SmartHeat

SmartHeat air source heat pump

-30℃ full DC stepless inverter heating & cooling heat pump

SmartHeat : SHBLN INVERTER HEAT PUMP

Stable running at -30℃

Panasonic EVI direct current inverter compressor can run at optimal quality in ultra-low temperatures

1Hz stepless inverter

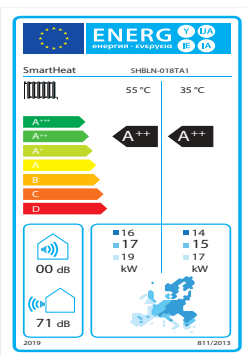
1Hz stepless frequency adjustment
COP up to 3.18 at -5℃
top-level energy efficiency means saving money even when it's cold outside

3 min speed defrosting

3 min intelligent defrosting technology with precise, speed and high energy efficiency

Ultra quiet

Low frequency silent cruise technology is at the sonic level of a quiet library



Warm in winter and cool in summer

Say goodbye to airborne disease

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CORE COMPONENTS

1. Panasonic DC inverter compressor

The Panasonic DC inverter compressor uses EVI technology and automatically switches into heating or cooling working mode according to the ambient temperature. The DC inverter compressor runs stable at -30°C.

2. Heat Exchanger

This patented "chocolate" diverges area technology with a high heat exchange.

3. DC inverter motor

With Automatic variable-speet control. Little vibration, low noise, low energy use.

4. Emerson full DC inverter driver module

Our customized embedded connection is secure, stable and accurately improves the active monitoring capability of the drive system .

5. Pressure sensor

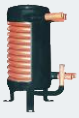
Fast and precise 24-bit measurement deliver high precision sensing between the working temperature range from -60°C to 150°C.

6. High-end finned tube exchanger

Specific hydrophilic coating. Water and ash do not accumulate as easily. Rapid elimination of moisture and overall heating efficiency is greatly improved.

7. Ultra-silence fan blade

Adopt frameless horizontal axial-flow type design and materials with high thermal conductivity. Lower drag, vibration and noise.

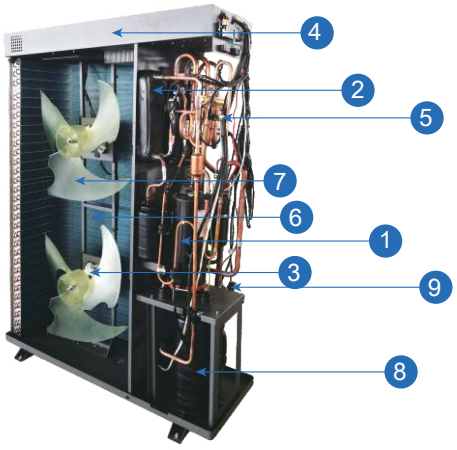


8. Shell heat exchanger

Fluorine circulation in shell and water circulation in tube. More sufficient heat exchanging. Inner grooved copper tube and compact structure. Prevents lubricating oil deposits and has a highly efficient heat transfer.

9. ACOL high-end water switch

If the water switch detects no water in the tube, the switch will automatically open itself to protect the system. It is another form of frost protection.



Full DC Inverter Heating & Cooling Heat Pump

Catalog Number	SHBLN-012	SHBLN-018	SHBLN-024	SHBLN-028	SHBLN-031
Power Supply	220V-240V/1/50Hz	220V-240V/1/50Hz	380V/3/50Hz	380V/3/50Hz	380V/3/50Hz
Heating Capacity at Air 7℃, Water 30 ℃ in, 35 ℃ out					
Heating Capacity (kW)	12(3.2~12.8)	18(5.2~20.5)	24(5~24.5)	28(6~28.5)	31(6~31.5)
Power Input (kW)	2.6	3.81	4.42(1.5~5.57)	6.44(2.5~6.63)	7.38(2.5~7.5)
COP	4.62	4.72	4.42	4.35	4.2
Heating Capacity at Air 7℃, Water 50 ℃ in, 55 ℃ out					
Heating Capacity (kW)	10(3.1~10.9)	15(4.6~18.5)	26(5~26.5)	27(6~27.5)	29(6~29.5)
Power Input (kW)	3.82	4.08	8.81(2.2~8.86)	9.23(2.8~9.48)	10.3(2.8~10.5)
COP	3.54	3.68	2.95	2.93	2.81
Cooling Capacity at Air 35℃, Water 12 ℃ in, 7 ℃ out					
Cooling Capacity (kW)	8(2.6~9.1)	14(4.2~16.8)	18(5~18.5)	20(6~20.5)	22.5(6~23)
Power Input (kW)	2.25	3.87	6.1(2.1~6.25)	7.02(2.6~7.32)	8.65(2.6~9.02)
ERR	3.56	3.62	2.92	2.85	2.6
Max Power Unput (kW)	5.3	6.8	11.5	12.8	12.8
Max Current (A)	22	32	20	26	26
Refrigerant	R410a	R410a	R410a	R410a	R410a
Net Weight (kg)	75	147	160	200	200
Dimension (mm)(LxWxH)	1005x375x800	1077x377x1460	1127x427x1560	1127x427x1560	1127x427x1560
Working Temperature Range(℃)	-30~46	-30~46	-30~46	-30~46	-30~46
Compressor	GMCC	Panasonic	Panasonic	Panasonic	Panasonic

One Device Dual Use

Pay for one heat pump and enjoy the functions of two devices

Would you like to experience the most comfortable heating and cooling solution? There is no need to buy expensive air conditioners and gas boilers. SmartHeat SHBLN inverter heat pump can bring you a cheap and comfortable solution.

Air conditioner

Boiler

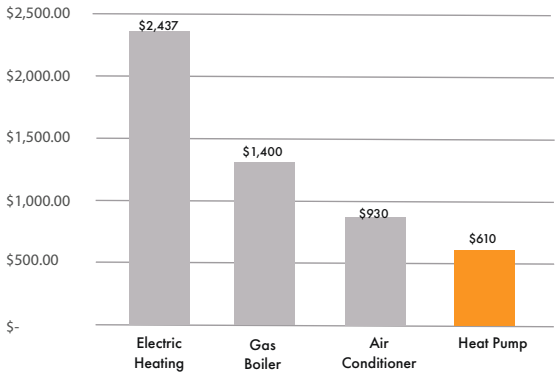
Up to 85% in Energy Saving

Full DC stepless inverter heat pump technology is more energy efficient.

SmartHeat SHBLN inverter heat pump uses Panasonic DC inverter compressor.
By absobing energy from the environment, the SmartHeat SHBLN inverter heat pump can cover 1kW of electricity into 4kW of heat for your house.

Take a 100 m2 house as an example, with a heating load of 80 W/m2 and heating operating for 1300 hours per year. (based on average running hours of heating system in a standard insulated house in Sydney) the energy savings can go up to 85% when compared to other heating sources.

Heating Cost (AUD)
1300 hours running per year



Note: Graph based on electricity cost of 0.29 ¢/kWh and natural gas cost of 3.79 ¢/MJ.
Heating cost of gas boiler and heat pump based on hydronic underfloor heating.

Various Kinds of Heating Terminals

Suitable for all kinds of home decoration styles

DIFFERENT SORTS OF HEATING TERMINALS
Suitable for all kinds of home decoration styles

Fan coil

This is suitable for new buildings. The fan coil is hidden in the ceiling space-integrated with the home decoration. It is beautiful, elegant and can be used for heating or cooling.

Underfloor heating

This is suitable for new or existing buildings. Underfloor heating pipes are laid down underneath below the finish of the floor. Its main advantage is the evenly distributed heat covering the entire surface of the whole floor. Underfloor cooling is also an available option.

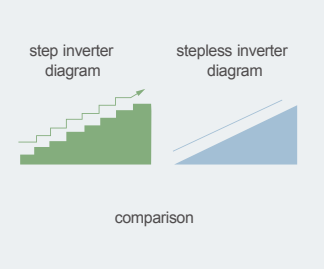
Hydronic radiator

This is stuitable for new or existing bulidings. Hydronic radiators are avaliable in many different models and sizes. This is the most appropriate solution for an existing building as it does not require a significant amount of changes to the building.

CORE TECHNOLOGIES

1. FULL DC stepless (1Hz) inverter technology: high efficiency and more energy-saving

Full DC stepless inverter refers to air source heat pumps (variable frequency compressor, variable frequency motor) that use DC inverter technology. Most products in the market use step frequency conversion or grid-style frequency conversion and thus cannot achieve real stepless frequency modulation. Stepless inverter means stepless frequency modulation, which achieves continuous speed regulation without any gear. According to the running conditions, SmartHeat SHBLN inverter heat pumps can freely run with 1Hz stepless frequency modulation, and with a nominal heating COP at -5°C- being more than 3.18, saves a lot more energy when compared to other variable frequency units.



2. Low frequency silent cruise technology:

SmartHeat SHBLN inverter heat pump utilises the self-developed 1 Hz DC stepless frequency modulation technology and holds real-time precision control over various running parameters. When reaching the set temperature, the units automatically switch into low requency cruise mode. Just like the sound of opening a book in the library, the volume is only at 38Db ,supplying you with the most comfortable and quiet environment.

3. 3 min intelligent defrosting technology: precision, speed and high efficiency

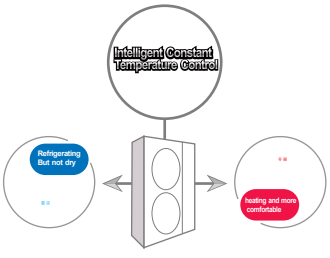
SmartHeat SHBLN inverter heat pump uses self-developed patented intelligent defrosting technology. If the frost layer coverage is more than 85%, the heat pump will switch into defrosting mode, ensuring that the machine is frost-free.

4. EVI technology: stability at -30℃

In the SmartHeat SHBLN inverter heat pump, the compressor uses EVI technology. There is a 20% increase in the amount of refrigerant flow. On one hand, this makes the operating temperature range wider from -30°C to 50°C, and on the other, the two-stage compression function resolves the problem of poor heating at ultra-low temperatures such as at -30°C.

5. Intelligent even-temperature control technology: more comfort in even temperatures

SmartHeat SHBLN inverter heat pump integrates small-temperature difference refrigeration technology and low-temperature heating technology. When heating by radiant floor heating in winter, the heating floor uniformly radiates upwards, and the indoor temperature does not fluctuate. The user experience is obviously different from air conditioner. It is especially suitable for families with old people and children. In the hot summers, water-circulation refrigeration mode is active. Different to that of a traditional air conditioner, the SmartHeat SHBLN does not bring you a dry and freezing feeling.



heating&cooling

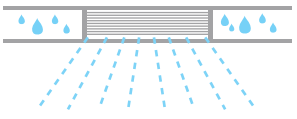
Small temperature difference refrigeration technology

Uses water-circulation refrigeration mode. The temperature difference between the circulating water and indoor temperature is small. Since the moisture in the air is not easy to condense, the air is not dry. Concurrently, the outlet air temperature will not be too low too.

Heating at low temperature technology

In low-temperature floor radiation heating, the floor temperature is only at about 25°C and the heat transfers slowly upwards. The feeling on the feet is both hot and cool on the head, aligning with the physiological habits of the human body.

Small temperature difference water-circulation refrigeration effect



Temperature: 30% higher than traditional air conditioner
Temperature difference: 45% lower than traditional air conditioner