



Media Release

Schaffhausen

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75% lower emissions than metal alternatives: The Butterfly Valve 565 with marine approvals

The plastic Butterfly Valve 565 by GF Piping Systems has previously joined the company's portfolio for the marine industry with approvals by DNV, BV, ABS, LR, and RINA. A comparative Life Cycle Assessment (LCA) conducted by an independent institute now also shows that the 565 is more sustainable than an equivalent metal valve. In addition, it is the first industrial butterfly valve with an Environmental Product Declaration (EPD).

In 2022, experts of the leading certification societies in the maritime sector, Det Norske Veritas (DNV), Bureau Veritas (BV), American Bureau of Shipping (ABS), Lloyd's Register (LR), and RINA confirmed: The lightweight Butterfly Valve 565 with its materials and components in nine sizes has been tested for the safe operation onboard ships.

In order to evaluate the performance of the plastic Butterfly Valve 565, Swiss flow solutions provider GF Piping Systems additionally commissioned a Life Cycle Assessment by the independent institute Swiss Climate AG. The system boundaries as well as the quality and scope of the LCA were defined in accordance with the Product Category Rule (PCR) 2019:143. To put the results into context, a Butterfly Valve 565 DN100 was compared to an equivalent metal valve in the same configuration. Furthermore, the LCA was used as the basis for an Environmental Product Declaration, a standardized and third-party verified document that estimates environmental impacts and enables comparisons between similar products.

Swiss Climate AG has come to the conclusion that the plastic valve outperforms the metal valve in a number of key areas.

- The Butterfly Valve 565 emits 26% fewer greenhouse gas emissions when comparing the individual service lives of the two materials.
- This gap increases to 75% when taking into account that the metal valve would have to be replaced around three times during the 565's 23-year lifespan.
- The plastic valve has a 21% lower water footprint.

Roberto Chiesa, Head of Business Development Marine at GF Piping Systems, sees the results as another important milestone for the Butterfly Valve 565. "Our plastic piping systems have been approved and implemented across the marine industry in a wide range of applications. Thanks to the comparative analysis by Swiss Climate AG as well as the EPD certification, we can now also demonstrate the sustainability of the material. With the future in mind, plastic solutions can therefore be an important part of a larger strategy to make shipping more sustainable."

The Butterfly Valve 565 is a wafer-style valve designed for water and water treatment applications and is suitable for a wide range of plastic piping systems and flange standards. The 565 features a very high pressure and temperature resistance (PN16 at 80°C). Furthermore, the material properties of its plastic components lead to a 60% lower weight compared to metal and make it more cost-effective due to a longer

service life and lower maintenance requirements. Standard digital interfaces allow the Butterfly Valve 565 to be equipped with additional accessories and various types of actuation.

The results of the Butterfly Valve 565's Life Cycle Assessment and the comparison with a metal alternative have been published in a whitepaper available [here](#).

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GF Piping Systems

As the leading flow solutions provider for the safe and sustainable transport of fluids, GF Piping Systems creates connections for life. The division focuses on industry-leading leak-free piping solutions for numerous demanding end-market segments. Its strong focus on customer-centricity and innovation is reflected by its global sales, service, and manufacturing footprint and its award-winning portfolio, including fittings, valves, pipes, automation, fabrication, and jointing technologies.

GF Piping Systems has its own sales companies in 31 countries, which means it is always by its customers' side. Production sites in 36 locations in America, Europe, and Asia ensure sufficient availability and quick, reliable delivery. In 2022, GF Piping Systems generated sales of CHF 2'160 million and employed 8'085 people. GF Piping Systems is a division of Georg Fischer AG, founded in 1802 and headquartered in Schaffhausen, Switzerland.
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