AIRFLOOR™

The Forced Air Radiant
Cooling & Heating System

Introduction to AIRFLOOR™

What is AIRFLOOR™ ?

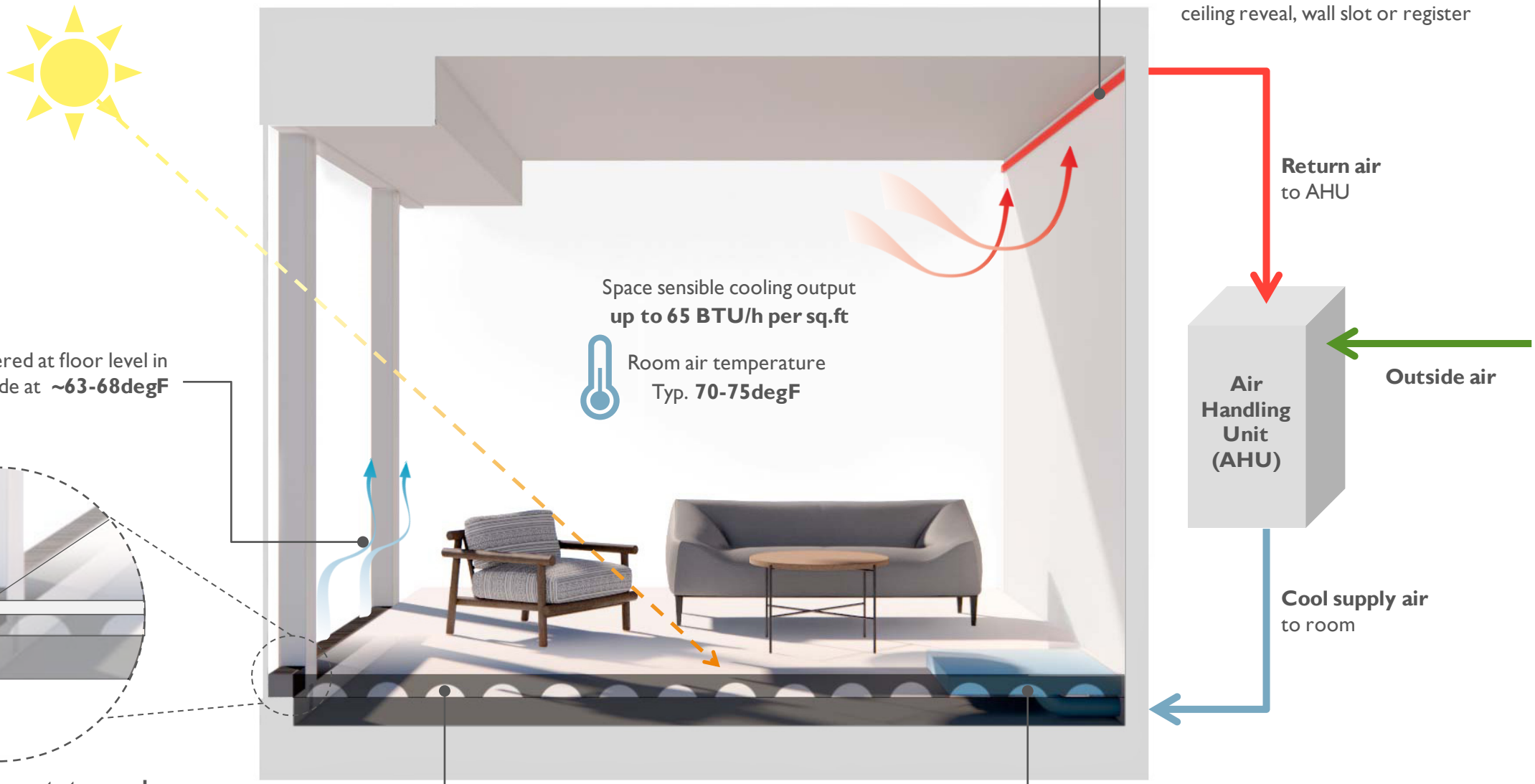
Airfloor™ is an **innovative** alternative HVAC (heating, ventilating and air conditioning) system delivering both **radiant** and **displacement** heating and cooling within an **all-air conditioning** system.

Airfloor™ means:

- **Architectural freedom and flexibility**
- **High ceiling and clear soffits**
- **Open, uncluttered spaces**
- **Reduced energy costs**
- **Superior comfort**
- **Improved Indoor Air Quality**
- **Low noise**
- **No terminal units or hydronic piping in rooms**
- **No overhead ductwork distribution**
- **Quick and simple installation and commissioning**

How Does AIRFLOOR™ Work?

Cooling Mode



Return air removed at high level
Location of air return is flexible and may be via ceiling reveal, wall slot or register

Return air
to AHU

Air Handling Unit (AHU)

Outside air

Cool supply air
to room

Supply air delivered at floor level in **displacement** mode at **~63-68degF**

Airfloor™ void connects to supply grille or slot via boot connection
Airfloor™ forms are 3-3/4” high typically with ~1-2” of topping slab above

Air circulates throughout floor void
Floor surface cools to **~65-70degF** for **radiant cooling effect**

Supply air ducted to “splash box”
Typically **1-2.5 CFM/sq.ft @ 0.5in.wg** at **50-60degF**

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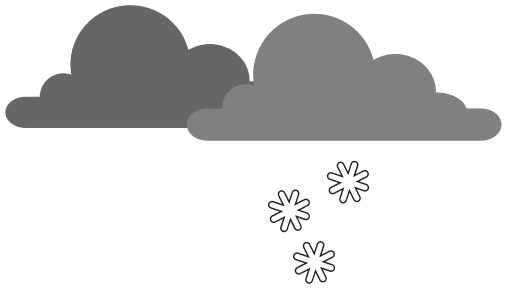
How Does AIRFLOOR™ Work?

Heating Mode



Return air removed at high level
Location of air return is flexible and may be via ceiling reveal, wall slot or register

Return air
to AHU

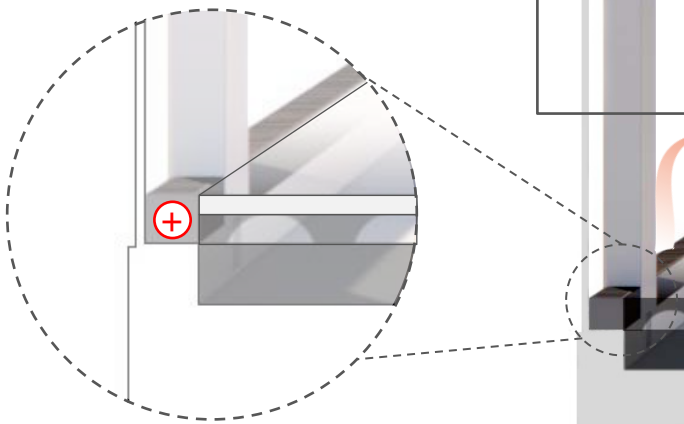
Air Handling Unit (AHU)

Outside air

Space heating output
up to 150 BTU/h per sq.ft

Room air temperature
Typ. **65-72degF**

Supply air delivered at floor level in **displacement** mode at **~68-80degF**



Supplementary heating can be installed at the façade in cold climates via finned tube radiators concealed beneath the supply grille

Warm supply air
to room

Air circulates throughout floor void
Floor surface warms to **~68-75degF** for **radiant heating effect**

Supply air ducted to "splash box"
Typically **1-2.5 CFM/sq.ft @ 0.5in.wg** at **90-125degF**

AIRFLOOR™

Why AIRFLOOR™?

Sustainable

Made with **>65% recycled US steel**

Compatible with **low strength concrete** topping slabs and **cement replacement**

Contributes to **LEED™ Standard** Compliance

Healthy

Improved Indoor Environmental Quality (IEQ) due to displacement air delivery

No **volatile organic compounds (VOCs)**

Contributes to **WELL™ Standard** compliance

Affordable

More **cost effective** than water-based radiant heating and cooling systems

Reduced floor to floor height in multi-story buildings offering savings on construction costs

Low Energy

Reduces energy costs by 15% or more compared to conventional HVAC systems

AIRFLOOR™

Why AIRFLOOR™?

Time saving

Quick and **easy** to **install** and **commission**

No piped service - reduces trades on site

No moving parts - simple to maintain

Comfortable

Improved thermal comfort due to radiant effect

Noiseless and **draftless**

ASHRAE 55 compliant as per **LEED™** requirements

Discreet

Eliminates drop ceilings and **overhead ducts**

Concealed air delivery with multiple detail options

Increased ceiling heights

Strong

Stronger than traditional **raised floor** systems

Tested load capacity >19,000 lbs/sq.ft

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Where can AIRFLOOR™ be used?

Established in 1960s, Airfloor™ has been extensively used throughout the United States by leading international Architects and Engineers in

- **New-build and renovation projects**
- **All major construction sectors including commercial, residential, educational, mixed-use, aviation and ecclesiastical**
- **All main climate zones**

Airfloor™ is compatible with standard air handling equipment and air supply grilles or registers available on the market.
No special licenses or training are needed for system installers.
The **Airfloor™ system** can be easily installed in virtually **any construction project**.

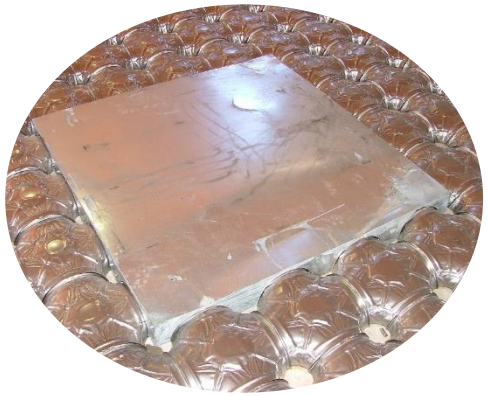
Museum of Contemporary Art (Cleveland, OH)

150 N. Riverside (Chicago, IL)

Fortaleza Hall (Racine, WI)

What makes up the AIRFLOOR™ System?

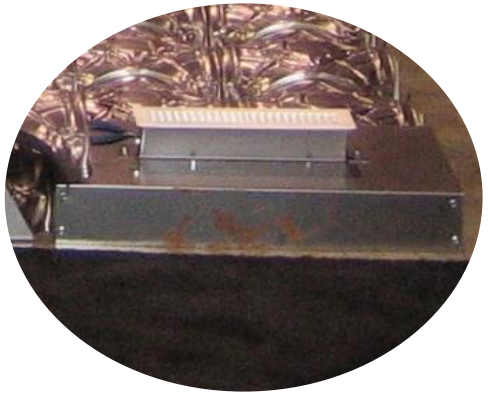
Airfloor™ Form & Clip
Pressed steel void former interlocked to create a slim floor void for air distribution



Splash Box
distribution box for duct connection to floor void

Form Extension
Spigots for connecting floor void to supply grilles

Form Closer & Divider
Closer to seal off void formers for concrete pour and divider to direct airflow within Airfloor™ void



Floor Connector
metal plenum box connecting floor void to supply grilles

The Airfloor™ system comprises a number of components which are field-assembled to create the system. Other elements required to create a fully functional HVAC system which are not supplied by Airfloor™ include centralized air handling equipment and ductwork; air grilles & registers; thermostats, temperature sensors and control wiring; topping slab and floor finishes.

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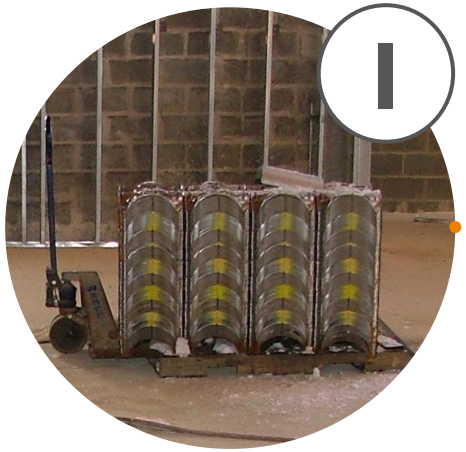
How Is AIRFLOOR™ Installed?



Flat packed **components delivered** to site

Airfloor™ **forms laid down**

1 person can install 1000sq.ft a day

Airfloor™ **splash boxes and ductwork** installed

Airfloor™ **form extensions and floor connectors** installed

Topping slab poured

Floor finishes applied

System **tested & balanced** and set to work

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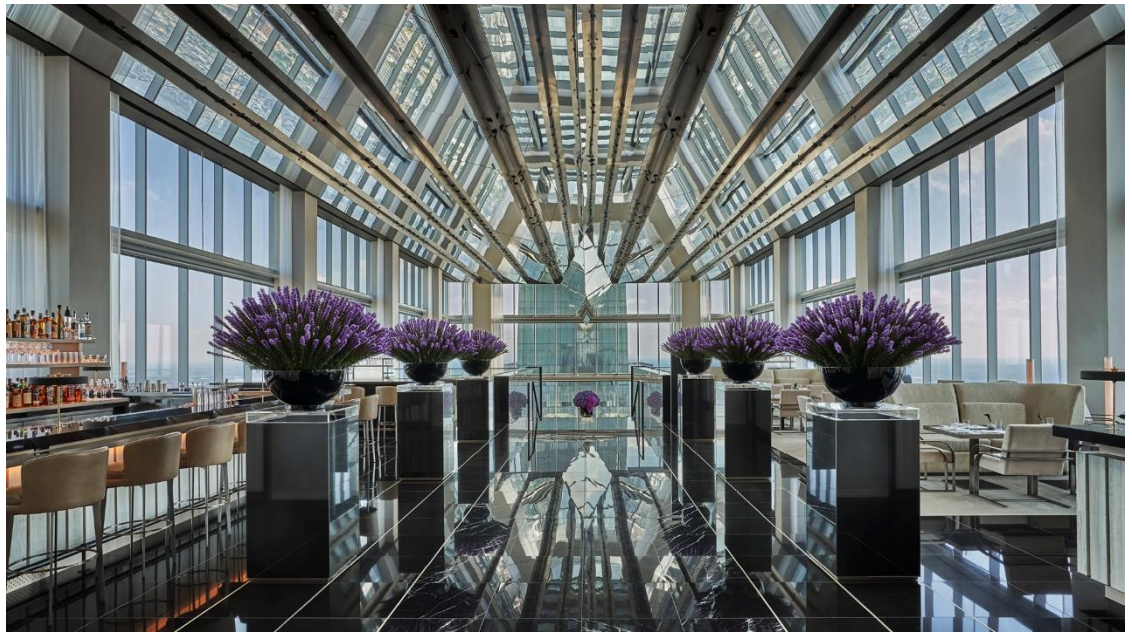

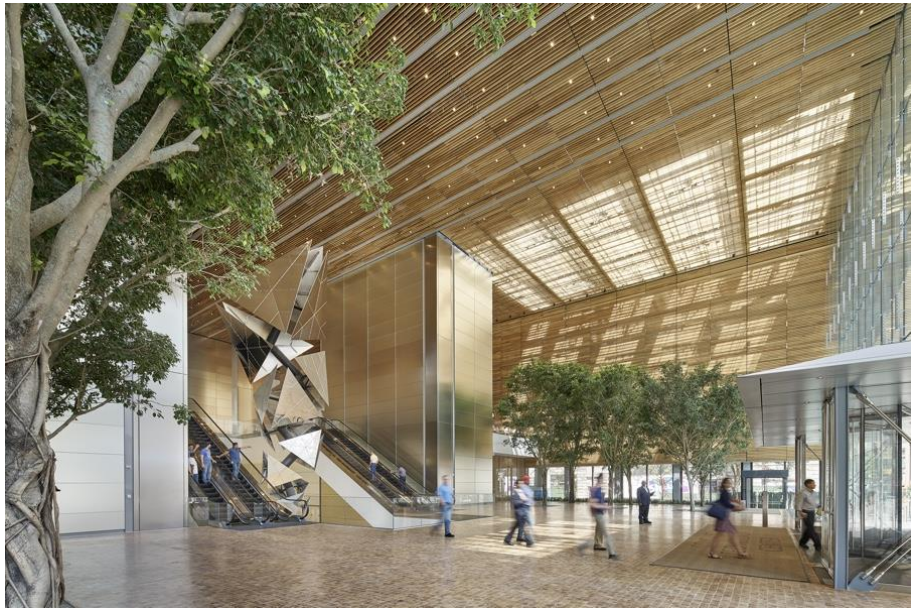

Comcast Technology Centre

Type:	**Office and hotel**
Location:	**Philadelphia, PA**
Climate zone:	**4**
Completed:	**2019**
Architect:	**Foster + Partners**
Area:	**1,566,00 sq.ft (145,50 sq.m)**
Height:	**1,121 ft (342m)**
Sustainability:	**LEED Platinum**

Located next to the existing Comcast Center, the Comcast Technology Center rises 1,121 feet (341 meters) as the city's tallest building. The Comcast Technology Center is vertically stepped, with loft-like work spaces and state-of-the-art television studios for NBC10 and Telemundo62, with a 12-story Four Seasons Hotel above. At an urban scale, the project is conceived as a welcoming addition to the neighborhood, integrated with its shops, bars and restaurants.

Airfloor™ is used to provide HVAC within the main lobby and restaurant levels.

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Saddle Peak House

Type:	**Residential**
Location:	**Topanga, CA**
Climate zone:	**3**
Completed:	**2016**
Architect:	**Sant Architects**
Area:	**2,583 sq.ft (240 sq.m)**

With its organic, horizontal silhouette, raw concrete facade, and Bauhaus-leaning interiors, this midcentury nature retreat brings modernity to the mountains. Designed by California architect Michael Sant, the Saddle Peak House is a modernist confection made of glass, concrete, and wood nestled in the rugged Santa Monica Mountains.

The home is dominated by right angles—everything from the roofline to the rectangular pool underscores the geometric precision of its design. Inside, this motif continues with the contrasting vertically striped wood paneling and the horizontal striations of the concrete walls.

Airfloor™ is used to provide HVAC throughout.

AIRFLOOR™

AIRFLOOR™ Is Trusted by the Biggest Names in Construction

Gensler

Foster + Partners

BUROHAPPOLD ENGINEERING

SOM

Kendall/Heaton Associates

Hines

Cosentini
A TETRA TECH COMPANY

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