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# Eco-friendly air conditioning technology from Mitsubishi Electric Maximum efficiency and savings with hybrid air conditioning

Drawing attention with its eco-friendly technologies aspirant to shape the future, Mitsubishi Electric provides high energy savings and ideal comfort with its new "Hybrid City Multi Systems" which has the title of being the world's first hybrid air conditioning system. "Mitsubishi Electric Hybrid City Multi Systems", where energy is conveyed using water for space heating contributes greatly to reducing carbon footprint and operating expenses. Able to provide simultaneous heating and cooling with an infrastructure of only two piping, this system provides easy and low cost installation advantage as well.



With energy resources dwindling rapidly and fuel costs increasing nowadays, technologies with low carbon footprint and low cost become a must have. At this point, eco-friendly inventions and innovative solutions gain more and more importance. Adding new achievements on top of

already existing achievements full of "first", "fastest" and "biggest" of the world since it was founded in 1921, Mitsubishi Electric also provides high energy savings and ideal comfort with its important invention in the field of eco-friendly technologies; the world's first hybrid air conditioning systems.

Striving to become a green company on a global scale, Mitsubishi Electric broadens the coverage area of its low carbon footprint, eco-friendly applications with hybrid air conditioning systems. Operating under the mission of developing technologies that can shape the future and renewable solutions, the brand decreases carbon footprint together with "Mitsubishi



Electric Hybrid City Multi Systems" and also complies with the new regulations formed for the same cause. The final state of traditional heating and cooling technologies called "Hybrid City Multi (HVRF) Systems" provides optimal comfort and efficiency by combining two-pipe technology for simultaneous heating and cooling with heat recovery together with water. The system also has easy and low-cost installation advantage.

# Ideal air conditioning, for different needs, at the same time...

The technology that can ideally provide simultaneous air conditioning even for different needs makes it possible for interior units connected to a single system to heat one area while cooling another area simultaneously, thanks to the Mitsubishi Electric's two-pipe system. Unlike traditional systems, there is no need to stop the system while transitioning. Thus, heating and cooling interruption caused by changing operating mode and customer dissatisfaction resulting from this is prevented.



Modern heating and cooling solutions provided by HVRF Systems can be used in; office buildings, hotels, health centers, hospitals, schools, apartments, shopping centers and other commercial buildings with ease. This innovative technology; can fulfill the needs of places that require simultaneous heating and cooling throughout the year such as meeting rooms, working spaces and system rooms efficiently with its heat recovery technology. It provides maximum comfort by answering different air conditioning requirements of different rooms such as clinics,

patient rooms and staff rooms at the same time. The system's ability to simultaneously heatcool and independent settings allow, for example, guests in a hotel to choose the operating mode of the air conditioner as they wish. It provides a comfortable and problem-free space throughout the accomodation with its perfect air conditioning capabilities.

### Maximum efficiency and high energy savings

In the case of needing both heating and cooling from interior units connected to a single system, Mitsubishi Electric's two-pipe energy recovery technology provides more power economy. Instead of disposing the waste energy of the cooling interior unit, Hybrid Flow Control unit (HBC: Hybrid Branch Controller) redirects this energy to the heating interior unit and this way, system's efficiency is maximized.

# Easy and low-cost installation

Hybrid City Multi (HVRF) Systems provide appliers and contractor companies with easy, quick and low-cost installation advantage thanks to its simplified two-pipe design. In





Mitsubishi Electric's special two-pipe heat recovery system, there are considerably less piping and joint fittings are used compared to traditional four-pipe liquid systems. In HVRF Systems, just like in chiller and boiler systems, there is no need to use equipments such as additional circulating pump, accumulation tank, control and automation board. In this system, the entirety of valves, pumps and heat exchangers are included inside the HBC units. This way, investment costs are reduced greatly.



By using Hybrid VRF exterior units that can be distributed to different spaces without the need of sparing extra space for a special mechanical room or using radiator assemblies that fill up large spaces on roofs, it is possible to create visually and

functionally pleasing buildings. Due to lack of refrigerant liquid in the space to be conditioned thanks to the structure of the system, any need for gas leak control or any other equipments needed for this procedure is completely rendered unnecessary. This feature also provides an important cost advantage.

# System equipments are designed for different needs

HVRF System exterior unit stands out as a unit that can heat and cool simultaneously, with inverter compressor and heat recovery. With seven different capacities ranging from 22,4 kW to 56,0 kW, it can adapt to all projects perfectly.

The most important part of the HVRF System called Hybrid Flow Control Unit (HBC: Hybrid Branch Controller) provides connection between exterior and interior units. It performs heat transfer between refrigerant liquid and water using the technology developed by Mitsubishi Electric. By performing heat recovery among interior units connected to the same system, it allows simultaneous heating and cooling.

In HVRF System there are five different interior unit options consisting of; thin concealed ceiling type (200 mm height), medium static pressure concealed ceiling type (35/50/70/100/150 Pa static pressure option), four directional blower tray type and compact tray type (lowered grill panel for easy cleaning and 3Di-see sensor option for energy savings) and medium static pressure concealed floor type (20/40/60 Pa static pressure options). For a total of 12 different capacity settings ranging from 1,2 kW to 14,0 kW 30 different model and capacity options are available.





# Total control from a single point

Inside HVRF System's equipments; luxurious, elegant and easy-to-use individual controller options as well as central control alternatives where 200 interior units can be controlled when combined with extension controller are present. Thanks to the controllers, different systems located in independent positions can be monitored and controlled from a single location.

#### About Mitsubishi Electric Corporation

With over 95 years of experience in providing reliable, high-quality products, Mitsubishi Electric Corporation is a recognized world leader in the manufacture, marketing and sales of electrical and electronic equipment used in information processing and communications, space development and satellite communications, consumer electronics, industrial technology, energy, transportation and building equipment. Embracing the spirit of its corporate statement, Changes for the Better, and its environmental statement, Eco Changes, Mitsubishi Electric endeavors to be a global, leading green company, enriching society with technology. The company recorded consolidated group sales of 4,238.6 billion yen (US\$ 37.8 billion\*) in the fiscal year ended March 31, 2017. For more information visit: www.MitsubishiElectric.com

\* It was calculated by 1 USD = 112 Yen exchange rate announced by the Tokyo Foreign Exchange Market on March 31, 2017.

#### About Mitsubishi Electric's Activities in Turkey

Mitsubishi Electric's main fields of activity in Turkey are; air conditioning systems, factory automation systems, advanced robotics, CNC mechatronic systems, elevator and escalator systems and visual data systems. Mitsubishi Electric, which established a room air conditioner development and manufacturing company in April 2016 in Turkey, began production in Manisa factory in December 2017. Mitsubishi Electric, the producer of Turksat 4A and 4B satellites, which contributes to the communication and publishing infrastructure of Turkey and neighboring countries, is notable for its satellites as well as the automation technology used in the Marmaray project. For more information; <u>tr.mitsubishielectric.com</u>

#### About Mitsubishi Electric Turkey Air Conditioning Systems

Mitsubishi Electric Turkey Air Conditioning Systems; provides sale and aftersale services for heating, cooling, ventilation and hot water supply with home and office air conditioners, commercial type air conditioners, City Multi VRF central system air conditioners, heat pump systems, ventilation systems, control systems and hand drying systems. Its products that are in A, A +, A ++ or A +++ energy class according to Seasonal Efficiency Criteria in heating and cooling, "**MELCIOUd"** which is a cloud-based solution that provides control of the air conditioner over the internet, stand out with technological discovery service "**Keşfetteam**" which determined the air conditioner that is suitable for the space and the most suitable location for the air conditioner

#### Mitsubishi Electric Turkey social media accounts

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Linkedin	https://www.linkedin.com/company/mitsubishi-electric-turkey/
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