

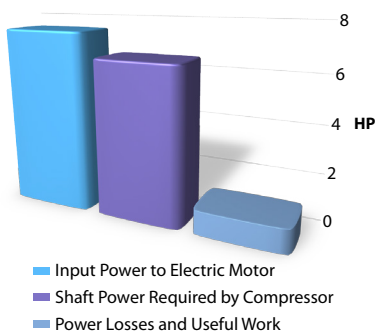
Compressed Air System *Info Card*

Top 5 Energy Conservation Measures

1. Eliminate inappropriate uses of compressed air
2. Stabilize system pressure
3. Lower pressure requirements of end uses
4. Minimize compressed air leaks
5. Provide compressed air of appropriate quality for manufacturing processes

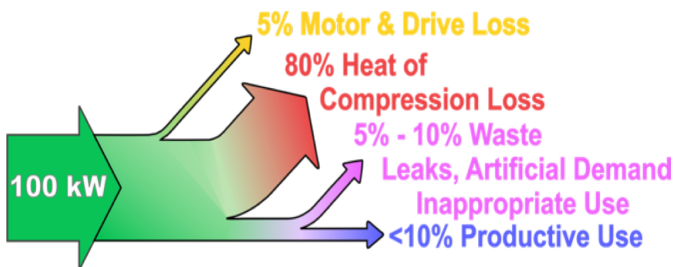
1 hp air motor = 7-8 hp of electrical power

- 30 scfm @ 90 psig is required by the air motor
- 7-8 hp electrical power required for this
- Annual energy cost \$1,164 (air motor) vs. \$194 (electric motor)



* 4,000 hrs/yr; \$0.05/kWh

Compressed Air System's Inefficiency



Rules of Thumb

- Lowering compressor pressure setpoints by 2 PSIG will result in ~1% savings
- Lowering compressor inlet air temperature by 10°F will result in ~2% savings.

Resources

- Improving Compressed Air System Performance: A Sourcebook for Industry by US Department of Energy
- AirMaster+ and Logtool

betterbuildingsolutioncenter.energy.gov

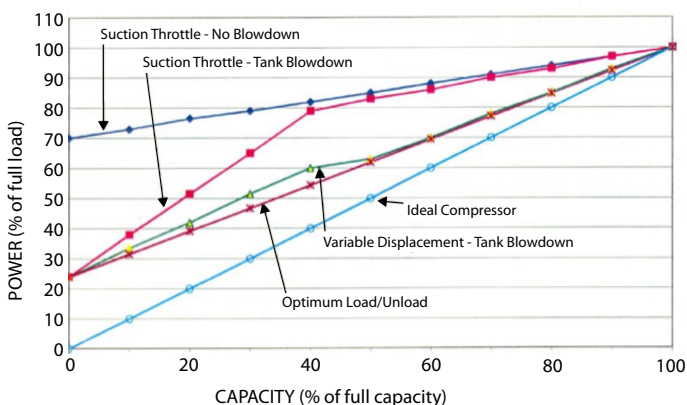
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Annual Air Leaks Costs

*Based on \$0.075/kWh

Pressure (Psig)	Equivalent Orifice Diameter (in.)					
	1/64	1/32	1/16	1/8	1/4	3/8
70	\$34	\$137	\$551	\$2,202	\$8,799	\$19,844
80	\$38	\$149	\$620	\$2,455	\$9,827	\$22,138
90	\$43	\$173	\$676	\$2,732	\$10,880	\$24,433
100	\$47	\$183	\$746	\$2,983	\$11,932	\$26,845
125	\$57	\$229	\$906	\$3,625	\$14,451	\$32,581

Control Strategies



Potential Inappropriate Uses

Potential Inappropriate Uses	Alternatives
Clean up, Drying, Process Cooling	Low pressure blowers, Electric fans, Brooms
Sparging	Blowers and mixers
Aspirating, Atomizing	Low pressure blowers
Vacuum generators	Dedicated vacuum pumps
Air operated diagram pumps/ motors	Electric pumps with proper regulators
Air motors	Electric motors
Idle equipment	Install air stop valves at the inlet
Abandoned equipment	Disconnect air supply