

Energy efficiency in compressed air systems

FESTO



You want to save energy.
You demand sustainable operations.
We are the catalyst for your efficiency.

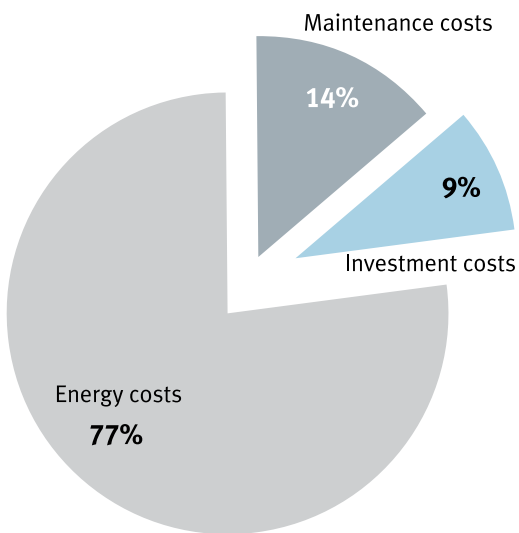
**→ WE ARE THE ENGINEERS
OF PRODUCTIVITY.**

Let us consider the 4th utility in manufacturing – compressed air

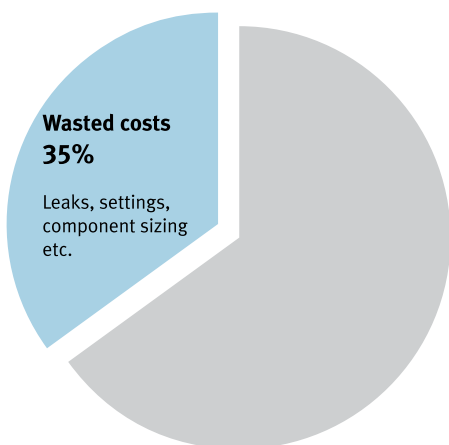
The inefficiencies inherent in converting energy using a compressed gas are well documented, yet industry lives with these inefficiencies because of the other advantages that compressed air use brings. It is therefore imperative that additional waste should be avoided.

Inappropriate use, incorrect settings and leaks, all add to the inefficiencies and losses that can accumulate over the life of the system.

The relative costs of setting up and running a system



Up to 35% of the costs of generating compressed air are wasted



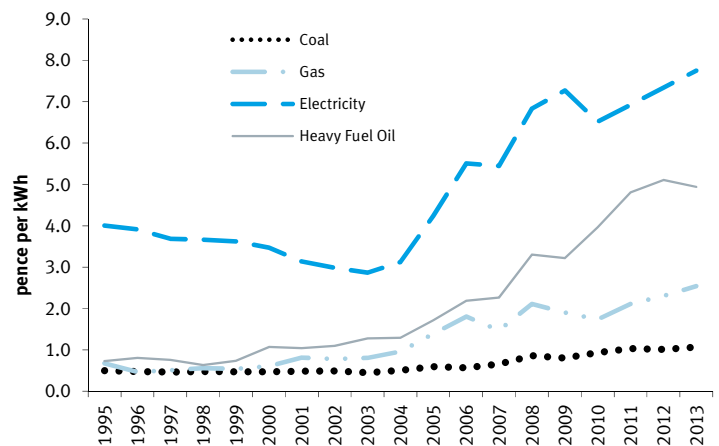
Source. Compressed air systems in the European Union. ISI 2000

Why is so much wasted?

Anyone working with compressed air will probably be aware of leaks somewhere in the system. So, why are they left to continue?

- Are people aware of the true costs of leaks?
- Machine settings are changed from the optimal values.
- Process reliability is seen as more important than energy costs.
- Compressed air waste is invisible (there is not a specific 'bill' for compressed air use).
- Compressed air leaks pose no immediate health and safety threat.
- Lack of understanding on how to address the issue.
- Lack of awareness of the effect on other parts of the system/ process e.g. underperformance of a machine.

Utility prices are having a greater effect on manufacturing costs.



Source. Department of Energy & Climate Change

In many organisations the emphasis is often on leaks from the system but many companies are unaware of the huge savings that can be made by optimising their current systems using simple adjustments without affecting the performance of the machine.

Energy efficiency is an educational and logistical problem, not just a leak detection problem. The skills, knowledge and attitude of your workforce are the key to keeping waste in check. How many of your engineers actually consider energy efficiency practices when dealing with routine maintenance tasks?

System optimisation and system design also offer opportunities for significant savings. The basis for improvements here lies in the skills and knowledge of those working with the systems, plus their motivation and confidence to deal with the problem.

The critical question is whether design and maintenance engineers are equipped to deal with this?

The road to successful energy efficiency

Sustainable energy efficiency in automation requires a sophisticated concept which covers a total of four areas:

- Intelligent engineering
- Energy-efficient products and solutions
- Services
- Training and education

Intelligent engineering

Intelligent engineering! Intelligent and innovative dimensioning software assists you in designing your systems. This allows components to be designed at a smaller size and prevents the cumulation of safety factors.

Products and solutions

Energy-efficient solutions! Festo provides its customers with products and solutions that use energy efficiently. Festo components and solutions enable an astonishing savings potential to be implemented. From highly efficient compressed air preparation up to the valve and valve terminal level and front units. Impressive as stand-alone solutions, unbeatable in combination.

Services

Festo Energy Saving Services provide compressed air users with a customised range of services to determine and optimally exploit potential compressed air savings. The service package for comprehensive and sustainable energy saving is interesting to all compressed air users.

Training and education

Fundamental to the success of achieving energy efficiency is the need to focus on training and education. Without the correct skills and knowledge in place, any inefficient practices on a production line can be missed altogether and worse still, you will only be fixing the symptoms of the problem, but never the root cause. Therefore the cost effective route to energy efficiency is to have a fully comprehensive plan to provide employees with the necessary skills and knowledge to maximise the effect of any investment.

Using Festo to identify and address the real issues

To ensure that any proposed solution is designed to meet the variety of needs that your company may have, it is important to evaluate in detail the current situation within the organisation.

Many companies try to address the issue of energy saving by just fixing leaks, but this can become a never ending programme or a one off 'tick box exercise'. Failure to identify the root cause of the problems means that any action will be reactive. In order to deal with the real issues and ensure that any costs savings enjoyed by the company are not only sustainable, but also repeatable, it is necessary to address this topic using both a reactive and proactive approach.

Arrange your Managers Energy Efficiency experience now!

The aim of the Managers Energy Efficiency experience that takes place at your premises is to gain a better understanding of the current situation and establish your actual energy saving needs in relation to air consumption and usage in the production areas.

We split this consultation down into 3 main parts:

1

Part One – production environment tour

Tour the production environment in order to gain a better understanding of how compressed air is currently being used. We record examples of key areas of improvement, safety, energy concerns, quality, and bad practice, which relate to energy waste in compressed air usage.

2

Part Two – the problem experience

Gain a greater understanding of what could be affecting energy costs in compressed air systems. What is the root cause of many of the problems and what are the symptoms that we can identify in today's production environment.

Once both parties are aware of the actual situation regarding current energy efficiencies on site, then we will be in a better position to discuss what actions need to be taken to make sustainable savings with regard to compressed air usage.

3

Part Three – the people experience

Seeing is believing. See how people can move from being the cause to the cure. Witness with this 'live' interactive workshop how simple actions can make a difference and the impact these can have on energy costs.

See how these savings can be made 'sustainable' without the need for expensive initial outlay.



“A must for every Engineering Manager to see. With just a few simple adjustments to our pneumatic systems, working practices and procedures, we will reduce our operational costs considerably.”

Nick Mears: Process Improvement Engineer, MetsäWood UK

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