



Seit 1877

Kiefer

Luft- und Klimatechnik

Neue Wege mit Luft

Concrete core cooling with air CONCRETCOOL

ARCUS Sportklinik, Pforzheim



The architecture of the ARCUS Sportklinik creates an environment in which efficiency and individual needs are in harmony

The ARCUS Sportklinik is a specialist clinic for orthopaedics, accident surgery, sports medicine and cardiology, which unites ultra-modern technology and strict demands for optimum quality in the care of patients. The new building with a total area of 12,000 m² is defined by a conservative rendered facade with a composite thermal insulation system with, in some areas, a glazed-panel curtain-wall in front of it. The building is composed of two independent blocks with a glazed entrance hall between them arranged so that the entrance is oriented towards the direction of arrival. The feel-good idea is emphasised by individual lighting and the use of natural materials in warm colour tones in the practices and patients rooms.

Building:	ARCUS Sportklinik, Pforzheim
Architects:	Architektengruppe Eggert + Partner Stuttgart
Proprietor:	R u. B Klinik Betriebs GmbH Pforzheim
Consultant, building services:	IGP, Pforzheim
General contractor:	Consortium: Wolff & Müller, Karlsruhe Züblin AG, Karlsruhe
Scope:	1,500 m² conditioned area
Cooling system:	Concrete core cooling with supply air CONCRETCOOL Per fitout module, one linear diffuser Air flow path invisibly integrated into the ceilings.
Air flow rate:	6 m³/hm²





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Patient's room with 4-star standard

Function CONCRETCOOL

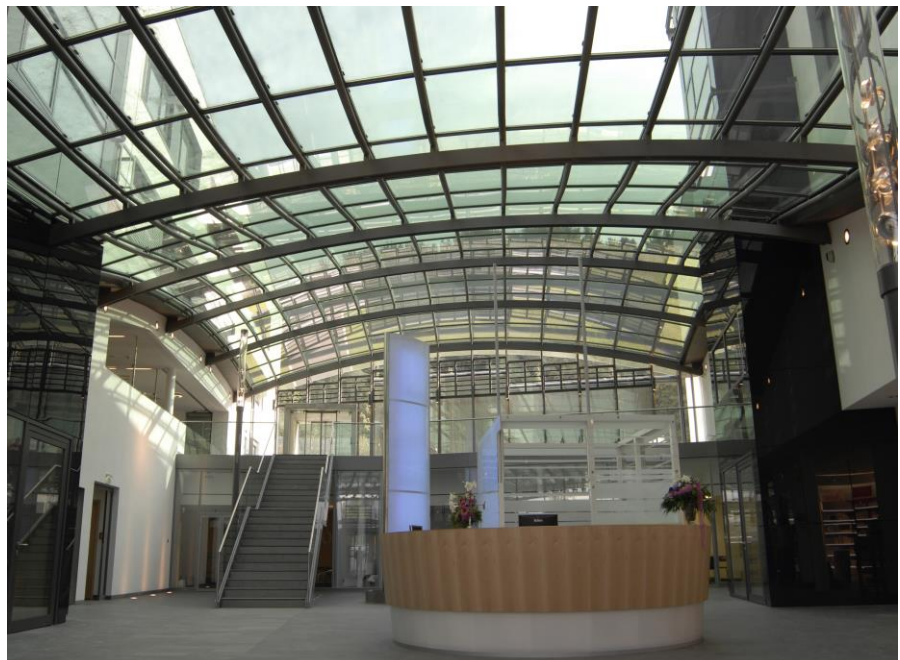
In contrast to conventional systems, in which supply air is fed directly into the working areas, the air first flows through aluminium cooling tubes cast into the ceilings. Thereby the supply air cools the ceiling. At the same time the gain of heat is used to warm up the supply air.

System advantages

- Optimum thermal comfort
- Additional ceiling cooling with water is not required
- Free cooling provides energy savings of up to 50%
- Full flexibility due to modular positioning of cooling tubes
- Cooling with outdoor air – no air circulation required
- Construction costs reduced due to low floor height

Air-conditioning equipment

The ventilation system comprises 20 local air-conditioning or ventilation installations with outdoor air and exhaust air, 6 operating theatres with laminar-flow filter ceilings, 42 residential patients' rooms with concrete core cooling by means of cast-in supply air tubes, 2 screw-type water chillers with a total capacity of 950 kW, and four 1200 kW recooling plants.



Entrance hall of the ARCUS Sportklinik

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