

WHY

High heat load [12 x 900 kW]
High-efficient cooling [PUE 1.3 max.]

HOW

Air-conditioning by cold and hot aisle,
supply via raised floor

WHAT

108 **weisstechnik** circulating
air-conditioning cabinets DeltaClima[®],
modified according to VDI 6022

WHY - The Challenge.

The Telekom subsidiary T-Systems expands its data center in Biere near Magdeburg. With the "Dynamic Data Center Biere" Germany's largest cloud data center for up to 100,000 physical servers on 9,000 m² IT space is being built.

Highest reliability and particularly high energy efficiency [PUE 1.3] are required from the air conditioning technology. A heat load of 900 kW each in 12 IT rooms is to be cooled down.

The technical data in the specifications include, among other things, the execution of the air conditioning in accordance with VDI 6022 and the integration of the control system provided by the customer. The logistics of the construction project with strict time planning are also particularly sophisticated.

HOW - The Idea.

For cooling of the thermally high-loaded IT surfaces proven circulating air-conditioning cabinets DeltaClima[®] have been chosen and arranged directly near the server rooms.

Air-conditioning is effected space-based via cold and hot aisles; the cold air is blown into the cold aisle via a raised floor.

Circulating air-conditioning cabinets DeltaClima[®] are working with the high-efficiency underfloor fan technology invented by **weisstechnik**. The arrangement of the fan enables large filter and heat exchange surfaces and is therefore the basis for the high energy efficiency.

The fins of the heat exchangers are specially shaped and the fan position is optimized to minimize turbulence and pressure losses.



weisstechnik ensures high-efficient cooling
in Germany's largest Cloud Data Center

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WHAT - The Solution.

The circulating air-conditioning cabinets DeltaClima[®] have been modified for the functional and constructive requirements of T-Systems and fulfill the specifications of VDI 6022 for staffed rooms.

The interface management and the integration of the on-site control system could be realized without any problems.

Thanks to the efficient DeltaClima series, the claimed PUE value of 1.3 could be achieved. So the Biere data center is one of the most efficient worldwide.

Chosen Product: DeltaClima[®] 400 CW

108 DeltaClima Units [9 units per service corridor] in total have been installed in the server rooms. The logistic requirements were solved by renting a warehouse near Magdeburg. From there, the required climate cabinets were delivered to the construction site just in time.

Implemented Modifications:

Adaptation of CRAC units to VDI 6022 [hygiene requirements for staffed rooms]:

- Inspection windows for control of filter and heat exchanger
- Integration of filters F7 including pressing device
- Internal illumination
- Relocation of the inspection opening to the rear side

