

# Full-Service Restaurant Achieves 53% Savings in Total Annualized HVAC Fan Motor Energy Savings

## The Challenge

A Southern California full-service restaurant chain, focused on delivering a fine dining experience at an affordable cost, wanted to reduce both its increasing energy bills and its costly HVAC maintenance, while continuing to deliver optimal comfort for its customers. It implemented a pilot program with SMC at a single test restaurant.

The pilot restaurant was challenged with keeping consistent comfort levels during all hours of operation, and it did not have a building automation system in place. The chain implemented variable frequency drives (VFDs) on some of its systems, but found that during emergency maintenance, the systems were often left "jumped out," rendering them inoperable. The company also wanted to implement remote fault diagnostics, so that its mechanical service provider could address system problems more proactively.

Ultimately, the company recognized it needed a more efficient system that allowed for remote monitoring and fault detection.

## The Solution: Upgrade the RTU Motors with the Turntide™ Smart Motor System

The company chose to upgrade the HVAC system at the pilot site by replacing the VFDs and standard induction motors with the Turntide Smart Motor System. Because it is entirely software driven, the Smart Motor System operates more efficiently and reliably. It also delivers key information and insight into system and motor health through Turntide Cloud™ services.



## Profile

Publicly traded culinary group with a portfolio of upscale casual locations



### **BUILDING SIZE**

7,500 sq. ft.



### **PROJECT TYPE**

2 rooftop units (RTUs)



### **SMART MOTOR SYSTEM SIZES**

(1) 5 HP

## Results

By replacing one fixed-speed induction motor and one VFD-controlled induction motor with a Turntide Smart Motor System, the customer realized:

### Efficiency

- The restaurant achieved 53% in total annualized fan motor energy savings
- Most impressively, the Turntide Smart Motor System demonstrated 41% improvement in efficiency, even on the system that previously had a VFD applied

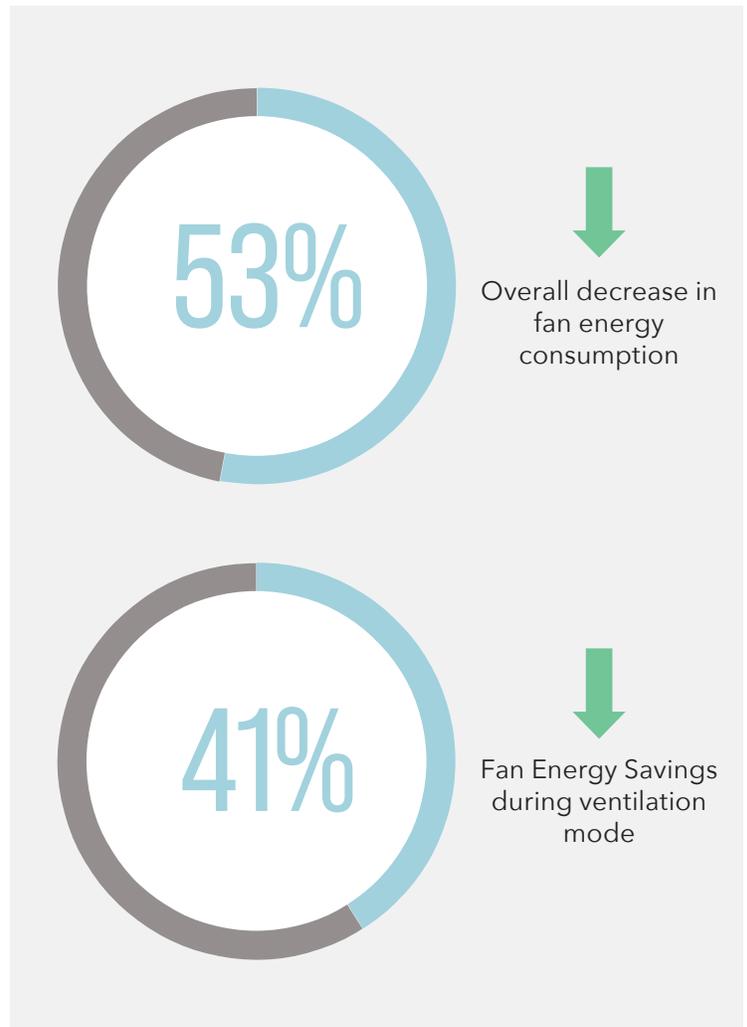
### Reliability

- Simplified motor design and predictive maintenance capabilities resulted in a system that's more reliable and resilient
- System scalability ensured the same operational improvements could be made consistently across all restaurants

### Intelligence

The Turntide solution provided insight that lead to improved energy efficiency and greater reliability. Once the new system was operational and serving as a building automation system, diagnostics made a surprising discovery: a flaw in the building's wiring caused refrigeration motors to shut down whenever the lights were turned off. This explained why food was spoiling so quickly, and wasting a significant amount of money.

Based on the success of the pilot program, this company committed to upgrading HVAC system motors across its chain of restaurants with Smart Motor Systems.



## TURNTIDE SMART MOTOR SYSTEM DELIVERS BETTER CONTROL

- ✓ Reduced energy consumption & costly HVAC maintenance
- ✓ Greater energy savings
- ✓ Improved operational efficiency and reliability



Turntide Technologies (formerly Software Motor Company) has developed the world's most efficient and intelligent electric motor system. The revolutionary Smart Motor System is based on proven switched reluctance technology, now managed with advanced cloud software and connected to precise controls via IoT. Turntide's vision is to eliminate the 25% of global electricity consumption that is wasted by legacy motors, thus accelerating the world's transition from fossil fuels. Turntide is based in Sunnyvale, Calif., with offices in San Francisco; Arlington, Wash.; and Kennesaw, Ga. Turntide has installed Smart Motor Systems with dozens of customers, reducing their motor electricity consumption by an average of 64%, and is powering the systems of leading OEMs. For further information, visit [www.turntide.com](http://www.turntide.com).