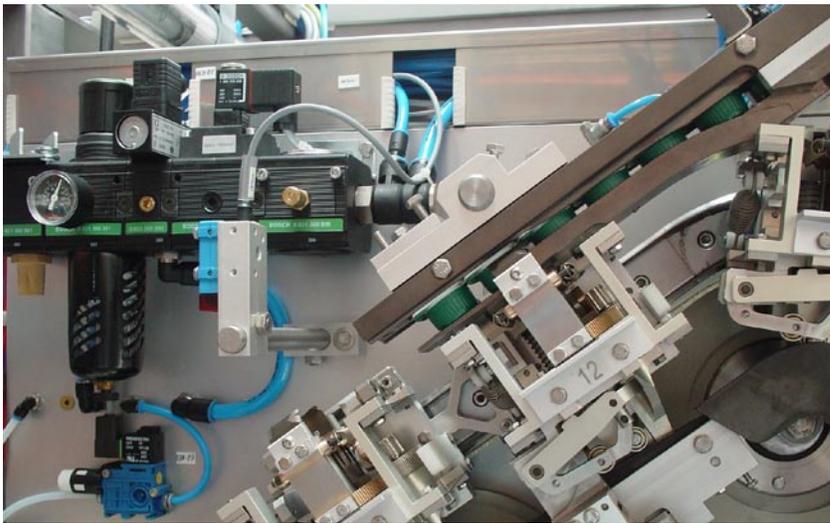


Drive & Control profile

Positioning Drink Carton Pour Spouts



Pneumatic cylinders and valves control the gripping process which takes up the screw cap at the right spot.

Bosch Rexroth Pneumatics Ensure Accuracy for SIG allCap machinery. Day after day millions of people across the world quench their thirst with drinks from cartons. Most take it for granted that these cartons are re-closable, even though that capability has only been possible for around 10 years. Plastic pour spouts have made it possible to close drink cartons, which also helps beverages stay

fresh longer. Small flip tops or screw caps attached to the carton improve quality and allow drinks to be poured without creating a mess. Research has also shown that consumers greatly value being able to pour the contents smoothly.

SIG Combibloc is one of the world's leading manufacturers of aseptic cartons and is also a supplier of the corresponding filling machines.

Challenge

Implement pneumatic components in filling machines to ensure precise positioning for pour-spouts.

Bosch Rexroth Solution

- Bosch Rexroth pneumatic components, including pneumatic valves and cylinders

Benefits

- Low levels of friction and wear
- Reduced maintenance expenses
- Repetitive precision of positioning
- Pneumatically controlled synchronous couplings prevent sudden overloads



The spouts are attached to the closed cartons via an applicator. Exact positioning of the applicator is vital in this stage.

The plastic caps that go along with them come from SIG allCap, a SIG Combibloc group company, with headquarters in Neuhausen am Rheinfall, Switzerland. Some of the company's innovations include combiLift and combiTwist. With combiLift, the packaging can be opened by simply pulling up on the flap. With combiTwist the package can be opened with a single twist of the hand.

Attaching the Spout

Up to 15,000 drink cartons go through the SIG allCap machines every hour, so the repetitive precision of the system is extremely important when dealing with such large quantities. The company uses pneumatic components from Bosch Rexroth to ensure precise positioning for the pour-spouts.

During the packaging process, the container's spout is attached to the filled and sealed drink cartons in

the last step using an "applicator." In this stage, the accurate setting of the spout over the perforation in the carton is extremely important. Depending upon the type of closure, the foil lining is punched through at the appropriate location or else the screw cap would not have a tight seal.

Pneumatics Make it Work

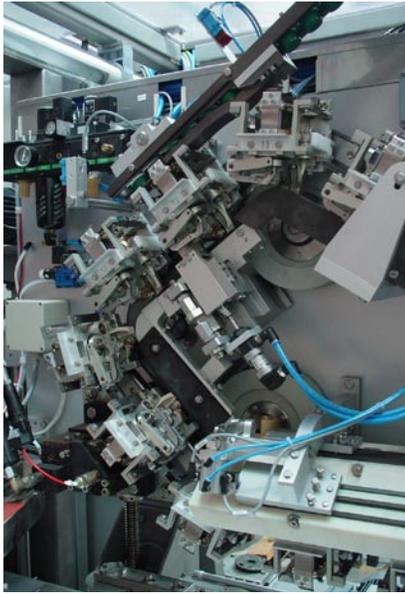
Gripping mechanisms are controlled by Bosch Rexroth pneumatic valves and cylinders so they can place the caps at exactly the right spot. Synchronous couplings are also pneumatically controlled in order to prevent sudden overloads during the process.

Upon leaving the applicator station, any faulty cartons are discarded immediately. The pneumatic system is especially well-suited for this, since the cylinders always return to the same end position. Specific positioning

is not necessary here, as the same force is always applied to the same location. Various types of cylinders from Bosch Rexroth are used for this, including compact and mini



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cylinders which can process large quantities with low levels of friction and wear.

The Bosch Rexroth wash down-rated pneumatic directional control valve manifolds with pressure regulation for the individual valves control the cylinders in the machine. Maintenance units with high flow rates provide clean compressed air in the system and simultaneously

keep the necessary operating pressure in the machines constant. All of the pneumatic components in the SIG allCap machines are coordinated with each other, which significantly reduces maintenance expenses for the machines. Bosch Rexroth manufactures many hygienically designed and wash down-rated pneumatic components specifically for food and packaging applications.

The re-closable carton keeps the contents fresh while the spout makes the pouring also much easier.

Rexroth
Bosch Group