

THALETEC PowerCoils

**Half pipe Coils
rethought**



Description

Glass-lined reactors are designed for heating and cooling with a double jacket or with half-pipe coils according to DIN 28128. The origins of this DIN standard go back as far as 1979.

Therefore, now is the time to implement improvements here. THALETEC has therefore developed a new type of »half-pipe« coil: the THALETEC PowerCoil.

In contrast to **half-pipe** coils which, as the name suggests, have a semicircular cross-section, **the cross-section of THALETEC PowerCoils is a circular segment (Fig. 2, right or cover picture).**

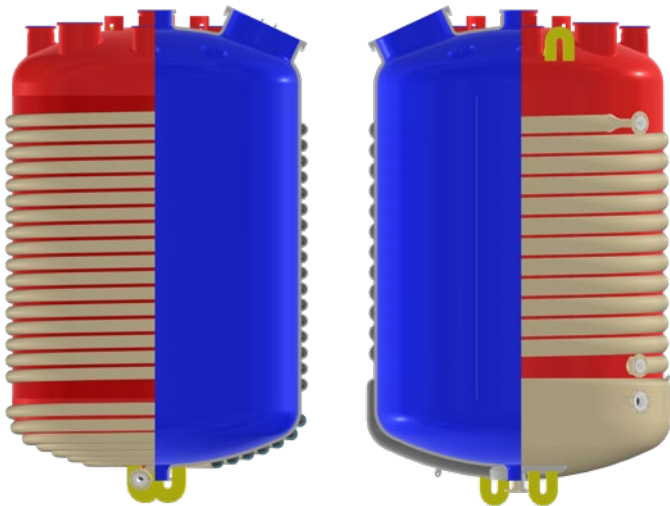
This results in a number of advantages in the **manufacture, quality assurance** and **operation of** reactors with PowerCoils.

Features

- **Larger coverage area** due to wider circle segments, i.e. larger heat transfer surface
- Stress **favorable shape of** a circular segment instead of a semicircle (in conventional half-pipe coils) or ellipse
- The PowerCoil can cover individual areas/zones, for example only the cylindrical part of a reactor or areas thereof, or the entire reactor. Several **tempering zones** or a **multi-path capability** can thus be realized on one reactor.

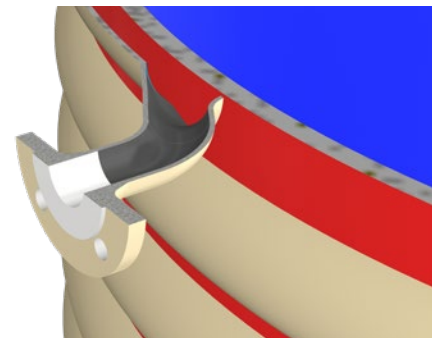
Advantages compared to conventional half-pipe coils

- **Reduced operating risk** due to significantly shorter weld lengths
- **Larger heat transfer surface** compared to conventional half-pipe coils (depending on dimension up to 13% compared to competitors' half-pipe coils)
- **Lower pressure loss** due to the shorter length of the PowerCoil of approx. 20 % compared to a classic half-pipe coil
- Significantly **better weld seam quality** as a result of better accessibility during welding
- **Smaller outer diameter of** the vessel reduces costs for insulation and cladding while maintaining the same insulating effect
- Alternative: Larger insulation thickness possible with unchanged container outer diameter
- **Lower temperature difference** between inlet and outlet at the PowerCoil and thus better heat transfer and more effective heat transfer over the entire length of the PowerCoil
- **Favorable flow inlet and outlet** (see Fig. 3)
- PowerCoils in the cylindrical area of the vessel can be combined with heating of the lower bottom by means of a double jacket or by means of half-pipe coils.

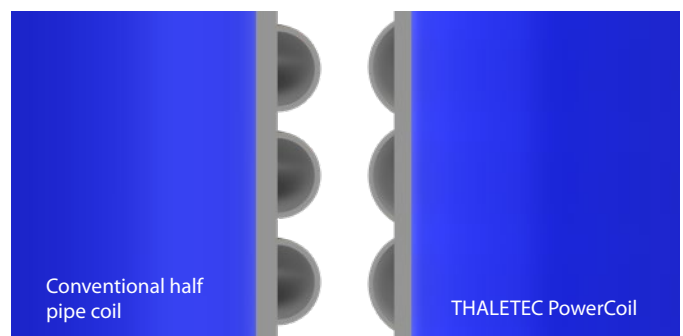


⤴ 01 Glass-lined BE6300 reactor with conventional half-pipe coils (left) and THALETEC PowerCoil in the cylindrical section of the reactor body (right)

⤴ 02 Detail of the vessel wall of a vessel with conventional half-pipe coil (left) and THALETEC PowerCoil (right)



⤴ 03 Streamlined inlet on the PowerCoil



THALETEC GmbH

Steinbachstraße 3
D - 06502 Thale

☎ + 49 (0) 3947 778-0
☎ + 49 (0) 3947 778-130

Hotline:

☎ + 49 (0) 3947 778-111
@ service@thaletec.com
🌐 www.thaletec.com

