

# MRV S<sup>II</sup>

**069** Features & Benefits

**074** MRV S<sup>II</sup> Outdoor

**078** Dimensions



Advanced Technology



High Efficiency



Super Comfort



Easy Installation



High Reliability

# Haier





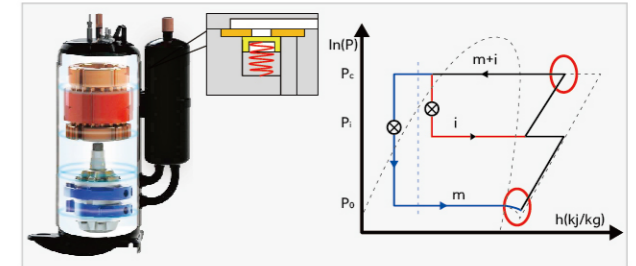
# MRV S II

- Advanced Technology
- High Efficiency
- Super Comfort
- Easy Installation
- High Reliability

## ADVANCED TECHNOLOGY

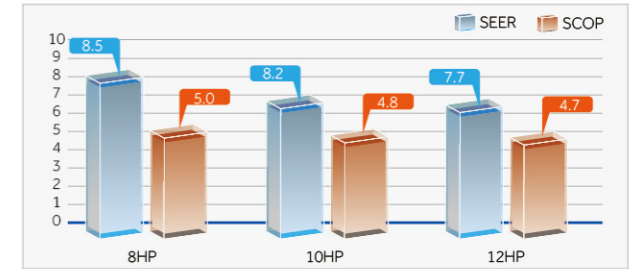
### Increasing enthalpy by replenish gas, realize the unit powerful heating capacity

Taking the heating cycle as an example, when environment temperature is low, heat exchanged capability of outdoor unit is depressed. The amount of air returned by compressor is reduced, Increase the amount of refrigerant in the heating cycle of the indoor unit heat exchanger, Thereby achieving improved heating capacity.



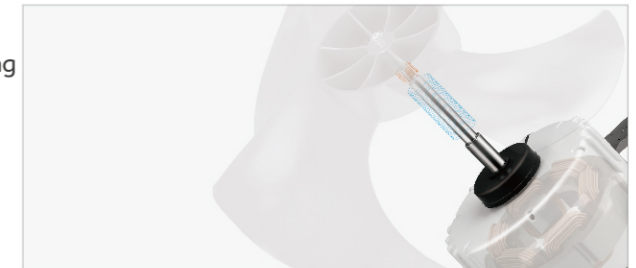
### High EER and COP(8/10/12HP)

The promotion of energy efficiency.



### DC fan and fan motor

- DC inverter fan motor more higher efficiency in part load running
- 16-stage speed control; high efficiency running especially in low speed
- Efficiency increase 45% comparing with AC motor and power input largely decrease
- Big diameter fan
- 570mm big diameter fan, more big air flow and more higher efficiency(8/10/12HP)



### Upgraded configuration, upgraded performance (8/10/12HP Side Discharge)

Bigger outdoor capacity, more flexible application

**High efficiency DC fan motor**  
 •DC fan motor with stepless inverter control, efficiency increase 45% comparing with AC motor and power input largely decrease

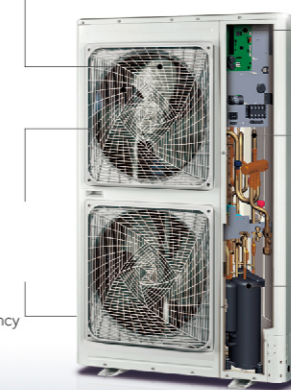
**Large diameter fan**  
 •Ø570mm big diameter axial flow fan  
 •Zigzag design, reduce airflow disturbance, air volume is bigger, the noise is lower

**High efficiency condenser**  
 •New type high efficiency Ø7 inner grooved tube  
 •New hydrophilic corrugated fissure fin, high efficiency

**Vector inverter control**  
 •180 degrees sine wave vector control, 64-bit operation  
 •High precision control, to achieve high efficiency and lower noise

**Double pressure sensor**  
 •Equipped with high and low voltage Pressure double sensors  
 •Accurate Pressure control, the system run more smoothly, more energy efficiency

**Twin rotary DC Inverter compressor**  
 •High chamber DC INVERTER twin rotary compressor  
 •Small vibration, low noise, high energy efficiency



## ADVANCED TECHNOLOGY

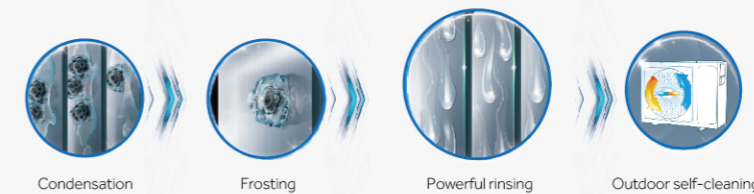
### Leadership in technology(4-6HP)

- Two-stage supercooling cycle technology, increased unit efficiency by 9%. (Double fan)
- Maximizing 30°C undercooling, increase unit refrigerating capacity by 46%.



### Indoor units and outdoor units self-cleaning

Indoor units and outdoor units cleaning mode conversion with nonstop, make abundant use of ODU waste heat to IDU defrosting. At the same time, the IDU uses the waste heat of the ODU to defrost the heat exchanger, to dry the condensed water, effectively prevent mold breeding.





# HIGH EFFICIENCY

## High energy efficiency

### DC inverter compressor

Haier takes DC INV. compressor, 5% power input lower. (14kW)

### DC fan motor and 550mm big fan

38% power input lower and 8% airflow higher

### Larger heat exchanger

Heat exchange area rise 10%

## Low noise level

Night Quiet Operation Function

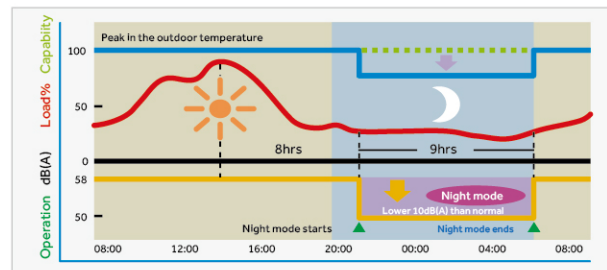
Noise can be reduced to 45dB(A).

### Charge Valve

Built-in charge valve enables safer and easier maintenance

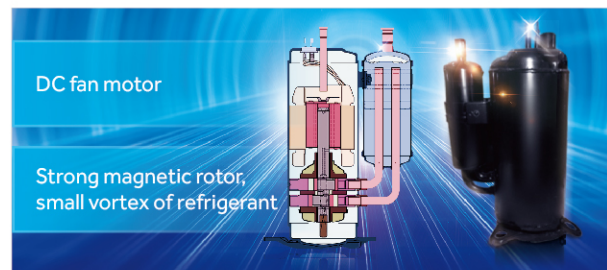
### Low standby power

New PCB programme, reduce 20% standby power consumption



## New DC inverter twin rotary compressor

- Small torque change, good dynamic balance, the system runs stably, little vibration, low noise, high efficiency.
- More higher efficiency in part load running.

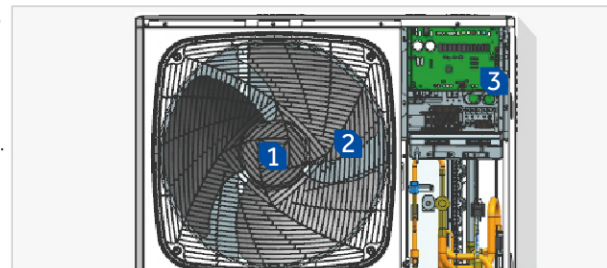


# SUPER COMFORT

1 New aerodynamics fan 550mm super big diameter aerospace helix fan, lowering sound level 3dB(A).

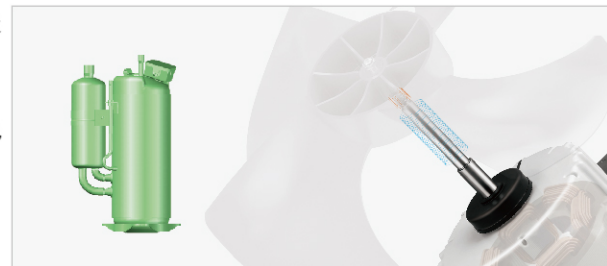
2 Enlarged air inlet path and spiral air outlet path Air flow direction follows the grill direction, lowering sound level 2-4 dB(A).

3 Automatic sound-lowering programme Night mode set by PCB, 8dB(A) lower.



## Low noise operation

- DC INVERTER compressor, smooth operation, no need frequent start the compressor, effectively reduce the noise outdoor.
- Vector inverter control, more precise control.
- DC fan motor, motor bracket used the non-resonance structure, ensure smooth running of the motor, reduce operating noise.
- Big diameter fan, design according to aviation quieter principle.



## Easy installation

Compact Side Discharge Design, Big Capacity, Small Footprint / Small footprint, only 0.42m<sup>2</sup>, 43% floor area can be reduced.



# EASY INSTALLATION

- 1 Double side "4" handles  
Easy to carry
- 2 "888" test panel  
All running data & error code can be checked from "888" screen, which is easy for installers
- 3 "Four-way" pipe connection  
4-way (front, back, left & right) pipe connection, easy to design and install



## Compact side discharge design

No need additional ventilation hood comparing with top discharge unit.



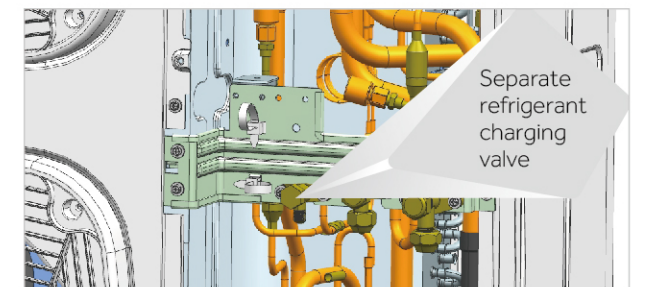
## Long pipe length, high height drop

- Total pipe length: 300m.
- Single pipe length: Max.175m.
- From outdoor to the first branch pipe: 135m.
- From the first branch to the farthest indoor door unit: 40m.
- Height drop: 50m( outdoor above)/40m (outdoor below).
- Height drop between indoor units: 15m.



## Separate refrigerant charging valve

Easy for refrigerant charging.



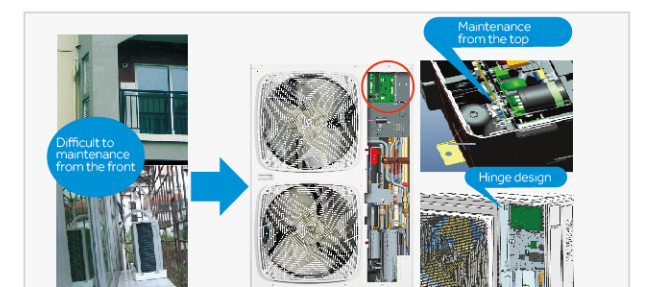
## Parameter display panel

The first original parameter display panel on the side. The parameter can be observed directly by opening the protective cover in case of maintenance, to avoid removing the repair board.



## Easy maintenance for control

The control box is in front, reserving space 108mm between control box and top panel, easy maintenance from the top. Control box is with hinge design, easy to open for maintenance(8/10/12HP).

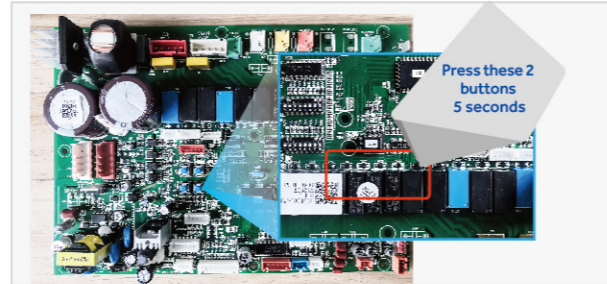




## HIGH RELIABILITY

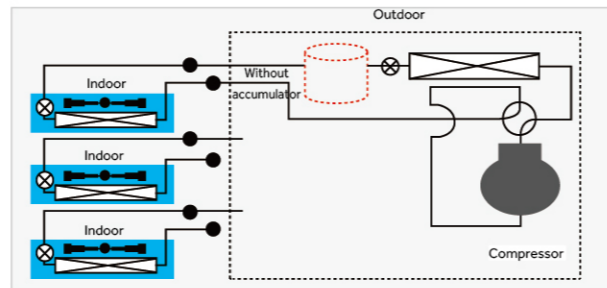
### Refrigerant automatically reclaim Technology

Set refrigerant automatically reclaim through dip switch, the refrigerant in indoor and pipe can be automatically return to outdoor, convenient in maintenance and reducing waste of refrigerant, reduce customer maintenance cost, improve the efficiency of after-sales maintenance.



### Refrigerant control technology

Refrigerant control technology without high pressure accumulator, reducing the refrigerant volume and enhancing the running efficiency.



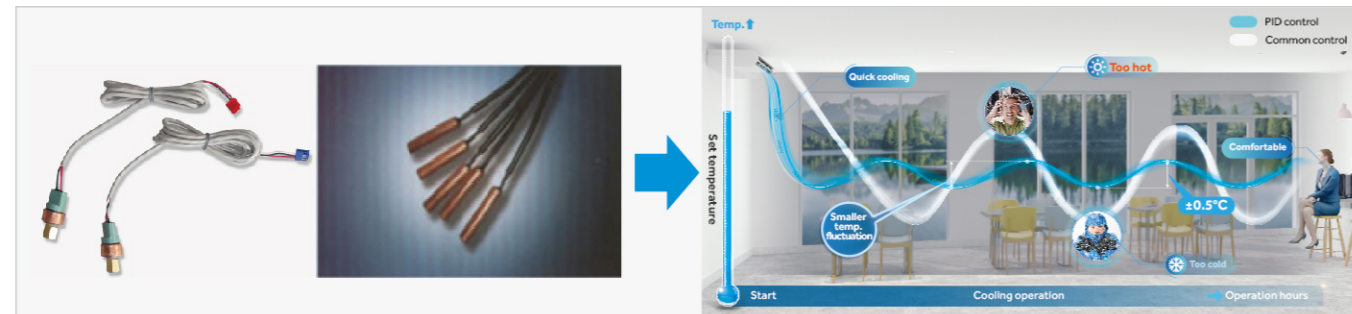
### Air inlet grill design on right side panel

Air inlet grill design, reducing the module temperature and avoid air dust into air conditioner.



### High and low double pressure sensor

- Double pressure sensor with PID control technology.
- Together with high speed communication to realize the quick start of compressor and more precise control, the temperature can be control  $\pm 0.5^{\circ}\text{C}$ .



# MRV S II



- AU042FNERA
- AU052FNERA

Model		AU042FNERA	AU052FNERA	
Capacity (1)	Capacity range	HP	4	5
	Cooling	kW	12.1	14.0
	Heating	kW	12.1	14.0
	Heating(Max)	kW	14.0	15.5
	SEER(T1)	/	4.90	4.85
	$\eta$ s,c	%	193	191
	SCOP(T1)	/	3.50	3.55
Electrical parameters	$\eta$ s,h	%	137	139
	Power supply	Ph/V/Hz	1/220-240/50/60	1/220-240/50/60
	Rated Power input (Cooling)	kW	4.25	5.00
Dimensions	Rated Power input (Heating)	kW	4.10	4.83
	External (W/D/H)	mm	950/370/965	950/370/965
Weight	Shipping (W/D/H)	mm	1010/458/990	1010/458/990
	Net/Shipping weight	kg	90/102	90/102
Compressor	Compressor type	/	Rotary	Rotary
	Motor Power	W	4130	4130
	Compressor quantity	/	1	1
Fan	Air flow (H)	m <sup>3</sup> /h	5400	5400
Pressure sound level	Cooling	dB(A)	58	60
	Heating	dB(A)	60	62
Refrigerant	Type	/	R410A	R410A
	Charge	kg	3.3	3.3
Piping	Refrigerant liquid pipe	mm	9.52	9.52
	Refrigerant gas pipe	mm	15.88	15.88
	Total pipe length	m	120	120
	Max. pipe length(Equivalent/Actual)	m	70/60	70/60
	Max drop between I.U.&O.U.(ODU above / below)	m	30/20	30/20
Connection ratio	Max drop between I.U.&I.U.	m	10	10
	Connectable indoor unit ratio	%	50-130	50-130
Working temp.	Maximum number of indoor units	/	7	8
	Cooling	°C	-5-50	-5-50
	Heating	°C	-15-21	-15-21

(1) All the specifications are tested under nominal condition as per Eurovent conditions (In cooling, Indoor temp is 27°C DB/19°C WB; Outdoor temp 35°C DB/24°C WB; In heating, Indoor temp is 20°C DB, Outdoor temp is 7°C DB/6°C WB)



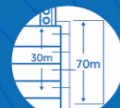
# MRVS<sup>II</sup>



- AU042FPERA
- AU052FPERA
- AU062FPERA
- AU041FPERA
- AU051FPERA
- AU061FPERA



Double fan series



Total pipe length 300m



Two stage sub-cooling



Easy connection with 4 way

Model			AU042FPERA	AU052FPERA	AU062FPERA	AU041FPERA	AU051FPERA	AU061FPERA
Capacity <sup>(1)</sup>	Capacity range	HP	4	5	6	4	5	6
	Cooling	kW	12.1	14	15.5	12.1	14	15.5
	Heating	kW	14.2	16	18	14.2	16	18
	SEER(T1)	/	6.82	6.92	6.45	6.82	6.63	6.45
	η s.c	%	269.8	273.8	255	269.8	262.2	255
	SCOP(T1)	/	3.92	4.17	3.8	3.92	3.85	3.8
	η s.h	%	153.8	151	149	153.8	151	149
Electrical parameters	Power supply	Ph/V/Hz	1/220-240/50/60	1/220-240/50/60	1/220-240/50/60	3/380-415/50/60	3/380-415/50/60	3/380-415/50/60
	Rated power input (Cooling)	kW	2.99	3.51	4.31	3.11	3.51	4.31
	Rated power input (Heating)	kW	3.18	3.72	4.39	3.18	3.72	4.39
Dimensions	External(W/D/H)	mm	950/370/1340	950/370/1340	950/370/1340	950/370/1340	950/370/1340	950/370/1340
	Shipping (W/D/H)	mm	1023/483/1492	1023/483/1492	1023/483/1492	1023/483/1492	1023/483/1492	1023/483/1492
Weight	Net/Shipping	kg	115/123	115/123	115/123	115/123	115/123	115/123
Compressor	Compressor type	/	Rotary	Rotary	Rotary	Rotary	Rotary	Rotary
	Motor power	W	4130	4130	4130	4060	4060	4060
	Compressor quantity	/	1	1	1	1	1	1
Fan	Air flow (H)	m <sup>3</sup> /h	7200	7200	7200	7200	7200	7200
Pressure sound level	Cooling	dB(A)	57	58	59	57	58	59
	Heating	dB(A)	57	58	59	57	58	59
Refrigerant	Type	/	R410A	R410A	R410A	R410A	R410A	R410A
	Charge	kg	4	4	4	4	4	4
Piping	Refrigerant liquid pipe	mm	9.52	9.52	9.52	9.52	9.52	9.52
	Refrigerant gas pipe	mm	15.88	15.88	15.88	15.88	15.88	15.88
	Total pipe length	m	300	300	300	300	300	300
	Max. pipe length (Equivalent/Actual)	m	175/150	175/150	175/150	175/150	175/150	175/150
	Max drop between IDU & ODU	m	50	50	50	50	50	50
	Max drop between IDU & IDU	m	15	15	15	15	15	15
Connection ratio	Connectable indoor unit ratio	%	50-130	50-130	50-130	50-130	50-130	50-130
	Maximum number of indoor units	/	8	10	13	8	10	13
Working temp.	Cooling	°C	-5-50	-5-50	-5-50	-5-50	-5-50	-5-50
	Heating	°C	-20-27	-20-27	-20-27	-20-27	-20-27	-20-27

(1) All the specifications are tested under nominal condition as per Eurovent conditions (In cooling, Indoor temp is 27°C DB/19°C WB; Outdoor temp 35°C DB/24°C WB; In heating, Indoor temp is 20°C DB, Outdoor temp is 7°C DB/6°C WB)



# MRV S II



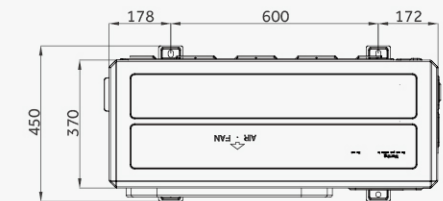
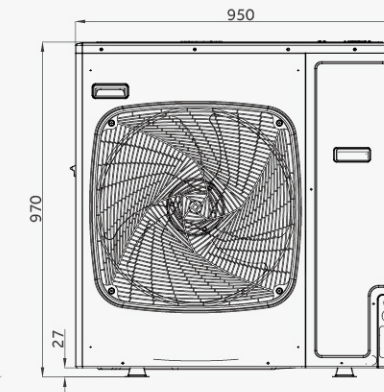
- AU08NFKERA
- AU10NFKERA
- AU12NFKERA

Model		AU08NFKERA	AU10NFKERA	AU12NFKERA	
Capacity (1)	Capacity range	HP	8HP	10HP	12HP
	Cooling	kW	22.6	28	31.5
	Heating	kW	22.6	30.5	31.5
	Heating(Max)	kW	25	32	35
	SEER(T1)	/	8.50	8.20	7.70
	η s.c	%	337	325	305
	SCOP(T1)	/	5.00	4.80	4.70
	η s.h	%	197	189	185
Electrical parameters	Power supply	Ph/V/Hz	3/380-415/50/60	3/380-415/50/60	3/380-415/50/60
	Rated Power input (Cooling)	kW	6.46	8.75	10.16
	Rated Power input (Heating)	kW	5.79	8.03	8.51
Dimensions	External (W/D/H)	mm	1050/400/1636	1050/400/1636	1050/400/1636
	Shipping (W/D/H)	mm	1150/510/1790	1150/510/1790	1150/510/1790
Weight	Net/Shipping weight	kg	149/168	149/168	149/168
Compressor	Compressor type	/	Inverter Twin Rotary	Inverter Twin Rotary	Inverter Twin Rotary
	Motor Power	W	6270	6270	6270
	Compressor quantity	/	1	1	1
Fan	Air flow (H)	m³/h	10000	10000	10000
Pressure sound level	Cooling	dB(A)	63	64	65
	Heating	dB(A)	65	66	67
Refrigerant	Type	/	R410A	R410A	R410A
	Charge	kg	5.1	5.1	5.1
Piping	Refrigerant liquid pipe	mm	9.52	9.52	12.7
	Refrigerant gas pipe	mm	19.05	22.22	25.4
	Total pipe length	m	300	300	300
	Max. pipe length(Equivalent/Actual)	m	175/150	175/150	175/150
	Max drop between I.U.&O.U.(ODU above / below)	m	50	50	50
Connection ratio	Connectable indoor unit ratio	%	50-130	50-130	50-130
	Maximum number of indoor units	/	13	16	19
Working temp.	Cooling	°C	-5-48	-5-48	-5-48
	Heating	°C	-20-27	-20-27	-20-27

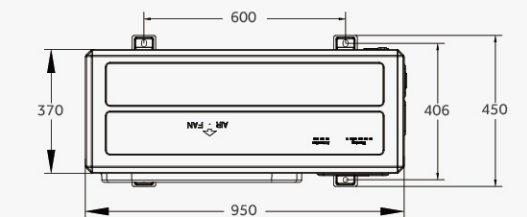
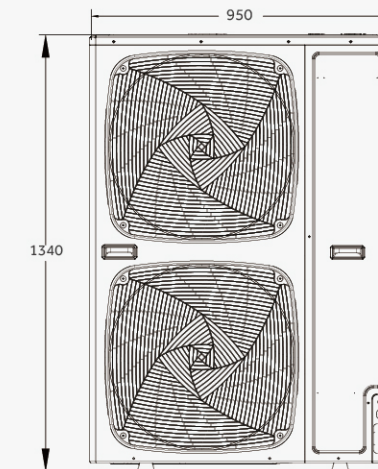
(1) All the specifications are tested under nominal condition as per Eurovent conditions (In cooling, Indoor temp is 27°C DB/19°C WB; Outdoor temp 35°C DB/24°C WB; In heating, Indoor temp is 20°C DB, Outdoor temp is 7°C DB/6°C WB)

## Dimensions

AU042FNRA AU052FNRA



AU042FPRA AU052FPRA AU062FPRA AU04IFPRA AU05IFPRA AU06IFPRA



AU08NFKERA AU10NFKERA AU12NFKERA

