

# The new flexibility of CoolW@ll<sup>®</sup> – 3 systems in one wall.





# Idea.

## A partition wall serving as heat exchanger

If you wish to separate the supply infrastructure from the IT, you will need partition walls. If you wish to cool, you will need cooling surfaces. This realisation led to the idea of constructing walls serving as cooling surfaces.

### The perfect climate for your data centre

CoolW@ll® definitely is an innovation in the air-conditioning of data centres. The basic idea of a surface cooling system is to use large water-cooled heat exchanger modules which at the same time serve as the partition wall between the supply infrastructure and the data centre. This frees space inside the data centre, since the air-conditioning system is integrated into the wall. This allows air-conditioning without any type of recirculating air system.

### A tried and proven approach

CoolW@ll® functions much like an air-conditioning cabinet: with fans for air supply and a heat transfer medium for air cooling. While any type of air-conditioning unit can utilize only the heat transfer surface available inside the unit, CoolW@ll® utilizes almost the entire height and width of the data centre for air cooling. The housing around the cold aisle is turned into an air-conditioning unit.

- **Substantially increased cooling output and energy efficiency**
- **Space gained in the server room**
- **Reduced investment costs**

### Sufficient output in any situation

The substantially larger cooling surface and the increased maximum air flow rate result in an increase in cooling output of at least 40 % over precision air-conditioning. This allows adapting the cooling output of CoolW@ll® flexibly to increasing demands in the data centre - without any additional investment.





## Technical features.

### Large surface and low pressure loss.

The CoolW@ll® is comprised of two elements:

1. the cool wall fitted with high performance heat transfer modules and
2. the EC fans for air supply.

The effect:

The unique arrangement of the individual elements ensures homogeneous inflow and outflow of the air, and maximum exploitation of cooling surfaces at lowest pressure loss.



Any turbulence, acceleration or redirection of the air flow results in performance losses, which need to be compensated for by additional fan output. Compared to conventional recirculating air conditioning units CoolW@ll® results in a substantially lower throttling of the air flow.

Therefore, a CoolW@ll® configuration may reduce the energy consumption by more than 50 % when compared to a conventional system with the same usable cooling output. And most important: The supply infrastructure and the IT systems remain clearly separated, resulting in optimum protection of the data centre.

## Efficiency.

### Higher output at lower energy consumption.

CoolW@ll® results in long-term, sustainable reduction of energy and operating costs:

- most energy efficient chilled-water cooled air-conditioning system for data centres
- high usable cooling output at low foot print very large heat exchanger surfaces for optimum use of free coolers

- efficient partial-load operation (running redundancy)
- maximum security of operation and investment

Save energy!

About one third of the energy consumed by a data centre is used for cooling.

Due to the large usable surface of the heat exchangers in combination with a fixed required cooling output allows operation at higher water inlet temperatures.

If a free cooler is integrated into the chilled-water circuit, the CoolW@ll® facilitates

substantially extended use of indirect free cooling. This reduces the need for costly compressor-based refrigeration.

The higher the required cooling output, the higher the energy savings in actual operation will be. On top, the cost of the investment will be lower than for installation of new precision air-conditioning units.

# Flexibility.

## Modular room architecture at minimum space requirement.

In addition to the classic CoolW@ll® with double floor, new versions extend the range of feasible applications.

Room designs with double floor and hot aisle shut-out can be achieved.

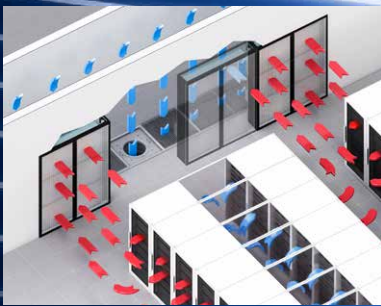
Extremely flexible and scalable. Tailored to your needs.

Key features of CoolW@ll®:

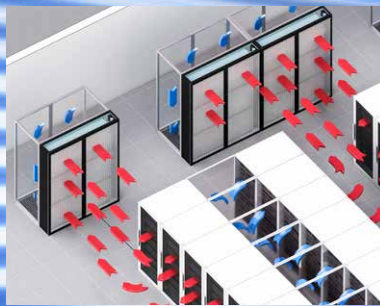
- System design based on modules perfectly adapted to another
- Enhanced room design flexibility, even without double floor

- Streamlined planning based on modular design
- Fast and simple installation
- Simple transport to the installation site

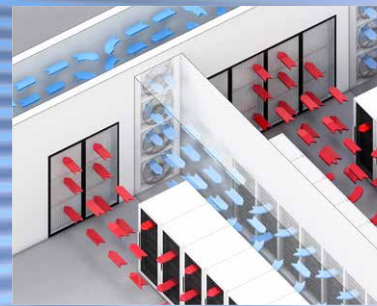
Cold aisle with double floor



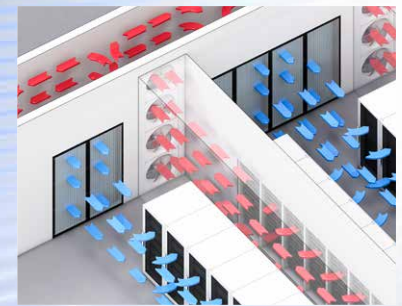
Cold aisle with double floor



Cold aisle without double floor



Hot aisle without double floor

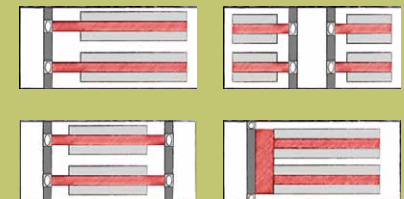
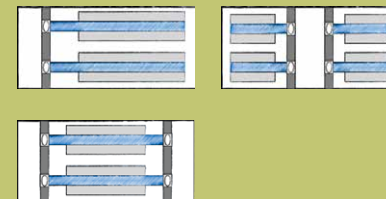
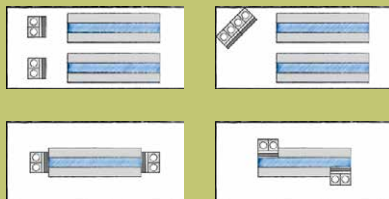
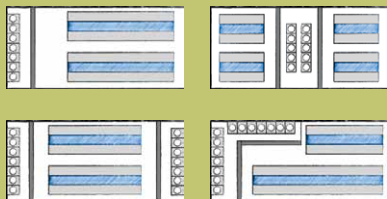


CoolW@ll® can be set up in any variation and dimension, on one end, on both ends, at the centre of the room, around a corner. Thus it can be adapted most flexibly to the room layout and may be used in both cold and hot aisle applications.

CoolW@ll® modular with stand-alone housing as a room in room design is completely independent of the room layout. Transparent access panels allow visual inspection.

- Extremely easy to maintain as a walk-in system with direct access and obstruction-free interior
- Uniquely scalable due to modular design

- Hygiene check-ups, cleaning and disinfection can be carried out without disassembly



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