



Automatic Leak Detection System

Improve the competitiveness of your machine



ALDS Improve the competitiveness of your machine

Subject:

Automatic Leak Detection in a Compressed Air System(CAS)

Background:

Recent Energy Saving Audits completed by our Energy Saving Experts have revealed that poor system design and inadequate maintenance is having a significant impact on the cost of production with up to 20% of all compressed air simply just leaking away and wasting over 2.3 billion Euros for European compressed air users each year.

Objective:

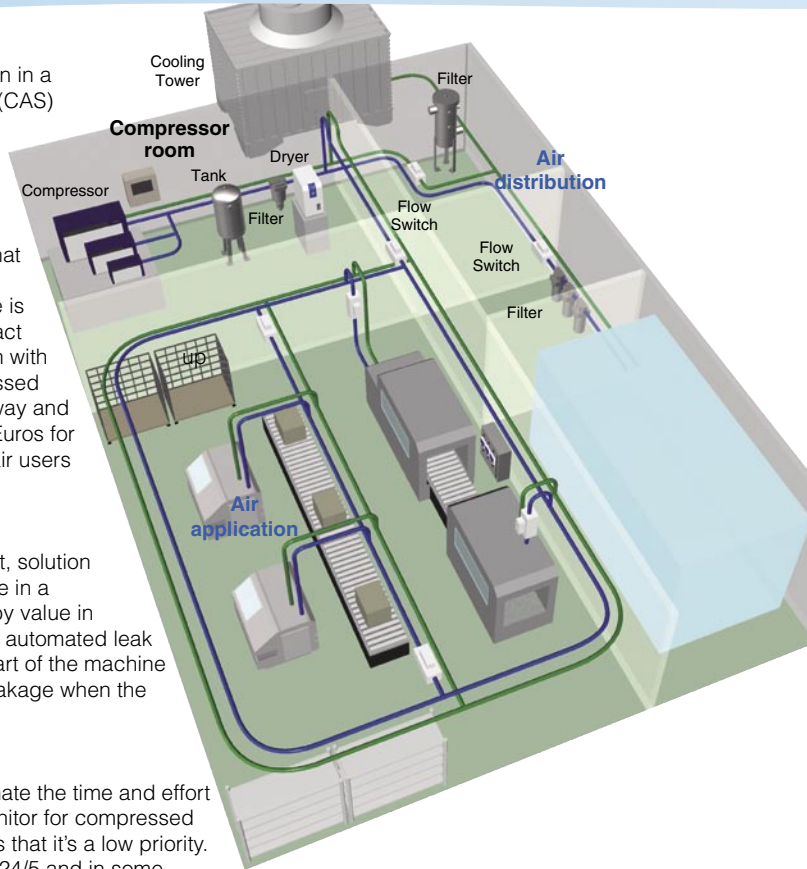
To find a simple, low cost, solution to help detect air leakage in a compressed air circuit, by value in NI/min, by integrating an automated leak detection system as a part of the machine that can even monitor leakage when the machine is in operation.

Considerations:

In today's economic climate the time and effort required to detect or monitor for compressed air leakages often means that it's a low priority. Most machines function 24/5 and in some cases 24/7 so it's just not economically viable to cease operation to check individual valves, tubes, fittings etc. Also the use of a ultra-sonic leak detector is time consuming and relatively expensive to undertake.

Solution:

SMC's A.L.D.S –
a low cost, automated leak detection system.



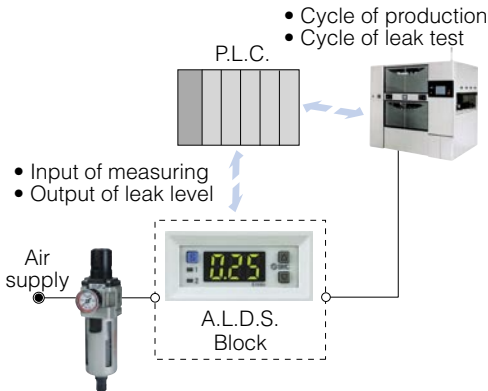
Benefits:

By adding an A.L.D.S. to a machine it can:

- detect air leakages as and when they occur - even on a daily basis
- confirm the exact value of the leak in l/m
- provide maintenance personnel with a detailed report on where the leakages are located without the need to detect individual components
- operate and detect leakages even when the machine is in operation
- be integrated in the machine's software without the need for any external supervision system – scad etc,

Basic Operating Concept:

The A.L.D.S. is based on a manifold block consisting of a standard SMC Series PFM flow meter plus the introduction of a diverting valve which is installed in the machines main air supply. The valve is operated using sequence instruction which are integrated in the machines operating software.



Using a pre programmed “check leakage cycle” each compressed air circuit on the machine can be individually monitored with the results checked against the previously stored records saved in the PLC. These records can then be issued as a report to the maintenance departments accordingly, thereby ensuring maximum efficiency in both air leakage detection and potential energy savings.

Key A.L.D.S Product:

Series PFM – a Digital Flow Switch with a dual colour display

A key component in SMC's portfolio of Energy Saving products, the PFM Digital Flow Switch utilises a micro-electromechanical system (MEMs) in its construction and this latest microchip technology delivers outstanding accuracy and fast response speeds, especially when working with low flow applications.

Suitable for use with Dry air, N₂, Ar, and CO₂, the PFM range is extremely compact and lightweight and its easy-to-see digital sensor provides excellent visual performance - at-a-glance. And, as the flow adjustment valve is integrated into the switch, piping installation could never be any easier and mounting flexibility is ensured.



Next Steps:

For more information on the innovative A.L.D.S (automated leak detection system), including the high performance Series PFM flow meter range – simply contact your nearest SMC office using the contact details provided.



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