



WEIGHTPACK

Pressure control at full throttle

Precise and hygienic filling of food and beverages
with flexible tank pressure control system

We make ideas flow.

bürkert
FLUID CONTROL SYSTEMS

Pressure control at full throttle

WEIGHTPACK was looking for a fast and precise pressure control solution for its net weight filling systems that would reliably meet the hygiene requirements in the food and beverage industry. The Italian filling specialist found what it was looking for in the CIP- and SIP-compatible type 8880 pressure control system for tanks. The high control quality of the solution takes filling precision to a new level.

With its compact dimensions, the modular tank pressure controller type 8880 can also be used for applications with limited space.



WEIGHTPACK's filling systems are known worldwide for their high throughput and precision. In order to meet the Italian system manufacturer's speed requirements, gravity alone is not sufficient for filling the media, explains Giovanni Bonfanti, Food Technologist & Process Project Manager at WEIGHTPACK: "We operate our filler tank with overpressure to simulate a greater static head than the real one, increase the flow through the nozzles and reduce the filling time. With our net weight filling technology, the precision of the filling depends directly on the pressure in the tank containing the medium to be filled. That is why it is extremely important for us to be able to maintain a constant pressure value in this vessel."

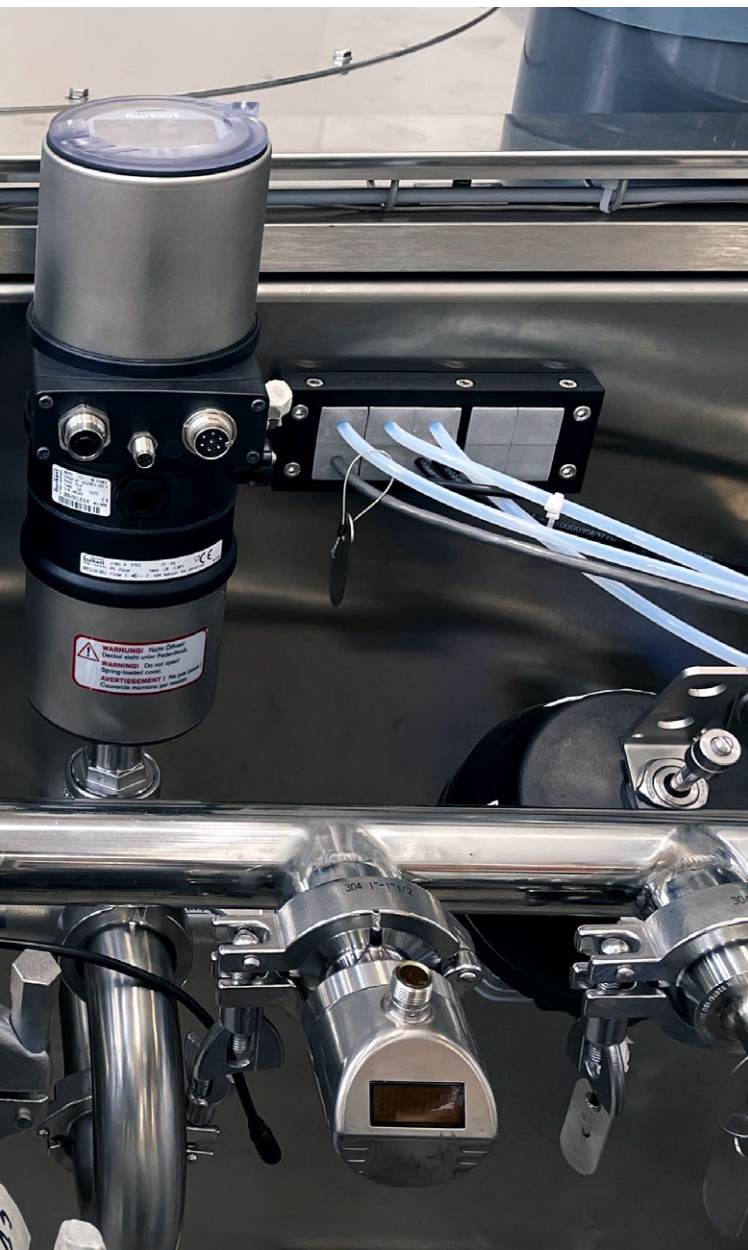
Wanted: precision and hygiene

To regulate the pressure in the tanks, WEIGHTPACK previously used a self-developed system consisting of eight shut-off valves with electromotive actuators – three to increase the pressure in the tank and five for venting. However, this system was not modular: "If we wanted to change the pressure, we had to open the valves one after the other until the desired level was reached. It was not possible to modulate the pressure precisely. That was quite complicated," says Giovanni Bonfanti.

In addition, filling systems used in the food and beverage industry are subject to high hygiene requirements. WEIGHTPACK also wanted to be able to better meet these demands. "All pipes that potentially come into contact with the product must be completely disinfected. This means that the valves must also be CIP/SIP-compatible," explains the food technologist.

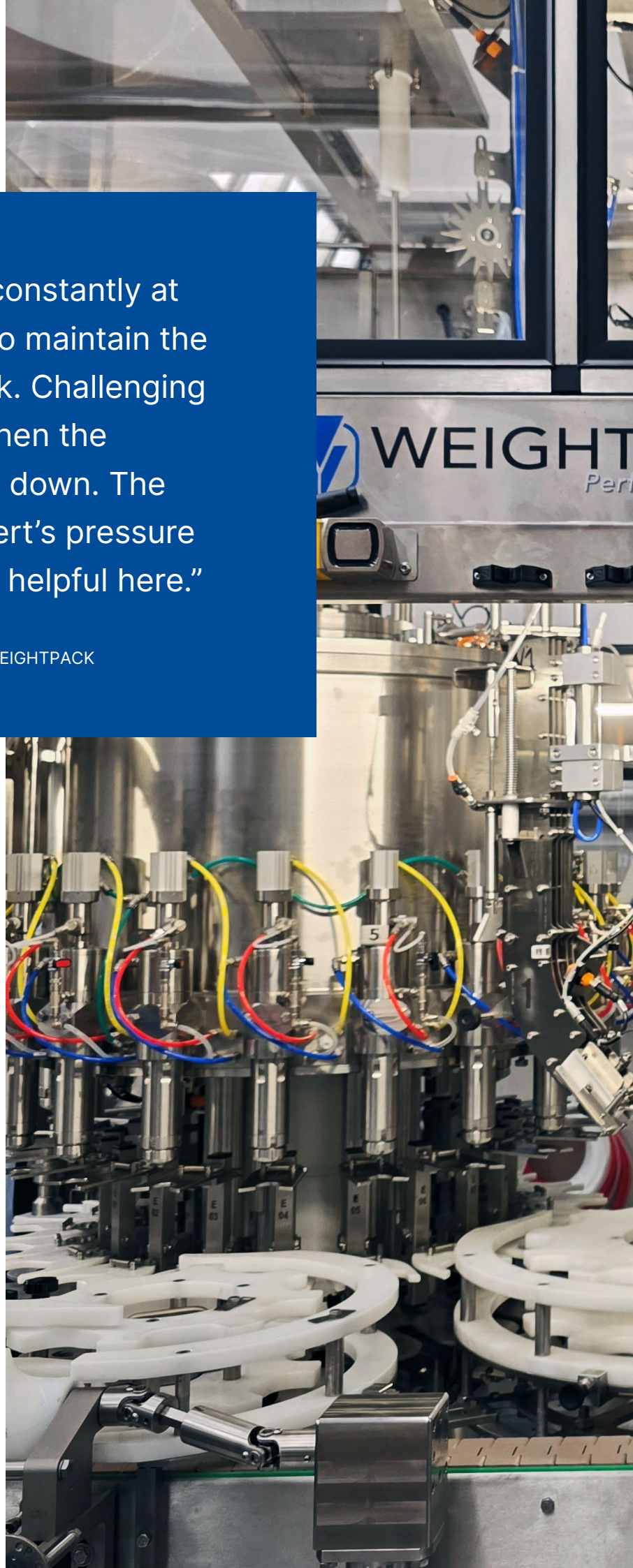
Compact and versatile solution

WEIGHTPACK found the perfect solution in Bürkert's modular tank pressure controller type 8880. The compact system consists of two control valves – one for inflating and one for venting. The valves work together in a closed control loop with a pressure transmitter attached directly to the tank lid. This automatic stand-alone solution reliably maintains a constant pressure in the tank during filling and draining. "We tested the Bürkert system on a customer's plant to see how well it worked. The results were extraordinarily promising. That's why we decided to use the solution on all our food and beverage filling plants," says Giovanni Bonfanti happily.



“If the filling machine runs constantly at the same speed, it is easy to maintain the pressure in the product tank. Challenging are the transition phases when the machines start up and slow down. The high control quality of Bürkert’s pressure control system is extremely helpful here.”

Giovanni Bonfanti,
Food Technologist & Process Project Manager at WEIGHTPACK



PACK
Performance *fruit*



Stable filling process even in the start-up and shut-down phases

The response time of the valves in the type 8880 tank pressure controller is around ten times higher than in conventional solutions controlled by a PLC. "This is a major advantage for us. If the system runs at a constant speed, it is easy to maintain the pressure. However, the transition phases when the systems start up or are throttled down at the end of the filling process are challenging," explains Giovanni Bonfanti. Thanks to the high speed of the Bürkert solution, WEIGHTPACK can always rely on constant pressure and thus a precise filling quantity, even in these critical phases.

Reduced costs in the long term

Whereas two holes in the tank were previously required for venting and deaeration, WEIGHTPACK now only needs one tank opening thanks to the new solution. This saves the Italian plant manufacturer the cost of the second connection. It also has less impact on the tank's structural integrity and reduces the risk of leakage. Moreover, the Bürkert solution simplifies maintenance for WEIGHTPACK's customers. On the one hand, because fewer different spare parts need to be available, and on the other hand, because the actuators on the type 8880 tank pressure controller are easy to unscrew and maintain.

Did you know?

The modular tank pressure controller type 8880 has a response time up to ten times faster than conventional solutions controlled by a PLC. The high control performance and full valve opening for connection as well as orifice diameters up to DN25 not only reduce process time. Energy costs are also lowered as a result. Thanks to the pressure control system's outstanding communication capabilities, signals from third-party pressure sensors can be easily integrated.



Versatile use thanks to flexible configuration

Bürkert's pressure control solution is available with various connection types and has a uniform housing geometry regardless of the selected valve design. This means it can be easily implemented in different types of systems. Thanks to its precisely configurable design, the tank pressure controller can be tailored exactly to the customer's specific application. In addition, the pressure control system is available in numerous housing variants and can therefore also meet particularly demanding requirements, such as those applicable to

the filling of pharmaceuticals or in potentially explosive environments. "We plan to use Bürkert's modular tank pressure controller in our systems for non-food areas as well. This would enable us to further reduce the variety of different pressure control systems and allow customers in other industries to benefit from the advantages of the Bürkert solution. For the filling of solvent-based paints, for example, the ATEX-certified version of the type 8880 would be a suitable solution," says Giovanni Bonfanti, looking to the future.



WEIGHTPACK has been involved in the filling and packaging of various media since 1976. The specialist designs and manufactures customised net weight filling systems, capping systems and complete packaging lines for low and high viscosity food and non-food liquids, powders and granules. The company focuses on maximum precision, simplifying production processes and reducing waste. In addition to its headquarters in Mantua, Italy, **WEIGHTPACK** also has branches in the USA and China. More than 700 **WEIGHTPACK** systems are currently in use worldwide.

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