MITSUBISHI ELECTRIC
Changes for the Better

The Bottom Line Is Total Cost of Ownership

Over decades of service life, building systems drain maintenance and operating budgets. Those costs can add up to far more than the initial system costs. To maximize profitability, these systems must return more value to their owners than it costs to own, operate and maintain them.

Mitsubishi Electric is a leader in creating that value for owners. From design through operation and service, Mitsubishi Electric's HVAC, uninterruptible power supply (UPS) and vertical transportation systems are optimized to deliver efficiency and economy for a long service life.

THE IMPACT OF ENGINEERING

Engineering design inevitably impacts the cost of ownership. Mitsubishi Electric seeks designs that result in easy maintenance and reconfiguration capabilities. For example, the modular design of its variable refrigerant flow (VRF) systems allows all zones to operate independently of each other. One zone can be serviced without disrupting other zones or taking the entire system offline. Intuitive controllers make operation and monitoring convenient, resulting in less time to diagnose comfort issues. The systems are also leaders in energy efficiency. The reduction in energy usage contributes to an average payback period of seven to 10 years.

Routine maintenance of these HVAC systems requires only outdoor unit condenser-coil cleanings and periodic indoor unit filter changes or cleanings. The indoor unit design makes the filters easily accessible to building staff.

For system support, Mitsubishi Electric is building a leading infrastructure, with more than 1,000 distributor locations across the United States. Its Controls Solutions group consists of industry experts located across the country who are ready to assist with every aspect of the systems. These experts design and commission Diamond Controls™, a fully integrated building control solution that enables

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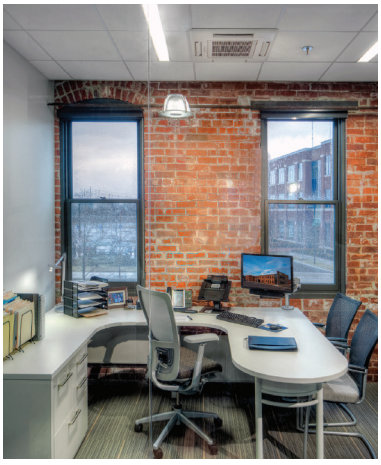

multiple mechanical systems within a building to communicate, providing new levels of efficiency and lower operating costs.

A COMMITMENT TO MISSION-CRITICAL FACILITIES

The lifeblood of thousands of companies is dependable power delivery. The operators of data centers know it well and demand 99.9999% uptime. "Reliability is our business, what people come to us for in the first place," says Todd Gale, director of engineering and construction for Flexential, a data center owner/operator.

After some troubling incidents with several of its UPS vendors, Flexential decided to do a deep evaluation of all manufacturers and equipment on the market. The evaluation determined that Mitsubishi Electric was the leader, and Flexential subsequently installed its UPS systems in all 22 of its data centers. The systems have never disappointed.

"Right after we chose Mitsubishi Electric, we ordered a model 9900B for one of our Colorado data centers," Gale says. "Our engineers had instructions to configure the system for a standard 750 kW load-bank test. With the Mitsubishi Electric representative standing by, we gave it 25% of the rated load. Watching the displays, we could see it looked good. Now up to 50%, then 75%. At 100%, still good. No sweat."

"Then the Mitsubishi Electric rep spoke up. 'Hold on. Something's not right. Look at this!' There was an error in the configuration. Instead of the rated high of 750 kW, the system had been taking 1,000 kW—a 33% overload. Running cool, no hot spots. It was amazing. My impression was it could've run that way for 10 years. Any other system would have been on fire."

A data center operator with the same respect for the longevity of Mitsubishi Electric UPS is CoreSite Realty Corp., which operates 14 data centers.

"For me, it's not just about the initial cost," says Billie Haggard, CoreSite's senior VP of data centers. "I need to understand what it's going to cost, end to end. If I can cut 40% off my install costs, that's a differentiator.

And then, if I can cut down on my startup and commissioning time, and I can deliver sooner and get this data center ready to sell—that's attractive." The super-efficient Megapod® system that CoreSite purchased offers the lowest total cost of ownership in the UPS industry.

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PREVENTIVE MAINTENANCE PHILOSOPHY SUPPORTS LOW OWNERSHIP COSTS

Mitsubishi Electric's vertical transportation systems are already known for world-class manufacturing and engineering. Combining these exacting installation methods with an unwavering focus on preventive maintenance results in products that lead the industry in reliability and long-term performance.

Detailed maintenance schedules for escalators and elevators call for replacement parts before they have time to wear out. That approach contributes to an average of less than one callback per unit per year—compared to the industry average, which is closer to six callbacks per unit per year. In addition, the Mitsubishi Electric products are designed to last well over 30 years.

That attention to maintenance and flawless operation is available for many building systems. "Mitsubishi Electric is an incredible partner involved in all aspects of what we do," says Stan Taeger, director of South Coast Plaza, the largest shopping mall on the West Coast, with annual sales of more than $15 billion. "They maintain our elevators, our escalators, our hand dryers and our HVAC systems. For our efficiency program, we installed variable-frequency drives, which Mitsubishi Electric also takes care of. We don't even think about them."

Since Mitsubishi Electric installed elevators and escalators at South Coast Plaza and took over maintenance, there has been zero downtime—a giant boost for the owner's bottom line.

Interested in learning more about cost-effective service and maintenance for building systems?

Take a virtual tour up the tallest building on the Internet to see the systems in action!

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