



FLUID PROCESSING HEATING
PETFOOD PROCESSING INDUSTRY

Why Use Direct Steam Injection Technology in Pet Food Processing?

SMART

Protecting your brand and its reputation for delivering quality nutrition to pets is your main focus. Without it, you would not be making a product or a profit. Consumers are demanding nutrition, safety and environmentally responsible producers. How do you balance these? You look for smart investments for processes and production like direct steam injection (DSI).

SUSTAINABLE

Energy Efficiency

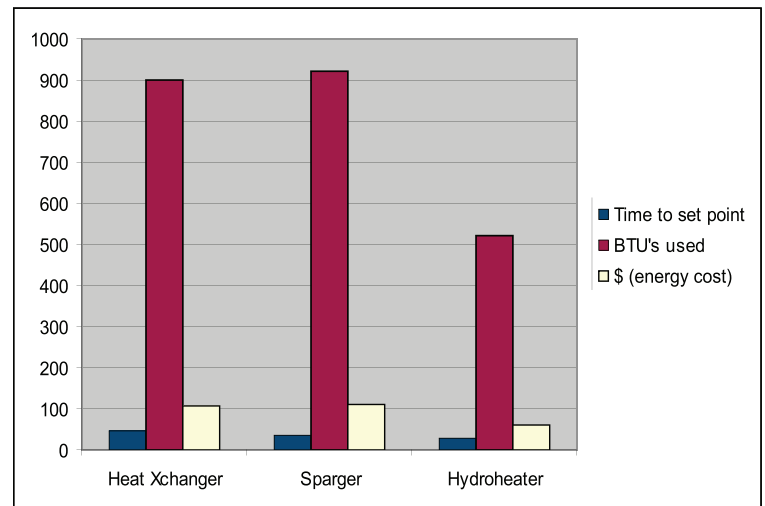
- 5-30% more energy efficient than heat exchangers or spargers
- Uses 100% of steam's energy
- Recognized by the US Department of Energy (DOE) and the Wisconsin Focus on Energy (FOE) as an energy savings technology (grants may apply)

Invest in Product Quality and Control

- Uniform and instantaneous heat
- Optimized chemical usage for sanitation or dying processes

Lower Maintenance and Production Costs

- Faster batch or continuous process
- Maintains slurry viscosity
- Precise temperature control
- Factory suggested preventative maintenance once per year



Actual Readings - Savings in Time, BTU's used and Dollars



WHAT IS YOUR FOCUS?

The superiority of the Hydroheater is proven. Hydroheaters have been used for over 85 years in industry to heat everything from water to viscous slurries. They are warranted to work for the operating conditions of your processes and are manufactured in an ISO 9001:2015 certified plant to ASME standards. Each heater is custom designed for the application and exact operating conditions.

Protect your product quality and reputation:

- Avoid FDA compliance shutdowns with precise set-point temperatures
- Maintain slurry viscosities to assure proper cook and extrusion
- Easier process for dye/color injection
- Sanitize at exact temperatures

Systems save even more:

- Systems have all the controls, recommended piping and configurations needed
- Systems feature the custom engineered Hydroheater for your specific application
- Simply plug and plumb it into the surrounding process
- Installation services are available

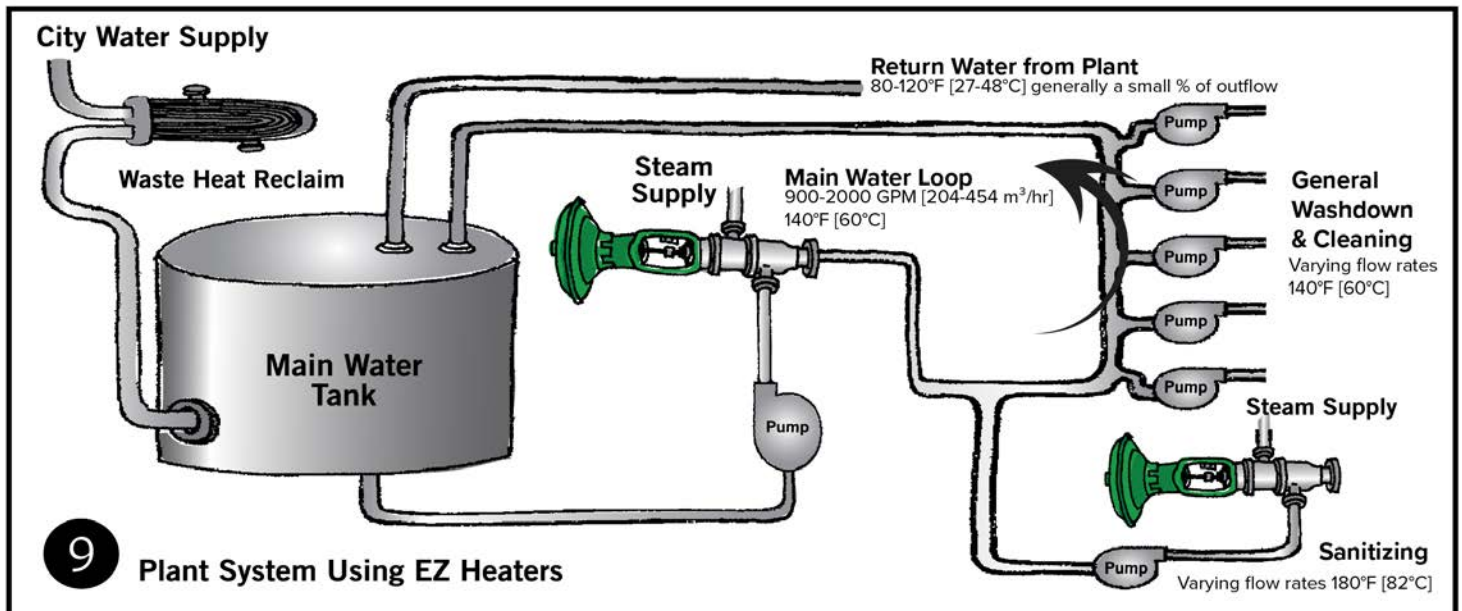
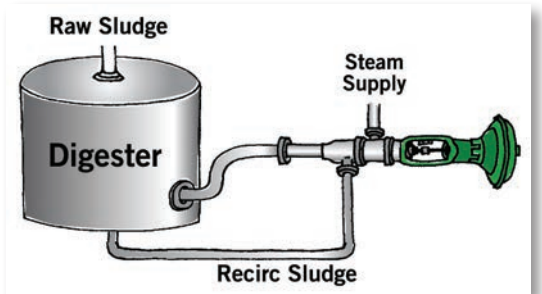
Lower costs:

- Save utility and energy costs
- Save maintenance costs over heat exchangers and spargers
- Increase productivity
- Fits into process piping and controlled by pneumatic actuators responding to downstream temperature sensors

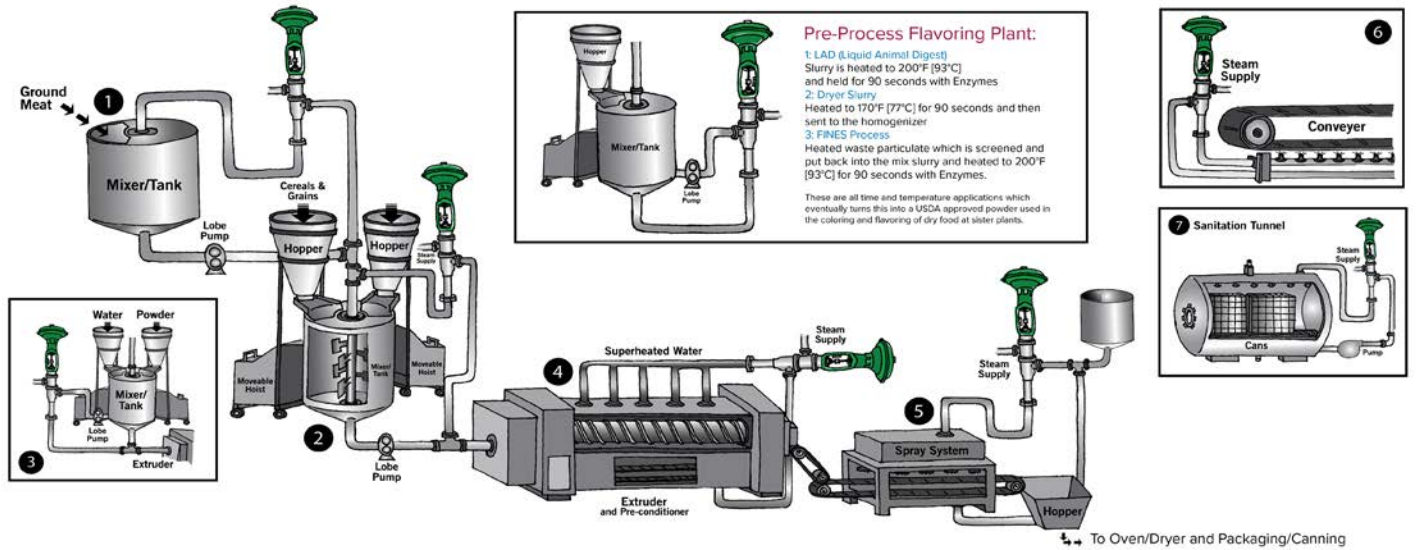
FROM START TO FINISH

Direct steam injection can be utilized in more than just your process line. A Hydroheater can optimize your central hot water system and aid in precise hot water on-demand for all mixing, extruding and injection points, as well as plant washdown (see below).

Hydroheaters are also key in anaerobic digestion processes (right).



- ① Ground Meat/By-product Heating and Mixing
 - ② Raw Materials Heating and Mixing (Cereals/Grains, Vitamins/Minerals)
 - ③ Dye/Color Injection System
 - ④ Extruder
 - ⑤ In-line Flavor Injection System
 - ⑥ Conveyer Cleaning/Spray Bar
 - ⑦ Sanitation/Canning Process
- Pictured on previous page Digester/Waste Treatment and Central Hot Water System



Hydroheaters are effective in many applications

Our talented group of engineers understand these processes and can help you explore saving energy, money, time, and maintenance in your plant. Call a representative today!

Mix Tanks/Product Heating

- Use direct steam injection to thaw, cook and mix ingredients
- Control cook temperature precisely and on-demand
- Avoid product burn-on and preserve flavor

Powder Flavoring Injection

- Mix flavoring with precise amount of steam at point of mixing or in-line after extrusion process
- Achieve complete mixing of product

Extrusion

- Lower bulk density of product for precise viscosity
- Avoid over moisturizing for faster down-stream drying
- Achieve complete mixing of product

Cleaning/Sanitation

- Maintain sanitary temperatures for conveyer spray bars
- Achieve proper temperature for retort
- Supply hose stations and plant washdown stations with sufficient hot water on-demand

Other Applications

- Use DSI for central hot water systems keeping water temperatures at proper levels and on-demand
- Anaerobic digestion uses direct steam injection in the wastewater process



Hydro-Thermal Products



EZ Heater®

- Hot water on demand
- Central hot water



EZ Skid™

- Turn-key systems
- Plumb in water, steam and air
- Simple pre-engineered or made to highly complex specifications



Sanitary Hydroheater®

- Light to medium duty applications
- 3A Certified



Solaris®

- Thick stocks up to 13% consistency
- In-line mounting
- Straight-through design
- Up to 25,000 GPM [5,678 m³/h]



Solutions Center and R&D

Hydro-Thermal® maintains a Research and Development Lab in our plant to test our heaters in any process. It is available for customer use as well.

In addition, we are active in many energy savings projects and research on using DSI in many applications.



Need more information about Hydro-Thermal products?

Go to www.hydro-thermal.com or contact us at info@hydro-thermal.com

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