

Product Sustainability Fact Sheet

Energy efficiency module MSE6



General Information: Sustainability in Product Development

As an independent family-owned company, Festo has always adopted a long-term perspective and takes responsibility for current and future generations. Sustainability is therefore an integral part of our corporate philosophy and is consistently embedded in the development of all our products. Sustainability criteria have been incorporated into the product development process. Our goal is to minimize environmental impacts across the entire lifecycle, including manufacturing, sourcing, use, and end-of-life cycle of our products. We also place strong emphasis on avoiding critical and environmentally harmful substances.

Products with particularly outstanding sustainability performance are highlighted within Festo's Sustainability Portfolio basket. This designation is based on three categories:

Sustainable in Manufacturing

Products that demonstrate sustainability benefits through compact design, reduced material usage, or the use of alternative materials with a lower carbon footprint, compared with the relevant ISO standard, a predecessor product, or a comparable competitor product.

Sustainable in Operation

Products that reduce energy and resource consumption during use, for example by lowering the demand for electrical energy, compressed air, or valuable operating media such as gases and liquids. In this assessment, Festo considers not only the individual component but also its contribution to the efficiency of the overall application.

Sustainable at End of Life

Products designed to reduce resource consumption by keeping materials, components, and products in the value chain for as long as possible through reuse, repair, refurbishment, and recycling principles.

Product-Specific Sustainability Description

Energy efficiency module MSE6

Sustainability Category: Sustainable operation with active air shut-off and pressure reduction

The energy efficiency modules of the MSE6 series optimize compressed air consumption during machine idle periods and minimize energy losses caused by leakages. The intelligent modules continuously monitor compressed air usage and automatically detect machine downtime. During production-free periods, the air supply can be shut off after a defined time to prevent unnecessary consumption. The MSE6-C2M additionally reduce the system pressure to an energy-optimized standby level, maintaining sufficient pressure for rapid restart while significantly lowering compressed air demand. This enables production to resume quickly and reliably without the delays typically associated with a complete depressurization of the system.

In a representative application with a machine consuming 2,000 l/min of compressed air, the MSE6-C2M reduced leakage-related compressed air losses by lowering the system pressure from 6 bar to an energy-optimized standby pressure of 2.5 bar during production breaks. Rather than fully depressurizing the system, the module maintains sufficient standby pressure to ensure rapid and reliable production restart. Depending on the leakage type, standby pressure regulation can reduce leakage losses by 60–75%. In the example analyzed, this resulted in annual savings of approximately 2.24 t CO₂ per year, corresponding to compressed air energy savings of up to 70% during idle periods.