

# GREENSPIRAL™ Type 3 - Steam heater applications

## Conception



Our Spiral plate heat exchangers are made of 2 or 4 concentric channels with plates rolled together with spacer pins welded to create channel gaps. Those channel gaps and spacer pins facilitate turbulent flow, customized for the customer's specific requirements and working conditions.

It allows us to take into account the flow rates, the size of the particles for fouling fluids and the pressure drops. Due to a countercurrent flow in the heat exchanger, there is a possibility of reaching crossing temperatures, approaching 3°C.

The Spiral plate heat exchanger, in steam heater mode, is commonly used to heat a fouling, viscous fluid by using steam.

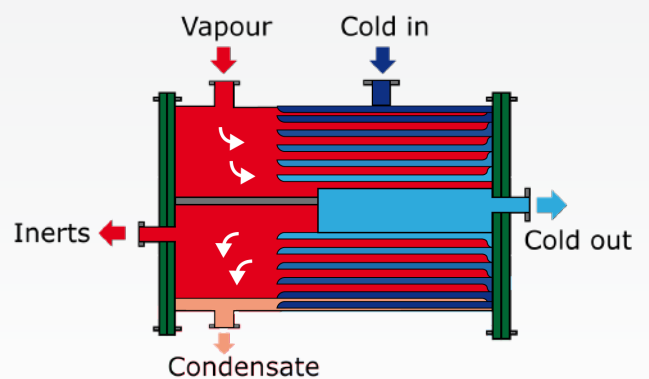
The steam circulates in a fully opened channel, through the complete width of the unit (cross flow). The heavy fluid circulates in a spiral flow in the 2nd channel to get the best of the Spiral plate heat exchanger's specific self-cleaning effect.

## Characteristics

GreenSpiral™ type 3 can be used as a steam heater for tough duties. Fouling duty channels enables easy access for inspections or eventual mechanical cleaning.

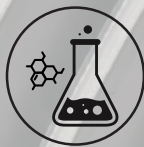
The Spiral heat exchanger is made to handle cycling duties, due to its robust design. GreenSpiral™ can expand without mechanical failures during a pressure or temperature fluctuation. That's why the Spiral heat exchanger can be used as a steam heater.

Thanks to its defined cross section, uniform from the beginning to the end of the spiral core, combined with a turbulent flow, the Spiral heat exchanger technology will have no dead zones in the channel flow.





Oil&Gas



Petrochemical



Mining&Steel



Power



Pulp&Paper



Agro industry



Pharmaceutical



## Condition of use

### Design

Design temperature: -100°C up to 450°C

Design pressure: FV / 60 Barg

### Materials

SA 516 Gr60, SA 516 Gr70, 304 / 304L, 316 / 316L, UNS S310803, UNS S32205, UNS S32750, 904L, 254 SMO, C276, C22, C2000, Titanium...

### Sizes

1m<sup>2</sup> up to 700m<sup>2</sup> | Custom design available upon request

## Customers benefits

### > ENERGY SAVING

The Spiral design and optimization of conditions in both channels of the Nexson Spiral heat exchangers provide a high heat transfer value (K value) which leads to big savings in energy costs.

### > SELF CLEANING EFFECT

Thanks to the single channel configuration, a turbulent flow is created to handle tough medias. Since it is a single channel heat exchanger, if there is any reduction in the cross section inside the channel, flow velocity will increase, flushing out the deposit.

### > COMPACT SIZE AND ROBUSTNESS

More compact and until 3 times more thermally efficient, the Spiral plate heat exchanger type 3 gives the possibility to do substantial savings in installation, operation and maintenance.

### > LOW INSTALLATION COSTS

Nexson Spiral heat exchangers are designed to maximize heat transfer surface. They can be set up vertically or horizontally with no need for complex installation. In addition maintenance costs are very limited.

### > EASY ACCESS FOR INSPECTION AND CLEANING

Access and inspection of the whole heat transfer surface are made possible, thanks to openable end covers.

