

- ✓ **Install a control system to coordinate multiple air compressors.**
- ✓ **Study part-load characteristics and cycling costs to determine the most-efficient mode for operating multiple air compressors.**
- ✓ **Avoid over sizing -- match the connected load.**
- ✓ **Load up modulation-controlled air compressors. (They use almost as much power at partial load as at full load.)**
- ✓ **Turn off the back-up air compressor until it is needed.**
- ✓ **Reduce air compressor discharge pressure to the lowest acceptable setting. (Reduction of 1 kg/cm<sup>2</sup> air pressure (8 kg/cm<sup>2</sup> to 7 kg/cm<sup>2</sup>) would result in 9% input power savings. This will also reduce compressed air leakage rates by 10%)**
- ✓ **Use the highest reasonable dryer dew point settings.**
- ✓ **Turn off refrigerated and heated air dryers when the air compressors are off.**
- ✓ **Use a control system to minimize heatless desiccant dryer purging.**
- ✓ **Minimize purges, leaks, excessive pressure drops, and condensation accumulation. (Compressed air leak from 1 mm hole size at 7 kg/cm<sup>2</sup> pressure would mean power loss equivalent to 0.5 kW)**
- ✓ **Use drain controls instead of continuous air bleeds through the drains.**
- ✓ **Consider engine-driven or steam-driven air compression to reduce electrical demand charges.**
- ✓ **Replace standard v-belts with high-efficiency flat belts as the old v-belts wear out.**
- ✓ **Use a small air compressor when major production load is off.**
- ✓ **Take air compressor intake air from the coolest (but not air conditioned) location. (Every 50C reduction in intake air temperature would result in 1% reduction in compressor power consumption)**
- ✓ **Use an air-cooled after cooler to heat building makeup air in winter.**
- ✓ **Be sure that heat exchangers are not fouled (e.g. -- with oil).**
- ✓ **Be sure that air/oil separators are not fouled.**
- ✓ **Monitor pressure drops across suction and discharge filters and clean or replace filters promptly upon alarm.**
- ✓ **Use a properly sized compressed air storage receiver. Minimize disposal costs by using lubricant that is fully demulsible and an effective oil-water separator.**

- ✓ Consider alternatives to compressed air such as blowers for cooling, hydraulic rather than air cylinders, electric rather than air actuators, and electronic rather than pneumatic controls.
- ✓ Use nozzles or venturi-type devices rather than blowing with open compressed air lines.
- ✓ Check for leaking drain valves on compressed air filter/regulator sets.
- ✓ Certain rubber-type valves may leak continuously after they age and crack.
- ✓ In dusty environments, control packaging lines with high-intensity photocell units instead of standard units with continuous air purging of lenses and reflectors.
- ✓ Establish a compressed air efficiency-maintenance program. Start with an energy audit and follow-up, then make a compressed air efficiency-maintenance program a part of your continuous energy management program.

