

Process reliability + energy efficiency  
OPTIMIZED THERMOSIPHON COOLING



Optimum Cooling for Circulators  
and Pushers

# Optimization Options for Cooling of Circulators and Pushers

In the past, central cooling systems were used to cool the plant's components. These could be operated with various media that were functional, but which also had some inherent disadvantages: With central cooling systems, cooling is provided only if the media feeds are functional; the failure of which could lead to considerable damage to the circulators and pushers.

- **Water cooling:**
  - Limescale can lead to clogging of the lines over time and may cause the cooling system to fail
  - Water as a medium should be avoided in heat treatment systems for safety reasons – especially when combined with oil and salt baths.
  - Power failures and faulty media feeds cause the cooling system to fail
- **Air cooling:**
  - Noise pollution from the blower
  - Prone to line contamination
  - Power failures and faulty media feeds cause the cooling system to fail
- **Oil cooling:**
  - Power failures and faulty media feeds cause the cooling system to fail

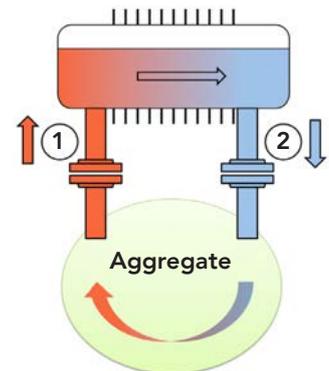
## The AICHELIN Advance: Thermosiphon cooling

**The original version:** cooling circuit together with the circulator or pusher

- Warming up the heat transfer oil, the medium rises through line 1
- Cooling the oil via the cooling element, sinking of the oil into the aggregate through line 2
- Result: an autonomous circulation without conveyance by a drive
- Increased serviceability of the respective units together with the shut-off valves on both sides of the flanges

**Advanced development thermosiphon cooling:**

- **More lowering** of temperature of the heat transfer oil than in the original version thanks to the **optimized cooling element**
- **Increasing** the cooling capacity by yielding optimized aggregate cooling
- **Improvement of the reliability** of the cooled unit until the next maintenance



## Your Advantages

- Virtually maintenance-free
- Operational and process safety
- Modular design
- Compatible with previous versions as well as water and air cooling systems - easy conversion
- Longer aggregate lifetime thanks to improved cooling capacity
- Widely proven product from Aichelin

## Your reliable partner

- Competent engineering partner
- High level of expertise in plant modernization
- Reliable supplier of components
- Perfect integration into your Aichelin plant by the original manufacturer

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