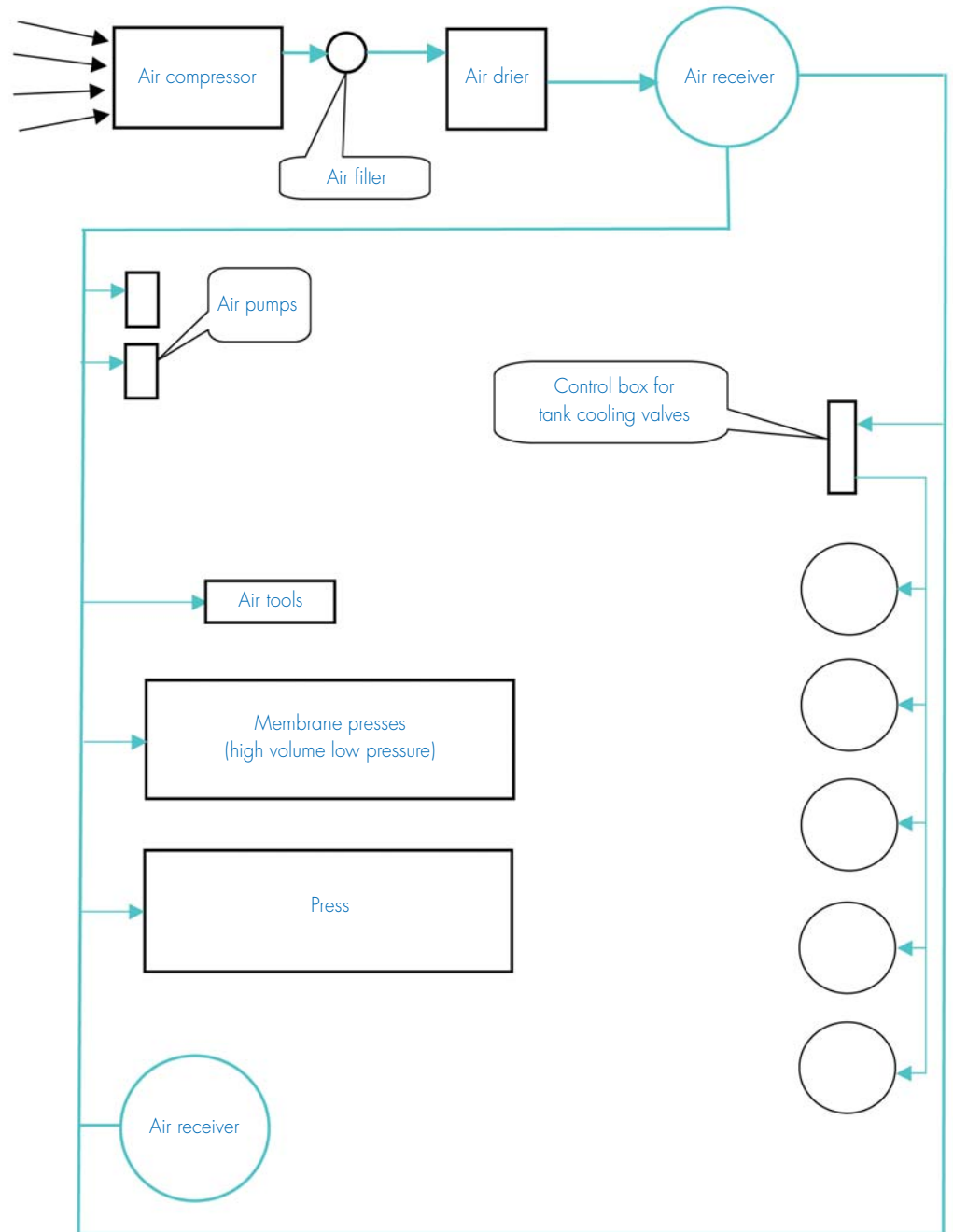


compressed air system

Compressed air systems account for up to 20% of your total electricity bill. They are very inefficient with most of the energy used converted to heat.

A typical compressed air system for a winery consists of the air compressor, filter, dryer, receiver and supply lines. Winery compressed air systems differ from other air system requirements due to the high demand spikes during vintage with relatively small demand for the rest of the year.

Typical compressed air system.



Maintenance

- Leaks in the hoses, pipes, joints and air powered tools waste compressed air. Fixing these leaks may be as simple as tightening a connection or replacing a fitting. As well as wasting energy, leaks cause a drop in system pressure. To find these leaks you can listen for leaks before or after work when all other equipment is turned off. It is also worthwhile conducting a regularly scheduled overnight leak test to establish how airtight your system is. To do this you switch off and isolate the compressor and measure any drop in the pressure gauge reading in the morning.
- Supply air is often set at a pressure higher than 600kPa though most equipment can operate effectively at a lower air pressure. The pressure can be matched to the demand without wasting energy and money. For every 100kPa reduction in operating pressure energy savings of at least 8% can be made.
- Energy savings can be made if the temperature of the intake air is reduced. For every 3°C reduction in inlet temperature, energy use is reduced by 1%. This can be achieved by ducting fresh air from an area outside that is cool or shaded with hot air discharged elsewhere to prevent recirculation.
- Install a timer control so that the compressor automatically shuts down at the end of the working day.
- Ensure the system automatically switches off when set point pressure has been reached.
- Ensure intake filters and condensation traps are cleaned regularly.
- Turn off the compressed air system after vintage and open the receiver drain valve. This will save on electricity and also reduce corrosion from moisture buildup inside the air receiver.

