Residential TCM

Perfect Temperature / Perfect Humidity

The HumidiFlex System (IAHS): The Future of residential Humidity Control

*Say goodbye to overpriced dehumidifiers. The **HumidiFlex System** is a breakthrough innovation that transforms standard off-the-shelf air conditioners into **high-performance, precision-controlled dehumidifiers**—without the premium price tag.*

- **Cost-Efficient**: Achieve superior humidity control at a fraction of the cost of traditional systems.
- **Advanced Control**: Enjoy robust, customizable humidity management tailored to your commercial environment.

Every HumidiFlex System Includes:

- **Inline Fan:** This fan is specifically engineered for optimal airflow and efficiency.
- **Integrated Sensors:** These sensors provide real-time, precision monitoring to keep your system running smoothly.
- **Dehumidification Mixed Air Controller (DMAC):** This is the intelligent hub that controls the entire system.
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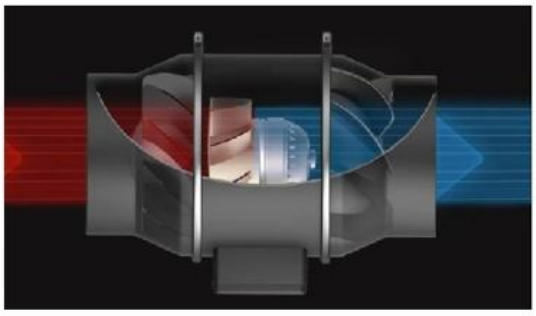
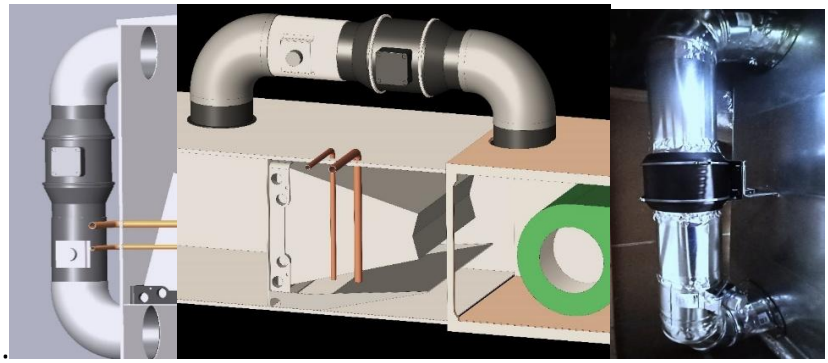


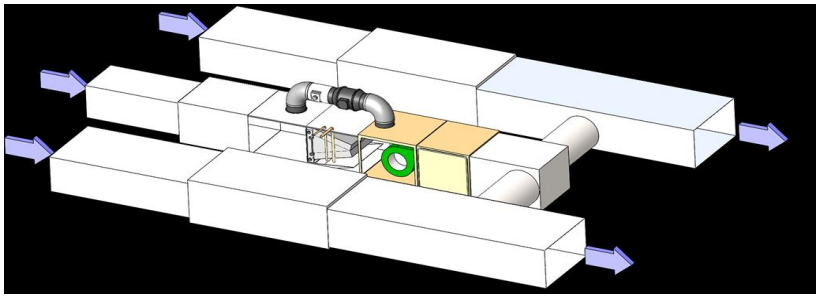
Installation

The HumidiFlex System can be installed in one of two ways:

1. **Stand-alone** – operating independently as a single unit.
2. **Integrated** – distributed within the supply air of multiple systems.

Its application ranges from building a dehumidification system to having the potential to attach its ducting to several systems.





The HumidiFlex System stands out with its advanced features that redefine residential dehumidification. It provides **precise dewpoint control**, which is crucial for preventing mold and protecting sensitive equipment by managing a more stable environment than simple humidity sensors can. The system also offers the unique ability to distribute both humidified and dehumidified air through the same ducts, creating a year-round, all-in-one climate control solution. However, its most significant breakthrough is **decoupled dehumidification**. By using a dedicated unit to handle moisture, it frees the air conditioner to focus solely on temperature. This separation of functions leads to **enhanced energy efficiency**, **superior comfort** without over-cooling, and **unmatched precision** in moisture management.

Controlling dehumidification in a residential home is crucial for health, comfort, and the preservation of the building's structure and contents. Humidity levels that are either too high or too low can cause a range of problems.

The ideal relative humidity (RH) for a home is generally between 45% and 55%.

Health and Comfort

High humidity can significantly affect a home's indoor air quality and the well-being of its residents. It creates breeding ground for allergens and other harmful organisms.

- Mold and Mildew: Humidity levels above 60% allow mold and mildew to thrive on surfaces like walls, ceilings, and furniture. Mold can trigger allergies, asthma attacks, and other respiratory issues.
- Dust Mites: These microscopic pests love humid environments. Their feces are a common allergen that can worsen asthma and cause allergic reactions.
- Viruses and Bacteria: Many viruses and bacteria, including those that cause the flu, survive and spread more easily in both high and low humidity.
- Discomfort: High humidity makes the air feel sticky and heavy, making it harder for sweat to evaporate. This can lead to discomfort, fatigue, and a greater perceived temperature, often making you feel warmer than the actual temperature is.

Protection of Property

Managing humidity is also vital for protecting a home's structural integrity and its contents.

- Structural Damage: Excess moisture can cause wood to swell, warp, and rot, which can damage wooden floors, furniture, and even the structural elements of the home. Low humidity can also be damaging, causing wood to shrink and crack.
- Electronics: High humidity can lead to condensation, which can damage sensitive electronic components and cause them to malfunction.
- Other Damage: Uncontrolled humidity can lead to peeling paint and wallpaper, musty odors, and rust on metal items.

Energy Efficiency

Controlling dehumidification can also lead to energy savings.

- Air Conditioning: When humidity is high, people often lower the thermostat to feel cooler. A dehumidifier removes moisture from the air, making the home feel more comfortable at a higher temperature. This allows you to set your air conditioner to a higher setting, reducing its energy consumption and lowering your electricity bills.