



engineered for life™

CENTURION

INN^oVATIVE SOLUTION

VRF WATER HEATER HEAT RECOVERY SYSTEM





NEXT STARTS **NOW**

For 100 years, Rheem has been a leader in product innovation.

And the best part is we're just getting started. Now, as we celebrate all that we've accomplished together, we look towards the future of air and water. To what's next. To remaining true to our values, while working with our customers to create a globally connected and forward-looking vision.

Our journey began in 1925, as a small family business based in Arkansas, USA. Since then, we have evolved into a global symbol of trust and quality within the industry. Establishing a robust presence in the Middle East as far back as the 1980s, Rheem has consistently introduced world-leading product innovations for both commercial and residential projects. From our manufacturing facilities in Dubai, to our Innovation and Learning Centers (ILCs) across the United Arab Emirates and Kingdom of Saudi Arabia, Rheem is dedicated to designing, building and supplying the most reliable, environmentally responsible and technologically advanced products in the industry. And, whilst we always want to stay one step ahead, we will always stay true to our core values. We are committed to making a difference with the products we create, for the people we serve and for the planet we call home.



CENTURION

ONE SYSTEM.
DUAL FUNCTION.



HISTORY



1889

Edwin Ruud invents the first gas storage water heater.



1925

Brothers Richard and Donald Rheem establish Rheem Manufacturing Company.



1930-50

Automatic gas storage water heaters are produced under the Ruud business. Rheem enters the HVAC business, advertising central heating and air conditioning systems.



2025

Rheem celebrates 100 years of innovation.



2024

The largest Rheem Innovation Learning Center opens in Saudi Arabia.



2021

Rheem opens a new air conditioning factory in UAE.



1970

Air conditioning headquarters open in Fort Smith, Arkansas. Water heating headquarters are established in Montgomery, Alabama.



1980-90

- Paloma Co. Ltd of Nagoya, Japan, acquires Rheem.
- The Richmond brand for water heating is created.
- Nuevo Laredo (WHD) opens.



2000-08

- Rheem pioneers the first gas storage water heater, originally patented by Edwin Ruud in 1890.
- Nuevo Laredo (ACD) opens.
- Rheem's headquarters open in Atlanta.



2020

Rheem opens an Innovation and Learning Center in UAE.



2012

Rheem Manufacturing MEA FZE (Dubai office) is established.



2009-10

- Rheem introduces tankless water heaters.
- Research & Development (R&D) lab opens in Mexico.

OUR C^oMMITMENT TO SUSTAINABILITY.

At Rheem, we are committed to developing products which consume fewer resources, generate less waste and ensure simpler, safer processes.

These solutions are designed to dramatically cut our impact on the environment, whilst empowering both our customers and employees to work and live sustainably.



DEGREES OF INNOVATION

Our 2025 Goal: Launch a line of heating, cooling and water heating products that boast a 50% reduction in greenhouse gas footprint.



DEGREES OF EFFICIENCY

Our 2025 Goal: Reduce greenhouse gas emissions by 50% and achieve Zero Waste to Landfill in our global manufacturing operations.



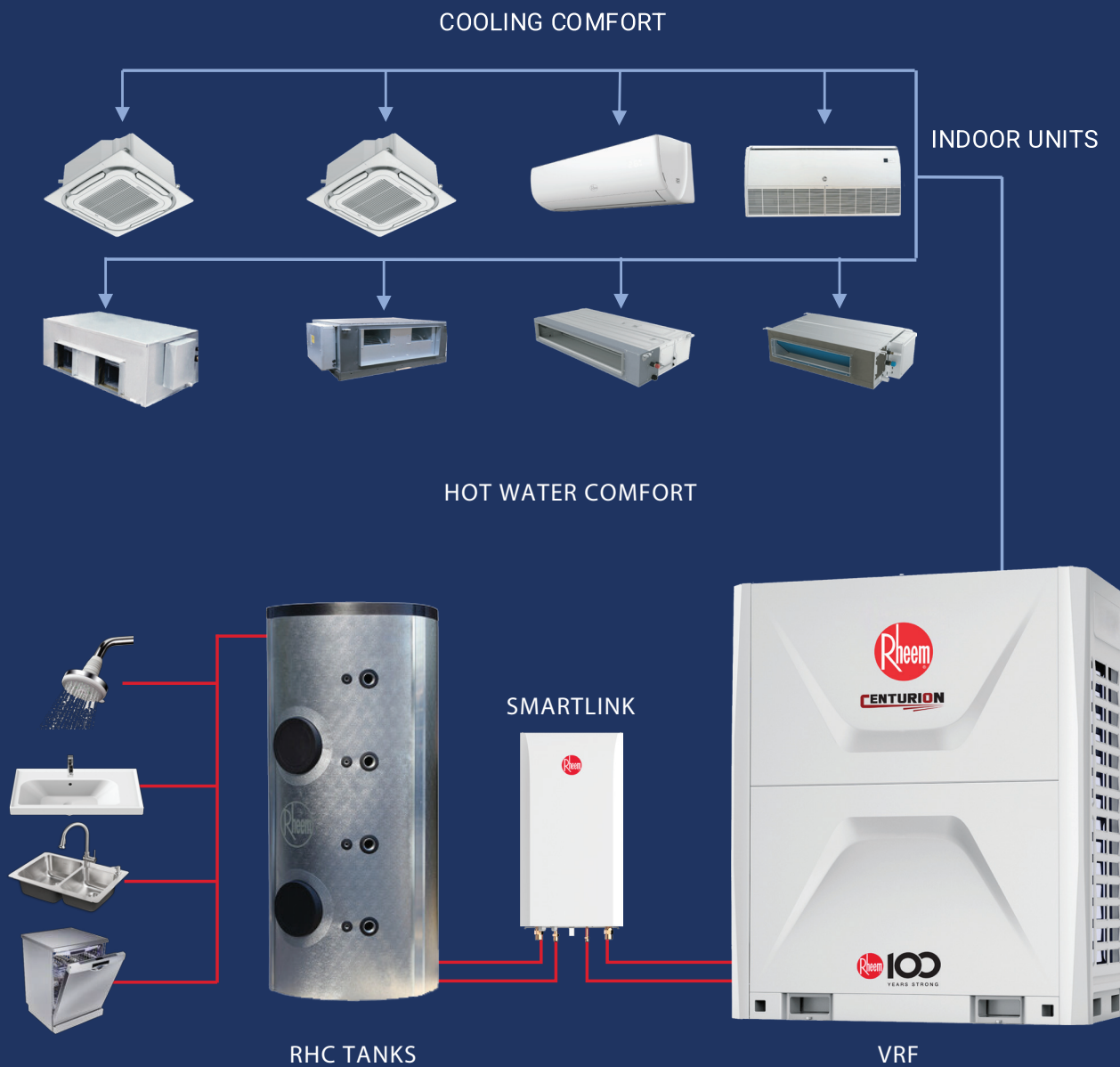
DEGREES OF LEADERSHIP

Our 2025 Goal: Train 250,000 plumbers, contractors, and key influencers on sustainable products or sustainable installation and recycling best practices.





VRF WATER HEATER HEAT RECOVERY SYSTEM FEATURES



CONTINUOUS HOT WATER
PRODUCTION WHILE
COOLING THE SPACE



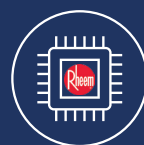
ENERGY SAVINGS
UPTO 84%



HIGH EFFICIENCY



CONTINUOUS HOT
WATER UPTO 70 DEG C



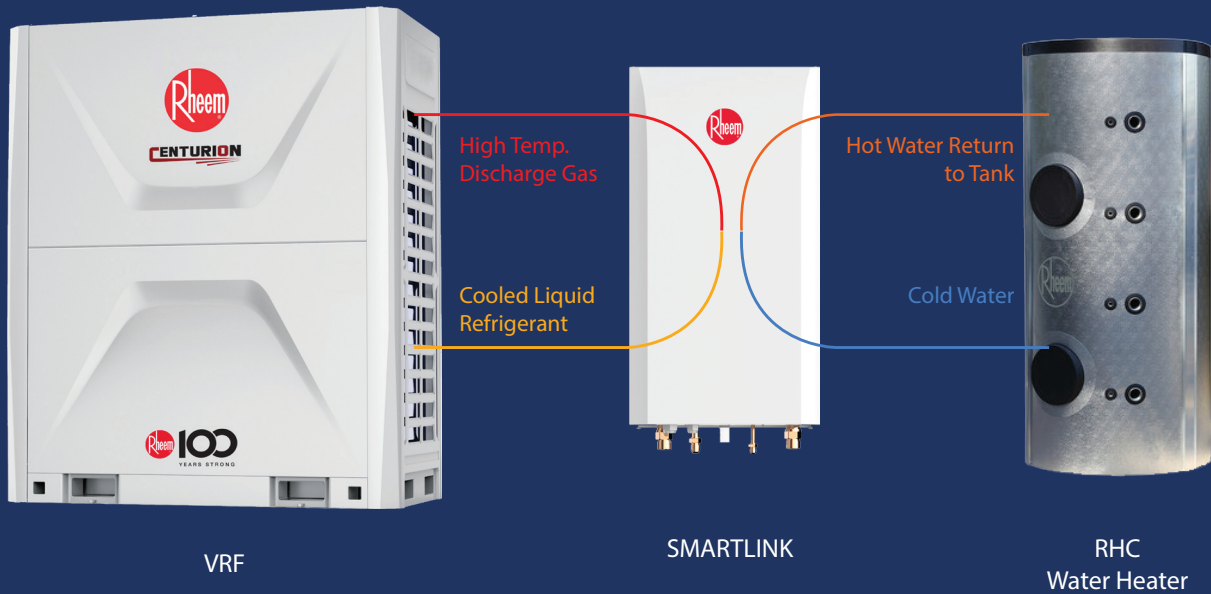
ADVANCED
RHEEMSMART
CONTROLS WITH
MULTIPLE MODES



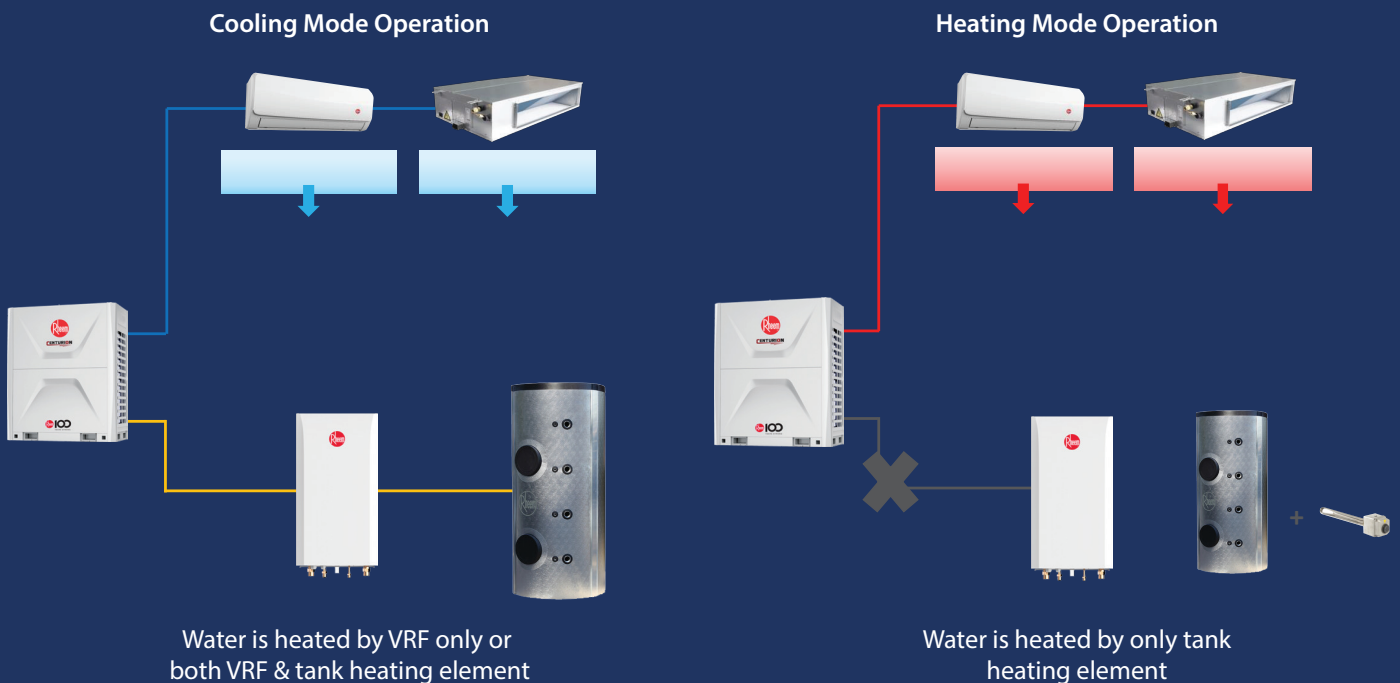
LOWER
NOISE LEVEL

HOW IT WORKS?

The heat absorbed by VRF indoor units is used to heat the water. The heated refrigerant exchanges heat with cold water in the SMARTLINK heat exchanger.



OPERATION IN COOLING/HEATING MODE



MODES OF OPERATION

Standard Efficiency

- VRF will work up to 45 °C water temperature
- VRF & Electrical Heater will both work from 45 °C to 55 °C water temperature
- Above 55 °C only Electrical Heater will work

High Efficiency

- VRF is prioritized & used to heat water majority of the time
- Hot water temperature up to 55 °C is by VRF only
- Time taken to heat the water is relatively higher

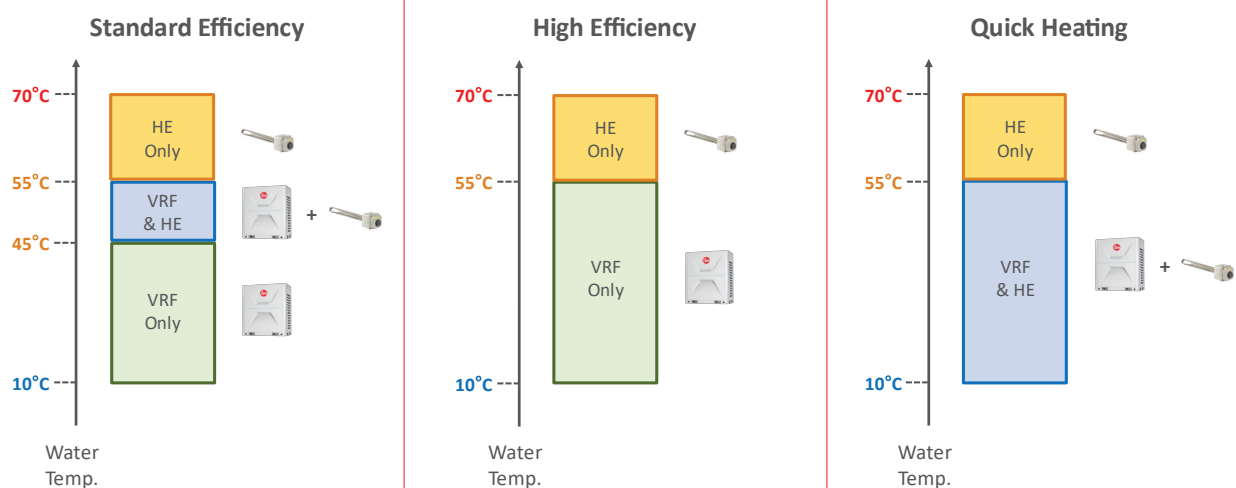
Quick Heating

- VRF and Electrical Heater both will work from start



OPERATION MODES LOGIC

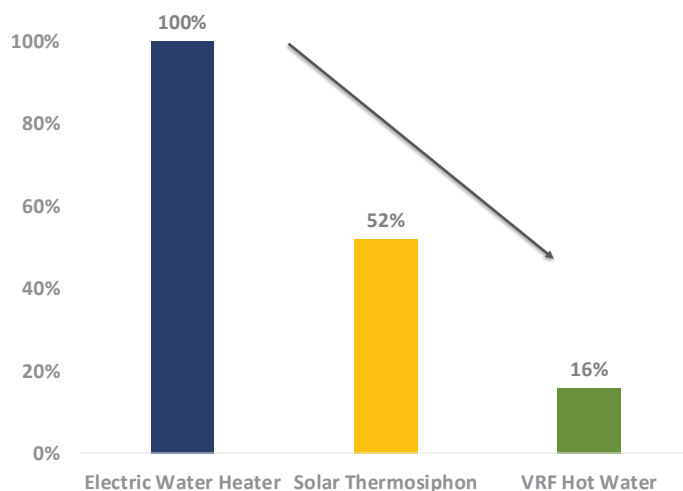
Below showcases the operation modes logic of the system.





HIGH ENERGY SAVINGS

Based on the real time testing and simulations which VRF Water Heater Heat Recovery System is used, up to 84% savings can be achieved in comparison to conventional electric water heater.



Up to
84%
KWH ENERGY SAVED/YEAR

MODES COMPARISON

Below shows the comparison between Standard Efficiency and High Efficiency modes at same condition of 40 °C ambient, for 10hp VRF unit operating at 100% load.

STANDARD EFFICIENCY
69%
ENERGY SAVING
80 Min Heating Time

HIGH EFFICIENCY
83%
ENERGY SAVING
105 Min Heating Time



CONTINUOUS HOT WATER PRODUCTION WHILE COOLING THE SPACE

The VRF Water Heater Heat Recovery System is a product of Rheem's continuous expertise in both Air Conditioning and Water Heating fields.

The system is capable of producing hot water up to 55 degrees Celsius by Heat Recovery from VRF while the VRF is cooling the space.



MULTIPLE APPLICATION SOLUTION



Villa



Residential Complex



Office



Restaurant



Clinic/Hospital



Gym



Hotel



School/University



Staff Accommodation

HIGH WATER TEMPERATURE PRODUCTION

The system is capable to heat the water up to 70 °C which minimizes the growth of bacteria inside the tank.



LOW NOISE LEVELS

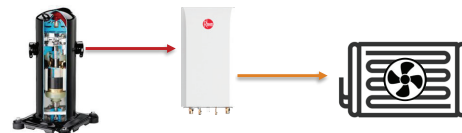
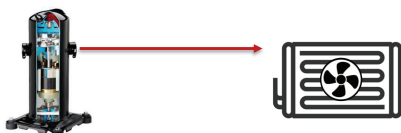
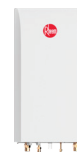
Since some of the refrigerant heat is exchanged with the water, the condenser fan will operate at lower speed to cool down the refrigerant which in return results in lower noise levels.



Conventional VRF



VRF HW System



VRF SPECIFICATIONS

		Model	SAVR-H250/XR1MC-HW	SAVR-H280/XR1MC-HW	SAVR-H330/XR1MC-HW
	Power Supply	V~,Hz,Ph	380~415V,3N,50/60Hz	380~415V,3N,50/60Hz	380~415V,3N,50/60Hz
Capacity	Cooling (T1)	kW	25.2	28.2	33.3
		TR	7.2	8.06	9.51
		Btu/h	86000	96000	114000
	Cooling (T3)	kW	22.2	24.9	30.6
		TR	6.34	7.11	8.74
		Btu/h	76000	85000	104000
	Heating (H1)	kW	25.2	28.2	33.3
		TR	7.2	8.06	9.51
		Btu/h	86000	96000	114000
Electric Data	Rated Cooling Power Input (T1)	kW	5.73	6.78	8.14
	Rated Cooling Current (T1)	A	9.04	10.94	13.11
	Rated Cooling Power Input (T3)	kW	6.2	7.87	9.29
	Rated Cooling Current (T3)	A	10	12.69	14.98
	Rated Heating Power Input (T1)	kW	5.55	6.29	7.67
	Rated Heating Current (T1)	A	8.75	10.13	12.37
Performance	EER(T1)	W/W	4.4	4.15	4.1
		Btu/(h*W)	15	14.15	14
	EER(T3)	W/W	3.59	3.17	3.28
		Btu/(h*W)	12.25	10.8	11.2
	COP(H1)	W/W	4.54	4.48	4.34
CSPF		Btu/h/W	16.5	15.5	15
MCA /Max. Current		A	20.2	21.1	24.4
Outdoor Fan	Type		Axial	Axial	Axial
	Fan Quantity		1	1	2
Air Flow Volume		CFM	7059	7059	8235
		m3/h	12000	12000	14000
Noise Level		dB(A)	45-58	45-58	45-61
Dimension(WxDxH)	Net	mm	990×765×1635	990×765×1635	1340×765×1635
	Packing	mm	1030×825×1865	1030×825×1865	1395×815×1865
Weight	Net	kg	225	225	257
	Gross	kg	235	235	272
Refrigerant type/ Quantity	Type		R410A	R410A	R410A
	Charged Volume	g	14000	14000	14000
	AC Liquid Side	mm	12.7	12.7	15.9
	AC Gas Side	mm	22.2	22.2	28.6
Refrigerant Pipe	Water Liquid Side	mm	9.52	9.52	9.52
	Water Gas Side	mm	15.88	15.88	15.88
	Max. Length	m	1000	1000	1000
	Max. Height	m	110/130	110/130	110/130
Ambient Temp (Cooling/Heating)		°C	-10~55/-20~24	-10~55/-20~24	-10~55/-20~24

Note: X in the model number denotes below:

X = 5, 50 Hz

X = 6, 60 Hz

VRF SPECIFICATIONS

		Model	SAVR-H400/XR1MC-HW	SAVR-H450/XR1MC-HW
	Power Supply	V~,Hz,Ph	380~415V,3N,50/60Hz	380~415V,3N,50/60Hz
Capacity	Cooling (T1)	kW	40.0	45
		TR	11.43	12.86
		Btu/h	136000	154000
		kW	35.7	39
	Cooling (T3)	TR	10.2	11.14
		Btu/h	122000	133000
		kW	40	45
	Heating (H1)	TR	11.43	12.86
		Btu/h	136000	154000
Electric Data	Rated Cooling Power Input (T1)	kW	9.41	11
	Rated Cooling Current (T1)	A	15.17	17.73
	Rated Cooling Power Input (T3)	kW	11.96	13.93
	Rated Cooling Current (T3)	A	19.28	22.45
	Rated Heating Power Input (T1)	kW	8.86	10.48
	Rated Heating Current (T1)	A	14.28	16.89
Performance	EER (T1)	W/W	4.24	4.1
		Btu/(h*W)	14.45	14
	EER (T3)	W/W	2.99	2.8
		Btu/(h*W)	10.2	9.55
	COP (H1)	W/W	4.5	4.31
CSPF		Btu/h/W	14.2	14
MCA /Max. Current		A	39.3	40.6
Outdoor Fan	Type		Axial	Axial
	Fan Quantity		2	2
Air Flow Volume		CFM	9412	9412
		m3/h	16000	16000
Noise Level		dB(A)	45-61	45-61
Dimension (W×D×H)	Net	mm	1340×765×1635	1340×765×1635
	Packing	mm	1395×815×1865	1395×815×1865
Weight	Net	kg	314	314
	Gross	kg	329	329
Refrigerant type/ Quantity	Type		R410A	R410A
	Charged Volume	g	16000	16000
	AC Liquid Side	mm	15.9	15.9
	AC Gas Side	mm	28.6	28.6
Refrigerant Pipe	Water Liquid Side	mm	9.52	9.52
	Water Gas Side	mm	15.88	15.88
	Max. Length	m	1000	1000
	Max. Height	m	110/130	110/130
Ambient Temp (Cooling/Heating)		°C	-10~-56/-20~24	-10~-55/-20~24

Note: X in the model number denotes below:

X = 5, 50 Hz

X = 6, 60 Hz

TANK SPECIFICATIONS

	Model	Units	RHC 300 - 500
CALORIFIER DETAILS	Capacity	L	300 - 500
	Capacity of the back-up heater	kW	3 - 3, 5
	Calorifier material		Glasslined Steel / SS316 L
	Max pressure	bar	8 / 10 bar
	Outer cover		Aluminum
	Temp range	C	25-70
SMARTLINK DETAILS	Dimension (W*H*D)	mm	332.5*121*87.4
	Heat exchange area	m ²	2.794
	Rated water temp Range	°C	-20~110
	Piping connections	inch	R1"
	Safety valve set pressure	Mpa	0.3
	Flow switch	m ³ /h	0.6
	Drainage pipe connection	mm	φ25
	Expansion tank	L	8
PRIMARY PUMP (INBUILT)	Protection class	/	IP44
	Rated prower	Hz	230-50/60
	Type	/	canned pump
	Power input	W	4~95
	current	A	0.04~0.75
	Max Rotating speed	r/min	4500
	Insulation class	/	class F
	Pump head	m	9
	Pump Flow	m ³ /h	4.5
Refrigerant Pipe	Liquid Side	mm	15.88
	Gas Side	mm	9.52
	Drainage	mm	DN25



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