SERO®

ELECTRIC APPLIANCES

Professional Manufacturer

Specialized tech, Economical price, Reliable quality, Original idea!

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SERO ELECTRONICAL APPLIANCES CO.,LTD

FOSHAN SERO ELECTRONICAL APPLIANCES CO., LTD was founded in 1997 as a specialized air conditioner and heat pump company integrating R&D, manufacture, sales and service.

SERO is certificated by ISO9001 and has modern production lines for air-conditioner and heat pump, all the production processes and inspections are strictly follow national and international technology standards; with equipments made in countries such us Germany, Japan, America, China: high pressure liquid detector, halogen detector, electric safety detector, copper pipe tester, product inspection, air enthalpy difference lab, constant temperature flume, simulant environment testing room etc., those advanced facilities ensure SERO air-conditioner and heat products meet standards of CB, CE, MEPS, PED ,CCC etc.

SERO as a reputation brand and OEM manufacturer, have been good marketing to 80 countries or areas in Europe, America, Africa, Oceania, Asia such as France, Italy, Germany, Sweden, Denmark, Norway, Britain, Finland, Russia, Poland, Australia, U.S.A, Argentina, Dominica, Uruguay, Tunis, Libya, Israel, Saudi Arabia, Vietnam, Taiwan, Hong Kong, China etc.

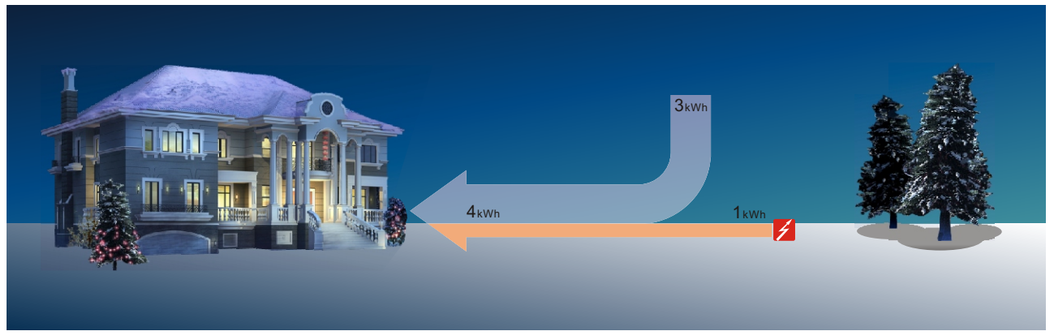
SERO has an experienced and senior team which focuses on management and technology; moreover, it has been working with companies and associations which have 20 years industry experience cooperate on the management and technology innovation, to continuously produce advanced and high technology household or commercial air-conditioner and heat pump products.

International certifications, reliable quality

Energy-saving,High Efficiency and Environment Protection

The most advanced new energy technology

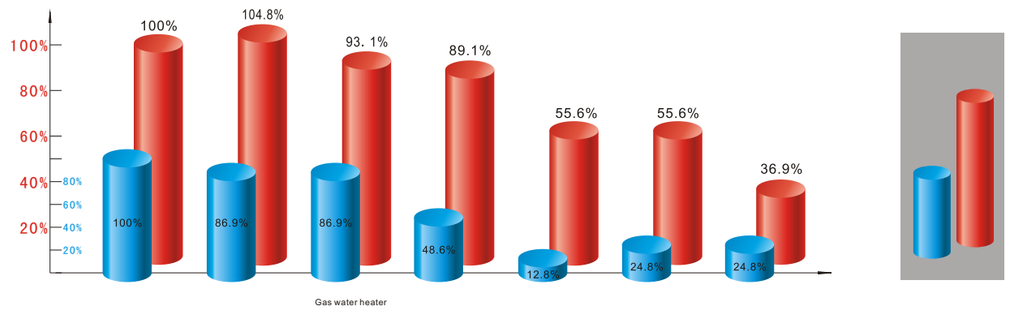
Heat pump is the latest product and it will become the most popular water heater. Heat pump water heater avoids the shortcoming of solar water heater that can not work in night and wet weather. It is able to work normally just over 15 oC all day long. The operation cost heat pump water heater is only 50% of the oil boiler and 25% of the traditional water heater. It is more high-efficiency, energy-saving, clean and safety.



The contrast of different water heater's power consumption

Heating style	Heat pump water heater	Electric water heater	Gas water heater		Solar water heater
Energy source	Electricity	Electricity	Gas	LPG	Light & Electricity
Fuel value	3600kJ/kWh	3600kJ/kWh	38568kJ/m3	105000kJ/m3	3600KJ/kWh
Efficiency of the machine	380%	95%	85%	85%	95% (90 days wet weather/year)
Average daily fuel consumption	2.1kWh	8.6kWh	0.89m3	0.328m3	2.1kWh
Unit price of fuel	0.6RMB/kWh	0.6RMB/kWh	5RMB/m3	20RMB/m3	0.6RMB/kWh
Daily cost	1.28 (RMB)	5.14 (RMB)	4.47 (RMB)	6.56 (RMB)	1.28 (RMB)
Yearly cost	467 (RMB)	1876 (RMB)	1631 (RMB)	2394 (RMB)	467 (RMB)

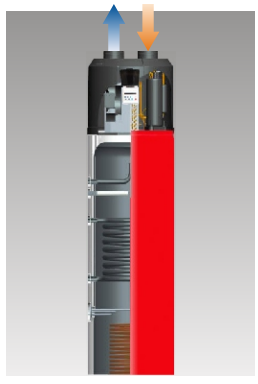
The contrast of different water heater's total cost



R410a R407c

Heat Pump Water Heater & Chiller

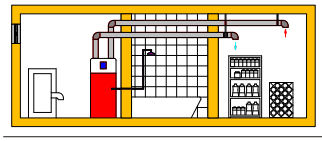
Double Ducts Type



Advantages:

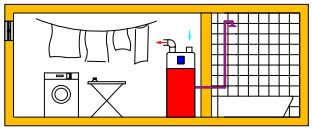
- High COP due to adopt R410a and high efficient compressor of Japanese famous brand name.
- Displays water temperature.
- Displays error code when having problem.
- Automatic control of defrosting-cycle.
- Pretty and compact in appearance. Stainless steel shell and various color galvanized sheet for option.
- Quiet running due to low speed fan.
- Duct length of 7 metres.
- Easy to install or maintain.

Many system-design options for architects



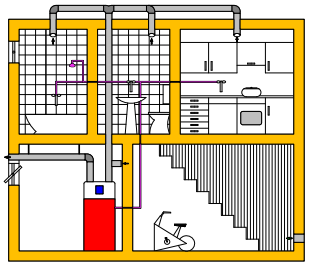
Option A:

-Installation in the heating room.
-Hot water heating from room air.
-Optional use: Cooling of the food storage or wine cellar.
Cooling of the room for your choice.



Option B:

-Installation in the laundry washing room.
-Hot water heating from room air.
-Optional use: laundry-drying, decalcified water for steam-iron.
-Dehumidification.



Option C:

-Installation in the same room as heating heat pump.
-Heat recovery from return air; sanitary hot water production.
-Optional use: Removal of used, Humid, Charged air from bath, toilet, kitchen;
Fresh ambient air enter home by slots.

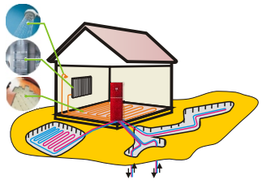
			KS25-C150	KS25-C200	KS35-C300
Technical Data	Rating temperature of output water	℃	55	55	55
	Max temperature of output water	℃	60	60	60
	Heating capacity	KW	2.6	2.6	3.4
	Water yield(Fr 25℃ to 55℃)	L/H	50	50	75
	Rating power input	KW	0.80	0.80	1.06
	Max power	KW	1.2	1.7	2.1
	Noise level	dB(A)	46	46	48
	Compressor	Type	Rotary	Rotary	Rotary
	Additional electrical heater(option)	KW	2	2	2
	Air pressure	Pa	60	60	60
Installation	Unit dimension	DXH(mm)	Φ570X1602	Φ570X1660	Φ680X1750
	Packing dimension	WXDXH(mm)	610X610X1720	610X610X1778	703X703X1850
	Water tank volume	L	150	200	300
	Net weight	Kg	70	82	98
	Duct diameter	mm	150	150	150
	Water inlet/outlet connection		3/4"	3/4"	3/4"
Running condition	Power	V/Ph/Hz	230/1/50	230/1/50	230/1/50
	Rating current inupt	A	3.6	3.6	4.8
	Max current	A	6	6	8
	Work Temperature	℃	0~40	0~40	0~40

Hot water heating capacity is based on inlet water temperature 40℃, Ambient temperature 20℃(DB)/12℃(WB).

R410a R407c

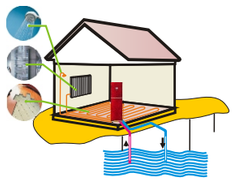
Central Heat Pump System(All In One)

BWA Series — Ground Source With Brine All In One



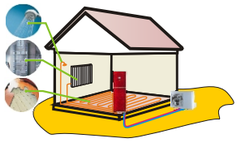
Brine systems are built in 3 designs:
- Standard flat-collectors are positioned 120 to 140 cm below ground level.
- Trenches which use less surface for collectors.
- Earth taps with up to 100 m depth use mainly geothermal energy (Recommended if there is not enough only little area in the garden).

WWA Series — Water Source All In One

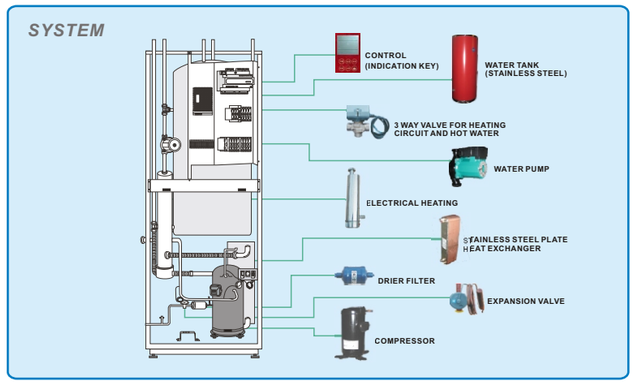


The ideal heat source is ground-water because of its relatively high temperature of 8 to 12 ℃ all the year round.
The water must be available at a reasonable depth, With sufficient quantity, quality and without contamination.
The ground water is taken from a source-well and sink well to the heat pump and pumped back into the ground is the sink-well at some 15 m distance.

AWB Series — Air Source All In One



There is always enough air available for an air to water heat pump.
SERO Heat pumps are equipped with defrosting systems for the safe operation at outside temperatures to - 16 ℃.
SERO offers split systems with heat pumps installed indoor.
There are no restrictions for the installation as non-flammable safety refrigerants are used. The compact units are available for eigher indoor or outdoor installation.

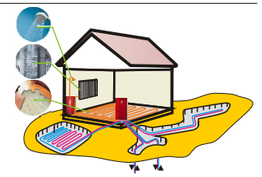


Energy Source	Model	Performance at	Heating Capacity	Power	Cop	Supply power	Auxiliary heater	Refrigerant	Compressor	Heat exchanger	Water tank	Flow Temperature	Dimensions (HxWxD)	Weight
	SS		KW	KW		V/Ph/Hz	KW				L	℃	mm	Kg
Ground Source	6	B0/W35	5.5	1.3	4.2	230/1/50	3	R410A/R407C/R22	Rotary(1)	PBHE/PBHE	150	65	1780x600x650	245
	8	B0/W35	8.0	1.8	4.3	230/1/50	3/6	R410A/R407C/R22	Rotary(1)	PBHE/PBHE	150	65	1780x600x650	247
	10	B0/W35	10.0	2.2	4.4	400/3/50	3/6/9	R410A/R407C/R22	Scroll(1)	PBHE/PBHE	150	65	1780x600x650	250
	12	B0/W35	12.0	2.7	4.4	400/3/50	3/6/9	R410A/R407C/R22	Scroll(1)	PBHE/PBHE	200	65	1780x600x650	278
	16	B0/W35	15.7	3.7	4.3	400/3/50	3/6/9	R410A/R407C/R22	Scroll(1)	PBHE/PBHE	200	65	1780x600x650	283
Water Source	6	W10/W35	5.6	1.0	5.6	230/1/50	3	R410A/R407C/R22	Rotary(1)	Titanium/PBHE	150	65	1780x600x650	245
	8	W10/W35	7.5	1.4	5.4	230/1/50	3/6	R410A/R407C/R22	Rotary(1)	Titanium/PBHE	150	65	1780x600x650	247
	10	W10/W35	9.6	1.7	5.8	400/3/50	3/6/9	R410A/R407C/R22	Scroll(1)	Titanium/PBHE	150	65	1780x600x650	250
	12	W10/W35	12.4	2.1	5.7	400/3/50	3/6/9	R410A/R407C/R22	Scroll(1)	Titanium/PBHE	200	65	1780x600x650	278
	16	W10/W35	15.3	2.7	5.8	400/3/50	3/6/9	R410A/R407C/R22	Scroll(1)	Titanium/PBHE	200	65	1780x600x650	283
Air Source	6	A7/W35	6.6	1.5	4.3	230/1/50	3	R410A/R407C/R22	Rotary(1)	Fin/PBHE	150	55	1780x600x650	235
	8	A7/W35	8.7	2.0	4.4	230/1/50	3/6	R410A/R407C/R22	Rotary(1)	Fin/PBHE	150	55	1780x600x650	237
	10	A7/W35	10.5	2.5	4.2	400/3/50	3/6/9	R410A/R407C/R22	Scroll(1)	Fin/PBHE	150	55	1780x600x650	240
	12	A7/W35	12.9	3.0	4.2	400/3/50	3/6/9	R410A/R407C/R22	Scroll(1)	Fin/PBHE	200	55	1780x600x650	268
	16	A7/W35	16.0	3.7	4.3	400/3/50	3/6/9	R410A/R407C/R22	Scroll(1)	Fin/PBHE	200	55	1780x600x650	273

R410a R407c R-22

Central Heat Pump System(Split Type)

BWB Series — Ground Source With Brine Split Type



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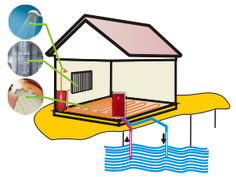
WWB Series — Water Source Split Type



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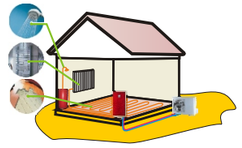
AWB Series — Air Source Split Type



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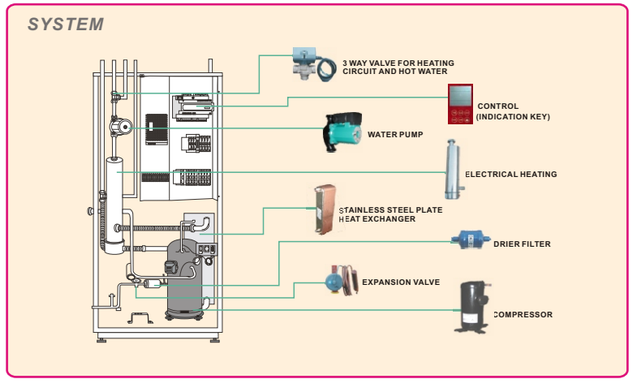


Energy Source	Model	Performance at	Heating Capacity	Power	Cop	Supply power	Auxiliary heater	Refrigerant	Compressor	Heat exchanger	Water tank	Flow Temperature	Dimensions (HxWxD)	Weight
	SS		KW	KW		V/Ph/Hz	KW				L	℃	mm	Kg
Ground Source	12	B0/W35	12.0	2.7	4.4	400/3/50	3/6/9	R410A/R407C/R22	Scroll(1)	PBHE/PBHE	260	65	1150x600x650	148
	16	B0/W35	15.7	3.7	4.3	400/3/50	3/6/9	R410A/R407C/R22	Scroll(1)	PBHE/PBHE	300	65	1150x600x650	153
	20	B0/W35	18.8	4.3	4.4	400/3/50	3/6/9	R410A/R407C/R22	Scroll(2)	PBHE/PBHE	300	55	1150x600x650	188
	25	B0/W35	21.0	4.6	4.5	400/3/50	3/6/9	R410A/R407C/R22	Scroll(2)	PBHE/PBHE	360	55	1150x600x650	195
	33	B0/W35	25.3	5.7	4.4	400/3/50	3/6/9	R410A/R407C/R22	Scroll(2)	PBHE/PBHE	360	55	1150x600x650	205
	40	B0/W35	32.0	8.2	3.9	400/3/50	3/6/10	R410A/R407C/R22	Scroll(2)	PBHE/PBHE	500	55	1150x600x650	220
Water Source	12	W10/W35	12.4	2.1	5.7	400/3/50	3/6/9	R410A/R407C/R22	Scroll(1)	Titanium/PB	260	65	1150x600x650	148
	16	W10/W35	15.3	2.7	5.8	400/3/50	3/6/9	R410A/R407C/R22	Scroll(1)	Titanium/PB	300	65	1150x600x650	153
	20	W10/W35	18.9	3.2	5.9	400/3/50	3/6/9	R410A/R407C/R22	Scroll(2)	Titanium/	300	55	1150x600x650	188
	25	W10/W35	23.6	4.0	5.8	400/3/50	3/6/9	R410A/R407C/R22	Scroll(2)	Titanium/	360	55	1150x600x650	195
	33	W10/W35	33.0	5.8	5.7	400/3/50	3/6/9	R410A/R407C/R22	Scroll(2)	Titanium/	360	55	1150x600x650	205
	40	W10/W35	37.0	6.9	5.4	400/3/50	3/6/10	R410A/R407C/R22	Scroll(2)	Titanium/	500	55	1150x600x650	220
Air Source	12	A7/W35	12.9	3.0	4.2	400/3/50	3/6/9	R410A/R407C/R22	Scroll(1)	Fin/PBHE	260	55	1150x600x650	138
	16	A7/W35	16.0	3.7	4.3	400/3/50	3/6/9	R410A/R407C/R22	Scroll(1)	Fin/PBHE	300	55	1150x600x650	143
	20	A7/W35	20.2	4.7	4.3	400/3/50	3/6/9	R410A/R407C/R22	Scroll(2)	Fin/PBHE	300	55	1150x600x650	178
	25	A7/W35	27.0	6.6	4.1	400/3/50	3/6/9	R410A/R407C/R22	Scroll(2)	Fin/PBHE	360	55	1150x600x650	185

Inverter R410a

DC Inverter Series Air To Water

SERO E-STAR (air to water with DC INVERTER series)

A highly flexible, energy efficient home heating system that extracts the heat from the outside air, raises this heat to a higher temperature and then distributes warmth around the home through high quality heating units. At the heart of the system lies an air to water heat pump. Because of this advanced technology, three quarters of the heat generated by the E-STAR system is absolutely free of charge! The E-STAR air to water heat pump is today's answer to the current and future problems associated with conventional heating systems, such as, increasing primary energy costs and an unacceptably high environmental impact.

66% TO 80% FREE OF CHARGE
A heat pump boiler works much more efficiently and saves more energy than a traditional heating system based on fassil fuesl. With E-STAR, 1kW of electricity generates 3 to 5kW of free heat. That is an investmenet that pays.

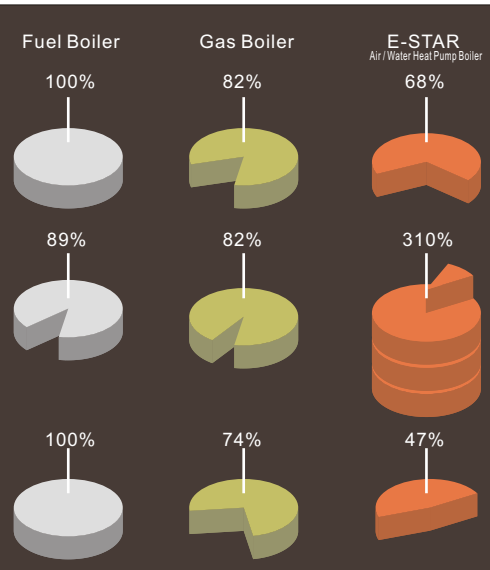
RUNNING COST:
Conditions: Annual heating energy required: 20 000 kWh
Source: Energy prices based on EUROSTAT statistics (first semester 2007)

COP (Coefficient of Performance)
Stands for the ratio of the output heat and the energy used by the heat pump compressor. The E-STAR heat pump boiler has a COP of 3 to 5,which means that the pump delivers 3to 5 times times more enery gy than it uses.

EFFICIENCY(COP):
Source: Results depend on individual design of boilers and different climate conditions.
Efficiency of Altherma measured by an independenet accredited laboratory (SP Technical Presearch Institute of Sweden).

CO2 EMISSIONS
The carbon footprint of a heating system can be calculated by mutiplying the energy input by the Green House Gas Conversion Factor.

CARBON EMISSIONS(CO2):
The Green House Gas Conversion Factor is as follows:
Fuel Oil: 0.265
Gas: 0.206
Electricity: 0.430
Source: DEFRA (Department of Envirnment,Food and Rural Affairs)



Indoor unit

Model			KS50-DC	KS70-DC	KS90-DC	KS120-DC
Function			Heating only	Heating only	Heating only	Heating only
Dimensions	WxHxD	mm	450X550X255	450X550X255	450X550X255	450X550X255
Weight		kg	18	19	22	27
Leaving water temperature range	heating	℃	20-60			
	cooling	℃	5-35			
Hot water		℃	20-60			
Water three way valve			Yes			
Heat exchanger			Stainless steel plate			
Water pump			Yes			
Shell material			Epoxy polyester painted galvanised steel			
Additional electrical heater		KW	2	2	2	3
Power supply		V/Hz/Ph	220-240/50/1			

Standard model is heating only.Cooling and heating is optional


KS50-DC


KS70-DC

Outdoor unit

Model			KS50-DC	KS70-DC	KS90-DC	KS120-DC
Dimensions	WxHxD	mm	840x590x290	840x700x315	880x780x360	830x1230x310
Nominal Capacity	heating	kW	5.60	7.41	9.32	12.94
	cooling	kW	5.12	6.70	8.53	11.20
Nominal input	heating	kW	1.31	1.77	2.27	3.17
	cooling	kW	1.87	2.42	3.02	4.13
COP			4.27	4.19	4.11	4.08
EER			2.74	2.77	2.82	2.71
Compressor		type	Rotary	Rotary	Rotary	scroll
		Brand	Sanyo	Sanyo	Sanyo	Sanyo
Operation ambient range		℃	-20- 43			
Sound pressure level	heating	dBA	51	52	54	56
	cooling	dBA	52	53	54	57
Weight		kg	48	52	68	85
Refrigerant charge	R-410A	kg	0.82	1.15	1.4	2.5
Power supply		V/Hz/Ph	230/50/1			400/50/3

Measurement condition:A7/W35(heating mode),A35/W7(cooling mode)


KS90-DC


KS120-DC