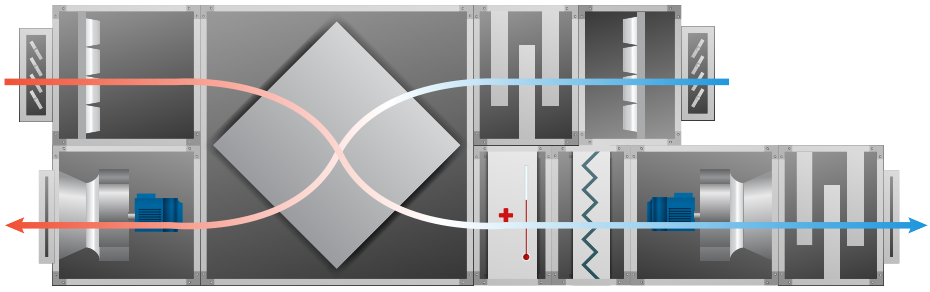
DATASHEET

Air Handling Units Application Data Sheet

Turntide Smart Motor System™

Air handling units (AHUs) work behind the scenes in buildings to maintain optimal indoor conditions - from maintaining a stockroom of perishable goods, to ensuring critical data center infrastructure is cooled and maintained at a proper temperature.

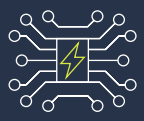


Unfortunately, HVAC systems, including AHUs, run on old, inefficient technologies. Due to their importance to everyday business operations, HVAC can contribute up to 35% of energy costs within a building – reducing profits and increasing utility bills.

Designed with a Optimal Efficiency Motor™, the Turntide Smart Motor System™ drastically reduces the energy consumption of AHUs with zero compromises to HVAC run conditions: saving energy, money, and the environment.

Immediate Energy Savings

Turntide motors save energy through patented switched reluctance design, which utilizes optimal device physics and control algorithms to run more efficiently.



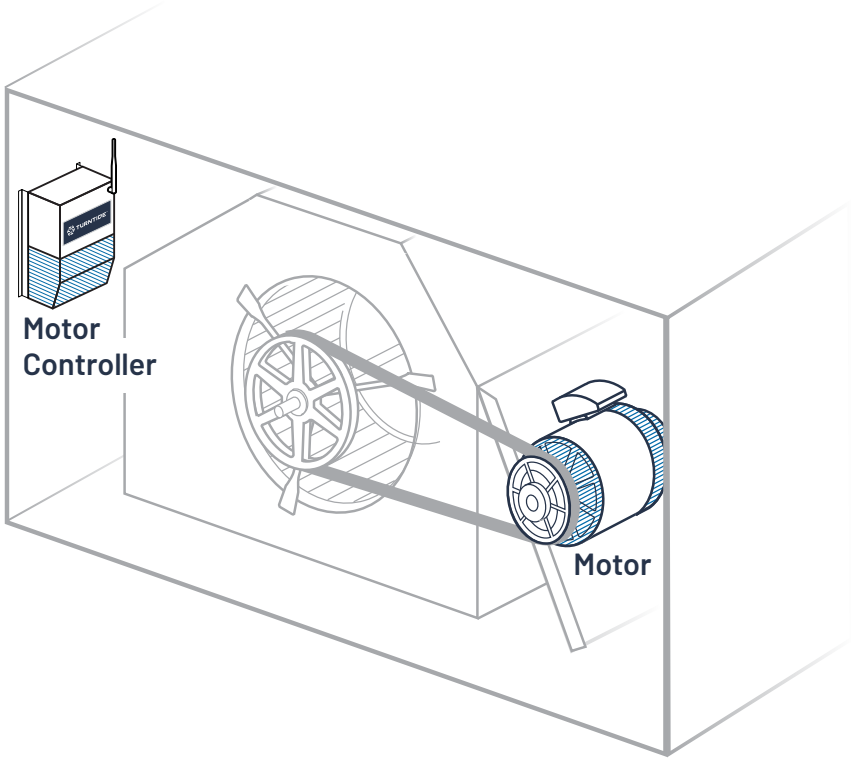
Gets Better and Smarter Over Time

Turntide motors utilize operating conditions and runtime data to generate improved control algorithms that further optimize system efficiency.

The Turntide Smart Motor System™ for Air Handling Units

The Turntide Smart Motor System is a high-impact energy conservation measure that delivers immediate and long-term savings. By swapping out legacy AC induction motors and replacing them, Turntide reduces HVAC energy use by an average of 64%.

What's in the Turntide Smart Motor System?

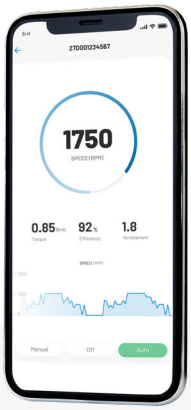


Smart Motor

Our patented high rotor pole switched reluctance motor with advanced device physics runs more efficiently and reliably.

Motor Controller

The controller helps the variable-speed motor work at optimized efficiency across a broad range of speeds, enables customized sequences of operation or application-specific functionality, and protect the system from damage or failure.



Turntide Technician

Turntide Technician mobile app makes evaluating, commissioning, and installing Turntide energy conservation projects easy.

Outperforms Existing HVAC Efficiency Measures

The ultimate energy conservation measure

The Smart Motor System makes HVAC equipment more efficient, more intelligent, ultra reliable, and simple.

13%

Better performance than VFD retrofit

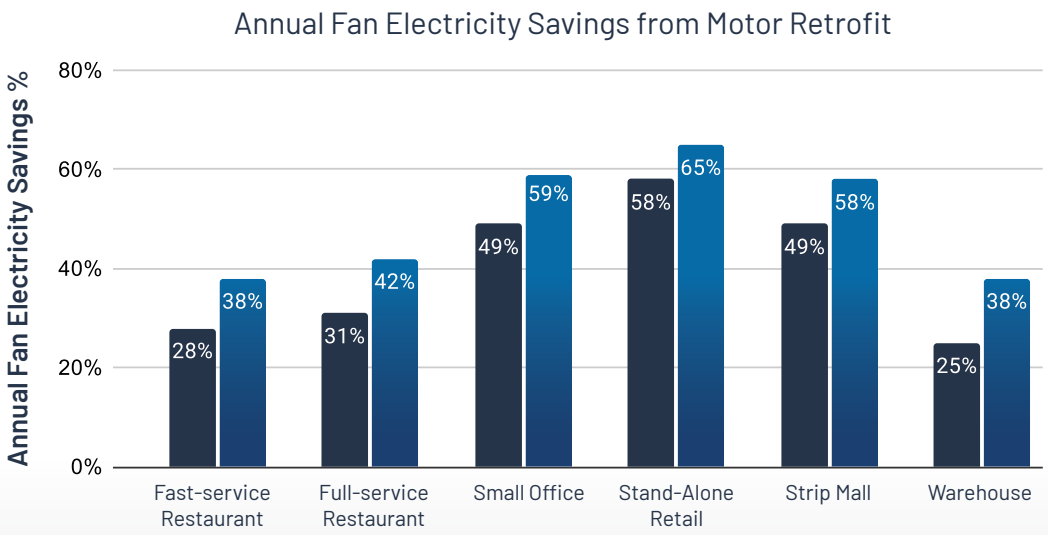
Source: NREL Study

NEMA Premium Induction Motor with VFD

Turntide Smart Motor

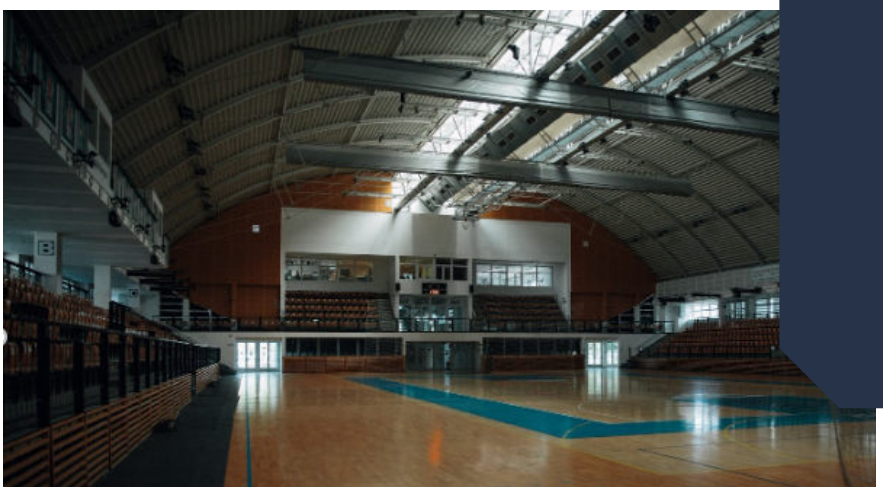
View NREL study

Source: NREL Study



Proven to Improve HVAC Performace in AHUs*

Forward-thinking prestigious university upgrades air handing units at multipurpose gymnasium



THE RESULTS:

87% energy reduction compared to baseline ^

34% more energy reduction compared to VFD retrofit

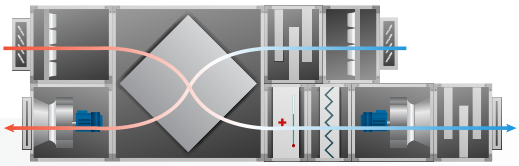
71,400 kWh annual energy savings

3.1 year simple payback

*Note: Actual energy savings results may vary depending on multiple factors, including the configuration and control scheme of the AHU.

^Includes control scheme optimizations to further reduce energy use

Turntide Smart Motor System Specifications



Motor Compatibility

Turntide smart motors are designed with industry-standard specifications, matching nameplate specs found on AC induction motors

Horsepower

- 1-15 HP

Voltage

- 208-230V
- 460V
- 575V

RPM Range

- 100-3600 RPM

NEMA Frame Sizes

- 56Y
- 56/56H
- 56Z/56HZ/143T/145T
- 182T/184T
- 213T/215T

NEMA Motor Enclosure

- TEFC

AHU Compatibility

The Turntide Smart Motor System is compatible with most air handler unit systems both indoors and outdoors, for most building types.

Indoor and Outdoor Air Handling Units

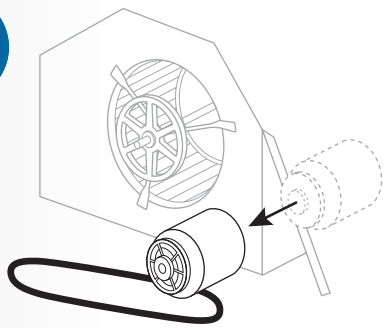
- Rooftop
- Mechanical Spaces

Building Types

- Shopping Malls
- Retail
- School
- Office
- Hotel
- Supermarkets
- Industrial/Warehouses
- And Many More

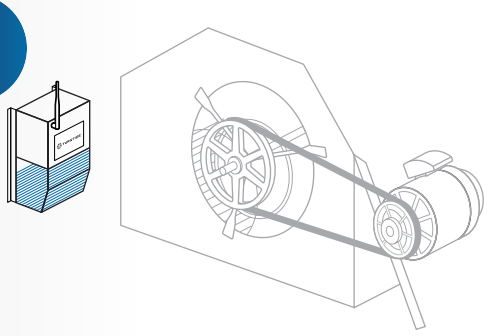
AHU Retrofit: 5 Easy Steps

1



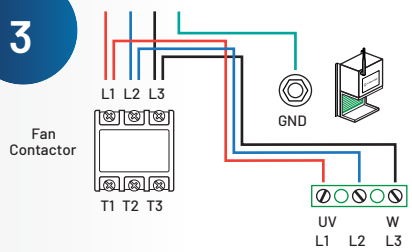
The original motor in the air handling unit is removed, and replaced with a Turntide smart motor

2



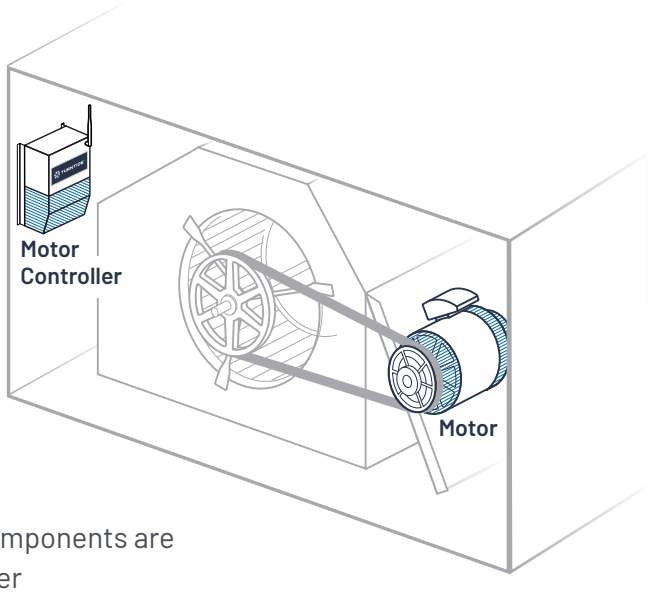
The Turntide motor controller is installed to connect with the motor

3



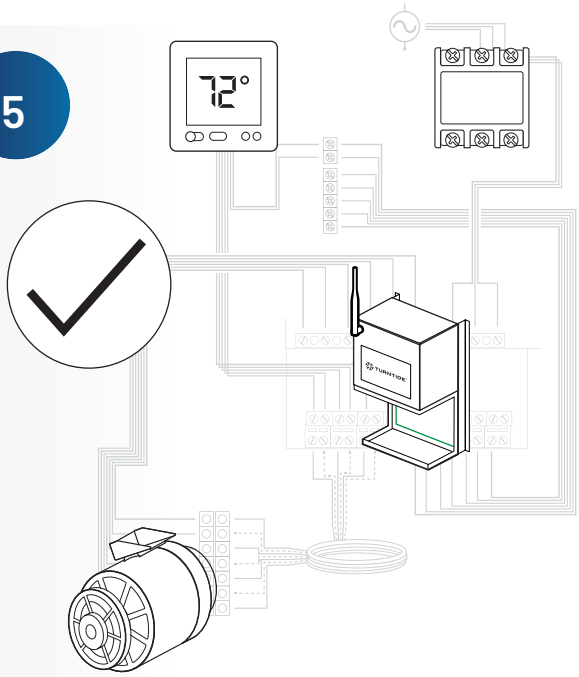
Jumper pins are verified to ensure proper configuration before wiring the system together

4



All system components are wired together

5



System is started up to test and ensure all components work properly for 24/7 safe, reliable operation

For full install information, refer to www.turntideacademy.com