

Product Description

HemiCoil® jacketed glass-lined steel reactors are manufactured with split-coil jackets to provide effective heating and cooling of reactor contents. HemiCoil is available on the following types of reactors:

- **CSA Series** uses a standard DDPS Type SA reactor for the inner vessel. The SA is a closed-welded reactor with standard main cover. Its internal pressure rating is 100 psig and full vacuum.
- **CGL Series** uses DDPS's innovative type GL closed-welded reactor with no main cover. Its internal pressure rating is 130 psig and full vacuum.
- **CTJ Series** clamp top jacketed reactors are available with HemiCoil jackets, starting at 100 gallons. Its internal pressure rating is 90 psig and full vacuum.

Features

HemiCoil jackets can be designed with two or more completely separate circuits, enabling incompatible heat transfer media to be used, speeding reaction time and avoiding risk of corrosion-accelerating cross-contamination. For example, you can run heating steam in one circuit and cooling brine or glycol/water in the other. With independent parallel circuits you can safely use combinations such as organic heat transfer media and cooling water, which could never be considered in a single circuit. You never need to worry about inadequate flushing or procedural error letting corrosion get a start, or about reconstitution of contaminated brines.

Advantages

In a split-coil jacket, heating and cooling media flow through the pipe coils with high velocity and turbulence. As a result, film coefficients and heat transfer rates are higher than in conventional jackets. Vessel contents heat up and cool down, and the heat transfer circuit drains much faster, saving energy and reducing batch time. An additional advantage: the split-pipe coils form an efficient, environmentally favorable closed system, with low makeup requirements and less waste.

With the split-coil design, only the diameter of the pipe - not the unsupported height of the inner vessel - must contain the jacket pressure. This permits the safe use of much higher pressures within the coils than is possible in conventional jacketing. Additionally, the versatile multi-zones reduce pressure drop of the heat transfer medium and keep heat transfer rates high.

SPECIFICATIONS

- Jacket rated for 450 psig and full vacuum
- Standard volumes range from 100 to 28,000 gallons
- Temperatures up to 500° F



Half-pipe coils being attached using automated welding machine.



A CGL-500 gallon HemiCoil® reactor



Sheathed and readied for shipment.

Basic Arrangements of Split-Coil Design

The split-coil reactor design is ideally suited to multiple zone arrangements as well as superimposed parallel circuits. Separate zones (Figure 1) allow shorter runs of coil piping, reducing pressure drop while keeping overall heat transfer rates high. This arrangement is particularly applicable to heating steam/cooling water media. Parallel circuits (Figure 2) promote most effective use of the heat transfer properties of incompatible media such as heating steam/cooling brine or heating oil/cooling water. The arrangements shown here are typical; depending on vessel size and process requirements, each circuit may be divided into two or more zones. De Dietrich Process Systems can custom design coil patterns to suit your process needs. (In the diagrams pitch of coils is exaggerated for clarity).

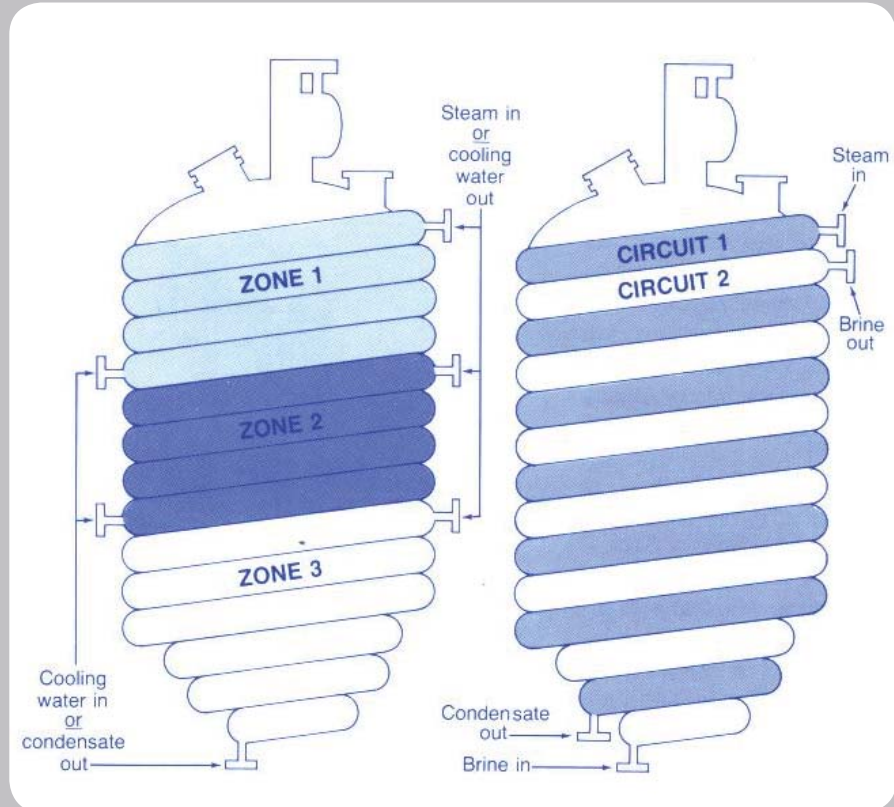


Figure 1

Figure 2