

# 682 Seal Cooler

*API Standard 682 - Shaft Sealing Systems for Centrifugal and Rotary Pumps*, addresses the selection of standard seal types and support systems for various refinery services. API standards are used to aid in procurement of standardized equipment and materials. Seal coolers are used in high temperature applications to reduce the sealing temperature thereby enhancing and increasing the MTBF of the equipment.

## Features/Benefits

- Constructed from 300 Series Stainless for superior corrosion resistance
- Can be configured for series or parallel flow
- Can vent and drain both product and coolant
- Easily disassembled for cleaning without damaging cooling coils
- Explosion resistant design

## Materials of Construction

- Tubing: 300 Series Stainless Steel
- Shell: 300 Series Stainless Steel

## Operating Parameters

Tube:

- 4000 psi at 700°F  
(275 bar at 370°C)

Shell:

- 200 psi at 200°F  
(13.8 bar at 93°C)



As Stated in API 682 First Edition, Oct. 1994

682 Seal Cooler Feature

Benefit To You

4.5.3.1 Seal coolers shall be sized for the seal manufacturer's recommended seal flush flow rate but not less than 8 liters per minute (2 gpm) per seal.

682 Seal Cooler is designed for optimum efficiency for product flows of 8-20 lpm (2-5 gpm).

High efficiency resulting in lower operating costs and increased reliability.

4.5.3.2 Unless otherwise specified, tube shall be series 300 stainless steel, 3/4 inch with .095 inch wall minimum size; the shell shall be carbon steel.

- Tube and Shell made from 300 Series Stainless Steel.
- Tube is 3/4 inch thick with .095 inch wall thickness.
- Can handle up to 4000 psi at 700°F (275 bar at 370°C) on the tube side and 200 psi at 200°F (13.8 bar at 93°C) on the shell side

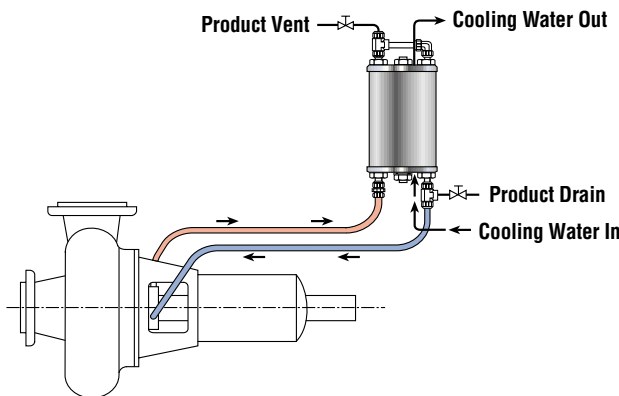
Improved corrosion resistance and high pressure ratings increases safety and reliability at normal operating and upset conditions.

4.5.3.4 The seal flush cooler shall be arranged for complete drainability on both the water and process sides. A drain valve (not just plug) shall be mounted at the lowest point on the shell side.

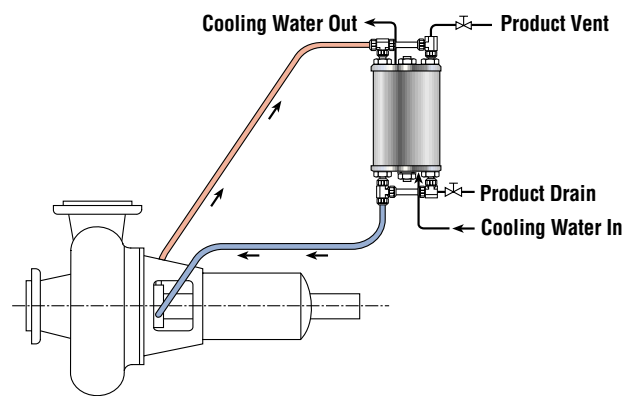
- Unique design enables the seal cooler to be operated in series and parallel flow of the product.
- Seal cooler design facilitates draining of the product and coolant with less effort.
- Seal cooler is designed to be cleaned and reassembled after being in service.

- Seal cooler allows more than one configuration to accommodate various operating requirements.
- Complete draining of the product and coolant side ensures no vapor lock situation resulting in high efficiencies.
- Scaling and cooler fouling can reduce efficiency over a period of time. 682 Seal Cooler can be disassembled and washed effectively resulting in higher value and increased efficiency time after time.

Series Flow



Single Pass



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