

HEAT PUMP WATER HEATERS



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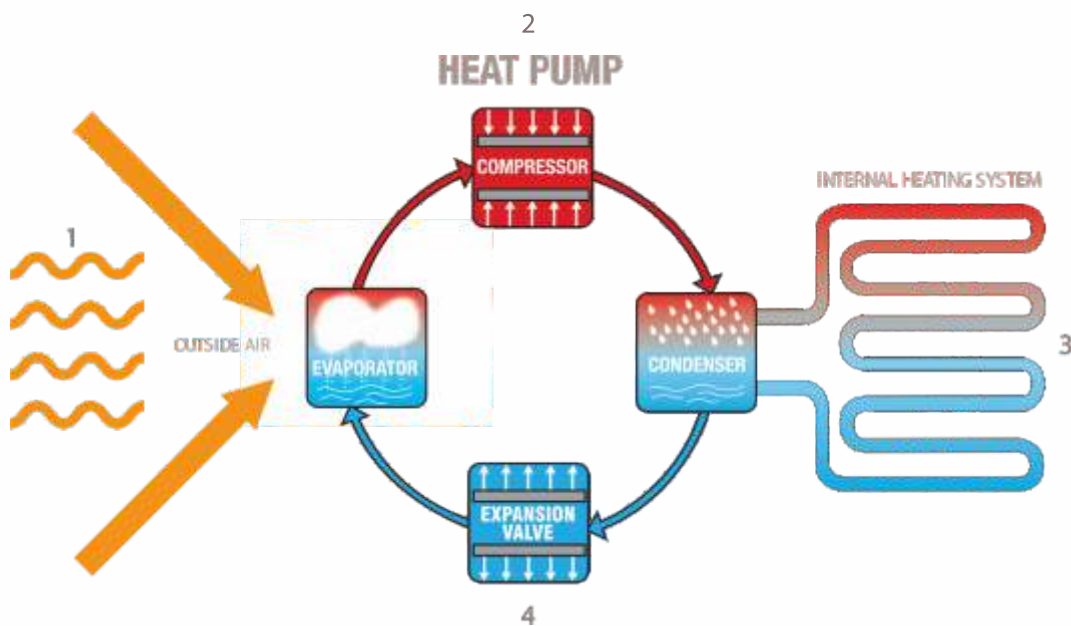
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How do heat pump water heaters work?

The technology inside the heat pump is similar to any domestic refrigerator, which uses a vapour compression cycle. The main components in the heat pump are the compressor, the expansion valve and two heat exchangers (an evaporator and a condenser).

- 1 Refrigerant in the evaporator is colder than the heat source. This causes the heat to move from the heat source (in this case the outside air) to the refrigerant, which then evaporates.
- 2 This vapour moves to the compressor and reaches a higher temperature and pressure.
- 3 The hot vapour now enters the condenser and gives off heat as it condenses.
- 4 The refrigerant then moves to the expansion valve; drops in temperature and pressure; and then returns to the evaporator.



Benefits

- Reduced water heating costs upto 75%
- Quick payback & return on investment
- Reliable hot water round the year
- Longest product life
- Reduced carbon emissions
- Silent operations
- Negligible maintenance costs

Common Applications

- Hotels
- Resorts
- Serviced Apartments
- Hospitals
- School & College Hostels
- Restaurants & Kitchen
- Laundry
- Industry

HPW Series

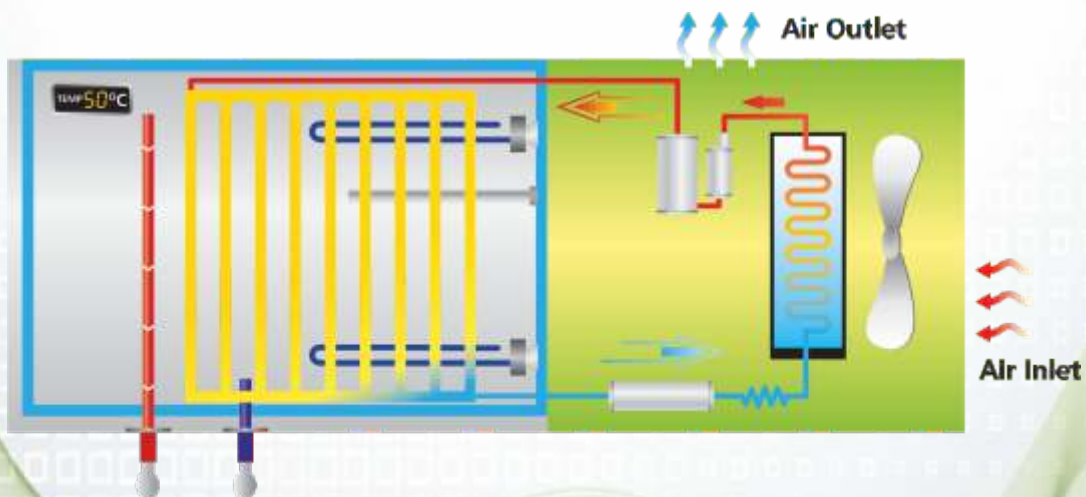
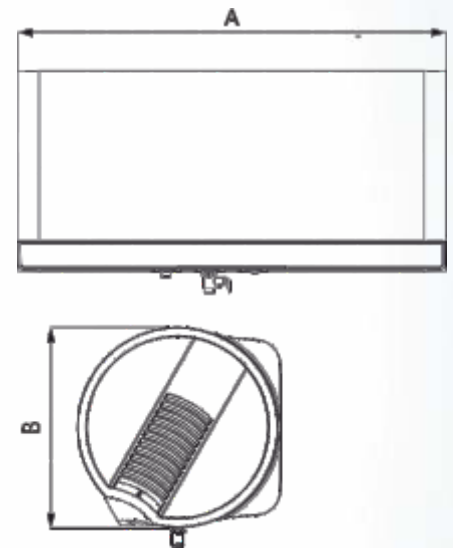
Features

- Heat pump water temperature 55°C, Max water temperature 75°C
- Input 200w, COP 2.6
- Two elements back up for quick recovery
- Patented AES energy saving system
- Timer setting
- Remote control
- PS safety system
- R134a Green refrigerant
- Wall mounted



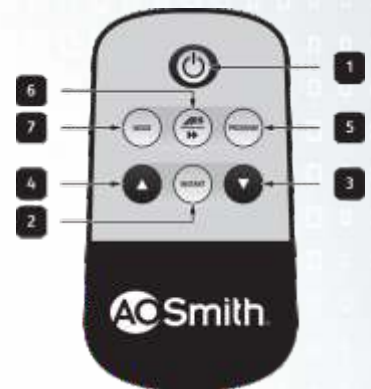
Technical Specification

MODEL	HPW-60A2	HPW-80A2
Rated volume [L]	60	80
Rated voltage [V] / Rated frequency [Hz]	220 / 50	220 / 50
Rated input power [W] / Rated current [A]		
Efficiency mode	210 / 0.95	210 / 0.95
Hybrid Turbo mode	2200 / 10	2200 / 10
MAX mode	3000 / 13.7	3000 / 13.7
Heating Capacity [W]		
Efficiency mode	540	540
Hybrid Turbo mode	2540	2540
MAX mode	3000	3000
Inner tank rated pressure [MPa]	0.8	0.8
Range of water temperature [°C]	35-75	35-75
Environment range of energy-saving mode [°C]	10-44	10-44
Dimensions [A x B] [mm]	837 x 473	992 x 473
Net weight [kg]	42	45



Touch Control and Remote Control

Convenience to access your water heater with Touch Control and Remote Control.



- 1 **Power ON/OFF button:**
Press Power ON/OFF button, the heater will be power-on. Setting temp and actual temp will be displayed a few seconds later.
- 2 **Instant Heating button:**
Users can select instant heating by pressing this button at all times and the water heater starts electrical heating immediately to reach the preset temperature. The heating is just one time.
- 3 **Increase/Decrease button:**
Press the Increase/Decrease button again to make the preset temperature increase or decrease by 1. And adjusting clock, timer also.
- 4 **Program button:**
Program is to set up clock, and timing for heating. Two timers is available.
- 5 **AES/MAX button:**
AES feature adopts heating cycles automatically, which will facilitate water usage and save energy by minimizing thermal loss.
MAX function means more hot water output.
- 6 **Mode button:**
Change mode of Efficiency or Hybrid Turbo by touch Mode button.
- 7 **Indicators:**
This indicates the water heater is working in which mode, AES/MAX, timer, etc.,.
- 8 **Digital Indicators:**
This indicates the water heater is working temperature, clock, timer setting, etc.,.
- 9 **Heating Indicator:**
Indicator glows when the heating is in progress.
- 10 **Display of hot water:**
Five lighting blocks display the hot water distribution of different levels in the water tank of the water heater.





HPI

Air to Water Heat Pump

Storage Capacity - 150 & 180 litres



HPI

The HPI heat pump water heater is an integrated system that utilises the heat pump technology to provide efficient way to heat water with electricity. HPI pulls heat from surrounding air and deposits the heat into the tank. The end result is hot water with cooler and dehumidified air as a welcome by-product.

PRODUCT FEATURES:

Energy Saving Heating:

The New generation water heater extracting heat from the atmosphere and using it for heating water.

Max:

MAX function for more hot water output, therefore better bathing experience.

AES (adaptive energy-saving system):

AES feature adopts heating cycle automatically, which will facilitate water usage and save energy by minimizing thermal loss.

Hot water amount display:

Indicates the amount of hot water available in the tank.

Intelligent defrosting:

The automatic intelligent defrost function solves the problems like freezing of exchanger, frosting and resumes the system to operate efficiently.

Wired remote controller:

The controller and the unit are to be installed separately for clear view sight and convenient operation.

Glass-lined special protective tank:

Patented glass-lined protection by A. O. Smith for better tank life.

Anode rod protection:

A powerful steel-core-anode rod to protect tank and prolonged service life of the heat pump water heater.

High efficiency Energy Saving Insulation:

A polyurethane foam insulating layer reduces heat loss effectively.



ALL ROUND SAFETY

- Triple protection - Thermostat, High temperature limit and T&P relief valve.
- Refrigerant and water are completely separated, condenser uses rectangular steel tubes.
- Compressor overheating protection
- High and low voltage protection
- Refrigerant leakage protection



SMART & CONVENIENT

- LCD touch pad display
- Intuitive icons clearly indicate the current operating mode
- Three line display communicates current status and displays error messages in plain English when applicable.
- Safety lock
- Individual back lit buttons for mode selection



LCD remote

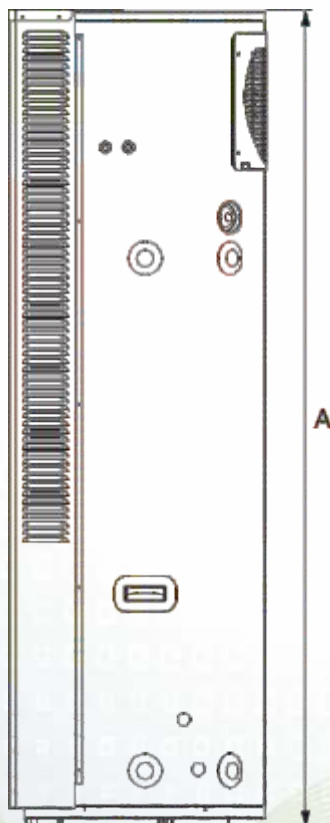
HPI

TECHNICAL SPECIFICATIONS - HPI

MODEL	HPI-40D1.0BI	HPI-50D1.0BI
Rated volume [L]	150	180
Voltage / Frequency [V/Hz]	220~ / 50	220~ / 50
Rated Input / Current [W/A]		
Efficiency Mode	460 / 2.5	460 / 2.5
Hybrid Turbo Mode	2500 / 11.5	2500 / 11.5
Output(W)		
Efficiency Mode	1750	1750

MODEL	HPI-40D1.0BI	HPI-50D1.0BI
Hybrid Turbo Mode	3750	3750
Water temperature range [°C]	35~75	35~75
Ambient temperature range for Efficiency [°C]	7~43	7~43
Tank rated pressure (bar)	10	10
Dimension A [mm]	1610	1800
Diameter of Tank	Ø520	Ø520
Weight of Tank (kg)	89	98

EXTERNAL DIMENSIONS



HPA-80/120 split type

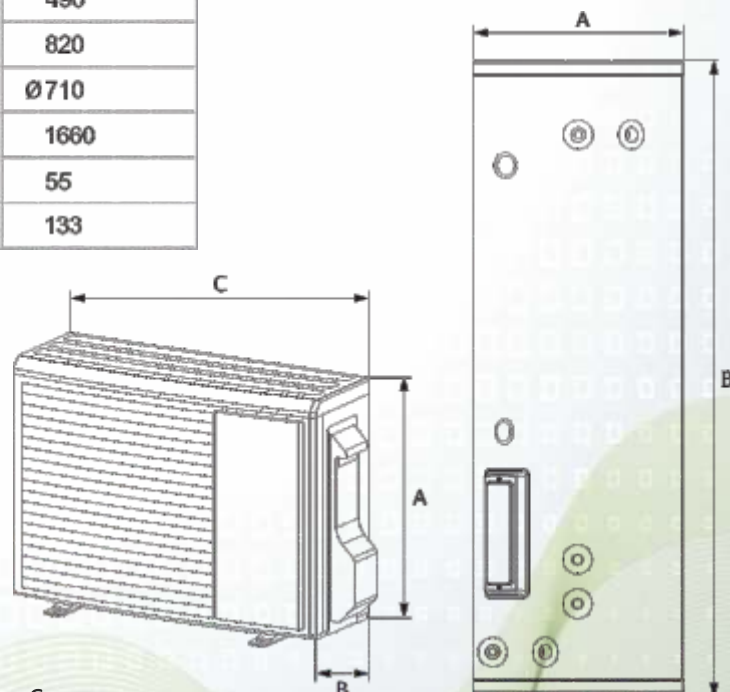
Features

- Heat pump water temperature 65°C,
Max water temperature 75°C
- COP 3.6 - HPA80, COP 4.2 - HPA 120
- Two elements back up for quick recovery
- Patented AES energy saving system
- Timer setting
- Remote control
- R134a Green refrigerant



Technical Specification

MODEL	HPA-80C1.5A	HPA-120D2-OA
Rated volume [L]	300	450
Voltage / Frequency [V/Hz]	220~ / 50	220~ / 50
Rated Input / Current [W/A]		
Efficiency	1010/4.6	1380/6.3
Hybrid Turbo	2010/9.1	2380/15.4
Output(W)		
Efficiency	3640	5800
Hybrid Turbo	6640	8800
Water temperature range [°C]	35~75	35~75
Ambient temperature range for Efficiency [°C]	7~43	7~43
Tank rated pressure (Mpa)	1.03	1.03
External unit dimension		
A [mm]	560	970
B [mm]	320	490
C [mm]	835	820
Tank dimension		
A [mm]	Ø610	Ø710
B [mm]	1640	1660
Weight of external unit (kg)	37	55
Weight of tank (kg)	98	133

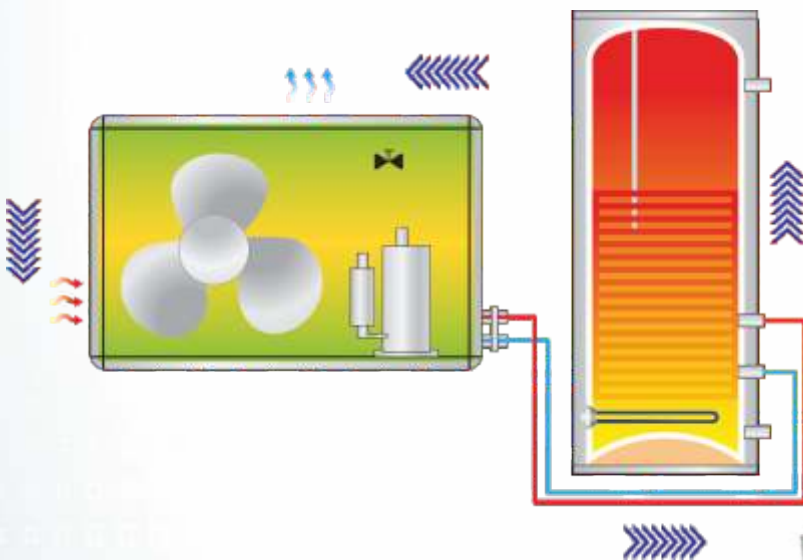


Wired Touch Control

Convenience to access your water heater with Wired Touch Control.



- Power ON/OFF button:**
Press Power ON/OFF button, the heater will be power-on. Setting temp and actual temp will be displayed a few seconds later.
- Instant Heating button:**
Users can select instant heating by pressing this button at all times and the water heater starts electrical heating immediately to reach the preset temperature. The heating is just one time.
- Increase/Decrease button:**
Press the Increase/Decrease button again to make the preset temperature increase or decrease by 1. And adjusting clock, timer also.
- Program button:**
Program is to set up clock, and timing for heating. Two timers is available.
- AES button:**
AES feature adopts heating cycles automatically, which will facilitate water usage and save energy by minimizing thermal loss.
- Mode button:**
Change mode of Efficiency or Hybrid Turbo by touch Mode button.
- Indicators:**
This indicates the water heater is working in which mode, AES, timer, etc.,
- Digital Indicators:**
This indicates the water heater is working temperature, clock, timer setting, etc.,
- Heating Indicator:**
Indicator glows when the heating is in progress.
- Display of hot water:**
Five lighting blocks display the hot water distribution of different levels in the water tank of the water heater.



CAHP-1.5HP

Features

- Unique heat exchanger design, heat pump water temperature to 65°C
- Energy saving, fast heating, electric back up and standard modes for choosing
- Smart control to avoid cold water mixing
- LCD display
- R134a green refrigerant
- Integrate design for outdoor installation
- Available in 300 & 450 Litre storage



TECHNICAL SPECIFICATIONS - CAHP 1.5DI - 80/120

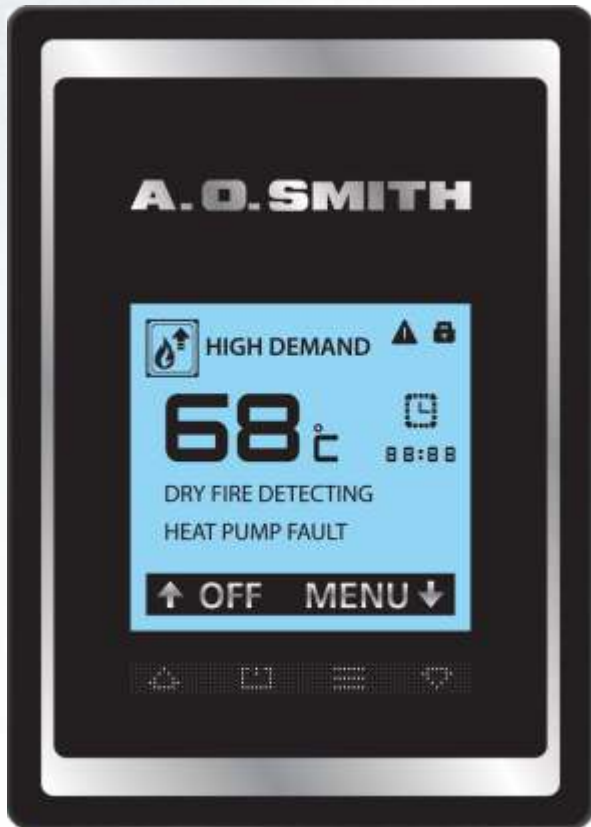
Model		CAHP1-SDI-80-6	CAHP1-SD-120-6	CAHP1-SD-120-12
Model Type	/	Outdoor integrated heat pump water heater		
HP Rated Power	W	875		
HP Rated heating capacity	W	3680		
COP	W/W	4.20		
Electrical Heating Capacity	W	6000	6000	12000
Maximum Operation Current	400V / 3N / 50Hz	A	/	37.5
	230V / 1N / 50Hz	A	38.7	71.9
Refrigerant	/	R134a		
Refrigerant charge quantity	g	940		
Tank capacity	L	300	455	455
Net Weight	Kg	161	194	194
Operation Weight	Kg	461	649	649
Water Temp in efficiency mode	°C	65		
Operation Temperature Range	°C	37~75		
Ambient Temperature for HP	°C	-7~43		
Ambient Temperature for Unit	°C	-15~50		
Unit Operation Noise	dB (A)	54		
Air Outlet Noise	dB (A)	58		
Demision (LxWxH) mm	mm	910x610x1700	1012x713x1700	1012x713x1700
Anode	/	Aluminum Rod		
Control Mode	/	Led wire Display (Standard 10m, Optional Maxium 30 m)		
Operation Mode	/	Efficiency, High Demand, Standard		
Other Control Functions	/	Timer, Fault Alarming, Water pump controlling, AES HP		
Power Supply Specifications	/	230V~50Hz	230V~50Hz	400V 3N~50Hz
Connection Size ~ Inlet / Outlet / T&P Valve	/	NPT 3/4 (Female Thread)		

EXTERNAL DIMENSIONS

Model	Total height A (mm)	Tank diameter B (mm)	Maximum depth C (mm)	Width from the gate D (mm)	safety valve Interface height E (mm)	Water inlet height G (mm)
CAHP-80	1700	610	910	503	1440	145
CAHP-120	1700	713	1012	503	1467	144

Wired Remote Control

Convenience to access your water heater with Wired Touch Control.



- Two Operation Mode could be set by controller.

High Demand Mode:

Water heater uses heat pump and electric heating when the working condition is in heat pump operation range, otherwise water heater only uses electric heating.

Efficiency Mode:

Water heater only uses heat pump heating when the working condition is in heat pump operation range, otherwise water heater changes to electric heating automatically.

- Display current status and error information.
- Circulation pump control mode.

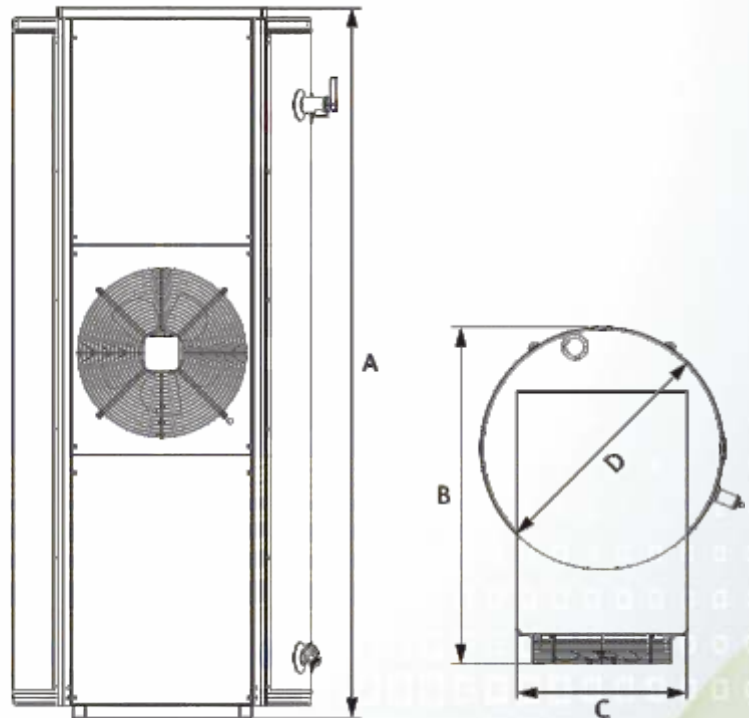
Smart Mode:

According to water temperature, ambient temperature and other conditions, calculate automatically to control water pump running hour and interval hour, save electricity intelligently.

Fixed Mode:

Manual input water pump running hour and interval hour.

- LCD Display Panel
- Children lock can prevent child from changing water heater settings.
- 2 section timing heating.



CAHP-3HP

Features

- Unique heat exchanger design, heat pump water temperature to 65°C
- Energy saving, fast heating, electric back up and standard modes for choosing
- Smart control to avoid cold water mixing
- LCD display
- R134a green refrigerant
- Integrate design for outdoor installation



TECHNICAL SPECIFICATIONS-CAHP-120C

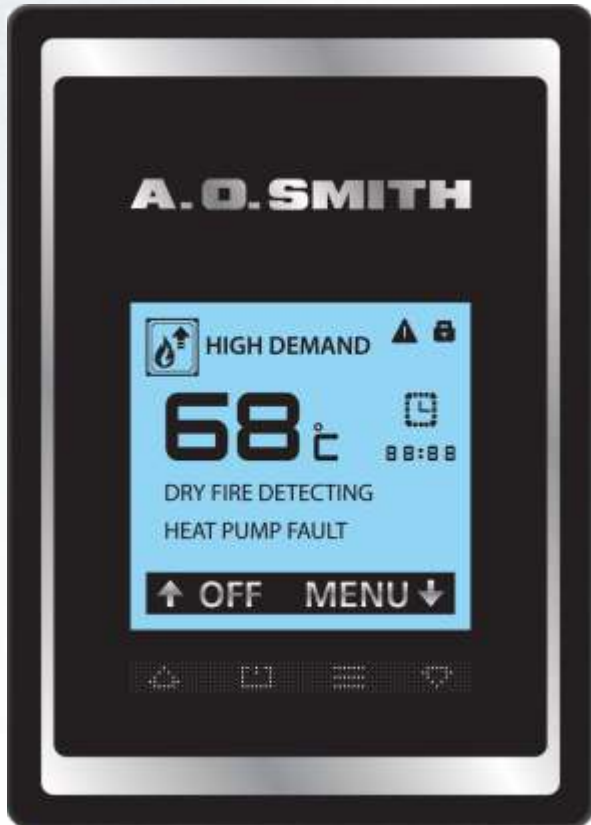
Model		CAHP120C-6	CAHP120C-12	
Model Type	/	Outdoor integrated heat pump water heater		
HP Rated Power	W	2250		
HP Rated heating capacity	W	8500		
COP	W/W	3.8		
Electrical Heating Capacity	W	6000	12000	
Maximum Operation Current	400V / 3N / 50Hz	A	15.8	31.5
	230V / 1N / 50Hz	A	47.1	78.5
Refrigerant	/	R134a		
Refrigerant charge quantity	g	2100		
Tank capacity	L	455		
Net Weight	Kg	264		
Operation Weight	Kg	719		
Water Temp in efficiency mode	°C	65		
Operation Temperature Range	°C	35~82		
Ambient Temperature for HP	°C	0~48		
Ambient Temperature for Unit	°C	-5~50		
Unit Operation Noise	dB (A)	59		
Air Outlet Noise	dB (A)	62		
Demision (LxWxH) mm	mm	1002x770x1717		
Anode	/	Aluminum Rod		
Control Mode	/	Led wire Display (Standard 10m, Optional Maxium 30 m)		
Operation Mode	/	Efficiency, High Demand		
Other Control Functions	/	Timer, Fault Alarming, Anti freezing, Water pump controlling		
Power Supply Specifications	/	230V/1N/50Hz and 400V/3N/50Hz		
Connection Size – Inlet / Outlet	/	1Inch (Female Thread)		

EXTERNAL DIMENSIONS

Model	Total height A (mm)	Tank diameter B (mm)	Maximum depth C (mm)	Service panel width D (mm)	Relief valve height E (mm)	Water outlet height F (mm)	Water inlet height G (mm)	Relief valve angle α (°)	Maximum width H (mm)
CAHP-120C	1770	711	1002	600	1476	1468	153	22	770

Wired Touch Control

Convenience to access your water heater with Wired Touch Control.



- Two Operation Mode could be set by controller.

High Demand Mode:

Water heater uses heat pump and electric heating when the working condition is in heat pump operation range, otherwise water heater only uses electric heating.

Efficiency Mode:

Water heater only uses heat pump heating when the working condition is in heat pump operation range, otherwise water heater changes to electric heating automatically.

- Display current status and error information.
- Circulation pump control mode.

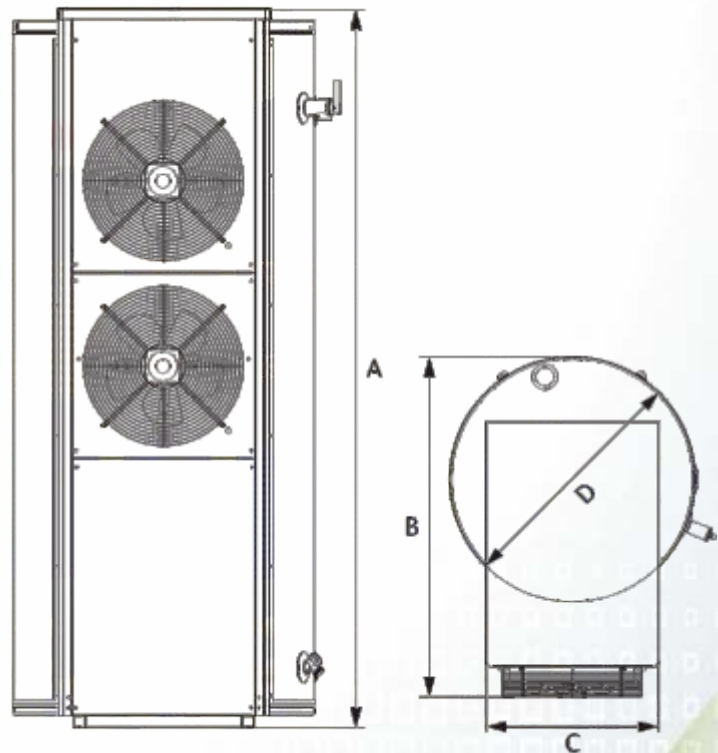
Smart Mode:

According to water temperature, ambient temperature and other conditions, calculate automatically to control water pump running hour and interval hour, save electricity intelligently.

Fixed Mode:

Manual input water pump running hour and interval hour.

- LCD Display Panel
- Children lock can prevent child from changing water heater settings.
- 2 section timing heating.



CAHP 5HP & 10 HP

Features

- Smart control to avoid cold water mixing
- Energy Saving
- Power Off memory
- Auxiliary heater
- Refrigerant: R410



Technical Specification

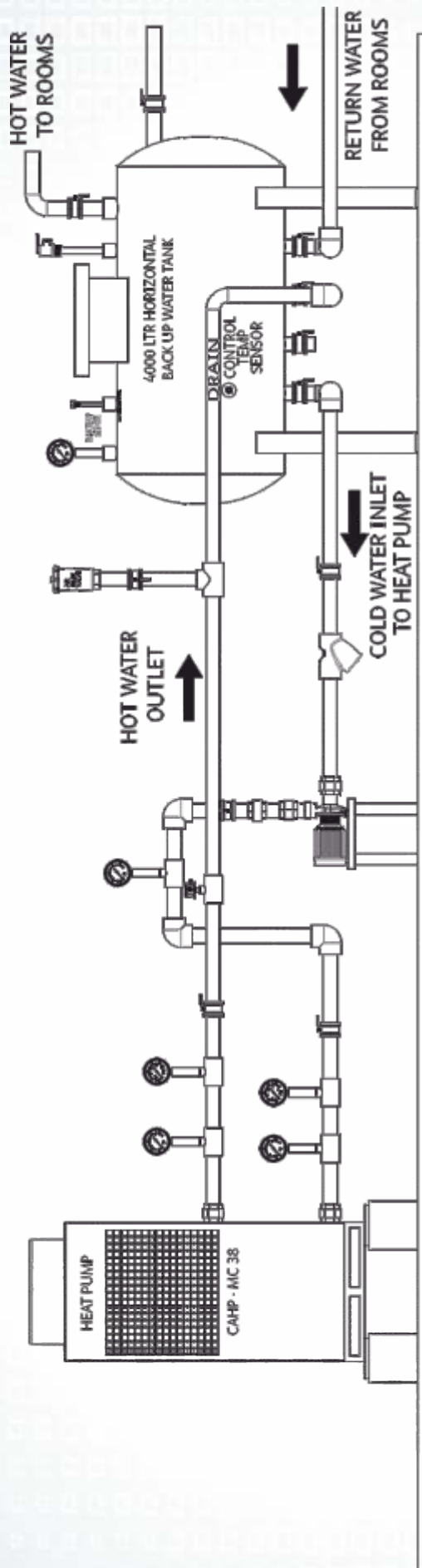
Technical Specifications		
ITEM	CAHP-MC-38 (10HP)	CAHP-MC-19 (5HP)
POWER SUPPLY	380V 3N ~ 50Hz	380V 3N ~ 50Hz
VOLTAGE RANGE	380V +/- 10%	380V +/- 10%
RATED HEATING CAPACITY(1)	38 kW	19.8 kW
RATED WATER FLOW(1)	6.5 CMH	3.4 CMH
RATED POWER INPUT (1)	10.3 kW	6.02 kW
RATED OPERATION CURRENT(1)	18.6 A	11.0A
MAX. POWER INPUT	13.2 kW	6.8 kW
MAX. OPERATION CURRENT	23.3 A	11.7 A
OPERATION NOISE (2)	65 dB(A)	60 dB(A)
REFRIGERANT / QUANTITY	R410a / 6.2kg	R410a / 2.8kg
REFRIGERANT SIDE HIGH SIDE	4.2 Mpa	4.4 Mpa
DESIGN PRESSURE LOW SIDE	3.1 Mpa	3.1 Mpa
WATER SIDE DESIGN PRESSURE	1.0 Mpa	1.0 Mpa
WATER SIDE PRESSURE DROP (3)	45 kPa	73 kPa
WATER CONNECTION SIZE	DN40 (R1 1/2")	DN32 (R1 1/4")
WATERPROOF CLASS	IPX4	IPX4
NET WEIGHT	287 kg	170 kg
DIMENSIONS (L x W x H)	1020 x 846 x 1840 mm	719 x 761 x 1160 mm

Power off memory

- The central controller stores the status of the units automatically when the heat pump units or the central controller is powered off. The central controller will send the command to the system to operate as the status before the power off when the power supply recovers. This will allow the system operate as per the previous setting during abnormal power off.

Auxiliary heaters


- The heat pump heating capacity will decrease when the ambient temperature decreases. Auxiliary heaters should be equipped to improve the heating capacity and ensure the hot water supply if the minimum ambient temperature is lower than 10 Celsius. Either electric heater or gas heater could be used as auxiliary heater.
- The central controller supplied by A.O. Smith provides control signal to the auxiliary heater to optimize the system operation efficiency. For example, if a gas heater is selected as auxiliary heater, the central controller will control the heat pump units and the gas storage heater based on the actual ambient temperature, water temperature and the database stored in the CCB to achieve the most economic operation cost, as well as the most reliable operation.




Note:

- (1) Rated condition: Ambient temperature 20/15 °C (dry/wet bulb), water temperature 47/52 °C (inlet/outlet).
- (2) Sound pressure value at one meter.
- (3) Measured at the rated water flow.



Product of USA 



Product of USA 

From The House of **AO Smith**TM
Innovation has a name.



G-Series

Household central gas water heater

G-Series - 30/40/50/75/100

Storage Capacity

110, 150, 190, 285 and 380 Litres

Range of Output

G-Series - 9,200 Kcal/Hr to 17,100 Kcal/Hr



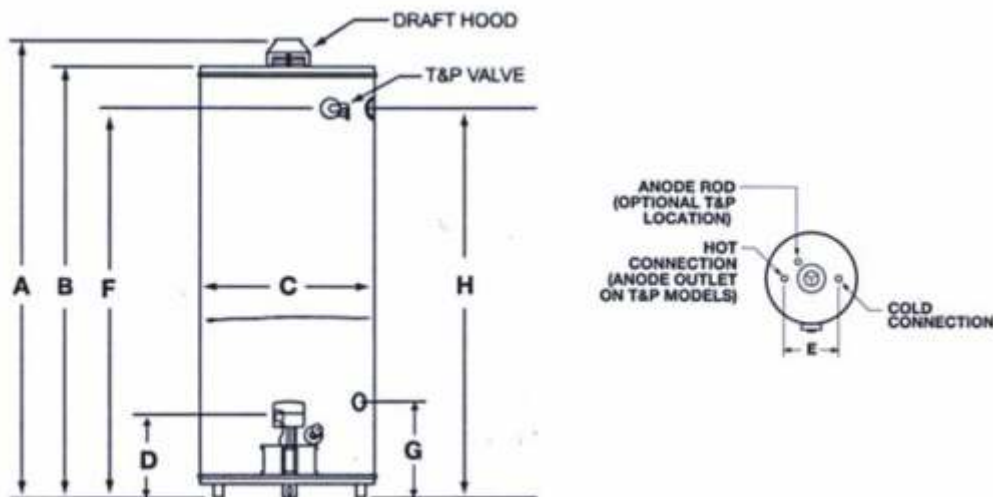
TECHNICAL SPECIFICATIONS

		G-30	G-40	G-50	G-75	G-100
GAS						
Output	MJ/hr	38	38	38	71.2	71.2
Inlet Pressure	mbar	20				
GENERAL						
Storage Capacity	l	110	150	190	285	380
Overall Dimensions	Inches	φ 17 * 60	φ 19 * 62	φ 22 * 60	φ 26 * 60	φ 27 * 68
Rated water inlet pressure	bar	10				
Gas inlet		G1/2"				
Water inlet and outlet		NPT3/4"	NPT3/4"	NPT3/4"	NPT1"	NPT1 1/4"
Relief valve outlet		NPT3/4"	NPT3/4"	NPT3/4"	NPT1"	NPT1 1/4"
Flue duct diameter	mm	100				

G-Series

FEATURES

- BLUE DIAMOND GLASS COATING** Provides superior corrosion resistance compared to industry standard glass lining.
- COREGARD ANODE ROD** anode rods have a stainless steel core that extends the life of the anode rod allowing superior tank protection far longer than standard anode rods.
- NOISE LEVEL** Whisper quite operation
- AUTOMATIC FLUE DAMPER** Increases efficiency at it automatically opens and closed to reduce heat loss in the standby mode.
- GREEN CHOICE GAS BURNER** Patented eco-friendly burner design reduces Nox emissions by up to 33% and complies with Low-NOx emission requirements of less than 40 ng/J.
- CSA CERTIFIED AND ASME RATED T&P RELIEF VALVE**
 - Meets UBC, CEC and HUD National Codes
 - Meets the thermal efficiency and standby loss Requirements of the U.S. Department of Energy and current edition of ASHRAE/IESNA 90.1
 - Complies with the federal energy Conservation Standards effective April 16, 2015, in accordance with the energy policy and conservation act (EPCA) as amended.
- WARRANTY** All EMG water heaters receive two years warranty on the tank and one year on parts
- DIMENSIONS**



G-Series Dimensions (Inches)

Model	A	B	C	D	E	F	G	H	DRAIN	T&P VALVE
G-Series-30	60	56	17	11	8	49	N/A	N/A	1/2"	3/4"
G-Series-40	62	58	19	11	8	51	N/A	N/A	1/2"	3/4"
G-Series-50	60	57	22	12	8	50	50	14	1/2"	3/4"
G-Series-75	60	57	26	12	8	52	51	15	1/2"	3/4"
G-Series-100	68	60	27	13	8	53	52	16	1/2"	3/4"

ABOUT A. O. SMITH

A.O. Smith : Worldwide - A.O. Smith is a global leader applying innovative technology and energy-efficient solutions to products marketed worldwide. A.O. Smith is also one of the largest manufacturers of electric motors of residential and commercial application in North America.

A.O. Smith : India - A.O. Smith India Water Heater Private Limited was established in 2005. Backed by 70 years of proven technological advances A. O. Smith India has created a stylish design with features demanded by the Indian consumer and successfully marketed a range of domestic water heaters that in a short period of time have become the most trusted brand in it's category.



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THE BLUE DIAMOND STORY

AO Smith was credited with the invention of the Glass-lined Water Heater tanks in 1936. After this, the next breakthrough was Blue Diamond technology in 2004. AO Smith holds the patent for this technology. In this technology, a specially formulated glass frit is bonded to the steel through a complex process that is carried out at over 800 deg C. The blue diamond Glass-lining Technology reduces scaling accumulation on the tank caused by Minerals, corrosion due to Hard water. It enhances the strength and durability of the tank.

All AO Smith water heaters come with the Blue- Diamond Glass Lining Technology, replacing the earlier water heaters that were prone to Rusting, corrosion and scaling due to the contact between hot water and steel.

The Blue Diamond Technology provides twice the corrosion resistance compared to industry standards and increases the life span of the tank



Notes :



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