

Charm Sciences Finds Flexibility, Comfort and Value with Mitsubishi Electric

For 35 years, Charm Sciences has been a world leader in food safety, water quality and environmental diagnostics. The company's reputation for innovation, scientific excellence and customer support has enabled it to maintain and grow its leadership position since its inception.

So when the Charm Sciences executives decided to augment the company's existing facilities in Lawrence and North Andover Massachusetts with a larger facility in Andover, they were faced with a myriad of decisions, not the least of which was the best HVAC system to fit their needs. After careful consideration, they chose Mitsubishi Electric's CITY MULTI variable refrigerant flow (VRF) systems, which easily met the varying demands posed by a facility that would house offices, clean rooms, laboratories, customer training rooms and manufacturing equipment.

"We knew right from the start that we needed superior zone control to satisfy the comfort needs of our employees and customers, while ensuring energy efficiency, flexibility and ease of maintenance at a reasonable cost," says Rick Skiffington, vice president of engineering at Charm Sciences. "We were also looking for heat reclamation, low noise levels, user-friendly controls and long equipment life, as well as excellent local technical support for software training, maintenance and service."

In addition, Charm Sciences wanted to qualify for ENERGY STAR® Certification and rebates from National Grid in keeping with its corporate standards to use the greenest utility solutions possible. After examining the site and conferring with his local distributor, Mark Potenza from Homans Associates, Skiffington chose Mitsubishi Electric's CITY MULTI systems.

"We were expanding into a 60,000 square foot, two-story brick building that was formerly an electronics manufacturing plant," Skiffington explains. "It hadn't been used in four years, and the existing HVAC system was a 20-year-old variable air volume (VAV) system with electric cooling only roof tops and over 40 electric VAV boxes. We considered replacing existing rooftop units and making other modifications to the old system, but the benefits of zoning capabilities, creature comforts and hot water savings made the decision to go with the CITY MULTI systems easy."



Project Name: Charm Sciences
Location: Andover, MA
Completion Date: December 2013
HVAC Project Engineer: Rick Skiffington
HVAC Distributor: Homans Associates



Laying the Groundwork

Once Charm Sciences chose Mitsubishi Electric's CITY MULTI technology, Skiffington and his distributor began designing the system. Rick visited the local Mitsubishi Electric training center, where he received expert product training and support to optimize his design and tailor it to accommodate the idiosyncrasies that older buildings always conceal. Skiffington also wanted to design for further expansion into the building as the company continues to grow.

"We've currently installed simultaneous cooling and heating systems with 96 ton of capacity, but the building will have about 200 tons in total, with the possibility of even further expansion. The units are intentionally located at ground level to showcase the fact our facility is efficient and uses state-of-the-art technology for heating and cooling."



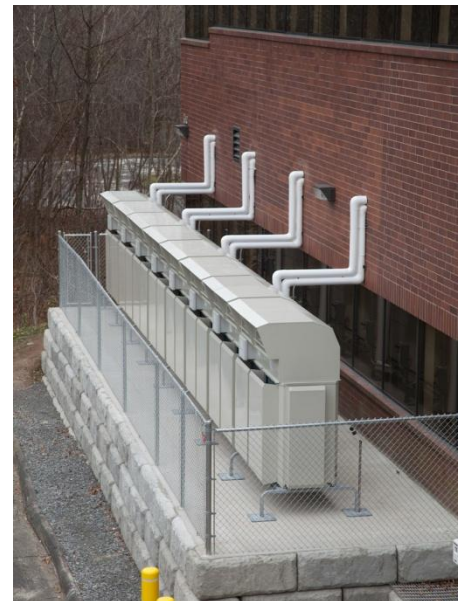
The Heart of the Matter

The installation comprises ducted units for the lunch room and cubicle areas and front entrance, a wide variety of indoor units with four-way blow ceiling cassettes for large areas such as the clean room, IT rooms and customer training areas and one-way blow ceiling cassette units for offices to wash the exterior walls and windows. This flexibility was key in solving the often voiced complaint that other facilities weren't able to satisfy the comfort levels required in spaces of varying sizes, uses and individual tastes.

"There will also be a wall unit in the engine room for heat recovery, along with units in high sun solar stairwells, which we'll primarily use for hot water," Skiffington points out. "We will be recovering what would normally be waste heat from clean rooms, IT rooms, the engine room and stair wells, and transferring that waste heat to hot water through the Mitsubishi Electric hot water HEX units. An added bonus is that we can use this heat to melt snow and ice on sidewalks around the building along with drying heaters in our clean rooms."

Green, Flexible, Efficient Comfort

Charm Sciences' new facility will easily meet and exceed the requirements that the company originally envisioned. It offers the zoning variability that was critical for a multi-use environment, as well as heat reclamation, environmentally sound design, and aesthetic appeal. The combination of the company's inherent engineering expertise, coupled with Mitsubishi Electric's local and worldwide support, will go a long way as the facility expands to accommodate the rapidly growing realm of food safety diagnostics.



Equipment	Quantity	Equipment	Quantity
PURY-P288YSKMU-A	4	PLFY-P15NCMU-E2	12
LAHK-1	4	FBM2-3	1
LAHK-2	4	FBM2-4	1
RWDK-1	16	FBM2-5	1
SWDK-1	1	PAC-KE89LAF	2
CMB-P1016-NU-HA	4	PAC-KE140TBF	2
CMB-P1016-NU-HB	2	PAC-KE88LAF	2
PWFY-P36NMU-EAU	8	PAC-KE80TBF	2
PLFY-P36NBMU-ER2	17	PAC-YT53CRAU-J	12
PEFY-P30NMHU-E	2	PAR-W21MAA-J	2
PEFY-P48NMHU-E	2	AG-150-STANDARD	1
PEFY-P36NMAU-E2	1	CMS-MNG-E	1
PEFY-P54NMAU-E2	1	BV38FFSI2	96
PEFY-P30NMAU-E2	1	BV58FFSI2	96
PMFY-P06NBMU-ER5	8	PUZA42NHA5	1
PMFY-P08NBMU-ER5	1	PCAA42KA5	1
PKFY-P30NKMU-E2	2	WB-PA2	2

