

Measuring Task

Flow measurement of the compressed air which is generated by the central compressed air station and fed into the plant network

Medium: compressed air
 Pipeline: DN250
 Material: steel, wall thickness 6 mm
 Pressure: ~ 7 bar
 Temperature: ~30 °C

Instrument Used:

1 stationary clamp-on ultrasonic FLUXUS® G704 CA flowmeter
 1 pair of GLK transducers (Lamb wave),
 mounted on a Variofix L sensor attachment device

Advantages:

- Reliable recording of the compressed air quantities generated
- No impairment of system availability due to non-invasive measuring technology
- Reliable recording of measurement data and determination of key figures for compressed air generation
- Efficiency potential is tapped

Selling Points:

- Non-invasive acoustic measurement from the outside of the pipe:
 - No pressure loss
 - No impairment of the measurement by condensate or oil, no measurement drift
 - No wear and tear, no maintenance costs
- Integration into the load and energy management system via Modbus RTU
- Very good experience with the versatile, portable clamp-on FLUXUS® ADM6725 und FLUXUS® G601 CA Energy ultrasonic flowmeters

Description



Compressed air is an indispensable tool at MKM, which is needed for practically all processes. The operation of machines and tools and the controlling of fittings and control devices are just two examples of the wide range of applications it is used for. The compressed air is generated centrally in a compressed air station equipped with eleven screw compressors (total nominal power 2.15 MW). While consumption at the various delivery points is measured for the purpose of internal balancing, the total amount of compressed air generated in the past was calculated only from the stated power and the documented operating hours. For modern load and energy management, this method is far too inaccurate. That's why, the engineers in charge were looking for a suitable measuring solution.

Non-invasive flow measurement with FLUXUS® G proves to be the ideal solution. Since clamp-on ultrasonic transducers are simply mounted on the outside of the pipe, set-up of the measuring point does not require any interruption of the compressed air supply to the factory, which operates around the clock and therefore requires compressed air at all times. For installation, the insulation only had to be removed for a short time at the measuring point (see picture above left). The standard volume flow can be determined by recording the pressure and temperature. As a result, significant figures can now be determined about the costs of compressed air generation and their efficiency. Integration into the energy management system takes place via Modbus RTU.

Non-invasive compressed air measurement

Customer



MKM Mansfelder Kupfer und Messing GmbH, Hettstedt, Germany

MKM is a leading European manufacturer of primary and semi-finished products made of copper and copper alloys. As a company with more than a century of expertise MKM has always offered ground-breaking technologies, service concepts and solutions tailored to the market, and true German quality.

With more than 1,200 employees at the production site in Hettstedt, MKM is one of the largest employers in Saxony Anhalt. In 2017, the company produced approx. 270,000 tons of copper which was supplied to around 1,000 customers in 60 countries. In addition, MKM is represented with numerous sales offices worldwide. Demand for semi-finished products made of non-ferrous metal is growing. Emerging global markets and megatrends such as eMobility, renewable energies, climate change, megacities, digitisation and communication all need an outstanding material: copper. And MKM can answer that. We live copper.



Photo: MKM

For further information, please contact ACTUM

Tel.: 011 608 3001

sals@actum.co.za
 www.actum.com