

Compressed Air Training Keeps Machining Company on the Cutting Edge

efficient manufacturing

PROJECT RESULTS

- Stable compressed air system pressure
- Total energy savings of 35%
- Reduced wear and tear on compressors
- Fewer parts to purchase and maintain
- Even pressure throughout the distribution system
- Eliminated need for a compressor

When Chris Lamb joined Pioneer Products, a leading-edge machining and assembly facility in Racine, Wisconsin, he brought strong skills and experience in servicing compressed air equipment. A few months ago—with his company's equipment apparently operating well and business growing—he was sent to a Compressed Air Challenge workshop by the vice president of his company, Mick Mainland, who has always strived for energy efficiency in manufacturing.

Lamb knew that the common wisdom for dealing with compressed air problems was to "buy another compressor." But it didn't seem that there were very many problems with Pioneer Products' equipment, which included a 100 HP rotary screw compressor and three 50 HP rotary screw compressors with refrigerated air dryers. "Compressed air is used in virtually every aspect of our business, from supplying our machining centers, manual machines, and pressure testing equipment to blowing off parts for cleaning purposes," he says.

Lamb attended the workshop, even though things seemed to be fine. And he was amazed to discover how much potential there was for better performance and cost reduction in his company's compressed air system. "We had no idea how much waste there was," says Lamb. "We knew the compressed air was an expense, and we were used to putting the money out. But we were surprised at how the small things could add up. These problems are almost invisible."

A national initiative, The Compressed Air Challenge, was developed in response to problems seen in compressed air systems. The Energy



Chris Lamb learned how to save his company thousands of dollars.

Center of Wisconsin is among its sponsors. After participating in the Compressed Air Challenge workshop, *Fundamentals of Compressed Air Systems*, the attendees understand the seven actions needed to identify and promote compressed air system improvements in their own facilities.

The workshop provides practical knowledge so that participants will be able to implement what they learn. Participants are asked to bring in specific information about the compressed air system they work with. By coming to the workshop with all the specifics of his compressed air system, Lamb was able to return back to Pioneer Products with targeted actions to pursue.

After returning from the workshop, Lamb implemented the Seven-Step Action Plan presented in the course. He said the bottom line was that the company was wasting money—and that the changes would solve that problem. "The program sold itself," he says.

IMPLEMENTING CHANGES

The changes Lamb proposed and implemented included:

- Starting a compressed air leak detection and repair program
- Installing a tank for increased storage of compressed air
- Connecting the ends of distribution lines to "loop" the distribution system
- Eliminating some unnecessary pressure losses in the distribution system
- Installing a flow based compressor control system
- Reducing plant compressed air distribution pressure from 110 psi to 80 psi
- Installing a point-of-use compressor for the one piece of equipment that requires 105 psi

PAYBACK TIME

Before the changes, the plant required a total of 200 hp of compressors to provide sufficient compressed air to the plant. Now, 100 hp does the job. The energy cost reduction of 35% is paying for the compressed air system improvements in less than one year.

"The report I gave my boss was that we didn't even have to run all of the existing compressors," says Lamb. "In fact, because of our newfound surplus of air, we were able to give one of our compressors and its dryer to a sister company in need."

Eventually, all the savings becomes profit. "By the time I had completed the installation, we had already saved more than half of our investment in the equipment," he says.

To find out how you can improve the performance of your compressed air system while reducing operational costs, call 608.238.4601, send an e-mail to industrial@ecw.org, or visit the Compressed Air Challenge website at www.knowpressure.org/.



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