

Catholic school gift of mini-split systems is heaven-sent



Looking at completed installations at the Marion Center are (from left to right) Tropic Supply's Charley Del Vecchio (CEO), Chuck Del Vecchio (president); Bob Garrison, president of Garrison Mechanical, and Alex Rodriguez, marketing manager of Tropic Supply.



A technician opens the service valve to charge the system.

In 1963, following a personal invitation by Coleman Carroll, the Catholic Archbishop of Miami, 11 Sisters of St. Joseph Benedict Cottolengo — a congregation renowned in Italy for its work among people with developmental disabilities — traveled that winter from Italy to Miami. There, the Sisters immediately saw what the Bishop had gone to Italy to describe: a great need among the children of Miami.

Within a few months, the Sisters were among many others organized by the Bishop, fulfilling his vision for the Archdiocese of Miami to begin a school for students with developmental disabilities.

Work quickly began on 50 acres of “rundown property” in northwest Miami, but the Archdiocese prevailed, opening the Marian Center (www.mariancenterschool.org) to students in the fall of '64. For the Sisters, it would be the first mission of

Center's 10,000-sq.ft., single-story school building. The central system that was installed when the building was erected was 40+ years old and, for several years, had a bad habit of conking out when Florida was at its worst.

“We were impaired, and we knew that the old system was on its last leg,” continued Horan. “The conditions were tough on the students and staff and, sadly, we didn't have an emergency fund for anything of this magnitude financially.”

The answer to prayers came through a tie to one of the school's students. Charles Del Vecchio, owner and CEO of Tropic Supply in Miami, a wholesaler of HVAC and mechanical systems, and his son Chuck, president of the firm, were inspired to help through a close and personal look at the school's plight. Chuck's son Chris has been a student at the school for several years.

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— Thomas Horan, executive director of the Center.

its kind beyond European borders. Today, this school is referred to by some as “the hidden jewel of South Florida.”

Today the Marian Center provides educational, residential, clinical, vocational, and recreational services to over 150 students and adults ranging in age from birth through middle adulthood. Its seven buildings are set like gemstones within a lush landscape, palm trees swaying in the wind. Every awe-inspiring detail, and now a legacy of grace and care among the people of Miami, stems from the inspiration of 11 Sisters from Italy whose faith and inspiration were stirred in Miami nearly 50 years ago.

“We thank God for the contributions of those amazingly devoted women and are still inspired by their work. Every day is a learning opportunity for us, and for our students,” said Thomas Horan, executive director of the Center.

Though, according to Horan, one key obstacle frustrated their efforts — the lack of air conditioning at the

Through the years, Tropic Supply had covered the cost of repairing the old chiller system.

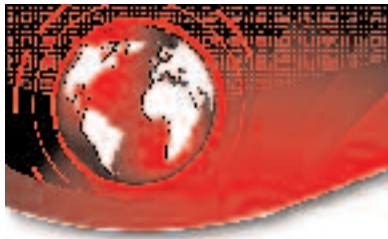
But — just as the students and staff had experienced — the building's existing system, based on a 40-ton, R-22 reciprocating chiller, cooling tower and dozens of fan-coil units, deteriorated further each year. The key dilemma was the discovery that the chilled water piping, buried under the school, had ruptured.

“Besides, the Sisters and the students were having an awful time competing with the noise of the fan coil units,” said Sister Lidia Valli, school principal.

“We couldn't decide what was worse, the hissing, whining, gurgling noises from the old room units, or the heat and humidity we and the students had to endure,” said Sister Carla Balentini, facility manager.

Charles Del Vecchio called Tom Horan to say that they would cover the cost of new equipment for the school. “Needless to say, we were delighted,” said Horan.

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Best solution = greater efficiency

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Considering the many problems with the old system, the Del Vecchio family and school administrators decided that the best solution would be to abandon the ruptured lines and to remove the chiller, cooling tower and fan coil units.

“We were drawn to the energy efficiency of new, smaller R-410A systems,” said Bob Garrison, president of Miami-based Garrison Mechanical,

the firm chosen to replace the ailing equipment. “A big advantage to the installation of multiple, smaller systems would be the ability to easily select which areas of the school to cool.”

When it was apparent that the use of many smaller units would offer far greater efficiency, they settled on a plan to install 23 separate Fujitsu mini-split heat pumps. The Del Vecchio family, with the help of engineers at Formica & Associates, drew

up plans for installation of ductless split systems that they would donate to the Center.

According to Garrison, the school building is a single-story rectangle with a central hall and six large classrooms, all of which also have a smaller observation room behind a two-way mirror. There are also several bathrooms, a library and administrative offices. According to Chuck Del Vecchio, key jobsite challenges were the many sliding glass walls and the school’s poured concrete roof. “There’s no attic space up there to run refrigerant lines, to conceal ducts or to hide air handlers. It was an open-and-shut case for mini-splits.”

Garrison Mechanical work crews began the job with initial preparations. “Once the grounds were cleared, we framed-out and poured concrete slabs for all of the condensing units,” explained Garrison. “Then we removed and scrapped all of the old equipment.”

The last facet of the job – installation of new equipment – began in the summer of ’09. According to Garrison, the job moved briskly in phases with two, two-man crews.

“We began at one end of the building and completely installed and wired each new system, placing them on-line and ready for service,” said Garrison. “This took less than a month, start to finish.”

During that time, Garrison’s crew enacted an earlier plan to make the indoor units fit into spaces where the old equipment had been. Wood enclosures, stained to match other furnishings, were installed to conceal and offer easy access to fresh air filtration, a Miami code requirement. The evaporator units were then attached to the outer face of these enclosures for an aesthetic touch greatly appreciated by the school.

According to Garrison, the facility received a total of 39½ tons of heat pump comfort control with air filtration and humidity control, and with a jump from 7 or 8 SEER to 16 to 18-SEER. The school now enjoys a huge improvement to operational efficiency.

“The difference is amazing,” concluded Horan. “We had become so conditioned to the noise of the old units, and their inability to keep us comfortable. Now, just entering the rooms, experiencing the comfort and not hearing all that rattle . . . it’s a Thank God moment every day.” ■

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Eugene Roman, Garrison Mechanical technician, and Carlos Roman, tech, complete a Fujitsu air handler installation.



Garfield Thompson, Garrison Mech. technician, completes electrical connections to a condensing unit.