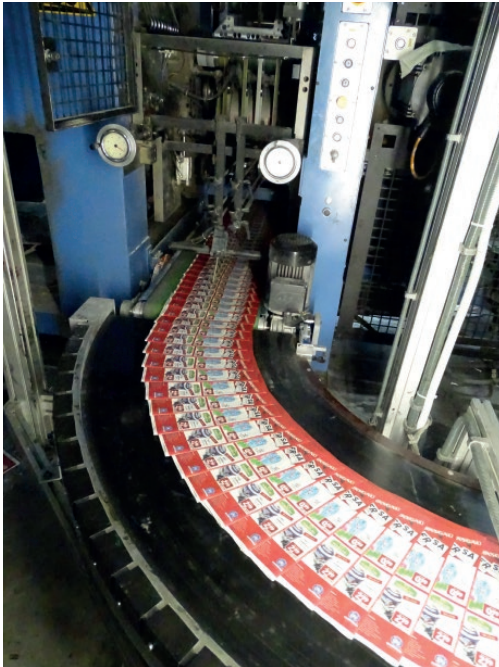


Powerfully optimized

Compressor control enables significant energy savings in a print shop



The example of a printing company shows how a relatively small measure can have a big effect: By installing a higher-level compressor control system, compressed air production could be significantly optimized in a short time. The result is high savings and amortization of the control system within a month.

The Eversfrank Group is an international printing and media company with around 1,000 employees at a total of ten locations. One of the group's printing locations is Alzey. Heatset and coldset web printing, sheet-fed printing with a high level of inline finishing and digital printing are the techniques used by the Ge-

Managing director Jürgen Salzer-Rahali fulfills the customers' wishes. "We print all the nice things here that you find in your mailbox every day: brochures, for example for furniture associations, the clothing industry and for German and French retail chains, are our core business. We produce around 100 million brochures a month, that's 30,000 tons of paper a year," summarizes Jürgen Salzer-Rahali.

Print shops are inherently very energy-intensive businesses. Jürgen Salzer-Rahali has made it his mission to keep consumption as low as possible since he took over management of the Alzey location at the end of 2015. He quickly identified a particularly promising adjustment screw in the area of the plant's compressed air supply. "For the size of the company, we consume a significant amount of compressed air. When I took over the work, however, it was not possible to quantify in black and white how high this actually was," says Salzer-Rahali, describing the starting point of his activities.

01a+b 30,000 t of paper per year are produced on Alzey location of the Eversfrank Group printed

more or less through. Exactly how much compressed air we used could only be estimated: we could produce 24 m³/min and when a service technician came, he had to bring a rental compressor with him to cover the demand when one of the compressors was serviced. So I knew the need had to be somewhere

Through the cost savings in energy and service alone, the compressor control system paid for itself in just one month.

Jürgen Salzer-Rahali, Managing Director, Eversfrank, Alzey

Author: Martina Laun, editor of DER BETRIEBSLEITER

"We had four unregulated compressors that ran 24 hours a day, 365 days a year

In focus

Efficiency	☒	☒	☒
Sustainability	☒	☒	☐
Security	☐	☐	☐



02 Managing director Jürgen Salzer-Rahali was able to use the Airleader compressor control

Significantly optimize the high compressed air consumption

over 20 m³/min." There was also an "ancient control system". "All I saw was that we had 9 to 10 bar pressure and the four compressors were always running at full speed around the clock," the managing director continued. As a result, the compressors had to be serviced every three to four months - another significant cost driver.

Visualization brings clarity

"Finally, I thought about purchasing a new control system for compressed air generation," explains Jürgen Salzer-Rahali, explaining his approach to optimization. He did some research on the Internet and finally came across Airleader from WF Steuerungstechnik. "We specifically chose a product with an open interface that controls compressors regardless of the manufacturer," says Salzer-Rahali, explaining his decision. The large Airleader version with web connection was purchased straight away. The installation took place in mid-2016.

A bit of fine-tuning was necessary at first, but with the support of the experts from Airleader provider WF Steuerungstechnik, "it happened quite quickly to get used to the control issue. It was finally possible to visualize what was happening in the compressed air system," recalls Jürgen Salzer-Rahali. As a result, he discovered that the compressed air generation as a whole system with the existing four unregulated compressors did not work optimally. "Thanks to the Airleader visualization, I could now see that the compressors were constantly producing idle circuits. So the decision was made to purchase a regulated compressor as a balancing force in the system," says Salzer-Rahali.

The optimal dimensioning of the speed-controlled compressor was also done with the help of Airleader: The data from the control system was incorporated into a simulation program that calculates which compressor best complements the existing ensemble. The system now consists of two base-load machines, one

regulated compressor and two others that participate in the network. "Compressed air production has been running smoothly since then," says Jürgen Salzer-Rahali happily. – The control does not care that the compressors come from two different manufacturers, as it works across manufacturers.

Quick successes

"You could quickly see the success of using Airleader: We reduced the pressure from 9.5 to 7.2 bar. This meant we achieved 30% energy savings. I now order the service based on the Airleader data - and only once a year instead of the previous four times. "The system paid for itself in just one month through the cost savings in energy and service alone," reports the managing director.

But that's not all, after all, Jürgen Salzer-Rahali is an optimizer with heart and soul. "We have of course implemented further energy saving measures," he continues. For example, the pipelines and compressed air hoses were targeted in order to get the high leakage rate under control. He mentions heat recovery as another important topic.

Positive effects

- Significant pressure reduction after using the Airleader control leads to 30% energy savings.
- Idle times drastically reduced to < 1%, thereby reducing operating hours, which led to a reduction in maintenance costs.
- Payback in just one month.



03 Jürgen has at his desk

Salzer-Rahali always has an overview of the data from the compressed air station determined by the Airleader control

extraction from both the compressors and the printing machines. This heats the entire company and produces hot water. The lighting was also changed to LED.

"All in all, we have saved 1 million kW/h of electricity per year in the last few years. And I assume that of the 200,000 euros that we save on energy, 100,000 euros go to the compressor management system," he concludes happily.

www.airleader.de

Airleader in detail

- The control can be used across manufacturers.
- Integrated energy data collection on each compressor provides real data. Irregularities such as deterioration in efficiency are immediately detected via online monitoring (ISO 50 001).
- Integrated oil temperature monitoring on each compressor for early detection of thermal problems.
- Monitoring of compressed air auxiliary units such as: B. Dryers and condensate drains as well as permanent recording and monitoring of the pressure dew point and the compressor room temperature. This means that production errors due to poor compressed air quality can be ruled out.
- Visualization also for non-compressed air professionals. Status of the compressed air system can be seen at a glance.
- Good planning tool for future compressor designs. Avoids bad investments due to incorrect dimensions.
- Long-term data storage on the company's own server.