



# AIR TO WATER HEAT PUMP

Space Heating and Cooling  
Domestic Hot Water

WORLD-CLASS QUALITY  
WARMTH FROM INDIA



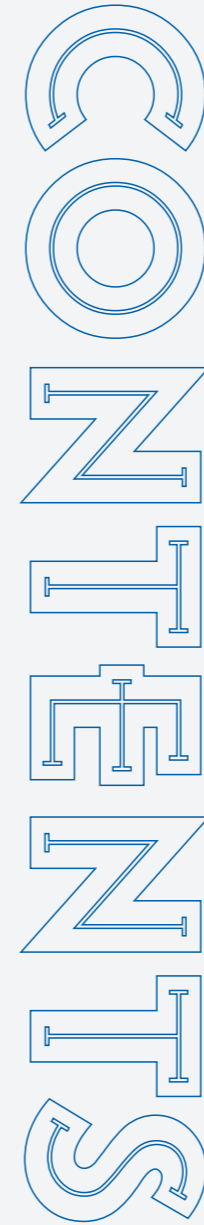
## STAR TUBE SMART

- 1/2 , Ramalinga Nagar, Old Suramangalam,  
Salem District, Tamilnadu State, India.
- <https://www.stervit.in>
- [stervitpumps@gmail.com](mailto:stervitpumps@gmail.com)
- +91 909 2883 300, +91 909 2883 311

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# COMPANY PROFILE

• This Heat Pump Is Offered By **STAR** Plumbing Designers,  
A Trusted Plumbing Company With Over  
33 Years Of Successful Operations.

We Have Executed Plumbing Projects Across  
Tamil Nadu In A Wide Range Of Establishments,  
Including Luxury Bungalows, Hotels, Hostels,  
Apartment Complexes, And Hospitals.

Drawing On This Extensive Experience,  
We Introduce The **STERVIT** Heat Pump  
To The Market Only After Subjecting  
It To Rigorous Quality And Performance Testing.

With A Skilled Workforce Of Over **300** Professionals  
Across Tamil Nadu, We Assure Our Customers  
Not Only Of A Reliable Product But Also Of  
Expert Installation And Timely Project Completion.

# APPLICATION SCENARIOS



# A GLANCE OF FACILITIES

## SUPER-SIZED ENAMEL WATER TANK INTELLIGENT PRODUCTION LINE

Adopted advanced intelligent production lines, robot arms, robot welding lines, robot flipping equipment, automatic sandblasting lines, fully automatic enamel tank production lines, etc. It has passed ISO9001 Quality Management System Certification, SGS certification, rigorous 7S high-quality production management.



## INDUSTRY ADVANCED AIR SOURCED HEAT PUMP PERFORMANCE LABORATORY



# PRODUCT INTRODUCTION



# WHAT'S AIR TO WATER HEAT PUMP

## HOW IT WORKS

1. It extracts heat from outdoor air (even in cold weather)
2. The heat is boosted using electricity
3. That heat is transferred to water
4. The hot (or chilled) water is used for:
  - Underfloor heating
  - Radiators
  - Hot water for bathrooms & kitchens
  - Cooling (in some systems)

## MAIN COMPONENTS

Outdoor unit – absorbs heat from air

Heat pump unit – compresses and transfers heat

Water tank / buffer tank – stores hot water

Distribution system – radiators, floor heating, etc.

## TYPES

1. **Low-temperature systems**  
Best for underfloor heating
2. **High-temperature systems**  
Can work with existing radiators

## BENEFITS

- ✓ Very energy efficient (5–6 units of heat for 1 unit of electricity)
- ✓ Lower electricity bills
- ✓ Eco-friendly (reduces CO2 emissions)
- ✓ Works in most climates
- ✓ Low maintenance

## WHERE IT'S USED

- Homes & apartments
- Commercial buildings
- Hotels, hospitals
- Villas and green buildings

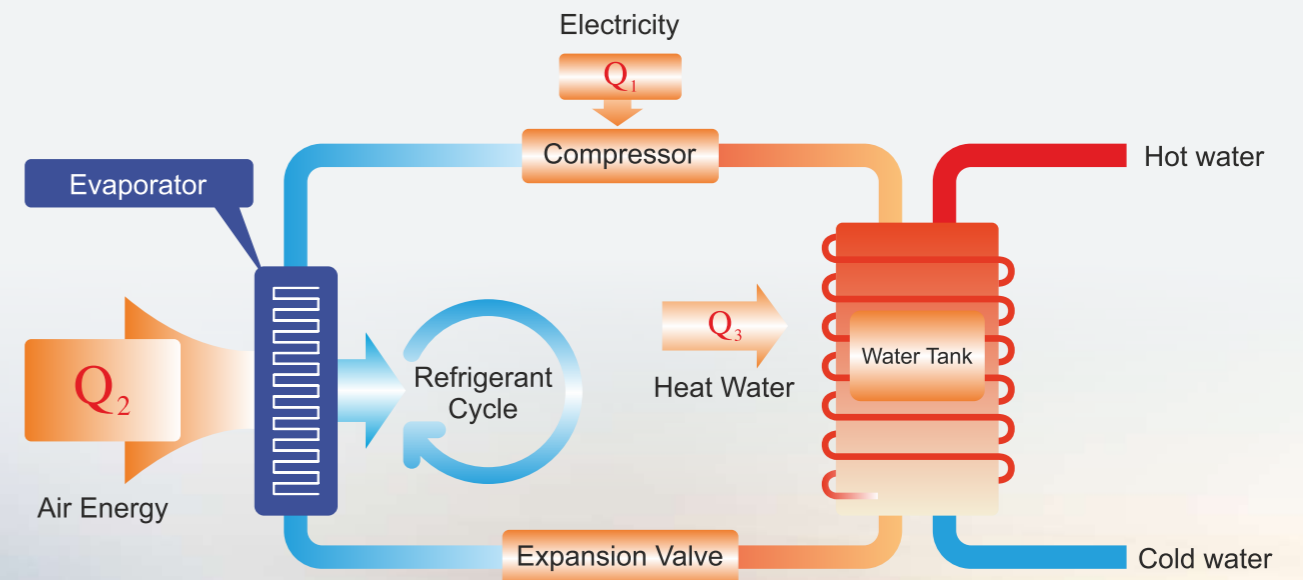
## AIR SOURCE HEAT PUMP IS ACTUALLY A CARRIER OF AIR ENERGY.

Firstly, the medium on evaporator absorbs huge amount of energy from surrounding air (Q2).  
The compressor compresses the medium (Q1) into HTHP (high temperature high pressure) air.  
The medium provides heat to the water through the heat exchanger (Q3).

## ACCORDING TO LAW OF CONSERVATION OF ENERGY:

Heat (Q3) = Electricity (Q1) + Air Energy (Q2)  
COP = Heat (Q3) / Electricity (Q1)

## OPERATING PRINCIPLE OF AIR TO WATER HEAT PUMP TECHNOLOGY



## Key Features

- ❖ Air Source Heat Pump
- ❖ 24/7 Non-stop Hot Water Supply
- ❖ 5 Years Warranty for Tank
- ❖ 3 Years Warranty for Compressor
- ❖ Energy Efficient
- ❖ Borosilicate Coating



AREA	Tank Material	100L	150L	190L(50GAL)	200L	270L	300L(80GAL)	320L	500L
EU	Duplex	✓	✓		✓		✓		✓
	Enamel	✓	✓		✓		✓		✓
AU	Enamel			✓	✓	✓	✓	✓	
NA	Enamel			✓			✓		
Others	Enamel		✓	✓	✓	✓	✓	✓	✓

## STAINLESS STEEL WATER TANK



**Duplex 2205**  
Twice the strength of 304/316L material, highest level for anti-corrosion



**TOP class welding process**  
Laser welding with higher precision and cleaner finishing



**Pickling&Passivation**  
Critical surface treatments after welding to remove heat-affected oxides and restore the protective chromium oxide layer, ensuring long-term corrosion resistance and durability of the welded joint.



**Compact and less-weight design**  
Thinner lighter but much stronger, more friendly for transportation and installation



**High level endurance for pressure**  
Over 100,000 times pulse tests and 2 times leakage tests applied during production



**Low maintenance costs**  
Longer life span and no worries for leakage



## ENAMEL WATER TANK



**Strong resistance to impact**  
Pulse endurance test for 250,000 times



**Long term anticorrosion**  
480 hours acid resistance test



**Strong pressure resistance**  
Special steel plate with ultra-strong pressure resistance



**Tight adsorption**  
Reaching level 1 super strong attachment layer



**Highest level craftsmanship**  
International enamelwater tank products



**Water barrier technology**  
Isolate scale caring for your health



Side Discharged



SOUTHEAST ASIA  
STYLE



# ALL IN ONE DOMESTIC HEAT PUMP WATER HEATER



### Blue crystal liner

Anti-pressure explosion-proof, anti-melting and anti-acid, anti-bacterial, strong corrosion resistance.



### Constant hot water supply

Hot water running throughout the year, multiplied outlets.



### High temperature

Heat pump 65°C high temperature technology, multi-layer and multi-point water at the same time, make you comfortable and warm in cold winter.



### Minimalist design, maximized space

Golden section facade design. Concise, easy to fit in your house. Help to improve the cozy level of your residence. Small in size, novel in design.



### R134a refrigerant

Environmentally friendly refrigerant, high efficiency and energy saving.



### Smartphone remote control

Schedule anytime, enjoy comfort. Pre-schedule your bath during commute with full command of

## Essential Details

Model	KZRS20-200D/N3G1W	KZRS28-300D/N3G1W
Dimensions	Φ570*1810	Φ640*2010
Colour	Champagne	Champagne
Power	220-240V~/50Hz	220-240V~/50Hz
Heating capacity	1950W	2800W
Rated power	410W	560W
Max. input power (include electrical heating)	2685W	2890W
Max. current	12.2A	13.4A
COP	4.76	5.02
Refrigerant	R134a	R134a
Compressor	GMCC	Panasonic
Throttling device	Electronic expansion valve	Electronic expansion valve
Fan Motor	DC Inverter	DC Inverter
Wire controller	Digital screen, touch buttons, WIFI	Digital screen, touch buttons, WIFI
High/Low pressure switch	2.8-2.3 MPa / 0.05-0.15MPa	2.8-2.3 MPa / 0.05-0.15MPa
Power cord specifications	3*1.5mm <sup>2</sup> with leakage insurance 16A	3*1.5mm <sup>2</sup> with leakage insurance 16A
Heating rate	42L/H	60L/H
Max. outlet water temperature	65	65
Ambient temperature used	-7 ~45	-7 ~45
Waterproof grade	IPX4	IPX4
Noise	47dB(A)	49dB(A)
Net weight	93kg	122kg
Water tank	Tank with enamel coating	Tank with enamel coating
Inlet/Outlet pipe dimensions	G1/2"	G3/4"
Heat exchanger type	Microchannel	Microchannel
Built-in pressure protection	0.8MPa	0.8MPa
Auxiliary electric heating	2000W	2000W
Tank volume	200L	300L
Packing dimensions (L*W*H)	710*680*1990mm	740*740*2220mm

#### Notice

1. The specification based on the following conditions: DB/WB 20°C/15°C, Water temperature from 15°C to 55°C.
2. Models and parameters are subject to change due to product upgrades and improvements without prior notice. The specific parameters are subject to the nameplate of the unit.



## Parameter

Model	KFD-80/200N1C1	KFD-118/300N1C1	KFD-160/500N1C1BP
Product Dimensions (W×D×H)	800×290×550mm	800×290×550mm	855×325×665mm
Color	Champagne	Champagne	Champagne
Power Supply	220V~/50Hz	220V~/50Hz	220-240V~50/60Hz
Rated Heating Capacity	3750W	5500W	7700W
Rated Capacity	852W	1261W	1666W
Max. Input Power / Current	3150/14.5A	3650/16.9A	5000W/23A
COP	4.4	4.36	4.50
Refrigerant	R410a	R410a	R410a
Compressor	GMCC	GMCC	GMCC INVERTER
Four-way Valve	SHF-4	SHF-4	SHF-4
Throttling Device	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
Wire Controller	LCD, touch buttons, WIFI	LCD, touch buttons, WIFI	LCD, touch buttons, WIFI
Power Cord	3×2.5mm <sup>2</sup>	3×2.5mm <sup>2</sup>	/
Heating Rate	80L/h	118L/h	165L/h
Max. Outlet Water Temperature	55°C	55°C	55°C
Ambient Temperature	15°C~45°C	15°C~45°C	15°C~45°C
Waterproof Level	IPX4	IPX4	IPX4
Noise	50dB(A)	52dB(A)	48dB(A)
Net Weight	30KG	34KG	39KG
Packaging Dimensions	900×395×615mm	900×395×615mm	910×380×695mm
Volume	200L	300L	500L
Product Dimensions	Φ510×1710mm	Φ570×1865mm	Φ700×1905mm
Color	Champagne	Champagne	Champagne
Housing Material	Powder coated galvanized steel	Powder coated galvanized steel	Powder coated galvanized steel
Tank Type	Enamel tank	Enamel tank	Enamel tank
Max. Water Pressure	0.8MPa	0.8MPa	0.8MPa
Diameters of Inlet & Outlet	DN15	DN20	DN32 (G1-1/4")
Heat Exchanger	Micro-channel	Micro-channel	Micro-channel
EBH (Electric backup heater)	2000W	2000W	3000W
Recommended User Capacity	2-4 people	3-6 people	5-8 people
Net Weight	68KG	92KG	136KG
Packaging Dimensions	585×585×1795MM	645×645×1940MM	775×775×2100mm
Ambient Temp. Range for the Entire Unit	15°C~45°C	15°C~45°C	15°C~45°C

OUTDOOR UNIT PARAMETER

WATER TANK PARAMETER

## SPLIT HEAT PUMP WATER HEATER



### Blue crystal liner

Anti-pressure explosion-proof, anti-melting and anti-acid, anti-bacterial, strong corrosion resistance.



### Energy saving, healthy, safety

Comparing with other normal electric water heater, it saves up to 75% energy, and its antibacterial and anti-scale function help to make the daily usage safer to users.



### Constant hot water supply

Hot water running throughout the year, multiplied outlets.



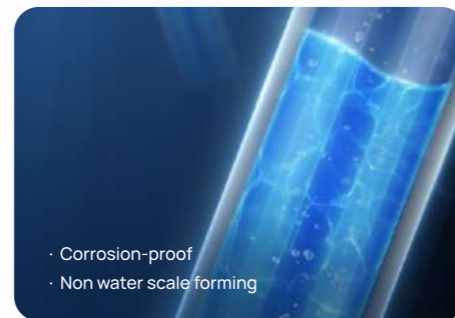
### Micro-channel heat exchanger

More efficient heat exchange, no need to wait for hot water.



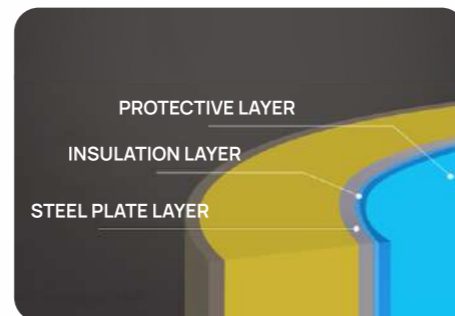
### Smartphone remote control

Schedule anytime, enjoy comfort. Pre-schedule your bath during commute with full command of



- Corrosion-proof
- Non water scale forming

• Blue crystal liner



• 50 mm microporous foam insulation

### Notice

The specification are based on the following conditions: DB/WB 20°C/15°C, water temperature from 15°C to 55°C, Applicable ambient temperature -15°C ~ 45°C. The data above is for reference only. The specific parameters are subject to product nameplate.

# COMMERCIAL HEAT PUMP

WORLD-CLASS QUALITY  
WARMTH FROM INDIA

- ✓ ECO Refrigerant: R410a
- ✓ Electricity-saving
- ✓ Max outlet water temp : 60 C
- ✓ High-Volume Hot Water
- ✓ Wide temperature range operation -15~43 C

## Parameter

	KFRS-10D/N1	KFRS-18DT/N1	KFRS-36DT/N1
Size (WxDxH)(mm)	725x746x887	860x841x1144	1518x826x1060
Power supply	220V~50Hz 1N	380V~3N/50Hz	380V~3N/50Hz
Rated heating capacity	9.58kW	17.5kW	35.2kW
Rated input power	2.12kW	3.93kW	7.89kW
Max input power/current	3.3kW / 16.8A	5.8 kW / 10.8A	11.55kW / 21.5A
Rated COP	4.52	4.45	4.46
Rated water yield	206 L/h	376 L/h	757 L/h
Max outlet water temp	60 C	60 C	60 C
Recommended circulating water flow	1.5-2.0m <sup>3</sup> /h	2.7-3.75m <sup>3</sup> /h	5.5-7.5m <sup>3</sup> /h
Noise	<-56dB(A)	<- 60dB(A)	<-62dB(A)
Compressor	GMCC	Copeland	Copelandx2
Condenser	Shell and tube heat exchanger	Shell and tube heat exchanger	Shell and tube heat exchanger
Refrigerant	R410a	R410a	R410a
Water connection size	DN25	DN25	DN40
Operating ambient temperature	-15~43 C	-15~43 C	-15~43 C
Suggested water tank	1-3T	3-5T	6-10T
Net wieght	85kg	120kg	216kg

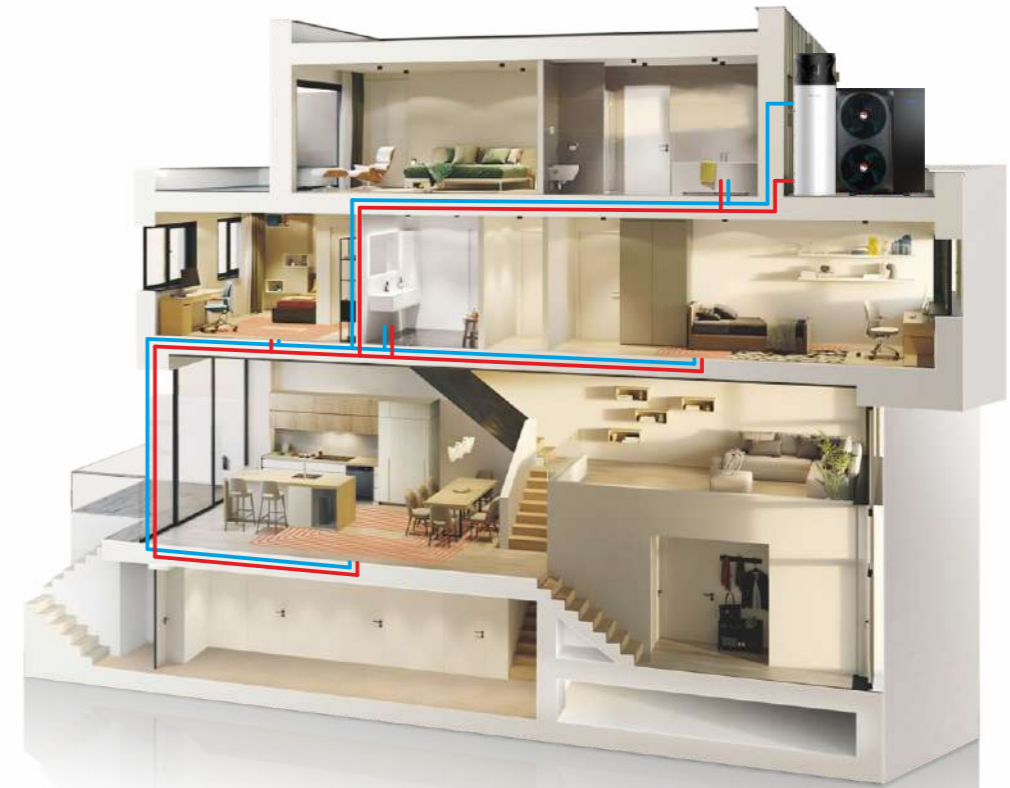
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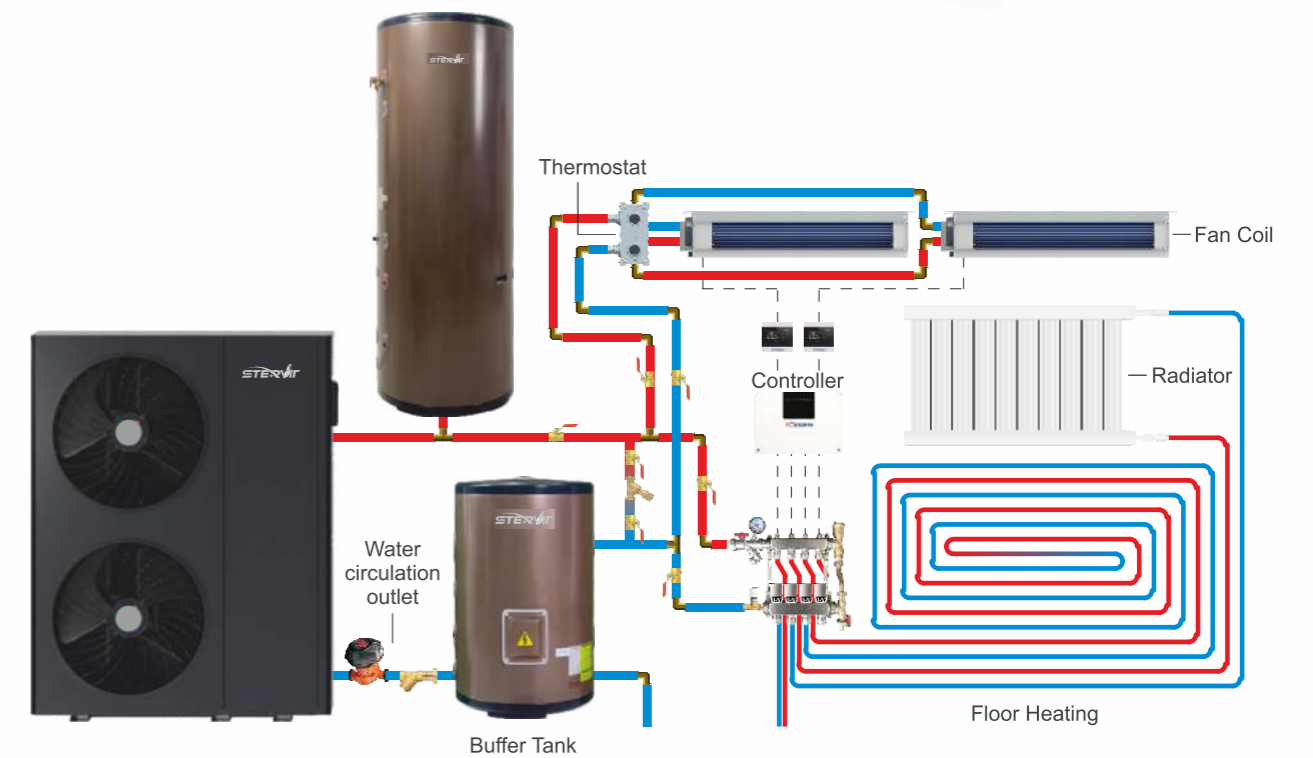
# AIR TO WATER DC INVERTER HEAT PUMP



## HEATING & COOLING DHW



## APPLICATION



Model		KFCN-B10E/N5BP1	KFCN-B14E/N5BP1	KFCN-B14ET/N5BP1	KFCN-B20ET/N5BP1	KFCN-B25ET/N5BP1
Power Supply		220-240V~1ph-50/60Hz	220-240V~1ph-50/60Hz	380-415V 3ph~50/60Hz	380-415V 3ph~50/60Hz	380-415V 3ph~50/60Hz
Tbiv		-10°C	-10°C	-10°C	-10°C	-10°C
Heating (A7/6°C,W30/35°C)	Heating Capacity	9.3kW	13.5kW	13.5kW	18kW	23.3kW
	COP	4.6W/W	4.58W/W	4.62W/W	4.95W/W	4.57W/W
Heating (A7/6°C,W40/45°C)	Heating Capacity	9.4kW	13.5kW	13.5kW	18.2kW	23.5kW
	COP	3.6W/W	3.65W/W	3.65W/W	4W/W	3.66W/W
Heating (A7/6°C,W47/55°C)	Heating Capacity	8.9kW	12.8kW	12.8kW	17.2kW	21.9kW
	COP	2.9W/W	2.86W/W	2.9W/W	3.33W/W	2.92W/W
Cooling (A35/24°C,W23/18°C)	Heating Capacity	10kW	14kW	14kW	19kW	26.1kW
	EER	3.73W/W	3.76W/W	3.76W/W	3.87W/W	3.9W/W
Cooling (A35/24°C,W12/7°C)	Heating Capacity	7.6kW	9kW	11.8kW	11.8kW	14kW
	EER	2.93W/W	2.96W/W	2.96W/W	3.1W/W	3.02W/W
Seasonal space heating energy efficiency class	LWT at 35°C	A+++	A+++	A+++	A+++	A+++
	LWT at 55°C	A++	A++	A++	A+++	A++
Rated water flow (Floor heating/Radiator)		1.6m³/h, 0.96m³/h	2.32m³/h, 1.38m³/h	2.32m³/h, 1.38m³/h	3.1m³/h, 1.85m³/h	4.01m³/h, 2.35m³/h
Start Current		0.8A	1.6A	0.9A	1A	1.5A
Maximum input power(Heat pump)		3.4kW	5.55kW	5.55kW	6.8kW	9.4kW
Maximum input current (With E-heater)		26.5A	37.1A	21.5A	23.3A	30A
High Pressure Value Cut-off Pressure		4.5Mpa	4.5Mpa	4.5Mpa	4.5Mpa	4.5Mpa
Low Pressure Value Cut-off Pressure		0.05Mpa	0.05Mpa	0.05Mpa	0.05Mpa	0.05Mpa
Compressor(DC inverter+EVI)		Panasonic	Panasonic	Panasonic	Panasonic	Panasonic
Plate heat exchanger		SWEP	SWEP	SWEP	SWEP	SWEP
EEV		FUJIKOKI / SANHUA	FUJIKOKI / SANHUA	FUJIKOKI / SANHUA	FUJIKOKI / SANHUA	FUJIKOKI / SANHUA
Fan motor (BLDC fan)		WELLING	WELLING	WELLING	WELLING	WELLING
Water pump (built-in BLDC pump)		SHIMGE	SHIMGE	SHIMGE	SHIMGE	SHIMGE
Refrigerant		R32	R32	R32	R32	R32
Charging amount		1.3Kg	1.8Kg	1.8Kg	2.3Kg	3.1Kg
Waterproof level		IPX4	IPX4	IPX4	IPX4	IPX4
Sound power level		60dB(A)	64dB(A)	64dB(A)	65dB(A)	68dB(A)
Max water outlet temperature		60°C	60°C	60°C	60°C	60°C
Diameter of Water Connection		DN 25 (1")	DN 25 (1")	DN 25 (1")	DN 25 (1")	DN 40 (1-1/2")
Internal pressure drop at rating water flow		22kPa	27kPa	27kPa	31kPa	28kPa
Lowest Operational Point, Outdoor Air (heating mode )		-35°C	-35°C	-35°C	-35°C	-35°C
Highest Operational Point, Outdoor Air (heating mode )		43°C	43°C	43°C	43°C	43°C
Lowest Operational Point, Outdoor Air (cooling mode )		5°C	5°C	5°C	5°C	5°C
Highest Operational Point, Outdoor Air (cooling mode )		43°C	43°C	43°C	43°C	43°C
Net Dimensions ( L/W/H )		1050/425/833mm	1050/425/854mm	1050/425/854mm	1050/425/1360mm	1050/425/1360mm
Package Dimensions ( L/W/H )		1110/490/990mm	1110/490/1015mm	1110/490/1015mm	1110/490/1510mm	1110/490/1510mm
Net Weight		95Kg	110Kg	110Kg	130Kg	150Kg
Gross Weight		108KG	124KG	124KG	146KG	166KG
Loading quantity 20GP/40GP,40HQ		48/96/96pcs	48/96/96pcs	48/96/96pcs	24/48/48pcs	24/48/48pcs

# VARIABLE FREQUENCY PUMP

## APF PERMANENT MAGNETIC VARIABLE FREQUENCY PUMP

### APF

#### Product features

Constant pressure  
Efficient  
Energy saving  
Comfortable

#### Materials

ABS, 304,  
Sensata, IP54

ABS casing, stainless steel pump body, stainless steel impeller, 304 welded shaft, silicon carbide to graphite mechanical seal, Sensata pressure sensor, IP54

#### Product overview

1. Exquisite in appearance meet the whole house water supply for a family of five, a constant pressure control system designed for families to achieve a complete constant water pressure;
2. A smaller installation volume, which saves more installation space; as low as 1W of standby power design, so that energy-saving technology can be perfectly presented;
3. Motor insensitive drive technology (FOC), fully realize the zero maintenance of the motor system;
4. The rotor shaft uses stainless steel welding technology to ensure that over water components never rust;
5. Supporting LED display human-machine interface, simple operation;
6. Equipped with industrial-grade pressure sensors;
7. System integration reverse valve structure;
8. A constant pressure control system designed for the home to achieve a complete constant water pressure;
9. Equipped with temperature sensor, more comprehensive protection;
10. Optional WIFI and Bluetooth remote control function.
11. Multiple pumps can be networked online.

Permanent magnetic synchronous motor, insensitive FOC vector drive technology, check valve eliminates water hammer.

Liquid temperature: High temperature(5°C~+100°C)  
Environment temperature: ≤40°C

#### Technical parameters

Model	Rated voltage (V)	Power(kW)	Max. head (m)	Rated head (m)	Max. flow(m³/h)	Rated flow(m³/h)	Max. speed(RPM)	In/out Pipe diameter
APF204	220	0.55	30	22	4.8	2	4300	G1"/G1"
APF204H	220	0.65	45	35	4.8	2	5000	G1"/G1"
APF204H	110	0.65	42	30	4.8	2	5000	G1"/G1"
APF3-35	220	1.05	46	35	4.8	3	5000	G1"/G1"
APF3-45	220	1.25	60	45	4.8	3	5000	G1"/G1"
APF6-30	220	1.6	46	30	10	6	5000	G1.5"/G1.5"



# VFG VARIABLE FREQUENCY PUMP

## VFG

### Product features

- Constant pressure
- Energy saving
- Comfortable

### Materials

304,  
Sensata, IP54

Stainless steel pump body, stainless steel impeller, 304 welding shaft, silicon carbide to graphite mechanical seal, Sensata pressure sensor, stainless steel five-way, stainless steel oil pressure gauge, IP54

### Product overview

1. Over flow parts are 304 stainless steel, in line with drinking water sanitation standards;
2. Shaft seal for the mechanical seal, different media choose the friction accordingly;
3. F Class insulation, IP54 protection grade;
4. Supporting LCD display human-machine interface, simple operation;
5. Equipped with industrial-grade pressure sensors;
6. Multiple pumps can be networked online.

It is suitable for domestic water supply of various types of water works, pressure stations, hotels, residential areas and other high-rise buildings.

Liquid temperature: High temperature(0°C~+100°C)  
Environment temperature: ≤40°C

### Technical parameters

Model	Rated voltage (V)	Power(kW)	Max. head (m)	Rated head (m)	Max. flow (m³/h)	Rated flow (m³/h)	Max. speed (RPM)	In/out Pipe diameter
VFG304	220	1.0	52	35	5	3	3600	G1"/G1"
VFG503	220	1.2	40	30	7.5	5	3600	G1.25"/G1"
VFG504	220	1.5	52	40	7.5	5	3600	G1.25"/G1"
VFG803	220	1.5	42	36	16.7	8	3500	G2.0"/G1.5"
VFG804	220	2.2	58	52	16.7	8	3500	G2.0"/G1.5"
VFG1202	220	1.85	35	24	14.6	12	3500	G2.0"/G2.0"



# APG PERMANENT MAGNETIC VARIABLE FREQUENCY PUMP

## APG

### Product features

- Constant pressure
- Efficient
- Energy saving
- Comfortable

### Materials

304,  
Sensata, IP54

Stainless steel pump body, stainless steel impeller, 304 welding shaft, silicon carbide to graphite mechanical seal, Sensata pressure sensor, stainless steel five-way, stainless steel oil pressure gauge, IP54

### Product overview

1. The system adopts rare earth permanent magnet synchronous motor, ultra-high energy efficiency, ultra-low power consumption;
2. As low as 1W of standby power design, so that energy-saving technology can be perfectly presented;
3. Motor insensitive drive technology (FOC), fully realize the zero maintenance of the motor system;
4. The rotor shaft uses stainless steel welding technology to ensure that over-water components never rust;
5. Integrated pressure tank core diaphragm using IIR material;
6. Supporting LED display human-machine interface, simple operation;
7. Equipped with industrial-grade pressure sensors;
8. System integration reverse valve structure;
9. A constant pressure control system designed for the home to achieve a complete constant water pressure.

Permanent magnetic synchronous motor, insensitive FOC vector drive technology, diaphragm pressure tank technology, check valve to eliminate water hammer.

Liquid temperature: High temperature(0°C~+100°C)  
Environment temperature: ≤40°C

### Technical parameters

Model	Rated voltage (V)	Power(kW)	Max. head (m)	Rated head (m)	Max. flow (m³/h)	Rated flow (m³/h)	Max. speed (RPM)	In/out Pipe diameter
APG303	220	0.8	42	30	5	3	3600	G1"/G1"
APG304	220	1.1	54	40	5	3	3600	G1"/G1"
APG404	220	1.2	55	36	7	4	3600	G1.25"/G1"
APG503	220	1.2	42	30	7	5	3600	G1.25"/G1"
APG303	110	0.8	40	30	5	3	3600	G1"/G1"

