



Customized Spiral Plate Heat Exchanger (SPHE) 2 Heat Exchanger 2 phases duties Condenser - Reboiler

Nexson team : 20 years experience in designing and manufacturing Spiral Plate Heat Exchangers



Conception

The vapor circulates, cross flow, in a fully opened channel, with negligible pressure drop and the coolant circulates in a closed spiral channel. Thanks to his versatile design, it can be directly installed on the top of a column/rector without any supporting system, reducing quite much installation cost. It is perfectly suitable for vacuum condensation with negligible pressure drop.



Characteristics

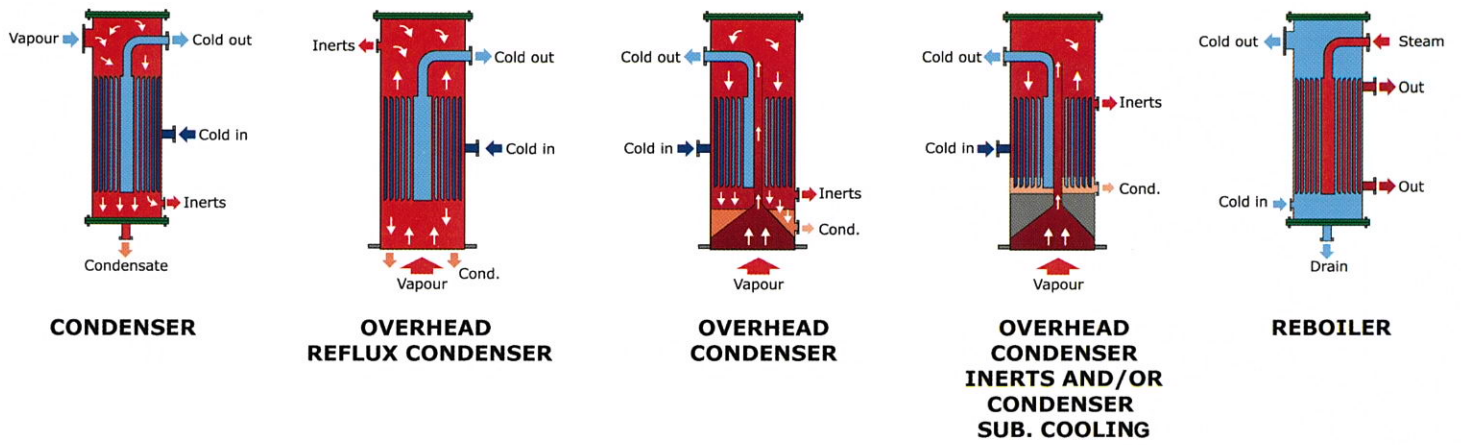
Able to work in extreme conditions (of pressure and temperature), this single channel heat exchanger, with self-cleaning effect, has become the alternative to the shell & tube exchangers. More compact, and until 3 times more thermally efficient, the SPHE gives the possibility to do substantial savings in installation, operation and maintenance.

Condensing mode:

- Vapour circulates, cross flow, in a fully opened channel
- Negligible pressure drop
- Coolant circulates in spiral flow
- Can be directly installed on the top of a column without any supporting system
- Suitable for big vapour flowrates and allows sub-cooling of inerts, condensates or inerts and condensates

Evaporating mode / Reboiler:

- The fluid to evaporate circulates in an adjusted channel gap
- Fully opened, that allows working with fouling fluids
- Easy access for an inspection or an eventual mechanical cleaning



Conditions of use

Design temperature: 200°C up to 450°C (-40°F up to 842°F)
 Design pressure: FV / 60 Barg

Materials

It is possible to manufacture the SPHE in any material that can be formed and welded (carbon steels, stainless, steels, duplex, super-duplex, nickel alloys, etc...): SA 516 gr60, SA 516 Gr70, 304 / 304L, 316 / 316L, UNS S32205, UNS S32750, 904L, 254 SMO, C276, C22, C2000, Titanium...

Customer benefits

- > **CUSTOMIZED DESIGN**
- > **NEGLIGIBLE PRESSURE DROP**
- > **HIGH VAPOR FLOW**
- > **LOW INSTALLATION COST (DIRECT COLUMN MOUNTED AND COMPACT SIZE)**
- > **LOW OPERATING COST**
- > **LOW MAINTENANCE COST (SELF CLEANING EFFECT)**

Applications



- Vacuum condenser
- Gas cooler
- Reflux condenser
- Vent condenser
- Evaporator
- Reboiler