

ALD Vacuum Technologies

High Tech is our Business

ModulTherm

ECOlogical and ECOnomical heat treatment



**VACUUM HEAT TREATMENT SYSTEM
WITH HIGH PRESSURE GAS QUENCHING,
OPTIONAL WITH OIL QUENCHING:
HARDENING | CASE HARDENING | BRAZING
SINTERING | ANNEALING | TEMPERING**



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Ensuring the best possible plant utilization

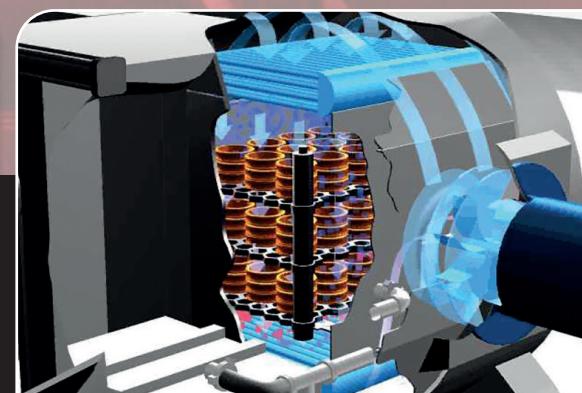
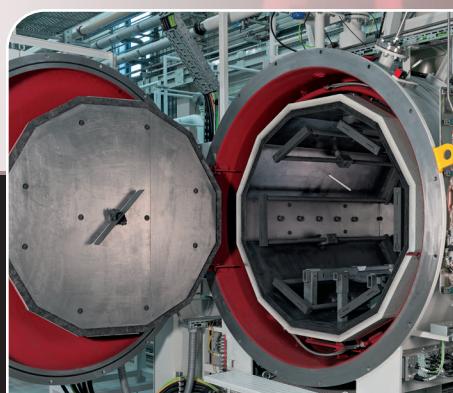
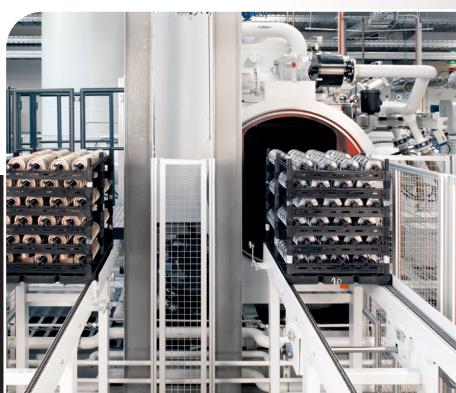
HIGHEST PROCESS FLEXIBILITY, CONSERVING ENERGY & REDUCING COST

- ▶ Thermal and thermochemical heat treatment processes take place in different, separately or simultaneously operating treatment chambers.
- ▶ The transport and quench functions are separated, allowing treatment chambers to be loaded while the quench cycle is in progress. This improves overall efficiency.
- ▶ The shuttle module transports the load within the plant and combines the quench process perfectly. The transport chamber is firmly attached to the shuttle module.
- ▶ A forklift system reliably and efficiently transports cold and hot loads within the heat treatment system.
- ▶ The system can easily be expanded while the plant is operating.
- ▶ All drive systems are mounted outside, ensuring easy maintenance access and limited heat exposure.

Quench Chamber

- ▶ The patented ALD process uses dry gas quenching to harden low-alloyed case-hardening and heat-treatable steels in an eco-friendly way.
- ▶ It ensures that the parts are hardened homogeneously and safely by using quench gases such as nitrogen or helium under high pressure (up to 20 bar) and at a high velocity. This specially developed gas quench technology guarantees minimum dispersion of hardness values and minimum distortion.

MODULTHERM			
CHARGE DIMENSIONS		GROSS CHARGE WEIGHT	
Width	600 mm	Standard	500 kg
Height	750 mm	Optional	1000 kg
Length	1000 mm	Quenching pressure max. 20 bar	



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