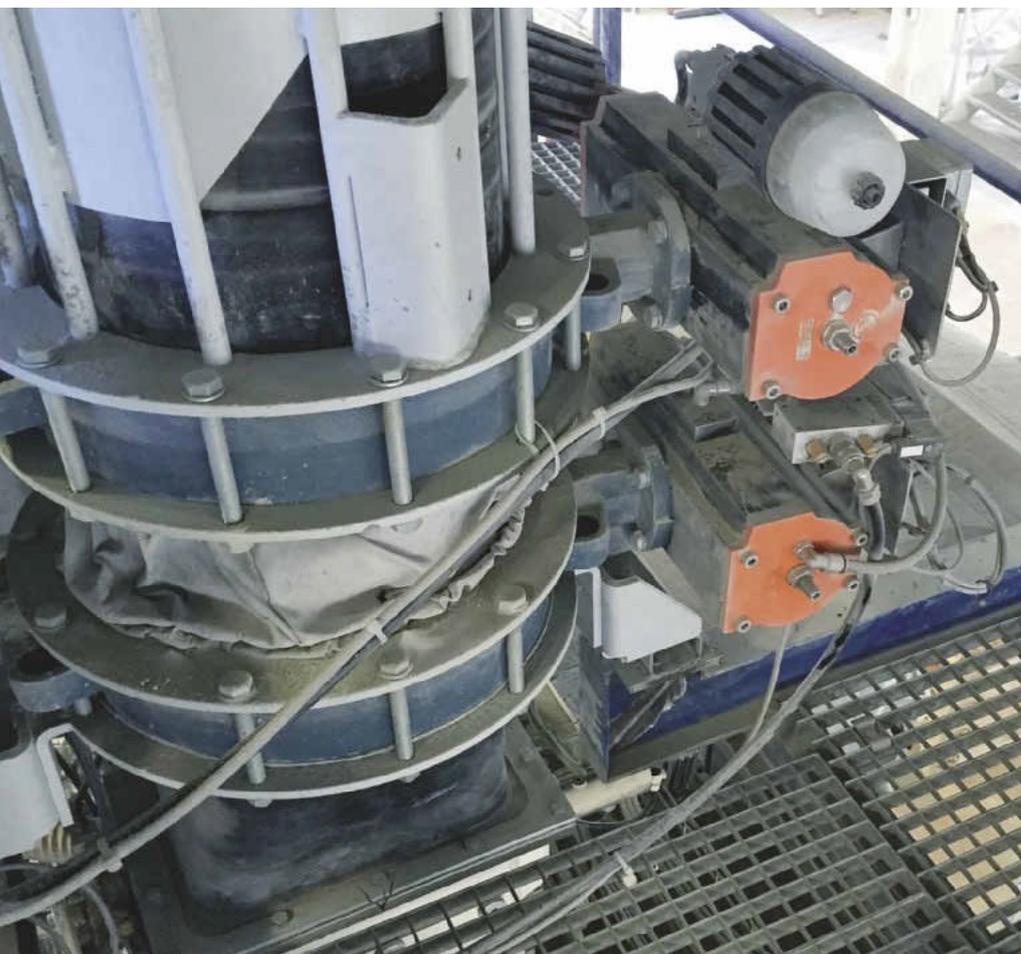


# True Marathon Runners

Ebro Armaturen delivers extremely wear-resilient shut-off flaps for demand-oriented filling and packaging of bulk goods. They have proven their outstanding stamina in continuous operation. Among others, the soft-sealing centric interim flaps of the Z 011-A series with doubly-acting pneumatic drive have proven their worth in rotating packaging systems and high performance filling systems.

**R**otating packaging machines and filling systems with sealing units are used continually for filling big bags in the chemicals and food industries. They all share extremely high throughputs. Switching cycles in the four-digit range per

hour are not a rare occurrence. At the same time, the material volumes to be transported are very high and the products are very abrasive, so that the complete unit of fitting and drive must be able to resist the wear stress continually in the mostly automated processes.



Filling system with shut-off flap Z 011-A DN 300 and a production output of 150 bags /h at approx. 600 cycles



Shut-off flap of the series Z 011-A with pneumatic doubly-acting drive EB-SYD

The stamina these fitting components achieve is only possible when all parts are designed correctly.

Particularly the maintenance-requiring, media-contacting parts, such as the sleeve and disc, but also the fitting and drive shafts, which alternate continually in operation must be designed particularly wear- and torsion-resistant.

## Reliable and efficient

The centric shut-off flaps of the Z 011-A series are one great example for successful long-term runners. They are used in rotating packing systems in the high-performance range of up to approx. 6000 bags/h (depending on number of filling pieces).

The light-weight interim flaps with aluminium housings and double-acting pneumatic drive of the EB-SYD series implement the required quick opening and closing times of this application and are reliable and efficient even in permanent operation. There are adequate materials available for many different bulk goods types – including powders, fine- and coarse-grained, badly flowing products and even mixtures with fine or coarse particles, granulates and crystals – reaching from corrosion-resistant, highly alloyed stainless steels, to highly abrasion-resilient or FDA-approved elastomers, to anti-static coatings.

Use of the interim flap Z 011-A has proven its worth in high-performance filling with compaction systems as well, ensuring long-term machine availability. Big bags are a widespread transport package for large bulk

goods amounts. High-performance filling systems are used for filling the PE packages, packing different bundle sizes in air-tight bags. Closing times of < 0.7 s are required for these filling amounts. The sleeve of the Z 011-A is exposed to extreme wear in this process. In the cement industry, this series is successfully built using a special NBR that mostly compensates for this stress. The sleeve otherwise formed spherically for standard flaps is delivered for filling systems without slant to avoid build-up of the medium and interruption of the material flow. The surface of the flap discs is high-gloss polished and specifically sized for low differential pressures, which considerably reduces wear and avoids adhesions. Actuation takes place via the doubly-acting EB-SYD pneumatic drives that are applied with a long-live special grease to ensure smooth operation of the drive shaft in long-term operation. The drive shaft is delivered in the special material 1.7131. This material with its high core strength is particularly wear-resistant/resilient. The Z 011-A is used for filling amounts of 25 to 50 kg in the rated widths of DN 250 to DN 350. To ensure a continually even output of the product, the interim flange fittings are installed to close on the right or left. Optionally, three-position controllers ensure precise repeat accuracy of the fitting positions when weighing the product, and thus also ensure consistent weight of the packages at all times. Quick-venting in the customer's facility is made possible by ¼"-bores in the lateral cylinder lid of the EB-SYD on request.

### **Extremely low-maintenance**

Fitting components, require the right design to become established as true marathon runners. Maintenance work in abrasive and quick bottling processes must be kept as low as possible. The Z 011-A series and the corresponding pneumatic drives of the EB series are extremely maintenance-friendly. The wear parts such as sleeve or sealing set of the drives can be replaced in just a few steps. Videos are available for the respective maintenance work. The shut-off flap Z 011-A has successfully become established as a long-term element in bottling systems with an output in excess of 1000 cycles per hour in two-shift operation.

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