



Controlled humidity
in the world's first
Quran-inspired park



The entrance.

Located in Dubai, UAE, the Quranic Park is a unique attraction for visitors that opened in March 2018. The Times magazine has ranked the Quranic Park among the top 100 global destinations to visit because of its combination of religious and cultural components in a large green space.

The Quranic Park is designed to give a better cultural and educational understanding of Islamic heritage, while still being a fun place to visit for families and for those looking to learn more about the Holy Quran.

The park spans over 60 hectares of land and the main attraction is the Glass House, which is home to 29 different plants and trees, all of which are mentioned in the Quran.

Case study:

- Humidity Control in Dubai attraction Quranic Park

Advantages:

- No condensation
- Controlled moisture levels
- Consistent temperature
- Reduced energy costs
- No mold build-up
- Vents possible to hid in the environment



A Munters MX260 to ensure the right humidity level.

The green inside of the Glass House

Modern with ancient roots

The main building is a single-storey, single volume glass house with a growing area where plants are nurtured. It also contains a walkway, water features, café seating, shops, office space and washrooms. This indoor area is all air conditioned and houses up to 29 plants and trees that are mentioned in the Quran and the Sunnah such as olives, figs, cucumbers, garlic and more.

The plants only thrive under certain temperatures and special environmental determinants. They are therefore monitored and watered through nozzles hidden in bronze poles that spray out a mist of water at different intervals, depending on how much a particular plant requires. The temperature is regulated by cool air from vents hidden in imitation tree trunks.

Conditions for different uses

The HVAC design and requirements were quite specific due to the misting system that are used for the plants, as well as the Glass House construction itself. It was critical to maintain the relative humidity in order to maintain the structure, aesthetics and design conditions required for the plants, as well as the comfort of the visitors.

The Glass House is completely automated and requires specific temperature and humidity conditions to be maintained through day and night, season after season.



The Glass House surrounded by a spectacular park.

An energy saving solution

Munters dehumidifiers are known for providing optimal energy efficiency, and for always keeping the energy consumption within the specified range. That was one of the main criteria in this project, and something that the client truly valued.

Three Munters MX²40's and three MX²60's were installed to provide humidity control in the Glass House within its desired control range.

As an energy efficient solution, the dehumidifiers are designed to work on the supply side of air handling unit (AHU) using the AHU as a pre-cooling coil. Also, the heating, ventilation and air conditioning (HVAC) system is designed to provide constant temperature and variable airflow, so the Munters dehumidifiers can always achieve the designed inlet conditions.

Describing the dehumidifier process, the AHU's modulating damper shall constantly bleed-off the required cooled supply air to Munters dehumidifiers. The desiccant wheel will receive cooled air and keep the supplied air condition at the desired moisture level, whether it will operate at peak or part load. The relative humidity must be kept below 60 % at different temperatures based on the time of the day or season.

Thriving together

The Quranic Park is today a well-attended attraction in Dubai with hundreds of thousands of visitors each year. Munters dehumidifiers ensure that the Glass House is a place where both plants and people continue to thrive together.

Would you like to find out if Munters has a solution for your company too? If so, please visit our webpage, www.munters.com, or contact us at middle.east@munters.com

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