

Heat Transfer Times

The Latest News & Information On
Advanced Heating and Water Systems

Elite

Ultra High Efficiency
PHOENIX
Gas Fired Water Heaters

SUPERstor

Stainless Steel Heat Exchangers VS Aluminum Heat Exchangers



In the world of high-efficiency condensing boilers, a major point of discussion is the choice of stainless steel or aluminum heat exchangers. Though both materials boast some advantages, HTP has opted to use only high-quality stainless steel for the heat exchangers in our popular Munchkin, ModCon and Elite boilers. Here's why.

Stainless steel resists corrosion in a wide range of pH levels, while aluminum will corrode if the proper fluids are not used to produce and maintain a narrow pH range. Aluminum heat exchangers require the use of special manufacturer-recommended heat transfer fluids and inhibitors when starting up and maintaining the system. If the proper fluids are not used, there is a risk of damage to the heat exchanger, and manufacturers of aluminum heat exchangers may not honor their warranties if the proper fluids have not been used. Stainless steel heat exchangers, on the other hand, do not require the use of special fluids and are compatible with plain clean water and commonly available propylene glycol.

Aluminum heat exchangers are also much more likely to suffer damage if not maintained at regular intervals.

Annual maintenance is required both to monitor the fluids and to clean the heat exchanger to remove aluminum oxides that can build up and clog the condensate line. If not properly maintained, the glycol solution in aluminum heat exchangers will degrade, corroding the aluminum and creating "grey goo" in the condensate trap. Stainless steel heat exchangers are much cleaner internally, with none of the grey goo produced by aluminum. Annual maintenance is recommended for stainless steel heat exchangers, too, but due to the strength and durability of stainless steel, you do not run the same risks of damage or failure if regular maintenance does not occur on schedule.

Depending on your heating system design, you may wish, or need, to run your boiler at a high flow rate. Aluminum can erode at high flow rates, while stainless steel heat exchangers operate very effectively at high flow rates.

Stainless steel heat exchangers are more expensive than aluminum, which is lightweight and has high thermal conductivity, but due to the longevity and corrosion resistance of stainless steel, they are likely to be a much better value in the long run. Aluminum will rust, corrode, warp, or break down long before stainless steel, so investing in a boiler with a quality stainless steel heat exchanger will increase the useful life of your boiler.

HTP's full boiler line uses stainless steel heat exchangers to provide our customers with the highest quality, longest lasting heating appliances available on the market.



HERE COMES THE SUN...

From the
Desk of... *David R. Martin*



Yes, spring is finally here, and thank goodness! As George Harrison wrote, "it's been a long cold lonely winter." What a weird winter season it was, with measurable snow on the ground in 49 of the 50 states at one point in time.

With the dawning of Spring 2010, I have noticed a significant increase in solar thermal activity. More orders for solar collectors, tanks, and kits. Solar jobs are increasing in number, as are the potential solar solutions available.

HTP is a leader in solar hydronic systems with the most in-depth offering of any manufacturer: flat plate and evacuated tube solar collectors, single and dual coil solar HX tanks in both glass-lined and stainless steel varieties, along with pump stations, controls, line sets and everything else needed for small residential to large commercial installations. HTP has an extensive OG-300 offering of domestic solar water heating systems.

Combining free hot water from the sun with modulating /condensing technology is the ultimate in efficiency and comfort. Only HTP makes this combination possible in one appliance with our Phoenix Solar or Phoenix Evolution Solar. Using HTP products to make your solar thermal project a reality will let you feel like a winner, just like those we honor in this month's newsletter.

Sun, sun, sun, here it comes...



Tech Tip – Condensate Neutralizer



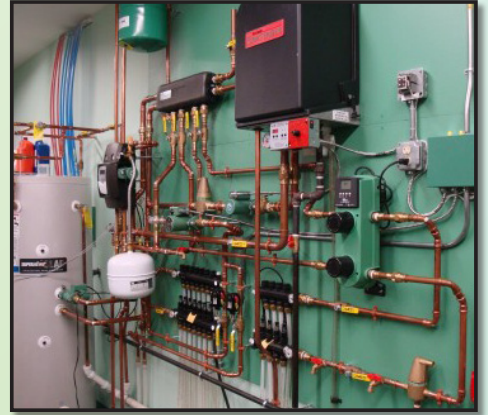
From the
Tech Wizard...

Condensate neutralizers: are they necessary? The answer is – yes, even if you don't have to!

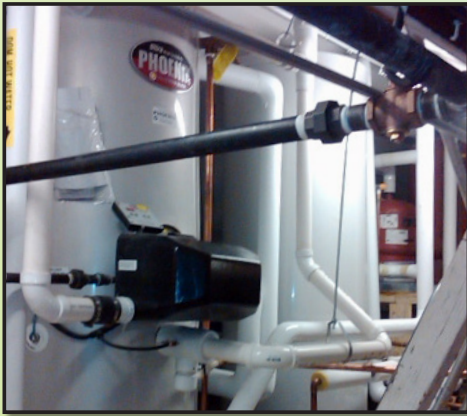
Typical condensate from a condensing boiler has a pH level of 3.2 to 4.5, which is acidic enough to leave stains, kill shrubs, and eat away cast iron drainage systems. In fact, in some municipalities condensate neutralizers are required by law when draining condensate into home plumbing systems.

Condensate production can be estimated based on one gallon per hour for every 100,000 BTUs of input, so make sure the size of the neutralizer is correct. Condensate neutralizers contain ½" marble chips that are readily available at any home store. Heat Transfer Products' neutralizers are clear, to allow consumers to see if marble chips are low and need to be replaced. So remember to include a condensate neutralizer when designing a system. Not only is it good for the environment, it may also be required by law.

Solar Contest Winners



First place goes to **Riley Plumbing** for the new home of William Riley Plumbing & Heating Co., Inc.



The second place winner is **Mechanical Systems, Inc.** for Cheyenne Botanic Gardens' Children's Workshop.



Poorman's Heating & Air Conditioning worked on a project called Solar Barn.



3rd Place

Moose Plumbing & Heating collaborated with **Winnelson Cannon City** on a Cannon City home.

Solar Contest Winners:

In our September 2009 newsletter we announced our Solar Contest, which aimed to “Shine a Light on the Best Solar Installations of the Year.” We’d like to thank all who participated in this contest and congratulate all of you on a job well done! After careful deliberation, we selected four winners to highlight in this month’s newsletter.

Check out the photos taken throughout these installations (on the previous page). The photos are also available to view on our website at www.htproducts.com. Thanks for your continued support and hard work!

Rod Hyatt - It’s about the People



Solar industry veteran Rod Hyatt is the National Solar Product Manager for Heat Transfer Products, with responsibility for creating and marketing HTP’s rapidly expanding line of solar thermal products throughout North America. A native of Utah, he is based near Salt Lake City.

Hyatt brings 18 years of solar product experience to his position. His experience includes the launch of two start-ups in the field: Sun Hydronics and In Hot Water Heat & Power. He has designed and overseen installation of hundreds of solar thermal projects, from small home DHW systems to large projects such as municipal swimming pools and department stores. But things really got started when he installed the first evacuated tube collectors on a swimming pool in Utah some 15 years ago. The revolutionary solar technology was then brand new, and Rod has since watched it improve and expand. The vacuum tube collectors (HP-30SC) now offered by HTP reflect the peak of vacuum tubes’ efficiency and effectiveness. Plus, Rod believes, they’re simply beautiful to look at.

That’s not to say he isn’t in love with flat plate panels, the other solar collector technology offered by HTP. Rod assists in the design of complete solar hot water systems that utilize flat plate as well as vacuum tube collectors. And he matches them up with the super-efficient tanks and boilers that are HTP’s trademark.

He’s proud of representing HTP solar products and combos, which are at the leading edge of the industry. No other company, for instance, has anything close to the Solar Phoenix Evolution, which combines domestic hot water and space heating in one appliance and includes an integral solar coil for peak solar performance.

Rod shares his expertise with contractors, architects, and engineers in solar thermal training classes throughout the United States and Canada. The high-tech classes focus on the most efficient and cost-effective methods of designing and sizing solar systems and boilers.

Throughout the years, Rod has designed and overseen installation of hundreds of solar thermal projects, and he’s made just about every mistake in the book. As a result, his training classes incorporate his extensive hands-on know-how with his savvy design and installation curriculum. They’re popular enough to keep Rod flying across the country for weeks out of every month.

Rod has also designed what he calls The Solar Workbook. This one-of-a-kind calculation program allows contractors and others to easily size and design systems appropriate to their applications. In addition, it provides a complete parts list of HTP solar components, allowing quick calculations of each system’s cost. Its calculations work for sizing single-family residential systems as well as large systems that service office buildings, car washes, restaurants, military installations, and more.

The market for solar thermal is still young. Great opportunities await as more people realize the simple cost-effectiveness and accessibility of solar hot water. And Rod plans to be there helping it along