

RAIL



CASE STUDY

NORGREN ADSORBENT MEDIA TUBE DRYER

NEW TECHNOLOGY KEEPS
COMPRESSED AIR DRYER LONGER

CUSTOMER CHALLENGE

Maintenance engineers at New York City Transit had seen conditions where moisture in compressed air caused mechanical problems on subway cars downstream, including preventing the brake trip valve from resetting. The engineers found that the OEM pressure swing dryers on the compressor skids removed damaging moisture when they were first installed on the subway cars, but performance declined, especially during hot, humid New York City summers. To extend dryer life and increase vehicle uptime, New York City Transit asked Norgren for a dryer that would:

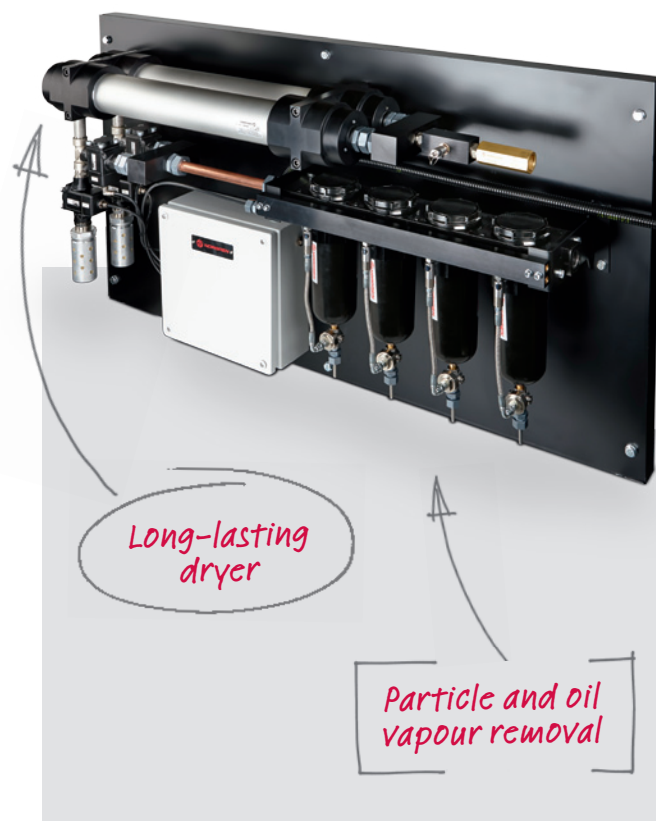
- Maintain peak performance
- Reduce change outs
- Increase vehicle uptime

NORGREN SOLUTION

The Norgren Adsorbent Media Tube (AMT) dryer uses a patented technology radically different from conventional desiccant beads. Once clay beads are water-saturated, the dryer fails and cannot be regenerated. Norgren's AMT dryer uses a polymer to form hollow tubes that are impervious to moisture. This design delivers higher moisture uptake and faster purging without degrading the dryer media, improving both performance and longevity.

Norgren designed a test consisting of a multi-stage filtration system that removes particulate contaminants, liquid water and oil aerosols, as well as the water vapour removed by the AMT dryer. NYC Transit replaced the conventional pressure swing dryers with these AMT test units on a complete train – three compressor skids – and ran them under normal conditions. After 12 months of regular operation in the extreme temperatures and humidity typical to New York City, the test results showed that the air leaving the dryers was as dry as when the system was first installed, demonstrating there was no decay or reduction in the dryer's water removal capabilities. Now New York City Transit has a dryer that is:

- **DURABLE** – the AMT dryer is projected to last up to 6 years, or 18,000 service hours, significantly exceeding the desired two-year maintenance cycle. In addition, like all Norgren Railine® components, the AMT dryer is certified to meet demanding rail industry standards for temperature extremes, electrical shock and vibration.



- **EFFECTIVE** – the tube structure of the AMT dryer media means water is removed more quickly and reliably from the air stream and can be purged more efficiently when the dryer is drained. The AMT dryer maintains this effectiveness over time, unlike conventional dryers where performance degrades as the desiccant becomes saturated.
- **FLEXIBLE** – unlike desiccant bead dryers, the Norgren AMT dryer can be oriented either horizontally or vertically for greater design flexibility and space optimization.

ENGINEERING ADVANTAGE

From medical to industrial, from simple to seemingly impossible, bring us your challenge and we will find a solution to increase your system performance while lowering total cost of ownership.

See more of our thinking and the advantages it delivers

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