

Hot Water



Heat pump water heaters

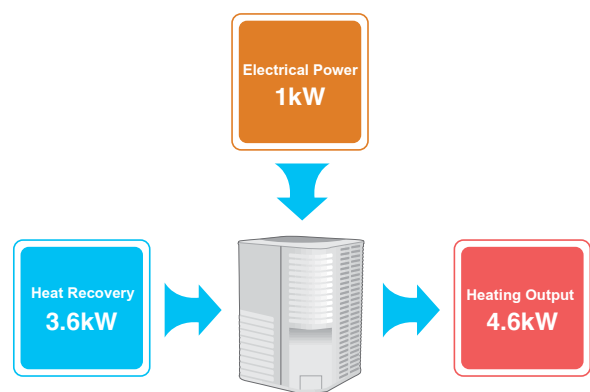
Residential and Commercial
R410a



Heat pump technology

Heat Pump Water Heating is a new idea using existing technology and is viewed as the latest generation of water heating systems. It surpasses coal, electric, gas and solar water heating, offering a better solution for energy saving and environmental protection.

- Energy saving, cost saving
Helps you save up to 75% of the water heating costs that you spend on conventional water heaters. Maintenance costs are also very low.
- All-weather operation
Reliable hot water delivery day and night under all types of weather conditions (Operating range -10°C to 43°C).
- Environmental protection
Reducing CO2 emissions, by using environmentally friendly refrigerants.
- Full range of HPWH products
Product range covers household, Commercial and Industrial HPWH.



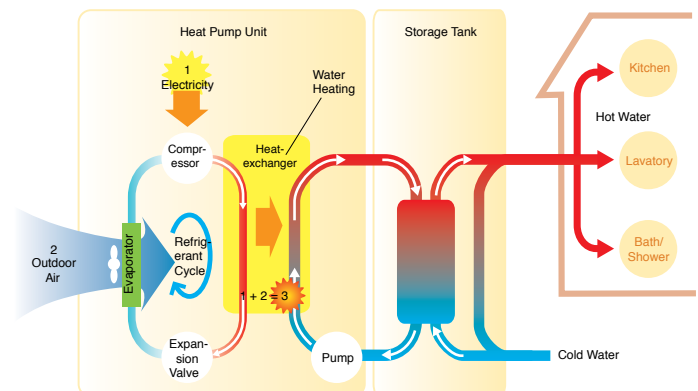
Airco Heat Pump Water Heater

Concept of Airco Water Heating

Air Source Heat Pump Water Heater, represents the latest water heating technology, and works on the principle of a refrigerant Reversed Carnot Cycling, drawing heat out of atmosphere (air) and discharging it into the water.

Principle Sketch

Applying heat pump technology to produce hot water using energy absorbed from environment. The efficiency can be more than 450%.

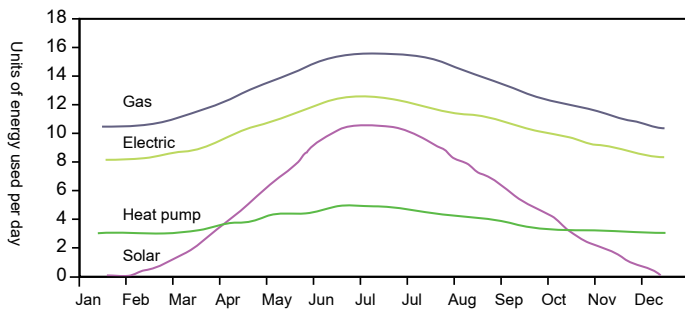


Power consumption comparison

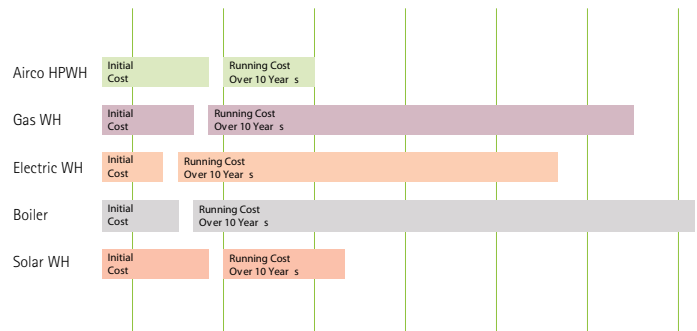
Figures based on the same conditions to heat water from 15°C to 55°C

	Airco HPWH	Gas Water Heater	Electric Water Heater	Boiler	Solar Water Heater
Energy Resource	Air, electricity	Gas	Electricity	Diesel Oil	Solar, electricity
Transfer Factor	860kcal/kW.h	24000kcal/m ³	860kcal/kW.h	10200kcal/kg	860kcal/kW.h
Average Efficiency	4.6	0.8	0.95	0.7	2.7 (1/3 weather need Auxilliary Heater)
Consumption	10kW.h	2.08m ³	48.9kW.h	5.6 kg	17.5kW.h
Running Cost	7.7	50.2	36.7	55.3	12.8
Merit/Demerit	Green, safe, energy saving, environmentally friendly and easy to install.	High risk: danger of fire, explosion. Have CO ² emissions, etc.	Risk electric shock emission, etc.	High risk: danger of oil leakage, fire, explosion. Have CO ² emissions, etc.	Difficult installation, large area required, and effective water tank volume is limited.

Energy use comparison



Life cycle costing comparison



Features

- Can operate 24/7 in all conditions, day and night (if required)
- Produces hot water up to 60 °C, controlled and maintained to setpoint
- Hot water is being produced whilst hot water is being used
- Compact design, space saving, small footprint
- Versatile installation
- Units can be mounted distant to demand area, on brackets or on plinth
- Unit "pays for itself" with proven savings on monthly electricity bill. If rates increase, payback period is reduced.
- Reduced operating costs – heats water cheaper and faster than electricity
- Energy efficient – COP values over 4:0 versus 1:1 on electric heating
- Environmentally friendly – recovers free energy and use ozone friendly gases
- Reliable and low maintenance
- Easy to operate – self diagnostic, set point specific control

Residential / light commercial

Self contained / integrated water heater

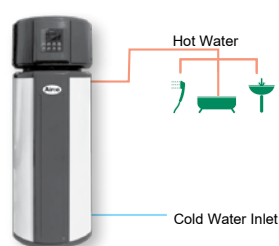
Household water-heating model selection

Model	Application
ARSJ-15/190 RDN3	4-5 people
ARSJ-35/300 RDN3	5-6 people

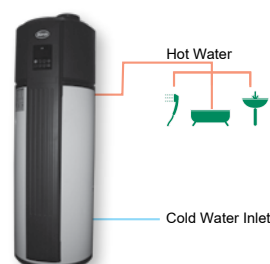
Recommendation:

Water Temp.:	50°C
Shower:	45-55L/person
Bath:	90-110L/person

190 litre storage,
1.5kW



190/300 litre storage,
3.5kW



Specifications

Eskom approved			
Airco Model Number		ARSJ-15/190 RDN3	ARSJ-35/300 RDN3
Heating Capacity - Heat Pump	kW	1.5 kW	3.5 kW
Input Power - Economy mode	watts	500 watts	970 watts
Rated Current - Economy mode	Amps	3.8 Amps	4.2 Amps
Ambient Temperature - Economy mode	°C	5 ~ 43°C	5 ~ 43°C
COP values @ 20°C - Economy mode	W/W	3,0	3,6
Auxillary Heating E-Heater mode	kW	2 kW	3 kW
Input Power E-Heater mode	Amps	6.8 Amps	13 Amps
Ambient temperature E Heater mode	°C	- 30 ~ 43° C	- 30 ~ 43° C
Power Supply	v / Ph / Hz	220 ~ 240 / 1 / 50	
Water Tank Volume	litres	190 litres	300 litres
Water Outlet Temperature	°C	38 ~ 70°C	38 ~ 70°C
Default temperature	°C	65°C	65°C
Max operating pressure of tank	KPA	700 kpa	700 kpa
Noise level	dB(A)	48	48
Water inlet pipe & water outlet & PTvalve	inch / DN	3/4" / DN20	3/4" / DN20
Drain pipe / Condensate drain	inch / DN	3/4" / DN20	3/4" / DN20
Refrigerant - type / quantity	R134a	R134a / 0.73 kg	R134a / 1.2 kg
Protection devices		HP, Temp & Power Overload , Earth Leakage	
Modes of operation		Economy & E-Heater	Econ, E-Heat & Hybrid
Nett Weight / Operating Weight	kg	86 kg / 257 kg	123 kg / 405 kg
Dimensions Ø x h	mm	Ø 560 x 1580 mm	Ø 650 x 1920 mm
Packed dimensions w x d x h	mm	729 x 699 x 1660 mm	745 x 775 x 2030 mm

Notes: The test conditions: outdoor temp. 20/15°C (DB/WB). The operation range: -7°C~43°C. Unit ARSJ 15/190 RDN3 uses R134A reffridgerant. The specification may be changed for product improvement, please refer to the nameplate.



Residential / light commercial

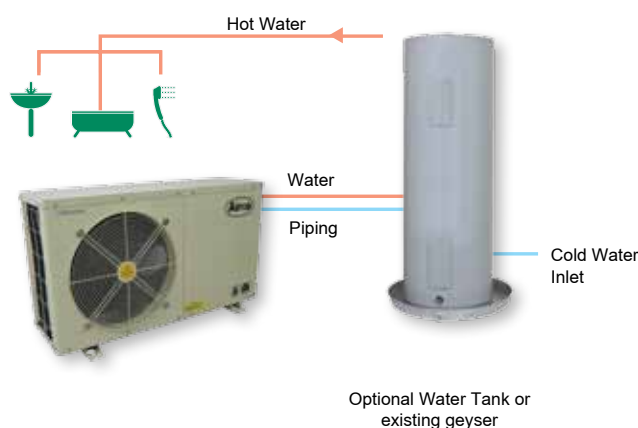
Split cycle heating type

Household water-heating model selection

Model	Application
KRS-35B	2-4 people
KRS-50B	4-5 people
KRS-72B	4-5 people

Recommendation:

Water Temp.:	50°C
Shower:	45-55L/person
Bath:	90-110L/person



Specifications

Eskom approved

Airco Model Number		KRS-35 B	KRS-50 B	KRS - 72 B
Heating Capacity	kW	3.5 kW	5.0 kW	7.2 kW
Input Power	W	830 / 1200w	1200/1740w	1720/2490w
Rated Current	Amps	3.97 / 5.8 A	5.8 / 8.3 A	8.23 / 11.9 A
C O P		4.2 / 2.91	4.16 / 2.87	4.18 / 2.89
Power Supply	v / Ph / Hz	220 ~240 V / 1 Ph / 50Hz		
Hot Water Yield	l/hr	75 l/hr	107 l/hr	155l/hr
Operating Temp Range		-10 ~ 43	-10 ~ 43	-10 ~ 43
Refrigerant	mm	R410a	R410a	R410a
Water outlet Temp	°C	25 ~ 60	25 ~ 60	25 ~ 60
Default Temperature		55	55	55
Noise Level 1 Metre Distance	dB(A)	52 dB(A)	53 dB(A)	54dB(A)
Water pipe sizes. In Et out		3/4"	3/4"	3/4"
Protection Devices		Hp, LP, Overtemp, +-Voltage, De-Ice		
Circulation Pump	Yes/No	Yes	Yes	Yes
Digital Control	Back-up Batt	Yes	Yes	Yes
Timer Settings		2	2	2
Modes	Timer	Auto/ Timer	Auto/ Timer	Auto/ Timer
Nett Unit Weight	kg	40kg	55kg	65kg
Unit Dimesions	H x W x D	493 x 750 x 264	545 x 935 x 282	620 x 1002 x 302
Test Conditions	WB/DB	20/15	20/15	20/15
Certifications		CE/CB	CE/CB	CE/CB

Airco Split type Heat-Pumps use the latest technology to heat water, conserve energy and protect the environment. They are energy efficient, cost effective and can be retrofitted to existing geysers or optional storage vessels. Heat-Pumps are reliable and deliver hot water under all weather conditions to pre-set conditions. Airco Heat-Pumps are environmentally friendly, offer quiet operation (two speed fan), and use ozone friendly refrigerants. Split type Heat-Pumps incorporate Wilo high efficiency, in line, hot water circulation pumps. Wired, wall mounted multi-functional control, with self diagnostic features, allows one to set (and monitor) all modes. Auto re-start, de-ice sensor and factory set parameters for easy operation. Double walled tube-in-tube heat exchanger offers excellent heat transfer capabilities, with no chance of refrigerant leakage or water contamination.



Commercial

High temperature direct heating type



Specification

Model	Units	KRS-90 B	KRS 200 E	KRS 300 E	KRS 400 E	KRS 450 E	KRS 630 E
Heating Capacity	kW	9	19	30	38	45	63
Input Power	kW	2.31	4.55	7.2	9.2	10.8	16
Rated Current	Amps	12.46	7.83	12	15.84	18.6	27.5
C O P		3.89	4.18	4.17	4.13	4.17	3.94
Power Supply	V/Ph/Hz	220 ~240 V/1 Ph/50hz		380 ~ 415 V / 3 Ph / 50 Hz			
Hot Water Yield	l/hr	193	408	645	817	967	1354
Operating Temp Range		-10° ~ 43°	-10° ~ 43°	-10° ~ 43°	-10° ~ 43°	-10° ~ 43°	-10° ~ 43°
Water outlet temperature	°C	25 ~ 60 °C	25 ~ 60 °C	25 ~ 60 °C	25 ~ 60 deg C	25 ~ 60 °C	25 ~ 60 °C
Default Temperature		55					
Refrigerant		R410a	R410a	R410a	R410a	R410a	R410a
Noise level 1 meter	dB(A)	55	57	58	60	61	
Circuits		1	1	2	2	2	3
Water inlet connection	In/Out	1", 1"	1", 1"	1:1/2", 1:1/2"	1:1/2", 1:1/2"	1:1/2", 1:1/2"	2", 2"
Protection Devices	HP	HP, LP, Temp Old, +- Volt, Phase, Defrost					
Control - Self Diagnostic	Yes/No	Yes	Yes	Yes	Yes	Yes	Yes
Modes of Operation		Auto/timer	Auto/timer	Auto/timer	Auto/timer	Auto/timer	Auto/timer
Recommended flow	litres/hr	1900	4100	6400	8200	9700	13500
Circulation pump built in		No					
Pressure drop through system	Kpa	60	50	55	55	55	55
Nett Weight	Kg	73	119	236	249	268	428
Unit Dimensions	H x W x D	620 x 350 x 1002	765 x 752 x 690	950 x 1450 x 702	1060 x 1450 x 702	1260 x 1450 x 702	1290 x 2150 x 765
Test Conditions	WB/DB	20/15	20/15	20/15	20/15	20/15	20/15
Water inlet/supply	°C	15/55 °C	15/55 °C	15/55 °C	15/ 55 °C	15/55 °C	15/55 °C

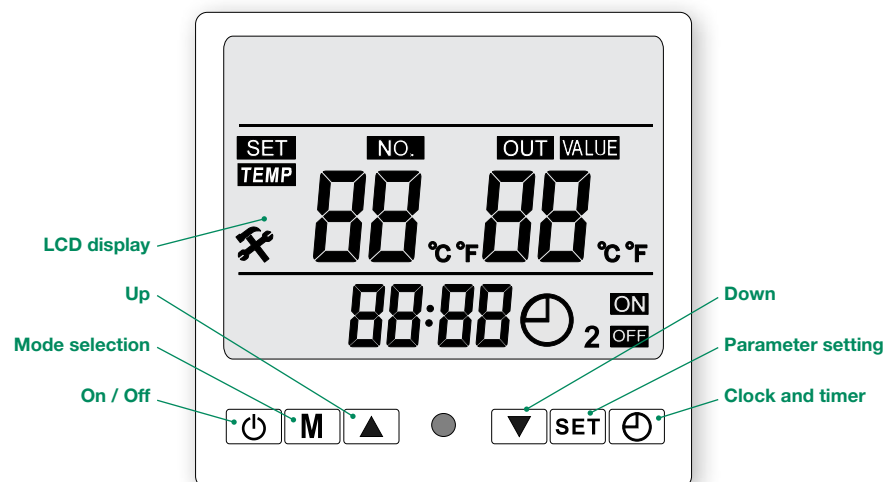
Commercial

High temperature direct heating type



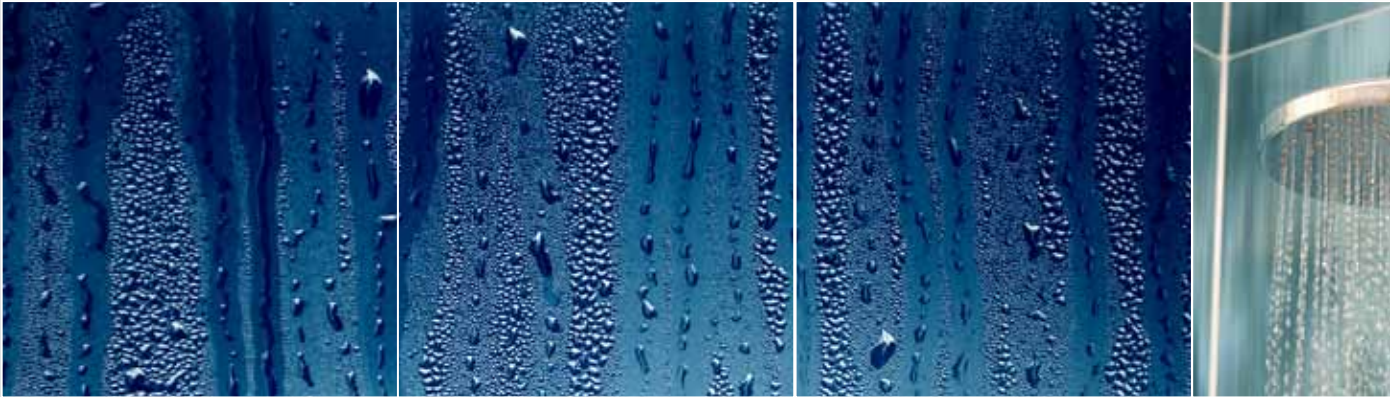
Heat pump intelligent wired controller

- Auto mode: set on/off signal to master unit, and all the units will start.
- Manual mode: under "Manual mode", water will be heated to the set temperature, and then return to "Auto mode".
- Timer function.
- Water outlet temperature is adjustable.
- Auto restart function, in the event of power failure.
- Monitor and display the system running status of system. Self diagnostic in event of malfunction.



Airco was founded in 1949 and - since then - we have been striving continually to develop environmentally friendly, energy efficient and cost effective comfort and process cooling solutions for our customers.

We endeavor to supply the correct product for the application maintaining the highest possible quality standards. Our dedicated team of people are ready to serve and assist.



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