Magnets USA Optimizes Production Process with Humidification and Water Treatment from MeeFog™

THE BENEFITS OF MEEFOG™ TECHNOLOGY

- Humidity maintained at optimum levels for employee comfort
- A fully conditioned production environment has positively impacted product quality and enhanced manufacturing processes
- Water purity level maintained with a Total Dissolved Solids (TDS) level of less than 10PPM
- Low maintenance costs
- Low energy usage

CHALLENGE

Magnets USA facility expansion required the opening of a new building. This needed to include a state-of-the-art humidification system to maintain building comfort for employees and to keep humidity at the desired level for production.

SOLUTION

Installing a MeeFog™ humidification system with fog nozzles lines distributed strategically in the space allowed for tight control of humidity levels.

Magnets USA

Vinton, Virginia, USA

In 1990, Magnets USA founder Dale Turner realized the potential for magnetic marketing and hasn’t looked back. Later joined by his brother Alan, the Turner brothers provide customers with superior, referral-boosting magnetic calendars, sports schedules and other marketing pieces.

Based in the Roanoke Valley of Virginia, facility expansion and modernization required the opening of a new building. Management realized this needed to include a state-of-the-art humidification system to maintain building comfort for employees and to keep humidity at the desired level for on-site production processes.

The company installed a MeeFog™ humidification system to keep humidity levels constant throughout the factory. MeeFog™ nozzle lines were installed directly above the printing area. This in-Space humidification system helps maintain humidity when delivery bay doors are open; it also combats localized heat loads due to machinery, even when the area is supplied by air handlers.

Overhead tubes distribute the pressurized water to fogging nozzles distributed strategically in order to maintain tight control on humidity levels. Before the MeeFog™ system installation, relative humidity in the wintertime would drop to levels that make it uncomfortable for employees and unsuitable for production activities inside the building.

The humidification system is supported by an energy saving MeeFog™ Reverse Osmosis (RO) water treatment system. Water purified with RO is recommended for MeeFog™ systems requiring air with low particulate concentrations.
Removing minerals and dissolved solids from supply water eliminates the accumulation of mineral dust and reduces routine maintenance. RO water can offer a Total Dissolved Solids (TDS) level of less than 10 PPM and eliminates the possibility of bacterial contamination and dusting issues. The RO system was designed to produce the needed flow even at cold water temperatures when RO membranes are less effective.

The MeeFog™ RO system has a water storage tank with UV treatment to eliminate bacterial growth in the stored water and is controlled by a PLC controller capable of communicating with the MeeFog™ control system. The fully integrated system ensures that the tank water level is monitored and circulation through the UV treatment is carried out especially during humidification system downtimes when the water is not being used.

Benefits

Dave Withers, Production Manager at Magnets USA, said that the system has been working flawlessly. The company is proud of its new premises and has given many tours to customers and prospective customers.

“The MeeFog™ system tends to be one of the tour highlights as people love it when the misters start spraying,” said Withers. “Most importantly, our new fully conditioned production environment has positively impacted our product quality and manufacturing processes.”

The company has been surprised by how often the system has had to run. Its initial estimates were that outside air would contain enough humidity for it not to be needed for a good part of the year.

This has not proven to be the case. “We have only had a few days this year when the humidity was high enough outside for the system not to run,” said Withers.

“In-Space humidification, with overhead stainless steel pipes. Overhead pipes distribute the pressurized water to fogging nozzles distributed strategically in order to maintain tight control on humidity levels.”

“The MeeFog system, as part of our new fully conditioned production environment has positively impacted our product quality and manufacturing processes.”

- Dave Withers, Production Manager at Magnets USA