# Smart

## 10 Ways to Reduce Compressed Air Cost and Unnecessary Energy Spend

### Small Adjustments Equate to Big Savings.

Energy efficiency continues to be a significant operational concern in plants worldwide. Air pollution control equipment is a substantial energy consumer in the system.

**10 ways to reduce compressed air cost and unnecessary energy spend**


1. Reduce compressed air pressure to the lowest allowable level, which increases filter bag life, and decreases compressed air consumption.

2. Convert older 3/4" single diaphragm pulse valves to larger 1 ½" diameter double diaphragm valves.

3. Inspect the pipe and connections periodically and repair any leaks, regardless of how small.

Did you know? A tiny 1/8" diameter hole within a compressed air system will pass 16.9 cfm psi, resulting in 8,880,000 cubic feet per year. If the cost of the compressed air is $0.20 per 1,000 cfm, the total cost produced by the orifice will be $1,776.00 per year!

4. Set the on-time operation to energize the solenoid at 0.100 seconds.

5. Pulse valve and solenoid maintenance. Identify and repair any poorly seated or broken diaphragms or solenoids as soon as possible.

6. Ensure the compressed air pipe size is appropriate for the distance from the air source. Too small of an air supply pipe will create a flow restriction that will slow the tanks ability to regain pressure. If the cleaning capability of the unit is maximized, the pressure recover should be instantaneous.

7. Clean-on-Demand will protect the fabric since the pulse will not be activated until the differential pressure has reached the predetermined set point.

8. Ensure the pulse cleaning sequence is set up in a staggered sequence. The recommended setting of the Clean-On-Demand controller should be set to maintain a differential pressure from 1/2" to a maximum of 1" across the filters.

9. Primary energy consumers can be the fan and the fan motor. The most energy efficient method of operating the fan is to have variable speed motors or drives which are designated to operate on static or volumetric requirements of the system.

10. The inlet duct design into the hopper can also help improve the system performance. A cost-effective modification is to add ladder vane baffles in the hopper. This reduces the back pressure of the system and distributes the air in the hopper evenly.



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