

Goodyear Sees Performance Boosts With Drying Systems



When you're producing tires on a 24/7 basis at the world's largest tire manufacturing facility, you've got to have highly efficient equipment to keep the operation running smoothly. Goodyear Tire & Rubber Company recently incorporated new blower technology in its manufacturing plant in Lawton, OK, in order to increase efficiency in a critical drying process operation.

Installed in May 2008, 20 HP Paxton blowers replaced two 60 HP "squirrel cage" style regenerative blowers. The Paxton blowers, matched with Paxton air knives, significantly boosted drying performance and delivered an immediate drop in energy use.

With approximately 2,300 employees and 1.9 million square feet under roof, Goodyear's Lawton plant is the world's largest tire manufacturing facility. A key part of the tire manufacturing process involves extruded rubber strips that

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are cooled with water over a 200' to 300' section of the production line. Once doused, the rubber strips must be rendered 100 percent moisture-free before moving down the line. With a line speed of 60' to 100' per minute, the moisture removal system must deliver superior performance and reliability in order to keep the line moving as designed.

"The problem they were having was their old squirrel cage blowers just weren't drying the rubber strips well enough and that was causing all kinds of process challenges," says Rick Immell, National Sales Manager for Paxton Products, an ITW Air Management company. "The old 60 HP, fan-type blowers generated a lot of air but with no force. And, they were relying on the air promoting evaporation rather than delivering a blast of air that would shear the surface clean of moisture.

"We clearly illustrated to them that based on what they were paying for kilowatts per hour, they would realize a complete ROI on our blowers in only 13 months because their operating costs are about one-third what their old blowers cost them," says Immell. "This situation is typical of what we see in manufacturing plants that we retrofit with Paxton centrifugal blower systems. Most cases are performance driven, but then learn they can realize dramatic energy savings as well."

Immell explains that Paxton's centrifugal blowers are more performance- and energy-efficient than common blowers many times their size because they are designed to spin the blower head at 4 to 5 times the motor speed for higher, more efficient air velocity. Conversely, typical blowers with their fan or impeller mounted on the end of the motor shaft only spin at the motor's RPM, failing to take full advantage of the motor's rated horsepower.

Paxton's centrifugal blowers produce clean, dry and oil-free air flows to 1,200 cfm, pressure to 100" H₂O and vacuum to 100" H₂O (g) for true peak performance.

Goodyear also purchased a second system and is anticipating the need for a third system. Just three months after installing the Paxton blowers at Lawton, Goodyear purchased a Paxton AT-1200 20 HP drying system for its Topeka, KS manufacturing facility.

"At Topeka, Goodyear replaced a 100 PSI compressed air drying configuration that was using about 60 fan nozzles and one 36" pipe," says Immell.

"Our centrifugal blower system made a lot more sense for their 24/7 operations because, while compressed air is relatively inexpensive to install, it is very costly to operate continuously because it consumes a large amount of electricity. Also, when they replaced their compressed air drying system, they realized an added benefit of increasing the compressed air capacity for other applications throughout the plant. Their old drying system was putting a strain on their plant-wide compressed air capacity."

Immell reports that with the success of its first Paxton drying system, Goodyear is considering similar retro-fittings using Paxton centrifugal blowers within other

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Goodyear facilities. “When we installed that first system at Lawton in May, Goodyear brought its energy managers from several of its U.S. plants there to see it first hand and to figure out how they could incorporate similar systems into their operations,” says Immell.

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