

## CRN TECNOPART, S.A.

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# FLANGED IMMERSION HEATERS

They are designed for heating and maintaining the temperature of fluid and gas in large volumes, either at rest or in movement. Application to liquid or gaseous fluids. They can be installed both horizontally as vertically, in: tanks, cisterns, tanks, boilers, and circulation heaters.

They are an excellent heating system for sectors as diverse as food, chemicals and pharmaceuticals, textiles, plastics, naval and machinery and tools.

Heating elements are made of welded on a flange, or base ceramic heaters or cartridge, inserted in a sleeve to allow removal without having to perform the operation to empty the tank or circuit.

For high temperatures (<900 ° C) significant pressures or very low fluid volumes, THP elements of high temperature (see data sheet CT-080.20) are an excellent alternative. To determine the specific surface load (W/cm2) should be taken into account such factors as the nature of the fluid, the process parameters (minimum flow, inlet and outlet temperature, maximum temperature over the heating elements) and the type and number of fixing rings mounted on the beam resistance.

They can operate at pressures above 200 bar and temperatures around 1000 ° C. They can be fitted with temperature sensors for process control and even heating surface for protection.

Depending on the conditions for using the heating elements can be sealed with resin (150  $^\circ$  C maximum), silicon (205  $^\circ$  C) maximum) or sealed terminals.

Built to load the notebooks, the power could exceed 5000 kW per unit Can be manufactured for use in potentially explosive atmospheres. Supplied with an CE certificate issued by the LCIE



## Installation conditions (control level / flow) - Precautions for use



## Version with welded heating elements

The beam is formed by resistance heating elements. The active element is 80/20 Nichrome wire, perfectly centered in a tube shielded and protected by high dendidad magnesia which ensure high heat transfer and high dielectric strength. The heating element is welded to the mounting flange.

PL = length black NC = unheated length black LD = length displaced LC = length heated





## Version with interchangeable heating elements

The beam consists of resistors or resistance cartridge heaters with ceramic base made of stainless steel sleeves welded to the mounting flange. This makes them interchangeable without having to drain the fluid.

PL = length black NC = unheated length black LD = length displaced LC = length heated Ø = Diameter of the resistance





#### **Spacers**

The conditions of exchange (turbulent or laminar regime) can be modified depending on the shape and number of separators. The hydraulic diameter can be reduced by adding resistance to the beam of one or more tubes.

## Characteristics of the flange

The nature of the material and dimensions (diameter and thickness) are determined by the imperatives of work and calculation. Whenever possible, use standard models. The characteristics of the fluid to be heated and the working pressure are the factors that define the shape, interlocking and status lasuperficie

#### Assembly

The heating elements are welded along the qualified welding operating modes (QMOS) in accordance with the requirements CODAP, ASME or TUV. The weld quality is ensured by the checks after the soldering operation.

