

COMPLETION DATE

2011

PROJECT TEAM

HVAC Contractor, Distributor

MPG y Asociados
(Grupo MPG –
www.grupompg.com),
Santo Domingo,
Dominican Republic

CHALLENGE

Selecting an efficient HVAC system to provide a gym with zoning and high indoor air quality

SOLUTION

Mitsubishi Electric VRF

RESULT

Happy customers, energy savings and a high level of control

Eng. Joel Marcel Fleire Tapia serves as the corporate director of Body Shop Athletic Club, a gym based in Santo Domingo, Dominican Republic. He said, “For 30 years now, our company has been a leader in the fitness business in our country. We serve a very demanding public.” Beyond the expected demands of a gym – a variety of equipment and activities, cleanliness, convenient locations and hours – its occupants also demand comfort and high indoor air quality. To meet those demands at its fourth location in the Bella Vista sector, the gym selected Variable Refrigerant Flow (VRF) technology from Mitsubishi Electric Cooling & Heating (Mitsubishi Electric).

The Bella Vista location is open throughout the week.

The gym is spread across four levels and 60,000 square feet, and offers personalized training, sports facilities (e.g., basketball, racquetball, pool, soccer), activities (e.g., Cardio Fun, Body Mind, Body Xchange, Military Cross Training), locker rooms, lounges, restaurants, a sports shop and a spa. With such a variety of spaces, the challenge was on to select an effective and flexible HVAC system.

Since each location had an existing HVAC system, the gym began the selection process by evaluating those systems and thinking about what qualities they wanted in their new system. In the Naco location, for example, the gym was cooled with chillers and the efficiency was not optimal. Tapia said, **“We wanted a system that would provide us with high energy efficiency while being cost-effective, and that would allow us to manage the conditioned areas to drive greater savings.”**

That’s where MPG y Asociados, now known as Grupo MPG, Santo Domingo, entered the picture.

The gym had worked with MPG over the years, and trusted in the quality of the products and services offered. Andrés Mera, MBA, serves as Grupo MPG’s marketing manager. He said, “The Bella Vista location was designed to achieve the highest energy efficiency possible. The Body Shop Athletic Club was looking for an air-conditioning system that would reduce energy consumption while providing superior comfort for its members. For the club, that kind of comfort meant zone control, a low operational noise level and a discreet appearance. Because this is such a large area being air conditioned every day, the club thought about the long-term cost/savings of the selected system, not just its initial cost.”

With those criteria in mind, VRF was the clear answer. Miguel Paiewonsky, president, Grupo MPG, said, “VRF provides an extremely high level of energy efficiency, in addition to its many other benefits. In sum, VRF allowed us to ensure that our customer would be satisfied.”

Tapia agreed: **“VRF is a great technology. It makes an air-conditioning system more versatile and modular, and the energy savings from the use of low-consumption evaporator equipment and variable speed capacitors is amazing.** VRF offers a fully functional system that provides great energy savings and is highly efficient. It is also a technology that cooperates with the environment.”

Grupo MPG recommended VRF from Mitsubishi Electric, specifically, because as Mera said, **“The Mitsubishi Electric systems offer efficiency, quality and reliability.** With the brand’s support, we can also deliver a high-quality installation and post-installation service.” Tapia was also aware

of the support Mitsubishi Electric would offer: “They’re a great brand, and they offer strong support via their representatives in the Dominican Republic.”

The installation went exactly as planned – as Tapia said, “excellent and with super aesthetics. Now, the centralized controls system helps us constantly monitor the VRF system to verify parameters. We can also use it to identify faults and their solutions as fast as possible.” Mera added, “Having such a high level of control was especially helpful for the gym areas used exclusively for activities that run on a defined schedule.”

Tapia described his general post-installation experiences: “Satisfactory results have been achieved regarding the energy savings and the support we’ve received from MPG.” While no before/after comparison of energy usage can be made, since the project was new construction, **Tapia claims significant energy savings “compared to systems in our other locations. Mitsubishi Electric VRF technology is saving us 35-40 percent on energy, which is excellent.”**

The Hydronic Heat Exchanger Units that Grupo MPG installed offered an additional efficiency boost. “We incorporated Mitsubishi Electric’s PWFY units into the VRF system to transfer the energy

generated by the refrigerant and use it to heat the water of the showers, restaurants and other areas. This generated additional savings when compared to a conventional heater,” said Mera.

The success story goes beyond just energy savings and into indoor air quality. Paiewonsky said, “Due to the type of activity being done in the gym, it is very important for the indoor air quality to be excellent. Poor indoor air quality can be attributed to excess moisture and contaminants that cause health issues like asthma and eczema. A contaminated interior is also believed to lead to a loss of productivity and low morale. We installed a Lossnay® Energy Recovery Ventilator system to provide better indoor air quality.” Mera added, “The system has functioned as expected. We’ve heard that some gym members who frequent multiple locations state that their physical performance is better at the Bella Vista location. We’re sure that this is because of the excellent air quality that results from the Mitsubishi Electric VRF system – especially in conjunction with the Lossnay.”

Perhaps the greatest sign of a success story, though, is a repeat customer. Mera said, “After seeing VRF’s low energy consumption in the Bella Vista location, the gym decided to replace the chillers at their Naco location with VRF. So far, they are very satisfied with that decision.”



MITSUBISHI ELECTRIC EQUIPMENT INSTALLED

10 PUHY Y-Series Outdoor Units, **9** PURY R2-Series Outdoor Units, **29** PEFY Ceiling-concealed Ducted Indoor Units, **3** PLFY Ceiling-cassette Indoor Units, **2** PMFY Ceiling-cassette Indoor Unit, **4** CMB BC Controller, **2** GB Centralized Controller, **6** LGH Lossnay Energy Recovery Ventilators, **3** PWFY Hydronic Heat Exchanger Units

“The myth of VRF units is that they’re very complicated due to their design and how they’re installed. But the system is generally very easy to use and reliable, and we’re able to keep the units in very good physical condition.”

- Eng. Joel Marcel Fleire Tapia, corporate director, Body Shop Athletic Club