

Case Study

A cleanroom in record time: LPW Reinigungssysteme.

WHY

Fire in ISO 7 cleanroom
Loss of cleaning services

HOW

New construction of a 41 square metre cleanroom.
Parallel use as a show room. Completion within 18 weeks

WHAT

From planning to technical qualification
110 square metre clean room ceiling below
wooden beam ceiling

WHY | The challenge.

LPW Reinigungssysteme GmbH is a leading supplier of high quality systems and process technologies for industrial component cleaning with aqueous media. After the fire in the neighbouring water treatment plant, the existing clean room could no longer be used.

In order to be able to resume cleaning services as soon as possible, the traces of fire in the existing building must be removed and a new cleanroom with laboratory area installed. This will also be used as a show room, which can be viewed via the neighbouring meeting room.

HOW | The idea.

After dismantling and cleaning, a new cleanroom including wall and ceiling will be built. The existing wooden beam ceiling is suspended after static testing. The suspension grid must be matched to the pattern of the wooden beams.

A basic temperature of 21 °C, a temperature constancy of ± 2.0 K and a relative humidity of 40-60 % r.h. are required in the cleanroom. No special humidity constancy is required. These requirements can be met with a tried and tested standard air conditioning unit. In consideration of the tight timeframe, it is also important to ensure that all other components are immediately available and that no special components are required.

In order to use the cleanroom as a show room, a large window will be installed in the cleanroom so that visitors can watch the work in the cleanroom without having to go inside. The laboratory is connected to the cleanroom. For space reasons, the technical room is located at the other end of the cleanroom complex.



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WHAT | The solution.

Vindur[®] Compact 120 DX air conditioning unit

The experience gained from many successful cleanroom projects means that planning can be carried out quickly and without problems. The readily available cleanroom wall system is used for the construction of walls and ceilings.

A tried-and-tested and available Vindur Compact air-conditioning unit with outdoor unit/condenser is selected as the centre of the air-conditioning technology. All other components, such as airlocks and LED lighting, are also selected to be available within the tight timeframe.

It will take just 18 weeks from the award of the contract until the ISO 7 cleanroom is fully operational and approved. The construction work will take just five weeks.

The compact climate chamber will be installed in the technology room. It guarantees a basic temperature of 21 °C with a constancy of ± 2.0 K. The relative humidity in the cleanroom is 40-60 % r.h., the sound pressure level in the technology room must not exceed 70 dB(A).

The air is filtered at various stages by F7 filters in the outdoor air, F9 filters inside the unit and H14 filters at the end.



Turnkey services:

- Wall
- Ceiling
- Climate technology
- Control
- Ventilation technology
- Monitoring system
- Technical qualification test



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