436	81786	93654	109048
Unit Power	kW	2.8	4.0	4.9	6.9	8.0	11.5	14.2	16.3	22.1	24.8	28.8
	A	5.6	8.1	9.4	12.8	15.2	21.8	26.6	31.2	42.0	47.8	53.6
Power Supply												
Type	R22											
Controlled Type	External Equalizer Thermostic Expansion Valve											
Type	Hermetic Scroll Compressor											
Power	2.3	3.5	4.3	6.4	7.2	10.4	12.7	14.5	19.1	21.8	25.8	28.8
Current	4.4	6.9	8.2	11.6	13.6	19.4	23.3	27.2	35.0	40.8	46.6	53.6
Qty	1	1	1	1	1	2	2	2	3	3	3	4
Type	High Efficient Tube in Water Tank or Shell and Tube Heat Exchanger											
Water Flow Rate	1.7	2.6	3.5	5.2	5.9	8.8	10.9	12.5	16.3	18.7	21.8	26.2
Connection Pipe Dia.	DN20	DN20	DN25	DN32	DN32	DN50	DN50	DN50	DN50	DN65	DN65	DN65
Type	High Efficiency Shell and Tube Heat Exchanger											
Water Flow Rate	2.1	3.2	4.2	6.3	7.2	10.6	13.1	15.0	19.6	22.4	26.2	30.6
Pressure Drop	50	50	50	50	50	50	50	50	50	50	50	50
Connection Pipe Dia.	DN25	DN25	DN25	DN40	DN40	DN50	DN50	DN50	DN50	DN65	DN65	DN65
Type	High Efficiency, Low Noise, Centrifugal Pump											
Power	0.55	0.55	0.55	0.75	1.1	1.5	1.8	3	3	3	3	3
Current	1.2	1.2	1.2	1.6	2.4	3.3	4	7	7	7	7	7
Hydraulic Head	23	20	22	20	23	20	21	25	28	26	22	22
Water Tank Volume	L	120	120	160	260	300	360	360	360	360	360	360
L	mm	1150	1150	1350	1450	1800	2050	2050	2050	2050	2300	2300
W	mm	650	650	800	800	1100	1100	1100	1100	1100	1100	1100
H	mm	1150	1150	1200	1450	1450	1550	1550	1550	1600	1600	1600
Unit Weight	kg	150	220	310	400	400	650	750	750	1200	1200	1350

Note:
 1. Above models are based on the chilled water inlet/outlet temperature 12/7°C ; cooling water inlet/outlet temperature 30/35°C;
 2. Recommended chilled water temperature range 5~20°C.
 3. When the actual water temperature is different from nominal water temperature please calibrate it with different condition parameter correction factor in page 9;
 4. If above model can't meet your requirement, we can design for you according to actual condition.

Specification Parameter(Water Cooled)

Model	380V/3N ~ 50Hz											
	MS103AA	MS105AA	MS107AA	MS110AA	MS112AA	MS1215AA	MS122AA	MS1224AA	MS130AA	MS136AA	MS140AA	MS146AA
Cooling Capacity	kW	8.6	13.7	18.1	28	31.5	45.8	57.8	65	86.8	97.6	115.8
	kcal/h	7396	11782	15566	24080	27090	39388	49708	55900	74648	83936	99588
Unit Power	kW	3.6	5.2	6.4	9.2	10.4	14.9	18.5	20.9	27.8	32.2	37.9
	A	7.0	10.1	12.1	17.2	19.7	27.7	33.8	38.9	51.1	60.6	70.7
Power Supply												
Type	R22											
Controlled Type	External Equalizer Thermostic Expansion Valve											
Type	Hermetic Scroll Compressor											
Power	2.8	4.2	5.3	7.8	8.9	12.8	15.7	17.8	23.5	26.7	31.3	35.6
Current	5.3	7.9	9.7	13.8	15.9	22.8	27.5	31.9	41.3	47.8	55.1	63.7
Qty	1	1	1	1	1	2	2	2	3	3	4	4
Type	High Efficient Tube in Water Tank or Shell and Tube Heat Exchanger											
Water Flow Rate	1.5	2.4	3.1	4.8	5.4	7.9	9.9	11.2	14.9	16.8	19.9	22.3
Connection Pipe Dia.	DN20	DN20	DN25	DN32	DN32	DN50	DN50	DN50	DN50	DN65	DN65	DN65
Type	High Efficiency, Low Noise, Centrifugal Pump											
Power	0.2	0.4	0.5	0.8	0.8	1	1.3	1.3	2.5	2.5	3.6	3.6
Current	0.5	1	1.2	2.2	2.2	2.5	3	3	5.8	5.8	8.6	8.6
Type	High Efficient Heat Exchanger											
Power	0.55	0.55	0.55	0.55	0.75	1.1	1.5	1.8	3	3	3	3
Current	1.2	1.2	1.2	1.2	1.6	2.4	3.3	4	4	4	7	7
Hydraulic Head	24	20	24	20	27	22	25	27	22	28	25	21
Water Tank Volume	L	120	120	160	260	300	360	360	360	360	360	360
L	mm	1100	1100	1500	1500	1500	2130	2130	2130	2300	2300	2300
W	mm	655	655	800	800	1100	1100	1100	1100	1200	1200	1420
H	mm	1400	1400	1400	1700	1700	2200	2200	2200	2200	2500	2500
Unit Weight	kg	140	210	300	450	450	700	850	850	1200	1200	1350

Note:
 1. Above models are based on the chilled water inlet/outlet temperature 12/7°C ; ambient temperature 35°C;
 2. Recommended chilled water temperature range 5~20°C.
 3. When the actual water temperature is different from nominal water temperature please calibrate it with different condition parameter correction factor in page 10;
 4. If above model can't meet your requirement, we can design for you according to actual condition.

Cooling Capacity Correction Factor(Air Cooled)

Ambient Temperature	Cooling Capacity (kW)															
	Chilled Water Outlet Temperature (°C)															
	5°C	6°C	7°C	8°C	9°C	10°C	11°C	12°C	13°C	14°C	15°C	16°C	17°C	18°C	19°C	20°C
30°C	0.99	1.02	1.04	1.07	1.10	1.13	1.15	1.18	1.21	1.24	1.26	1.29	1.31	1.34	1.37	1.39
31°C	0.98	1.01	1.03	1.06	1.09	1.12	1.14	1.17	1.20	1.23	1.25	1.28	1.30	1.33	1.36	1.38
32°C	0.98	1.00	1.02	1.05	1.08	1.11	1.13	1.16	1.19	1.22	1.24	1.27	1.29	1.32	1.35	1.37
33°C	0.97	1.00	1.01	1.04	1.07	1.10	1.13	1.15	1.18	1.21	1.24	1.26	1.28	1.31	1.34	1.36
34°C	0.97	0.99	1.01	1.03	1.06	1.09	1.11	1.14	1.17	1.20	1.23	1.25	1.27	1.30	1.33	1.35
35°C	0.96	0.98	1.00	1.02	1.05	1.08	1.10	1.13	1.16	1.19	1.21	1.23	1.26	1.29	1.32	1.34
36°C	0.95	0.97	0.99	0.99	1.04	1.07	1.09	1.12	1.15	1.18	1.20	1.22	1.25	1.28	1.31	1.33
37°C	0.95	0.97	0.99	0.99	1.04	1.06	1.09	1.11	1.14	1.17	1.20	1.22	1.24	1.27	1.30	1.32
38°C	0.94	0.96	0.98	0.98	1.03	1.05	1.08	1.10	1.13	1.16	1.19	1.21	1.23	1.26	1.29	1.31
39°C	0.93	0.95	0.97	0.97	1.02	1.04	1.07	1.09	1.12	1.15	1.18	1.20	1.22	1.25	1.28	1.30
40°C	0.92	0.94	0.96	0.96	1.01	1.03	1.06	1.08	1.11	1.14	1.17	1.19	1.21	1.24	1.27	1.29

Note: when actual water temperature is different from nominal water temperature, please calibrate it with above data.
(Nominal cooling capacity multiply by the correction factor)

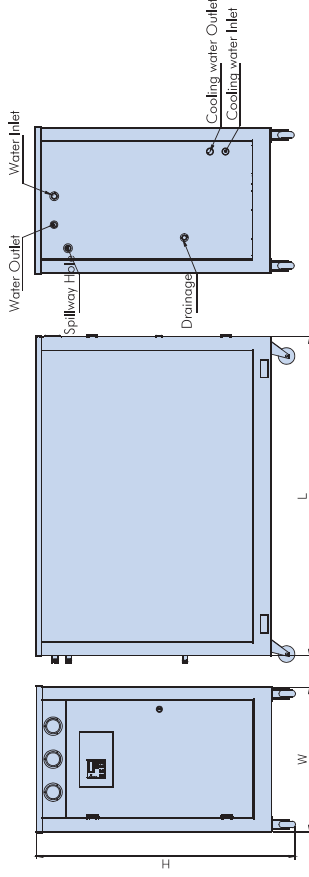
Compressor Input Power Correction Factor(Water Cooled)

Ambient Temperature	Compressor Input Power (kW)															
	Chilled Water Outlet Temperature (°C)															
	5°C	6°C	7°C	8°C	9°C	10°C	11°C	12°C	13°C	14°C	15°C	16°C	17°C	18°C	19°C	20°C
30°C	0.89	0.90	0.90	0.91	0.92	0.93	0.93	0.94	0.95	0.96	0.96	0.97	0.98	0.99	1.00	1.00
31°C	0.91	0.91	0.92	0.93	0.94	0.94	0.95	0.96	0.97	0.98	0.98	0.99	1.00	1.01	1.01	1.02
32°C	0.93	0.93	0.94	0.95	0.96	0.96	0.97	0.98	0.99	1.00	1.00	1.01	1.02	1.03	1.04	1.04
33°C	0.95	0.95	0.96	0.97	0.98	0.98	0.99	1.00	1.01	1.02	1.02	1.03	1.04	1.05	1.06	1.07
34°C	0.96	0.97	0.98	0.99	1.00	1.00	1.01	1.02	1.03	1.04	1.04	1.05	1.06	1.07	1.08	1.09
35°C	0.98	0.99	1.00	1.01	1.02	1.02	1.03	1.04	1.05	1.06	1.07	1.07	1.08	1.09	1.10	1.11
36°C	1.00	1.01	1.02	1.03	1.04	1.04	1.05	1.06	1.07	1.08	1.09	1.10	1.10	1.11	1.12	1.13
37°C	1.02	1.03	1.04	1.05	1.06	1.07	1.08	1.09	1.10	1.11	1.12	1.13	1.14	1.14	1.15	1.15
38°C	1.04	1.05	1.06	1.07	1.08	1.09	1.10	1.10	1.11	1.12	1.13	1.14	1.15	1.16	1.17	1.18
39°C	1.07	1.07	1.08	1.09	1.10	1.11	1.12	1.13	1.14	1.14	1.15	1.16	1.17	1.18	1.19	1.20
40°C	1.09	1.10	1.10	1.11	1.12	1.13	1.14	1.15	1.16	1.17	1.18	1.19	1.20	1.21	1.21	1.22

Note:
1. When actual water temperature is different from nominal water temperature, please calibrate it with above data.(Nominal cooling capacity multiply by the correction factor)
2. Total power= compressor power+ chilled water pump power+ fan power

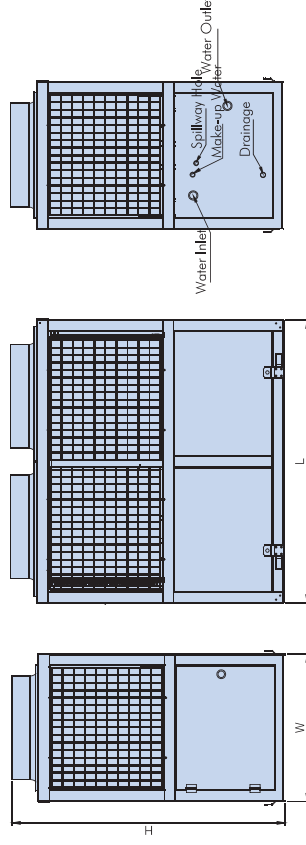
Outline Dimension

KMSG103AW ~ KMSG440AW



Note:
1. For model KMS103AW ~KMS112AW, there is a active caster in the buttoom of the case.
2. If you need dimensions in detail please contact Kingair engineer for help(L= length; W= width; H= height)
3. Kingair products improve all the times, which will lead to different dimensions. So, please understand without prior notice

KMSG103AA ~ KMSG448AA

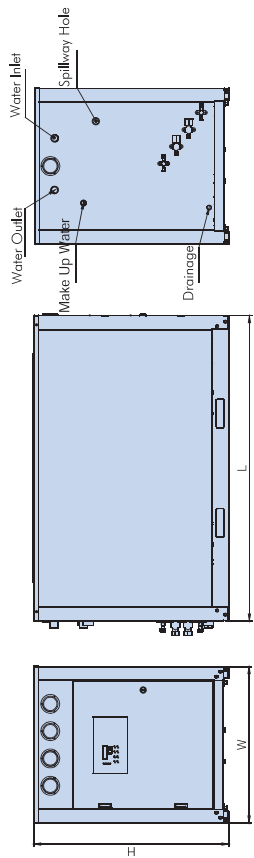


Note:
1. For model KMS103AA ~KMS112AA, there is a active caster in the buttoom of the case.
2. If you need dimensions in detail please contact Kingair engineer for help(L= length; W= width; H= height)
3. Kingair products improves all the times, which will lead to different dimensions. So, please understand without prior notice

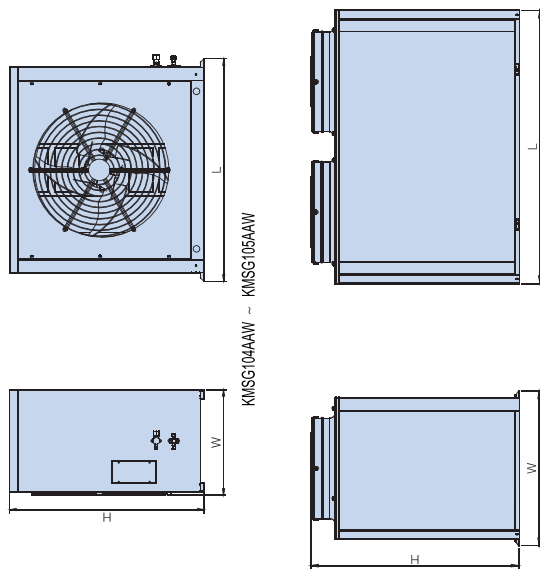
Outline Dimension

Split Type Air-Cooled Chiller Outline Dimension

Indoor Unit (KMSG104AA~KMSG24AA)



Outdoor Unit



KMSG108AAW ~ KMSG24AAW

1. If you need dimensions in detail, please contact Kingair engineer for help. (L- length; W- width; H- height)
2. Kingair products improves all the times, which will lead to different dimensions. So, please understand without prior notice

Wiring

Unit Electrical Parameter

Model	Unit max. operation current (A)	Main power source cable (mm ²)
KMSG103AW	6.5	1
KMSG105AW	9.5	1.5
KMSG107AW	11	1.5
KMSG110AW	15.1	2.5
KMSG112AW	17.9	4
KMSG215AW	25.7	6
KMSG220AW	31.3	6
KMSG224AW	36.6	10
KMSG330AW	48.9	16
KMSG336AW	56	25
KMSG440AW	62.9	25
KMSG103AA	8.3	1.5
KMSG105AA	12.1	1.5
KMSG107AA	14.5	2.5
KMSG110AA	20.6	4
KMSG112AA	23.7	6
KMSG215AA	33.4	10
KMSG220AA	40.7	16
KMSG224AA	46.9	16
KMSG330AA	61.4	25
KMSG336AA	72.5	35
KMSG440AA	84.5	35
KMSG448AA	95.3	50
KMSG104AA~KICWG104AAW	1.5/9.1	0.75/1.5
KMSG105AA~KICWG105AAW	1.5/10.9	0.75/1.5
KMSG108AA~KICWG108AAW	2/17.4	0.75/4
KMSG112AA~KICWG112AAW	2/22.1	0.75/6
KMSG215AA~KICWG215AAW	3/31	1/10
KMSG220AA~KICWG220AAW	4.2/37.4	1/10
KMSG224AA~KICWG224AAW	4.2/42.9	1/10

Note:

1. Electrical performance change limitation $\pm 10\%$, interval voltage unbalance <math>< 3\%</math>
2. Above data is just for your reference, please refer to the electrical standard for design.