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Your air compressors won't last forever. At some point in your career, you could be involved in specifying a compressor for a new application or deciding to repair or replace an old one that has failed. Let's assume you had not thought about the subject for years. You would need to quickly bone up on the various makes, models and types that are available—*and prepare for the blizzard of information that's sure to come your way when you ask for sales quotes.*

But, how do you choose the best air compressor? That's simple: If energy costs and efficiency are important to your operations, data sheets from the Compressed Air and Gas Institute (CAGI), along with resources from the Compressed Air Challenge (CAC), can be a big help in your decision-making process.

Many times the purchasing decision for an air compressor and related equipment comes down to the cheapest first price, without consideration of the ongoing operating cost. Often the price difference between various equipment quotes may differ by only a few hundred dollars, however the actual total lifecycle costs can quickly negate any purchase savings.

Based on 10 cents per kWh for a five-day, two-shift operation of about 4200 hours per year, a typical 100 hp compressor will consume about $37,000 in annual electricity costs. Over a 10-year period, these electrical costs can make up about 76% of the total lifecycle cost of the air compressor, with the purchase price representing only 12%. This means, for example, if you select a compressor that's 5% more efficient than the lowest cost choice, your decision could result in an $18,500 savings in operating costs over 10 years.

Much has changed over the years in the compressed air industry. Most customers are demanding energy efficiency—*which, in turn, has encouraged manufacturers to develop better compressed-air equipment.* Because newer units often use less energy, hanging on to your old compressor may not always be in your best interest. Until recently, though, comparing a manufacturer's efficiency claims for new equipment was confusing due to differing test standards and reporting methods and lack of verification of the numbers. Fortunately, members of CAGI have all agreed to test, report and make their equipment-performance numbers available in standardized data sheets.

As a service to end-users of compressed-air-system equipment, members of the Rotary Positive Compressor and the Air Drying & Filtration sections of CAGI have developed standardized formats for reporting performance. All members of these sections have agreed to use the reporting forms—*known as CAGI Datasheets*—and to post the sheets on their respective Websites. Note that this data is subject to random third-party testing to verify accuracy. (For details, go to www.cagi.org.) The point is that plant engineers can use the CAGI Datasheets to calculate and compare various quoted options via standardized data that can justify the higher purchase price of more efficient equipment.

Additional information on this topic can be found in the Library section of the CAC Website (www.compressedairchallenge.org), specifically in “Fact Sheet 5 - Packaged Compressor Efficiency Ratings.” **MT**

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