

# **Bridging China International**

# HEAT PUMPS





SERVICE	OUR MOST IMPORTAN	T PRODUCT

# Our Company



#### **OUR BACKGROUND**

Although Bridging China was established in 2005, our China and US management teams have worked in the pool industry for well over 15 years. During this time, we have worked with major pool companies and distributors in both the Europe and United States. We have accumulated vast experience in project management, OEM manufacturing, customer service, and product knowledge relative to the pool industry. Bridging China International Ltd. has positioned itself as a professional pool company providing a wide range of products from maintenance accessories to high-end pool equipments including, but not limited to, pumps, filters, filtration systems, automatic cleaners and pool heat pumps.

In order to better serve our heat pump customers, in 2008, we established a joint venture so that we have our own heat pump factory. By doing so, we have made a commitment to provide our valued customers with not only the best quality heat pumps but also competitive prices. This joint venture was chosen very carefully based on the company philosophy, high standard components, and rigorous quality control to insure that you receive the best products possible. We believe that with this joint venture, our pool heat pumps are the most reliable machines in the China market!

Our production facility is located in Shunde, Canton province, China. Shunde is the heart of China South manufacturing region for electric and electrical appliances. All of the major brands of China made air conditioners are manufactured from this region. In addition, all of the major component suppliers are located in this region providing us easy access to some of the best component suppliers in China.

#### **OUR COMMITMENTS**

In order to provide better services to our customers, Bridging China will continue to develop more advanced swimming pool heat pumps to meet increasing demands and challenges. We pride ourselves not only on providing the best pricing and quality products to our customers, but also to provide the best service and customer satisfaction once you have received your products. This is the Bridging China commitment to our most valued asset, our customers!



- We only use top-class components to achieve top quality heat pumps.
- We use Japaness brands of compressor for our heat pump.
- Titanium heat exchanges: each heat exchanger is water pressure test for rigidity. Also each heat exchanger is air pressurized for 48 hours for leaking test before assembly.
- PCB board: up to 4 hours of accelerated aging test at 45 °C.
- All piping system after welding, we first test with 35 KG nitrogen for leaking test. Then each machine has to go through two times for refrigerant leaking with micro-detectors.
- Complete machine: real-time running test to make sure all functions and protections are working.
- Result: We have defect rate < 0.5% per year.</p>









# Product Advantages 2

#### Multi-protection, Greater Peace of Mind

The system protections include high and low pressure protection, compressor overload protection, operating delay protection, water flow protection, water temperature and high temperature protection. The Compressor protection includes overload protection, leakage protection, grounding protection, ultra-high exhaust temperature protection. Manufactured products are testing by packing system, halogen testing, second halogen testing, performance testing to ensure 100% quality!

#### High Energy Efficient & Environmental Friendly

All out heat pumps use the newest environmental friendly coolant R410A, and the high quality Panasonic or Sanyo compressors, our COP of heat pump can reach 5~6.

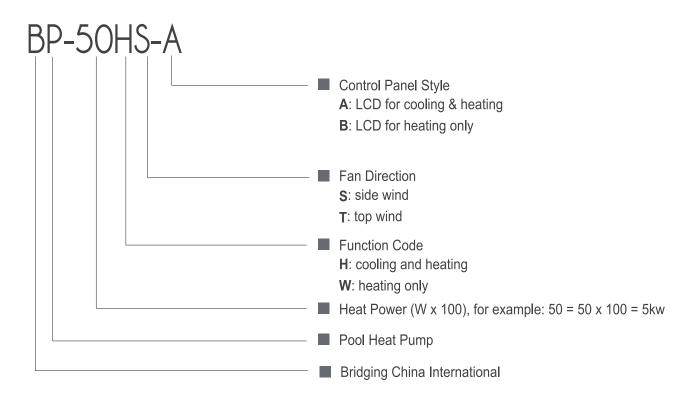
#### **Durable**

The advanced titanium heat exchanger can withstand the erosion of chlorical ions in water without harmful for human. Our galvanized steel casing of heat pump is coated with resin based powder coating which has the anti-corrosion effect for long-lasting life time.

#### Intelligent Control

Parameter design with LCD display, easy to regulate on scene. Self-diagnostic control panel monitors and troubleshoots heat pump operations to ensure safe, dependable operation.

### Model Code Definition







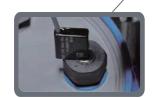
#### Digital LCD Control Panel

With this intelligent LCD control Panel, you can monitor and operate the heat pump clearly and easily.



#### Japanese Compressors

We choose the most reliable Japanese heat pump compressors for our heat pumps to ensure reliable and quite operation.



#### Water Flow Switch

One of our protection mechanisms. When there is no water or low water flow through the heat pump, the water flow switch will switch off the heat pump, and show an error message in our control panel.



#### Titanium Heat Exchanger

with very sturdy design, our heat exchanger can withstand the water pressure coming from water pump. The advanced titanium heat exchanger can withstand the erosion of chlorine and salt in water, guarantee for long lasting operation time.















Models	Unit	BP-30WS-B	BP-35WS-B	BP-50WS-B	BP-85WS-B				
Heating Capacity A24/W27	kW	3	3.7	5.4	8.5				
COP A24/W27	W/W	5.1	5.3	5.1	5				
Heating Capacity A15/W27	kW	2.3	2.8	4.1	6.6				
COP A15/W27	W/W	4.6	4.6	4.5	4.4				
Power Input	kW	0.6	0.7	1	1.7				
Current	А	3	3.6	5	7.8				
Power Supply	V/P/Hz	220/1/50	220/1/50	220/1/50	220/1/50				
Compressor Qty		1	1	1	1				
Compressor Style		Rotary	Rotary	Rotary	Rotary				
Compressor brand		Japanese							
Heating Exchanger		Titanium in PVC							
Water Connection	mm	50	50	50	50				
Fan Quantity		1	1	1	1				
Fan Rotate Speed	RPM	830	830	830	830				
Fan Direction		Horizontal	Horizontal	Horizontal	Horizontal				
Noise	dB(A)	46	48	49	50				
Water Flow Volume	m3/h	2.8	3	3.5	5				
Net Unit Size (L/W/H)	mm	655x270x480	755x270x480	940x270x540	940x270x540				
Carton Size (L/W/H)	mm	730x340x550	830x340x550	1070x400x575	1070x400x575				
Net/Gross Weight	kg	30/34	33/37	44/48	53/57				



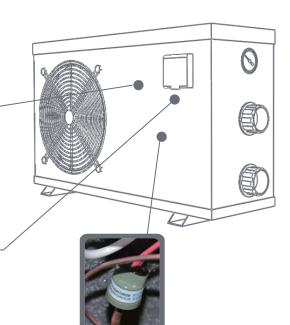
#### Auto-defrosting

With auto defrosting function, when the environmental temperature is too low, our machine will automatically start defrosting function, to ensure the optimal heat pump operations.



#### Self-Diagnosis Function

With our pre-programmed self-diagnosis function, together with our different protection sensors, errors will be detected by micro-computer chip, and display corresponding error code on the control panel. End user can easily determine the root of problem and correct procedure can be taken to put machine back to normal operation.



High & Low Pressure Sensors

This is one of the important protection mechanisms for our heat pumps. When the refrigerant pressure inside machine is too high or too low, these sensors will detect and shot down the heat pump immediately, to prevent the compressor from damage.















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Models	Unit	BP-35HS-A	BP-50HS-A	BP-85HS-A	BP-100HS-A	BP-130HS-A	BP-160HS-A	BP-210HS-A	BP-250HS-A
Heating Capacity A24/W27	kW	3.7	5.4	8.5	10.5	13	17	21	26
COP A24/W27	W/W	5.3	5.1	5	5.1	5	5	5	5
Heating Capacity A15/W27	kW	2.8	4.1	6.6	8	10.1	13.4	16.5	21
COP A15/W27	W/W	4.6	4.5	4.4	4.5	4.5	4.5	4.4	4.6
Cooling Capacity	kW	2.5	4	6	7.2	9.2	12	15	18.5
EER	W/W	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Power Input	kW	0.7	1	1.7	2.05	2.6	3.4	4.2	5.2
Current	А	3.6	5	7.8	9.5	12	16	7	8
Power Supply	V/P/Hz	220/1/50	220/1/50	220/1/50	220/1/50	220/1/50	220/1/50	380/3/50	380/3/50
Compressor Qty		1	1	1	1	1	1	1	1
Compressor Style		Rotary	Rotary	Rotary	Rotary	Rotary	Scroll	Scroll	Scroll
Compressor brand				•	Jap	anese			
Heating Exchanger					Titaniu	ım in PVC			
Water Connection	mm	50	50	50	50	50	50	50	50
Fan Quantity		1	1	1	1	1	1	1	2
Fan Rotate Speed	RPM	830	830	830	850	850	850	850	850
Fan Direction		Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal
Noise	dB(A)	48	49	50	52	53	55	57	60
Water Flow Volume	m3/h	3	3.5	5	5.5	6.5	7.5	9	10
Net Unit Size (L/W/H)	mm	755x270x480	940x270x540	940x270x540	1000x305x580	1070x335x700	1120x430x790	1190x430x980	1120x430x1250
Carton Size (L/W/H)	mm	830x340x550	1070x400x575	1070x400x575	1140x405x640	1200x430x740	1200x500x840	1310x505x1040	1200x500x1280
Net/Gross Weight	kg	34/38	45/49	54/58	65/69	76/81	114/124	131/144	140/154



#### ABS THERMO-FORMED

**ABS Thermoformed Cabinet** 

100% rust-proof
The appearance of this cabinet is designed
by our industrial designer. The design is
unique on the market.

#### SELF-DIAGNOSIS

#### Self-Diagnosis Function

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#### Japanese Compressors

We choose the most reliable Japanese heat pump compressors for our heat pumps to ensure reliable and quite operation.













Unit Model	Unit	BP-50HS-AP	BP-65HS-AP	BP-90HS-AP	BP-110HS-AP	BP-140HS-AP		
Heating Capacity A24/W27	kW	5	6.5	9	11.5	14		
COP A24/W27	W/W	5.2	5.5	5.5	5.5	5.5		
Heating Capacity A15/W27	kW	4	4.7	7	8.2	10.5		
COP A15/W27	W/W	4.6	4.7	4.7	4.6	4.6		
Cooling Capacity A32/W27	kW	3.5	4.3	5.9	7.2	9.2		
EER A32/W27	W/W	3.6	3.6	3.6	3.6	3.6		
Power Input	kW	0.98	1.18	1.65	2	2.55		
Current	А	5	5.6	7.8	9.3	11.8		
Power Supply	V/P/Hz	220/1/50	220/1/50	220/1/50	220/1/50	220/1/50		
Compressor Qty		1	1	1	1	1		
Compressor Style		Rotary	Rotary	Rotary	Rotary	Rotary		
Compressor brand		Japanese						
Heating Exchanger				Titanium in PVC				
Water Connection	mm	50	50	50	50	50		
Fan Quantity		1	1	1	1	1		
Fan Rotate Speed	RPM	850	850	850	1000	1000		
Fan Direction		Horizontal	Horizontal	Horizontal	Horizontal	Horizontal		
Noise	dB(A)	50	50	51	52	53		
Water Flow Volume	m3/h	4	4	5	6	7		
Net Unit Size (L/W/H)	mm	985x310x660	985x310x660	985x310x660	985x310x660	985x310x660		
Carton Size (L/W/H)	mm	1080x450x710	1080x450x710	1080x450x710	1080x450x710	1080x450x710		
Net/Gross Weight	kg	50/58	54/62	64/72	70/78	78/86		





#### Control Panel Features

IPX5 grade of water proofing insures control panel won't be affected in the raining day. And you can read the display data clearly whether it is under the sunshine or at night.



#### Electronic Expansion Valve

Instead of traditional capillary, Smart Series equipped with the advanced Electronic Expansion Valve which can control the refrigerant flow accurately according to ambient temperature variation. It makes the energy efficiency 10%~30% higher.



#### Humanized and Reasonable Design

According to most people's using habit, we designed our Smart Series to make it more convenient to use in all aspects. Compared to most of the heat pump in the market, the biggest difference for our Smart Series is that we move the control panel to the right side of the top frame. So users do not need to stoop to operate the control panel.



#### Top-Brand Compressor

Smart Series machines equipped the top-brand compressors from U.S. or Japan. It offers excellent energy efficiency, and operates quietly all the time.





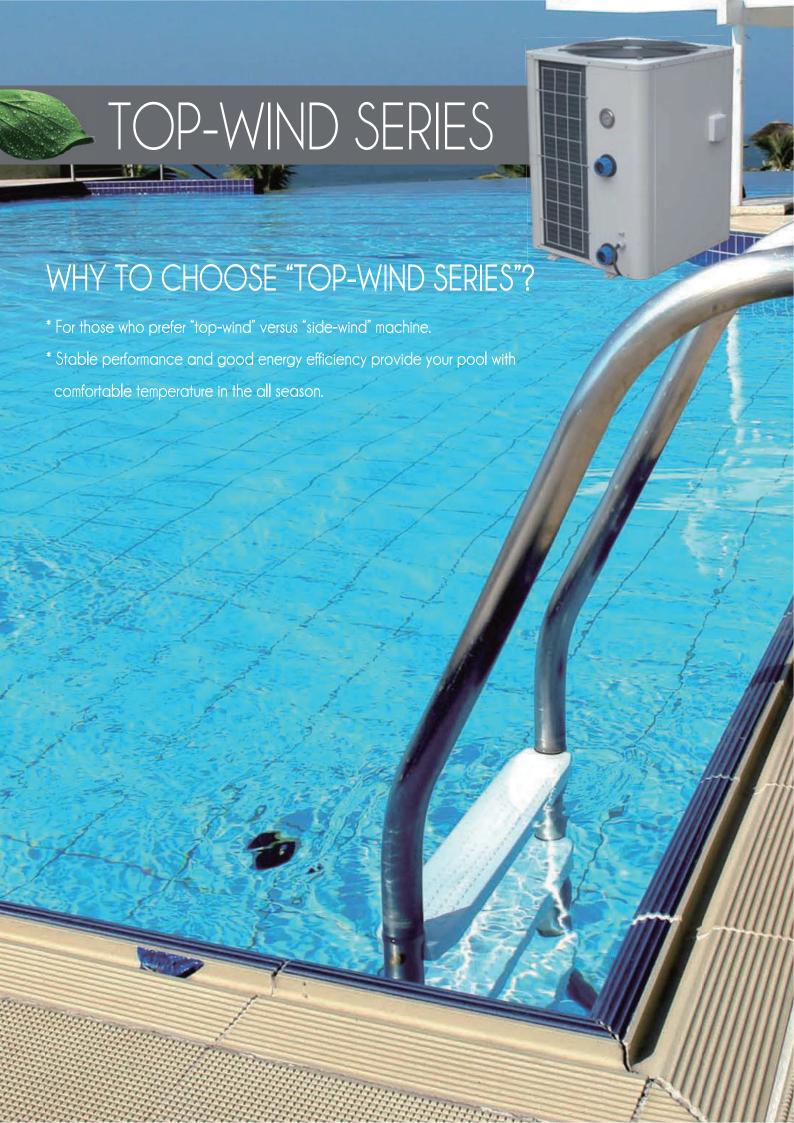


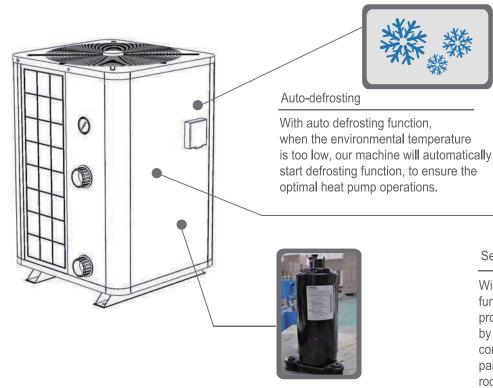






Unit Model	Unit	BP-60HS-AS	BP-80HS-AS	BP-100HS-AS	BP-120HS-AS	BP-170HS-AS	BP-210HS-AS
Heating Capacity A24/W27	kW	6	8.3	10	12	17	21.5
COP A24/W27	W/W	5.5	5.5	5.5	5.5	5.5	5.5
Heating Capacity A15/W27	kW	4.6	6.7	8.1	9.8	13.8	17.5
COP A15/W27	W/W	4.6	4.6	4.6	4.6	4.6	4.6
Cooling Capacity A32/W27	kW	4.3	5.8	6.9	9.3	11.5	14.5
EER A32/W27	W/W	3.6	3.6	3.6	3.6	3.6	3.6
Power Input	kW	1.1	1.5	1.9	2.2	3.1	3.9
Current	А	5.3	7.2	9	10.8	15	7
Power Supply	V/P/Hz	220/1/50	220/1/50	220/1/50	220/1/50	220/1/50	380/3/50
Compressor Qty		1	1	1	1	1	1
Compressor Style		Rotary	Rotary	Rotary	Rotary	Scroll	Scroll
Compressor brand		Panasonic	Panasonic	Panasonic	Toshiba	Copeland	Copeland
Heating Exchanger					Titanium in PVC	;	
Water Connection	mm	50	50	50	50	50	50
Fan Quantity		1	1	1	1	1	1
Fan Rotate Speed	RPM	850	850	900	900	900	950
Fan Direction		Horizontal	Horizontal	Horizontal	Horizontal	Horizontal	Horizontal
Noise	dB(A)	48	49	50	51	53	54
Water Flow Volume	m3/h	4	5	6	7	8.5	10
Net Unit Size (L/W/H)	mm	985x360x620	985x360x620	985x360x620	985x360x620	1120x460x890	1120x460x890
Carton Size (L/W/H)	mm	1045x455x650	1045x455x650	1045x455x650	1045x455x650	1200x550x940	1200x550x940
Net/Gross Weight	kg	54/62	64/72	70/78	78/86	128/138	132/142





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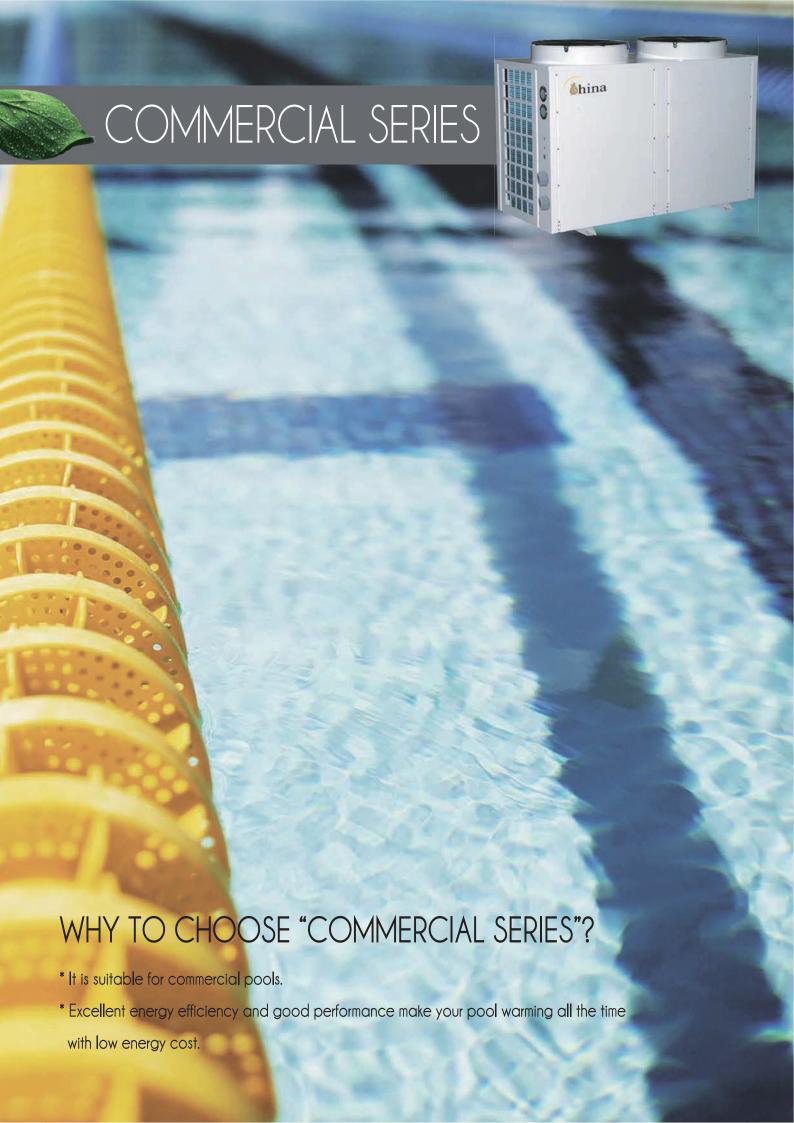


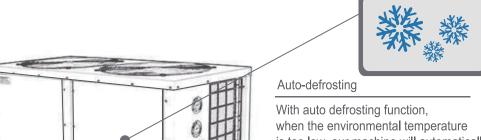






Unit Model	Unit	BP-50HT-A	BP-85HT-A	BP-130HT-A	BP-160HT-A	BP-210HT-A	BP-250HT-A	
Heating Capacity A24/W27	kW	5.5	8.8	13	17	21	25	
COP A24/W27	W/W	5	5	5	5	5	5	
Heating Capacity A15/W27	kW	4.3	6.6	10.1	13.5	16.5	20	
COP A15/W27	W/W	4.3	4.3	4.3	4.5	4.6	4.4	
Cooling Capacity A32/W27	kW	3.9	6.2	9.1	12	14.7	17.5	
EER A32/W27	W/W	3.5	3.5	3.5	3.5	3.5	3.5	
Power Input	kW	1.1	1.7	2.6	3.4	4.2	5	
Current	Α	5.6	8.3	13	17	7*3	8.5*3	
Power Supply	V/P/Hz	220/1/50	220/1/50	220/1/50	220/1/50	380/3/50	380/3/50	
Compressor Qty		1	1	1	1	1	1	
Compressor Style		rotary	rotary	rotary	scroll	scroll	scroll	
Compressor brand		Japanese						
Heating Exchanger				Titanium ir	PVC			
Water Connection	mm	50	50	50	50	50	50	
Fan Quantity		1	1	1	1	1	1	
Fan Rotate Speed	RPM	830	830	830	830	830	830	
Fan Direction		Vertical	Vertical	Vertical	Vertical	Vertical	Vertical	
Noise	dB(A)	49	51	53	55	57	59	
Water Flow Volume	m3/h	3.5	5	6.5	7.5	9	10	
Net Unit Size (L/W/H)	mm	530x500x630	660x700x630	660x700x730	660x700x730	710x690x930	710x690x930	
Carton Size (L/W/H)	mm	615x550x700	760x740x700	760x740x800	760x740x800	790x740x990	790x740x990	
Net/Gross Weight	kg	48/54	58/64	86/92	113/119	122/132	126/136	





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#### SELF-DIAGNOSIS



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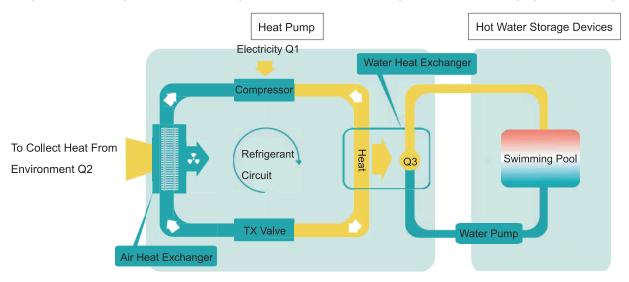


Unit Model	Unit	BP-400HT-A	BP-500HT-A	BP-600 HT-A	BP-800HT-A	BP-1000HT-A
Heating Capacity A24/W27	kW	42	51	62	82	102
COP A24/W27	W/W	4.8	4.8	5	5	5
Heating Capacity A15/W27	kW	35	43	51	68	84
COP A15/W27	W/W	4.3	4.3	4.3	4.5	4.6
Cooling Capacity A32/W27	kW	31	39	42	56	67
EER A32/W27	W/W	3.5	3.5	3.5	3.5	3.5
Power Input	kW	8.8	10.9	12.3	17.5	21
Current	Α	15*3	18*3	22*3	29*3	35*3
Power Supply	V/P/Hz	380/3/50	380/3/50	380/3/50	380/3/50	380/3/50
Compressor Qty		2	2	2	3	4
Compressor Style		scroll	scroll	scroll	scroll	scroll
Compressor brand			Jar	oanese		
Heating Exchanger			Titaniı	um in PVC		
Water Connection	mm	63	63	63	75	100
Fan Quantity		2	2	2	3	3
Fan Rotate Speed	RPM	830	830	850	850	850
Fan Direction		Vertical	Vertical	Vertical	Vertical	Vertical
Noise	dB(A)	64	66	70	72	74
Water Flow Volume	m3/h	15	18	21	26	38
Net Unit Size (L/W/H)	mm	1450x710x1060	1450x710x1260	1500x900x1500	2150x765x1330	2170x1065x1930
Carton Size (L/W/H)	mm	1550x810x1210	1550x810x1410	1630x740x800	2250x900x1500	2250x1380x2180
Net/Gross Weight	kg	275/300	300/325	330/360	450/510	890/980

# Working Principle

Air source heat pump uses refrigerant inside the equipment to collect heat from the air or environment. And then compress the refrigerant by compressor, and give out the heat to the cold water through the heat exchanger. It expulses cold air simultaneously.

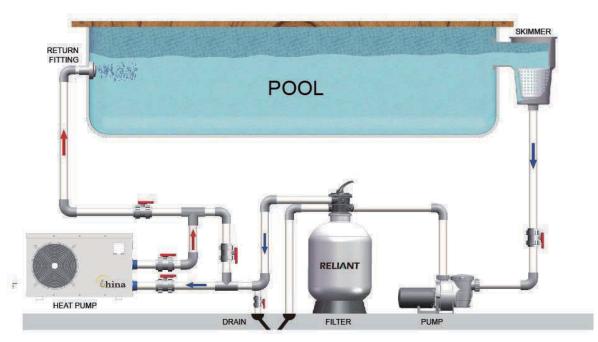
The ratio of the output energy and input energy of air source heat pump, C.O.P. (coefficient of performance), is between 2-6, with an average above 3. While the COP of normal electrical heater is no more than 0.95, and that of gas or oil-burning water heater is only 0.6 - 0.8. And coal burning water heater is ranging 0.3 - 0.7 only.



HAET PUMP WORKING PRINCIPLE (Q3 = Q1 + Q2)

Q3 (obtained energy) = Q1 (electrical energy) + Q2 (environment heating)

# Heat Pump Installation Diagram





### **Bridging China International Ltd.**

ADD: Room 903, No.6, Lane 3611, Zhangyang Road, Pudong New District, Shanghai, 200136, P.R.C.
Tel:+86-21-6853-1210, +86-21-6093-0616, +86-21-6093-0617
Fax:+86-21-3882-0172

Email: pool@bridging-china.com www.bridging-china.com