

Festo Energy Monitoring GFDM

Field of application

- Continuous acquisition of air pressure and consumption data
- Preventive maintenance (condition monitoring)

Key features

- High potential savings
- Improved system availability and productivity
- Contributes to the determining of process costs
- Assured process quality

Compressed air consumption and waste

Compressed air wastage doesn't normally have any damaging effects on the environment. And this is perhaps the reason why air leaks are often not taken seriously. Nevertheless, there's no denying that compressed air is too expensive to throw away. Thus, after installing Festo's Energy Monitoring GFDM, wasted compressed air is a thing of the past.



■ In today's highly competitive markets, manufacturing companies and producers of machinery are perhaps surprised to discover that costs for compressed air may be as high as 0.02 Euro per cubic metre. But thanks to continuous monitoring of flow rates and air consumption via flow sensors, Festo Energy Monitoring GFDM ensures product and process reliability, and prevents downtime. System availability and productivity are increased by means of 100% continuous quality testing.

Don't underestimate compressed air!

Compressed air is the second most important industrial source of energy after electricity. Pneumatic drives are the preferred drive technology for many industrial applications – rightfully so, because they're considered overload-proof, durable, robust, reliable, economical and easy to install.

For this reason, pneumatic applications do not appear to require any monitoring technology during operation. However, 79% of the costs for compressed air is incurred in supplying and processing electrical energy. Even assuming that the compressors, the distribution system and the pneumatic drives are all correctly sized, compressed air is often not used in an optimised fashion, and leaks result in the loss of air.

In many larger, older ...

... pneumatic systems, leakage occurs within a range of 200 to 600 litres per minute. Savings of roughly 1000 euro per year could be realised in this case, simply by reducing leakage to 100 litres per minute. As a diagnostics system, GFDM continuously monitors compressed air consumption – and helps to keep leakage within a

minimum range of 100 to 200 litres per minute.

Festo Energy Monitoring

GFDM takes advantage of flow and pressure sensors, diagnostics controllers and a visualisation tool such as the FED front-end display or VipWin software. Optional service offerings complement that hardware and software, thus creating a complete solution package with Energy Monitoring functionality. The user can, if required, be provided with support during sizing, commissioning and operation of the GFDM within his system.

Various reference data records facilitates for separate monitoring of various operating states, for example automatic operation and the stop mode. In particular air consumption in the stop mode is an indicator of leaks within the system, and thus of wasted resources.

Festo Energy Monitoring GFDM is capable of monitoring up to 16 different products or process conditions within a system. When a product changeover takes place, the appropriate reference data record is loaded automatically and monitoring continues without interruption.

Continuous evaluation

Continuous evaluation of flow rate and air consumption provides valuable diagnostic information, and indicates whether or not a pneumatic system or subsystem is running efficiently. This task can be easily assigned to flow sensors that monitor flow rate and air consumption, and thus detect any faults in a timely fashion. And flow sensors have proven themselves as effective and inexpensive diagnostic tools. The use of energy monitoring software is a much

better alternative than waiting to look for leaks until one's suspicion is aroused, and/or increasing compressor power. ■

