

# Elanco Spiral Plate Heat Exchangers



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## Applications for Elanco Spiral Plate Heat Exchangers

### **Slurries:**

Paper & Pulp  
Digester Heaters for Waste Treatment  
Textile and Laundry Plants  
PVC Production

### **High Temperature & Low Temperature:**

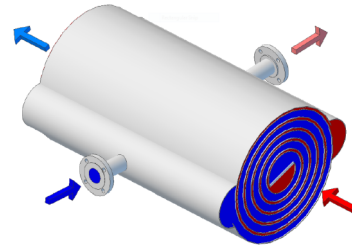
Exhaust Coolers  
High Temp Gas-to-Gas, (up to 1650°F)  
Liquid Nitrogen & other Cryogenics

### **High Viscous:**

Distillation Columns Bottom Coolers  
Fatty Acid Coolers  
Resin/Plastic Feed Heaters (20,000 C<sub>p</sub>)

### **High Efficiency & Close Approach:**

Heat Recovery and Cogeneration  
Bottoms to Feed Interchangers  
Partial & Knockback Condensers  
Vacuum Service  
Thermosiphon Reboilers



Counterflow Heat Exchanger



Elanco Type B Spiral Heat Exchanger

## Other Equipment Produced by Elanco Inc

### **Stainless Steel Air-Cooled Heat Exchangers**

Standard units available

### **Double Walled Tube Heat Exchanger**

Where zero leakage must be maintained

### **Specialized Shell and Tube Heat Exchangers**

High alloys, high pressures, & high temperatures

### **Plate and Shell Heat Exchangers**

Compact, high efficiency, & high pressure

### **Special Fabrications**

High alloy pressure vessels, filters & fabrications

## PROCESS SPIRALS

The Spiral Plate Heat Exchanger is actually a family of heat exchangers all based on the basic Type A spiral core. By adding or taking away weld-seam and head arrangements we get the other varieties of spiral heat exchangers. This versatility makes the spiral attractive to many services. Listed below are the five different type of spirals available from Elanco Inc.

### Type A



Spiral in both circuits, removable heads both sides for clean out. Used for fouling flows on both sides where cleaning of the prime surface is required.  
Example: bottoms to feed interchanger.

### Type B



Spiral in both circuits, removable head on one side and all welded on other side. Used when only one of the flows is fouling or when gasketing of one flow is a problem.  
Example: condensate cooler with river (muddy river water on cleanable side).

### Type C

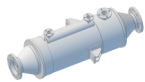


Spiral in both circuits, all welded on both sides. Used when the flows are clean, when gasketing is problematic, or when cost must be kept to a minimum.  
Example: deionized water to tap water.

### Type D

Spiral/axial circuit for boiling or condensing, on one side or both sides. Could have both, one or none of the heads removable for cleaning. The boiling feed enters as liquid to the spiral from the periphery, and boils up axially. Vapors enter the center, condense down and exit the peripheral. With careful design, sub-cooling can be controlled.  
Example: sludge header with steam, or natural circulation reboiler for distillation.

### Type E



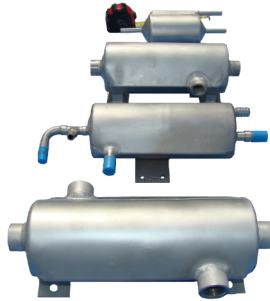
Spiral on one circuit, axial on the other circuit. The spiral side is all welded, and the axial side flows through the heat exchanger with no spiral action. Used when there is a large difference in flow volume.  
Example: vacuum cold traps, or air-to-water applications.

## Applications for Standard Encoils

By a large margin the most popular application is heating and cooling deionized (DI) water. This is often inside another machine such as a laser, or X-ray. DI water is very corrosive and so the stainless material is important; DI water is most often generated with cartridge resins and circulated by pump so pressure is low, >75 psi.

Applications:

High Powered Electronics      Lasers  
Radars  
Microwave  
Large Capacitors  
Large Transformers  
Recitfiers



Sample Encoils



Sample Custom Encoils

- **Test Equipment & Instruments** (laboratory equipment, engine test stands, etc.)
- **Sample Coolers** (on-line analysis often requiring cooling before the instrument, usually M -1/2)
- **Swimming Pools & Spas** (heating & cooling)
- **Steam Boiler Feed Heater & Blowdown Coolers** (also excellent air-cooled application)
- **Trim Coolers** (often with control valves)
- **Small Scale Distillation** (mostly solvents)
  - Condensers
  - Feed Heaters
  - Interchangers
  - Reboilers