



To measure is to know! – Improved technology to understand flow & power consumption and **Save** for Compressed Air systems

Compressed air is often regarded as the fourth utility, after electricity, gas and water. However, compressed air is more expensive than other utilities when evaluated on a per unit energy delivered basis. So it is critical to measure compressed air system consumption and find any wastage.

Compressed air systems use up to 10% of total industrial electricity use in Australia, and most manufacturing facilities where it is used so it makes sense to constantly monitor flow and consumption to quickly identify wastage and immediately reduce energy costs.

The installation of a compressed air flow meter in the main supply header will instantly provide an accurate usage profile and system leakage rate during non-production periods. When combined with electrical consumption readings, the ratio of output air flow to input power provides the basis for measuring system efficiency. Any deviation from the norm can be quickly identified.

With accurate power consumption and air flow readings, you will be able to accurately calculate your systems cost of compressed air (cost to produce a m³ of air). Once a cost of compressed air is established, it is possible to allocate a charge to departments or processes for the use of compressed air. This will help to reduce the misuse of air through accountability.

Outdated technology to measure compressed air flow uses orifice plate meters. These meters introduce costly pressure differential into the system at high flow and have only limited accuracy for determining flows at low flows, where leakage rates are usually measured.

Today new technology to measure flow is by using a thermal mass flow meter. The meter works using two temperature sensors, one heated and the other static. Mass flow is proportional to the amount of power required to keep a constant temperature difference between these sensors in a flow of gas. An accurate signal output is achieved that is not affected by changes in air pressure.

Measuring flow and power can help you;

1. understand your systems actual cost of compressed air
2. trend consumption over nominated periods of time



3. monitor your systems efficiency and leakage levels
4. reduce misuse of air
5. create accountability to help reduce inefficiencies
6. troubleshoot issues as they arise

All of which will help you save. What you must consider is, if you're not monitoring these parameters within your system you are operating blind. The savings can be immediate and significant.

