

Burnham®

High Efficiency Condensing Boilers



Proven Reliability,
American-Made
Home Heating Comfort.



*Look for this logo
throughout this literature to
see the unique features that
set U.S. Boiler Company
apart from the competition!*



Alpine™ & K2™ Condensing Boilers

- ✓ Superior energy savings
- ✓ Quality construction for reliable performance
- ✓ Variety of configurations
- ✓ Unique boiler control technology

■ Two great options!

U.S. Boiler Company offers the Alpine, our most efficient boiler, and the K2, a feature-packed high efficiency boiler available at a value price.

■ A Month of FREE HEAT?

Yes, it may seem unbelievable, but upgrading from a typical 80% efficient boiler to a 95% efficient Alpine boiler or a 94-95% efficient K2 boiler can provide about a 15-20% savings in energy, which can equate to a month (or more) of heating fuel costs. What this means to homeowners is that energy savings can be realized during the first year of operation, and EVERY YEAR THEREAFTER.

■ Adjustable firing rates

If you were to drive a car from point “A” to point “B” by “flooring” the accelerator, you wouldn’t expect to get good gas mileage. Many boilers operate in a similar fashion; either they’re on or they’re off, there’s no in-between. Alpine and K2 feature variable firing rates, which enable them to provide only the heat needed to meet demand.

■ Outdoor air temperature monitor

By reading input from a temperature sensor located outside the house, these boilers are able to determine what the correct boiler output should be in order to match the heating requirement of the temperature outside. This feature is particularly useful in the “fringe” seasons of fall and winter, when the temperature outside can rise quickly.



Efficiency and Reliability

■ Stainless steel heat exchanger for long-term reliability

The optimum material for the heat exchanger on an ultra-high efficiency boiler is stainless steel. The properties of stainless steel enable it to quickly transfer warm, comfortable heat to the home, while maintaining the lowest possible operating temperature, and highest efficiency.

■ Tested and Proven

For product reliability, U.S. Boiler Company goes the extra mile. The heat exchanger and combustion system are tested for proper operation. Once the boiler is assembled, it is given a complete final boiler and control test. This assures our customers that the quality and operation of every component, and the boiler as a whole have been proven before it leaves the factory.

■ Natural gas or propane

The Alpine and K2 are designed to run on either natural gas or liquid propane, offering greater fuel flexibility. A simple adjustment is all that is required to switch between fuel sources.

■ Attractive design

Featuring an attractive black and silver steel jacket, both the Alpine and K2 have a sleek, modern, appliance-like design which will compliment any installation.

■ American-made

Every Alpine and K2 boiler is assembled in U.S. Boiler Company's manufacturing facility, located in Lancaster, Pennsylvania, U.S.A.

■ FREE 3-year parts & labor warranty

This outstanding protection comes with every residential Alpine and K2 boiler*, and covers all boiler components for three years from the date of installation at no additional cost. Boiler registration

is required within 90 days of the installation date.

Registration instruction are included with the boiler, or can be viewed at www.usboiler.net



by CornerStone United



Control System Excellence

The exclusive Sage2.2 Boiler Control System used in both the Alpine and K2 was co-developed in partnership with Honeywell, the leader in home comfort controls. The unique functionality and exclusive capabilities of this control was designed by engineers at U.S. Boiler Company, the North American leader in boilers for home heating. This custom control is produced in world-class manufacturing facilities and provide the outstanding quality and reliability synonymous with both industry leaders, U.S. Boiler Company and Honeywell.



*Boiler sizes under 300 MBH and used in residential applications

Alpine Boilers



■ Alpine boiler, "most efficient"

The Alpine boiler has been certified as a "most efficient" boiler. At 95% AFUE, it is the highest efficiency product manufactured by U.S. Boiler Company.

■ Wall or floor mounted? You have the choice.

Looking for additional floor space? The Alpine boiler is available as a wall mounted boiler (in four sizes, 80-210 MBH). Cabinets are also designed to be stackable for installations which may require multiple boilers.

■ Many sizes available

Alpine boilers are available in (6) sizes, ranging from 70 to 280 MBH. This range of sizes provides a wide array of possibilities to match the correct boiler, or boilers to the heating requirements of your home.

■ Multiple boiler installations

In some situations, multiple boiler installations may be a better choice than a larger, single boiler. This is where Alpines REALLY shine...not only can these boilers be easily linked together, but they also automatically communicate with one another and share the load of heating the home. Smart features built into the boiler provide capabilities such as "lead/lag cycling". As the name implies, once linked together by way of a simple RG-45 phone cord, one boiler takes the lead, and the other(s) will supplement the heating load. In this type of installation, boilers "talk" to each other continually and take turns at being the lead boiler. By doing so, the load is shared equally between all the boilers in the heating system.



K2 Boilers



■ High efficiency, high performance, at a value price!

With AFUEs up to 95%, the K2 boiler does an outstanding job of establishing a balance between high efficiency and high value. This is achieved by mating the proven and reliable performance of a high efficiency heat exchanger with the Sage2.2 control system, and putting it into a package that encompasses the needs of most domestic installations.

■ Wall mounted boiler

The space-saving low depth profile of the wall-mounted K2 boiler offers tremendous flexibility in tight installation spaces. Multiple attractive venting options are also available.

■ Many sizes available

K2 boilers are available in (5) sizes, ranging from 80 to 180 MBH. This range of sizes covers most of the typical needs for residential installations.



■ Less expensive, and designed to stay that way

The K2 was designed from the ground up to be a boiler that is easy to live with. This boiler offers many standard features that put the emphasis on contractors being able to service the boiler with a minimum of effort and time. The quicker a boiler is serviced equates to less overall expense in annual maintenance. Over the life of the boiler, these savings can add up substantially. In addition, the K2 is also designed for "out of the box" installation with factory presets and exclusive features which help to speed installation, lowering the expense typically associated with this process.



■ Multiple boiler installations

Much like the Alpine, the K2 can also be configured to operate in multiple boiler installations.

Perfect for High Altitude Installations!

When your home is 2,000 feet (or more) above sea level, you typically wind up with buying a boiler that is larger and more expensive than it needs to be. Why? Because most boilers lose a percentage of heating capacity at higher altitudes. The K2 does as well, however it does so at a substantially lower rate. In fact, most K2 models lose less than 1% of their capacity...industry standard is 4%. This means that when you buy and install a K2 in a high altitude environment, you can use virtually all of the boiler that you're paying for, instead of having to spend hundreds more for excess capacity that you don't really need!



Condensing Boiler FAQs...

■ What is the difference between condensing and non-condensing boilers?

The answer is “efficiency”. The most efficient boilers keep heat in the house rather than letting it escape through the chimney or vent pipe. An ultra-high efficiency boiler, is able to keep more heat in the heating system, but the side effect is condensation.

■ What happens to the water formed in the condensation process?

Water will condense from escaping flue gases when they are cooled to a certain temperature (this is also known as the “dew point”). In less efficient boilers with high flue temperatures, this happens well outside the home, sometimes a number of feet above the house, and the condensation simply evaporates. In higher efficiency boilers, the lower flue temperatures enable this process to happen inside the heating system. The water produced in the condensation process can be destructive to traditional boilers, but condensing boilers are designed to operate under these conditions, and are equipped with condensate drains. The Alpine and K2 are not only equipped with these drains, they are also equipped with internal trip switches within the drains. The purpose of these devices is to protect the stainless steel heat exchanger in the event of a backup in the condensate drain line.



■ Can I use an Alpine or K2 boiler as a replacement boiler for an older heating system with large radiators?

These boilers will work in most types of installations. For large water volume systems using cast iron radiation, both boilers are a good choice. For high temperature systems, such as fin-tube style baseboard systems, or in homes where it may be impractical to vent a boiler directly to outside air without using a chimney, the Burnham ES2, Series 3, or Series 2 gas boilers may be a more viable option. A consultation with a professional home heating contractor will provide the best answer.

■ Is a condensing boiler going to be the best choice for my home?

There are many factors to consider when determining the best choice for your home. The heating system in a home not only includes the boiler, but also all of the pipes, valves, pumps, and heat distribution as well. Your professional heating contractor will be able to determine what heating equipment will be best suited for your home heating system. Typically, Alpine and K2 condensing boilers operate most efficiently in homes with low system temperatures, such as those with radiant floor systems or in homes with high water volume cast iron radiators. In addition, in these applications, Alpine and K2 boilers do not use indoor air for combustion and require a means to vent the boiler directly to the outside (not chimney venting).



The final word...

Both the Alpine and K2 are high performance, ultra high-efficiency boilers that provide an outstanding level of comfort and control, in a safe and quiet manner. They are designed and built in America, and will provide years of reliable, efficient service while lowering monthly home heating bills.

Alliance SL™ Indirect Water Heaters



- ✓ Perfect companion for any boiler
- ✓ High recovery rate, provides virtually limitless hot water
- ✓ Highly efficient, very low heat loss
- ✓ Works well in hard water conditions
- ✓ Five sizes available

■ The perfect pairing

Reduce home heating bills AND get abundant domestic hot water with an Alliance SL. The Alliance SL uses heat generated by your boiler to produce and store hot water at a rate which can actually be higher than it can be used! This combination can provide significant savings over conventional direct-fire water heaters, and unlike standalone tankless water heaters, can store hot water for days (in the event of a power interruption).

■ Protection from within

Some water conditions can create havoc with a conventional water heater. Thanks to a heavy gauge steel tank and hydrastone inner lining, the Alliance SL is different. The hydrastone lining actually neutralizes corrosive hard water, making the Alliance SL impervious to its harmful effects. The inner tank and hydrastone lining are wrapped with 2-3" of energy saving insulation which enables the tank to only lose between .39 and .97 degrees of water temperature per hour in standby mode. The tank is also equipped with a control sensor which constantly monitors water temperature, ensuring optimum comfort and efficiency.

10/2/1 warranty protection

This unique warranty provides a 10-year full tank replacement, two years of labor coverage, and one year on parts.




5 Sizes Available

Models, Sizes, & Efficiencies


Condensing Boilers

For complete technical specifications and dimension information on these products, please visit our website at www.usboiler.net




| Alpine Models—Wall or Floor Mount | | |
|-----------------------------------|---------------------|---|
| Boiler Model | Input MBH (min-max) | AFUE%  |
| ALP080 | 16-80 | 95 |
| ALP105 | 21-105 | 95 |
| ALP150 | 30-150 | 95 |
| ALP210 | 42-210 | 95 |



| Alpine Models—Floor Mount ONLY | | |
|--------------------------------|---------------------|---|
| Boiler Model | Input MBH (min-max) | AFUE%  |
| ALP285 | 57-285 | 95 |
| ALP399 | 80-399 | 94* |

*Thermal Efficiency



| K2 Ratings & Specifications | | | | | | |
|-----------------------------|--|---------------------|----------------------------|----------------|--------------------|---------------------------------|
| Model | AFUE%  | Input (MBH) min-max | DOE Heating Capacity (MBH) | Net AHRI (MBH) | Vent Size (Inches) | Approx. Shipping Weight. (lbs.) |
| K2-080 | 94 | 16-80 | 74 | 64 | 2 or 3 | 165 |
| K2-100 | 93 | 20-100 | 92 | 80 | 2 or 3 | 167 |
| K2-120 | 94 | 24-120 | 111 | 97 | 3 | 173 |
| K2-150 | 95 | 30-150 | 141 | 123 | 3 | 195 |
| K2-180 | 94 | 36-180 | 167 | 145 | 3 | 195 |

Indirect Water Heaters



| Alliance SL Models | | | | |
|--------------------|-------------------------|---|--|---------------------------------|
| Model | Storage Capacity (gal.) | Maximum First Hour Rating at 135°F (gal./hr.) | Continuous Draw Rating at 135°F (gal./hr.) | Standby Heat Loss (°F per hour) |
| AL27SL | 27 | 192 | 162 | 0.97 |
| AL35SL | 35 | 200 | 162 | 0.72 |
| AL50SL | 50 | 225 | 171 | 0.56 |
| AL70SL | 70 | 294 | 217 | 0.45 |
| AL119SL | 119 | 339 | 235 | 0.39 |

Before purchasing, read important information about estimated annual energy consumption, yearly operating cost, or energy efficiency rating that is available from your retailer.

Additional Gas Boiler Options



U.S. Boiler Company offers a complete line of gas-fired cast iron water boilers. For information and the complete line of U.S. Boiler Company products, please see product literature or visit www.usboiler.net



www.usboiler.net

