

KANTHAL SERVICES SIMULATED YOUR FUTURE NEEDS

CASE STORY "HOW CAN WE SAVE YOU MONEY!"



Sometimes it is difficult to predict the future. You make an investment and somehow the result does not work out as originally planned. With computer simulation you can test and evaluate different technical solutions without an investment before starting up the project.

THE CHALLENGE

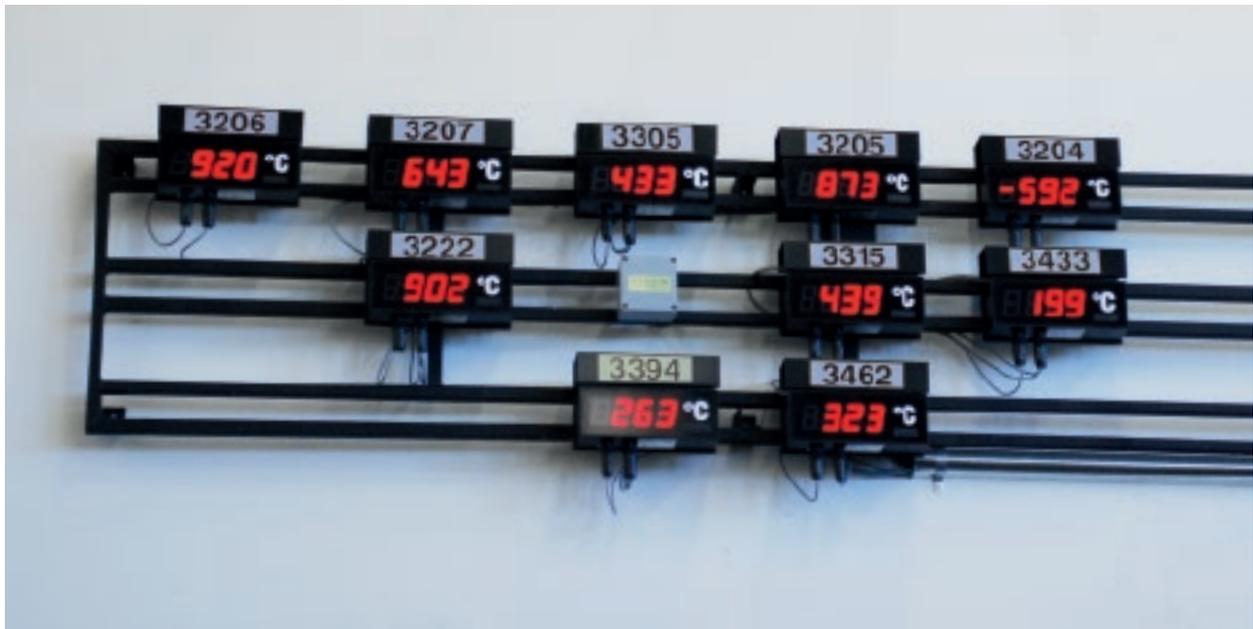
A customer with a medical application wanted to improve control of furnace temperature. Upgrading the existing conveyor furnace to make it capable of 125°C (257°F) temperature difference between adjacent zones would enable the customer to continue production on the single existing production line. Typical conveyors used by this customer have maximum zone separation of 75°C (167°F).

The temperature of each zone affects the zone next to it. The product traveling through the conveyor goes from one zone to the next as it moves along propelled by the conveyor belt. The product receives its correct temperature process profile on the way through the conveyor chamber.

KANTHAL SERVICES MODELED THE DESIRED SOLUTION

To increase temperature separation, shadow walls were introduced as a modification to the existing design. A comprehensive Ansys study was carried out by the Kanthal Engineering expert.

The customer's conveyor furnace is a multi-zone unit with an operating temperature of up to 1100°C (2012°F) and, at the time, it had 75°C (167°F) difference between zones.



THE RESULT

The furnace upgrade was a success. We minimized the customer's investment through Kanthal Services simulation services. The Kanthal Heating Systems solution enables the customer to operate just one furnace and yet achieve the same potential throughput as three older furnaces. The furnace now achieves temperature zone separation of 175°C (347°F) and is surpassing the customer's expectations.

- No need for a new investment. No need to expand the area for operations.
- Optimization resulted in utilization of one furnace instead of three older furnaces.
- Potential throughput of one upgraded furnace is three times greater than that of previous equipment.
- Same high standard of product quality.

Kanthal's expertise in heat treatment brought value to the medical industry by improving output on the medical devices. By modifying design and furnace temperatures Kanthal Services contributes to further innovations within the medical technologies industry.

Visit [kanthal.com/services](https://www.kanthal.com/services) to read more about our service offering.