



# ***LD 682 Seal Cooler*** ***An economical cooling solution*** ***for refinery applications***

*Controlling seal temperatures in high temperature power, chemical and refinery applications improves safety, reduces emissions, and increases seal reliability. These benefits can be achieved with the proper application of mechanical seal support systems. The Flowserve LD 682 Seal Cooler is an economical system capable of providing these benefits, while meeting the requirements of API 682.*



### ***Operating Parameters***

**Cooling coil** 193 bar at 371°C (2800 psi at 700°F)  
**Shell** 20.7 bar at 93°C (300 psi at 200°F)

### ***Materials of Construction***

**Cooling coil** 316 Stainless Steel  
19 mm OD x 2.41 mm x 5.3 m (0.75" OD x 0.095" x 17.5')  
Heat transfer area 0.28 m<sup>2</sup> / 3.0 ft<sup>2</sup>  
**Shell** Carbon steel  
**Gasket** EPDM or Fluoroelastomer

### ***Available Options***

**Rupture disk** Prevents over-pressurization of cooling water side

**European Applications:** According to 97/23/EC, PED - Pressure Equipment Directive, this equipment is covered by Article 3.3 (SEP – Sound Engineering Practice).

# LD 682 Seal Cooler

## Features

Process and cooling water sides can both be completely vented and completely drained.

Wall thickness of 316 SS tubing/cooling coil (2.41mm / 0.095") allows for high process side pressure operation.

316 SS tubing/cooling coil (process fluid) provides excellent corrosion resistance for a wide range of applications.

Cooling water side can be easily disassembled for inspection and cleaning of the cooling coil.

Seal cooler design promotes good thermosyphoning effect.

Low flow resistance on both process and coolant sides helps promote good fluid circulation rates.

Temperature indicator labels on case surface measure cooling water temperature.

## Benefits

Complete venting allows for the removal of trapped gases and vapors, essential to cooling system performance. Complete draining of cooling water allows for back flushing to enhance heat transfer performance. Complete draining of process fluid improves housekeeping and safety during maintenance

High process side pressure rating allows the seal cooler to meet operational and hydrostatic test pressure requirements for most applications.

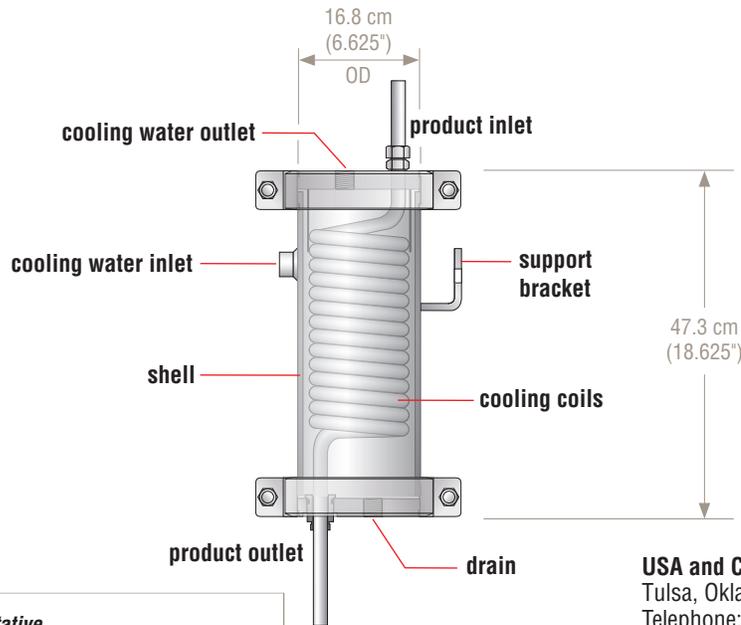
Corrosion resistance helps reduce total lifecycle costs.

The seal cooler can be easily maintained to provide maximum heat transfer efficiency.

Thermosyphoning effect (and proper piping design) provides circulation during stand-by conditions and improves fluid circulation during operation. Vertical mounting is preferred for both Plan 21 and Plan 23 to achieve optimum fluid drainage and gas/air venting.)

Fluid circulation helps minimize temperature increases, and provides a more consistent environment in the mechanical seal cavity.

Easy monitoring of temperatures and temperature transients helps identify improper operation or seal system problems.



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