

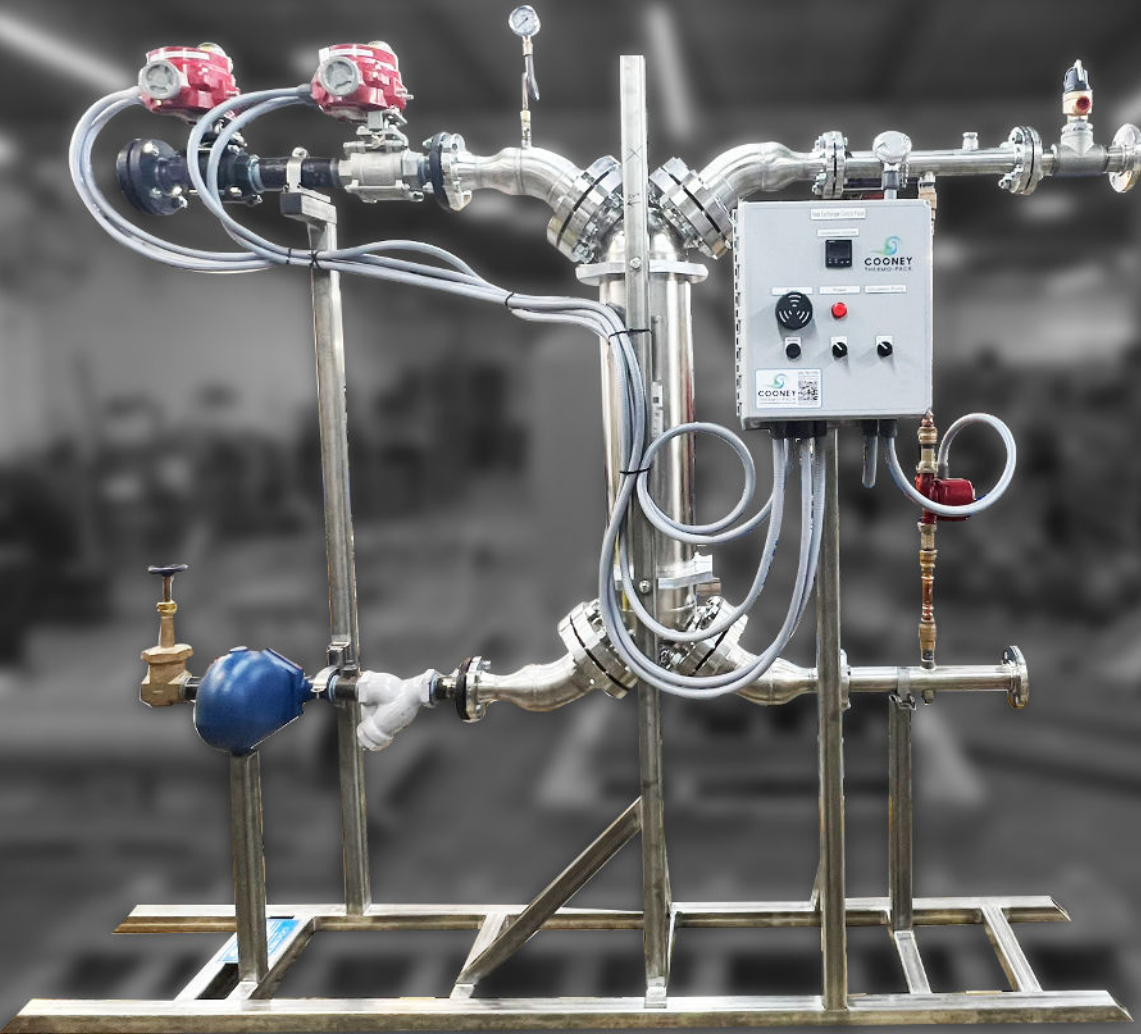
COONEY ENGINEERED SOLUTIONS

EVOLVING THE FRONTIER OF ENERGY TRANSFER



SEMI-INSTANTANEOUS STEAM TO WATER HEAT EXCHANGER

THERMO-PACK



**HIGH-EFFICIENCY
SUBCOOLING**



**COMPACT
DESIGN**



**MINIMAL
MAINTENANCE**



COONEYENGINEEREDSOLUTIONS.COM

EFFICIENT | RELIABLE | COMPACT

SEMI-INSTANTANEOUS STEAM TO WATER HEAT EXCHANGER SKIDS

THERMO-PACK

Thermo-Pack offers a compact steam-to-hot water heat exchanger solution requiring minimal maintenance and delivering substantial energy savings.

Available for domestic, heating hot water and process applications.

Learn how the Thermo-Pack can help your facility reduce its energy costs and optimize performance.

10-15%

AVERAGE ENERGY SAVINGS
COMPARED TO SHELL & TUBE HX



Shell & Coil Technology

Compact with high heat transfer area and corrosion resistant.



Condensate Sub-Cooling

Cross counterflow design sub-cools condensate for maximum efficiency.



Minimal Maintenance

Corrosion-resistant materials and lower condensate temperatures ensure durability and longevity.

Smart Design, Superior Heating: Explore Thermo-Pack Benefits

Using the latest in shell & coil heat exchanger technology, the Cooney Thermo-Pack provides efficient reliable water heating to the market for domestic hot water, heating hot water, and process applications.

Engineered to sub-cool steam condensate by utilizing the maximum amount of energy from every pound of steam, the Thermo-Pack can help increase efficiency and eliminates flash steam.

The compact vertical design can easily fit into tight mechanical rooms. Options for connection orientations helps to reduce installation time and costs.



Advanced Shell & Coil Heat Exchanger Technology

Specifications

- Engineered to sub-cool condensate utilizing maximum energy from every pound of steam
- Helically wound and corrugated coil for enhanced turbulent flow and heat transfer coefficient
- 316L passivated electropolished stainless steel
- Completely enclosed welded construction
- Designed, constructed and tested in accordance with ASME Section VIII Division
- Maximum working pressure: 300 PSI
- Max working temperature: 422°F



Efficiency

The large heat transfer surface area within the compact vertical design of the shell & coil heat exchanger allows for greater heat transfer, resulting in a highly efficient and effective system.

This technology is the most efficient way to generate heating hot water and domestic hot water from steam due to its ability to utilize cross-counterflow sub-cooling.

The Thermo-Pack captures the latent heat of the steam as well as sensible heat from the steam condensate. Perfect for district energy end-users.

Maintenance

Complete SS 316L welded construction ensures strength and durability. The corrosion resistance of the tube, tubesheet and shell makes for minimal maintenance. The heat exchanger is equipped with 3/4" threaded ports on the shell. This ensures that end users can easily access and clean the heat exchangers when needed, facilitating efficient maintenance practices without compromising system integrity or excessive downtime.

Space Savings

The small footprint of the vertical heat exchanger makes it ideal for tight spaces. Ability to manifold together for unlimited capacity in confined spaces.

DOMESTIC HOT WATER

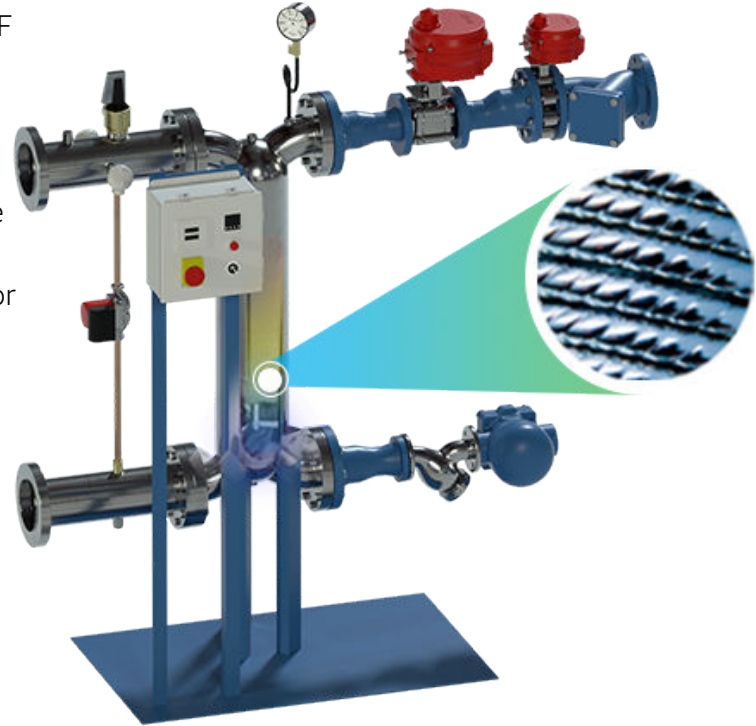
COONEY THERMO-PACK

Domestic System Benefits

- Condensate sub-cooling to temperatures of 95-130°F
- Corrosion resistant heat exchanger with complete welded structure
- Eliminates dangerous and wasteful flash steam
- Reduces maintenance costs due to lower condensate temperatures
- V-Ball control valve standard with 300:1 turn down for precise control and energy savings
- Compact footprint and vertical design fits into small mechanical rooms

Standard Components

- 316L Stainless Steel Shell & Coil Heat Exchanger
- Control Panel with BacNet integration optional for ease of operation and system feedback
- Electric or Pneumatic V-Ball control valve 300:1 turn down can accommodate up to 300 LB steam without the need of a steam pressure reducing valve or station
- Pressure / Temperature Relief Valve
- Steam Safety Shut Off Valve
- Inlet Y-Strainer
- Recirculating Pump
- Base and Supports
- 15, 30, 60 GPM & Additional Sizes Available



Model	Base Plate Dimension	F-F Flanges Across Skid	Maximum Height
15 GPM	30" x 30"	62" F-F	91" AFF
30 GPM	30" x 30"	64" F-F	91" AFF
60 GPM	30" x 42"	68" F-F	91" AFF

Save Energy | \$18,724 Annual Savings vs Shell & Tube HX*

	Cooney Thermo-Pack	Shell & Tube
Avg. Condensate Discharge Temperature	110° F	249° F
Steam Consumption	1,382 lb/hr	1,587 lb/hr
Sensible Heat Transfer from Condensate Sub-Cooling	194,159 BTU/hr	0 BTU/hr
Increase in Energy Recovery Efficiency	15%	0%

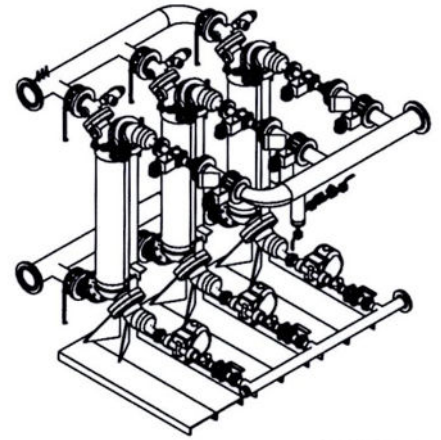
Based on steam pressure of 15 PSIG, 30 GPM, 10 hours of use per day, and \$25 cost per therm

HEATING HOT WATER

COONEY THERMO-PACK

Heating Hot Water System Benefits

- Efficiency - condensate sub-cooling using sensible heat from condensate
- Reduces maintenance costs of condensate pumps and equipment due to lower condensate temperatures
- Small footprint compared to typical shell & tube
- Heat exchangers can be manifolded together for unlimited capacity
- Control panel and integral sensing points allow precise control of discharge water temperatures
- V-Ball control valve with 300:1 turn down - can accommodate up to 300 PSI steam without the need of a pressure reducing valve or station



ISOMETRIC VIEW



Packaged Skids Include:

- 316L Stainless Steel Shell & Coil Heat Exchanger
- V-Ball Control Valve with to 300:1 Turn Down
- Electronic or Pneumatic Steam Control Valves
- Pressure / Temperature Relief Valve
- Inlet Y-Strainer
- Steam Safety Shut Off Valve
- Gravity Condensate Drainage or pressure motive / pump traps available if condensate needs to be lifted
- Painted Carbon or SS 316 L Steel Base and Supports



CONTACT US TO CALCULATE HOW
MUCH ENERGY YOU CAN SAVE



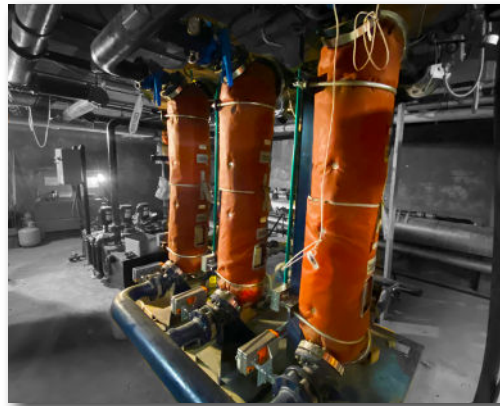
Reduce Your Facility's Carbon Footprint

The Thermo-Pack is an investment that can put money back into your budget. Achieve significant energy savings and reduce costs, contributing to a greener, more sustainable world.

10-15%
AVERAGE COST SAVINGS
COMPARED TO SHELL & TUBE HX

\$7,661

4-Week Savings of a Thermo-Pack Compared to a Shell & Tube Heat Exchanger*



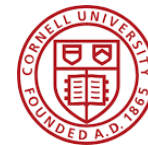
	Cooney Thermo-Pack	Shell & Tube Heat Exchanger
Average Condensate Discharge Temperature	170° F	280° F
Steam Consumption	3,769 lb/hr	4,225 lb/hr
Sensible Heat Transfer from Condensate Sub-Cooling	420,903 BTU/hr	0 BTU/hr
Increase in Energy Recovery Efficiency	12%	0%

Based on steam pressure of 35 PSIG, 1,000 lbs/hour at a cost of \$25 per therm

Testimonials

Learn how Cornell University utilizes Cooney Thermo-Pack's to provide reliable, efficient hot water to residents in their North Campus.

Read the Full Case Study On Our Website



Cornell University.

“Cooney Engineered Solutions worked with us and created what we wanted. And that is a big deal for us.”

FRANK PERRY, CORNELL UNIVERSITY

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Who is Cooney Engineered Solutions?

Innovation has always been one of the core drivers of our organization. This passion for bringing simple yet innovative solutions to the HVAC industry was the primary driver in creating our patented Freeze Block technology and launched the Cooney team into the manufacturing environment.

As the team has grown we've worked hard to keep our core values and culture consistent. Building relationships with our customers, a deep understanding of their goals in every project along with always focusing on the community, employees and our environment drives our decision process .

Sales

(610) 783-1136
sales@cooneycoil.com

Headquarters

20130 Valley Forge Circle
King of Prussia, PA | 19406



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