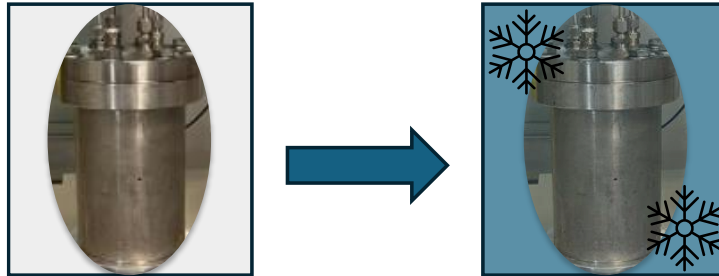


Retrofitting of a Batch Reactor with a Cooling System

Topic for *Plant Design Exercise (Konstruktionsübung)*



Batch pressure reactors are a versatile piece of equipment, that can be used, for instance, for lab scale extractions or chemical reactions. They are designed to withstand high pressures, elevated temperatures and aggressive reaction media. Cooling the reactor vessel can quench chemical reactions. Exothermic reactions also require cooling of the reactor system for safe operations.

These requirements mean, that pressure vessels are constructed with substantial wall thicknesses. This hinders air cooling, due to the insulating properties of air, which makes experiments with varying reaction times very difficult.

The goal of this project is to evaluate different options for a cooling systems for an existing batch reactor. Necessary drawings of the cooling solution shall be made, and the most promising option will be ordered and installed.

Scope:

- Preliminary literature research
- Design, detail engineering and commissioning of the system
- Documentation in a final report



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