



APPLICATIONS

SYSTEMS

- Automated drum and pallet filling systems

SUITABLE CONTAINERS AND CLOSURES

- Steel drums with 2" plastic fine-thread bungs
- Steel drums with 2" steel bungs
- Plastic drums with plastic bungs, BCS 56 x 4
- Plastic drums with plastic bungs, BCS 70 x 6

INDUSTRIES

- Chemicals
- Food manufacturers
- Contract fillers
- Drum manufacturers



GREIF-VELOX VELODRUM SAFE CLOSURE

Automated Handling of Fine-Thread Bung Closures

The patent-pending GREIF-VELOX VeloDrum SafeClosure — a fully automated fine-thread bung screwing unit — handles a process step in drum filling that was previously performed exclusively by hand: opening and closing defined fine-thread bung closures before and after filling. Positioning, tool engagement and screwing are now performed fully automatically – eliminating manual intervention, ensuring reproducible processes and increasing process reliability.

How It Works

Following vision-guided positioning, the centering ring moves onto the bung opening. A positive-pressure test confirms correct positioning and sealing.

The screwing unit then engages the bung and opens it under torque control. After filling, the bung is repositioned and automatically screwed back into place. Torque and screw-in depth are monitored to verify correct closure.

Process in Six Steps

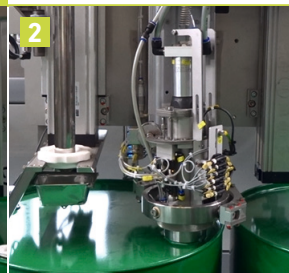
Positioning

1 Vision-guided positioning over the bung opening



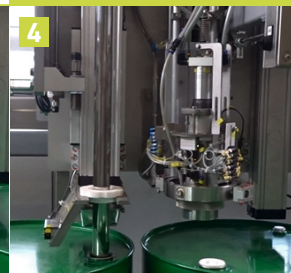
Checking

2 Positive-pressure test to verify correct positioning



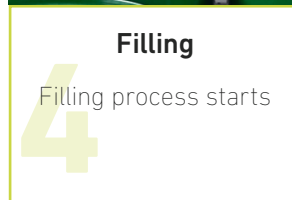
Opening

3 Screwing unit engages and opens the bung



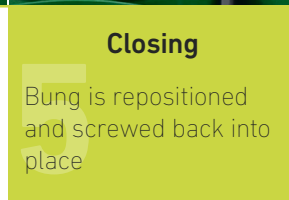
Filling

4 Filling process starts



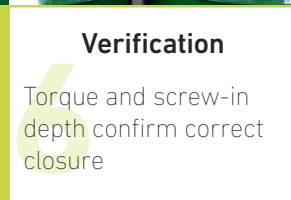
Closing

5 Bung is repositioned and screwed back into place



Verification

6 Torque and screw-in depth confirm correct closure





TECHNICAL DESIGN

- Springless pneumatic system
- Flexible torque settings

BUNG OPENING INCLINATION TOLERANCE

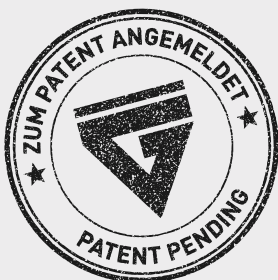
- Up to 3 degrees possible
- Up to 5 degrees planned

RECONDITIONED DRUMS

- Use possible with suitable drum surface and intact bung hole

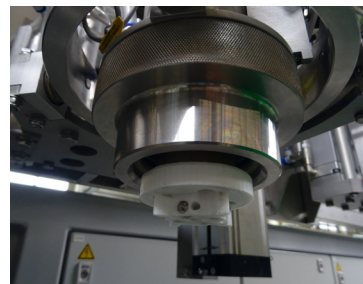
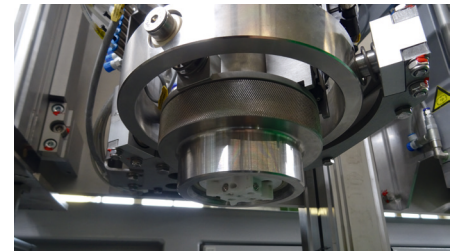
BENEFITS

- No manual intervention during the filling process
- Higher process reliability and system availability through monitored conditions
- Reproducible opening and closing
- Verified closure
- Integration into automated line concepts
- Retrofit possible for existing systems
- Also usable in Ex zones



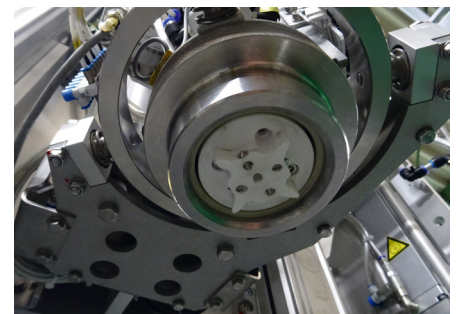
Technical Features

The screwing unit operates with three internal positions. The bung holder can move independently of the fixed union nut, which serves as the centering ring. Positioning therefore takes place without engagement of the screwing tool.



A positive-pressure function verifies correct positioning. Torque and screw-in depth are monitored throughout the screwing process and used to verify correct closure. If a faulty closure is detected, the integrated ejection technology places the bung in a defined position next to the bung opening.

A particular strength of the system is the automated handling of plastic bungs, which could not previously be reliably screwed using conventional systems. The springless pneumatic system holds the plastic bung securely in the bung holder and reduces the risk of snagging when the screwing unit retracts — especially with plastic drums. Flexible torque settings enable precise adaptation to different bung and drum variants.



The Result

With the GREIF-VELOX VeloDrum SafeClosure, the elimination of manual intervention, higher process reliability, and reproducible bung handling within the automated process result in significantly higher system availability.