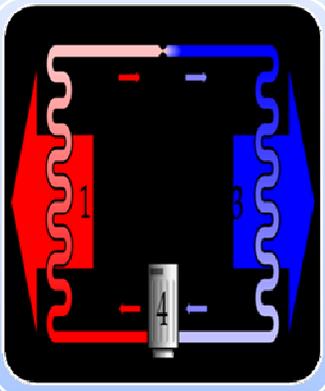


EMERGING TECHNOLOGY

A.O.SMITH HEAT PUMPS WATER
HEATER



What is Heat Pump Water Heater?

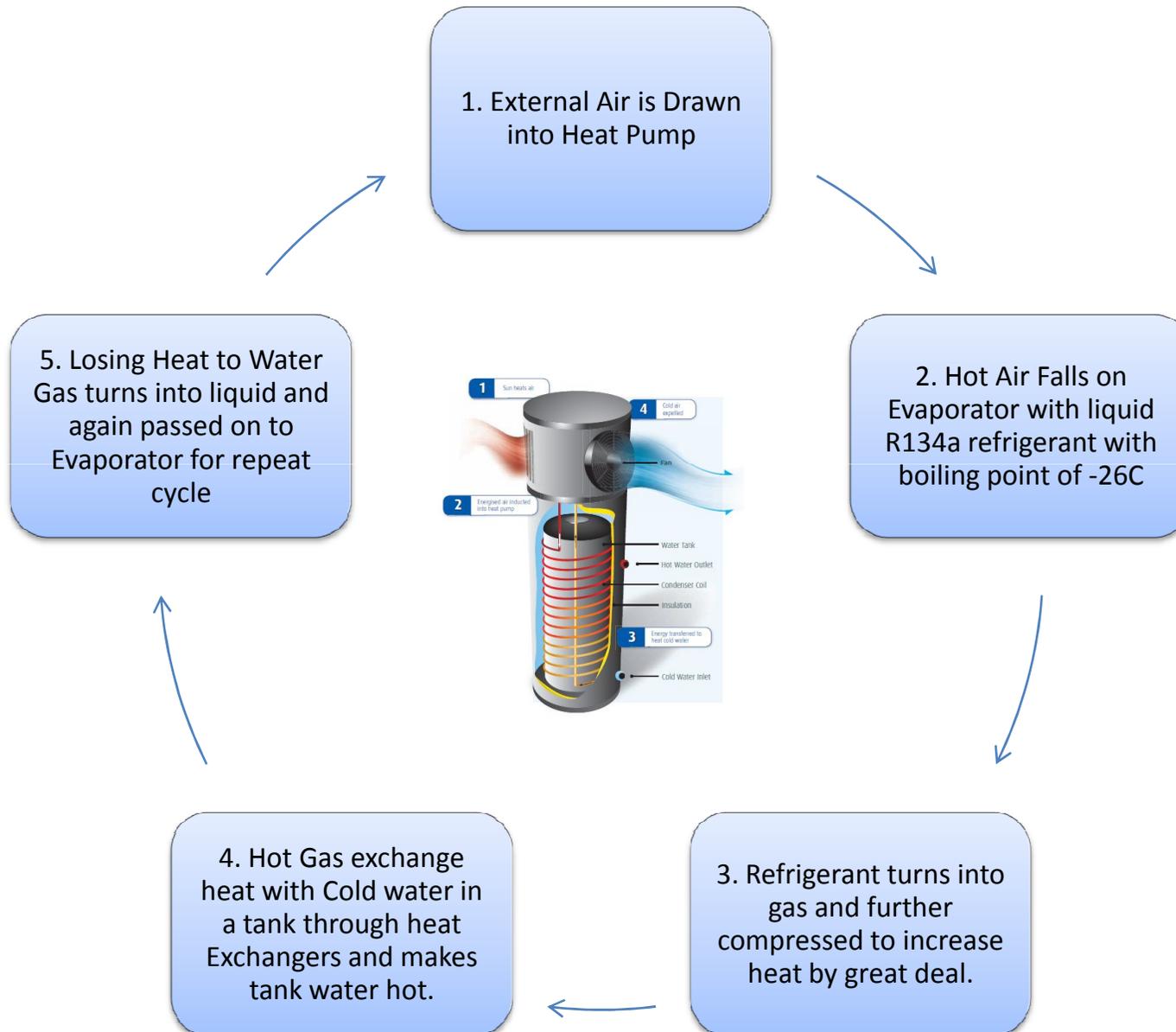


In heating and air conditioning (HVAC) applications, the term *heat pump* usually refers to easily reversible vapor-compression refrigeration devices optimized for high efficiency in both directions of thermal energy transfer.



Air-water heat pumps extract heat from outside air transfer the extracted heat into a heating circuit, they can transfer heat into a domestic hot water tank and this water is consequently used in the shower and hot water taps of the building.

How Does Heat Pump Water Heater Work?



Why Heat Pump Water Heater?



Energy Savings:

- With COP of 4, heat pump is four times more efficient than Electric Water heater. It is the most efficient possible solution available for Water heater.



Smart Investment:

- With an outstanding Payback period of heat Pump, you almost start earning money from your water heater in 2-3 years time.



Environment Friendly:

- A US estimate says that if everyone start buying Heat Pump over electric Water heater for one year, we would avoid 19.6 billion pounds of Carbon Dioxide Emission. That is equivalent to taking off 1.6 million cars off-road.



Wide Application:

- Does not have effect of rainy or Cloudy days. Can be installed at house, hotel, restaurants, Schools, Hospitals, Dormitories, saunas etc.

A.O SMITH HEAT PUMP WATER HEATER

PRODUCT RANGE



RESIDENTIAL & LIGHT COMMERCIAL HEAT PUMP WATER HEATER



RESIDENTIAL & LIGHT COMMERCIAL HEAT PUMP WATER HEATER

- **HPW-A (Wall hung heat pump)**
- **Model: HPW-A(60L/80L)**
- **Features:**
 - Heat pump water temperature 55c; Max water temperature 75c
 - Heat pump input 200w,COP2.6
 - Two elements back up for quick recovery
 - Patented AES energy saving system
 - Timer setting
 - Remote control
 - PS safety system
 - R134a green refrigerant



Model	Rated Capacity(L)	Rated Voltage/Frenquency(V/HZ)	Rated Input/Current(W/A)			Heating Capacity(W)			Tank Rated Pressure(MPa)	Temperature Range(°C)	Environment Temperature Range for Heat Pump(°C)	Size(mm)
			Efficiency	Hybrid Turbo	MAX	Efficiency	Hybrid Turbo	MAX				
HPW-60A	60	220/50	200/0.91	2200/10	3000/13.7	520	2520	3000	0.8	35-75	10-43	837×463
HPW-80A	80	220/50	200/0.91	2200/10	3000/13.7	520	2520	3000	0.8	35-75	10-43	992×463

RESIDENTIAL & LIGHT COMMERCIAL HEAT PUMP WATER HEATER

Model		HPI-40C1.0A	HPI-50C1.0A
Capacity(L)		150	180
Voltage/Frequency (V/Hz)		220/50	
Rated Input/Current(W/A)	Efficiency	500/2.5	
	Hybrid Turbo	2500/11.5	
Output(W)	Efficiency	1900	
	Hybrid Turbo	3900	
Water temperature range(°C)		35~75	
Ambient temperature range for Efficiency(°C)		- 7~43	
Tank rated pressure (Mpa)		1.03	
Inlet&outlet		3/4" NPT	
Overall Dimension	Height	1530	1565
	Diameter of Tank	Φ 520	
	Depth	574	
	Width	447	
Weight of Tank(KG)		89	98



RESIDENTIAL & LIGHT COMMERCIAL HEAT PUMP WATER HEATER

Model		HPA-80C1.5A
Capacity(L)		300
Voltage/Frequency (V/Hz)		220/50
Rated Input/Current(W/A)	Efficiency	1010/4.6
	Hybrid Turbo	2010/9.1
Output(W)	Efficiency	3640
	Hybrid Turbo	4640
Water temperature range(°C)		35~75
Ambient temperature range for Efficiency(°C)		- 7~43
Tank rated pressure (Mpa)		1.03
Inlet&outlet		3/4" NPT
External unit dimensions(mm)		835*320*560
weight of external unit(KG)		56
Tank overall size (mm)		Φ 610*1640 (H)
weight of tank (KG)		98



RESIDENTIAL & LIGHT COMMERCIAL HEAT PUMP WATER HEATER

CAHP(1.5HP floor-standing Integrate)

- **Model: CAHP-80/120-6/8/10/12(300L/455L)**
- **Features:**
 - Unique heat exchanger design, heat pump water temperature to 65c
 - 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
 - Light commercial application



RESIDENTIAL & LIGHT COMMERCIAL HEAT PUMP WATER HEATER

Model		CAHP-80/120-6	CAHP-80/120-8	CAHP-80/120-10	CAHP-80/120-12	
Rated power of heat pump	kW	0.98				
Rated heating capacity of heat pump	kW	3.5				
Electric heating power	kW	6	8	10	12	
Maximum input power	kW	7.3	9.3	11.3	13.5	
Maximum heat	kW	9.5	11.5	13.5	15.5	
Maximum current	A	15.8	21	26.3	31.5	
Maximum outlet water	°C	65				
Temperature control	°C	35 ~ 82				
water tank capacity	CAHP-80	L	300			
	CAHP-120	L	445			
Inlet/outlet water pipe	mm	Dn20				
Dry/operating weight	CAHP-80	Kg	165/465			
	CAHP-120	Kg	220/676			
Flow rate	Energy saving mode	L/h	73	73	73	73
	Electric mode	L/h	123	164	205	246
	Hybrid/Rapid heat mode	L/h	196	237	278	319
Refrigerant/charge amount	g	R134a/1000				
Unit operation conditions	°C	-15-15				
Unit operation noise	dB(A)	52				
Power specifications	/	220V/single phase/50Hz				

RESIDENTIAL & LIGHT COMMERCIAL HEAT PUMP WATER HEATER

PHPT

- **Model: PHPT 60/ PHPT 80**
 - Absorbs environmental heat and transfers it to the water, at the same time cooling and dehumidifying the ambient air
 - With an 80-gallon tank, more energy is created through the heat pump technology, resulting in larger savings
 - Four operation modes: high efficiency, hybrid, electric and vacation
 - User-friendly LCD display for easy interaction
 - Conserves energy thanks to 2.4 Energy Factor (EF)
 - ENERGY STAR® qualified
 - Available in 60 and 80-gallon models



MODEL	GALLON CAPACITY	ENERGY FACTOR BY MODE			1ST HOUR RATING BY MODE			HEIGHT (INCHES) A	DIAMETER (INCHES) B	HEIGHT TO WATER OUTLET (INCHES) C	HEIGHT TO WATER INLET (INCHES) D	HEIGHT TO T&P (INCHES) E	APPROX. SHIPPING WEIGHT (LBS)
		EFFICIENCY*	HYBRID	ELECTRIC	EFFICIENCY	HYBRID	ELECTRIC						
PHPT-60	60	2.40	2.33	.88	51	68	66	67-1/3	24-1/2	41	4-1/4	40	365
PHPT-80	80	2.30	2.33	.85	70	84	76	81-1/2	24-1/2	55	4-1/4	56-1/3	410

RESIDENTIAL & LIGHT COMMERCIAL HEAT PUMP WATER HEATER

APPLICATIONS



Household



Restaurant



Saloon



GYM



SPA



Laundry

COMMERCIAL & INDUSTRIAL HEAT PUMP WATER HEATER



COMMERCIAL & INDUSTRIAL HEAT PUMP WATER HEATER

CAHP(3HP floor-standing Integrate)

- **Model: CAHP-80c/120c-6/8/10/12(300L/455L)**
- **Features:**
 - Unique heat exchanger design, heat pump water temperature to 65c
 - Energy saving, fast heating, electric back up and standard modes for choosing
 - Smart control to avoid cold water mixing
 - Intelligent defrost function
 - LCD display
 - R134a green refrigerant
 - Integrate design for outdoor installation
 - Light commercial application



COMMERCIAL & INDUSTRIAL HEAT PUMP WATER HEATER

Model ⁽¹⁾		CAHP120C/D06	CAHP120C/D08	CAHP120C/D10	CAHP120C/D12	
Heat Pump Nominal Input Power ⁽¹⁾	kW	2.11				
Heat Pump Nominal Heating Capacity ⁽¹⁾	kW	8				
Element Power	kW	6	8	10	12	
Maximum Input Power	kW	9.1	11.1	13.1	15.1	
Maximum Heating Capacity	kW	14	16	18	20	
Maximum Operation Current	380V/3N/50Hz	A	15.8	21	26.3	31.5
	220V/1N/50Hz	A	47.1	57.5	68.1	78.5
Maximum Water Temperature of Heat Pump Operation	°C	65				
Water Temperature Setting Range	°C	35~82				
Tank Volume	L	430				
Net / Operation Weight	kg	264 / 694				
Hot Water Delivery Rate	Efficiency/Standard Mode	L/h	172	172	172	172
	High Demand/Winter Mode	L/h	295	336	377	418
Refrigerant Charge Quantity	g	R134a / 2250				
Heat Pump Opeartion Ambient Temperature Range	°C	0~48				
Unit Operation Ambient Temerature Range	°C	-10~50				
Sound Level (Sound Pressure Value @ 1m)	dB	59				

COMMERCIAL & INDUSTRIAL HEAT PUMP WATER HEATER

CAHP(10HP)

- **Model: CAHP-HI 40**
- **Features:**
 - **Dual Condensing Module**
 - **Dual-Throttling Technology**
 - **Single Compressor**
 - **Hi Efficiency – COP 4.3**



Rated Heating Capacity	kW	40	Operation Noise	dB(A)	65
Rated Water Flow	m ³ /h	0.86	Rated Pressure at High Pressure Side	MPa	3.1
Rated Input	kW	9.3	Rated Pressure at Low Pressure Side	MPa	2.0
Rated Current	A	18	Refrigerant	/	R407C
Power Source	/	380V/3N/50Hz	Refrigerants Volume	g	7000
Maximum Input	kW	12	Waterproof Level	/	IPX4
Maximum Current	A	23	The Highest Water System Pressure	MPa	1.0
Water Temperature Setting Range	°C	35~60	The Inlet Water Pressure	MPa	0.15~0.3
Operation Ambient Temperature	°C	-10~48	Net /Gross Weight	kg	295 / 330
Model	Length(mm)	Width(mm)	Height(mm)	Package Size (L * W * H mm)	
CAHP-HI-40	1550	760	1185	1730*880*1330	

COMMERCIAL & INDUSTRIAL HEAT PUMP WATER HEATER

CAHP(10HP)

- **Model: CAHP-HI 40**
- **Features:**
 - High efficiency with coefficient of performance (COP) up to 4.2
 - No fossil fuels are used or burned at the source
 - Ozone layer-friendly thanks to the R-134a refrigerant
 - Use less electricity than standard electric water heaters
 - Contribute to room cooling at the same time
 - Tap into heat sources typically discarded by other units for peak efficiency



MODEL NUMBER	PERFORMANCE				C.O.P. (Heating)	Air Volume cfm**	G.P.M.	DIMENSIONS IN INCHES					APPROX. SHIPPING WEIGHT (LBS)
	Water Heating		Cooling Capacity					Inlet/Outlet (fpt)	Width A	Depth B	Height C	D	
	kW	Btu/hr*	Btu/hr*	Tons of Cooling									
AWH-35	10.4	35,500	27,500	2.3	3.9	1040	7	1.0"	40"	26"	24.75"	7	315
AWH-55	17.0	58,000	45,500	3.8	4.1	1650	11	1.0"	47"	32"	28.5"	7	405
AWH-75	22.3	76,000	59,000	4.9	3.9	2150	15	1.5"	57"	32"	28.5"	7	485
AWH-100	28.7	98,000	78,000	6.5	4.2	3200	20	1.5"	63"	38"	42.5"	8	660
AWH-115	33.1	113,000	89,000	7.4	4.2	3200	23	1.5"	63"	38"	42.5"	8	665
AWH-140	41.6	142,000	110,000	9.2	3.9	3800	28	2.0"	63"	38"	42.5"	8	725
AWH-170	50.1	171,000	133,000	11.1	3.9	4900	34	2.0"	75"	46"	42.5"	8	880

COMMERCIAL & INDUSTRIAL HEAT PUMP WATER HEATER

APPLICATIONS



HOTEL



INDUSTRIAL



HOSPITAL



RESORT