SMC
SOFTWARE MOTOR COMPANY

CASE STUDY

Basin Street Properties Retrofit Seven Rooftop Units with an SMC Smart Motor System and Realized Total Annualized Fan Motor Energy Savings of 53%

The Challenge

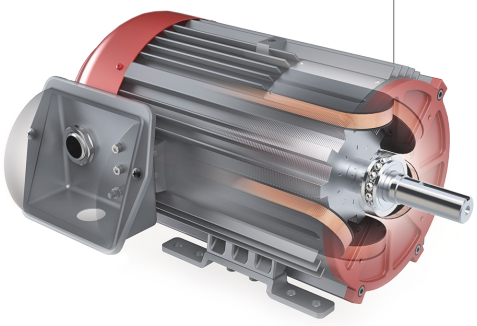
Basin Street Properties was committed to sustainable, resilient asset management and energy performance improvements across its portfolio. It had a specific goal to optimize HVAC system energy efficiency and make the system intelligent with a solution that could:

- Remotely correlate rooftop unit (RTU) motor data with sensor data collected by the building automation system (BAS)
- Migrate from scheduled to predictive maintenance and dynamic maintenance scheduling
- Implement remote system monitoring and fault detection to enable faster response from the facilities team—and protect tenant satisfaction

The Solution: Upgrade RTUs with the SMC Smart Motor System

Basin Street Properties selected Software Motor Company to pilot the SMC Smart Motor System at its 20,000 square foot site at The Lakes in Santa Rosa, CA. The project consisted of retrofitting seven Bryant RTUs with 1 HP fixed-speed induction motors, and replacing them with an SMC Smart Motor System.

The SMC Smart Motor System features the patented SMC Smart Motor. Unlike induction motors, the SMC Smart Motor system uses electricity only when needed to perform useful work, ultimately lowering cost of ownership. And it provides real-time visibility into key components of commercial building HVAC systems.



Profile

Commercial real estate development, investment and management company with over 4 million square feet under management

BUILDING SIZE
20,000 sq. ft.

HVAC SYSTEM SIZE
7 rooftop units (RTUs)

SMC SMART MOTOR SYSTEM SIZE
7 HP

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Results

By replacing induction motors in RTUs with an SMC Smart Motor System, Basin Street Properties achieved greater:

EFFICIENCY

- Total annualized fan motor energy savings of 53%
- Power draw savings of 30% during heat/cool mode (1,550 RPM) and 87% during vent mode (690 RPM)
- Monthly energy savings of 881 kWh (energy use decreased from 1,659 kWh to 778 kWh after installation)
- Reduced the carbon footprint and achieved sustainability gains

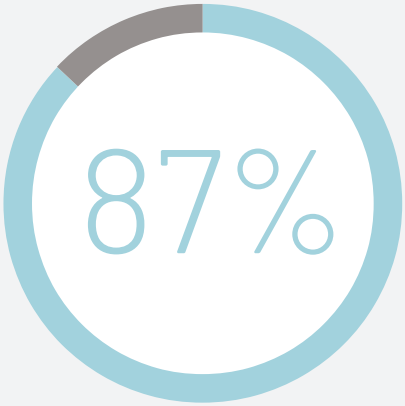
RELIABILITY

- Simpler motor design and predictive maintenance capabilities made the system more reliable and resilient
- Improved ability to monitor and control occupant comfort—a critical factor behind tenant satisfaction

INTELLIGENCE

- Remote monitoring capabilities enabled the detection of a motor pulley malfunction during the pilot phase. The maintenance team was alerted immediately, and a quick replacement was made.

OVERALL DECREASE IN FAN ENERGY CONSUMPTION



FAN ENERGY SAVINGS DURING VENTILATION MODE

FAN ENERGY SAVINGS DURING HEAT/COOL MODE

1,659 kWh – 778 kWh

881 KWH ENERGY SAVED MONTHLY

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.