



LACKEBY SLUDGE/WATER HEAT EXCHANGER HIGH HEAT TRANSFER WITH A SMALL FOOTPRINT



www.cleantekwater.com

FLEXIBLE AND HIGH PERFORMANCE SLUDGE/WATER HEAT EXCHANGER

HIGH QUALITY, RELIABLE, AND EFFICIENT

Lackeby heat exchangers are completely constructed of high corrosion resistant materials. The sludge tubes are 316 stainless steel. All of the other wetted material is Duplex stainless steel alloy. The covers and support legs are 304 stainless steel. The 316 stainless steel sludge tubes provide a much longer life and more efficient heat transfer than carbon steel.

MODULAR

The heat exchangers utilize a modular construction, with each heat exchanger being designed specifically for each application. This design flexibility optimizes multiple sludge flow characteristics for the most efficient heat transfer. This also provides flexibility in the physical size of the heat exchanger, as the design is easily modified to fit in an existing plant.

PROPRIETARY DESIGN

All of our heat exchangers have proprietary sludge turning chambers. The chambers have a small radius for a compact design. The mixing action in the turning chambers equalize the thermal profile in the sludge tubes for more efficient heat transfer.

SMALL FOOTPRINT

All units are designed to have a small footprint. The use of only corrosion resistant stainless steel materials in the design, the compact design of the turn chambers, and the modular design provides a large degree of design flexibility to provide a small footprint.

All units are constructed in accordance with Section VIII, Division I, of the ASME Pressure Vessel Code.

The Lackeby Sludge/Water Heat Exchanger is a “Tube in Shell” heat exchanger used to heat and cool biological sludge. The sludge tubes are a circular cross section surrounded by rectangular cross section water channels. The flow of the sludge and the water is cross current for the highest efficiency possible.

ADVANTAGES

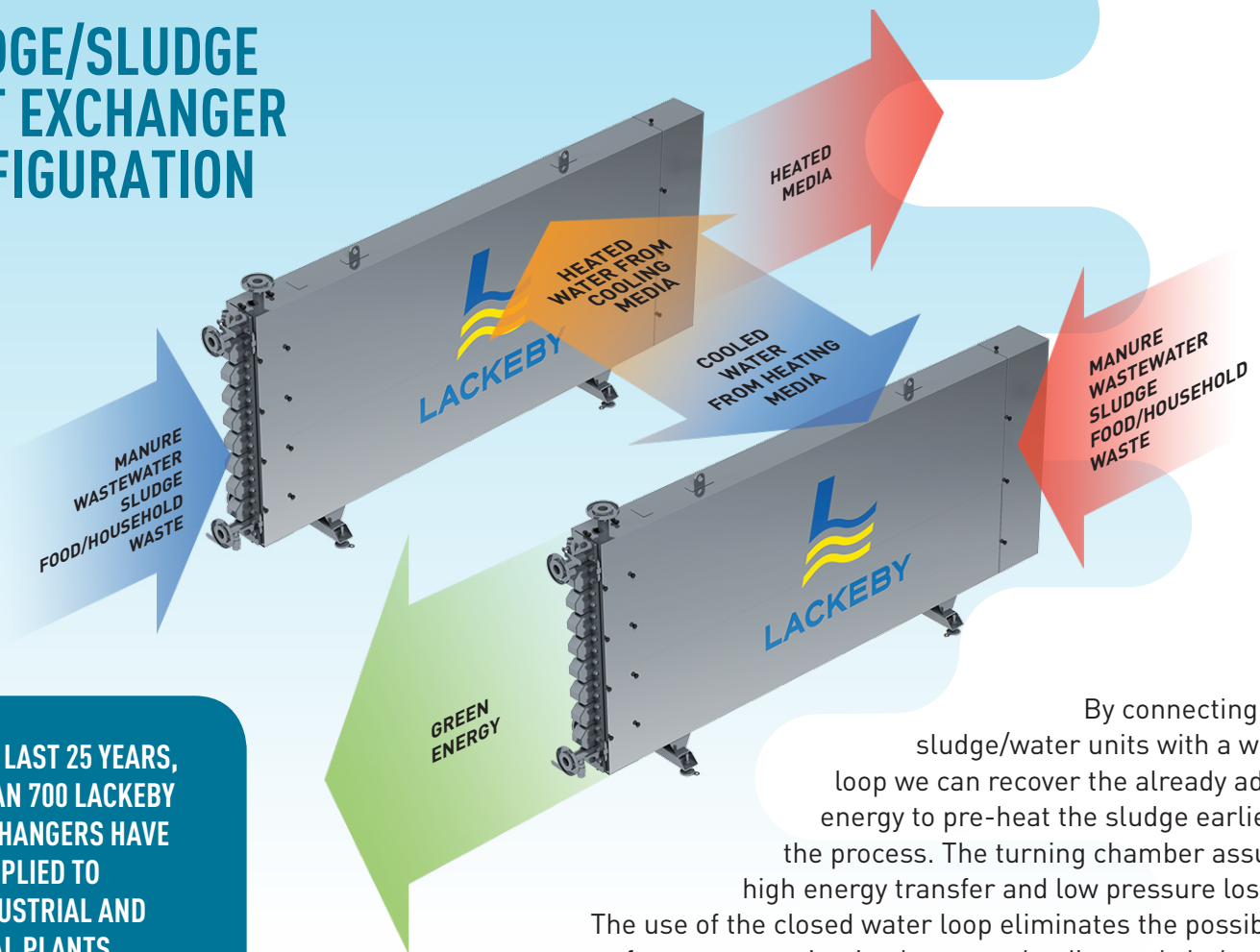
- Modular design for high flexibility and configurability.
- Robust, compact, reliable, and easy to install.
- Circular sludge channels ensure that large solids can be handled while minimizing clogging risk.
- Innovative design with proprietary turning chamber assures high energy transfer and low pressure losses.
- Uniquely designed unit for medias with a high viscosity.
- The proprietary turning chambers enable the highest possible heat transfer as well as meeting demands for a small footprint.
- Heating and cooling system runs with low load in order to keep customer operating costs low.



KEY PRODUCT APPLICATIONS

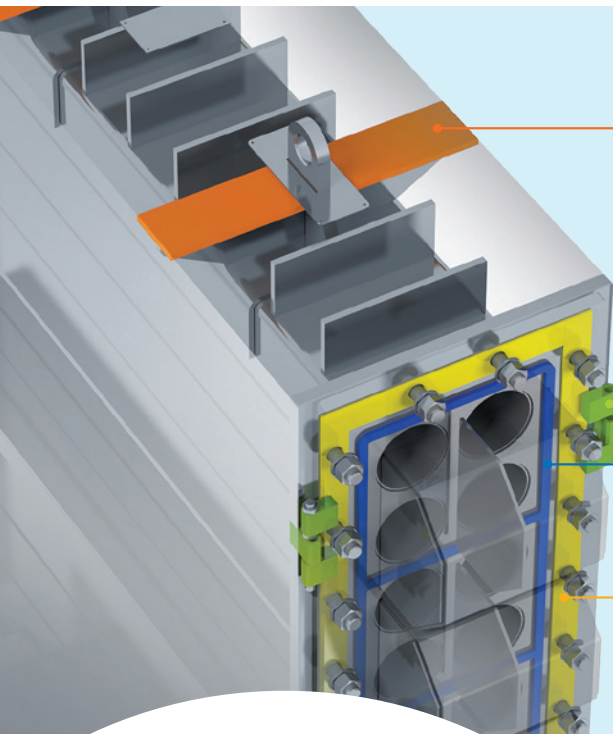
- DIRECT HEATING OR COOLING OF RAW OR DIGESTED SLUDGE ON THE FEED LINE
- HEATING AND/OR COOLING OF DIGESTED SLUDGE BY DIGESTER OR PASTEURIZATION CIRCULATION
- ENERGY RECOVERY FROM HEATED SLUDGE

SLUDGE/SLUDGE HEAT EXCHANGER CONFIGURATION



OVER THE LAST 25 YEARS,
MORE THAN 700 LACKEBY
HEAT EXCHANGERS HAVE
BEEN SUPPLIED TO
BOTH INDUSTRIAL AND
MUNICIPAL PLANTS.

By connecting two sludge/water units with a water loop we can recover the already added energy to pre-heat the sludge earlier in the process. The turning chamber assures high energy transfer and low pressure losses. The use of the closed water loop eliminates the possibility of cross contamination between the digested sludge and undigested sludge while also providing system flexibility.



NEW IMPROVEMENTS

SAFER SHIPPING

Security bars have been added to allow us to better secure the unit for safer shipping to your plant.

SIMPLIFIED MAINTENANCE

All units are hinged on the customer selected side to enable easy access for inspection and maintenance.

HIGH RESISTANCE GASKET

Gaskets are now made of an improved material which is highly resistant to oil and high temperatures.

GASKET SPACER BARS

Newly implemented spacer bars further extend the lifetime of the gasket and lower the time and cost for maintenance.