

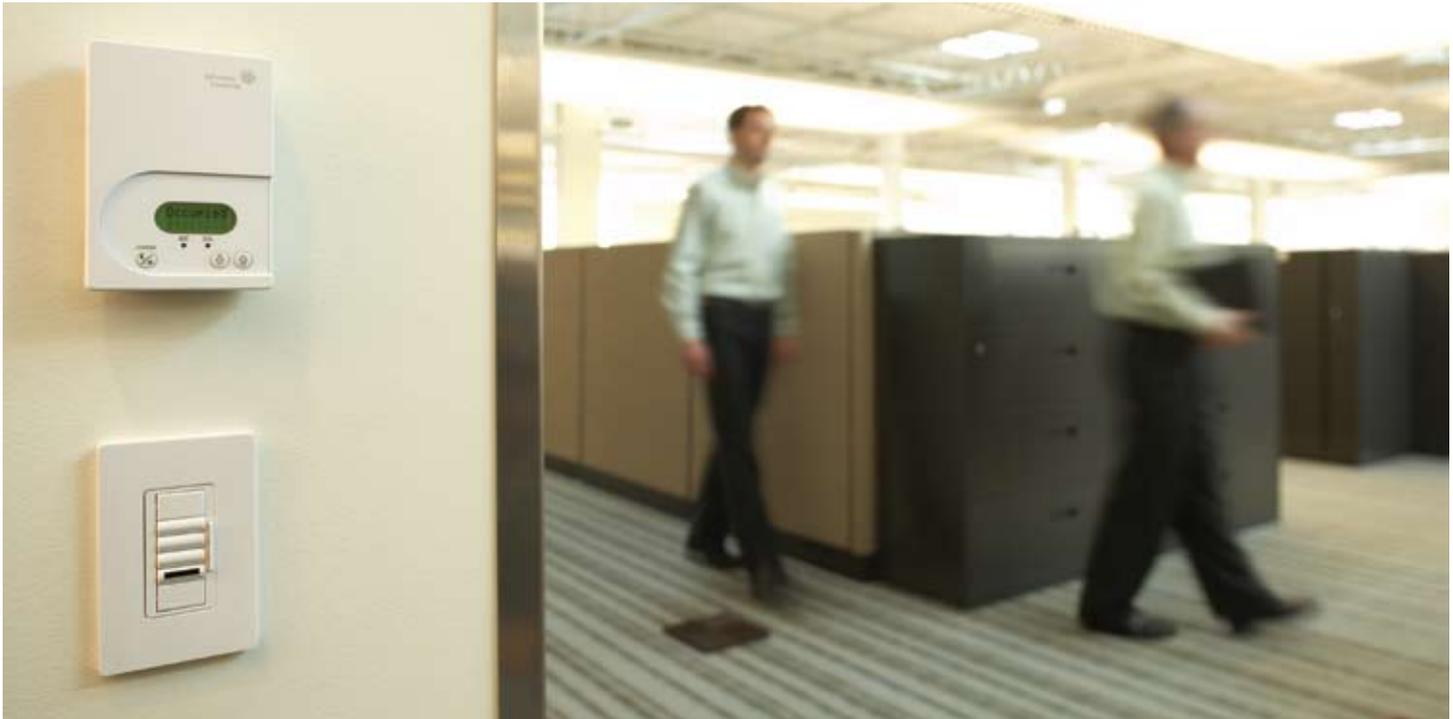
FLEXSYS™ UNDERFLOOR AIR DISTRIBUTION

# We have you walking on air





If you own or operate a building today, it's critical that you control energy costs, reduce the environmental impact and increase the value of your building, plus do it more efficiently. We at Johnson Controls have been helping our customers do just that for nearly 125 years. We continue to deliver ingenious, comprehensive solutions that will help you implement efficiency now. With FlexSys, you'll get more than an underfloor air distribution system. You'll get a completely integrated, smart environment that ensures comfort, safety and sustainability.



### Standing on the complete solution

Johnson Controls provides the industry's most comprehensive underfloor air distribution system. The FlexSys system addresses all the critical needs in today's work environment - energy efficiency, improved comfort, lower lifecycle cost, and better indoor air quality - through conditioned air supplied by underfloor air distribution. With 35 million square feet of underfloor air distribution installed in North America, Johnson Controls has more underfloor experience than any other HVAC manufacturer.



### Proven performance, end-to-end

FlexSys has been tested in our state-of-the-art labs to ensure high performance. No matter what type of facility - commercial buildings, schools, office environments, courthouses, casinos and auditoriums - Johnson Controls has installed a FlexSys system in it. As the world leader in building management, we have the equipment and controls, design know-how and construction experience to ensure a successful project. From design concept and throughout construction, we'll integrate the system into your entire building and its HVAC systems and equipment.



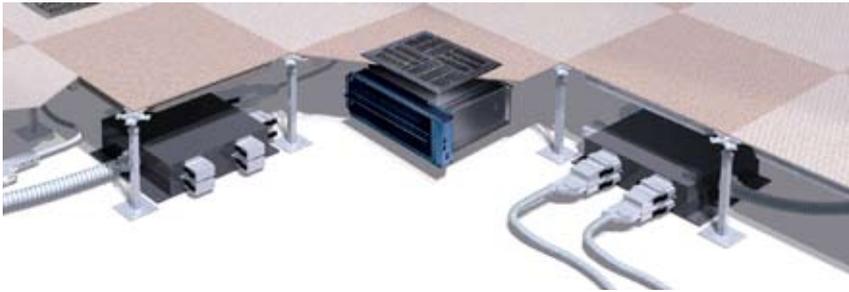
### Efficiency from the ground up

The FlexSys system supplies conditioned air from the bottom up and focuses on conditioning the first six feet of the breathing zone, which is more efficient than other methods. When air distribution goes from the floor up, you only have to heat or cool a percentage of the space, using less air and energy. FlexSys also delivers clean, conditioned air directly into the occupants' breathing zones, reducing particulates in the air. This leads to improved comfort, healthier air and ultimately more productivity.

The positive impact of FlexSys on high-performance green buildings is well recognized by the LEED® (Leadership in Energy and Environmental Design) certification program. Installing the FlexSys underfloor air distribution system can help you earn significant points toward LEED certification.

### The more things change, the more you'll appreciate FlexSys

With the FlexSys system, the entire area under the floor becomes a low-pressure air plenum. FlexSys distributes air through an advanced air terminal design known as the modular integrated terminal. The fully integrated damper and actuator motor silently supplies cooling or heating to the space, ensuring consistent temperature control. This digital technology also allows the system to react very quickly to changes in load, opening and closing in one second, for desired comfort levels.



Control and power wiring are located under the floor, so they can be connected to the terminals via color coordinated plug-and-play connectors. Terminals can be added or removed to meet changing space configurations and loads, and control zones can be added or rearranged along with the furniture.

Each zone can be as large or as small as desired with unlimited number of diffusers per thermostat, simplifying thermostat placement and power supply. It's a new level of adaptability that speeds installation and lowers ownership costs.

### Comfort meets productivity

Research indicates that productivity can be increased by as much as 15% when employees are working in an office environment that gives them control over their own comfort. FlexSys offers this ability with a manually adjustable, personal comfort diffuser with the same consistent velocity and directional control as our modular integrated terminals.

- Ensures individual comfort
- Rotating grille provides directional control
- Available in multiple sizes to accommodate individual or large open office environments
- Available in round or square configurations with adjustable volume flow



The FlexSys design provides easy access for utility service infrastructure and cabling during and after construction.



The FlexSys modular integrated terminal unit allows the lowest access floor height of any underfloor air distribution system, to as low as six inches.





FlexSys can also be integrated with Johnson Controls Personal Environments® systems, which deliver conditioned air directly to workstations for total individual comfort control and efficiency. An easy to use desktop control unit gives each person the flexibility to adjust temperature, lighting, airflow and acoustic characteristics as often as necessary to maintain personal comfort. Personal Environments minimize energy usage by sensing occupancy and only conditioning offices that are occupied.

## FlexSys vs. traditional VAV system

### CONSTRUCTION COSTS

Perhaps the most compelling advantage of the FlexSys system is that it offers improved flexibility, efficiency, comfort and improved indoor air quality at a cost that is competitive with traditional designs. If you're already planning on a raised floor for data, power and telecommunications cables, the addition of FlexSys can cost less than a traditional HVAC system, because it:

- Eliminates the majority of overhead ductwork
- Can reduce building height, typically 6"–18" per floor, or allows additional energy-saving daylighting opportunities
- Simplifies modifications to the air system, prior to and after occupant move-in, which reduces labor costs and speeds occupancy

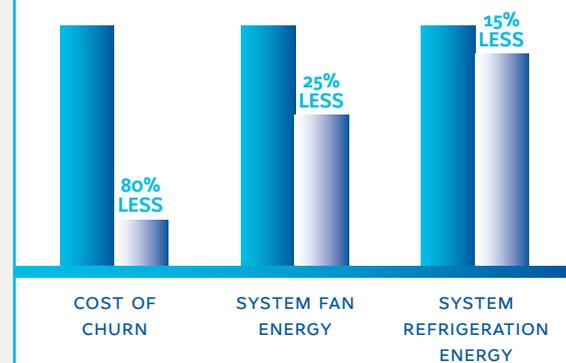
### LIFECYCLE COSTS

The FlexSys system really pays off when you consider lifecycle costs, because it:

- Reduces costs and disruptions when spaces are reconfigured
- Provides greater energy efficiency than an overhead VAV system and allows more hours of economizer cooling
- Saves 15–25% on fan-energy versus traditional overhead VAV systems
- May qualify for accelerated tax-depreciation based on the FlexSys system plug-and-play modular design

### LIFECYCLE COSTS

Typical FlexSys System vs.  
Conventional Overhead VAV System



Talk to a Johnson Controls representative to see how air conditioning supplied by under floor air distribution can work for your building. And join us as we work to create a more comfortable, safe and sustainable world.



FlexSys is one component  
of a total solution  
from Johnson Controls  
for all of your energy  
and environmental needs.



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Printed on recycled paper.

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