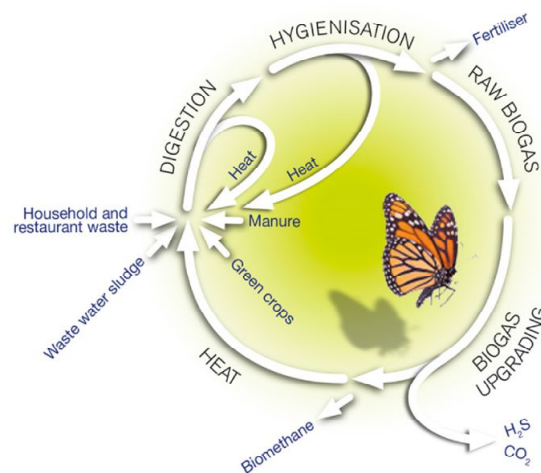


## Lackeby heat exchangers : sludge - sludge, sludge - water and air - water



## **Heat reuse : where and how to**

On industrial and agro-industrial sites, a lot of heat and energy is still lost. With today's energy prices, this is no longer justifiable.

In water treatment plants, in biogas production, digesters, landfills, a lot of excess heat is created; heat that we can reuse.

Our sustainable sludge/sludge, sludge/water and air/water heat exchangers are specially designed to recover a maximum of heat. This reuse of heat leads to a substantial reduction of the production cost and an increase of the operating efficiency.

Task Industrial Environmental Engineering is your contact within the Benelux (Belgium, Grand Duchy of Luxembourg and the Netherlands) for the Läckeby range, which also includes the Roto-Sieve drum screens. The high quality Läckeby heat exchangers are already installed for more than 30 years in water treatment plants and biogas plants.

These top quality compact heat exchangers stand for a high degree of heat recovery, a substantial increase in production efficiency, long life and easy maintenance.

## **Reuse of heat : scope**

### **Warm, highly viscous substances and sludge**

In the digestion process of animal manure, organic waste, sludge from water treatment plants, household waste and waste from the catering industry, a large amount of heat is generated. This excess heat can be used to preheat the digestion substrate or to provide hot water. Läckeby produces heat exchangers for slow flowing high viscosity sludge, the heat exchangers provide efficient heat transfer, with minimal risk of clogging.

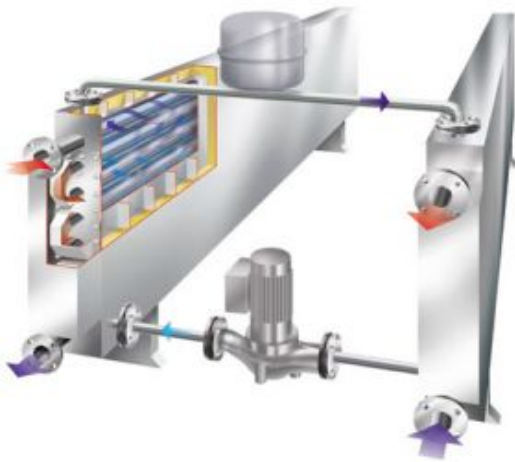
### **Hot air**

Läckeby air/water heat exchangers were originally developed for one very specific application, namely to protect the membranes in water treatment plants. But over time, it became clear that just about all industries generate heat as a by-product of their production process. Läckeby air/water heat exchangers make this excess heat or warm process air pay for itself. Using the heat exchangers in the production process will also allow a quick return on this investment.

## **Reuse of energy from sludge and hot air**

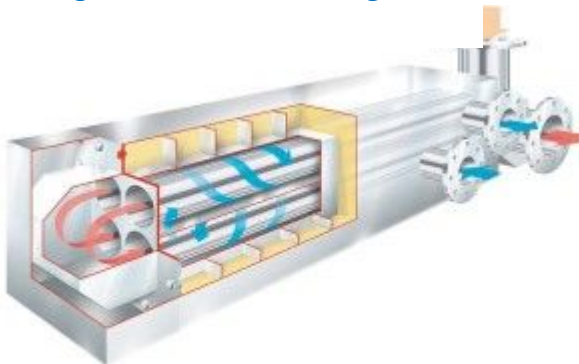
The reuse of heat is one of the most cost-effective and environmentally friendly investments available today. We offer solid and modular heat exchanger solutions with an excellent price/quality ratio. Our heat exchangers can be fully customized and integrated with your production process.

### Sludge/sludge heat exchangers



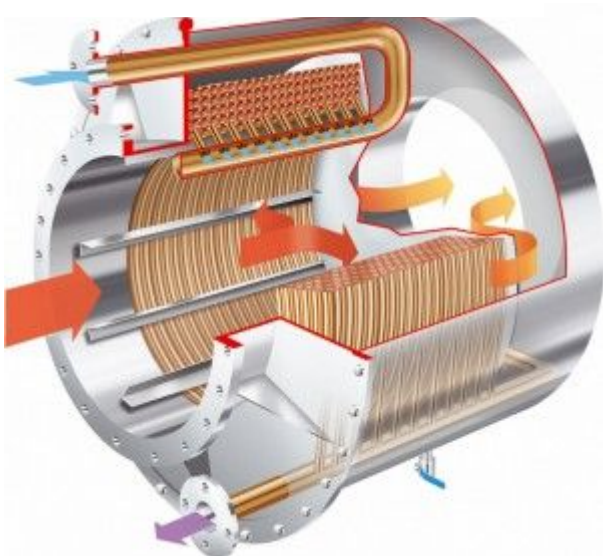
The sludge/sludge heat exchanger recovers the heat from digested sludge to release it to the raw sludge, through a closed piping system. Such a design eliminates the risk of contamination. Circular sludge channels provide a large transfer zone, thus reducing pressure losses. The patented open chamber rotation system allows higher temperature transfer by leveling the sludge temperature profile. This solid and modular system-based product is distinguished by its high reliability, high heat transfer and low maintenance requirements.

### Sludge/water heat exchangers



The modular heat exchangers in the Läckeby range are compact, easy to install and equally easy to maintain. The circular sludge channels and patented open chamber rotation system ensure high heat transfer, low pressure losses and minimal risk of clogging. Since the 1990s, Läckeby has installed more than 400 of these Läckeby sludge/water and sludge/sludge heat exchanger units in public and industrial water treatment plants in more than 20 countries worldwide.

### Air/water heat exchanger



Läckeby's air/water heat exchanger was originally designed to protect the membranes used in water treatment plants and extend their life. The heat exchanger is designed to efficiently reduce the temperature of the air passing through the membranes. Over the years it became clear that this unique product is also perfectly suited to recover heat from air flows coming from blowers and is also perfectly suited to heat ventilation air or to heat low pressure water circuits. The compressed hot air circulates freely between a closed circuit consisting of a large number of copper tubes containing coolant. This allows a high content of heat to be recovered from the incoming hot air stream.

## **Sludge heat exchangers (sludge-sludge and sludge-water) for energy reuse with high efficiency and low cost: simple and compact system**

Läckeby heat exchangers for energy recovery from sludge: unique patented design, space saving and cost effective. The Läckeby heat exchangers are very compact units, clog insensitive, virtually maintenance free, take little space (stackable): for high viscosity substances, such as water treatment sludge, digested sludge and sludge from biogas plants. The main characteristics at a glance:

### **Technical features**

- Unique design specifically for sludge
- Patented turning chamber
- High heat transfer
- Large flow capacity
- Minimal pressure loss

### **Benefits**

- Easy to install units
- Insensitive to clogging
- Easy inspection and maintenance
- Very compact (stackable)
- For high viscosity substances

## **Very high heat transfer with minimal footprint and minimal pressure loss**

- Homogeneous sludge temperature thanks to good mixing in the turning chambers
- Insulated housing to prevent energy loss
- Highly efficient and compact design with minimum space requirements
- Extremely low maintenance, insensitive to clogging
- Hinged turning chamber lids for fast inspection

## **Heat exchangers - don't let the heat escape ! Some examples :**

- Agro-industrial digesters
- Organic waste digesters
- Biogas production from sewage or industrial wastewater treatment plants
- Recuperation of biogas from landfills

### **Heating of the digester substrate in biogas plants**

Our sludge/sludge heat exchanger is ideally suited for heating the digester substrate in anaerobic digestion plants and biogas plants (biogas upgrading). These heat exchangers have been used with proven efficiency in numerous large and small biogas plants, mostly using digester substrate from agriculture and the catering industry. The excess heat produced during the digestion process and the upgrading of the biogas can be used to preheat the biogas substrate in order to speed up the digestion process and reduce energy consumption.

### **Preheating hot water circuits.**

Our sludge/water and air/water heat exchangers are ideally suited for preheating hot water circuits. This preheated water can then be used for internal purposes on site, such as in water treatment plants, but also in all industries where large quantities of hot water are required (e.g. laundries). Läckeby air/water heat exchangers are very versatile units with a very wide range of applications.

## **Installation, maintenance and services**

It goes without saying that Task/Läckeby will take care of an efficient installation and delivery of each heat exchanger, whenever required. On top of that we can also provide maintenance, measurement and control techniques, technical assistance and possible upgrading/expansion of your installation.