



Mitsubishi Electric's Strategy for the VRF Market

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After Mitsubishi Electric released the City Multi series of VRF systems for the Japanese market in 1984, it started exporting the series to over-seas markets in the early 1990s. Today Mitsubishi Electric offers an extensive lineup of air conditioners for residential and commercial use in more than 100 countries.

Leading Models

Mitsubishi Electric focuses on developing products designed to meet the regulatory requirements and customer needs of the particular market.

In 1990, the company released the City Multi R2 series for Japan, the industry's first simultaneous heating and cooling two-pipe system. This series uses a branch current (BC) controller to control refrigerant flow. Compared to a conventional three-pipe system, the City Multi R2 series is able to significantly reduce the number of pipes and their connections. This series is receiving positive feedback in global markets, particularly in the United Kingdom, Australia, and the United States.



To meet growing needs in Europe to use less refrigerant, in 2012 Mitsubishi Electric began offering a lineup of City Multi Hybrid series 'HVRF' for Europe positioned as the highest-end R2 series. Standard R2 series circulates refrigerant gas from the outdoor unit to the indoor units. In contrast, the HVRF system uses a Hydro BC Controller (HBC) with an internal water-source heat exchanger instead of a BC controller to exchange heat between water and refrigerant. The HBC controls the flow of water and refrigerant to perform air conditioning by circulating refrigerant gas between the outdoor unit and the HBC, and water between the HBC and the indoor units. The HVRF offers both the convenience of VRF and the refrigerant-saving properties of water-source systems. Its advanced technology was recognized and in 2016 the HVRF won the Air Conditioning Product of the Year in the RAC Cooling Industry Awards in the United Kingdom.



City Multi PURY YNW series 'Next Stage'

Mitsubishi Electric's latest outdoor unit offering is the PUHY/PURY YNW series 'Next Stage', which was released in 2017 starting in Europe. These models adopt Mitsubishi Electric's key technology of a flat-tube aluminum heat exchanger for high efficiency type, and a modified outdoor unit structure that features four-surface suction instead of conventional three-surface suction. The airflow structure has also been improved with a new-type fan, and the compressor adopts a new multi-port mechanism and a new centrifugal-force-canceling mechanism. Together, these technologies improve energy efficiency not only under rated conditions but also during low-load operation. Mitsubishi Electric plans to offer this series in regions outside of Europe as needs arise. This is part of its strategy to gain recognition for its advanced technology by releasing models that adopt the latest technologies and contributing to improving the global environment.

In addition, as global VRF market scale continues to grow, demand for mini-VRF for luxury homes is also showing solid growth as the affluent population expands in China, India, and other emerging Asian economies that are seeing fast-paced economic development.

In the residential market, the constraints on installing outdoor units are increasing year after year amid growing city landscape ordinance. In addition to developed countries in Europe that have enacted ordinances to preserve the appearance of neighborhoods, restrictions on outdoor unit installations decided separately by luxury condominiums and other residential developments are also been put in place in Singapore, China, India, and other parts of Asia to protect property values. This means that outdoor units typically installed on rooftops or balconies need to be made more compact. To meet these needs, Mitsubishi Electric has added the PUMY-CP series outdoor unit to its lineup, which has a height of less than 1 meter and very quiet operation. Luxury homes are also creating demand for more stylish designs, so Mitsubishi Electric has developed mini-VRF compatible with stylish indoor units for luxury interior spaces and offers them in various countries, winning favorable recognition.

Along with its extensive product lineup, Mitsubishi Electric is building up its after-sales service network from country to country. It is working to increase its credibility among customers by improving the quality of its products as well as the quality of its after-sales service.



PUMY-CP outdoor unit with less than 1-meter height

Drive Localization — Establishment of the Cooling and Heating Engineering Center

Mitsubishi Electric is also pursuing greater localization of development. As part of its North American business expansion, the company opened a new business location for its Cooling and Heating division in Atlanta, Georgia, in April 2013. The site is home to research facilities, warehouses, and the Cooling and Heating Engineering Center so that Mitsubishi Electric can better develop and evaluate products designed to meet the needs of the U.S. market.

The technology center leads surveys of local needs and decides the local specifications, which has led to development of the Multi-position Air Handler. It is modified to fit U.S. building architectural requirements, and it can be installed vertically or horizontally to match local installation practices. The locally designed product is being well received in the market.

By driving localization, Mitsubishi Electric offer more products designed to meet the needs of customers in locations around the world.

Offering More Solutions — Collaborative Sales

Mitsubishi Electric acquired DeLclima in 2015, which is now Mitsubishi Electric Hydronics & IT Cooling Systems (MEHITS), and has expanded its product lineup. The company can now provide products for everything from buildings to shopping centers and large multiuse complexes. Mitsubishi Electric is also mobilizing its expertise as a comprehensive electronics manufacturer and collaborating with its elevator and factory automation businesses to offer customers comprehensive solutions taking advantage of its extensive product lineup and sales network.

Exhibition & Event

ACRA 2018 holds in Sapporo, Japan



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