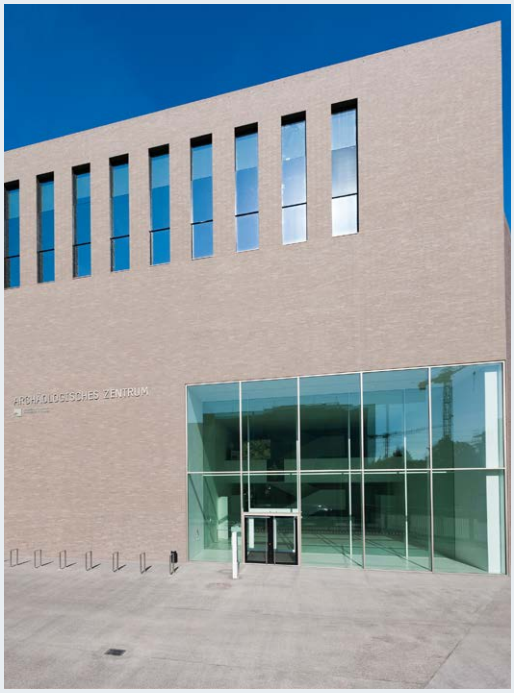
Case Study

weisstechnik implements compact, decentralised air conditioning for sensitive exhibits

WHY	HOW	WHAT
Quiet and reliable air conditioning for exhibits	Decentralised climate solution for changing requirements	21 air-conditioning units from the Vindur® Compact series with adaptable air flow

WHY – The challenge.

The Archaeological Centre of the Staatliche Museen zu Berlin is located next to the Berlin Museumsinsel. Here, scientists and conservators from five museums work in conservation workshops, workrooms and depots. A quiet, efficient and extremely reliable air conditioning solution is to provide the optimum climate for the exhibits and pleasant working conditions for the employees. Since all air-conditioned rooms are occupied by people, the equipment used must also meet the requirements of VDI 6022.



Source: Staatliche Museen zu Berlin / Thomas Meyer

HOW – The idea.

In view of the structural conditions and the different requirements of the exhibits, the air-conditioning technology was designed to be decentralised. This makes it possible to air condition each room as needed and to react quickly to changing requirements when the objects being worked on change. The tried-and-trusted compact air-conditioning units from the Vindur Compact series from **weiss**technik were chosen for the implementation.

The integration of a total of 21 climate chambers into the existing building required good planning and flexibly adaptable air routing.

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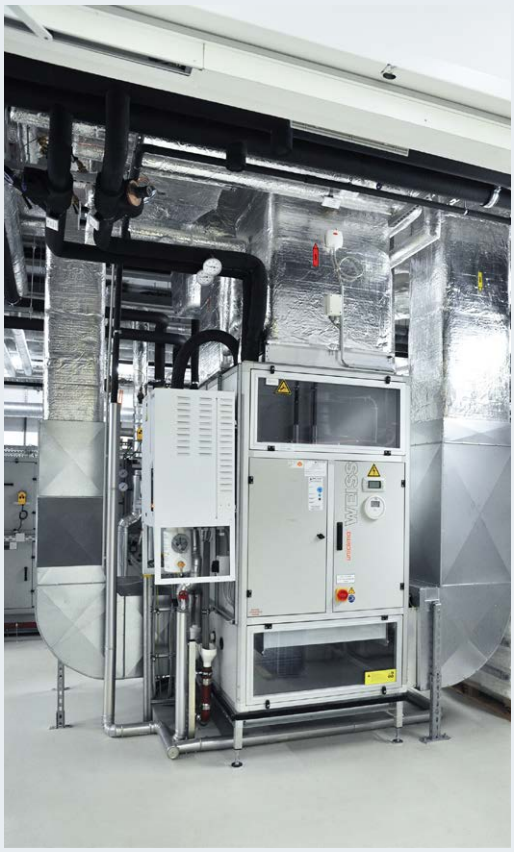
WHAT – The solution.

Thanks to the decentralised installation of the compact climate chambers, small rooms, corners and niches could be optimally used and thus short air paths realised. The variable connection via nozzles, flaps or free intake with honeycomb grille ensured maximum flexibility in the installation. This way, the chambers could be optimally integrated into the building concept and the confined space conditions. The compact air-conditioning units used achieve temperatures of 15 to 24 °C and have air capacities of 900 to 7,000 m³/h. A particular challenge was to observe the tight tolerances for the specified temperature and humidity values. For this purpose, the control technology of the air-conditioning units was modified so that a maximum temperature deviation of only +/- 1 K and a maximum relative humidity deviation of +/- 5% is achieved.



Product chosen: air-conditioning unit Vindur® Compact

In order to keep noise emissions as low as possible, the climate chambers used were deliberately dimensioned larger than required. As a result, it is sufficient for them to run throttled at 50 – 60% of their capacity and for the larger and also higher-quality motors to operate at lower speeds with less pressure. This reduces noise emissions and enables pleasant, concentrated work under optimum air conditions. In addition, the climate chambers work particularly efficiently due to the throttled operation.

Services at a glance

- Air conditioning consultation
- Construction of the flexible conditioning technology
- Matching of the technology to the variable climate requirements of the exhibits

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