SMC
SOFTWARE MOTOR COMPANY

CASE STUDY

Upgrading HVAC Motors Results in Big Energy Savings for Leading Hotel Chain

Environmental awareness is on the rise. The hospitality industry is catering to guests who are seeking out earth-friendly travel options. Hotels, particularly big brands, are embracing the movement. They are investing resources to implement not only environmentally friendly procedures, but also to track energy use and install energy-efficient equipment and lighting.

Technological advancements continue to provide ever more efficient options to improve building performance but budgets are limited. Deciding when to completely replace equipment and when to simply upgrade is key to maintaining budgets. The best solutions are those that not only improve sustainability but also make good business sense.

The Challenge

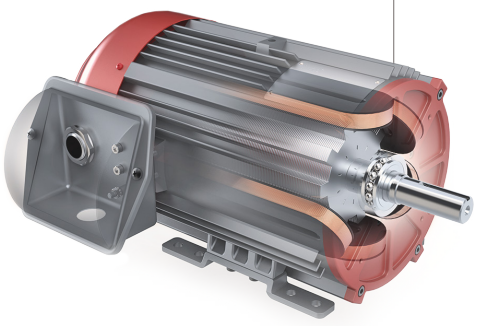
Global climate goals are pushing international companies to develop ambitious emission reduction targets. Large chains are using science-based carbon reduction targets (SBTs) to make their greenhouse gas reduction plans. Smaller hotel groups are measuring their CO2 emissions, adhering to energy efficiency, and/or obtaining LEED certifications to track success.

Ideal solutions not only minimize energy consumption, they also reduce operating costs—while having a positive (or at minimum no) impact on the visitor experience. LEDs, room controls, motion sensors, linen reuse programs, and other behavioral changes are a great start. But they are only a start. According to Lodging Magazine, HVAC accounts for 32 percent of the lodging industry's electricity use.

The Solution

Gain more control and better efficiency from HVAC units by replacing the existing electric motors with the SMC Smart Motor System. To demonstrate the system's efficacy, SMC engaged a major hotel chain for a pilot project in Boulder, CO.

A four-week monitoring and verification (M&V) period established a baseline of the supply fan. The motor was then replaced with the Smart Motor System. M&V was performed on the SMC motor for an additional period; first at constant speed, and then at multispeed operation.



Profile

A brand leader with some of the biggest names in business travel and luxury accommodations, the hotel combined boasts 30 brands and more than 7,000 properties across 131 countries .

Hotel in Boulder, CO

HVAC Supply Fan Motor Replacements

SMC SMART MOTOR SYSTEM SIZE
(1) 5 HP

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Results

The SMC solution saved energy in all operating modes, with the most significant savings and ROI seen when replacing constant speed motors.

SMC Motor: 5 HP	Constant Speed	Multispeed
Fan % energy savings	47%	57%
Annual energy savings (kWh)	5,183 kWh	6,236 kWh
Annualized utility savings ($0.10/kWh)	$414.64	$498.88
Total materials and labor	$1,250	$1,250
Utility rebate	$600	$600
ROI (years)	1.57	1.3

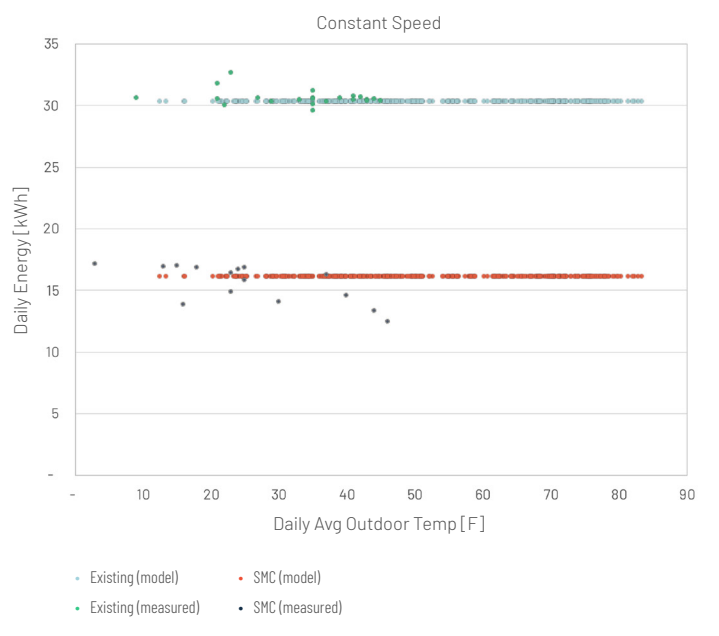
57%

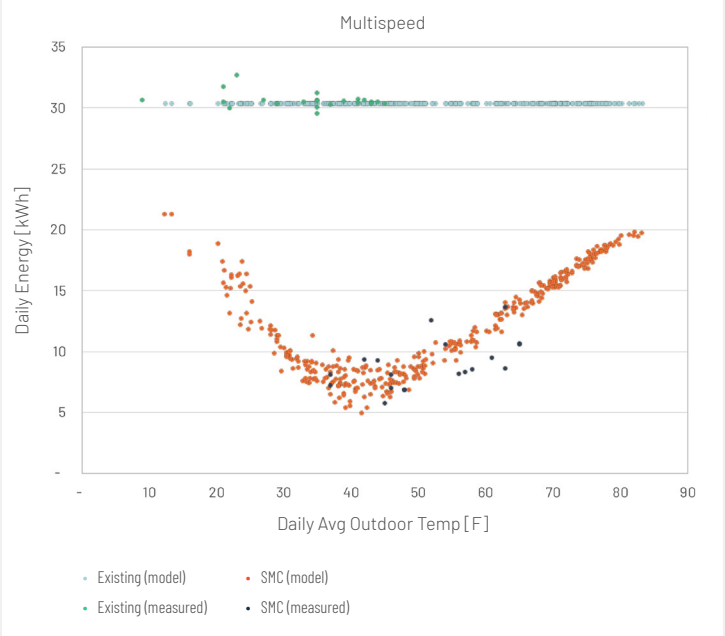
UP TO 57% FAN ENERGY SAVINGS GAINED BY INSTALLING OPTIMAL EFFICIENCY MOTORS

Conclusion

Based on these results, it's clear that replacing existing induction motors with the SMC Smart Motor System is a smart energy solution for the hospitality industry—it saves energy and money without replacing the entire unit, can be remotely controlled and monitored, and integrates into existing building management systems.

Daily Fan Energy





The Silicon Valley based Software Motor Company is setting a new standard of efficiency, reliability, and intelligence with the SMC Smart Motor System. SMC combines modern computing and software control with the proven reliability of switched reluctance motor technology to achieve an unprecedented optimal efficiency. The patented SMC Smart Motor System only uses energy when it is needed, thereby significantly reducing space conditioning and refrigeration energy costs. A fully programmable IoT controls package facilitates maintenance savings and easy integration with existing building systems.

POWER IS VALUABLE. USE IT INTELLIGENTLY.