

# Uniflair Access Floor for data centers

One solution, many benefits

Schneider Uniflair  
Access Floor  
Electric MADE IN ITALY

Schneider  
Electric™



# One solution, many benefits

## Server rooms

High vertical loads support, air distribution accessories, easy access and maintenance of underfloor equipment, rack scalability management.

## Floor interference areas

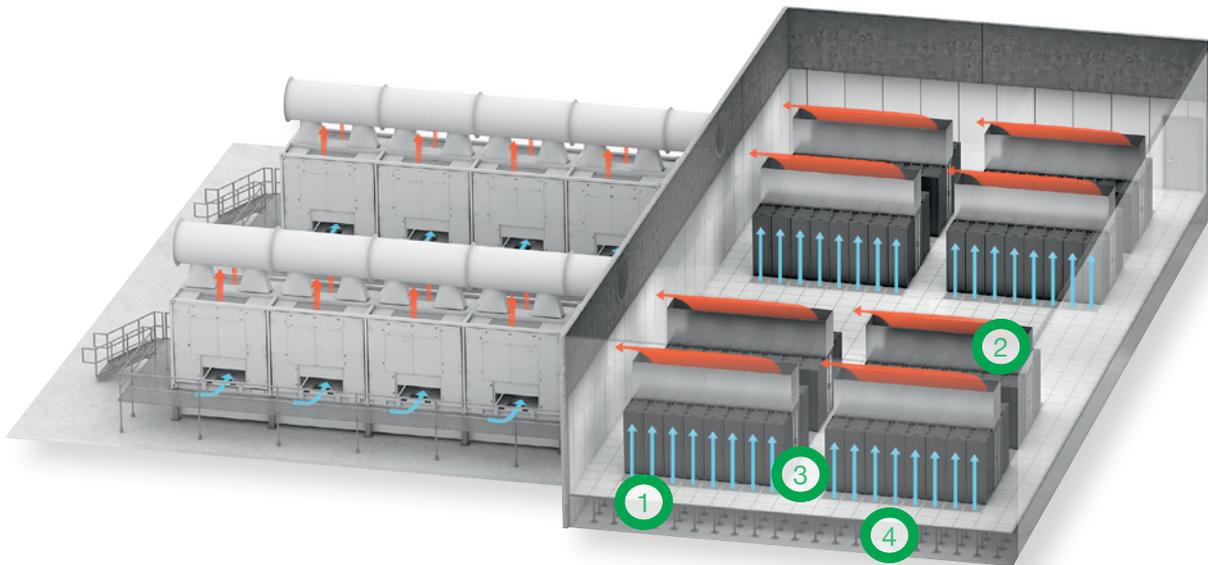
High vertical loads support, flexible modular structure, no underfloor installations interference.

## UPS/batteries room

High vertical and horizontal loads support, easy access and maintenance of underfloor equipment.

## Offices and control rooms

Flexible modules for special wiring, underfloor services, and installation of electrical devices for data access and transmission.



①

#### Panels

Various solutions for the core and for back and upper finishing

②

#### Suction tools

Additional tools for hot air suction improvement

③

#### Steel perforated panels

In steel, of the same dimensions as a panel, the upper finishing may be the same as the other panels

④

#### Support structure

Made completely from steel, with heights ranging from 30 cm to more than 1 m

## The Access Floor Solution



### Panels

The panel, 60 x 60 cm, is made from a wooden chipboard core (720 kg/m<sup>3</sup>) covered on the lower face with an aluminum sheet (0.05 mm thick) and on the upper face with a high-pressure plastic laminate finishing.

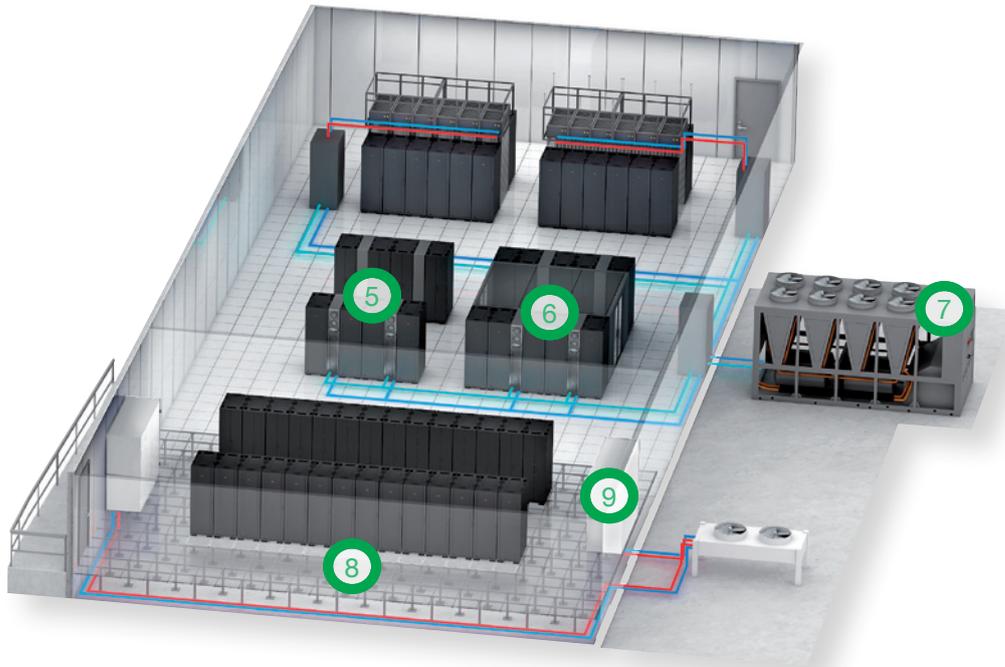
The solution can be customized using different materials according to specific needs, e.g., calcium sulphate core (1,500 kg/m<sup>3</sup>), galvanized steel backing (0.5 mm thick), vinyl/rubber finishing.



### Support structure

The galvanized steel supports, available in different heights from 30 cm to more than 150 cm, consist of a circular base welded to a tube and coupled with a head connected to a threaded crossbar. A nut allows for easy regulation of the height. The steel frames are secured above the supports; they are the support grid for the panels and they increase the mechanical resistance and the total stability of the floor.

The support heads and the steel frames are designed to be mechanically fastened to each other anywhere along the perimeter by means of hammer-head screws. This allows for the positioning of supports at distances higher than 60 cm and provides more freedom in installing any data center system in the underfloor plenum. Special sound-proofing gaskets on the stringers provide major adhesion of the panels to the structure.



- 5**

**InRow cooling systems (alternate and at the back)**  
Units for cooling the racks placed inside the room
- 6**

**Containment**  
Allows complete separation of hot and cold air flows
- 7**

**Chilled water production system**  
Units for the production of chilled water for the InRow conditioning units
- 8**

**Linear grills**  
In aluminium, available for air transition, they are inserted inside a panel.
- 9**

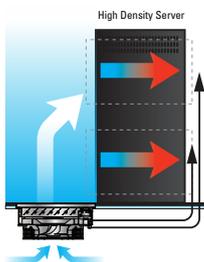
**Room cooling system**  
Perimeter units for the distribution of refrigerated air underneath the floor

## Accessories



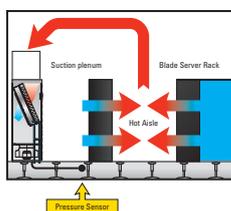
### Grills and steel perforated panel

The grills and the steel perforated panel are deployed when the underfloor plenum is used for air distribution. The grills are made from a set of fins connected to each other, in anodized aluminum or in steel; various widths are available (95, 145, 195, 295, and 600 mm) and they integrate completely into the panel module. The steel perforated panel is made of a flat steel sheet fastened to a metal gridded frame and its upper side is completely perforated. Grills and panels are both equipped with dedicated air-flow regulation devices.



### Active Floor

Active Floor™ is a flexible and modular system for cooling data centers with medium and high-density loads. Integrated within an access floor in front of the suction section of the rack, it allows the cold air produced by the Close Control units to be directly channelled to the source of the thermal load thanks to the advanced adjustment of the air flow direction. The Active Floor guarantees correct and efficient operation of the rack units at the nominal design conditions.



### Automatic Floor Pressurization System

AFPS is a control module that maintains a constant nominal pressure underneath the floor (from 20 to 80 Pa) and manages the fan speed in all operating conditions (even during maintenance) and for the entire lifetime of the room. AFPS optimizes system efficiency in the event of an increase in the room's thermal load.

# Why use Uniflair Access Floor in data centers?

Uniflair™ Access Floor represents a reliable and efficient choice because it significantly reduces management and maintenance costs by optimizing the connection of all infrastructure over time: servers, racks, air conditioning systems, and safety and monitoring solutions.

## Benefits

### Adaptability to all cooling solutions

Uniflair Access Floor provides underfloor space which is ideal to accommodate a range of cooling solutions, from direct air distribution to air or chilled water cables.

### High mechanical performances

The special underfloor structure, combined with the choice of panel, allows for high performance systems that meet the strictest mechanical specifications.

### Air distribution optimization

The modular access floor structure and space underneath the panels provide the support necessary to assemble completely integrated modular equipment for air flow or pressure control. Equipment may be installed — without layout restrictions — on the designed strategic points.

### Flexibility over time

In the underfloor space, all systems necessary for the room operation (from the connection to an energy supply network to a direct air distribution system to possible chilled water cables) may be easily adapted and enhanced according to future exigencies which may not be estimated at the data center startup.

### Security and reliability

The underfloor plenum allows for the distribution of chilled water flows but keeps them separate from cables and sensitive devices, minimizing the risk of damage in the event of leakages, condensation, breakdowns, or malfunctions.

### Efficient systems arrangement

The minimal footprint of a 60 cm grid of vertical supports allows full flexibility and is the ideal solution to arrange all operational systems, enabling layout variation over time.

### Easy connection to technological and functional networks

The availability of a wide range of electrical devices, together with maximum flexibility and adaptability of the system, allows complete connection to, and control of, all systems and data distribution networks.

### Minimal maintenance costs

Operating costs are minimized: access to the systems, in the case of breakdowns or ordinary maintenance, is easy and direct. The operator can safely enter the underfloor plenum at almost every point in the room without the use of a ladder or other devices.

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