

Delivering clean and safe solutions via forming innovations

The Ardagh Glass factory at Dongen has been at the forefront of glass container manufacturing technology for many years, employing the latest forming equipment innovations to maximise production efficiencies.

There has been an advanced glass container factory in the Netherlands town of Dongen since 1961. The factory was originally built by a local carbonated soft drinks producer and initially called upon the glassmaking expertise of USA-based Ball Brothers, before it became an integral part of PLM (later Rexam) in 1969. Since 2007, the glassworks has been a key facility within the Ardagh Glass Group, forming Ardagh Glass Benelux together with its sister Moerdijk factory, south of Rotterdam, which is geared exclusively to serve the high volume beer bottle production requirements of Heineken.

With a total workforce of 380 people, the Dongen site houses three melting furnaces and nine production lines to manufacture a diverse range of glassware in flint and emerald green colours. Leading companies in the food, beverage and spirits sectors are counted among the factory's customers, including such organisations as Coca-Cola, Hak, Heineken, Heinz and AB InBev. In total, upwards of 1.1 billion round and non-round containers are made annually for more than 100 different customers primarily in the Benelux region, by a plant with a capacity of 300,000 tonnes/year.

TOWARDS GREATER AUTOMATION

Peter Sies has been Plant Director at Dongen for 14 years, having worked at the site since 1985. Over the years, he has witnessed many refinements within the operation, especially in terms of production automation



Heye SpeedLine IS machines produce glass containers at high speed and of top quality.

and mechanisation, as well as some important cultural changes. He believes the factory today is better placed to succeed in the competitive world of packaging than at any time in its history.

Regular investments in the latest

manufacturing technologies have helped to maintain the factory's position at the vanguard of the industry's most efficient operations. The highly skilled workforce is always prepared to trial the latest equipment developments, exploring every innovation where productivity benefits can be realised. "We're not afraid to be the first to try out the latest developments because our fantastic workforce really enjoys the challenge" Peter Sies explains. "We want to be the best, so we explore everything that can take us to that position."

Despite conducting at least one job change every day, Dongen is already operating among the industry's best production efficiency levels and its investments in the latest Heye International technology is fully supporting these efforts.

Employing blow-blow, press-blow and NNPB technologies, the IS machines at the site are a combination of 10- and 12-section designs, operating either double or triple gob. Last year saw the installation of the latest high speed SpeedLine IS machine on one of the nine lines and three years earlier, two >



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Heye IS machines were installed specifically for the high speed production of jars. For a number of years, jars have been made at very high speeds at Dongen, so the decision to change to Heye technology was considered a risky move in some quarters. The results have been positive, however, helping production speeds to be increased even further.

Today, approximately half of all production is made on Heye hot end equipment and the ultimate goal is to convert the plant completely to Heye forming machinery. This will bring it in line with the Ardagh Glass Moerdijk facility, which features Heye technology throughout.

SPEED AND QUALITY

Heye SpeedLine IS machines have been producing glass containers at high speed and of top quality for many years. Customers are afforded flexibility through quick changeovers between the number of gobbs, production methods and different weights on the same machine.

Many safety features are included as standard in the basic machine, with additional features available as options. The clean design adopted fulfils HACCP (Hazard Analysis and Critical Control Points) regulations, in addition to which servo inverts, servo takeouts and servo pushers are provided. Clear interfaces and a modular design allow for fast job changes and easy maintenance procedures.

SpeedLine is now the standard concept for all Heye IS machines, so reducing inventory costs for spare parts. Established standards allow the use of existing variables.

The equipment's sophisticated design and production accuracy permits SpeedLine IS machines to operate at high speeds with minimum wear over many years. Furthermore, maintenance procedures can be scheduled thanks to the development of extensive monitoring systems. The optional supervision of final blow valves enables planned exchange and dead plate control avoids glass accumulation and section downtime. Heye process control and press duration control recognise impending problems at an early stage, while an error reporting server with different warning messages has been incorporated.

Fire protection and cleanliness are assured via the development of a clean housing design and the inclusion of safety snap valves provides additional safety in case of maintenance work at the station.

Optional features include a blank side protection guard, a hoist on the blank side, the Heye swabbing robot for blank mould lubrication, dead plate control and air regulation, pressure control of final blow valves, LED safety lighting for the supervision of active/deactive sections and machine main cooling, including control. In addition, temperature regulation can be included for main cooling and central lubrication can be extended via the supervision of further aggregates (eg feeders and ware handling).

JOINT SOLUTIONS

Although Heye International is also part of the Ardagh Glass Group, Dongen plant management is keen to emphasise that it is not obliged



Cleanliness and protection against accidental release is provided via a cleanly designed valve block.

to buy equipment from its sister company. A very open culture is maintained and because the glassworks is eager to be one of the best, it is keen to embrace the latest innovations. "For us, it's not surprising that we are working with the latest Heye equipment" Peter Sies confirms. "We don't see suppliers as external organisations, rather as internal partners, where everyone in the relationship benefits. We work together to make it happen, delivering joint solutions to problems. Our culture is based on the delivery of continuous improvement."

Similarly, Heye staff find their working relationship with the glassworks personnel a very positive partnership. "They are team players and are very open-minded to work with" explains Mark Ziegler, Marketing Manager. "If a problem with a new machine is encountered, an appropriate fix is found as soon as possible."

Both parties share a common goal to create a clean and safe working environment within the glassworks. When first entering the Dongen plant, it is apparent that safety is the first priority. "Every meeting and every workshop starts with safety, so we will only work with machines that provide a safe environment."

In response, Heye International will continue to increase automation levels to make its machines safer and allow preventative maintenance. These developments will be the subject of ongoing co-operation between both teams in the future. ■



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FURTHER INFORMATION:

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