Written by Ron Marshall, for the Compressed Air Challenge
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How effective/efficient is your com-pressed air system? Take a few minutes to visit your compressor room. It's probably noisy, hot and dirty. Look at the compressors, note their vibrations and heat, then try to evaluate the health of the equipment by feel. Not working for you?

How about checking the compressor gauges? Unfortunately, pressure, temperature and, perhaps, a maintenance-warning message are typically the only parameters indicated. No luck there.

The fact is most compressed air systems incorporate no convenient means for determining how much air is produced—*or how well it's done.* Measurement of your system is crucial: To embark on improvements, you must correctly baseline your key system inputs and outputs and assess how your system is meeting your plant's needs. The first step is to use accurate instrumentation and develop a baseline. That's the starting point for future optimization efforts.

Baselining your compressed air system can reveal how efficiently it operates. For example, if you knew your compressors were rated to produce air at a specific power of 20 kW per 100 cfm, but that your system actually was consuming 75 kW per cfm, wouldn't you be curious? The specific power of a system is like an automobile's gas mileage: When things go wrong under the hood or the vehicle is driven incorrectly, the miles per gallon you expect from your vehicle will suffer.

A baseline can also provide valuable information on how your compressed air is used. Consider this: What if you discovered that 50% of the average compressed air produced by your system was flowing during periods of non-production (i.e., on evenings, weekends and holidays)? This knowledge could lead you to make some improvements in your operating regime—*and help your operations capture welcome cost savings.*

Finally, baselining can help you gauge how effective your system is in providing compressed air pressure to end-users. Operators often are very surprised by what they learn during system assessments. For example, that 120 psi they've been fighting to maintain in the compressor room might—*due to undersized piping, filters, regulators and fittings*—turn into only 70 psi (or less) at a critical compressed air-powered tool.

Remember that careful measurement of a compressed air system isn't merely about documenting areas of common concern. Rather, it's the first thing to do when you get serious about optimizing your system.

Need help? Most compressed air system suppliers can assist you in assessing your system. Many firms and organizations across the country also provide independent audits as part of their normal product offerings. To help you choose the right partner, the Compressed Air Challenge (CAC) has developed "Guidelines for Selecting a Compressed Air System Provider" available on our Website at http://www.compressedairchallenge.org/library/guidelines.pdf. Don't forget to check out the Website's Toolbox section for calculation tools that can help generate a DIY estimate of your system's baseline and potential savings. Attending CAC training can also go a long way in helping you better understand compressed air systems. **MT**

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