# Ingeniously simple and simply ingenious: HEYE's dual motor shears

**While it's well known that seven is a lucky number, the serial number 777 of HEYE's dual motor shears is currently being assembled and is all set for delivery later this year. In this case, however, 'three times seven' is hardly based upon luck alone. Instead it derives its excellence from good, solid engineering work.**

With one of Heye's first dual motor shears from 1996 still at work today, those bearing the end-number 23 remain operational after two overhauls in 2013 and 2019 respectively - all to the full satisfaction of the customer at the Lagnieu plant of Verallia, France, from which the following statement is reported: "Due to our positive past experiences, Heye's dual motor shears have fully convinced us. The safe and low-maintenance operation in particular has turned out to be a complete success."

## DMS N° 23 IN USE FOR 27 YEARS

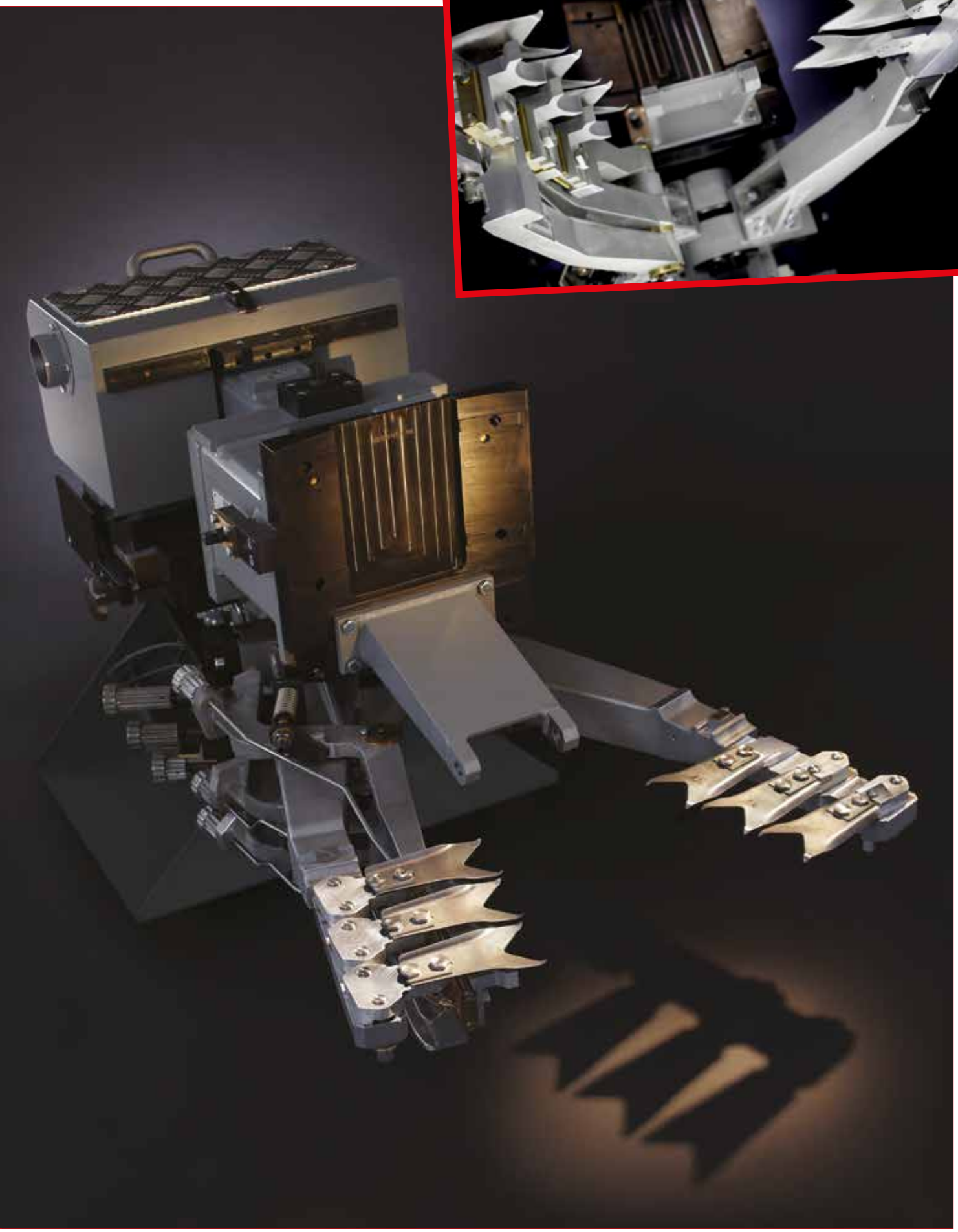
So what made the Heye dual motor shears 2323 such a role model in the container glass industry? To understand the success of this development we'd need to observe the requirements placed upon such a mechanism, namely:

- High, repeatable cutting speed with optimal cooling
- Stable control system
- Appropriate operation principle
- Reliability and durability

Here, by using materials of elevated quality as well as standard parts from well-known manufacturers, Heye International can guarantee high, repetitive cutting. It's especially important that the shear blades are arranged in a way that ensures the glass gobs are cut both precisely and at a parallel - regardless of whether it's Double Gob, Triple Gob or Quad Gob that is driven. In this way, an unwanted influence upon drop shape and drop fall gets avoided. Not only. Besides the high cutting speed -so essential for any clean cut- there's also sufficient downtime of the shear blades for optimal cooling.

## MOTOR SHEARS

For control of the dual motor shears, Heye relies upon superior-quality technology from Siemens®, namely the Simotion® Servodrive. The shear blades move in a circular arc, thus releasing a near wear- and backlash-free suspension of the shear arms. Preselectable movement profiles and a production speed of up to 250 cuts/minute then complete the requirement profile. When designing the double motor shears, engineers at Heye paid particular attention to



function, which necessitated complete fulfilment as well as a cutting process that had to be carried out in a stable and repeatable manner. To do this, the most suitable geometry was chosen - designed to achieve low-wear operation of the mechanism and, as such, a long service life. Finally, all was fitted into the existing space to ensure good accessibility.

## FACTORING IN THE OPERATOR

Of course, the concept also had to take people into close consideration. What also makes the dual motor shear system so superb is the fact that the user can easily understand the functional principle. Indeed the operating elements are easy to reach and their function can be quickly understood. As a central point in the production process, the shear mechanisms are of great importance in terms of both reliability and durability. Any breakdown would affect the entire production line just as frequently necessary and lengthy maintenance would. On one hand, production interruptions quickly cause very high costs owing to the resultant loss of production. On the other, for glass manufacturing personnel they're also associated with a heavy workload - first in terms of repair, then owing to restarting of the production line.

## PRODUCT RESILIENCE

For more than 25 years, Heye dual motor shears have been setting the benchmark. Depending upon use conditions, an overhaul/revision only becomes necessary after six to nine years. Many shears have already had a service life of between 12 to 16 years without having undergone a general overhaul. Indeed the success of this product clearly shows that the aforementioned conditions were taken into account to a very high degree when constructing the dual motor shears. Not surprising, therefore, the consistent feedback from customers rates as positive, which explains why the precision, reliability and ease-of-use of the product leads to both satisfaction and a high acceptance level among users.

## CONSISTENT R&D

Heye International finds confirmation of its well-founded development work, which has remained ongoing over decades - testimony to why products such as the dual motor shears are still successful on the market, all thanks to continuous improvements which even have their functional principles adopted by other shear manufacturers. These same achievements encourage the company to continue to invest a great deal in the development of well-founded technology in order to develop products for its customers that will hold their own in the market due to their quality - all the while making everyday work easier for the user. Last but not least, it is the proven sustainability in every respect (environment, yield, handling) that has confirmed the exceptional quality of this high-class product for many years. ■

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## ABOUT HEYE INTERNATIONAL

Based at Obernkirchen, Germany, Heye International GmbH is one of the international glass container industry's foremost suppliers of production technology, high performance equipment and production know-how. Its mechanical engineering has set industry standards for more than five decades. Extensive industry expertise combined with the positive attitude and enthusiasm of Heye International employees is mirrored by the company motto 'We are Glass People'. Its three sub-brands HiPERFORM, HiSHIELD and HiTRUST form the Heye International equipment portfolio, addressing the glass industry's hot end, cold end and service requirements respectively.