

Technical Bulletin 25

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Compressor Short Cycling

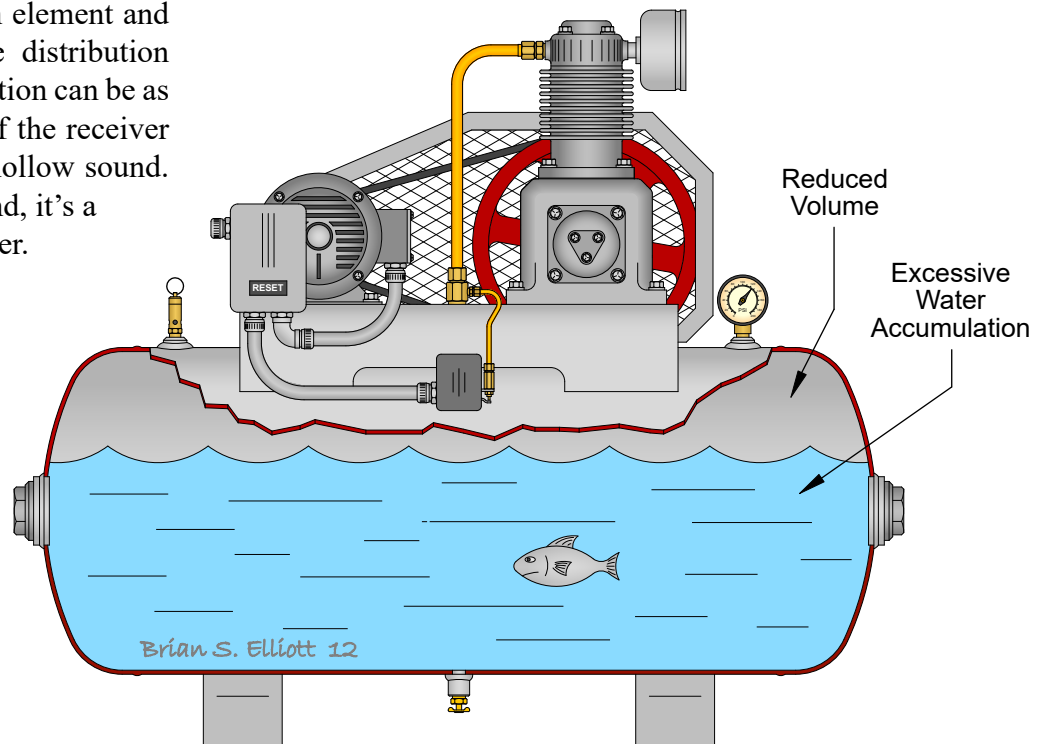
by Brian S. Elliott

Short cycling is a condition that forces the compressor to turn on and off at unacceptably short intervals. This condition can push the motor to overheat and consequently trip the heater protection element in the motor controller. For compressors that do not utilize a motor controller, the motor itself can be severely damaged. There are several reasons that a compressor might short cycle; however, the most common is that the receiver is filled with water. When draining the tank is neglected, water will accumulate until the remaining volume is reduced to the point where the pump can repressurize in a very short period. The flip side of this equation is that the pneumatic applications being fed by the compressor draw the tank pressure down in short order. This condition then forces the compressor to short cycle.

In most cases, there are tell-tale signs that water is collecting to unacceptable levels. The two most common signs are the repeated tripping of the heater protection element and sudden excessive water in the distribution system. Checking for this condition can be as simple as rapping on the side of the receiver tank. The tank should have a hollow sound. If it has a particularly solid sound, it's a good bet that it's filled with water.

Correcting this condition is quite simple. Just drain the tank and set up a regular draining procedure. Better yet, install an automatic electronic drain. Once a month, verify that the drain(s) are flowing properly. If not, service the drain valve, verify that the drain port is clear and jet out the strainer.

***Drain the compressor tank every day!
..... Or, better yet,
install an automatic drain.***



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