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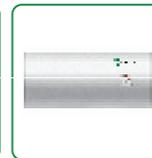
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**"World Leader  
in Hot Water  
Technology"**



# A. O. Smith Company Profile



- Arthur Oliver Smith is called as the A. O. Smith
- USA Base & 136 years old Company.
- A. O. Smith is North America's largest manufacturer of Water Heaters.
- A. O. Smith is a \$1.5 billion company with around 10,500 employees and 19 manufacturing plants worldwide.
- Manufacturing operations in the United States, Canada, Mexico, Europe, India and China
- We have sales and distribution in more than 60 countries around the world.
- Enter the India market on 2005 and is supplying premium quality residential and commercial water heaters to the market.

## AJAAY AIRTECH ASSOCIATES

AAA is the channel partner of A. O. Smith Company. AAA providing sales and services to all over India. We have 5 Branches located at Pune, Mumbai, Delhi, J&K, Bangalore .

Our constant interactions with our clients and customers have made our sales and service team conversant with customer expectations.

Ajaay Airtech Associates Enterprises invites you to a unique work culture. We invite you to challenge the norms and see where ideas can take you.

Ajaay Airtech Associates started its operations in 2009.

## WHAT IS THE HEAT PUMP?

A machine that moves heat from one location (the source) to another location (heat sink) using mechanical work.

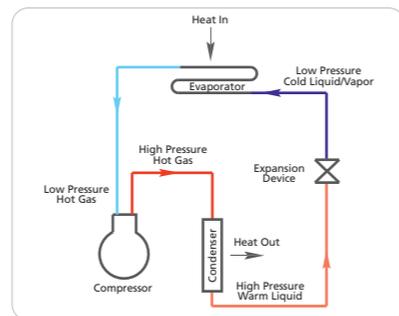
It does not generate heat energy, it transfers or reclaims the ambient heat thus requires very low energy for operation.

Everyday examples are refrigerators and air conditioners.

Major components:

- Compressor
- Low pressure cold gas to high pressure hot gas
- Condenser
- High pressure hot gas to high pressure warm liquid
- Expansion Device
- High pressure warm liquid to low pressure cold liquid (+ small amount of vapor)
- Evaporator
- Low pressure cold liquid (+ vapor) to low pressure cold gas

## REFRIGERATION CYCLE



## WHY A. O. SMITH HEAT PUMP AND WATER HEATERS SYSTEMS

- International Brand
- Save up to 70% Energy Saving
- Faster Investment Payback
- Blue Diamond glass coating storage tank
- Integrated Design, without intermediate heat loss
- Easy to Install
- Reduce Plumbing Cost
- Additional Automatic Back up
- Intelligence & Automatic Features
- Operation 24 x 7 x 365 days
- Wire Remote
- Superior Quality
- Innovative Hot Water Technologies
- Heat Pump are more reliable & consistent & advance to solar water heater
- Reclaim Energy Typically Wasted
- Small Carbon Foot Print – Identified as Green Technology
- Plug & Play
- Required a very small area for installation
- Excellently Engineered design, best in performance
- Maintenance free
- Patented Dual external coil condenser
- Blue Diamond glass coated Heating element
- Protected tank & electrical element from hot water corrosion Without internal Circulation Pump for more efficient system

## ENERGY SAVING DATA

PRODUCT	VOLUME	INLET WATER TEMP	OUTLET WATER TEMP	POWER CONSUMPTION (kWh)	ENERGY SAVING (%)
Heat Pump Heating	5000 L	15	65	67.6	76.00%
Electric Heating	5000 L	15	65	290	

## COMPARISON OF HEAT PUMP WITH SOLAR SYSTEM

	SOLAR SYSTEM	HEAT PUMP
<b>Area for Installation</b>	Huge area required for system & panels	With compact design very small area
<b>Operational limitations with respect to season</b>	Efficiency comes down drastically during rainy season	Works with excellent efficiency throughout the year
<b>Operational limitations with respect to night hours</b>	If hot water gets consumed during daytime, there will not be hot water generation during night hours	Works 24 x 7 Hot water generation does not depend on sunny/cloudy climate
<b>Limited storage of hot water</b>	Once major quantity of hot water drained out, temp. of available water comes down due to mixing of cold water & there will not be availability of hot water for use.	Continuous generation of hot water. Once it senses predefined temp. Difference due to mixing of cold water, heat pump automatically starts working & raises the temperature
<b>Installation</b>	Installation is not that easy which needs initial set up with structure for panels.	Plug & Play Installation
<b>Maintenance</b>	Maintenance might be required for panels.	No major maintenance
<b>Life</b>	Few years after installation (around 5 years) efficiency reduces. Limited life with high efficiency	Works with same efficiency throughout the life of machine. (more than 15 years)

# Air2Heat Water Heater HPW Series

Generates heat from air. Saves up to 60%+ on electricity.

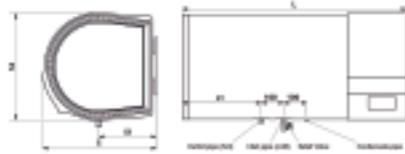


## KEY COMPONENTS

Compressor	Hitachi (Rotary Type)
Fan	
Condenser	Immersion coil pipe
Evaporator	Fin
Capillary	Expansion device
Refrigerant	R134a , 156g
Electrical Back up	3 KW
Tank	Enameled steel

## DIMENSIONS (mm)

MODEL	HPW-60	HPW-80
L	895	1050
S	510	510
S1	250	250
S2	480	480
L1	290	335

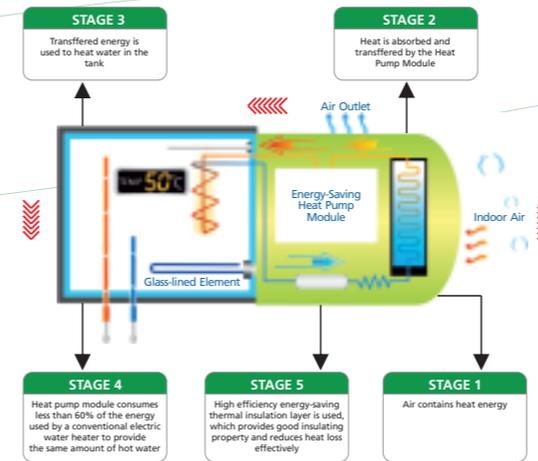


## KEY COMPONENTS AND SPECIFICATIONS

<b>Heat Pump Mode</b>	
Input (kw)	250 Watts
Output (kw)	650 Watts
COP	2.6
Water Flow (ΔT 30)	20 l/h
Storage Capacity	60 Lit. And 80 Lit.
Working Pressure	7 Bar
Noise [dB(A)]	<40
Cooling Capacity	490 Watts (0.1 Ton)
Rated Voltage [V]/Rated Frequency [Hz]	220/50
Ambient Temperature for efficiency (°C)	10 to 43
Inlet water Temperature (°C)	20
Name of Refrigerant	R134a
Refrigerant Filling Volume [g]	156
Heating Time	3.5 Hrs for 60L and 4.5 Hrs for 80 L
Operational cost (Rs)	4.3
Temp. Setting	35-75 (Heat Pump Mode 50)
<b>Electrical Mode</b>	
Input (kw)	3 KW
Output (kw)	3 KW
Heating Time	1 Hrs
Operational cost (Rs)	15
<b>Shipping Data</b>	
Dimension (mm)	895mm *463mm//1050mm *463mm
<b>Weight</b>	
Machine Operate	Wired Remote
Warranty From (AAA)	7 Years on Tank
Guarantee Whole Unit From (AAA)	2 Years

## HOW DOES THE A. O. SMITH AIR2HEAT WATER HEATER WORK?

A. O. Smith Air2Heat water heater uses a gas refrigerant, which when compressed turns into a liquid.



## GLASS LINED TANK



### GLASS LINED TANK

A. O. Smith Air2Heat water heater comes with a special glass lined tank. This lining offers the protection against tank corrosion and increases life of the water heater & it is achieved through a specialised fusion process. The tanks are designed to pass 1,00,000 cycle fatigue test. This makes it one of the best tanks resistant to rust and scaling.



### GLASS LINED HEAT EXCHANGER

Glass Lining of the heat exchanger offers protection against corrosion and increases life of the water heater. The lining is stronger and more corrosion-resistant than any other in the industry.

## OTHER FEATURES



### COMPRESSOR

The compressor in the A. O. Smith Air2Heat water heater is an industry leader for performance and durability.



**ANODE PROTECTION** A strong steel core anode rod is used for protecting the water tank. It greatly prolongs the service life of the A. O. Smith Air2Heat water heater.



### ENVIRONMENT-FRIENDLY REFRIGERANT

The R134a refrigerant used in the A. O. Smith Air2Heat water heater is environment-friendly.



### HIGH EFFICIENCY ENERGY-SAVING THERMAL INSULATING LAYER

A polyurethane foam insulating layer is used, which provides good insulating property and reduces heat loss effectively.



### QUIET OPERATIONS

A. O. Smith Air2Heat water heater operates at a quiet sound level of approximately 40 dBA.



### ELECTRIC HEATING ELEMENT

A. O. Smith Air2Heat water heater incorporated with a 3kW heating element which helps in quick heating. If the temperature is set above 50°C, then the heating element is activated. Users also have an option of heating the water completely in 3kW mode.



### HIGH TEMPERATURE LIMIT PROTECTION SWITCH

The relief valve relieves pressure automatically while the pressure in the inlet pipe exceeds the set pressure.



### RELIEF VALVE

A. O. Smith Air2Heat water heater employs a high temperature limit protection switch. In case any fault occurs and the water temperature exceeds the highest preset temperature, then the switch rapidly cuts off the phase and neutral line simultaneously to guarantee safety.

# Air2Heat Water Heater HPA Series



**Model: HPA**  
Category: Family Central Water Heater  
L-bit/power: 150L, 200L, 300L

### KEY TECHNOLOGIES

- Super energy-efficient heat pump heating modules
- Energy efficient heat pump heating system
- Kim Kyu-coil heat exchanger technology
- MAX heat storage capacity increase system
- AES adaptive energy-efficient systems
- Kim Kyu-care liner
- Kim Kyu special care heater
- The amount of display real-time water
- PS security system

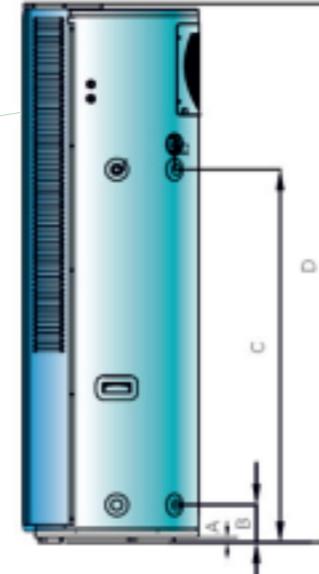
### PRODUCT DESCRIPTION

- Super energy-saving heat pump heating module
- MAX heat storage capacity increase system Patent Number: ZL03220700.X
- Kim Kyu-coil heat exchanger technology
- Temperature heat pump module dynamics
- Shows the amount of hot water, hot water real-time display
- Double time the slightest timing, peak energy
- The dynamics of electric heating module temperature insulation
- R134A new environmentally friendly refrigerant, the ozone depletion factor of 0
- PS security systems, automatic tri-polar moment of power, a more thorough security
- appointment heating,
- thick insulation, efficient and energy-saving
- controller auto sleep, still display key information, convenience and energy-efficient
- Wired remote control, control of hot water life
- Power and memory, to avoid the reset
- Waterproof outdoor design, safety and peace of mind
- Low-energy mixing ratio

### KEY COMPONENTS AND SPECIFICATIONS

<b>Heat Pump Mode</b>	
Input (kw/watts)	1010
Output (kw/watts)	3640
COP	3.6
Water Flow (T30)	103 lh
Storage Capacity	300 Lit.
Working Pressure	10 Bar
Noise [dB (A)]	<55
Rated Voltage [V]/Rated Frequency[Hz]	220/50
Ambient Temperature for efficiency (°C)	-7 to 43
Name of Refrigerant	R134a
Refrigerant Filling Volume [g]	710
Heating Time	3Hrs
Operational cost (Rs)	8Rs
Temp. Setting	35-75 (Heat Pump Mode 65)
<b>Electrical Mode [Heat Pump+Electrical] (HPA80C)</b>	
Input (kw)	2010
Output (kw)	4640
Water Flow (T30)	134 lh
Heating Time	1 Hrs
Operational cost (Rs)	15 (Rs)
<b>Shipping Data</b>	
Dimension (mm)	835*320*560
Weight	154
Machine Operate	Wired Remote
Warranty From (AAA)	7 Years on Tank
Guarantee Whole Unit From (AAA)	1 Years

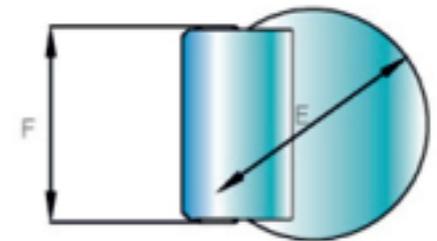
# Air2Heat Water Heater HPI Series



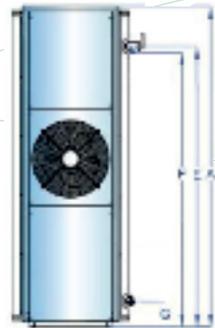
	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)	F(mm)
HPI-40C1.0A	20	122	1056	1530	Φ520	447
HPI-50C1.0A	20	122	1243	1565	Φ520	447

### SPECIFICATIONS

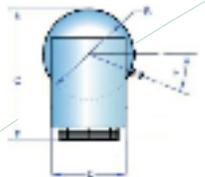
Model	HPI-40C1.0A	HPI-50C1.0A
Capacity (L)	150	180
Voltage/Frequency (V/Hz)	220/150	220/150
<b>Rated Input/Current (w/A)</b>		
Efficiency	500/2.5	500/2.5
Hybrid Turbo	2500/11.5	2500/11.5
<b>Output (w)</b>		
Efficiency	1900	1900
Hybrid Turbo	3900	3900
Water temperature range (°C)	35~75	35~75
Ambient temperature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



## CAHP Series CAHP-80/120



External Dimensions



External Dimensions



Installation Diagram

### KEY COMPONENTS AND SPECIFICATIONS

Heat Pump Mode	80\120
Input (kw\watts)	960\980
Output (kw\watts)	3500\3450
COP	3.6\3.6
Water Flow (T30)	100\100 l/h
Storage Capacity	300\455 Lit.
Working Pressure	10 Bar
Noise [dB (A)]	≤51
Cooling Capacity (kW)	7.2\7.2
Rated Voltage [V]/Rated Frequency [Hz]	220/50
Ambient Temperature for efficiency (°C)	-15 to 50\ -15 to 50
Inlet water Temperature (°C)	7-45
Name Of Refrigerant	R134a
Refrigerant Filling Volume [g]	1.0\1.0
Heating Time	3 Hrs\4.5Hrs
Operational cost (Rs)	7rs\7.50rs
Temp. Setting	35-82 (Heat Pump Mode 65)
<b>Electrical Mode: [Heat Pump+Electrical](HPA80C)</b>	
Input (kw)	6kw\6kw
Output (kw)	6kw\6kw
Water Flow (T30)	272\272 l/h
Heating Time	1 Hr
Operational cost (Rs)	21Rs
<b>Shipping Data</b>	
Dimension (mm)	1670*503*901//1700*503*1002
Weight	165kg\198kg
Machine Operate	Wired Remote
Warranty From on Tank (AAA)	4 Years on Tank
Warranty Whole Unit From (A. O. Smith)	1 Year

- During installation, the minimum distance between the air outlet and the barrier should be 800mm
- The heat pump electric water heater should be placed on a refractory base that is over 100mm of height
- If installed in a confined space, the indoor space should not be less than 26m<sup>3</sup>

## CAHP Series CAHP-120C



### KEY COMPONENTS AND SPECIFICATIONS

Heat Pump Mode:	120C
Input (kw\watts)	2.25
Output (kw\watts)	8.5
COP	4.5
Water Flow (ΔT 30)	243 l/h
Storage Capacity	430 Lit.
Working Pressure	10 Bar
Noise [dB (A)]	≤59
Cooling Capacity (kW)	
Rated Voltage [V]/Rated Frequency [Hz]	400v/3N/50Hz, 220V/1N/50Hz [heat pump]
Ambient Temperature for efficiency (°C)	-10 to 50
Name Of Refrigerant	R134a
Refrigerant Filling Volume [g]	2100
Heating Time	2.5 Hrs
Operational cost (Rs)	6.5 Rs
Temp. Setting	35-82 (Heat Pump Mode 65)
<b>Electrical Mode: [Heat Pump+Electrical](HPA80C)</b>	
Input (kw)	6,8,10,12kw
Output (kw)	6,8,10,12kw
Heating Time	1 Hr
<b>Shipping Data:</b>	
Dimension (mm)	1770*770*600
Weight	264
Machine Operate	Wired Remote
Warranty From on Tank (AAA)	4 Years on Tank
Warranty Whole Unit From (A. O. Smith)	1 Year

# Air2Heat Water Heater CAHP-10HP Series



## TECHNICAL DETAIL

- Direct heating (one-time heating) + circulate heating
- 380V/3Ph/50Hz
- Direct heating (The ambient dry/wet bulb temperature: 20°C/15°C, the initial water temperature is 15°C and the termination temperature of water is 55°C)
- Power input: 9.76Kw
- Rated current: 17.6A
- Heating capacity: 42kW
- Water production capacity: 0.902m<sup>3</sup>/h
- COP: 4.3
- The highest water temperature: 60°C
- Circulate heating (The ambient dry/wet bulb temperature: 20°C/15°C, water temp: 47°C -52°C)
- Refrigerant: R410A /6.2kg
- Noise: 65dB (A)
- Applicable ambient temperature: -10°C~48°C
- Dimensions: 1020mm x 846mm x 1840mm

# Electric Water Heater DEN Series



## TECHNICAL DETAIL

- Glass coating, INCOLOY element and long anode bring long life water tank
- Triple protection on temperature guarantee safety
- 2" foam insulation, less heat loss
- Direct water supply reduce energy waste
- Available for both 220V and 380V power source
- Up to 2MPa operation water pressure
- Small size makes installation and service easier

## GLASSLINED TANK

Thirteen sizes; 6 thru 119 gallon capacity. Tank interior is coated with glass specially designed by A. O. Smith for water heater use.

## ELEMENTS

Zinc plated copper sheaths for longer life. Medium watt density means lower surface temperature to minimize scale build-up and more surface to heat water. Element sizes from 1.5 to 6 KW. Maximum input 12 KW (see chart on back).

## STANDARD VOLTAGES

120, 277 single phase and 208, 240 and 480V unbalanced three-phase delta; easily converted to single-phase at terminal block (except 208V with 6000 watt elements). Single element heater, single-phase only.

## TERMINAL BLOCK

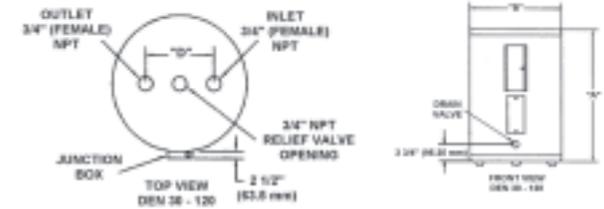
Factory-installed. Just bring the service to heater and connect to block. Terminal block not supplied on 120V & 277 volt models. (No junction box on DEL6-20.

## CONTROLS

Temperature control (adjustable through range of 110° to 170°F on single element and 120° to 180°F on dual element) and manual reset high temperature cutoff per element (dual element models). Factory-wired for non-simultaneous operation; easily converted to simultaneous element operation (three phase models only).

## SPECIFICATIONS

MODEL	IS	DIMENSIONS	NO. OF ELEMENTS	US GALS	LITRES	INCHES		MM		INCHES		MM		SHIPPING WEIGHT	
						INCHES	MM	INCHES	MM	LBS	KG				
DEL-6			1	6	23	15 1/2	394	14 1/4	362	11	279	-	-	35	15.9
DEL-10			1	10	38	18 1/4	464	18	457	12 1/2	316	-	-	54	24.5
DEL-15			1	15	57	26	660	18	457	20 1/2	521	-	-	58	26.3
DEL-20			1	20	76	22 1/4	565	21 3/4	552	15 3/8	391	-	-	73	33.1
DEL-30			2	30	114	30 7/8	784	21 3/4	552	24 1/8	613	8	203	100	45.4
DEL-40			2	40	151	32 1/4	819	24	610	25 9/16	640	8	203	125	56.7
DEL-50			2	50	189	32 1/4	819	26 1/2	673	25 1/8	638	8	203	166	75.3
DEN-30			2	30	114	34 1/2	876	20 1/2	521	-	-	8	203	98	44.5
DEN-40			2	40	151	45 1/8	1146	20 1/2	521	-	-	8	203	113	51.3
DEN-52			2	50	189	54 7/8	1394	20 1/2	521	-	-	8	203	131	59.4
DEN-66			2	66	250	60 3/4	1543	21 3/4	552	-	-	8	203	176	79.8
DEN-80			2	80	303	59 3/8	1508	24	610	-	-	8	203	211	95.7
DEN-120			2	119	450	62 7/16	1586	29 3/8	746	-	-	8	203	326	147.9



# Electric Water Heater EES Series



- Vertical electric water heater for residential / light commercial applications
- Two replaceable Incoloy-sheathed elements
- Each element is provided with an independent control thermostat (adjustable: 43 - 77 °C)
- Secondary protection is provided by a high-limit thermostat with manual reset
- PermaGlas Ultra Coat second-generation glass coating technology to prevent corrosion
- Replaceable magnesium anode
- Optional ancillaries: Unvented kits
- Destratification pump kit
- Powered anodes
- Time controller

## SPECIFICATIONS

	EES 30	EES 40	EES 52	EES 66	EES 80	EES 120
<b>Draw-off capacity</b>						
Tcold=10°C/Tset=max. temp. setting						
30 min. ΔT=44°C	l	149	192	229	293	346
60 min. ΔT=44°C	l	178	221	258	322	375
90 min. ΔT=44°C	l	208	250	288	352	405
120 min. ΔT=44°C	l	237	280	317	381	434
Continuous ΔT=44°C	l/h	59	59	59	59	59
Heating-up time ΔT=44°C	min.	118	159	194	256	307
30 min. ΔT=50°C	l	131	169	201	258	305
60 min. ΔT=50°C	l	157	194	227	284	330
90 min. ΔT=50°C	l	183	220	253	309	356
120 min. ΔT=50°C	l	208	246	279	335	382
Continuous ΔT=50°C	l/h	53	52	52	52	52
Heating-up time ΔT=50°C	min.	134	180	221	281	349
30 min. ΔT=55°C	l	119	153	183	234	277
60 min. ΔT=55°C	l	143	177	207	258	300
90 min. ΔT=55°C	l	166	200	230	281	324
120 min. ΔT=55°C	l	190	224	253	305	347
Continuous ΔT=55°C	l/h	47	47	47	47	47
Heating-up time ΔT=55°C	min.	147	198	243	320	384
<b>Shipping data</b>						
Weight incl. packaging	kg	42	49	55	72	90
Width packaging	mm	580	580	580	620	680
Height packaging	mm	1000	1190	1440	1600	1710
Depth packaging	mm	650	650	650	680	740

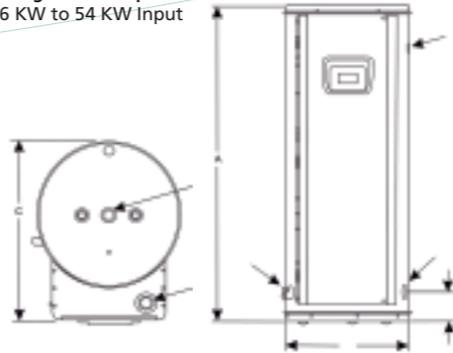
## SPECIFICATIONS

	EES 30	EES 40	EES 52	EES 66	EES 80	EES 120
<b>Electric Data</b>						
Input	kW	3.0	3.0	3.0	3.0	3.0
Current	A	13	13	13	13	13
Elements	-	2	2	2	2	2
Power supply	VAC/Hz	230 Vac (-15/+10%)/50 Hz (+/-1Hz)				
<b>General</b>						
Weight empty	kg	36	43	48	64	80
Maximum weight	kg	151	198	238	314	380
Storage capacity	l	115	155	190	250	300
Max. temperature setting	(°C)	77	77	77	77	77
Maximum working pressure	(bar) kPa	(8) 800				

# Electric Water Heater Gold Xi Series DVE Series



**DVE-52, 80, 120  
Storage Capacity  
190, 300 and 450 Litres  
Range of KW Input  
6 KW to 54 KW Input**



MODEL NUMBER	TANK CAPACITY LITRE	DIMENSIONS			INLET/OUTLET [NPT]	APPROX. SHIP WT. kg
		A mm	B mm	C mm		
DVE-52	190	1420	552	686	32	120
DVE-80	300	1530	648	787	32	127
DVE-120	450	1581	750	889	32	177

STANDARD kW INPUT	RECOVERY CAPACITY IN LITRES FOR TEMPERATURE RISE OF												
	Kcal/HOUR	17°C	22°C	28°C	33°C	39°C	45°C	50°C	56°C	61°C	67°C	72°C	78°C
6	5,161	310	235	186	155	133	117	102	95	83	80	72	68
9	7,741	466	348	280	235	201	174	155	140	129	117	106	98
12	10,322	621	466	371	310	265	231	208	186	170	155	144	133
13.5	11,322	697	522	420	348	299	261	235	208	189	174	163	151
15	12,902	776	583	466	386	333	292	257	231	212	193	178	167
18	15,482	931	697	560	466	398	348	310	280	254	235	216	201
24	20,643	1242	931	746	621	530	466	413	371	341	310	288	265
27	23,224	1397	1045	837	700	598	522	466	420	382	348	322	299
30	25,804	1552	1162	931	776	666	583	519	466	424	386	360	333
36	30,965	1863	1397	1117	931	799	697	621	560	507	466	428	398
40.5	34,835	2097	1583	1257	1049	897	787	700	628	572	522	485	451
45	38,706	2328	1745	1397	1162	996	871	776	697	636	583	538	500
54	46,447	2794	2097	1677	1359	1196	1049	931	837	761	700	644	598

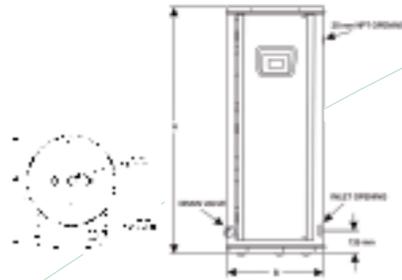
Figured at 1 kW=860 Kcal

kW INPUT	MODEL NUMBERS TANK CAPACITY IN LITRES			NUMBER OF ELEMENTS	ELEMENTS WATTAGE	FULL LOAD CURRENT IN AMPERES		
	190	300	450			220V	SINGLE PHASE	
							240V	415V
6	DVE-52-6	DVE-80-6	DVE-120-6	3	2,000	27.2	25.0	8.3
9	DVE-52-9	DVE-80-9	DVE-120-9	3	3,000	40.9	37.0	12.5
12	DVE-52-12	DVE-80-12	DVE-120-12	3	4,000	54.5	50.0	16.6
13.5	DVE-52-13.5	DVE-80-13.5	DVE-120-13.5	3	4,500	61.3	56.3	18.7
15	DVE-52-15	DVE-80-15	DVE-120-15	3	5,000	68.1	62.5	20.8
18	DVE-52-18	DVE-80-18	DVE-120-18	3*	6,000	81.8	75.0	25.0
24	DVE-52-24	DVE-80-24	DVE-120-24	6	4,000	109.0	100.0	33.3
27	DVE-52-27	DVE-80-27	DVE-120-27	6	4,500	122.7	112.5	37.5
30	DVE-52-30	DVE-80-30	DVE-120-30	6	5,000	136.3	125.0	41.7
36	DVE-52-36	DVE-80-36	DVE-120-36	6*	6,000	163.6	150.0	50.0
40.5	DVE-52-40.5	DVE-80-40.5	DVE-120-40.5	9	4,500	184.0	168.0	56.3
45	DVE-52-45	DVE-80-45	DVE-120-45	9	5,000	204.5	187.0	62.5
54	DVE-52-54	DVE-80-54	DVE-120-54	9	6,000	N/A	225.0	75.0

# Electric Water Heater DRE Series



**DRE-52, 80, 120**  
Storage Capacity  
190, 300 and 450 Litres  
Range of KW Input  
6 KW to 54 KW Input



MODEL NUMBER	TANK CAPACITY LITRE	DIMENSIONS			INLET/OUTLET [NPT] mm	APPROX. SHIP WT. kg
		A mm	B mm	C mm		
DRE-52	190	1420	552	686	32	120
DRE-80	300	1530	648	787	32	127
DRE-120	450	1581	750	889	32	177

## FEATURES

Meets or exceeds the requirements of ASHRAE 90.1b-1992 and ASHRAE/IESNA 90.1-2004

### GOLD ELEMENTS

DRE models ship with the Goldenrod 24K gold plated elements (see element availability chart on back). Patented Goldenrod elements provide long life and superior scaling resistance. Low watt density means lower surface temperature to minimize scale buildup and more surface to heat water. Goldenrod elements carry a one-year warranty against failure due to lime scale build-up. (Goldenrod Elements not available with 220V & 415V)

### GLASS-LINED TANK

Three sizes: 190, 300 and 450 litres capacity. Tank interior is coated with glass specially developed by A.O. Smith for water heater use. Tanks rated at 10.34 Bar working pressure (ASME 10.34 Bar). Foam insulation reduces costly heat loss, and is vermin proof.

### FUSING

Protects all elements, thermostats, and internal wiring circuits against excess current flow. Meets National Electrical Code requirements that non-ASME tanks must have internal fusing when current draw exceeds 48 amps. Available as an option on Canadian built heaters.

### STANDARD VOLTAGES

220, 240 V single-phase and 415 V in three-phase delta. Convertible from three-phase to single-phase (in field) and vice versa. Also available in international voltages.

### TERMINAL BLOCK

Factory installed. Just bring the service to the heater and connect to block.

### CONTROLS

One temperature control (adjustable through a range of 49°C to 82°C) and manual reset high temperature cut-off per element. Thermostat step control may be achieved by varying settings on individual temperature controls. Located behind hinged control compartment door for quick, easy access.

## OTHER STANDARD FEATURES

- Surface mounted thermostats
- Simplified circuitry, color coded for ease of service
- Two anode rods for maximum corrosion protection
- Cabinet has bonderized undercoat with baked enamel finish
- Bottom inlet and top outlet openings
- Brass drain valve
- CSA/ASME temperature and pressure relief valve
- Single panel control box
- **THREE YEAR LIMITED TANK WARRANTY** - For complete warranty information, consult written warranty or contact A. O. Smith

## OPTIONS

- UL and cUL listed conversion kits to adjust voltage and kW requirements in the field before and after installation
- ASME 10.34 bar tank construction
- International voltages - 380, 400, 575, and 600 volts, three phase available with Y connected elements
- MANIFOLD KITS - for multiple tank installations, Two heaters - part # 9003429205, three heaters - part # 9003431205

STANDARD kW INPUT	Kcal/HOUR	RECOVERY CAPACITY IN LITRES FOR TEMPERATURE RISE OF											
		17°C	22°C	28°C	33°C	39°C	45°C	50°C	56°C	61°C	67°C	72°C	78°C
6	5,161	310	235	186	155	133	117	102	95	83	80	72	68
9	7,741	466	348	280	235	201	174	155	140	129	117	106	98
12	10,322	621	466	371	310	265	231	208	186	170	155	144	133
13.5	11,322	697	522	420	348	299	261	235	208	189	174	163	151
15	12,902	776	583	466	386	333	292	257	231	212	193	178	167
18	15,482	931	697	560	466	398	348	310	280	254	235	216	201
24	20,643	1242	931	746	621	530	466	413	371	341	310	288	265
27	23,224	1397	1045	837	700	598	522	466	420	382	348	322	299
30	25,804	1552	1162	931	776	666	583	519	466	424	386	360	333
36	30,965	1863	1397	1117	931	799	697	621	560	507	466	428	398
40.5	34,835	2097	1583	1257	1049	897	787	700	628	572	522	485	451
45	38,706	2328	1745	1397	1162	996	871	776	697	636	583	538	500
54	46,447	2794	2097	1677	1359	1196	1049	931	837	761	700	644	598

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		17°C	22°C	28°C	33°C	39°C	45°C	50°C	56°C	61°C	67°C	72°C	78°C
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9	7,741	466	348	280	235	201	174	155	140	129	117	106	98
12	10,322	621	466	371	310	265	231	208	186	170	155	144	133
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45	38,706	2328	1745	1397	1162	996	871	776	697	636	583	538	500
54	46,447	2794	2097	1677	1359	1196	1049	931	837	761	700	644	598

Figured at 1 kW=860 Kcal

# Household Gas Water Heater CNG Series



## SPECIFICATIONS

Gas type	Natural gas
Hot water flow rate	6L/min
Power Supply	220 V, 50 Hz
Wattage	45W
Temp Rise (ΔT)	25°C @ 6L/min
Vent Type	Power Vented
Ignition system	Automatic Electric Pulse Ignition
Water Pressure	Min 0.02 Mpa, Max 1.25 Mpa

## SAFETY FEATURES

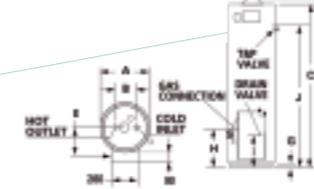
SAFETY FEATURES	DESCRIPTIONS
CO Detector (optional)	Patented CO detector technology. CO detector alarms when the CO content exceeds 150ppm
Advanced forced exhausting system	Mechanical exhausting by fan makes the water heater working much better dealing with venting and windy issues
Gas pressure stabilization device	Ensure safe operation when gas pressure varies, which may lead to high CO level
Oxygen free copper exchanger	Better corrosion resistance and longer life
Anti flue block safety device	Air pressure switch detects the exhaust pressure. The machine stops working when flue is blocked
Anti leakage gas valve-dual safety device	Two independent gas solenoid valves
Flame out protection	The machine stops working when the flame goes out
Ignition failure protection	Self-developed controller with advanced technology
Safety grounding protection	Self-developed controller with advanced technology
Lighting safety protection	Self-developed controller with advanced technology
Anti-scald protection	85 °C hot water temperature limit to avoid burns caused by high temperature
Dual ignition pin explosion proof device	Dual ignition pins increases the success rate of ignition to prevent explosive combustion
No water shut off	Water valve rotor ensures sufficient water flow within the heat exchanger
Gas overpressure protection	With gas pressure stabilization device, Excessive CO generation is prevented
25 minute timer	
Power input stabilization	With 220V AC, the heater still works under voltage fluctuation
Inlet water filter	Filter impurities of inlet water
Bypass tube corrosion protection	Inlet and outlet water bypass tube helps to improve the heat exchanger tube and fin temperature and reduce corrosion caused by condensate

# Household Central Gas Water Heater EMG Series

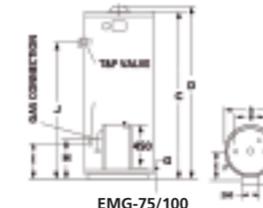


**EMG**  
Household central gas water heater  
EMG - 30/40/50/75/100  
**Storage Capacity**  
110, 150, 190, 285, and 380 Litres  
**Range of Output**  
EMG - 9,200 kcal/Hr to 17,100 kcal/Hr

## DIMENSIONS



EMG 30/EMG-40/50



EMG-75/100

## EMG DIMENSIONS (MM)

MODEL	A	B	C	D	E	G	H	I	J	DRAIN	T&P VALVE
EMG-100	463	203	1105	1163	275	45	306	232	945	1/2"	3/4"
EMG-40	463	203	1390	1448	275	45	306	232	1230	1/2"	3/4"
EMG-50	513	203	1425	1483	300	45	306	232	1260	1/2"	3/4"
EMG-75	550	406	1460	1581	375	50	325	290	1270	1/2"	3/4"
EMG-100	670	406	1650	1708	385	50	325	290	1450	1/2"	3/4"

## TECHNICAL SPECIFICATIONS

	EMG30	EMG40	EMG50	EMG75	EMG100
<b>Gas</b>					
Output MJ/hr	38	38	38	71.2	71.2
Inlet Pressure mbar	20				
<b>General</b>					
Storage Capacity l	110	150	190	285	380
Overall Dimensions mm	460*1200	460*1300	510*1450	650*1490	670*1650
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"
Flueduct Diameter mm	100				
Power supply	230V(+/-10%), singlephase, 50Hz				

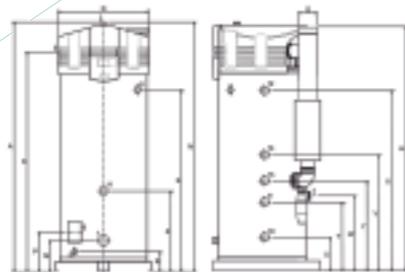
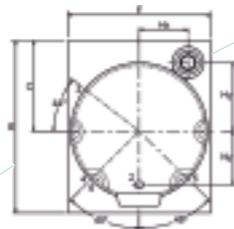
## FEATURES

<b>GLASS LINED TANK</b>	Tank interior coated with glass specially developed by A.O. Smith for water heater use Tank rated at 10 bar working pressure
<b>ANODES</b>	Delivered with low maintenance inert anodes
<b>NOISE LEVEL</b>	Whisper quiet operation
<b>FLUE GASES</b>	Low flue gas temperature for higher efficiency
<b>SAFETY</b>	Other than the thermostat, additional pressure and temperature valve provided for added safety
<b>WARRANTY</b>	All EMG water heaters receive three years warranty on the tank and one year on parts
<b>OTHER FEATURES</b>	Fully automatic spark ignition Automatic control system
<b>OPTIONS</b>	Available in Natural gas and LPG

# Condensing Gas - Solar Water Heater SGE Series

**SGE**  
Condensing Gas - Solar  
Water Heater  
**SGE - 40/60**  
Storage Capacity  
370 Litres  
Range of Output  
37,000 Kcal/Hr and 52,000 kcal/Hr

Dimensions



## FEATURES

- EFFICIENCY**  
GLASS LINED TANK
- Upto 96% on GCV and 107% on NCV value of Gas. Tank interior coated with glass specially developed by A.O Smith for water heater use. Tank rated at 8 bar working pressure. Tank size 370 Litres.
- INTELLIGENT SOLAR CONTROLLER**  
DRAIN-BACK SYSTEM
- Maximum solar contribution through fully integrated intelligent solar controller, heat comfort guaranteed. Solar collectors available with ingenious drain-back system to prevent temperature stagnation in installation.
- FOOTPRINT**
- Very small footprint because of integrated solar heat exchanger. One control and display unit for the complete installation.
- BURNER**
- Automatic gas/air premix burning system including burner modulation.
- ANODES**  
FLUE GASES
- Delivered with low maintenance inert anodes. Low flue gas temperature, NOx emission  $\leq$  30 ppm (dry – air free) – NOx class 5. Flexible flue options (maximum length 100m) allow installations to be placed almost anywhere
- NOISE LEVEL**
- Whisper quiet operation (<45 dB(A)) at 2m distance from roof duct).
- PROGRAMMABLE WEEK TIMER**
- Programmable for legionella purge cycle. Easy fault diagnosis and computer controlled digital week timer. Varying water temperature setting from 40 °C to 80 °C with use of Week Timer.
- WARRANTY**
- All SGE water heaters receive a three years warranty on the tank and one year on parts.
- OTHER FEATURES**
- Voltage-free contact for general fault indication to BMS
  - Delivered on steel base for convenient transport and installation.
- OPTIONS**
- Can use Natural gas or LPG as a backup.

## INSTALLATIONS DIAGRAMS



- 3 T&P valve
- 4 Stop valve
- 5 Non-return valve
- 6 Circulation pump
- 9 Drain valve
- 10 Gas valve
- 11 Isolating valve
- 12 Temperature meter
- 13 Condensate drain
- 14 Hot water outlet
- 15 Expansion valve
- 16 Expansion vessel
- 17 3-way valve
- 18 Water cistern
- 19 Float valve
- 23 Pressure valve
- 26 Air bleed
- 37 Flow sensor
- 38 Solar pump station
- 42 Junction box
- S1 T-collector

- S2 T-tank
- S4 T-return solar
- A Cold water supply
- B Hot water outlet
- C Circulation pipe
- D Gas supply
- E Water overflow
- F Coil inlet
- G Coil outlet
- H Expansion pipe

A.O. Smith unvented system kits utilise combination valves.

Further installation and connection details can be found in the installation manual.

## SPECIFICATIONS

	SGE 40	SGE 60
<b>Natural gas</b>		
Output	Kcal/hr	Kcal/hr
Output	kW	kW
Inlet pressure	mbar	mbar
Gas consumption	m <sup>3</sup> /h	m <sup>3</sup> /h
Flue gas discharge	°C	°C
LPG consumption	Kg/hr	Kg/hr
<b>General</b>		
Nox	ppm	ppm
Noise level	dB	dB
Efficiency (Net)	%	%
Weight empty	kg	kg

## SPECIFICATIONS

	SGE 40	SGE 60
<b>General</b>		
Maximum weight	kg	kg
Storage capacity	l	l
Max. temperature setting	°C	°C
Maximum working pressure	kPa (bar)	kPa (bar)
<b>Draw-off capacity ***</b>		
Tset = 80°C/ Tcold = 10°C		
30 min. ΔT=44°C	l	l
60 min. ΔT=44°C	l	l
90 min. ΔT=44°C	l	l
120 min. ΔT=44°C	l	l
Continuous ΔT=44°C	l/h	l/h
Heating-up time ΔT=44°C	min.	min.
30 min. ΔT=50°C	l	l
60 min. ΔT=50°C	l	l
90 min. ΔT=50°C	l	l
120 min. ΔT=50°C	l	l
Continuous ΔT=50°C	l/h	l/h
Heating-up time ΔT=50°C	min	min
<b>Electrical data</b>		
Power consumption W	W	W
Power supply VAC/Hz	VAC/Hz	VAC/Hz
<b>Shipping data</b>		
Weight incl. packaging	kg	kg
Width packaging	mm	mm
Height packaging	mm	mm
Depth packaging	mm	mm