Air Source Heat Pump Unit

Nomenclature

ES	S	A	05	L	H	N
1	2	3	4	5	6	7

1	ES	ESACIR
2	S	Compressor type S:Scroll type
3	A	Product series A:Air-cooled series
4	05	Product seris NO:(USRT/KW/HP)
5	L	Product type L:Low ambient temp. P:Swimming pool type Omitted when not mentioned any letter
6	H	Function H-Heat pump
7	N	Refrigerant N: R407C M: R134a S:R22 P: 410A

Product Photos






Air Source Heat Pump Unit

Product Brief Introduction

Eurostars Air Source Heat Pump is one of the most competitive products, consists of famous brand compressor, electric controlling components, high efficient heat exchanger etc. With compact structure, elegant appearance, sufficient capacity, high efficiency and maintenance easily.

Eurostars Air Source Heat Pump is special designed with several working models: heating, cooling, hot water, heating + hot water, cooling +hot water;which is widely used for hotel,villa,hospital,school,etc



Unit Features

High Efficiency

Utilizing advanced high efficient scroll type compressor, equipping with high efficient heat exchanger and imported expansion valve, to realize high COP .

Reliability Operation

-Multi-protection device to keep units safety operation;
-Modular design can be adopted ,whole system can work well even if one modular has problem;
-All units have passed national standard safety system test before leaving factory, to accord with national standard.

Intellectualized Control System

Adopt LCD micro computer controller,can operate via centralized manage system;clients also can choose remote controller which can also indicate unit running condition.

Easy and Simply Installation and Maintenance

-No need cooling tower system and machine room, can work in draughty places;
-Refrigerant and refrigeration oil are charged well before leaving factory, just connecting with inlet/outlet water pipe and power on to start running it;
-Controller interface indicating fault information directly in order to know and maintain it in time.

Special Design Is Optional

-Optional for refrigerant R134a,R410a etc,according to customer's need;
-Optional for different kinds of power supply,such as 380/400/415V-3PH-50HZ,220~230/440/460V-3PH-60HZ;
-Customized unit is optional,such anti-corrosion material etc.

Air Source Heat Pump Unit(EVI Low Ambient Temp.Type)

Main Components

High Efficiency EVI Scroll Type Compressor

● Copeland ZW series **Enhanced vapor injection (EVI)** technology scroll compressor,which patent flexible design provides best ability of fluid-attack resistance and impurity tolerance.

●Higher compression ratio and pressure difference because its unique scroll plate and axial flexible design, and can work at wider operating range (can work at -25℃)



High Efficiency Air Side Heat Exchanger

● Special ” L ” or "V"shaped design,inner grooved patent sawtooth design copper pipe and aluminum fin guarantee efficient heat exchange between the air side exchanger and ambient air.

●Organic hydrophilic foil fin prevent condensed water from forming water droplets. Increased heat exchanging rate, reduced noise, anti-corrosion.



High Efficiency Tube in Shell Water Side Heat Exchanger

● High heat exchanging efficiency:tube is high efficiency finned tube, the heat exchanging area is 3.6times of smooth tube.

● Safe:There is not solder point on the tube, insure no leakage. There is not blind zone of water flow, so avoid local freezing and scaling. Water drain is at the bottom, avoid freezing.

●Small volume:save space of heat pump.



Expansion Valve

Electric expansion valve,world wide famous brand, stable quality, long lifetime, precise and sensitive adjustment.



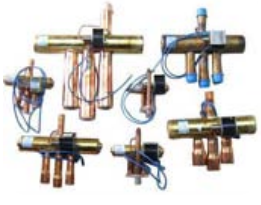
Economic Unit

Brazed-plate type made from stainless steel features a brand-new diagonal design to better utilize heat exchanging surfaces.



Four Way Valve

International famous brand 4-way valve,stable quality, long lifetime,solenoid control conversion,precise and magnetic intensity is high,action control is fast.



Air Source Heat Pump Unit(EVI Low Ambient Temp.Type)

Main Components

Axial fan

Famous brand external rotor axial fan,compact structure, which is accord with aerodynamic principles;falciform impeller which can assure it runs with high efficiency and low noise,also can keep a better aerodynamic performance even under a short air inlet condition;strong waterproof performance





EATON AC contactor

- Advanced contact design (long life);
- 690V Insulation rating
- Working voltage up to 660VAC
- Up to 3 normally open or normally closed contacts



Intellectualized LCD micro computer Controller

- Winter heating, summer cooling, one button switching mode;
- It can defrost automatically or manually;
- Equipped with touch LCD remote wired controller, easy to operate;
- Multiple protections, such as too high and too low refrigerant pressure protection, too high and too low refrigerant temperature protection, too high and too low water temperature protection, too low water flow protection, overcurrent or undercurrent protection, etc;
- Fault alarm function;
- Water supply, backwater, water replenishment and other control functions;
- At constant temperature, the circulating water pump can be stopped or not;
- It can be linked with the indoor temperature controller. When there is cooling or heating demand in the room, the heat pump automatically turns on the cooling or heating mode;
- Antifreeze function in winter;
- Under the refrigeration mode and heating mode, the energy-saving mode can be selected for operation;
- With independent test function of circulating water pump





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Air Source Heat Pump Unit(EVI Low Ambient Temp.Type) (Heating Only)

Model		ESSA-05LHN 2.5ES	ESSA-05LHN 3ES	ESSA-05LHN 4.5ES	ESSA-05LHN 5ES
Working mode		Heating			
Power supply		220V/50HZ	380V/50HZ	220V/50HZ	380V/50HZ
Air DB/WB: 7℃/6℃, water In/outlet: 40℃/45	Heating capacity (kW)	7.6	8.4	14.0	15.2
	Input power(kW)	2.32	2.58	4.38	4.75
	Current(A)	11.1	4.7	21.0	8.7
	COP(W/W)	3.28	3.26	3.20	3.20
	Water flow(m^3/h)	1.7	1.9	3.1	3.4
Air: -10℃/ , Water In/outlet: 40℃/45	Heating capacity (kW)	5.32	5.88	9.8	10.64
	Input power(kW)	2.20	2.45	4.16	4.51
	COP(W/W)	2.41	2.40	2.36	2.36
Air: -20℃/ , Water In/outlet: 40℃/45	Heating capacity (kW)	4.0	4.4	7.4	8.0
	Input power(kW)	2.09	2.33	3.95	4.29
	COP(W/W)	1.91	1.89	1.86	1.86
Air: -25℃/ , Water In/outlet: 40℃/45	Heating capacity (kW)	3.9	4.2	6.4	7
	Input power(kW)	2.35	2.52	3.96	4.30
	COP(W/W)	1.66	1.67	1.62	1.63
Casing material / color		Sprayed galvanized sheet/gray color			
Compressor	Brand	Copeland			
	Type	EVI Scroll			
	Quantity				
Refrigerant type /weight		R407C/1.9kg	R407C/2.1kg	R407C/2.8kg	R407C/2.8kg
Water side heat exchanger		High efficiency tube in shell heat exchanger			
Source side heat exchanger		Hydrophilic aluminium foil and red copper tube			
Economic unit		SUS316 brazed plate heat exchanger			
Gas-liquid separator model*quantity		1.8L	1.8L	3.5L	3.5L
4 way valve		Sanhua(China)/OKAYAMA SEIKO (Japan)			
Electronic expansion valve		FUJIKOKI (Japan),Emerson/Danfoss			
AC contactor		EATON (USA)			
Fan		Axial flow fan			
Controller		LCD multiple function controller			
Soft starter		Included	Excluded	Included	Excluded
Classification of waterproof		IPX4	IPX4	IPX4	IPX4
Electric shock proof grade		I	I	I	I
Pipe connecter size(internal thread)(mm)		DN25	DN25	DN25	DN25
Noise(dB(A))		≤56	≤56	≤56	≤56
Package		Foam protector and plywood case			
Dimension(L*W*H)		830*490*1160	830*490*1160	1110*490*1260	1110*490*1260
Net weight /Gross weight(kg)		106/114	106/114	150/160	150/160

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Air Source Heat Pump Unit(EVI Low Ambient Temp.Type) (Heating Only)

Model		ESSA-10LHN 5.5ES	ESSA-10LHN 7ES	ESSA-10LHN 2*5ES	ESSA-15LHN 2*7ES
Working mode		Heating			
Power supply		220V/50HZ	380V/50HZ	380V/50HZ	380V/50HZ
Air DB/WB: 7℃/6℃, water In/outlet: 40℃/45	Heating capacity (kW)	17.5	19.0	30.4	40.8
	Input power(kW)	5.46	5.94	9.5	12.75
	Current(A)	26.1	10.8	17.3	23.2
	COP(W/W)	3.2	3.2	3.2	3.2
	Water flow(m^3/h)	3.9	4.2	6.8	9.1
Air: -10℃/ , Water In/outlet: 40℃/45	Heating capacity (kW)	12.25	13.3	21.28	28.56
	Input power(kW)	5.19	5.64	9.03	12.11
	COP(W/W)	2.36	2.36	2.36	2.36
Air: -20℃/ , Water In/outlet: 40℃/45	Heating capacity (kW)	9.2	10.0	16.0	21.4
	Input power(kW)	4.93	5.36	8.57	11.51
	COP(W/W)	1.86	1.86	1.86	1.86
Air: -25℃/ , Water In/outlet: 40℃/45	Heating capacity (kW)	7.5	9	14	19
	Input power(kW)	5.10	5.80	8.60	12.00
	COP(W/W)	1.47	1.55	1.63	1.58
Casing material / color		Sprayed galvanized sheet/gray color			
Compressor	Brand	Copeland			
	Type	EVI Scroll			
	Quantity	1	1	2	2
Refrigerant type /weight		R407C/3.2kg	R407C/3.6kg	R407C/2.8kg*2	R407C/3.6kg*2
Water side heat exchanger		High efficiency tube in shell heat exchanger			
Source side heat exchanger		Hydrophilic aluminium foil and red copper tube			
Economic unit		SUS316 brazed plate heat exchanger			
Gas-liquid separator model*quantity		3.5L	3.5L	3.5L*2	3.5L*2
4 way valve		Sanhua(China)/OKAYAMA SEIKO (Japan)			
Electronic expansion valve		FUJIKOKI (Japan),Emerson/Danfoss			
AC contactor		EATON (USA)			
Fan		Axial flow fan			
Controller		LCD multiple function controller			
Soft starter		Included	Excluded	Excluded	Excluded
Classification of waterproof		IPX4	IPX4	IPX4	IPX4
Electric shock proof grade		I	I	I	I
Pipe connecter size(internal thread)(mm)		DN25	DN25	DN40	DN40
Noise(dB(A))		≤57	≤57	≤66	≤66
Package		Foam protector and plywood case			
Dimension(L*W*H)		1110*490*1260	1110*490*1260	1450*740*1150	1575×905×1245
Net weight /Gross weight(kg)		170/180	170/180	290/305	290/305

Air Source Heat Pump Unit(EVI Low Ambient Temp.Type) (Heating Only)

Model		ESSA-20LHN	ESSA-30LHN	ESSA-40LHN	
		4*5ES	4*7ES	4*9ES	
Working mode		Heating			
Power supply		380V/50HZ	380V/50HZ	380V/50HZ	
Air DB/WB: 7℃/6℃, water In/outlet: 40℃/45	Heating capacity (kW)	60.0	76.0	115	
	Input power(kW)	18.70	23.76	35.90	
	Current(A)	34.1	43.3	65.5	
	COP(W/W)	3.21	3.20	3.20	
	Water flow(m^3/h)	13.4	17.0	25.7	
Air: -10℃/ , Water In/outlet: 40℃/45	Heating capacity (kW)	42.00	53.20	80.50	
	Input power(kW)	17.77	22.57	34.11	
	COP(W/W)	2.36	2.36	2.36	
Air: -20℃/ , Water In/outlet: 40℃/45	Heating capacity (kW)	31.5	39.9	60.4	
	Input power(kW)	16.88	21.44	32.40	
	COP(W/W)	1.87	1.86	1.86	
Air: -25℃/ , Water In/outlet: 40℃/45	Heating capacity (kW)	28.00	38.00		
	Input power(kW)	17.20	24.00		
	COP(W/W)	1.63	1.58		
Casing material / color		Sprayed galvanized sheet/gray color			
Compressor	Brand	Copeland			
	Type	EVI Scroll			
	Quantity	4	4	4	
Refrigerant type /weight		R407C/2.8kg*4	R407C/3.6kg*4	R407C/6kg*4	
Water side heat exchanger		High efficiency tube in shell heat exchanger			
Source side heat exchanger		Hydrophilic aluminium foil and red copper tube			
Economic unit		SUS316 brazed plate heat exchanger			
Gas-liquid separator model*quantity		3.5L*4	3.5L*4	7L*4	
4 way valve		Sanhua(China)/OKAYAMA SEIKO (Japan)			
Electronic expansion valve		FUJIKOKI (Japan),Emerson/Danfoss			
AC contactor		EATON (USA)			
Fan		Axial flow fan			
Controller		LCD multiple function controller			
Soft starter		Excluded	Excluded	Excluded	
Classification of waterproof		IPX4	IPX4	IPX4	
Electric shock proof grade		I	I	I	
Pipe connecter size(internal thread)(mm)		DN50	DN50	DN80	
Noise(dB(A))		≤68	≤70	≤75	
Package		Foam protector and plywood case			
Dimension(L*W*H)		1850*1000*1850	2000*1100*1950	2000*1850*2040	
Net weight /Gross weight(kg)		482/532	582/642	1340/1500	

Air Source Heat Pump Unit(EVI Low Ambient Temp.Type)

Model	ESSA-05LHN	ESSA-05LHN	ESSA-05LHN	ESSA-05LHN
	2.5ES	3ES	4.5ES	5ES
Dimension(L*W*H)	830*490*1160	830*490*1160	1110*490*1260	1110*490*1260
Refer. Photo				

Model	ESSA-10LHN	ESSA-10LHN	ESSA-10LHN	ESSA-15LHN
	5.5ES	7ES	2*5ES	2*7ES
Dimension(L*W*H)	1110*490*1260	1110*490*1260	1450*740*1150	1575×905×1245
Refer. Photo				

Model	ESSA-20LHN	ESSA-30LHN	ESSA-40LHN
	4*5ES	4*7ES	4*9ES
Dimension(L*W*H)	1850*1000*1850	2000*1100*1950	2000*1850*2040
Refer. Photo			