

Your Guide to Choosing the Right Water Heater



BOSCH

Invented for life

Common sense hot water technology



BOSCH – All around the world, the Bosch name is renowned for an unsurpassed commitment to technology and environmentally sound principles in a broad range of sectors including automotive equipment, power tools, household appliances and others. Bosch is one of the world's leading manufacturers of tankless gas water heaters, producing more than 1.5 million every year.

MTS GROUP – Merloni TermoSanitari SpA (MTS) is the largest producer of electric water heaters in the world - producing and selling over 2 million annually in 154 different countries. They manufacture the Ariston line of mini-tank water heaters.

APPLIED ENERGY – Applied Energy has manufactured electric tankless water heaters for more than 40 years, including PowerStar models.

Sales, service, installation and technical information are just a toll-free phone call away at 1-800-354-4838. You may also visit our web site at www.boschhotwater.com for information about any of our products.



This symbol signifies that the model it is associated with qualifies for the 2006-2007, \$300 Federal tax credit.

Visit www.boschhotwater.com for more information.

All of our water heaters comply with one of the following national safety standards and have the following approvals and affiliations: CSA, Underwriters Laboratory.



Which water heater is right for you?

WHOLE HOUSE

GAS MODELS



The Bosch AquaStar model 2400E easily runs two major hot water applications at a time. The Bosch AquaStar 1600 series is perfect for households using one major hot water application at a time. (Example: Running one shower or washing machine at a time.)

Pages 6-7

ELECTRIC MODELS



PowerStar models AE115 and AE125 provide the benefits of tankless water heating for an entire home when an electric unit is preferred.

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POINT-OF-USE

ELECTRIC MODELS



PowerStar models AE3.4, AE7.2, AE9.5 and AE12 provide an endless supply of hot water for sinks in kitchens, bathrooms and other handwashing applications.

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The Ariston mini-tank water heater models GL2.5, GL4 and GL6+ put hot water right where you need it - at the point of use. Install under a sink and enjoy instant hot water with no long pipe runs.

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HAVE QUESTIONS?



Our Customer Service Department is just a toll-free phone call away at 800-354-4838. We'll help you determine which water heater is best suited to your needs. Or you may find answers to your questions on our web site at www.boschhotwater.com.

The better way to heat water

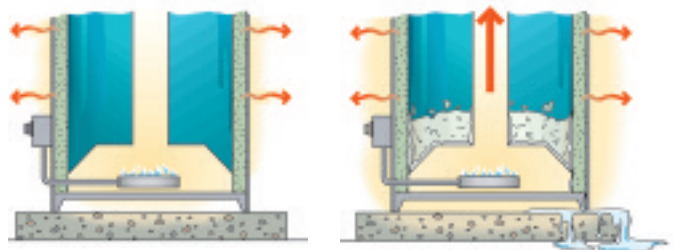
HOW TANKLESS WATER HEATERS WORK

1. When you open a hot water tap, cold water enters the heater and triggers the heating elements or burners. Your hot water tap acts as an ignition key for the energy used to heat the hot water you need.
2. The water is heated as it flows through the heating elements or heat exchanger. As the water flow varies, the unit adjusts the heating elements or burner flame to maintain a constant temperature and maximum energy efficiency.
3. When the hot water tap is turned off, the heating system also turns off.

WHAT YOU SAVE WHEN USING A TANKLESS WATER HEATER

Your water heater is the second largest consumer of energy in your home after home heating/cooling. Therefore, it is where you can significantly reduce the costs of your annual energy consumption. Why keep a storage tank full of hot water 24 hours a day when the average household use is less than one hour per day?

When water is heated and stored in a tank the inside walls will soon begin to build up mineral deposits. The scale build-up on the bottom of the tank can cause it to decrease in efficiency by as much as 50% over 10 years and the subsequent corrosion of the tank's inside wall will eventually cause it to leak. Compare this to a tankless water heater which does not store water and maintains its efficiency for the lifetime of the unit.



New tank
(80% efficient)

Old tank
(40% efficient)

WHAT YOU GET WHEN YOU GO TANKLESS WITH BOSCH

- Endless hot water
- Lower energy bills
- Space savings
- 20+ year lifespan



Here's why you should consider a tankless water heater

COMPARE

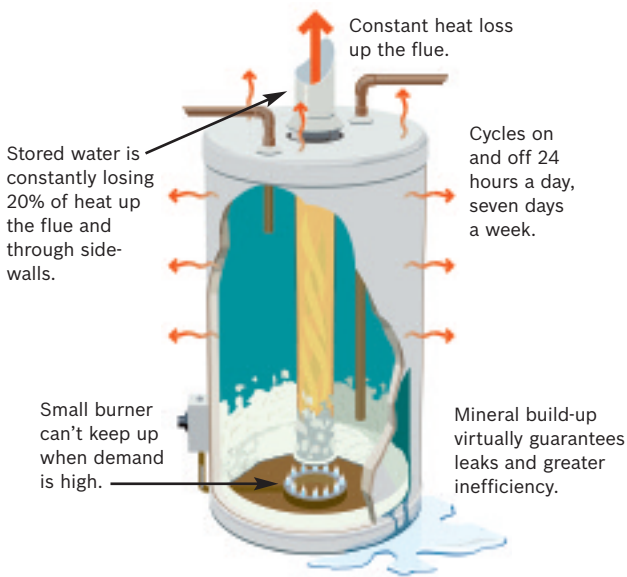
TANK

- Large, heavy and clumsy to handle.
- Can easily run out of hot water.
- Takes up valuable floor space.
- Stores large amounts of hot water – a perfect breeding ground for bacteria.
- Has an average lifetime of only 2-9 years.
- Efficiency decreases annually due to mineral build-up.
- Natural gas/liquid propane energy factor of .59 to .65.

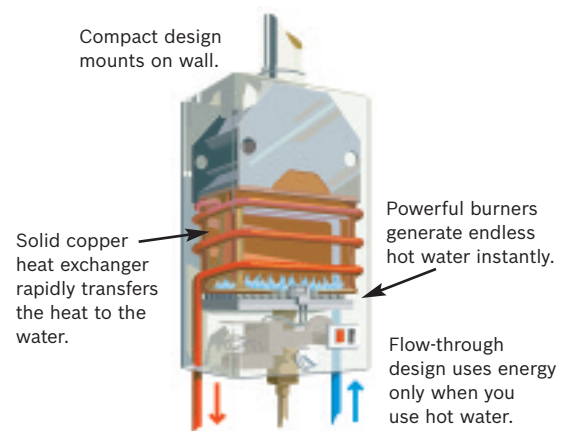
TANKLESS

- Small, light and easy to handle.
- Never runs out of hot water.
- Hangs on a wall – saving valuable floor space.
- Stores only small amounts of cold water, reducing the risk of bacteria growth.
- Designed and built to last 20+ years.
- Maintains efficiency for the life of the heater.
- Natural gas/liquid propane energy factor of .69 to .86.

GAS STORAGE TANK WATER HEATER



GAS TANKLESS WATER HEATER (BOSCH AQUASTAR 1600 SERIES)



AquaStar



*Endless Hot Water for
2 Major Applications at a Time.*



Indoor Installation
2400E NG* – Natural Gas
2400E LP* – Liquid Propane



Outdoor Installation
2400EO NG* – Natural Gas
2400EO LP* – Liquid Propane

Model	Dimensions (w x h x d)	Weight
2400E*	15 3/4" x 23 1/2" x 8 1/2"	47 lbs.
2400EO*	15 3/4" x 26" x 8 1/2"	47 lbs.

*These models qualify for



MODELS

- 2 whole house models available in Natural Gas (NG) or Liquid Propane (LP).
- Model 2400EO available for outdoor installations and is protected from freezing down to 5°F.

PERFORMANCE

- Endless hot water.
- Delivers up to 6.4 gallons per minute (supplies two hot water outlets simultaneously).
- Superior energy factor of .85 (cuts energy costs and greenhouse gas emissions up to 50% compared to storage tanks).

FEATURES

- Electronic ignition.
- Built-in power vent (allows venting vertically or horizontally on model 2400E).
- Features room-sealed combustion for improved safety.
- Direct vent and 3" flue allows installation virtually anywhere (Model 2400E).
- Computerized temperature control ensures constant temperature and maximum efficiency.
- Remote wireless thermostat available (see below).
- Pressure relief valve included.
- All Bosch AquaStar tankless water heaters have a 12-year limited warranty.

ACCESSORIES

- AQ3 - Horizontal Vent Kit**
- TSTAT2 - Remote Thermostat

** Required for 2400E indoor model if venting horizontally.

Model	Features	Ideal For	Average Efficiency	Energy Factor	BTU Input	Ignition	Power Vent	Flue Size	Minimum Water Flow (GPM)
2400E*	Built-in power vent Room-sealed combustion Direct vent	Residential	87%	0.80	175,000	Electronic	Built-in	3"	.80
2400EO*	Approved for outdoor installations	Residential	87%	0.80	175,000	Electronic	NA	NA	.80

MODELS

- 4 whole house models available in Natural Gas (NG) and Liquid Propane (LP).
- 1000P model is ideal for low flow camp or cottage use.
- Model 125BO available for outdoor installations and is protected from freezing down to 5° F.

PERFORMANCE

- Endless hot water.
- Delivers up to 4.3 gallons per minute (enough for one major application at a time).
- Can reduce energy costs up to 50%.
- High energy factors (cuts greenhouse gas emissions up to 50% compared to storage tanks).
- Steady temperature at varying flow rates.
- Suitable for solar backup (model 1600PS only).

FEATURES

- Electronic ignition for model 125FX.
- Model 1600H features electronic ignition but does not require electricity. It uses the flow of the water as its energy source for ignition.
- Standing pilot light for models 1600P, 125BO, 1600PS and 1000P.
- Model 125FX is designed for horizontal venting only (up to 15 feet) and comes with a built-in power vent. Horizontal Vent Terminator (FXHOOD) is required and included.
- Stainless steel burners and copper heat exchanger. Plastic, copper and brass water parts.
- Pressure relief valve included.
- All Bosch AquaStar tankless water heaters have a 12-year limited warranty.

ACCESSORIES

- AQ4 – Power Vent for models 1600P, 1600PS & 1600H (AQFLAPPER included).

*Endless Hot Water for
1 Major Application at a Time.*



Indoor Installation
1600H NG – Natural Gas
1600H LP – Liquid Propane



Outdoor Installation
125BO NG – Natural Gas
125BO LP – Liquid Propane

Model	Dimensions (w x h x d)	Weight
1600H* 1600P 1600PS	16 3/4" x 25 3/4" x 8 1/2"	33 lbs.
125FX**	18 1/4" x 29 3/4" x 8 3/4"	44 lbs.
125BO	18 1/4" x 36 3/4" x 10 1/2"	57 lbs.
1000P	12 1/4" x 22 3/4" x 8 1/2"	25 lbs.



*These models qualify for

Model	Features	Ideal For	Efficiency	Energy Factor	BTU Input	Ignition	Power Vent	Flue Size	Minimum Water Flow (GPM)
1600P	Most popular model	Residential	80%	0.69	117,000	Standing Pilot	Optional	5"	.50
125BO	Installs outdoors	Residential	80%	0.69	117,000	Standing Pilot	NA	NA	.50
1600H*	Hydro ignition	Residential	80%	0.80	117,000	Hydro	Optional	5"	.50
125FX**	Electronic ignition Built-in power vent	Residential	80%	0.80**	130,000	Electronic	Built-in	4"	.50
1600PS	Solar back-up	Residential	80%	0.69	117,000	Standing Pilot	Optional	5"	.50
1000P	Low flow applications	Camps, etc.	80%	0.64	74,900	Standing Pilot	No	4"	.50

** Liquid propane model. All other models listed are natural gas.



Endless Hot Water for
1 Major Application at a Time.



Model	Dimensions (w x h x d)	Weight
AE115	15 1/4" x 15 1/2" x 4 1/2"	20 lbs.
AE125	15 1/4" x 15 1/2" x 4 1/2"	22 lbs.

MODELS

- 2 whole house electric models available.

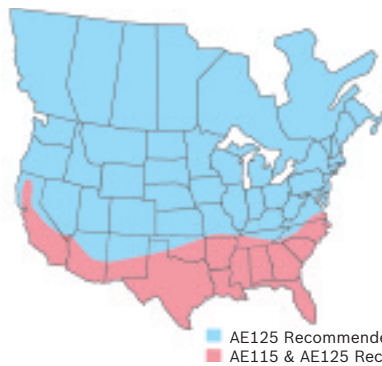
PERFORMANCE

- Endless hot water.
- Model AE125 delivers up to 4.0 gallons per minute.
- Model AE115 delivers up to 2.6 gallons per minute.
- Saves valuable space.
- Over 90% efficient.

FEATURES

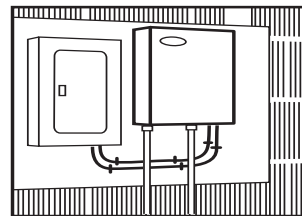
- Flow sensor ensures a constant output temperature.
- Thermal cutout for safety.
- External temperature control knob.
- No temperature/pressure relief valve is necessary (check local codes).
- 10-year limited warranty.

Note: PowerStar water heaters are not designed to accept preheated water.



Model AE115 is not recommended in climates where average annual ground water temperature is less than 60°F.

■ AE125 Recommended
■ AE115 & AE125 Recommended



Installation shown with plumbing near electricity source.

IMPORTANT:
Minimum electrical service to home is 150 amps for AE115, 200 amps for AE125.

Whole House Model	Average Efficiency	Wire Size	Voltage	Kilowatts	Amps	Warranty	
AE115	U.S.A.	90%	8GA (4 conductors plus ground)	240	17.25	80 (2 x 40)	10 years
	Canada	90%	4GA (2 conductors plus ground)	240	17.25	80 (1 x 80)	10 years
AE125	U.S.A.	94%	8GA (6 conductors plus ground)	240	26.85	120 (3 x 40)	10 years
	Canada	94%	2GA (2 conductors plus ground)	240	26.85	120 (1 x 120)	10 years



MODELS

- 4 tankless under-sink models available.

PERFORMANCE

- Endless hot water.
- Saves energy and water (“point-of-use” means no waiting for hot water).

FEATURES

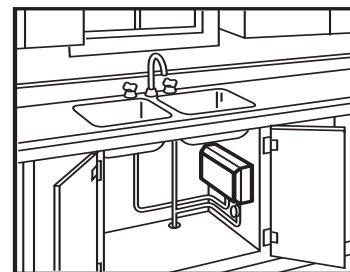
- Solid copper heat exchanger and copper-sheathed heating elements.
- Tough plastic housing.
- Mounts in any direction (except model AE12).
- Easy installation (all PowerStar point-of-use models must be hardwired).
- No temperature/pressure relief valve is necessary (check local codes).
- Model AE12 features thermostatic control.
- 5-year limited warranty.

Note: PowerStar water heaters are not designed to accept preheated water.

*Endless Hot Water for
1 Sink at a Time.*



Model	Dimensions (w x h x d)	Weight
All Models	12 1/4" x 6 1/2" x 3"	6 lbs.



Under-sink installation shown.

Point-of-Use Model	Average Efficiency	Installation	Maximum Temperature	Min. Flow Rates (GPM)	Wire Size	Voltage	Kilowatts	Amps	Warranty
AE3.4	99%	Multi-direction	135°F	0.50	10 GA	120	3.4	29	5 years
AE7.2	99%	Multi-direction	135°F	0.75	10 GA	240*	7.2	30	5 years
AE9.5	99%	Multi-direction	135°F	0.75	8 GA	240*	9.5	40	5 years
AE12	99%	Horizontal	135°F	0.75	6 GA	240**	12.0	50	5 years

GPM = Gallons Per Minute

*At 220 volts this model will deliver 84% of capacity. At 208 volts it will deliver 75% of capacity.

**Model AE12 is designed to operate on 240 volt only.



Instant Hot Water for up to 2 Sinks at a Time.



Model	Dimensions (w x h x d)	Weight
GL2.5	14" x 14" x 10 1/4"	16 lbs.
GL4	14" x 14" x 12 1/4"	17 lbs.
GL6+	17 1/2" x 17 1/2" x 14 1/2"	30 lbs.

Models

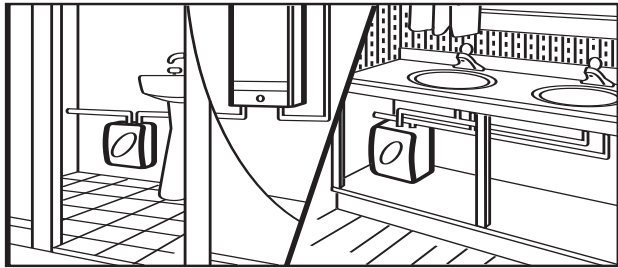
- 3 mini-tank models (stores up to 2.5, 4 and 6+ gallons of water).

Performance

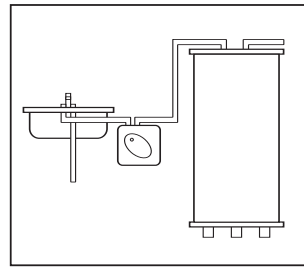
- Supplies up to 2 sinks at a time (6+ gallon model).
- Saves water ("point-of-use" means no waiting for hot water).

Features

- Installs independently or in-line with large hot water source - eliminating long waits for hot water.
- Mounts on the wall (bracket included) or the floor.
- Multi-directional mounting available (GL6+ only).
- All models use standard 120 volt plug-in.
- Temperature/pressure relief valve included.
- Glass-lined tank for longer life.
- 6-year limited warranty (best in the industry).



*Left side: In-line installation with a tankless water heater.
Right side: Independent installation.*



In-line installation shown with a tank-style water heater.

Model	Installation	Temperature Range	Plug-in	Water Connections	Voltage	Watts	Amps	Warranty
GL2.5	Vertical	65°F-145°F	Yes	1/2"	120	1500	12.5	6 Years
GL4	Vertical	65°F-145°F	Yes	1/2"	120	1500	12.5	6 Years
GL6+	Multi-direction	65°F-145°F	Yes	3/4"	120	1500	12.5	6 Years

SAVE ENERGY & MONEY

Choose a water heater that will be “ON” only when hot water is needed.

Natural Gas

Model/Product	Energy Factor	Annual Cost to Operate*	Annual Savings ¹	Annual Savings ²
2400E/EO	.85	\$250	\$110	\$151
1600P/PS/125BO	.69	\$308	\$52	\$93
1600H	.80	\$266	\$95	\$135
125FX	.78	\$273	\$88	\$129
40-gallon tank	.59	\$361		
75-gallon tank	.53	\$401		

Liquid Propane

Model/Product	Energy Factor	Annual Cost to Operate*	Annual Savings ¹	Annual Savings ²
2400E/EO	.86	\$355	\$163	\$221
1600P/PS/125BO	.79	\$387	\$131	\$190
1600H	.84	\$364	\$154	\$213
125FX	.81	\$377	\$141	\$199
40-gallon tank	.59	\$518		
75-gallon tank	.53	\$577		

* The above charts represent approximate energy savings figures based on U.S. Dept. of Energy test method for water heaters. The energy costs used are the 2006 averages as published by DOE – \$1.42/therm for natural gas and \$1.95/gallon for propane.

Annual Savings¹ – Compared to a new 40-gallon tank water heater of the most popular model.

Annual Savings² – Compared to a new 75-gallon tank water heater of the most popular model.

NOTE: The annual operating cost of a Bosch AquaStar water heater will remain constant for its 20+ year lifetime, whereas that of a storage tank water heater will increase as its efficiency decreases over time.

Electric

Model/Product	Energy Factor	Annual Cost to Operate*	Annual Savings ¹	Annual Savings ²
PowerStar AE115	.90	\$478	\$0	\$22
PowerStar AE125	.94	\$458	\$20	\$43
50-gallon tank	.90	\$478		
80-gallon tank	.86	\$500		

* The chart at left represents approximate energy savings figures based on U.S. Dept. of Energy test method for water heaters. The energy costs used are the 2006 averages as published by DOE – \$0.098/kWh.






Annual Savings¹ – Compared to a new 50-gallon tank water heater of the most popular model.

Annual Savings² – Compared to a new 80-gallon tank water heater of the most popular model.

NOTE: The annual operating cost of a PowerStar will remain constant for its lifetime, whereas that of a storage tank water heater will increase as its efficiency decreases over time.

MAKE THE RIGHT CHOICE

Temperature and flow rates required for domestic hot water needs:

Fixture Type	Average Flow (GPM)	Avg. Temp.	Recommended Units
 Tub	2.5 - 4.0	102°F	AQ, PS
 Shower	1.5 - 2.5	104°F	AQ, PS
 Washing Machine	2.0 - 3.0	120°F	AQ, PS
 Bathroom Sink Only	0.8 - 2.0	110°F	A, PP
 Kitchen Sink Only	1.0 - 2.0	110°F	A, PP

AQ = AquaStar, PS = PowerStar Whole House, A = Ariston, PP = PowerStar Point-of-Use
GPM = Gallons Per Minute

SAVE OUR PLANET

If we all used tankless water heaters, collectively we could...

- Keep 91 million tons of carbon dioxide out of the atmosphere every year.
- Reduce the number of tank water heaters that end up in landfills each year.
- Reduce the need for fossil fuels: coal, oil and natural gas.
- Lessen the possibility of dangerous bacteria build-up.

"Tankless water heaters are (a promising technology) that has significant energy savings potential compared to conventional products. If these products eventually achieve widespread market acceptance, tremendous gains in energy savings and associated pollution prevention could be achieved."
U.S. Department of Energy, January 2004

BBT NORTH AMERICA CORPORATION
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