Central cooling system

Thermal management for machine tools: combined active and passive cooling

Description

Energy-efficient and high-precision cooling for drives: HYDAC FWCS

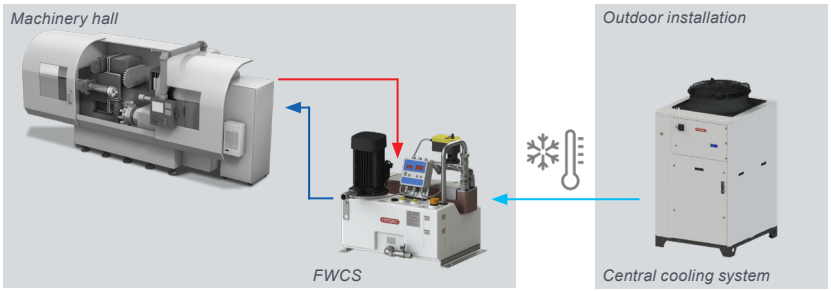
HYDAC fluid-water cooling systems enable the energy-efficient use of existing hall infrastructure to cool plants and machinery. This cooling system is the solution of choice where plants have access to cold water or coolant. This is because it combines the possibility of cooling beneath the ambient temperature with very low heat dissipation to the direct surroundings.

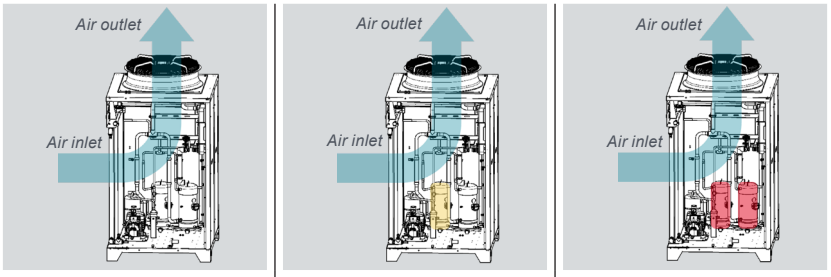
Application

Energy-efficient cold water supply: HYDAC central cooling system

HYDAC central cooling systems are set up out outside of the machinery hall and supply the liquid cooling systems installed within the systems with the required coolant.

This hybrid cooling system is particularly energy-efficient: In low ambient temperatures, the central cooling system switches automatically to passive mode; the coolant is only cooled down again using cool outside air. If temperatures rise over the course of the day, active mode ensures the right coolant temperature.





Passive mode
At ΔT > 10 C between ambient temperature and flow to cooling system
→ Coolant cooled again with integrated air cooler

Hybrid mode
At ΔT > 2 C between ambient temperature and flow to cooling system
→ A cold circuit compressor is activated in addition to the air cooler

Passive mode
At ΔT < 2 C between ambient temperature and flow to cooling system
→ Two cold circuit compressors are activated in addition to the air cooler

Produktvorteile

Cooling capacity up to 65 kW

Ultra energy-efficient thanks to hybrid function

Smaller footprint

Outdoor installation:
- No heat input into the machine building
- Low-noise

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