FIRMLY SEALED MILK CARTONS

CASE STUDY: TETRA PAK PROCESSING SYSTEMS B.V., HOUTEN, NETHERLANDS

Everyone knows rectangular, lightproof beverage and food packaging: Tetra-Pak stored in every house and fridge. Its producer Tetra Pak Processing Systems B.V. located in the Netherlands has been using the alkitronic radial torque multiplier for more than 10 years for the maintenance of heat exchangers. Proper functioning is of major importance for undisturbed workflow.

COMPANY PROFILE

Tetra Pak is the global leader in food processing and packaging. Starting in 1942 with the development of a milk carton Tetra Pak has since then been developing and exporting machines for food packaging and processing. Although located in the Netherlands, however, the company belongs to Tetra Laval Group, which has its headquarter in Switzerland.

Plate heat exchangers are used in a wide variety of industries – therefore their perfect function is essential.

INITIAL SITUATION

Heat exchangers are used in various industries, including the field of food and dairy products at Tetra Pak Processing Systems B.V. Especially in this area perfect hygiene and trouble-free operation of the machines is essential. The heat exchangers need to be serviced and tightly sealed again to ensure a continuous sustained production and workflow. Downtime has to be minimized.

SOLUTION

To safeguard perfect operation of the machines and a trouble-free flow of the production process, the mechanics of Tetra Pak Processing Systems B.V. require reliable tools. Using these, the spindles of the heat exchangers are opened and re-tightened to the correct extent during the re-tensioning process. "During this work step not the specific torque is important, but the continuous rotating force of the torque multiplier in order to properly tighten the plates", explains Herman de Zwaan, salesman for the products of the alki TECHNIK GmbH.

Figure 1: alkitronic torque multipliers at Tetra Pak Processing Systems B.V.; Photo alki TECHNIK

To avoid friction, two torque multipliers are operated simultaneously. The alkitronic torque multipliers EFCip-R 80 and EFCip 70 with electric drive fulfill this requirement and have therefore been used for 10 years at the site in the Netherlands- with satisfying results: "Compared to working with so called impact wrenches there is much less wear and tear and also the time saving during the opening and closing of the plate heat exchangers is immense," Herman de Zwaan describes the advantages of the alkitronic torque multipliers for the company.

“The time-saving by the use of alkitronic torque multipliers is considerable.”

"With a large torque range of 560 up to 3.780 Nm and the tangential or radial gearing which was especially designed for use on plate heat exchangers, our torque multipliers are the ideal tool."

Figure 2: alkitronic radial torque multiplier in use. Photo: alki TECHNIK

Furthermore, the one-finger operation enables quick and safe tightening and the break resistance ensures low maintenance costs. This way the milk can continue to be transported and sold in the space-saving Tetra Pak.

TECHNICAL DATA OF THE R/SG

- ✓ Constant higher tightening quality compared to ratcheting tools due to continuous rotating
- ✓ Repeat shut-off accuracy ± 3% for the same bolting application
- ✓ Electrical data: Mains voltage 100 V - 253 V, frequency 45 Hz - 66 Hz, performance max. 2000 W
- ✓ Protection class I, types EFCip with protection class IP 54 (Standard), EF optional