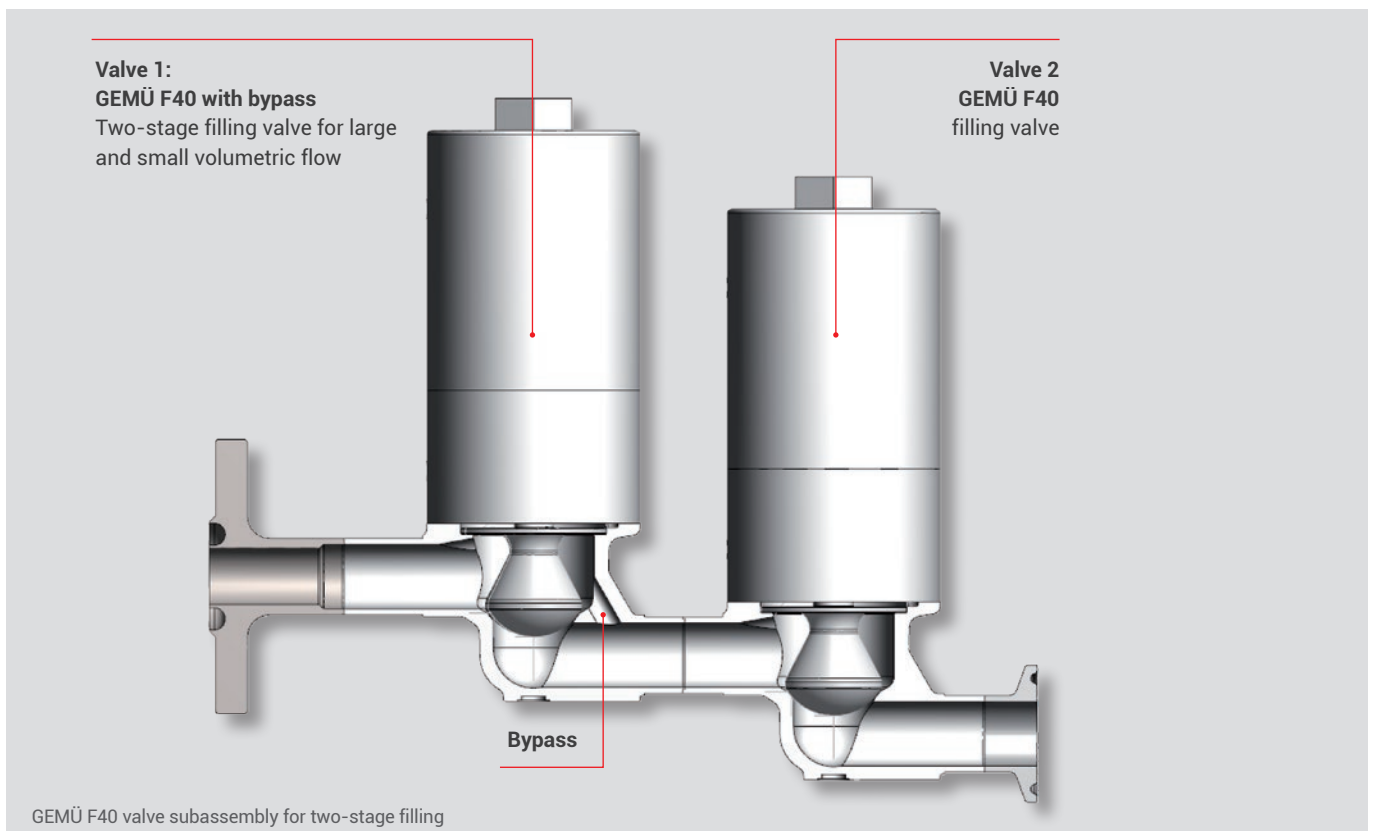




GEMÜ F40 diaphragm globe valve Filling valve used for two-stage filling

The GEMÜ F40 has proven very successful in various fields of application and among an increasing number of customers. Two-stage filling is one such application, where the GEMÜ F40 filling valve is used in bypass systems for filling liquid and viscous media.



The case described below shows an example application that was implemented at a GEMÜ customer and significantly increased the efficiency and accuracy of the filling process:

In this application, bottles are filled with still mineral water in a circular filler with two GEMÜ F40 valves in series. To ensure a high volumetric flow for fast filling and a low volumetric flow for slow filling, valve 1 is fitted with a bypass. When the bottles are filled to a level of approx. 10–20%, valve 2 opens first. Valve 1 remains closed so that the medium only flows through the bypass in valve 2. This low volumetric flow prevents the medium from spurting excessively when the bottle is filled. To fill the bottle quickly in the next step, valve 1 is also opened until the fill level reaches approx. 90–95%. To achieve an exact level at the end, valve 1 closes again and the bottle is filled to the desired filling volume through the bypass with the low volumetric flow.

The filling volume can be measured using a mass flowmeter, weigh cell or level sensor. If a mass flowmeter is used, the

volume to be filled is measured, and with a weigh cell, the weight of the filled container is measured. If level sensors are used, all containers are filled up to the same filling point. One or more of these measuring methods can be used depending on the requirements.

An alternative to the GEMÜ F40 filling valve is the GEMÜ F60 servoDrive. With the GEMÜ F60 servoDrive, the two-stage filling process described above can be achieved using just one valve. Due to the fast actuation, high traverse speed and precise positioning, a low and high volumetric flow can be programmed freely with the GEMÜ F60 servoDrive. The high speed and low wear of the servoDrive technology mean even faster filling cycles and longer production times between maintenance intervals are possible.



The GEMÜ F40 filling valve is perfect for filling liquid and viscous foodstuffs, cosmetics and pharmaceuticals. Simple, fast maintenance is possible thanks to the unique PD sealing concept with actuator fixing via a central thread and cartridge technology. Plus, the GEMÜ F40 is designed for multiple fast cycle duties, ensuring the filling machine is highly efficient.