

## Challenge

### Background

A European oil refinery experienced major issues with heat exchangers which caused frequent emergency repairs between plant stops. Flange springs were replaced with every shutdown.

### Application:

- The heat exchanger dimensions are up to 2000 mm (79"). The medium being sealed is various hydrocarbons, steam, and water.
- The pressure was up to 60 bar (870 psi) with a temperature up to 400°C (752°F).



Heat exchanger emergency repairs impaired production.

## Solution

### Product

Plant switched to the **Chesterton Flange Live Loading System** consisting of **Chesterton 5505H** high-strength disc springs.

### Chesterton Flange Live Loading:

- Solves leakage often seen when bolted, gasketed joints are subject to mechanical shock, pressure surges, and/or thermal expansion and contraction
- Compensates for poor conditions by maintaining bolt force
- Results in extended reliability and equipment life

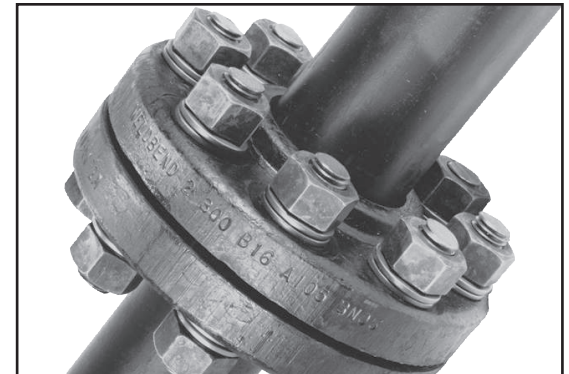


Live loading resolved customer's issues.

## Results

Since upgrading, the customer has not experienced issues with premature heat exchanger failures before scheduled stops at 6-year intervals.

Another 20 heat exchangers have been upgraded to this solution. All new exchangers were ordered to receive the **Chesterton Live Loading System**.



Keeps flanges leak free by maintaining tension on bolts between plant shutdowns.