Kolme

Swimming Pool Heat Pump
(Heating)

FIP SERIES

Why Choose Kolme
Full Inverter Pool Heat Pump

10 TIMES QUIETER

Kolme swimming pool inverter pool heat pump provides good swimming environment, and your neighbors will love it, too!

Kolme pool inverter heat pump heat your pool rain or shine, and using spiral titanium heat exchanger, casing can be galvanized metal or stainless steel for option, golden fin air heat exchanger, EEV, soft start, and so on.

LONG LIFE TO 12-15 YEARS BY QUALITY COMPONENTS

WORK UNDER 15°C

Kolme inverter swimming pool heat pump can work at low ambient temperature, even at -15°C can still provide inverter pool heating. This results in less heater in colder months and maximizes your swimming season.

Kolme inverter swimming pool heat pump can set the water temperature to 40°C for Spa or other applications if

HEATING 40°C WATER FOR OPITON

50% FASTER ON HEATING

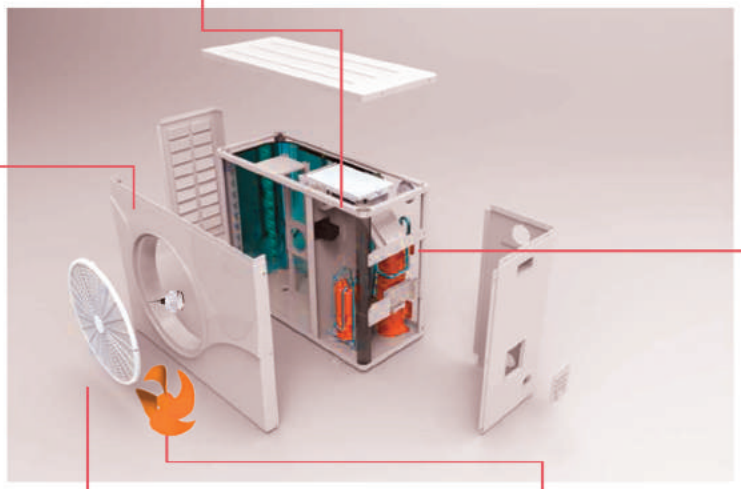
Once the heat pump is on, Kolme Inverter unit can quickly pick and choose the best compressor and fan motor operating frequencies and the heat pump EEV opening automatically according to the heating or cooling demand by smart inverter control technology for the first timeheating, Kolme inverter heat pump can save 50% heating time than traditional heat pump on first heating.

You could control your pool anytime, anywhere easily by phone.

BUILT-IN WIFI CONTROL FOR OPTION

EXPLOSIVE VIEW

Inverter Compressor Kolme inverter smart control, it varies its power and running speed according to the immediate heating requirement of the compressor, ensuring consistent, uniform heating and consuming less energy. Less start and stop also means less noise and less wear and tear of internal components, elongating compressor life.



DC brushless fan motor performs real-time stepless speed regulation according to actual load,reducing runn ing noise during partial load.

Spiral Titanium Heat Exhcanger: Kolme heat exchanger is titanium to prevent corrosion and make longer working life and it's spiral tube design to make higher heat exchange efficiency and higher performance

New type fan grille:
1. Greatly reduce the wind resistance and lower noise.
2.The mesh structure can strengthen grid strength and reduce the vibration noise.
3.Improve the diversion performance, optimize the heat dissipation effect,reduce motor speed and then reduce the noise.

Anti-shake owl fan blade : Fan corrects the blade bone line through simulation to realize the blade' s own anti-shake, effectively resist the noise generated by the airflow' s recoil vibration of the blade.

DETAILS OF FEATURE

70%
Higher COP Than Normal On/Off Heat Pump

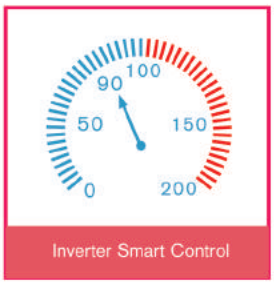
50%
Higher COP Than Normal Inverter Heat Pump

10
Times Quieter Than Normal On/Off Heat Pump

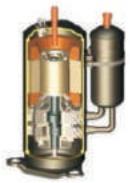
Kolme full-DC inverter heat pump is powered by full-inverter compressor & full-inverter fan motor , which adjusts the compressor speed hertz by hertz , and the fan speed round by round, it matches pool intelligently with continuous & optimal efficiency. Its COP is 70% higher than normal on/off heat pump, and 50% higher than normal inverter heat pump and 10 times quieter than normal on/off heat pump , the highest COP could be 15.0,that mean its 93% energy saving.

3-CORE FOR FULL INVERTER HEAT PUMP

Kolme smart inverter control technology and twin-rotary inverter compressor and DC brush-less fan motor, to make the pool heat pump work smartly, high performance.



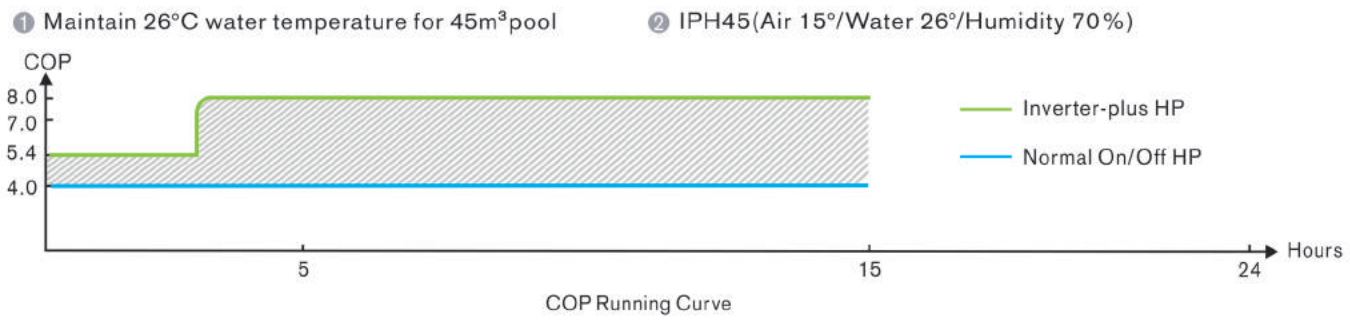
Inverter Smart Control


Twin-Rotary
Inverter Compressor


DC Brushless
Fan Motor

FULL INVERTER SMART CONTROL TECHNOLOGY

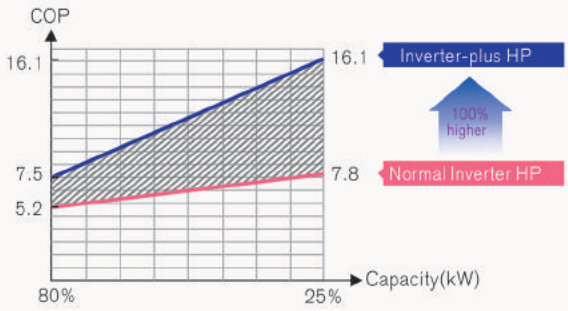
Kolme inverter twin-rotary compressor + DC brush-less fan motor, and combining advanced inverter technology ıology with our cutting edge electronics and superior mechanical technologies improves the heating performance and increases power savings. Your FANTASTIC full-inverter heat pump will run less, deliver more heat than standard heat pumps and overall save you money on your long term running costs.



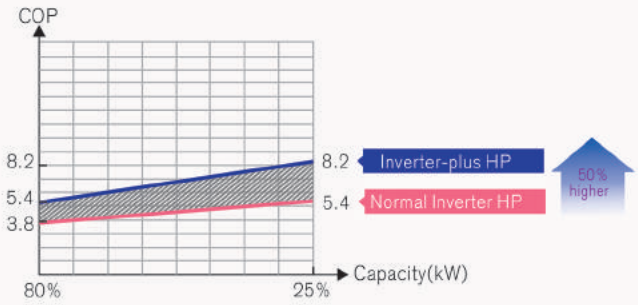
COP Running Curve

Kolme Full Inverter VS Other Normal Inverter

Performance Condition:
Air 26°C/Water 28°C/ Humidity 80%



Performance Condition:
Air 15°C/Water 28°C/ Humidity 70%

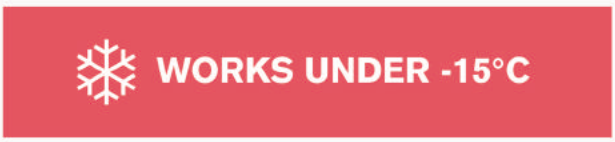


Low Noise-10 times Quieter

Kolme full-inverter pool heat pump adopts super quiet twin-rotary inverter compressor and DC brush-less fan motor system, and 5-fold noise insulation on compressor and all panels, to provide you a 10 times quieter swimming environment when maintaining the temperature .

Can work under -15°C air ambient

Kolme full inverter pool heat pump is designed for air as low as -15°C which means it can operate to maximum efficiency despite the ambient outside temperature. The results in less heater down time In cooler months and maximizes your pool swimming season.

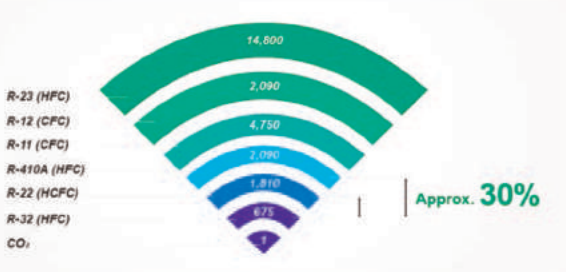


Wifi Remote Control for Option

Kolme pool heat pump has wifi remote control by your phone ,that's mean,you can control your swimming pool heat pump and know the situation of the pool heat pump on your phone at any time,even if you are away from home.

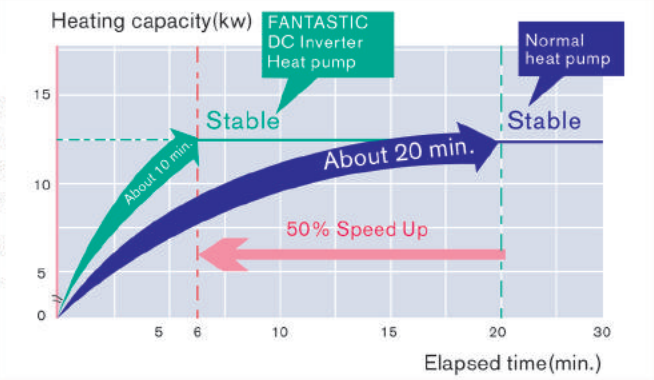
LOW GWP-Global Warming Potential-R32

Compared to the refrigerants widely used today, such as R410A, R32 has a global warming potential that is two-third lower and it is remarkable for its low environmental impact, which speed up its popularity in the industry.



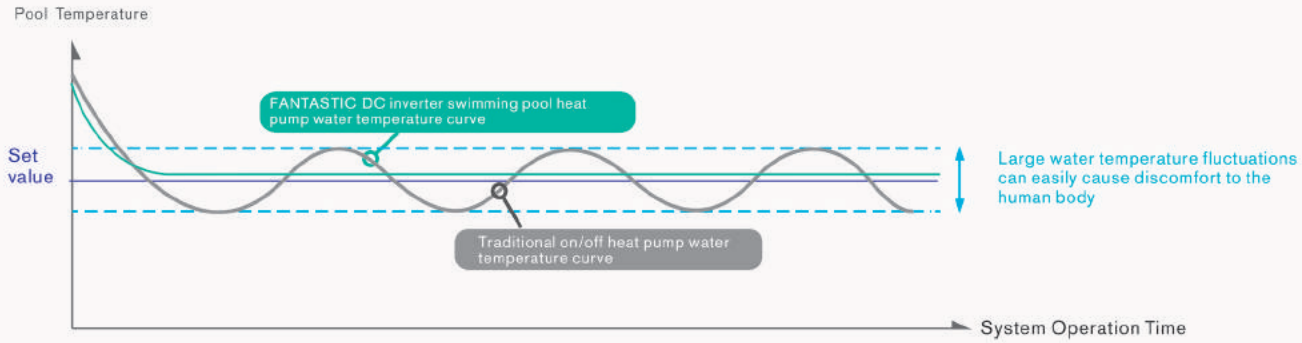
50% Speed up Heating Time

Once the heat pump is on, Kolme Inverter unit can quickly pick and choose the best compressor and fan motor operating frequencies and the heat pump EEV opening automatically according to the heating or cooling demand by smart inverter control technology for the first time heating, inverter fast heating can save 50% heating time than traditional heat pump.



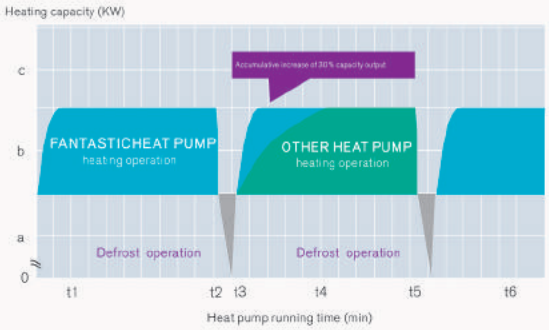
Constant Water Temperature and Comfort

DC inverter swimming pool heat pump is designed with the water temperature adjustment performance which is in comparable by tradition on/off heat pump.The DC inverter swimming pool heat pump system has dual-adjustment for unit capacity output and water inlet temperature according to the change of actual pool water temperature. Benefit by the DC inverter technology, the system is with linear step-less adjustment for capacity according to actual demand, which provides accurate control for inlet water temperature. This makes the pool water temperature maintained stably around the setting temperature without fluctuations. The traditional on/off heat pump can only control water temperature with low accuracy and unable to feedback the actual pool water situation, thus pool water is fluctuating, not stable around setting temperature with poor comfort.



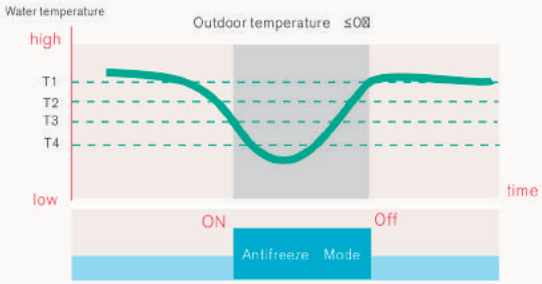
Process Level Design Application Technology

It adopts high efficient dual-rotor dc inverter compressor, 180°sinusoidal frequency conversion control technology, dc fan with variable air volume, industrial-grade linear electronic expansion valve for accurate adjustment of refrigerant circulation flow, advanced full-function mode control core algorithm, with super cooling and heating performance.



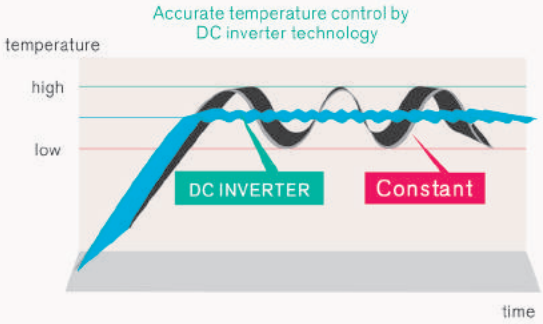
Standby Automatic Anti-freeze Protection Technology

The heat pump has multilevel anti-freeze protection control function, according to the change of outdoor environment temperature and water temperature, automatically run anti-freeze protection program, the equipment is safer to use.



Precise Control, Constant Water Temperature

Dc inverter technology to achieve accurate control of water temperature

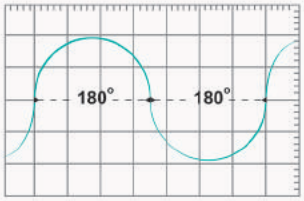


Double Rotor DC Inverter Compressor

winding design to improve working efficiency, high-strength crankshaft, micro-gap piston compression, and fully enclosed centrifugal lubrication to ensure durability and reliability under severe conditions.

- Symmetrical motion structure ensures balance at high and low speeds, avoids compressor jitter and reduces operating noise.
- The variable compression ratio effectively avoids over voltage and under-compression and improves efficiency. The minimum speed is 15rps, which can output capacity according to the actual load demand, and the energy saving effect is remarkable.
- 180° sine wave DC frequency conversion technology to improve motor operating efficiency.

Double Rotor
DC Inverter Compressor



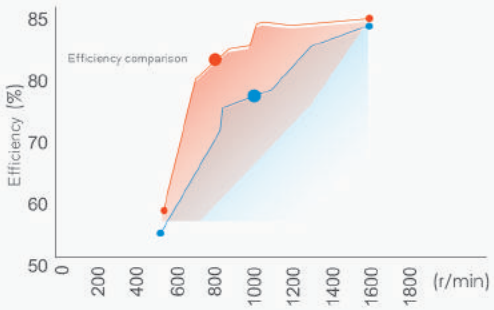
Smooth sinusoidal wave form output from DC drive

Famous Italian CAREL control system for option

Using high quality Carel controller for option ,it's famous, high quality, high effcient and convient controller for customer . And even if you need a new controller or need some modification on heat pump, you also could consult the Carel company or change it locally quickly.

DC Brushless Fan Motor

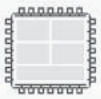
- Optimized fan motor heat sink for miniaturizing the motor size
- Eliminated sensing magnet for eliminating the magnetic pole phase deviation
- 10-pole 12-slot for reducing the cogging torque and operating noise



- FANTASTIC DC brushless fan motor characteristic curve
- Market commonly -used DC brushless fan motor characteristic curve

Microcomputer current vector control improves current waveforms and is more efficient at low speeds

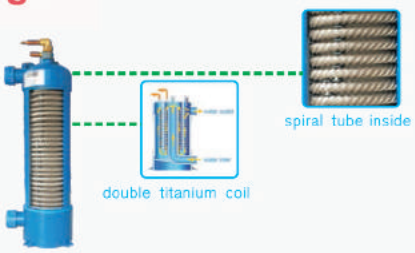
Fan motor



Dedicated IC

Spiral Titanium Heat Exchanger

Kolme patented titanium heat exchanger is spiral tube inside, the titanium coil can ensure high heat exchange efficiency and prevent corrosion, makes the unit longer working life.



Electronic Expansion Valve Control

The 480-level electronic expansion valve has high precision adjustment and fast action speed. It adapts to the instantaneous change of refrigerant flow and ensures the stability and reliability of the air conditioning system. Especially in low-temperature conditions, compared to thermal expansion valves, it can more accurately react to overheat conditions, providing accurate and rapid adjustment. Combined with DC inverter technology, it can make accurate refrigerant flow output in a wide operating range to ensure the stability of the system water temperature.

MODEL	FIP7S	FIP10S	FIP13S	FIP17S	FIP21S	FIP30S	FIP35S3
Heating Capacity at Air 26°C, Humidity 80%, Water 26°C in, 28°C out							
Heating Capacity（kW)	7.82~1.65	10.58~2.42	13.66~3.14	17.16~3.91	21.42~4.86	30.05~6.83	35.80~8.24
Power Input（kW)	1.12~0.103	1.519~0.149	1.98~0.193	2.48~0.245	3.07~0.30	4.30~0.42	5.10~0.51
COP	16.02~6.98	16.24~6.97	16.27~6.99	15.96~6.99	15.96~6.98	16.26~6.99	16.54~6.98
Heating Capacity at Air 15°C, Humidity 70%, Water 26°C in, 28°C out							
Heating Capacity（kW)	5.78~1.31	7.86~1.80	10.14~2.31	12.8~3.91	15.92~3.61	22.05~5.00	28.61~6.60
Power Input（kW)	1.15~0.17	1.57~0.236	2.03~0.30	2.56~0.38	3.19~0.47	4.42~0.65	5.73~0.87
COP	7.70~5.02	7.62~5.00	7.7~5.00	7.65~5.00	7.68~4.99	7.69~4.99	7.67~4.98
Cooling Capacity at Air 35°C, Water 29°C in, 27°C out							
Cooling Capacity（kW)	4.30~1.08	5.94~1.50	7.26~1.85	9.49~2.38	11.60~2.96	15.88~3.92	20.13~4.67
Power Input（kW)	1.14~0.16	1.57~0.22	1.89~0.265	2.51~0.345	3.06~0.43	4.19~0.56	5.27~0.67
EER	6.75~3.77	6.82~3.78	6.98~3.84	6.90~3.78	6.93~3.79	6.99~3.79	6.99~3.81
Power suply	220~240V / 1/ 50 Hz						
Rated Power Input（kW)	1.2	1.6	2.1	2.6	3.2	4.4	5.7
Rated Current(A)	5.4	7.3	9.4	11.7	14.6	20.1	26
Refrigerant	R32	R32	R32	R32	R32	R32	R32
Compressor	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter
Fan motor	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter
Controller	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter
WIFI	YES	YES	YES	YES	YES	YES	YES
Heat Exchanger	Titanium	Titanium	Titanium	Titanium	Titanium	Titanium	Titanium
Air Flow Direction	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal
Water Flow Volume（m^3/h)	2.5	3.5	4.5	5.5	6.5	9	12
Kind of defrost	by 4 way valve	by 4 way valve	by 4 way valve	by 4 way valve	by 4 way valve	by 4 way valve	by 4 way valve
Working temperature range	-15~43	-15~43	-15~43	-15~43	-15~43	-15~43	-15~43
Noise level (dBa) at 1m	<36~<45	<37~<46	<39~<47	<40~<48	<41~<49	<42~<50	<42~<50
Noise level (dBa) at 10m	<19~<26	<20~<26	<20~<28	<21~<30	<23~<31	<24~<33	<24~<33
Casing Material	ABS plastic	ABS plastic	ABS plastic	ABS plastic	ABS plastic	ABS plastic	ABS plastic
Water Proof Level	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4	IPX4

Model	FIP40T3	FIP55T3	FIP65T3	FIP80T3
Advised Pool Volume(m3)	75-125	100-165	125-210	150-250
Operating Air Temperature(℃)	-15~55	-15~55	-15~55	-15~55
Heating Capacity: Air 27℃/Water 26℃/Humidity 80%				
Boost Mode Capacity (kW)	40	55	65	80
Heating Capacity(kW)	6.3~32.6	8.4~43.47	10.5~54.3	12.6~65.2
Heating Capacity(Btu)	20813~110890	27751~147853	34688~184817	41626~221780
Consumed Power(kW)	0.39~5.31	0.52~7.07	0.65~8.84	0.78~10.61
COP	6.1~16.1	6.1~16.1	6.1~16.1	6.1~16.1
Heating Capacity: Air 15℃/Water 26℃/Humidity 70%				
Boost Mode Capacity (kW)	30	40	50	60
Heating Capacity(kW)	4.81~25.06	6.41~33.41	8.02~41.8	9.62~50.12
Heating Capacity(Btu)	16378~85471	21837~113961	27296~142451	32755~170941
Consumed Power(kW)	0.96~2.96	1.27~3.95	1.59~4.93	1.91~5.92
COP	5.0~8.5	5.0~8.5	5.0~8.5	5.0~8.5
Cooling Capacity: Air 53℃/Water 35℃/Humidity 80%				
Boost Mode Capacity (kW)	12.5	17	21	25
Cooling Capacity(kW)	4.13~9.22	5.5~12.29	6.88~15.36	8.25~18.43
Cooling Capacity(Btu)	13989~31391	18652~41854	23315~52318	27978~62781
Consumed Power(kW)	1.06~3.19	1.41~4.25	1.77~5.32	2.12~6.38
EER	2.9~3.9	2.9~3.9	2.9~3.9	2.9~3.9
Cooling Capacity: Air 43℃/Water 26℃/Humidity 70%				
Boost Mode Capacity (kW)	21	28	35	42
Cooling Capacity(kW)	7.63~15.12	10.17~20.15	12.72~25.19	15.26~30.23
Cooling Capacity(Btu)	25590~51521	34120~68695	42650~85868	51180~103042
Consumed Power(kW)	1.46~3.68	1.95~4.91	2.43~6.13	2.92~7.36
EER	4.1~5.2	4.1~5.2	4.1~5.2	4.1~5.2
Power Supply	380-415V~/3Ph~50Hz	380-415V~/3Ph~50Hz	380-415V~/3Ph~50Hz	380-415V~/3Ph~50Hz
Casing Type	Metal sheet	Metal sheet	Metal sheet	Metal sheet
Compressor	Mitsubishi DC type	Mitsubishi DC type	Mitsubishi DC type	Mitsubishi DC type
Fan Direction	Vertical	Vertical	Vertical	Vertical
Sound Pressure 1m dB(A)	55	58	58	60
Sound Pressure 10m dB(A)	35	38	38	40
Water Flow Volume (m3/h)	14	17	21	25
Refrigerant Gas	R410A	R410A	R410A	R410A

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