



# THERMALINE

I N N O V A T I V E   H E A T   T R A N S F E R   S O L U T I O N S

## **HygenX™ Series**

Shell and Tube Heat  
Exchangers

## **HygenS™ Series**

Pre-Engineered  
Closed Loop  
& Process Water  
Heater Packages



## INNOVATIVE HEAT TRANSFER SOLUTIONS

### Thermaline HygenX™ Series Shell and Tube Heat Exchangers brings your processing back to basics.

Shell and tube style heat exchangers are the most recognized and widespread form of heat transfer equipment used in the process industry today. They are the preferred method of transferring heat from one source to another and especially when there is a large Delta T (temperature differential) between the product and media. Processors, over many years, have depended on these workhorses for a variety of benefits, such as:

- Mechanically rugged; U-tube style heat exchangers are designed to freely expand and contract, eliminating fatigue
- Compact; provides a large ratio of heat transfer area to volume
- Dependable; shell and tubes use minimal elastomers and gaskets
- Cleanability; can be easily cleaned on both the shell side and inner tubes
- Serviceability; gaskets and tubes can be easily replaced if needed

Thermaline's HygenX™ series shell and tube heat exchangers utilize all of these benefits and more.

#### Hygienic by Design

HygenX™ series are constructed of all non-corrosive materials. Shell and tube heat exchangers are typically subjected to extreme temperatures that will destroy most coatings over time, leaving your facility tainted with unsightly, unsanitary carbon deposits and rust trails. HygenX™ utilizes non-corrosive materials for prolonged equipment life and dependability in order to promote food plant safety.

**HygenX™ is available in 304L/316L Stainless Steel, Duplex Stainless Steel, AL-6XN and Titanium.**

#### Manufacturing Specifications

HygenX™ Series is manufactured in accordance with TEMA and 3-A sanitary heat exchanger specs. Each unit is fully drainable, promoting a hygienic environment inside the process area.

HygenX™ can be used to heat or cool in a variety of applications such as:

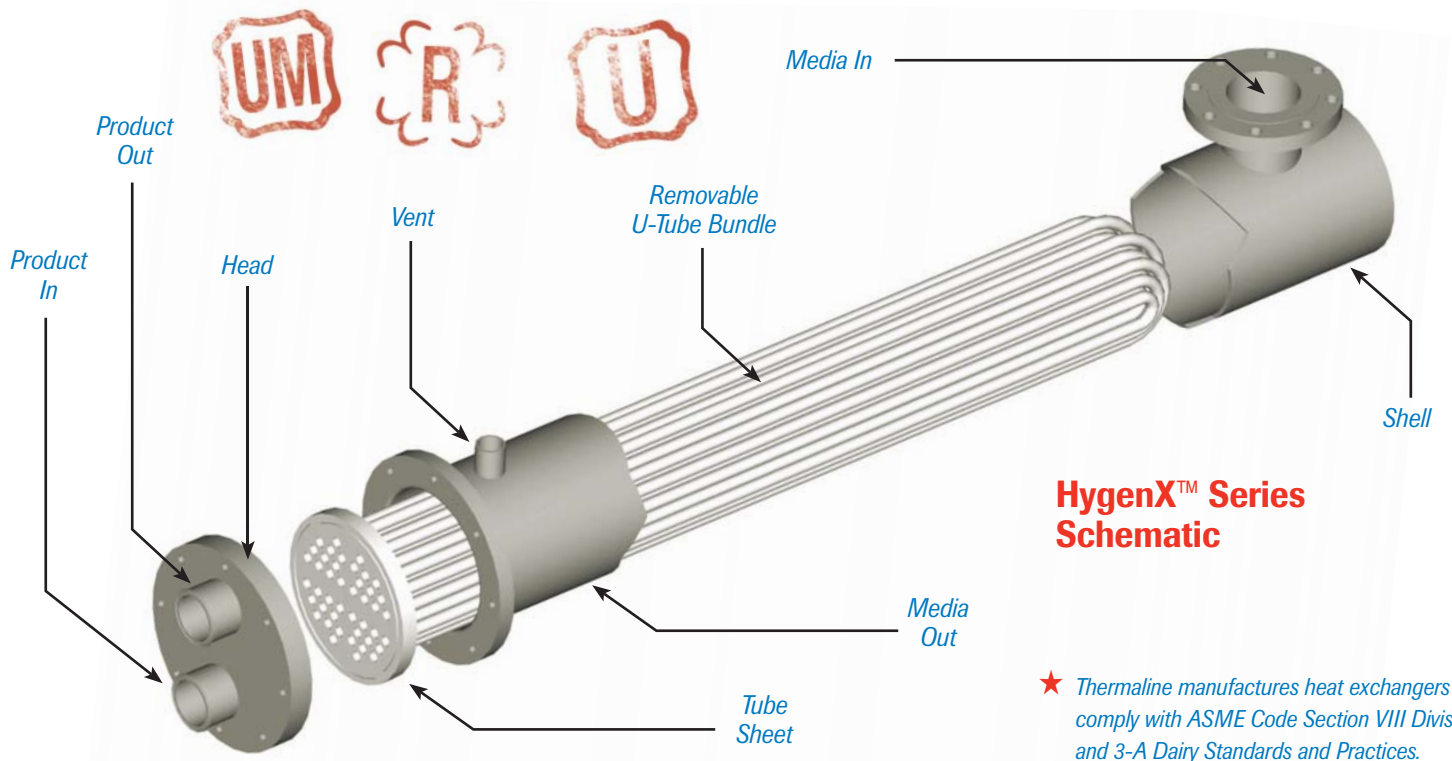
- Process water
- Viscous food and non-food products
- CIP solutions
- Pet food products and by-products
- Closed water loops



**Available Models:** HygenX™ standard models and custom units are also available.

Model	Shell Size	Inner Tubes	Lengths	Max. GPM (1 Pass Water)	Max. GPM (2 Pass Water)	Max. GPM (4 Pass Water)
HYGX-1-4*	4"	1/4-1/2"	24-112"	100 GPM	50 GPM	25 GPM
HYGX-1-6*	6"	3/8-3/4"	24-112"	180 GPM	90 GPM	45 GPM
HYGX-1-8*	8"	1/2-1"	24-112"	300 GPM	180 GPM	90 GPM
HYGX-1-10*	10"	1/2-1"	24-112"	500 GPM	300 GPM	150 GPM
HYGX-1-12*	12"	1/2-1"	24-112"	700 GPM	450 GPM	225 GPM

\*HYG-1 straight tube single pass, HYG-2 "U" tube 2 pass, HYG-4 "U" tube 4 pass  
Ratings and dimensions are approximate and can change without notice.



## HygenS™ and PWHS Pre-Engineered Closed Loop and Process Water Heater Packages

Preassembled process water heater packages from Thermaline eliminates all of the engineering guesswork and makes installation simple, fast and easy. The HygenS™ series has been engineered to fit through a standard doorway so you won't have to "big deal" the install. Just hook up your steam, process water and water make up and you're done!

### Hygienic by Design

HygenS™ series is available with piping and most major components made of non-corrosive materials, upholding the high standards you have for your processing plant.

### Economical PWHS Series

The PWHS series is engineered and designed with the same performance and standards as HygenS™. The primary difference is most major components are coated in lieu of non-corrosive materials. PWHS is the budget-minded choice.

### Go Green

Condensate recovery packages are available to send your condensate back to the boiler, saving water and energy.

### Electronic Loop Controls

Add a PLC simple programmable loop controller to the package for accurate temperature control or integrate the system into your central control station. Either way, RTD installation points are in place so you can get the most accurate readings needed for your process.

Model	Max. GPM (2 Pass Water)	Max. BTU
HYGS-4*	50 GPM	473,000
HYGS-6*	90 GPM	987,000
HYGS-8*	180 GPM	2,150,000
HYGS-10*	300 GPM	4,630,000
HYGS-12*	450 GPM	6,500,000

\*Model PWHS for coated carbon piping and components

Ratings and dimensions are approximate and can change without notice.



# Additional Thermaline Products

## Thermaline Sanitary Plate Heat Exchangers

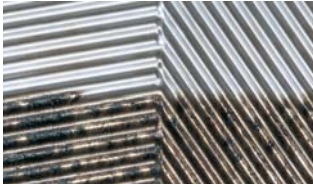
Thermaline offers a comprehensive plate heat exchanger line that will accommodate today's most demanding processing requirements. Thermaclip plates range from fractional surface area plates for micro flow rates to plates with excess of 6 ft<sup>2</sup> and 6" ports for high volume production. With multiple plate patterns, corrugations, draw depths, and materials, we can optimize each unit to operate at peak efficiency, lowering the cost of ownership, but more importantly providing long-term energy savings.

- 3-A and FDA compliant
- Adhesiveless clip gasket system
- Multi-section capable
- Tie-bolt and automated frames

## Thermaline Reconditioning Service

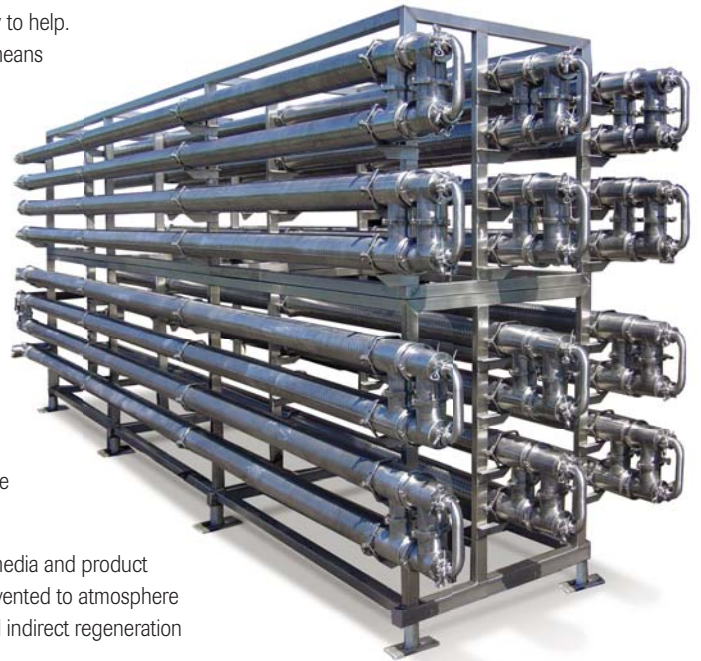
Thermaline can clean, inspect, and re-gasket your plates like new. Our reconditioning facility runs 24 hours a day to keep your plant up and running smoothly.

- Factory-certified plate reconditioning
- Using only high quality OEM-spec replacement gaskets
- Proactive preventative maintenance programs
- Comprehensive on-site heat exchanger service and repair
- Servicing all makes and models



## Real World Testing Facilities

Application of our products to our customer's specific needs often requires practical testing using real world parameters. Our experienced staff of application engineers and their extensive testing facilities stand ready to help. Test process concepts by means of a thorough theoretical study, using computer analysis and in-depth knowledge of process technologies.



## Thermaline Floating Series Corrugated Tubular Heat Exchangers

Thermaline offers a complete line of tubular heat exchangers, corrugated to maximize heat transfer efficiency. Our Floating Series boasts an innovative floating tube design to minimize material fatigue and eliminate cross-contamination issues.

- Meet or exceed 3-A tubular heat exchanger design requirements
- Duofloat Sanitary corrugated floating double-tube heat exchanger
- Trifloat Sanitary corrugated floating triple-tube heat exchanger
- Multifloat Sanitary corrugated floating multi-tube heat exchanger
- Possible media and product leaks are vented to atmosphere
- Direct and indirect regeneration



# THERMALINE

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