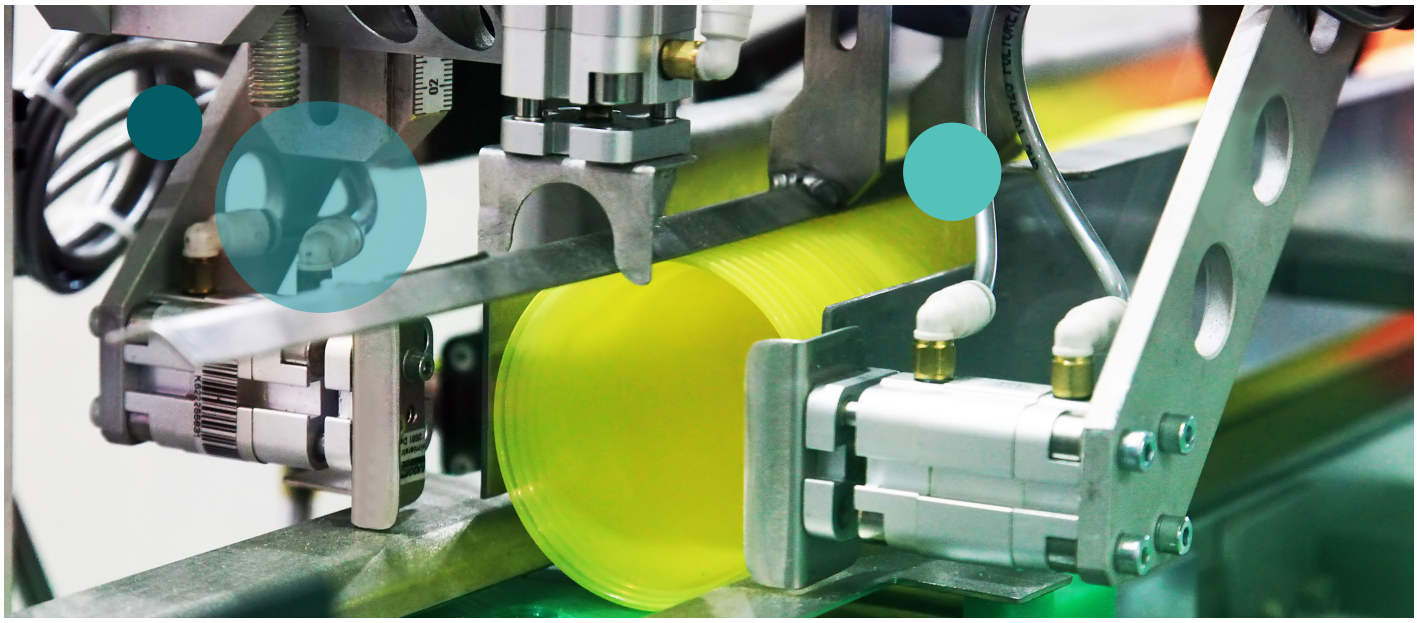

COMPREHENSIVE ANALYSIS OF THE COMPRESSED AIR SYSTEM RESULTED IN SUBSTANTIAL SAVINGS

Idé-Pro in Skive, Jutland, is one of Europe's leading manufacturers of prototypes and small production runs in plastic and light metal, etc. The company completed a comprehensive analysis of their compressed air system and invested in optimisation measures, resulting in both lower energy consumption and a more stable system.

Idé-Pro Skive A/S

Production
Prototypes and serial production in EPS, EPP, plastic and light metal

Initiative
Energy optimisation of compressed air system

Result
Annual savings of 120 MWh of electricity

Economy

120 MWh
Annual electricity savings

80,000 DKK
Annual savings

1.5 years
Simple pay back period

The result

- Annual savings of 120 MWh of electricity
- Annual financial savings of DKK 80,000 (EUR 10,600).
- Higher quality compressed air
- Simple payback period of less than 1.5 years

How much did it cost?

The total investment was approx. DKK 100,000 (EUR 13,400).

Why was the project carried out?

Idé-Pro has substantial compressed air consumption in their production, and in addition to high energy consumption, they were having problems with system failures.

Using systematic energy management, the company conducted a comprehensive analysis of the system under three main topics:

- Compressed air production
- Compressed air need and quality of compressed air
- Compressed air waste

How was the project carried out?

It quickly became clear that the production of compressed air itself works well, with cold intake air and high-quality equipment. Moreover, Idé-Pro was already working with systematic leak detection and could therefore ignore this as a potential challenge.

Therefore company concentrated on the compressed air need and the quality level, which were both analysed on the basis of three main questions:

1 Why do we run at a high and therefore expensive pressure?
Because of system failures and because much of our equipment requires high pressure.

2 Why do we operate with the same pressure throughout the system?
Because we only have one compressed air line.

3 Why do we have system failures?
Because our EPS/EPP production facility requires large volumes of air in a very short time, and not necessarily at high pressure. This results in large fluctuations in the system. In addition, the buffer tanks installed to level out the pressure are not large enough to cope with an additional reduction in the pressure. And finally, there is the challenge of only one compressed air line.

On the basis of the above, Idé-Pro decided to install a two-line compressed air system; one 5 bar pressure line and one 7.9 bar pressure line. The company expects to be able to reduce pressure further when the new system is up and running.

What were the results of the project?

Total savings were 120 MWh of electricity. These savings amount to approx. DKK 80,000 (EUR 10,600) a year. With total investment of DKK 100,000 (EUR 13,400), this results in a simple payback period of less than 1.5 years. The calculation is based on the fact that Idé-Pro already had a functional, smaller compressor that was not being used, but which could be incorporated in the new compressed air solution.

Moreover, operations became more stable with far fewer system failures.

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