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# Aquarius & Earthia HEAT PUMPS



## Home Environment Solutions



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# ENERGY-SAVING

## MEET YOUR CHOICE

Aquarius heat pump products include four product series from Split to Monobloc, from 4KW to 20KW: Aquarius Adaptation, Aquarius Dual Performance, Aquarius Super Performance, Aquarius Integration, which can match up with the groundsource machine EARTHIA series products, which can fit in different environment and scenarios.

## INDUSTRIAL LEADING HEAT PUMP SUPPLIER

After experiencing technological iterations and development in the entire heat pump industry, we have been standing at the forefront in the HVAC field, providing full product series with strong customized production capability and seeking solutions for our clients. We have technical advantages in the household environment control system, involving product R&D, installations and applications.



3 Manufacturing bases **75000+m<sup>2</sup>**  
Annual Capacity **150000+**  
Since **2009**



Installation stipulations  
Home environment solutions  
Green refrigerant application



Total Employees **900+**  
R&D Team **270+**  
University laboratories **5+**



Technology patents **200+**  
CE/ErP/ETL/UL/EnergyStar  
LVD/EMC/MCS/Rohs/PED



### IF YOU HAVE A NEW LOW-ENERGY BUILDING

For brand new energy-efficiency buildings, the appropriate Aquarius Adaptation series products are able to lower the installation cost with the appropriate unit capacity option.



### IF YOU WANT TO CARRY OUT ENERGY-SAVING RENOVATION OF OLD BUILDINGS

For the remodeling and renovation of existing buildings, our Aquarius Super Performance series products can be applied with the combination of existing boilers or solar water heaters to increase energy efficiency and bring you a value-added house. Meanwhile, you can also choose to combine different products of Aquarius Integration series to lower the installation difficulty of the heat pump system and break through the limitation of the different units with a friendly simply method for your family HVAC system.



### IF YOU NEED COOLING AND HEATING AT THE SAME TIME

For the demands of both heating and cooling, then the Aquarius Dual Performance series products is your perfect choice.



### IF YOUR INSTALLATION CONDITIONS PERMIT

Under an allowable environment and condition, the Earthia series of groundsource machines will be your best solution of the year.

## AQUARIUS SUPER PERFORMANCE



HS04V-Q | HS06V-Q | HS08V-Q | HS10V-Q | HS12V-Q

R290 Monobloc

1 PHASE | ☀️ ❄️ 💧

⚡️ A+++ ⚡️ A+++

4KW

6KW

8KW

10KW

12KW



HS15V-D | HS20V-D

R290 Monobloc

3 PHASE | ☀️ ❄️ 💧

⚡️ A+++ ⚡️ A+++

15KW

20KW

## AQUARIUS DUAL PERFORMANCE



RS08V/L-Q | RS12V/L-Q

R32 Monobloc

1 PHASE | ☀️ ❄️ 💧

⚡️ A++ ⚡️ A+++

7KW

10KW



RS18V/L-D | RS22V/L-D

R32 Monobloc

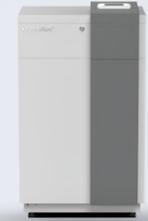
3 PHASE | ☀️ ❄️ 💧

⚡️ A++ ⚡️ A+++

15KW

20KW

## EARTHIA STABLIZE



GS10V

Ground Source

1 PHASE | ☀️ ❄️

⚡️ A++ ⚡️ A+++

10KW

## AQUARIUS INTEGRATION



DSK03-QG

Hydraulic Tower integra Multifunction Tank

HYDRAULIC TOWER

☀️ ❄️ 💧 ⚡️ A++ ⚡️ A+++

Buffer Tank: 100L DHW Tank: 200L

Compatible outdoor units: ASP Series

ADP Series



DSK03-QL

Hydraulic Module W/O DHW Tank

HYDRAULIC MODULE

☀️ ❄️ 💧 ⚡️ A++ ⚡️ A+++

## AQUARIUS ADAPTATION



RS08V/LF-Q | RS12V/LF-Q

R32 Split W/O DHW tank

WALL-MOUNTED | 1 PHASE

☀️ ❄️ 💧 ⚡️ A++ ⚡️ A+++

7KW

11KW



QRS08V/LF-Q | QRS12V/LF-Q

R32 Split with DHW tank

WATER TANK | 1 PHASE

☀️ ❄️ 💧 ⚡️ A++ ⚡️ A+++

7KW

11KW

DHW tank available in two sizes: 200L

300L

# FULL DC INVERTER TECHNOLOGY

Taking advantage of the full DC inverter technology, our HS series heat pump can guarantee efficiency and effectiveness of the indoor space heating and domestic hot water supply even under the extreme cold climate.

## DC INVERTER FAN MOTOR

Using Panasonic DC variable frequency motor and low-noise fan blades, it can be adjusted steplessly according to load changes, which is more efficient and energy-saving, and has lower noise.

## DC INVERTER COMPRESSOR

DC inverter can adjust the compressor precisely to significantly improve the transfer efficiency and reduce noise and compressor power consumption.

## DC INVERTER WATER PUMP

The water pump uses PWM control module to achieve continuously variable transmission and will comply with the indoor space room to enhance the energy efficiency. The sensor will monitor real-time water flow in the pump and calculate heating/cooling capability of the unit, so that the performing status of the unit is under timely control.



# COMFORTABLE

## SELF-ADAPTIVE DEFROST TECHNOLOGY

Aquarius has the patent for invention of self-adaptive defrost technology, which can make your heat pump unit self-learning and self-optimizing for defrost according to various humidity status under different climates in different regions, to ensure the optimized power efficiency under varied working conditions. Ensure that the noise value of the machine meets BEG's annual optimization requirements.

## SOUNDPROOF

All sides of cabinet are fully wrapped with the porous absorber materials to reach better performance in absorbing the noise from the wind and isolating noise from the compressor operation, compared to the traditional isolation sponge,

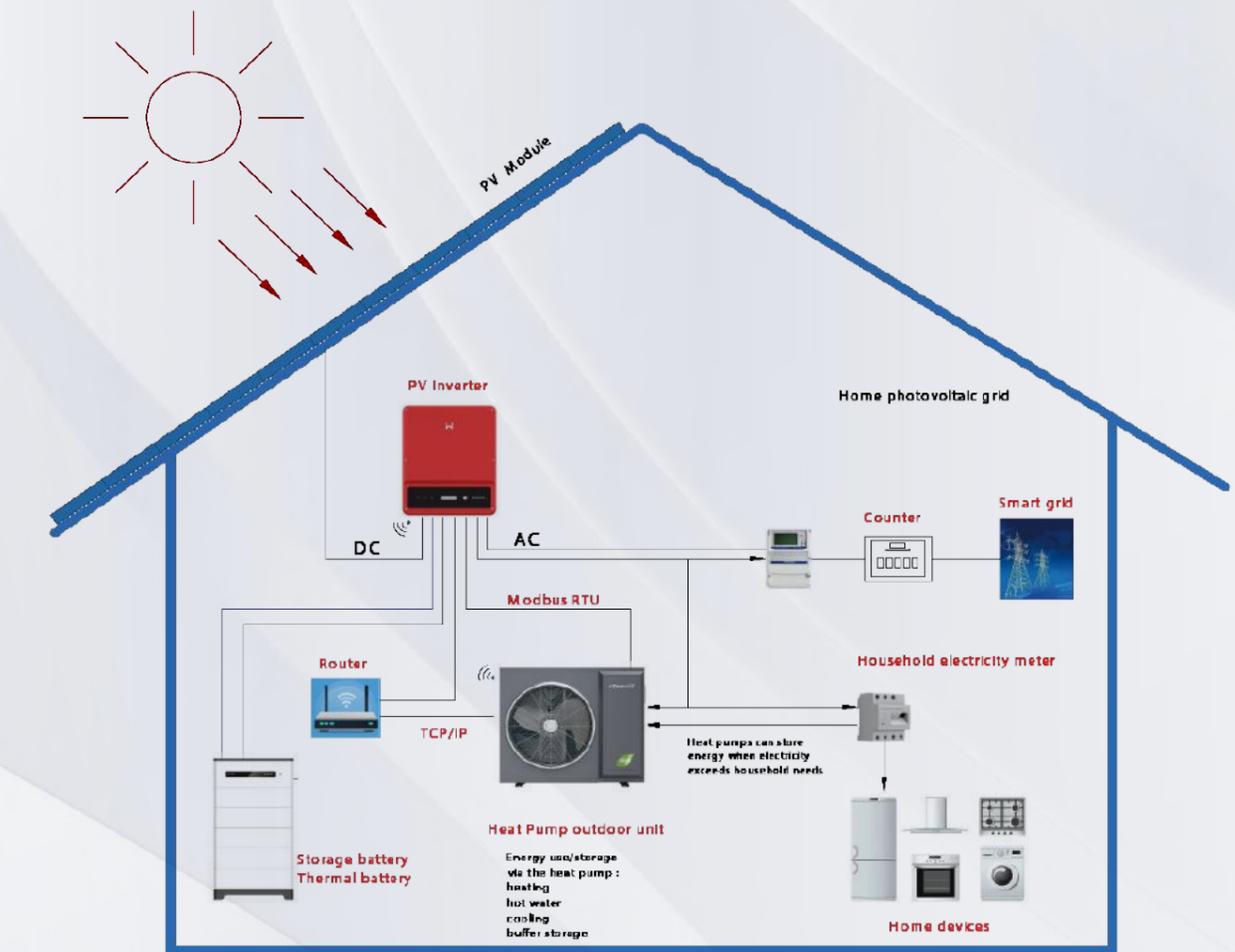
## WLAN PREPARATION INTELLIGENCE IS COMPATIBLE

WLAN preparation: intelligence is compatible, not bundled.

Aquarius has prepared a wireless LAN function, which can cooperate with the APP to realize remote switch control and temperature adjustment of the entire device.

## OPEN INTERACTIVE PROTOCOL COMPATIBLE CONTROL METHOD

In addition to the remote software that comes with Aquarius for information exchange, we still reserve a set of communication interfaces in the controller for the opening of protocol content and information exchange. The reserved set of communication interface are used for third-party products' compatibility.



**SG READY**

SG READY is a function to integrate your unit with the national smart grid, and with the expanding of the energy-saving policies, SG READY has gradually become a required function to obtain subsidies.

Our heat pump products are controlled by built-in programs of smart meter signals to maximize the household photovoltaic energy to reduce energy expenses. Additional energy use can be further optimized by adding energy storage systems: accumulators and thermal batteries.

## AQUARIUS SUPER PERFORMANCE

AQUARIUS Super Performance SERIES can continue to operate efficiently in an environment of  $-25^{\circ}\text{C}$  and can provide heating water up to  $75^{\circ}\text{C}$ , making it to the first choice for household gas boiler renovation.

After the experimental research on the R290 refrigerant, the Aquarius Super performance unit is equipped with a regenerator that can further improve the operating stability and heating efficiency in low temperature environments.

The development of Aquarius compatible series products has highly integrated combined accessories to solve the pain points of heat pump system installation.



## SUPER PERFORMANCE



Super Performance In Heating



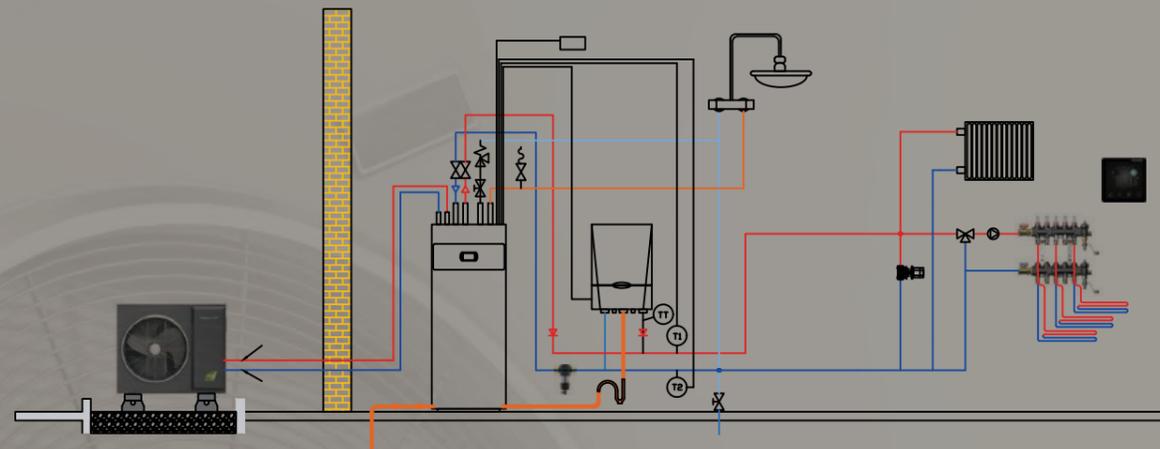
Excellent Low-Temperature Performance



Integration Of Comfort Technology



More Flexible Product Range



PRODUCT NAME	MODEL	OPERATING VOLTAGE	HEATING CAPACITY (KW)	POWER CONSUMPTION (KW)	HEATING ENERGY EFFICIENCY RATIO (A7/W35°C)	REFRIGERANT	EFFICIENCY	SOUND POWER VALUE
AQUARIUS SUPER PERFORMANCE	HS04V-Q	230V/1P/50HZ	1.3-4.23	0.25-0.93	4.2-4.65	R290	A+++/A++	55
	HS06V-Q	230V/1P/50HZ	1.9-6.46	0.45-1.44	4.1-4.72		A+++/A++	57
	HS08V-Q	230V/1P/50HZ	2.9-8.13	0.66-1.76	4.41-4.86		A+++/A+++	59
	HS10V-Q	230V/1P/50HZ	2.9-9.50	0.67-2.13	4.3-4.78		A+++/A++	64
	HS12V-Q	230V/1P/50HZ	3.8-12.22	0.85-2.76	4.22-4.88		A+++/A+++	65
	HS15V-D	400V/3P/50HZ	4.95-15.23	1.08-3.35	4.17-4.75		A+++/A+++	67
	HS20V-D	400V/3P/50HZ	6.8-21.63	1.64-4.92	4.15-4.70		A+++/A++	69

## AQUARIUS DUAL PERFORMANCE

The Aquarius dual performance series is an integral heat pump type. As a model used for both cooling and heating, it has always been the key product among all our heat pump products. From studio apartments to light commercial buildings, the RS series can meet almost all HVAC design needs.

With EVI and Self-adaptive defrosting technology, the Aquarius dual performance series can continue to run stably and efficiently at an ambient temperature of  $-25^{\circ}\text{C}$ .

Because the condenser and circulating water pump are integrated in the outdoor unit, the connection with the indoor heating system can be completed only in the form of a water pipe, reducing the operating qualification requirements of the installer, and reducing the installation cost.



## DUAL PERFORMANCE



Heating+Cooling



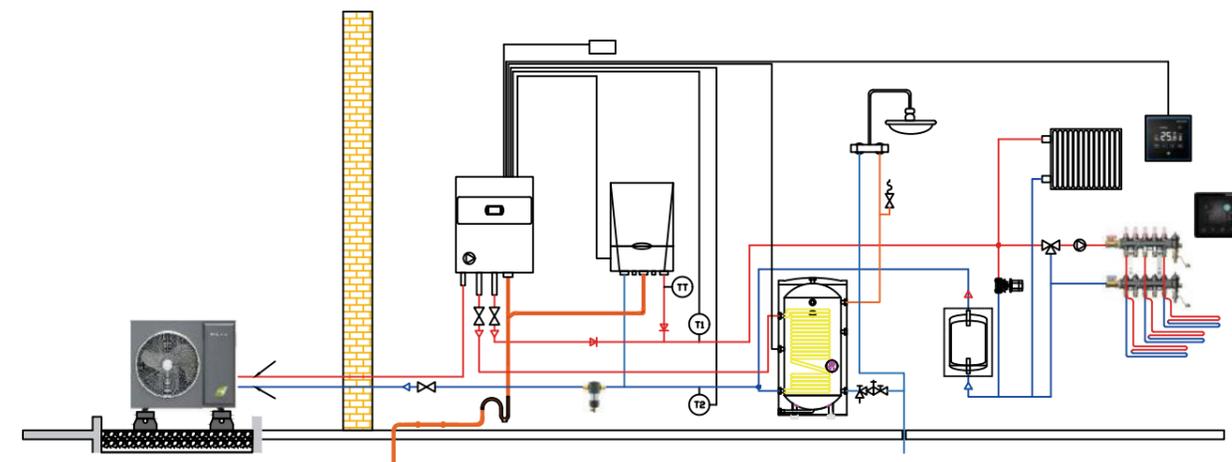
High Efficiency



Integration Of Comfort Technology



EVI Technology



AQUARIUS DUAL PERFORMANCE					EVI (ENTHALPY INJECTION TECHNOLOGY): YES			
MODEL	OPERATING VOLTAGE	HEATING CAPACITY (KW)	POWER CONSUMPTION (KW)	HEATING ENERGY EFFICIENCY RATIO (A7/W35°C)	REFRIGERANT	EFFICIENCY	SOUND POWER VALUE	AUXILIARY ELECTRIC HEATING
RS08V/L-QPNHV	230V/1P/50HZ	2.6-7.42	0.6-1.62	4.58-4.75	R32	A+++/A++	59	3
RS12V/L-QPNHV	230V/1P/50HZ	3.75-11.62	0.87-2.62	4.15-4.74		A+++/A++	64	3
RS18V/L-DPNHV	400V/3P/50HZ	4.9-17.85	1.14-4.05	4.3-4.67		A+++/A++	69	6
RS22V/L-DPNHV	400V/3P/50HZ	9.1 ~ 21.33	2.12 ~ 4.85	4.12-4.52		A+++/A++	70	6

## AQUARIUS INTEGRATION

Aquarius integration series:  
As a manufacturer of heat pump products, we consider the application of heat pumps in the entire HVAC system.

Aquarius integration series products highly integrate the accessories necessary for system installation inside the product. The double-compartment vertical indoor unit includes the installation accessories integrated with the single-compartment wall-mounted indoor unit, it is also highly integrated with a multi-functional high-efficiency water tank.



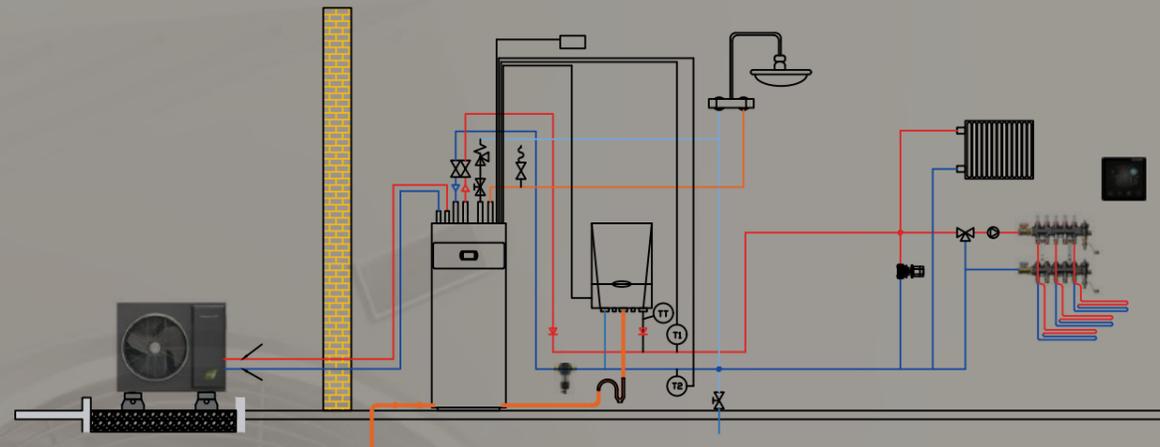
## INTEGRATION



High Integration And More Compatibility.



Easy Installation



HYDRAULIC SERIES	DSK03-QG	DSK03-QL
INTEGRATED ACCESSORIES	THREE-WAY VALVE	THREE-WAY VALVE
	EXPANSION TANK 5L	EXPANSION TANK 5L
	EXHAUST VALVE	EXHAUST VALVE
	SAFETY VALVE	SAFETY VALVE
	CONNECTING FITTINGS	CONNECTING FITTINGS
	AUXILIARY ELECTRIC HEATING (FOR R290HP ONLY)	AUXILIARY ELECTRIC HEATING (FOR R290HP ONLY)
	TOUCH SCREEN CONTROLLER	TOUCH SCREEN CONTROLLER
	CONTROL CABINET	BUFFER TANK (26L)
	PERCOLATOR(optional)	DHW TANK (200L)
		CONTROL CABINET
		TEMPERATURE LIMIT SWITCH
		PERCOLATOR(optional)

## AQUARIUS ADAPTATION

Aquarius Adaptation is a split heat pump type, which is divided into two combinations of the machine-wall-mounted and the unit-water tank type. It can meet the family's demand for heating and living hot water on the outside with a buffer and hot water tank.

Aquarius adaptation are also equipped with EVI and Self-adaptive defrosting technology, which can continue to work in a low temperature environment of  $-25^{\circ}\text{C}$ , the water supply temperature at a maximum of  $60^{\circ}\text{C}$ , and provide efficient and stable protection for home heating and domestic hot water.



## ADAPTATION



Multi -scenario Application



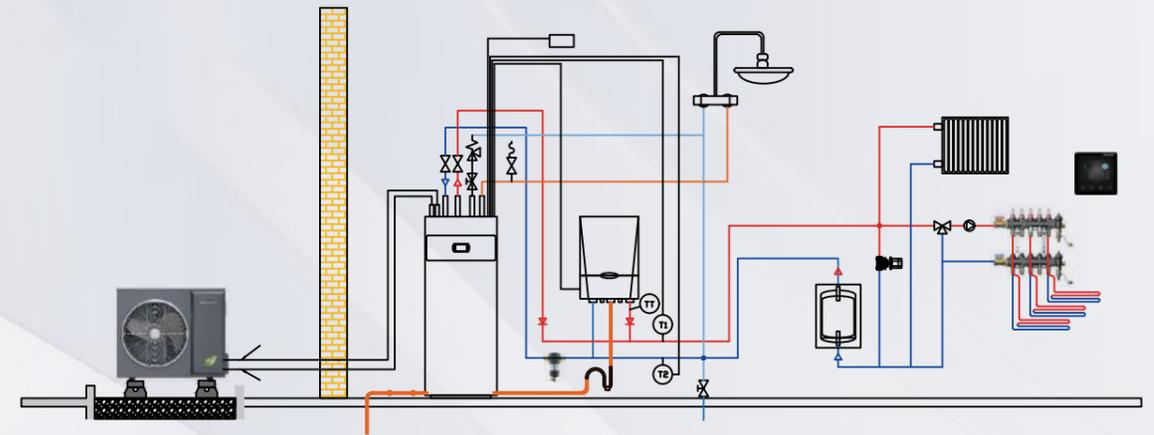
High Efficiency



Integration Of Comfort Technology



EVI Technology



AQUARIUS ADAPTATION				EVI (ENTHALPY INJECTION TECHNOLOGY): YES		
MODEL	OPERATING VOLTAGE	HEATING CAPACITY (KW)	POWER CONSUMPTION (KW)	HEATING ENERGY EFFICIENCY RATIO (A7/W35°C)	REFRIGERANT	ENERGY EFFICIENCY CLASS FOR SPACE HEATING (35C/55C)
QRS08V/LF-200L	230V/1P/50HZ	2.6-7.55	0.6-1.65	4.3-4.59	R32	A+++/A++
QRS08V/LF-300L						
QRS12V/LF-200L	230V/1P/50HZ	3.75-11.35	0.87-2.75	4.13-4.31		
QRS12V/LF-300L						
RS08V/LF	230V/1P/50HZ	2.8-7.6	0.64-1.75	4.31-4.59		
RS12V/LF		3.75-11.55	0.87-2.75	4.13-4.31		
DOMESTIC HOT WATER ENERGY EFFICIENCY LEVEL (L)	SOUND POWER VALUE OF INTERNAL UNIT		EXTERNAL UNIT SOUND POWER VALUE		AUXILIARY ELECTRIC HEATING (KW)	DOMESTIC HOT WATER ELECTRIC HEATING (KW)
A+	42		59		2.5	3
	44		64			
	42		59			
	44		64			

## EARTHIA STABLIZE GROUND SOURCE SERIES:

Earthia Stabilize series ground source heat pumps are ideal for families located far from the main grid since they require little maintenance and no fuel delivery. Meanwhile, they're also a great choice for properties looking to lower their home's carbon footprint as a very cost-effective renewable energy solution. More economical than air source heat pumps, but more challenging to install.

## PRODUCT PARAMETERS



EARTHIA STABLIZE HEAT PUMP			GS10V
HEATING PERFORMANCE.NOM			
HEAT OUTPUT	AT B0/W35	kW	8.11
POWER CONSUMPTION		kW	2.05
COP			3.96
HEAT OUTPUT	AT W10/W35	kW	10.98
POWER CONSUMPTION		kW	1.92
COP			5.71
TEMPERATURE APPLICATION		°C	35
SEASONAL SPACE HEATING ENERGY EFFICIENCY CLASS, AVERAGE CLIMATE			A++
RATED HEAT OUTPUT, AVERAGE CLIMATE			kW 9
SCOP, AVERAGE CLIMATE			4.13
SEASONAL SPACE HEATING ENERGY EFFICIENCY HSH AVERAGE CLIMATE			% 157
ANNUAL ENERGY CONSUMPTION, AVERAGE CLIMATE*			kW 4.43
REFRIGERANT TYPE			R410A
FILLING WEIGHT			kg 1.5
GLOBAL WARMING POTENTIAL (GWP)			2088
SOUND POWER LEVEL			dB(A) 58
EVAPORATOR			Type BRAZED PLATE HEAT EXCHANGER
CONDENSER			Type BRAZED PLATE HEAT EXCHANGER
COMPRESSOR			TWIN ROTARY
DIMENSION (HXWXD)			mm 1040X600X640
WEIGHT			kg 134
PERMISSIBLE OPERATING PRESSURE			Mpa 4.1
PIPE CONNECTOR-HOT SIDE			Inch G1-1/4"
PIPE CONNECTOR-COLD SIDE			Inch G1-1/4"
POWER			Type 230V/50HZ
NOMINAL RUNNING CURRENT AT B0/W35			A 7.9

	R22	R410A	R32	R290
ODP	0.05	0	0	0
GWP	1700	2100	675	<20
TOXICITY	NON-TOXIC	NON-TOXIC	NON-TOXIC	NON-TOXIC
FLAMMABILITY	A1 (NONFLAMMABLE)	A1 (NONFLAMMABLE)	A2 (WEAKLY FLAMMABLE)	A3 (COMBUSTIBLE)
NATURAL TEMPERATURE (°C)	/	/	648	470
MINIMUM FLAMMABILITY (%V/V)	/	/	14.4	3.1
WORKING FLUID AVAILABILITY	HIGH	HIGH	HIGH	HIGH
FILLING CAPACITY	1.0	0.8	0.7	0.45

## Accessories



LOW HEAT RADIATOR



ULTRA-THIN FAN COIL(COOLING)

## // DHW TANK

	NHWT-200L	NHWT-300L
VOLUME (L)	200L	300L
INNER/OUTER TANK DIAMETER	Φ470/Φ560	Φ500/Φ600
LINER MATERIAL	DUPLEX 2205	
OUTER TANK MATERIAL	COLOR PLATE/STAINLESS STEEL/PU FOAM INSULATION CLOTHING	
NOZZLE SIZE	3/4"   1"   1.5"	
ELECTRIC HEATING PARAMETERS	1.5KW/3.0KW 220~240V 50-60HZ	
INNER COIL FORM	STRAIGHT COIL/CORRUGATED PIPE/COPPER PIPE/STAINLESS STEEL PIPE	
PACKAGE SIZE	630*630*1400	670*670*1630



## ADVANTAGE OF DUPLEX STAINLESS STEEL

### ABOUT DUPLEX STAINLESS STEEL

Ferritic-austenitic stainless steel also referred to as duplex stainless steels, combine many of the beneficial properties of ferritic and austenitic steels. Due to the high content of chromium and nitrogen, and often also molybdenum, these steels offer good resistance to localised and uniform corrosion.

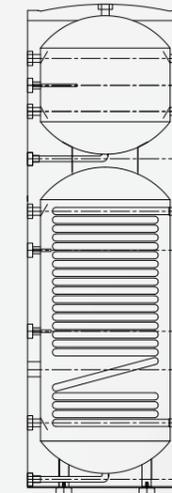
## // BUFFER TANK

	NWT-50L	NWT-100L
VOLUME (L)	50L	100L
INNER/OUTER TANK DIAMETER	Φ370/Φ470	Φ370/Φ470
LINER MATERIAL	DUPLEX 2205	
OUTER TANK MATERIAL	COLOR PLATE/STAINLESS STEEL/PU FOAM INSULATION CLOTHING	
NOZZLE SIZE	3/4"   1"   1.5"	
ELECTRIC HEATING PARAMETERS	1.5KW/3.0KW 220~240V 50-60HZ	
INNER COIL FORM	HORIZONTAL/VERTICAL	
PACKAGE SIZE	540*540*740	540*540*1170



## // MULTI-FUNCTION TANK

	NDWT-220L	NDWT-300L
VOLUME (L)	220L	300L
INNER TANK VOLUME (L)	110L+110L	100L+200L
INNER/OUTER TANK DIAMETER	Φ470/Φ560	Φ500/Φ600
LINER MATERIAL	DUPLEX 2205	
OUTER TANK MATERIAL	COLOR PLATE/STAINLESS STEEL/PU FOAM INSULATION CLOTHING	
NOZZLE SIZE	3/4"   1"   1.5"	
ELECTRIC HEATING PARAMETERS	1.5KW/3.0KW 220~240V 50-60HZ	
PACKAGE SIZE	630*630*1530	670*670*1630



### PERFORMANCE ADVANTAGES

- GOOD TO VERY GOOD RESISTANCE TO UNIFORM CORROSION
- GOOD TO VERY GOOD RESISTANCE TO PITTING AND CREVICE CORROSION
- HIGH RESISTANCE TO STRESS CORROSION CRACKING AND CORROSION FATIGUE
- HIGH MECHANICAL STRENGTH
- GOOD ABRASION AND EROSION RESISTANCE
- GOOD FATIGUE RESISTANCE
- HIGH ENERGY ABSORPTION
- LOW THERMAL EXPANSION

