Technical Bulletin

Measuring Compressor Output

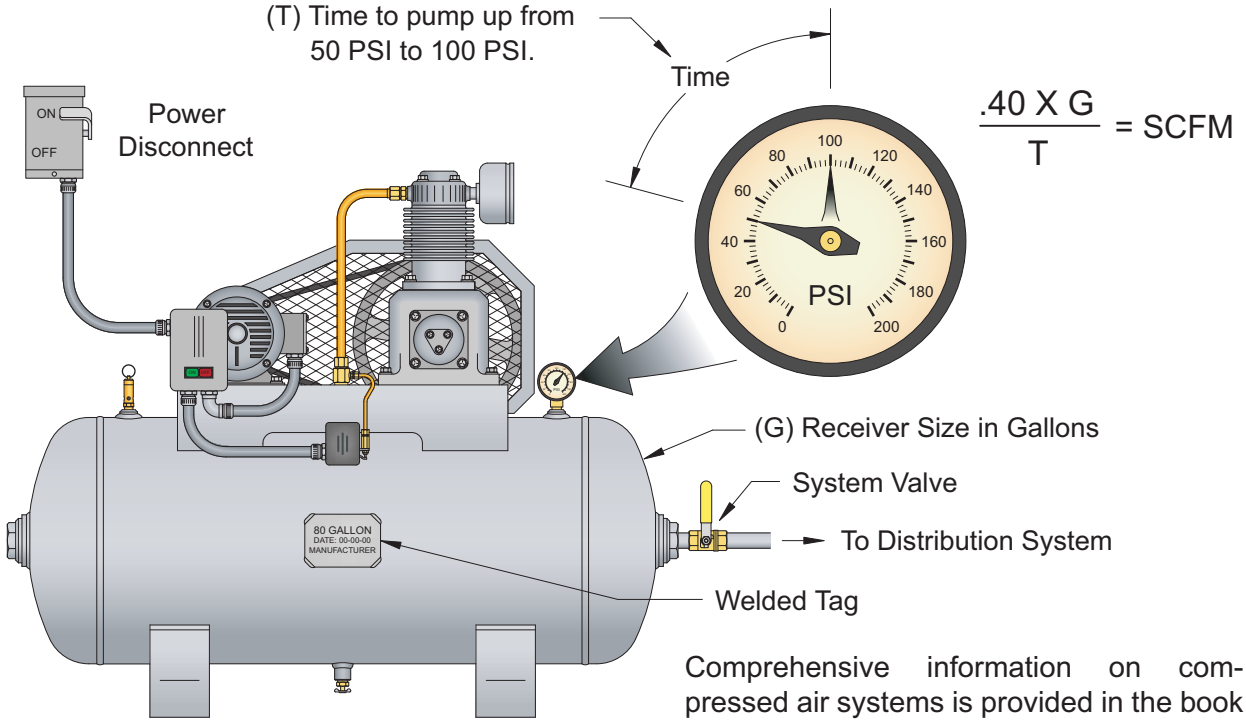
Most compressed air users have no idea whether their compressors are operating up to specification or not. This is a particularly important thing to know if you are using or replacing an old compressor. Many older compressors are replaced with larger units because there is a perception that the old unit wasn't big enough, when in reality it was simply worn out.

It's fairly simple to accurately test the output of a compressor with only a few parameters, a stopwatch and a reasonably accurate pressure gauge. The compressor must feed a receiver or tank of a known volume. The capacity of a compressed air receiver is typically stamped on the welded tag in gallons. The welded tag is typically located on the side of the tank at eye level. The receiver should be equipped with a pressure gauge that is in good condition and has clearly visible graduations. I usually like to use a 4" diameter gauge with a 2% accuracy rating. You must know the original factory SCFM rating of the compressor under test and you'll need your stopwatch handy.

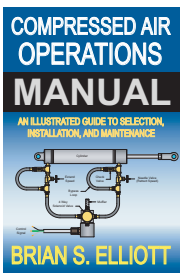
To conduct the test, close the valve that isolates the receiver from the plant's distribution system and turn off the compressor. Vent the receiver down to approximately 30 pounds per square inch (PSI) and turn the compressor back on. Study the pressure gauge on the receiver and use the stopwatch to time, in minutes, how long it takes for the pressure to build from 50 PSI to 100 PSI. Use the following formula to calculate the SCFM of your compressor:

(.40 x Receiver Size in Gallons) ÷ Time in Minutes = Compressor SCFM

Dividing the results of the test (Compressor SCFM) by the manufacturer's SCFM specification will indicate what percentage of the original capacity the compressor is operating at.



Comprehensive information on compressed air systems is provided in the book **"Compressed Air Operations Manual"** by Brian S. Elliott, ISBN: 0-07-147526-5 Published by the McGraw-Hill Book Co.



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