

SCREW PUMPS

SCREENS

SCREENINGS HANDLING

COMBINATED SYSTEMS

GRIT HANDLING

CONVEYOR

ELECTRICAL- and AUTOMATION TECHNOLOGY

MEASUREMENT and CONTROL TECHNOLOGY

SERVICE SUPPORT

KUHN

HYBRID SCREW

Screw Pump meets Genuine Heat Pump

Many Well-Known Advantages - New Benefit

All over the world, there are more 50,000 different screw pumps for various applications such as lifting equipment, polder pumps or return sludge pumps.

The key arguments in favor of the screw pumps have been well-known for a long time:

- High degree of efficiency up to 80 %
- Long service life of 20–25 years
- Unbeatable operational reliability, especially with different waste-water coarse material
- Very flexible in terms of feed rate
- Dry run protection
- Self-regulating

What's New?

We use the screw trough as a large-area heat exchanger.

The Process

By integrating water-bearing channels, the steel trough of the screw pump becomes a heat exchanger. Within this secondary circuit, water is conducted along the rear side of the trough. The water takes up waste heat and transports it to a customary heat pump where the temperature level is increased and supplied to the consumer.

What makes this process so special is that the transporting function of the screw is not impaired; on the contrary – it improves the conveying process.

High Savings Potential

So far, the utilization of fossil (heat) energy for the production of electricity and the transformation of electricity into heat involves enormous losses, far higher than 50%. Regenerative energy sources, such as wind energy, first convert the kinetic energy of the rotors into electricity and then electricity into heat. The direct use of waste heat therefore seems far more sensible. Possible applications are: heating of buildings, low-temperature sludge drying, recovery of process heat, etc.

Your Advantages

- Superior heat transfer through turbulent flows with high Reynold numbers at the wetted perimeter
- Steel-made heat exchanger with excellent thermal conductivity
- Rotary motion leads to considerably larger wetted surface areas than in the channel
- Deposit-free contact area
- Permanently self-cleaning and maintenance-free – for decades!
- No impact on the conveying process
- Visible and accessible any time

This way, you as a customer benefit twice:

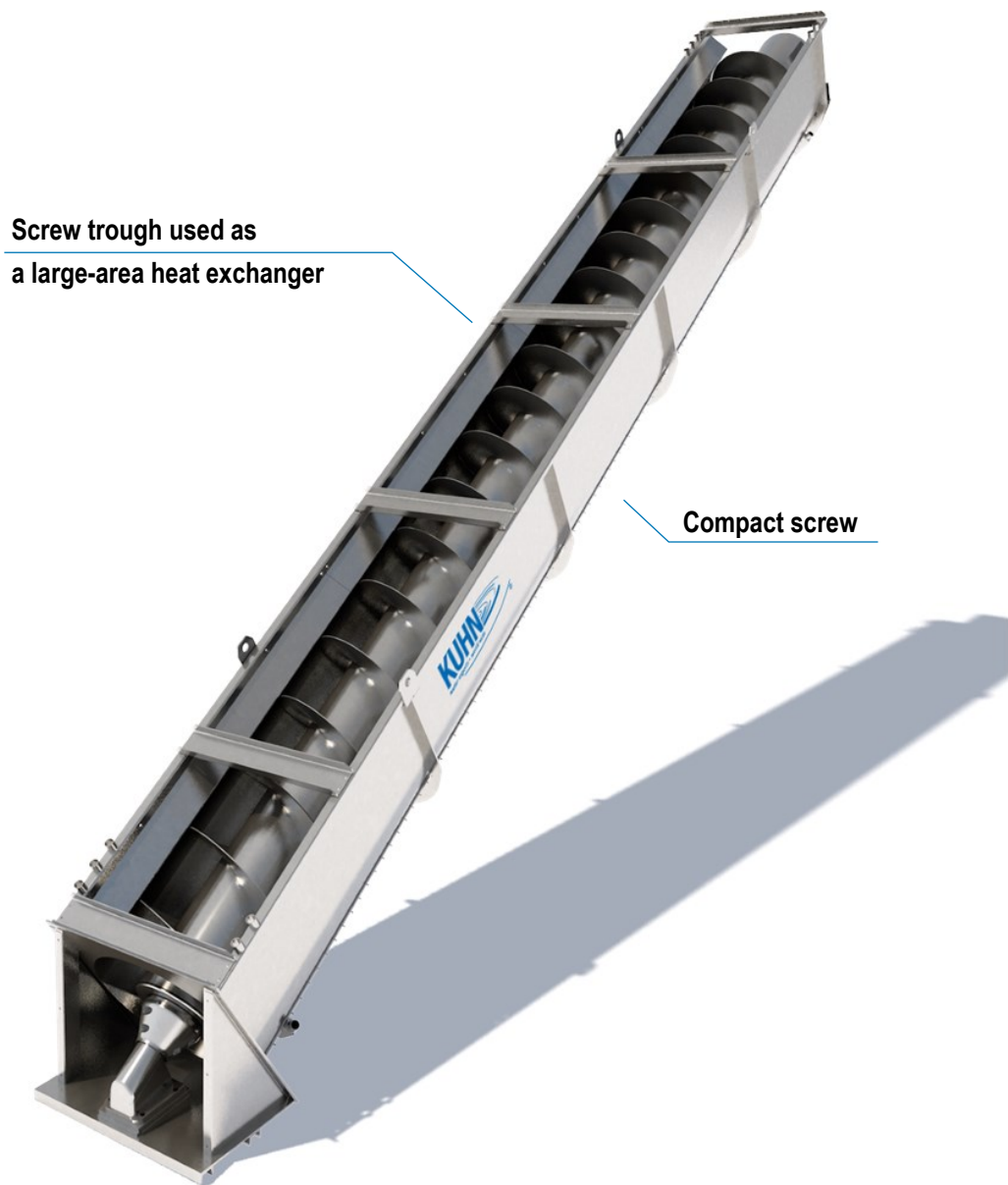
A refurbished screw with maximum thermal potential!



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Screw trough used as
a large-area heat exchanger

Compact screw

