Test Facility for Thermal Energy Storage in Molten Salt (TESIS)

Molten Salt Technology for power plants and industrial processes to increase the efficiency

TESIS:com
Component Test Section

Aims of the test section include:
- Test and qualification of molten salt components for research and industry (e.g. valves, receiver tubes, measurement & control)
- Examination of operational molten salt aspects (e.g. freezing events)

Operating parameters are:
- Temperatures from 150 °C to 560 °C with nitrate/nitrite salt mixtures
- max. thermal gradient 50 K/s
- max. mass flow of 8 kg/s
- max. heating power 420 kW
- max. cooling power 420 kW

TESIS:storage
Storage Test Section

Aims of the storage test section include:
- Demonstration of single-tank thermocline concept with filler for thermal energy storage
- Research on heat and mass transfer, thermomechanics, material compatibility, operational aspects, scaling issues and system integration

Operating parameters are:
- Temperatures from 150 °C to 560 °C with nitrate/nitrite salt mixture
- Storage capacity (ΔT=250 K): 200 kWh/m³ with 20 m³ and 4 kg/s