

LOW
CO₂

HIGH
COP
A+++

R290 AIR TO WATER HEAT PUMP | STORM SERIES

Green, Smart, Efficient.

ECO



Heating, Cooling and Domestic Hot Water

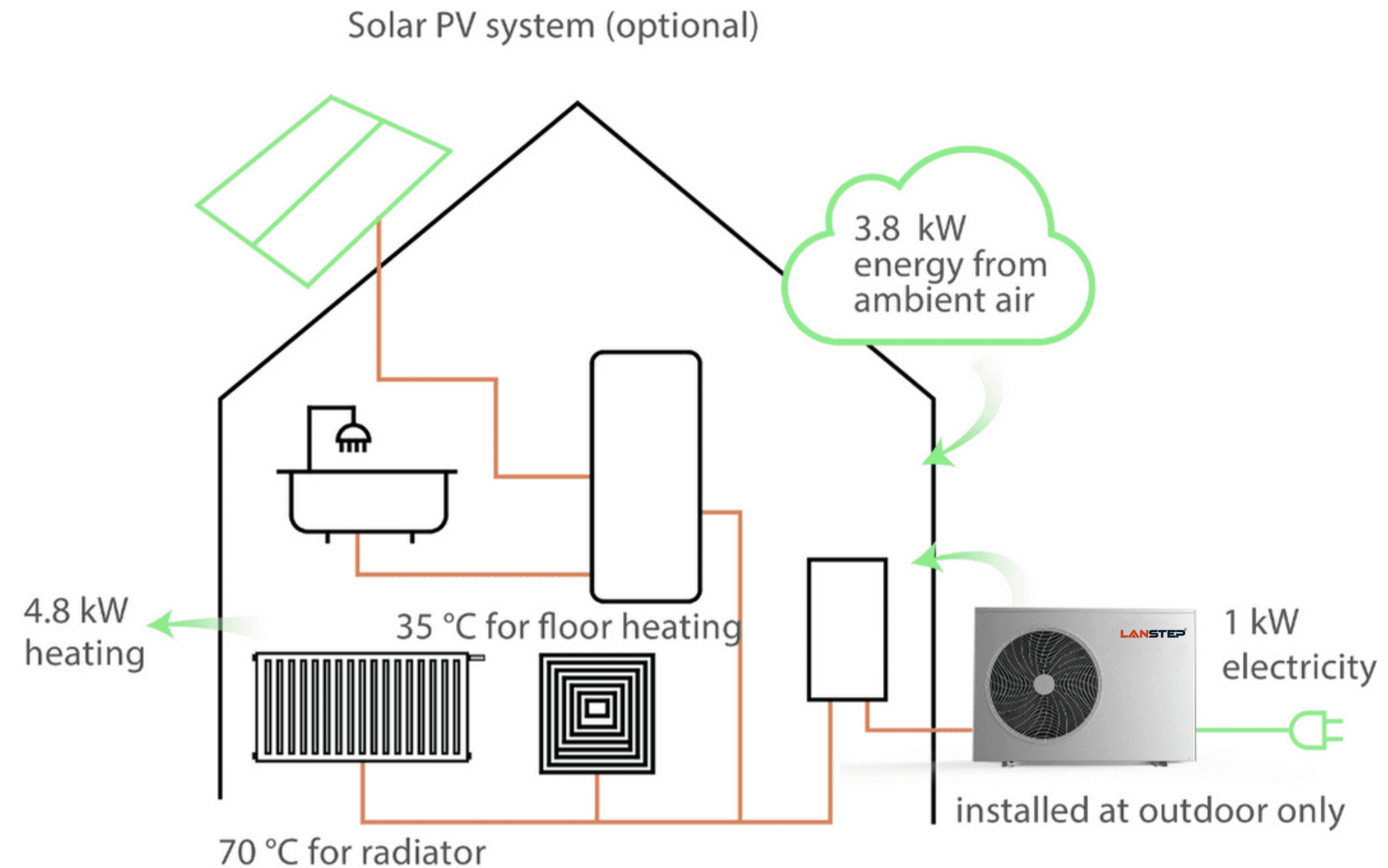


Who is LANSTEP? LEADING MANUFACTURER OF HEAT PUMPS WITH STRONG R&D

Enthusiasm & Expertise to protect the Earth – LANSTEP

R290 refrigerant can achieve a high water temperature up to **75°C**, meanwhile, heat pump installation is convenient and the original gas boiler system like radiators and water pipes can be kept, achieving integrated multi-heat source and energy-saving.

With less CO₂ emission, LET'S TAKE CARE OF OUR GREEN PLANET TOGETHER!

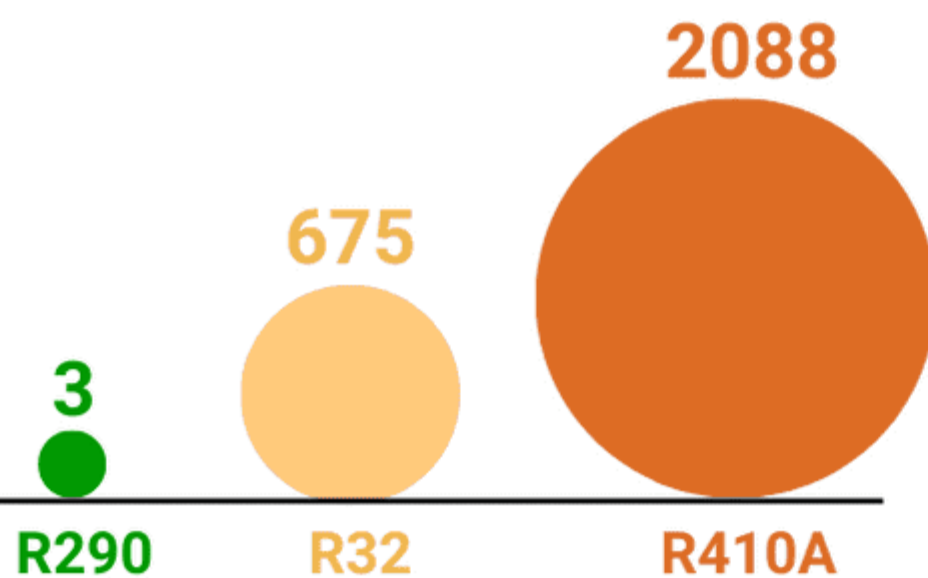


R290 Distinctive advantages compared to other alternative refrigerants:

- Improve the SCOP up to 4.8, reducing running costs
- Low GWP of 3 – exceptionally eco-friendly
- Water temperatures up to 70°C or more
- Legionella prevention in water temperature 65°C and higher
- Wide working range from -25°C to +43°C

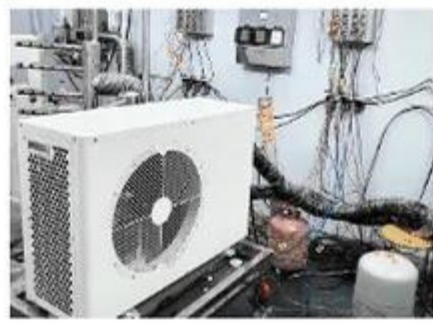


CO₂ Emissions
GWP Compare



Design to Withstand the Tough Environment

Our heat pumps have passed the extremely cold operation test, it can stably operate at -25°C , maintain high COP, reliable stability and excellent heating performance



DC Inverter Technology

Different from fixed speed systems, inverters automatically ramps up and down by the variable speed compressor, which means it can adjust the output needed at the lowest energy consumption based on the ambient

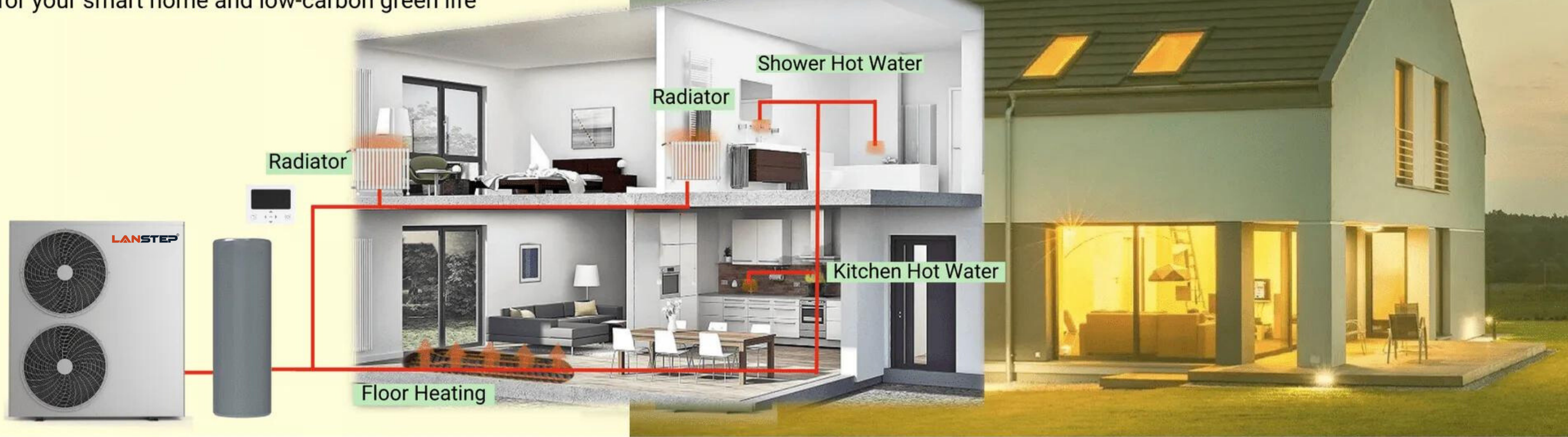


conditions as well as maintain temperature at the most comfortable level. Therefore, it achieves higher COP, more energy-efficient heating/cooling & hot water even under extremely cold climate, and greatly saves energy costs, cut down electricity bills. Utilizing the advancement of technology, Lanstep heat pump ensures a lower carbon footprint while delivering exceptional performance.

-25°C



We provide comprehensive eco-energy solutions for your smart home and low-carbon green life

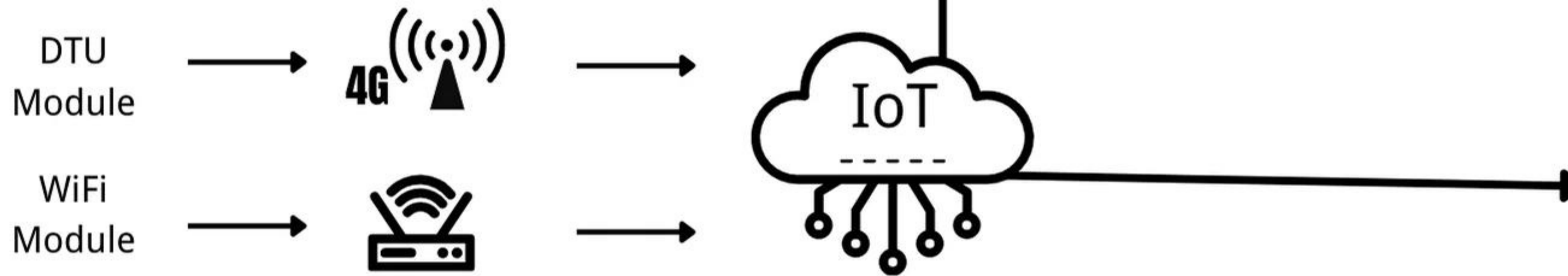


Silence with Comfort

With Lanstep upgrade noise reduction technology and the unique soundproof internal structure design, the sound pressure of Storm Series Air to Water Heat Pump is kept to as low as 38dB(A) at 2.1 meter distance (Min. Flow).

By reducing its acoustic level, it can be installed right next to a neighbor's fence without causing problems, which meets today's expectation of neighborhood harmony.





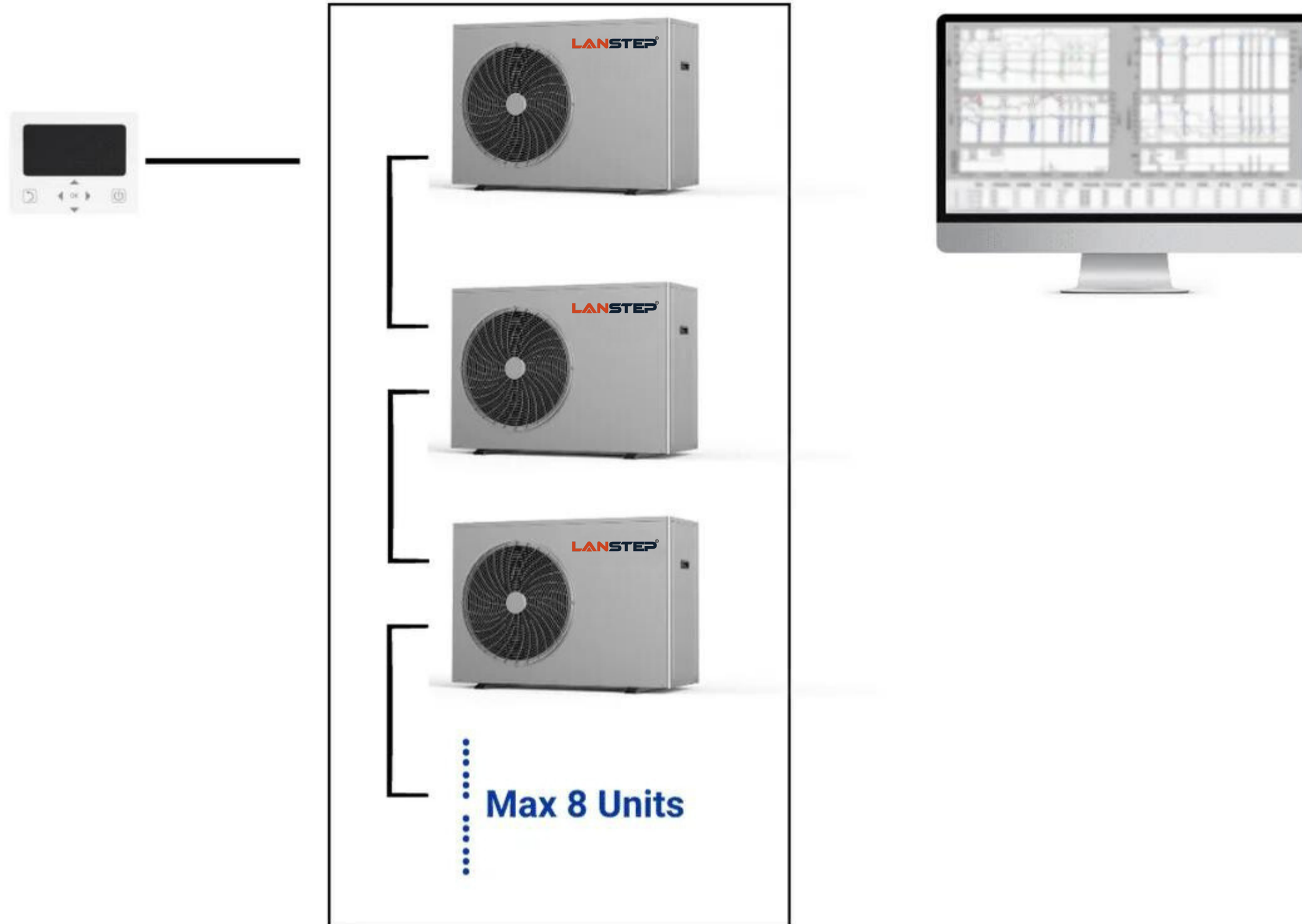
Smart Control Display

Lanstep Smart Display has a convenient 4-inch touch screen that users can easily control the heat pump at home, including various intelligent modes: central heating, central cooling, hot water, heating + hot water, cooling + hot water, anti-frozen protection, defrost, timer, etc.



APP Remote Control

With DTU Module and Electric Wi-Fi, you can pre-heat or cool a room no matter where you are. Users are able to remotely set water temperature and room temperature, change mode settings and check real-time or historical running status via computers (WEB) or mobile phone (APP).



IoT System & Remote Diagnostics

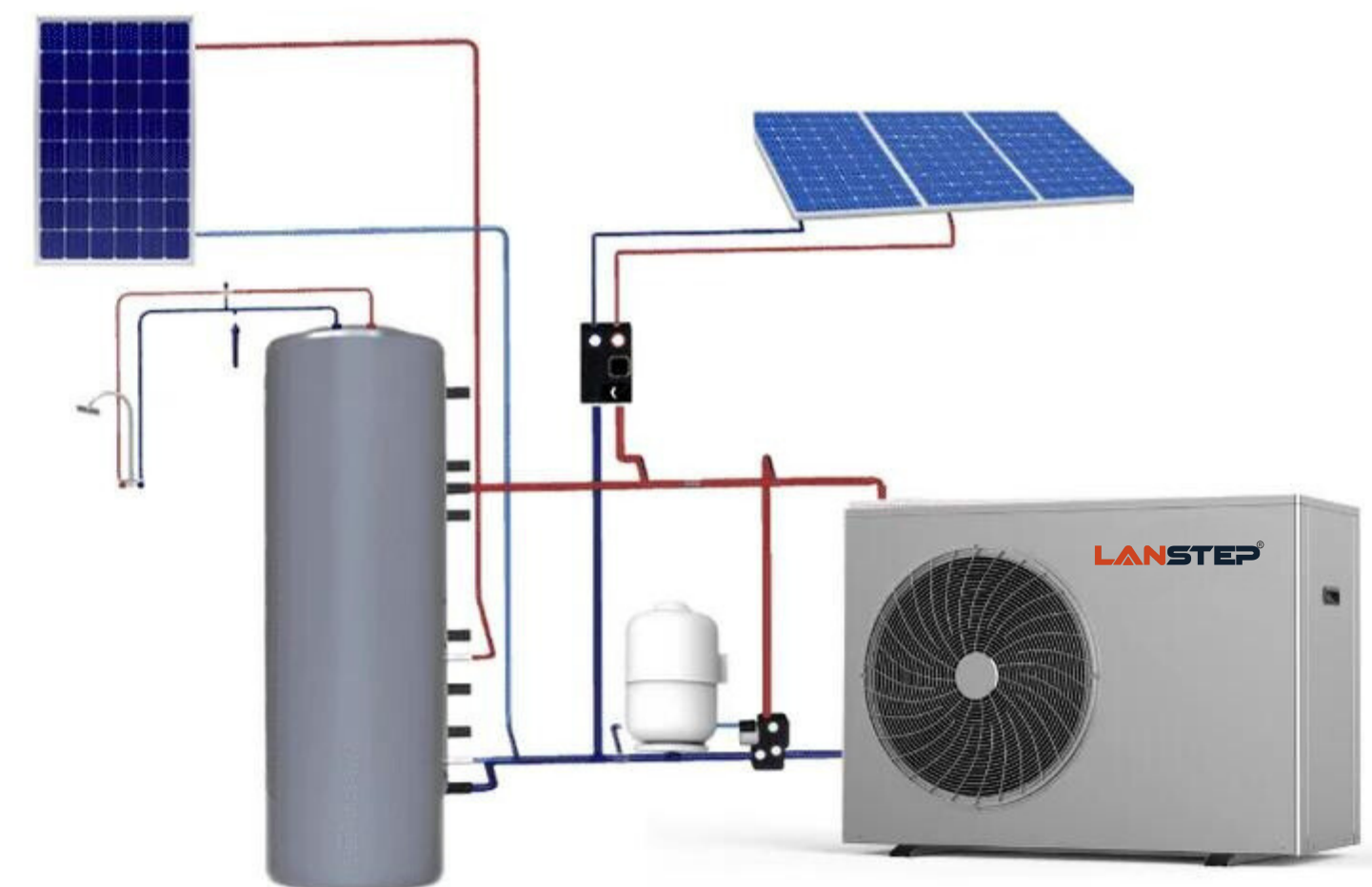
From performance monitoring to statistics analytics, Lanstep IoT system is a cost-efficient way to diagnose failing issue, automatically adjust the operation logics and solve the problem, increasing the security, uptime and reliability of the heat pump.

Hybrid Heating System

With Modbus(RS485) Interface, Lanstep Integrate Heat Pump can be connected to other energy source such as fuel boiler, solar PV panel, pellet boiler to achieve energy saving, based on local energy policy and user's preference. It will be greatly helpful in extremely cold area.

Cascade Control System

- Maximum 8 units controlled by one controller with automatic addressing
- Check running parameters in real time
- Built-in temperature sensor
- Built-in Wi-Fi module
- Modbus and network flexibility: for connecting to Energy Management Systems and Smart Home Applications with capable and well-documented interface such as RS485.



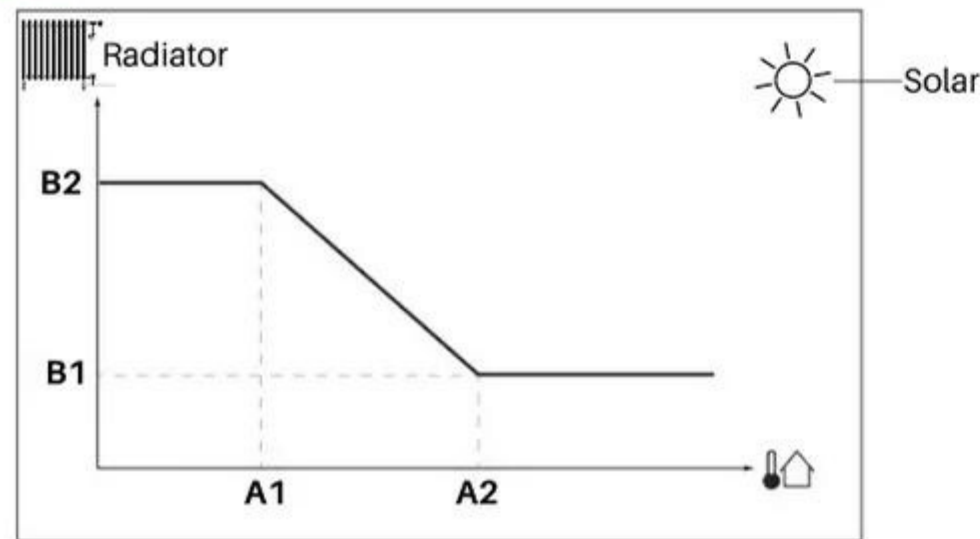
Weather-dependent Curve

The weather-dependent heating curve plays an important role in the significant increment of the SCOP of the unit. As the figure showing, when the house weather condition (outside temperature) is at A2, the flow temperature is at B1, and it will increase to be at B2 when the house weather condition gets cold and drops to A1.

Define the weather-dependent curve with these two desire temperature points:

- Desire Temperature (A1, B2)
- Desire Temperature (A2, B1)

EXAMPLE



The system keeps monitoring the current ambient temperature so as to automatically immediately adjust the flow temperature in opposite direction to **achieve the desired optimum comfort level.**

Therefore, customers can always use the most comfortable outlet water temperature under changing weather condition and different circumstance (e.g. heating demand, insulation levels, etc). **In this way, the weather-dependent operation greatly reduces energy consumption.**



Optimum Comfort Level



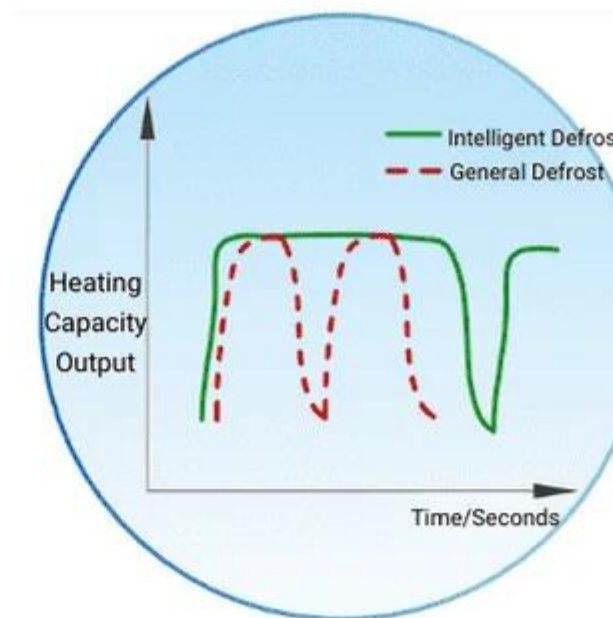
Increase SCOP



Save Energy

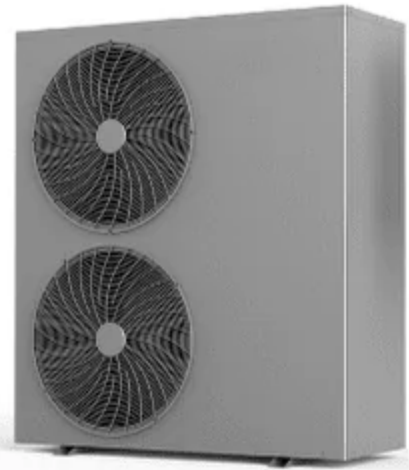
Anti-Frozen & Intelligent Defrost Mode

Preventing frost/ice from building up in the outdoor unit in cold climate conditions considerably contributes to minimizing energy consumption, avoid unnecessary wear and tear on the equipment and extend longer heating operation time.

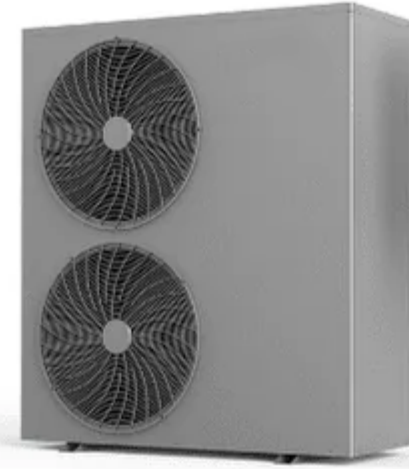


Storm Series (R290)

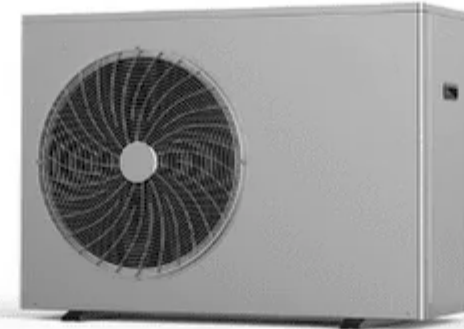
Monoblock Type Water Pump is included in the heat pump



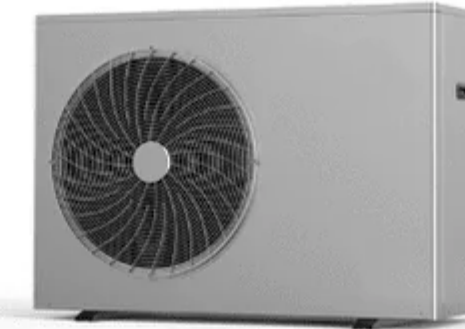
20kW Three Phase
XDASH20D3



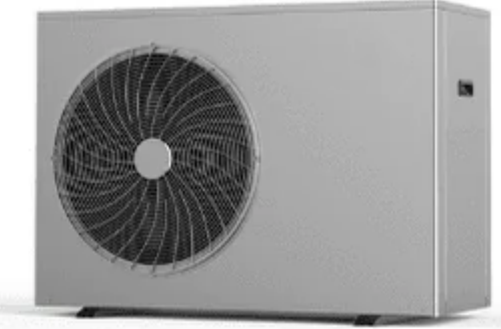
15kW Three Phase
XDASH15D3



12kW Three Phase
XDASH12D3



9kW Single Phase
XDASH09C3



6kW Single Phase
XDASH06C3

Split Type Water Pump NOT Included in the heat pump



20kW Three Phase
XDASH20D3 + HYB1



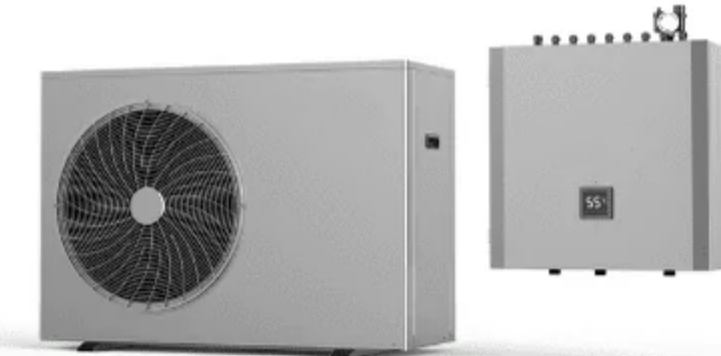
15kW Three Phase
XDASH15D3 + HYB1



12kW Three Phase
XDASH12D3 + HYB2



9kW Single Phase
XDASH09C3 + HYB3



6kW Single Phase
XDASH06C3 + HYB3

Parameters

Model No.		XDASH06C3A	XDASH09C3A	XDASH12C3A	XDASH15D3A	XDASH20D3A
Power Supply	V/ph/Hz	220~240 / 1 / 50	220~240 / 1 / 50	220~240 / 1 / 50	380~415 / 3 / 50	380~415 / 3 / 50
Energy Class (35°C SCOP)	/	A+++	A+++	A+++	A+++	A+++
Energy Class (55°C SCOP)	/	A++	A++	A++	A++	A+++
Performance						
Min./Max. Heating Capacity (1)	KW	2.07~6.82	2.99~8.86	4.58~11.83	5.64~15.72	7.81~22.32
El. heating power input min./max.(1)	W	476~1572	582~2374	900~2935	1121~4041	1603~5818
COP min./max.(1)	/	3.90~5.14	3.73~5.13	3.81~5.10	3.87~5.10	3.84~5.12
Min./Max. Heating Capacity (2)	KW	1.95~5.91	2.73~8.58	3.54~11.43	5.06~15.22	7.60~20.84
El. heating power input min./max.(2)	W	459~1830	656~2751	853~3586	1191~4812	1833~6584
COP min./max.(2)	/	3.23~4.25	3.12~4.16	3.19~4.15	3.16~4.20	3.17~4.14
Min./Max.cooling Capacity (3)	KW	1.73~5.47	2.92~7.44	3.53~9.89	6.81~12.20	9.39~16.72
El. cooling power input min./max.(3)	W	529~1252	676~2304	816~3003	1551~3741	2139~5159
E.E.R min./max.(3)	/	3.27~4.37	3.23~4.32	3.29~4.33	3.26~4.39	3.24~4.39
Min./Max.cooling Capacity (4)	KW	0.85~4.71	1.86~5.30	2.17~7.05	4.81~9.87	6.52~13.71
El. cooling power input min./max.(4)	W	347~1615	610~2141	714~2791	1558~3584	2149~4943
E.E.R min./max.(4)	/	2.45~2.85	2.48~3.05	2.53~3.04	2.75~3.08	2.77~3.03
Refrigerant/ Proper Input	kg	R290/0.55kg	R290/0.7kg	R290/0.9kg	R290/1.1kg	R290/1.5kg
Fan Motor Type	/	DC motor	DC motor	DC motor	DC motor	DC motor
Fan Quantity	/	1	1	1	2	2
Compressor	Brand	HIGHLY	HIGHLY	HIGHLY	HIGHLY	HIGHLY
Plate heat exchanger	Brand	Alfa Laval	Alfa Laval	Alfa Laval	Alfa Laval	Alfa Laval
Circulation Pump	Brand	Wilo	Wilo	Wilo	Wilo	Wilo
Max. flow temp. in heating mode	°C	75	75	75	75	75
Min. flow temp. in heating mode	°C	20	20	20	20	20
Min. flow temp. in cooling mode	°C	7	7	7	7	7
Circulation Pump Water lift	m	7.5	7.5	7.5	12.5	12.5
Water Pressure Drop (max)	kpa	30	30	30	30	45
Water connection	inch	G 1"	G 1"	G 1"	G 1"	G 1-1/4"
Operating Ambient Temp	°C	-25~43	-25~43	-25~43	-25~43	-25~43
Noise level (indoor/outdoor)	dB(A)	42/52	42/52	42/52	42/52	42/58
Unit Dimensions (L/W/H)	mm	1150×520×755	1200×550×855	1200×550×855	1250×550×1420	1250×550×1420
Net Weight	kg	88	104	112	164	185

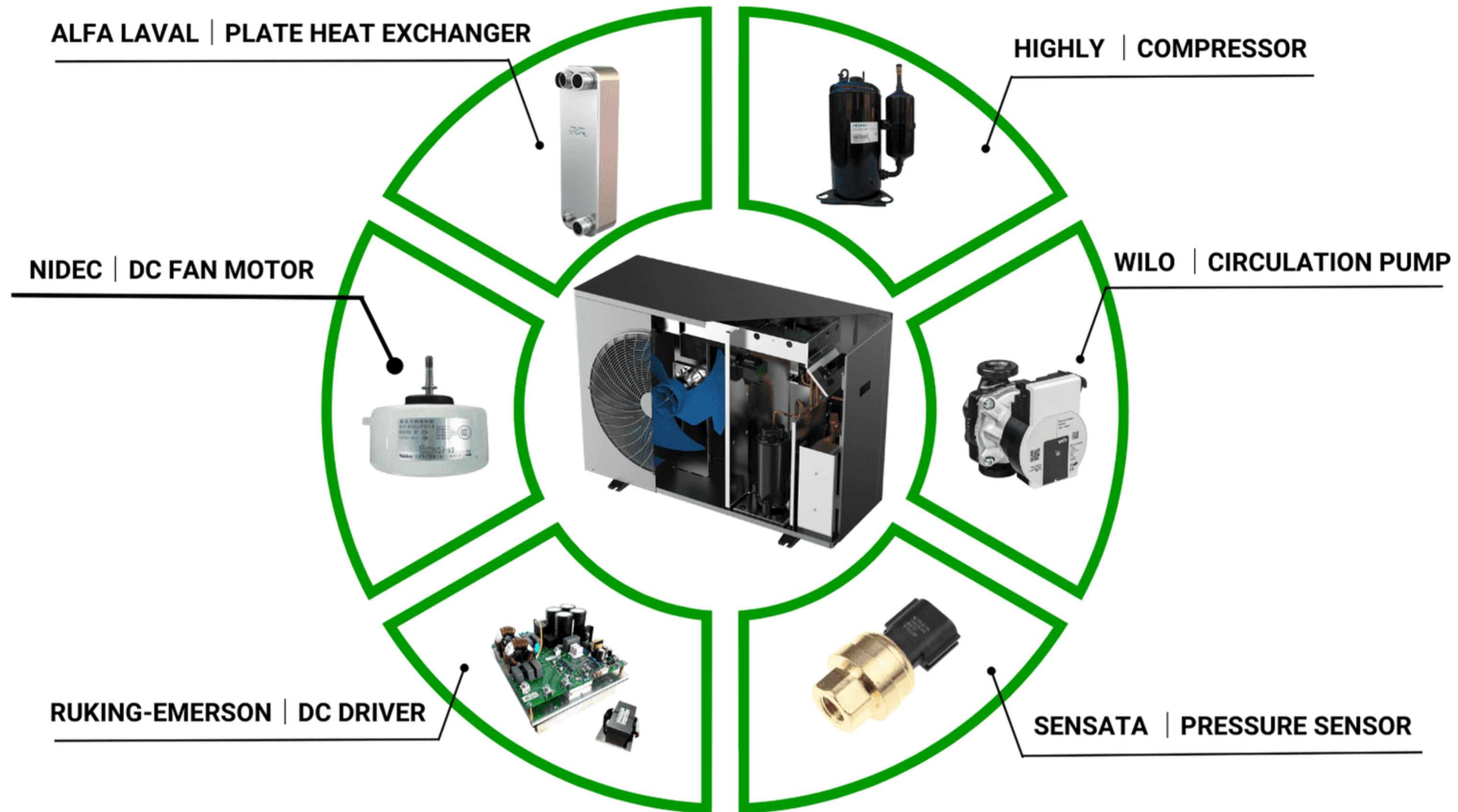
(1) Heating condition: water inlet/outlet temperature:30°C/35°C, Ambient temperature: DB 7°C/WB 6°C;

(2) Heating condition: water inlet/outlet temperature:40°C/45°C, Ambient temperature: DB 7°C/WB 6°C;

(3) Cooling condition: water inlet/outlet temperature:23°C/18°C, Ambient temperature: DB 35°C/WB 24°C;

(4) Cooling condition: water inlet/outlet temperature:12°C/7°C, Ambient temperature: DB 35°C/WB 24°C;

Components & Dedicated Structure



Leakage Detective

Safety Design for Preventing the Flammable and Explosive of R290

LanstepHeat Pump is designed with a comprehensive and rigorous logic system, which controlled by the intelligent console software to increase the security, efficiency and reliability of the unit operation. The heat pump system can automatically monitor and immediately diagnose and identify if the gas leakage index exceeds the standard, so as to indicate to trigger the Electromagnetic Valve to be closed.

In this condition, heat pump will stop working, avoid the possibility of R290 flammable and explosive to a large extent, resulting in an improvement of equipment safety.

Lanstep Hydrobox



HYB

Model No.	HYB1	HYB2	HYB3
Standby Electric Heating	3 kw	6 kw	9 kw
Water Pressure Drop	30 kpa	30 kpa	45 kpa
Water Connection	G1"	G 1"	G 1-1/4"
Net Weight	30 kg	30 kg	35 kg
Net Dimension (LxDxH)	625x280x680mm	625x280x680mm	625x280x680mm

High Efficiency Water Pump -Wilo
 Class A water pump maximize the efficiency of a water-based heating system in quite operation, helping reduce the energy consumption

Multifunctional 3-Way Valve
 Achieve 3 functions: hot water, central heating & cooling. Consumers can select the right modes according to their needs.

Backup Electric Heater
 The backup heater provides supplementary space heating capacity in addition to the heat pump in severe weather conditions.

Water Circuit Safety Valve Kit
 Water circuit monitoring helps consumer find out abnormal pressure for easier installations and maintenance.

Installation Never Been So Easy

Cost-effective & Time-saving Installation with Lanstep Hydrobox

With the all-in-one hydrobox, installers do not need to collect those different components, which helps install all these units quickly in the most convenient and time-saving way.

Split Heat Pump Install with Hydrobox



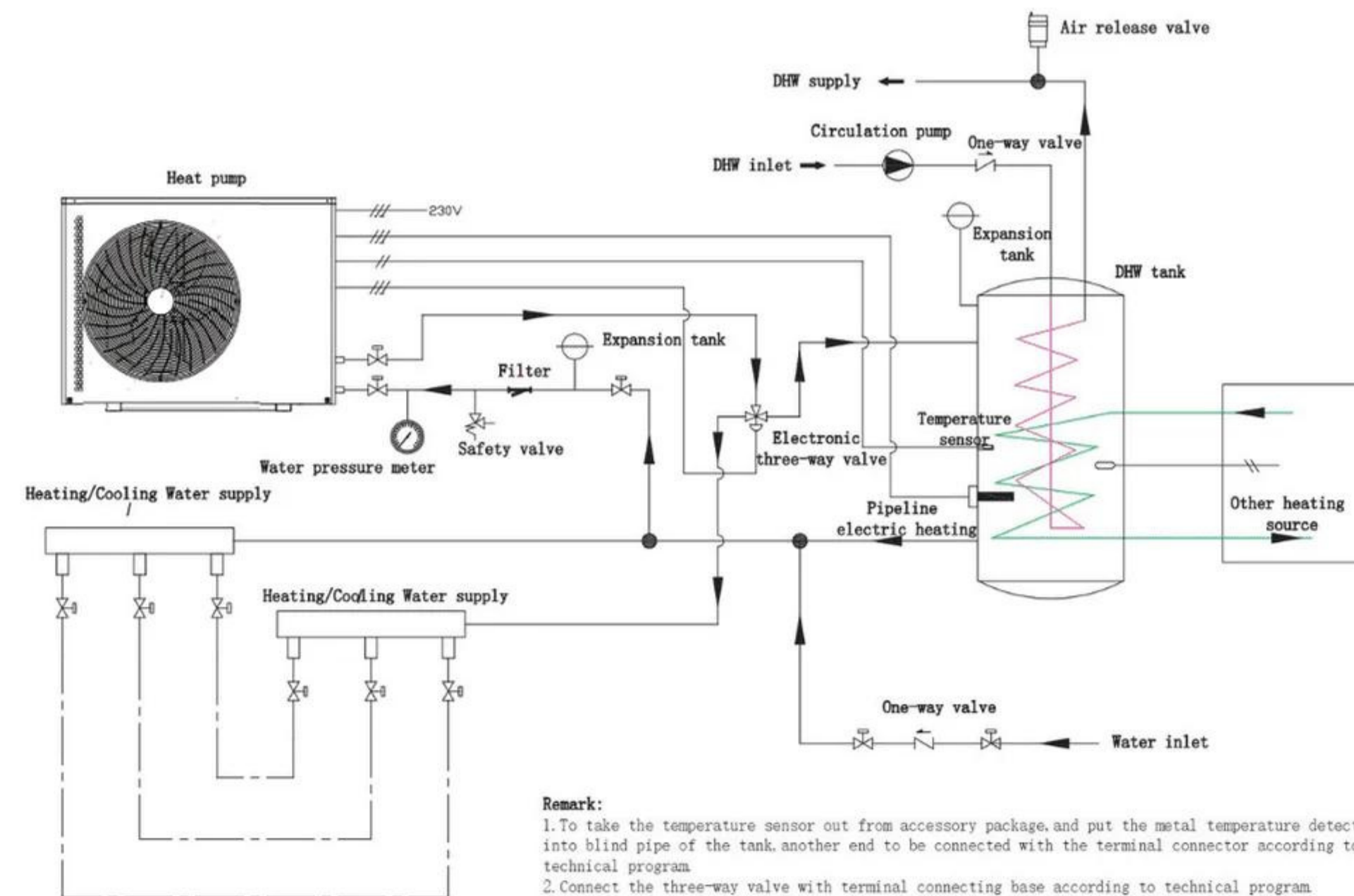
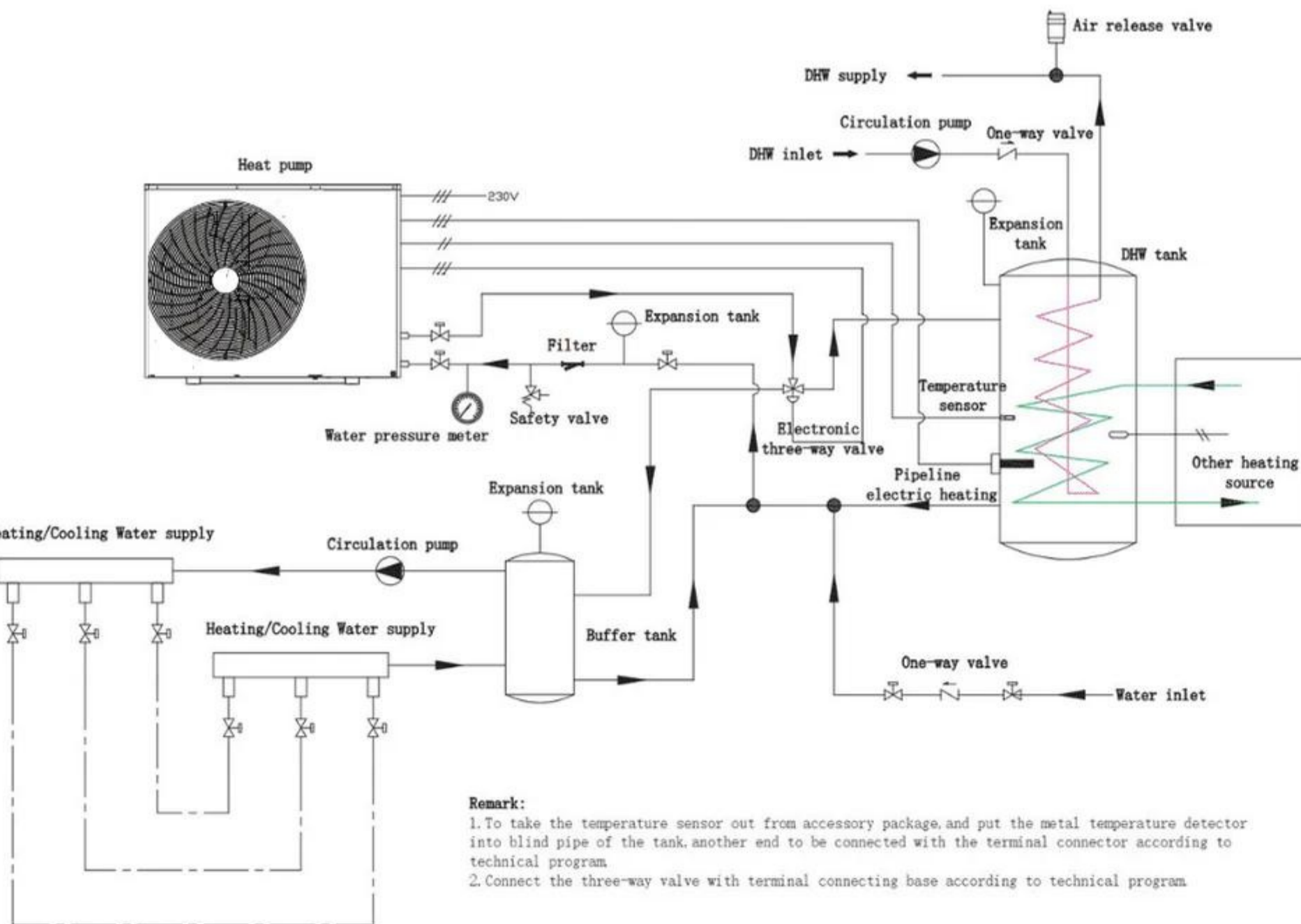
Application Guide

The components should be installed in accordance with local regulations and site conditions and additional field supplies such as air vent, manometer, flow meter, and safety fitting.

Type A Installation for Multi-functions

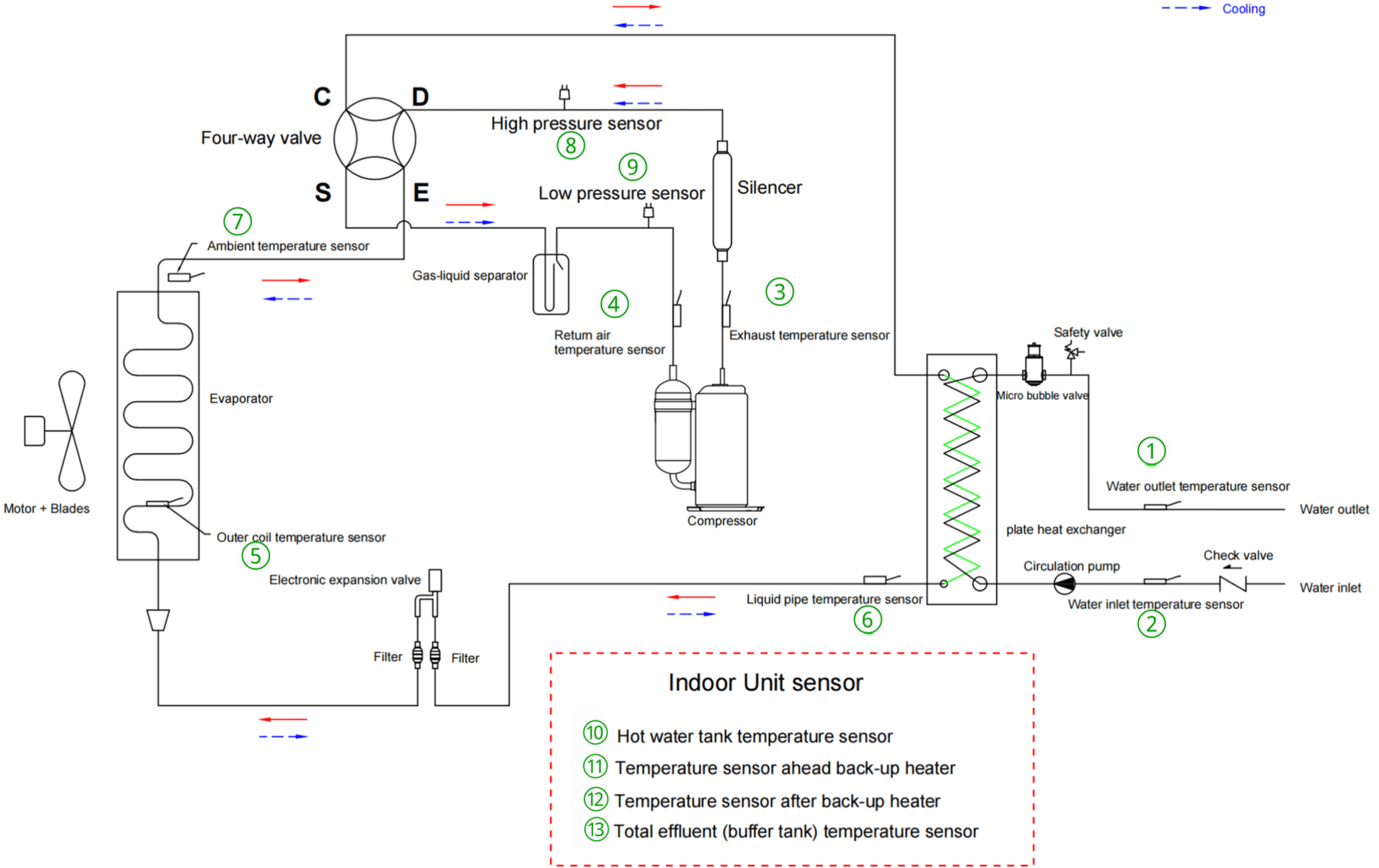


Type B Installation for Single Function



Schematic Diagram of LanstepHeat Pump System

→ Heating
- - - Cooling



Indoor Unit sensor

- ⑩ Hot water tank temperature sensor
- ⑪ Temperature sensor ahead back-up heater
- ⑫ Temperature sensor after back-up heater
- ⑬ Total effluent (buffer tank) temperature sensor

EXPLORE GREEN FUTURE WITH LANSTEP GROUP



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