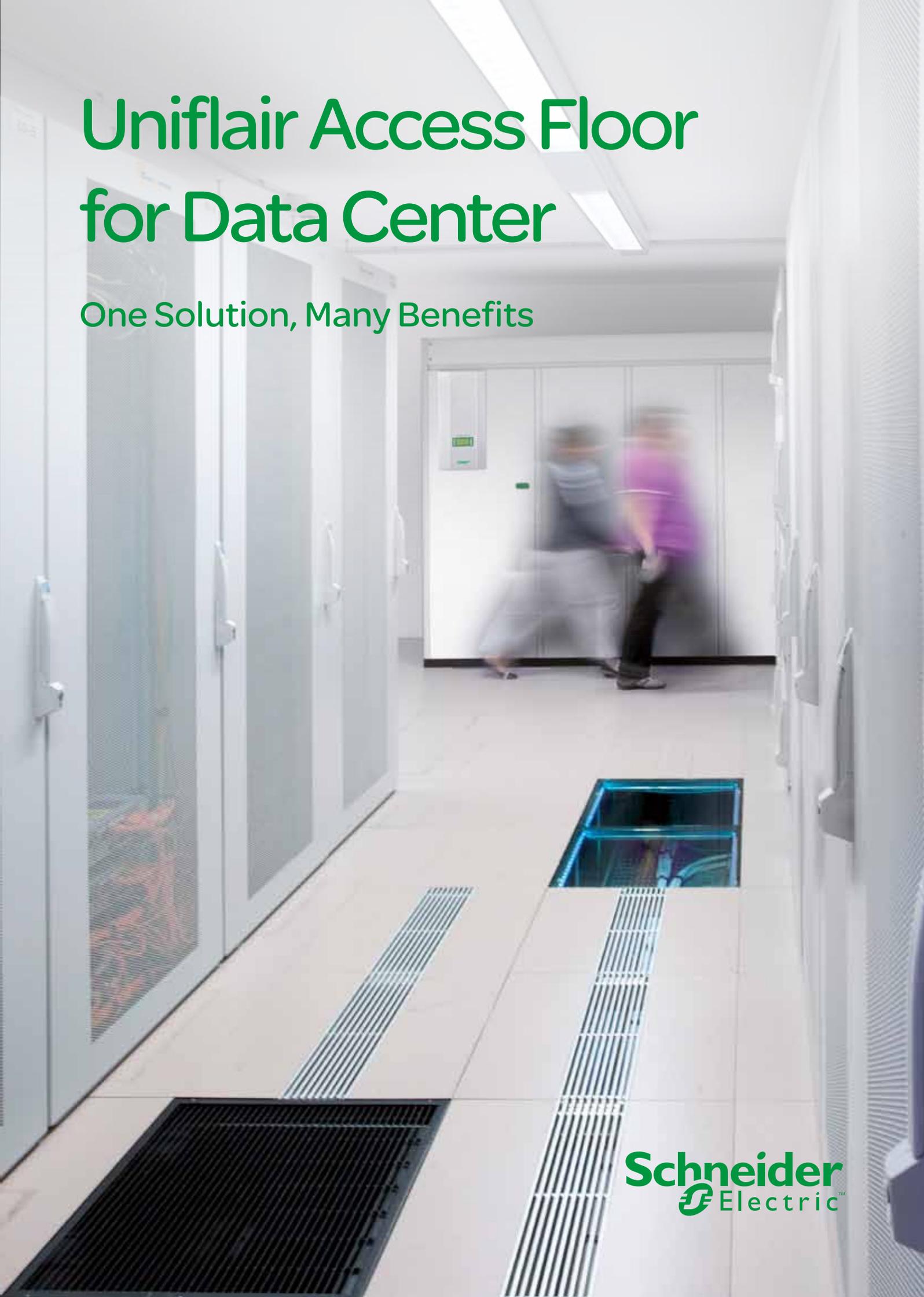


# Uniflair Access Floor for Data Center

One Solution, Many Benefits



**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

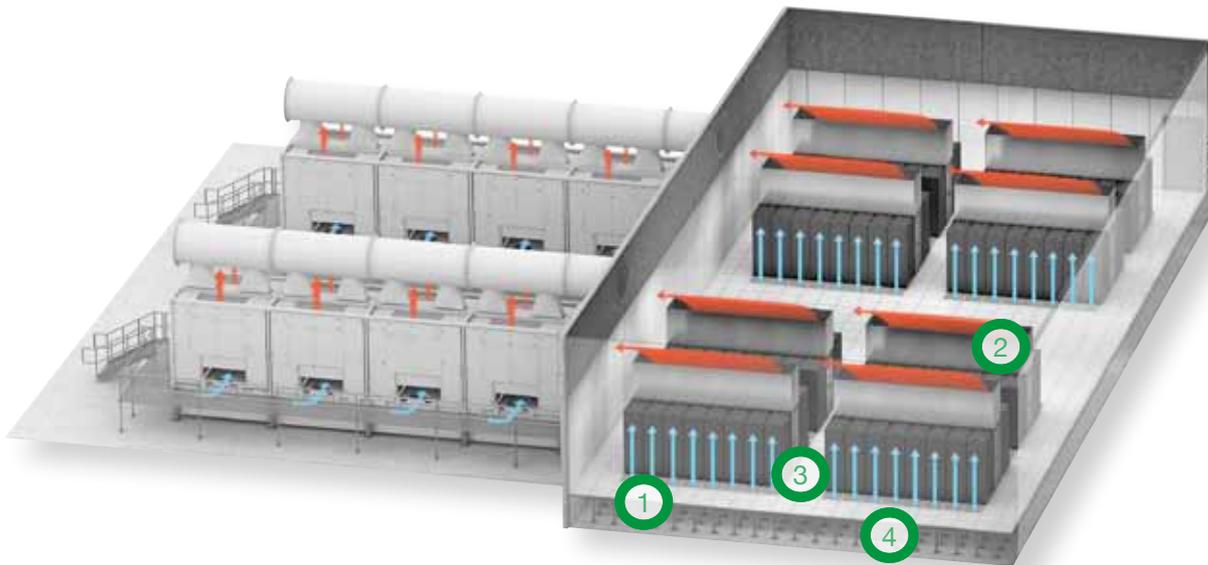
High vertical loads support, Flexible modular structure,  
No underfloor installations interference.

## 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 and underfloor services  
and Installation of electrical devices for data access and  
transmission.



1

#### Panels

Various solutions for the core and for the 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, characterized by a range of heights from 30 cm up to 150 cm and above.

## The Access Floor Solution



### Panels

The panel, 60x60 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.

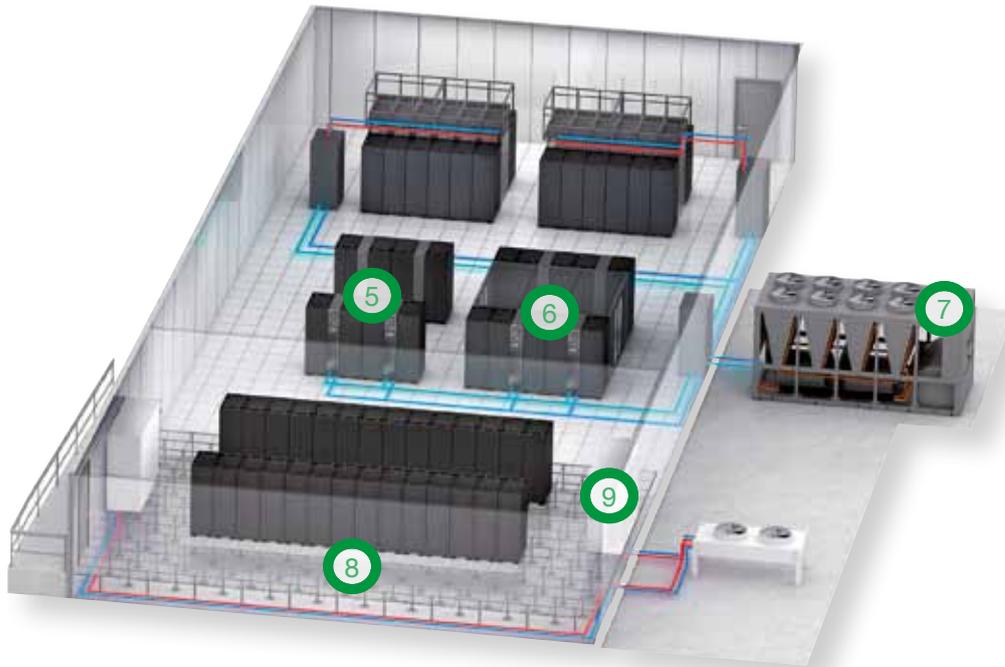
The solution can be customized using different materials according to specific needs. For example, calcium sulphate core (1500 kg/m<sup>3</sup>), galvanized steel backing (0.5 mm thick), vinyl/rubber finishing.

### Support structure

The galvanized steel supports, available in different heights from 30 cm up to 150 cm and beyond, consist of a circular basis welded to a tube and coupled with a head connected to a threaded crossbar. A nut allows to easily regulate 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 supports 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 enables to position the supports at higher distances than 60 cm and to have 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**

**In row cooling systems (alternate and at the back)**  
Units for cooling the Racks placed inside the room.
- 6**

**Containment**  
A solution allowing to completely separate hot and cold air flows.
- 7**

**Chilled water production system**  
Units for the production of chilled water to the in row conditioning units.
- 8**

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

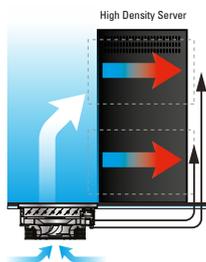
**In room cooling system**  
Perimeter units for the distribution of refrigerated air underneath the floor.

## Accessories



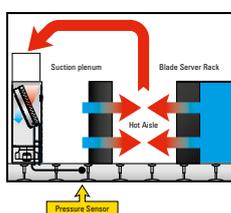
### Grills and steel perforated panel

The grills and the steel perforated panel are normally used when the underfloor plenum is used for air distribution. The grills are made from a set of fins connected to each other, in anodized aluminium 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 grided 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.



### AFPS

AFPS is a control module that maintains a constant nominal pressure underneath the floor (from 20 up 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 the system efficiency in the event of an increase of the room thermal load.

# Why using Uniflair Access Floor in Data Centers?

Uniflair Access Floor represents a reliable and efficient choice because it guarantees complete and optimum connection of all infrastructures over time: servers, racks, air conditioning systems, safety and monitoring solutions. This significantly reduces management and maintenance costs.

## Benefits

### Adaptability to all cooling solutions

Underfloor space 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 panels allows to have high performance systems meeting the strictest mechanical specifications.

### Air distribution optimization

The modular access floor structure and the space underneath the panels provide the support for assembling completely integrated modular equipments for air flow or pressure control. Equipments 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 connection to energy supply network and from 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 to distribute the chilled water flows while keeping them physically separate from cables and sensitive devices, minimizing the risks of damage in the event of leakages or condensation, breakdowns or malfunctions.

### Efficient systems arrangement

The minimal footprint of the structure (the access floor module includes a grid of vertical supports with side of 60cm) 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, allow complete connection and control of all systems and data distribution networks.

### Minimal maintenance costs

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

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