

Product Sustainability Fact Sheet

Linear drive, metric DGO



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

Magnetically coupled Rodless Cylinder DGO, hermetically sealed

Sustainability Category: Sustainable operation thanks to leakage reduction at sealing points

The DGO rodless cylinder supports sustainable machine operation through its optimized sealing technology, which significantly reduces air leakage during operation. Lower leakage means less compressed air consumption and therefore lower energy demand, helping to reduce operating costs and CO₂ emissions. In addition, the rodless design enables compact machine concepts and efficient use of installation space, further contributing to resource-efficient automation.

In our calculations looking at the overall application, DGO reaches a total reduction of energy consumption of up to 15% during operation in comparison to a comparable mechanically coupled Rodless Cylinder. Basis for this calculation is a reduction of the permissible leakage values between DGC (mechanically coupled Rodless Cylinder) and DGO by up to 80%. While leakage typically accounts for approximately 20% of the total compressed air consumed by a pneumatic cylinder and thus of the total energy consumption during operation.

Remark: Various factors such as operating pressure, cycle frequency, stroke, and ambient conditions can influence the cylinder's compressed air consumption. Actual figures regarding energy consumption reduction may therefore vary.

DGC	Permissible Leakage [NL/h]	DGO	Permissible Leakage [NL/h]	Leakage reduction [%]
DGC-12-...-	5	DGO-12-...-	1	80%
DGC-25-...-	5	DGO-25-...-	1	80%
DGC-32-...-	5	DGO-32-...-	1	80%
DGC-40-...-	5	DGO-40-...-	1	80%