

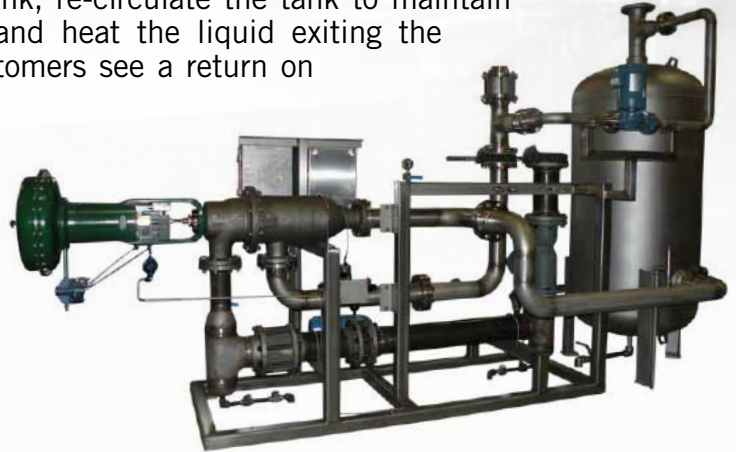
# Hydro-Thermal® Tank Heating

Hydro-Thermal® manufactures direct steam injection heaters which replace inefficient steam heating methods such as steam spargers and heat exchangers. One very successful use of the Hydroheater® is tank heating.

Hydroheaters can heat the fluid going into the tank; re-circulate the tank to maintain a specific temperature, or leave the tank cold and heat the liquid exiting the tank, producing hot water on demand. Many customers see a return on investment (ROI) in less than three months.

**Hydro-Thermal has installed tank heating applications in the following industries**

- » Steel    » Ethanol    » Chemical
- » Food    » Beverage    » Pet food
- » Meat & poultry slaughter/rendering
- » Pharmaceutical/personal care



<p style="text-align: center;"><b>Typical Tank Heating</b></p>	<p style="text-align: center;"><b>Hydroheater® Tank Heating</b></p>
<p style="text-align: center;"><b>DAMAGE</b></p>	<p style="text-align: center;"><b>NO DAMAGE</b></p>
<p>With spargers and other less sophisticated direct steam heaters, bubbles form and collapse on tank walls; causing hammer and damage to the tank and peripheral piping.</p> <div data-bbox="131 1220 784 1459" data-label="Image"> </div>	<p>The Hydroheater's patented technology produces steam velocity that mixes steam and water very effectively, eliminating steam hammer from uncondensed steam.</p> <p>This ensures a smooth and efficient heating process.</p>
<p style="text-align: center;"><b>HOT/COLD SPOTS</b></p>	<p style="text-align: center;"><b>PRECISE/UNIFORM HEATING</b></p>
<p>Spargers inject steam into one area of the tank, causing hot and cold spots.</p> <p>Both spargers and heat exchangers tend to over or under heat and accurate temperature control is difficult.</p>	<p>Hydroheaters precisely modulate the steam - heating to exact temperatures and maintaining uniform heating throughout the tank.</p> <p>Hydroheaters can be used to fill or recirc/ trim heat the tank to meet and maintain exact temperatures.</p> <p>Hydroheaters can also heat at discharge on demand, so you only heat the water you need.</p>

<b>Typical Tank Heating</b>	<b>Hydroheater® Tank Heating</b>
<b>ENERGY LOSS</b>	<b>ENERGY EFFICIENCY</b>
<p>Sparging causes uncondensed steam bubbles to evaporate to the atmosphere, wasting large amounts of energy.</p> <p>This lost heat/condensate can also corrode peripheral piping, ceilings and structure.</p> <p>This lost steam can cause hazardous mold and other allergens to build in an area.</p>	<p>Less steam used: Hydroheaters use less steam than heat exchanges because they don't have a barrier between liquids.</p> <p>Better heat transfer: Hydroheaters transfer 100% of the steam's energy directly to the process fluid.</p> <p>Faster start-up: Hydroheaters heat the tanks faster and more efficiently saving cycle or batch time.</p>
<b>HIGH MAINTENANCE</b>	<b>LOW MAINTENANCE</b>
<p>Spargers can cause severe hammering and vibration which produces tank and piping damage.</p> <p>Heat exchangers require costly hard water scale maintenance and unwanted down time.</p> <p>Less sophisticated direct steam injection devices often need acid baths and are often high in maintenance needs.</p>	<p>Patented technology to create sonic velocity of steam prevents hard water scale and unwanted down time.</p> <p>Proper sizing of the heaters and internal modulation ensures a smooth heating process so tanks and peripheral pipes are not damaged from hammer and vibration.</p> <p>The heater itself only needs a once a year preventative maintenance check and soft parts change.</p> <p>Wear parts should last up to 3 years with proper operating conditions</p>
<p><b>Utilizing less steam, space, time means faster cycle times and less costs associated with heating tanks.</b></p>	

### **About Hydro-Thermal Corp.**

Hydro-Thermal is a global manufacturing company that designs, engineers, produces, and installs Hydroheaters. Our patented heating system mixes steam and process liquids completely while delivering precise and consistent temperature, instantaneous heating and no scaling or fouling of the product.

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