



Taking On the Desert Storm – Heat, Dust, & Wind

CHALLENGE

A whopping 50% of the total energy produced in Persian Gulf situated-Qatar is needed to air condition the country's interior spaces. With a subtropical climate, very low rainfall and average summer temperatures of 107°F that easily rise to 122°F, a powerful and consistent response is a requirement to keep the outdoors from working its way in. High winds in the springtime are also known to create legendary dust storms. The need to manage large cavernous structures such as the Doha International Airport – which spans over 22 square kilometers – and the Al Wakra Hospital that spreads over 130,000 square meters -- gave rise to environmental control challenges that were difficult for even the world's richest country to manage on their own.

THE SOLUTION

Mars Air Systems has been the consistent solution of choice across several Qatar landmarks and institutions when a no-fail response was required to pre-empt insistent climatic incursions. For the Al Wakra Hospital, known as the largest hospital complex in the country, Mars was the leading solution to help hospital officials manage their interiors. Constructed to the highest international standards in 2012, a total of 198 Mars air curtains watch over every hospital entryway to help uphold the non-negotiable indoor air quality standards of a modern healthcare facility. In a separate effort, Mars installed air curtains over facility entrances and baggage handling areas at the Doha International Airport that once handled over 29 million passengers annually. Dust storms and temperature may not always be predictable in this desert oasis, but service from the Mars air curtain has been both durable and certain.



atmosphere is everything

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STUDIES REVEAL A 6%-9% UPSIDE EFFECT ON WORK PERFORMANCE BASED ON IMPROVED AIR QUALITY AND TEMPERATURE. (WYON 2004)



PRODUCING NON-TRADITIONAL SOLUTIONS

For high-value product manufacturers, controlling the manufacturing environment and atmosphere within a narrow degree of variability means saving tens of thousands of dollars eliminating defects. Both Subaru of America and a BMW-contractor, TW Fitting NA, LLC, used the Mars Air Systems air curtain to deliver a superior non-traditional solution for their manufacturing challenges. The Mars Engineering team's solution helped prep the tires TW Fitting NA prepares for BMW vehicles by simply suspending nine electrically-heated air curtains over the tire conveyor belt. The solution enabled the tires to be heated just enough to create a more pliable rubber and eliminate the splitting, beading and rim damage which occurred when the rubber was colder. The Mars solution then did its part to lower energy costs by eliminating the need for an energy-gulping and unwieldy liquid-propane solution. Similarly, when Subaru needed near-pristine atmospheric conditions for their paint booths, five separate Mars air curtains were installed in the hallway paint room entryway to act as an "air shower" for workers. Using the sequence of units, the Mars team was able to virtually eliminate dust and hair from the worker's clothing so particles could no longer mar the painted finish.



CONTROLLING HUMIDITY TO MANAGE DEFECTS

Uncontrolled relative humidity levels in manufacturing can damage products during production and strike a blow to the top line. At the 1M sq. ft. Illinois-based Schrock Cabinetry laminated cabinet plant, dozens of expansive loading dock doors and entry doors gave rise to an unwinnable cat and mouse game with plant operators who tried to keep plant temperature and humidity stable enough so the laminated finish didn't crack. Knowing Mars has repeatedly provided the right answer when large industrial operators need no-fail solutions to vexing humidity, condensation or pooling water, the Schrock team installed a series of air curtains. The bank of units now stand guard and contribute to creating the consistent climate conditions so their production teams can focus on making the semi-custom cabinets that have given them a national reputation.



KEEPING IT FRESH ENOUGH FOR A BABY'S BOTTOM

As P&G's third largest diaper plant in the world, responsible for exporting 60 percent of its production to Europe, Asia and the Mid-East, this Cairo-based plant often leads as one of Egypt's top American business success stories. Set in an area known for legendary dust storms that transfer accumulated debris from the far reaches of the Saharan Desert, on any typical day air quality measurements routinely record dangerously high levels of suspended particulate matter. Mars Air Systems to the rescue. With the installation of over 100 Mars air curtain units in a plant hosting over 1200 workers, the result was an effective embargo on bad air and dust from blowing in doorways and entryways. Deploying the Mars comprehensive facilities-wide approach to controlling both loading dock entries and doorways with a directed stream of air, facility managers were assured that unpredictable climatic conditions would be forced to surrender to the power of the Mars air curtain and their invisible shield of protection.



LOCKING OUT THE UNWANTED

The outcome of manufacturing is at its best when the environment is highly controlled. Regulating the environment must include the ability to normalize temperature and block dust and debris from precision operations. As one of the industry leaders in home safety, credited with pioneering the tubular lock design, and hosts to multiple US-based manufacturing facilities, Kwikset knew the value they could realize by controlling the atmosphere in their plants and cranking up the heat for worker comfort. The Kwikset team turned to Mars Air Systems to produce the heated air curtains they knew would be essential to ride herd over their shipping and receiving dock doors at their California facility. Now, comfort stays in and dust and debris – and the chill – stay out.



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