Alternative Energy Agency

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EU Energy Efficiency Directive 2012/27/EU

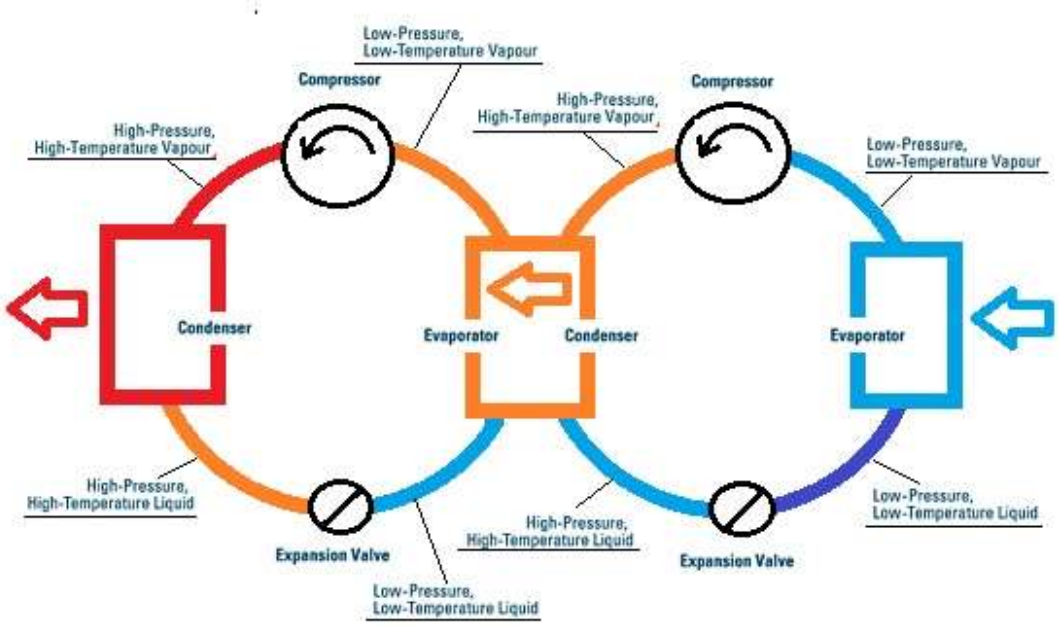
- Nearly zero-energy buildings (NZEBs) have very high energy performance. The low amount of energy that these buildings require comes mostly from renewable sources.
- The Energy Performance of Buildings Directive requires all new buildings to be nearly zero-energy by the end of 2020. All new public buildings must be nearly zero-energy by 2018.
- Under the amending directive, EU countries will have to achieve new energy savings of 0.8% each year of final energy consumption for the 2021-2030 period.
- The EPBD for new buildings require nearly Zero-Energy Buildings by 2019 for public buildings (2021 for all buildings), as well as that the concept of cost optimality be integrated into building codes.

Air to Water Heat Pump DHW 20kW or 40kW / 90C

Industry 90℃ high temperature **AB20INV90-20** and **AB40INV90-20** Air to Water Heat Pump Water Heater this is newest technology in the air source heat pump product line. Refrigerant R410A + R134a combine inside the system using Mitsubishi R410A DC inverter compressor as the first stage and R134a special high temperature compressor as second stage to sure machine working limit -20℃ winter produce to outlet 90℃ hot water 230L/h (20kW) and 460L/h (40kW) .

With the implementation of the national policy of energy saving and emission reduction and the rising of energy prices, the impact of heat and energy conservation in the industrial and commercial field has been increasing. As a kind of energy-saving technology, heat pump technology has unique advantages in saving energy and protecting the environment. However, the economy is not good under the condition of high water temperature, which restricts the popularization and application of ordinary air source heat pump.

In this context developed high-temperature air source heat pump technology is an the historic moment in heating industries. The water temperature of the our high-temperature energy water heater can reach up to 85 ℃ (short 90 ℃), which greatly expands the application range of the air source heat pump technology.



-20℃ ambient | R410A refrigerant | DHW | Inverter type | Mitsubishi compressor | 60℃~90℃ outlet | R134a refrigerant

Arctic Bird
Air to water and geothermal heatpump

Outlet hot water temperature can set from 55℃~90℃ as user requirement, so it is can widely using to make DHW and heating private or public heating systems by 65℃, 75℃, 85℃ or 90℃, also hot water for industry heating using like a factorys textile, printing, and drying, military industry, ironing, medicine high-temperature sterilization line and etc..

The heat pump water heater uses electricity to drive the compressor, instead of being used directly for heating. The heat energy comes from the Environment.

Saving energy is also saving money - saves the operating cost of 3/4 compared with electric heating and oil furnace; saves 2/3 running cost compared with the gas heater; saves a large labor cost and gives extra environmental protection compared with coal. If it use with the solar energy, it can save the additional running cost of 1/3 to 2/3.
Using the solar electricity in the peak periods of sun energy and run cost is saved again and again.

The scope of application: high temperature heat pump water heater can meet the heating demand of agricultural and sideline products processing industry, beverage processing industry, electroplating dyeing industry, textile printing and dyeing industry, drying industry, and other industries.

Model			AB20INV90-20	AB40INV90-20
		HP	6P	12P
Power supply		V/HZ	380-400V/50Hz	
Rated heating capacity		Kw	20,00	40,00
Rated heating input power		Kw	6,30	12,60
COP		w/w	3,20	3,20
Max input power		Kw	12,60	25,20
Max input current		A	20,50	41,00
Lock water production		L/h	230,00	460,00
Refrigerant		Type	Pre-stage R410A ,Later-stage R134a	
Heating hot water temp.rang		℃	30~90℃	
Working ambient temp		℃	-20 ~45 ℃	
Compressor	Pre-stage	Type	Mitsubishi R410A DC inverter compressor	
	Later-stage		R134a High temp compressor	
Control system		Type	Hitachi DCBL controller intelligent full display	
Fluorofluoride heat exchanger		Type	316L coupled high efficiency plate heat exchanger	
Water side heat exchanger		Type	316L high efficiency plate heat exchanger	
Throttling method		Type	Electronic expansion valve	
Pressure device		Type	Built-in high and low pressure sensor	
Electronic components		Type	Schneider AC contactor	
System switching valve		Type	High temperature solenoid valve	
Noise		dB(A)	57,00	60,00
N.W/G.W		Kg	150/180	260/300
Connect pipe size		inch	Rc 1"	Rc1- 1/2”
Product net size (W*T*H)		mm	1110*560*1580	1030*900*1920

Arctic Bird
Air to water and geothermal heatpump

Air to Water Heat Pump DHW 35kW / 60C

This **AB35INV60-25** inverter 10~120rps MITSUBISHI Compressor and 60Hz~330Hz HITACHI inverter controller, 300~1000rpm BLDC motor heat pump water heater system auto defrost, can controller additional electric heater, in building high pressure & low-pressure digital sensor to sure cold ambient weather condition running well and strong produce hot water for home hot water requirement.

35kW monobloc inverter heat pump heater for produce 55℃ (max 60℃) hot water 750L/h to sure 500~1500sq meter home DHW and heat needs.

The best heat pump water heater has the characteristics of high efficiency and energy saving, making the same hot water, which is 4-6 times of the general electric water heater. The average annual heat efficiency ratio is 4 times as high as the electric heating with the high energy efficiency.

High precision of temperature control and great comfort
The inverter heat pump will not stop running like a fixed frequency heat pump at a set temperature - It can operate at a lower frequency to maintain the set temperature. Especially when providing heat for the object, it can control the heating by changing the compressor speed.

Power supply	V/Hz	380V/50Hz
Rated heating capacity	kW	35,00
Rated heating input power	kW	7,60
COP	w/w	4,60
Max input power	kW	12,20
Max input current	A	20,50
Rated hot water yeild	L/h	750,00
Refrigerant	Type	R410A
Hot water temp. rang	℃	30℃~55℃
Working ambient temp.	℃	-25℃~45℃
Compressor	Type	MITSUBISHI DC inverter
Controller system	Type	Hitachi DCBL controller
Throttle way	Type	Electronic expansion valve
Fan motor	Type	Brushless DC Motor
Noise	dB(A)	62,00

Arctic Bird
Air to water and geothermal heatpump

Air to Water EVI Heat Pump DHW 12kW or 18kW

This air source **AB12EVI55-20** and **AB18EVI55-20** heat pump is using Scroll EVI Copeland compressor, and EVI technology to make strong capacity to heating when cold ambient, a digital controller to feel and defrost. EVI air source heat pump 12kW and 19kW to pass EN14825 ERP energy level test and SCOP: A+ certification. We using monobloc design to easy install, and high-efficiency heat exchanger, inside directly building high pressure, low pressure sensor to easily read and balance inside safe pressure.

High Efficiency and Ultra Wide Range Operation: The unit can be used in the area where the ambient temperature is as low as -25℃ to 45℃. Under the environment of -15℃, COP can reach 2.52 when the unit is used for radiant floor heating (leaving water temperature is 45℃).

Refrigerant charge volume	kg	3,50	4,50
Refrigerant	Type	R407C	
Heating hot water temp. rang	℃	30℃~55℃	
Working ambient temp.	℃	-25℃~45℃	
Compressor	Type	Copeland	
Fan motor	Type	AC motor , 3-speed fan	
Throttle way	Type	Electronic expansion valve	
Electronic Component	Type	Schneider AC contactor	
Pressure device	Type	Built-in high and low pressure sensor	
Water side heat exchanger	Type	High efficient heat exchanger	
Air side heat exchanger	Type	Hydrophilic aluminum fin heat exchanger	
Noise	dB(A)	53,0	55,0
N.W/ G.W	Kg	103/111	118/134
Connect pipe size	inch	Rc1" /DN25	
Unit Size (L*W*H)	mm	1040*420*865	1040*420*1380

+60C

Sterna paradisaea

Arctic Bird

Air to water and geothermal heatpump

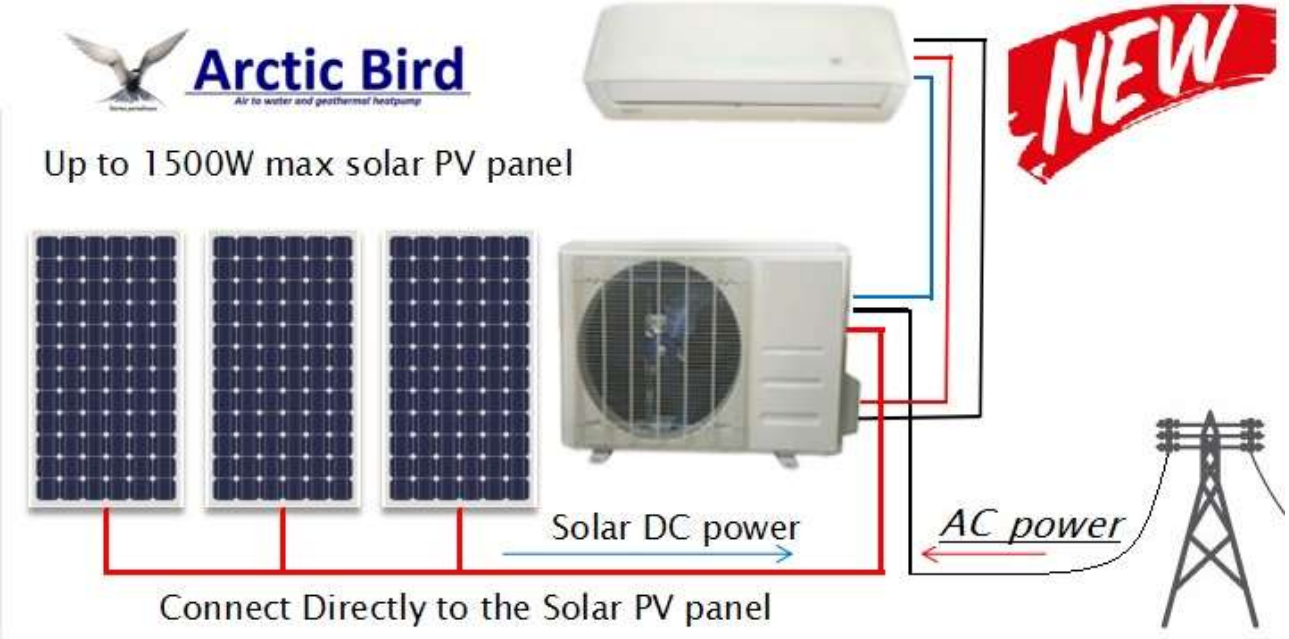
Solar Hybrid ACDC Air Conditioner Heat Pump

The greatest NEW advantage of ACDC Hybrid Solar Air Conditioner is that people need cooling most when the sun is the heaviest, and the more the solar energy is, the easier collecting a lot of heat energy and make use of will be.

Cooling capacity 9000BTU/12000BTU/18000BTU/24000BTU. Inside building digital calculator to priority biggest using DC power, auto balance 220-240V ~50/60Hz city grid power.

DC input range is DC50V~DC300V, so can connect max around 1500W solar PV panel Max consumption 90% solar DC power. This solar thermal hybrid air conditioner no need battery, install take small place, so for the end user whole system running cost is very low, the power from solar panel priority supply directly to indoor&outdoor fan motor and compressor.

When the solar power is not sufficient, by equipped with dual PV MPPT tracking system, the system automatically switches to run by grid power and work as normal inverter air conditioner by city power 220-240V ~ 50/60Hz. Thus achieved the AC/DC power supply interaction, and uninterrupted supply power to air conditioner, ensure the system high efficiency up to SEER36.



The air conditioner directly connects solar PV panel To AC unit by MC4 solar connectors, others like normal split air conditioners.

System Advantages:

1.AC/DC dual power supply
2.Hight energy efficiency: maximum up to SEER 36; Even if there is no sunshine up to SEER 21
3. Convenient and quick installation, no longer require a solar controller, battery, and inverter
4.Using solar power priority, solar power utilization rate of more than 91%
5. Solar power/grid power supply interaction, achieve uninterrupted power supply
6.Wide voltage design, free combination of solar panels, not limited by installation place
7.Compliant to all climate condition, (T1&T3)

NEW

Solar Hybrid ACDC Air Conditioner Heat Pump

First in EU

The greatest advantage of ACDC Hybrid Solar Air Conditioner is that people need cooling most when the sun is the heaviest, and the more the solar energy is, the easier collecting a lot of energy and make use of will be.

Specification of Wall-mounted Type						
Model			AB-09ACH	AB-12ACH	AB-18ACH	AB-24ACH
Power supply		PH-V-HZ	1Ph, 220-240V ～, 50/60Hz	1Ph, 220-240V ～, 50/60Hz	1Ph, 220-240V ～, 50/60Hz	1Ph, 220-240V ～, 50/60Hz
		V	DC50-380V	DC50-380V	DC50-380V	DC50-380V
Cooling	Capacity	Btu/h	9000（3500-11000）	12000（3700-14000）	18000（6200-19500）	24000（5100-26900）
	Input	W	590（100-1200）	865（110-1500）	1320（140-1800）	1980（240-3030）
	Rated current	A	2.68（0.45-5.45）	3.93（0.5-6.82）	6（0.6-8.18）	9（1.0-13.2）
Heating	Capacity	Btu/h	9500（3800-11500）	13000（4000-15000）	19000（4700-20000）	25000（5500-30000）
	Input	W	625（120-1200）	880（130-1510）	1465（200-1900）	2050（260-3140）
	Rated current	A	2.84（0.5-5.45）	4（0.59-6.86）	6.66（0.9-8.63）	9.32（1.1-13.7）
Indoor air flow (Hi/Mi/Lo)		m3/h	559/454/366	559/454/366	721/566/458	970/780/590
Indoor noise level (Hi/Mi/Lo)		dB(A)	41.5/37.1/32.7	41.5/37.1/32.7	43.7/39.3/35.1	45/36/31.5
Indoor unit	Dimension(W*D*H)	mm	850x185x290	850x185x290	957x213x302	1040×220×327
	Packing (W*D*H)	mm	950x290x385	950x290x385	1035x305x380	1120x310x405
	Net/Gross weight	Kg	8.2/10.4	8.2/10.4	9.5/12.5	11.9/15.2
Outdoor noise level		dB(A)	＜50	＜50	＜52	≤56
Outdoor unit	Dimension(W*D*H)	mm	835*320*540	835*320*540	835*320*540	910*340*700
	Packing (W*D*H)	mm	900*400*600	900*400*600	900*400*600	1063*457*780
	Net/Gross weight	Kg	33/39	35/40	39/44	56/62
Operation temp		℃	17℃~30℃	17℃~30℃	17℃~30℃	17℃~30℃
Ambient temp (cooling/heating)		℃	18-52/-15-34	18-52/-15-34	18-52/-15-34	18-52/-15-34

LEIDI SOLARIS optimized heatpipe collector

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Item	ModeL	Description	Price vat 0%	Price vat incl.	Illustration
1	AB09AC-SOL	9000BTU / 2,64kW hybrid on grid ACDC Solar Air Conditioner Heating + Cooling city power 220-240V/1ph/50Hz PV min.800W *	2 491,67	2 990,00	
2	AB12AC-SOL	12000BTU / 3,52kW hybrid on grid ACDC Solar Air Conditioner Heating + Cooling city power 220-240V/1ph/50Hz PV min.1000W *	2 825,00	3 390,00	
3	AB18AC-SOL	18000BTU / 5,28kW hybrid on grid ACDC Solar Air Conditioner Heating + Cooling city power 220-240V/1ph/50Hz PV min.1200W *	3 241,67	3 890,00	
4	AB24AC-SOL	24000BTU / 7,03kW hybrid on grid ACDC Solar Air Conditioner Heating + Cooling city power 220-240V/1ph/50Hz PV min.1500W *	3 741,67	4 490,00	

LEIDI SOLARIS optimized heatpipe collector

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5	AB12EVI55-20	ON/OFF EVI heat pump 12kW, water heater, 380-400V/3ph/50hz , 55C hot water, working ambient : -25C ~+45C . R407C	**3 500,00**	**4 200,00**	
6	AB20INV90-20	DC inverter heat pump 20kW, water heater, 380-400V/3ph/50Hz, 90C hot water, working ambient:-20C ~+45C , R410A+ R134A	**12 500,00**	**15 000,00**	
7	AB40INV90-20	DC inverter heat pump 40kW, water heater, 380-400V/3ph/50Hz, 90C hot water, working ambient:-20C ~+45C , R410A+ R134A	**18 500,00**	**22 200,00**	
8	AB35INV60-25	DC inverter heat pump 35kW, water heater, 380-400V/3ph/50Hz, 60C hot water, working ambient:-25C ~+45C , R410A	**15 000,00**	**18 000,00**	
* - PV panels included					

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