Lightweighting glass containers: HEYE's trusted NNPB solution

Today's original NNPB technology from HEYE sets the standard for lightweight glass container production, empowering manufacturers with proven process reliability and energy savings – all backed by decades of pioneering expertise and customer success.

In a market driven by efficiency and sustainability, Heye's NNPB technology remains a key solution for lightweight glass container manufacturing - offering thinner walls without compromising strength or stability.

WHY NNPB?

Heye's NNPB technology delivers more than just lightweighting. It combines precise engineering with long-term process reliability. Key benefits include:

- Material savings: Thinner walls mean reduced glass usage, leading to lower raw material costs and reduced CO₂ emissions.
- Lower energy consumption: Less glass mass per container requires less energy in the forming and annealing processes.



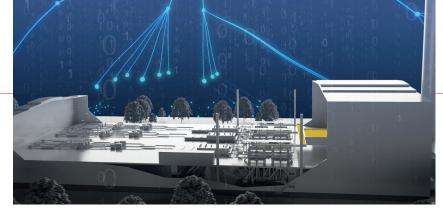
- Improved wall thickness distribution: Essential for both mechanical strength and aesthetic consistency.
- Fewer defects: A more stable process reduces variations and error rates.
- Higher production speeds: Optimized forming cycles enable increased output without compromising quality.
- Sustainability: NNPB helps achieve environmental goals through lightweight design and resource efficiency.

As the inventor of NNPB technology, Heye is a partner with renowned experience in this field. Numerous successful lightweighting achievements with its customers confirm the company's leadership. "Our customers can rely on decades of experience. We have achieved significant weight

reductions that have given them a decisive edge and helped them take a pioneering role in the market," says Knut Prasuhn, Head of Service at Heye. "When it comes to precision, efficiency, and long-term reliability, only the original Heye NNPB technology delivers what others promise."

NNPB TRAINING SOLUTIONS BY HEYE

To ensure successful implementation of NNPB technology in daily production, Heye International offers targeted training programmes. These sessions provide practical, hands-on knowledge to help operational teams gain confidence in applying the technology effectively on the shop floor. Training can also be delivered as part of a Technical Assistance Agreement (TAA) - a



flexible framework offering ongoing expert support, process analysis and knowledge transfer that's tailored to specific production environments.

This approach ensures longterm success and optimal integration of the technology into existing processes.

HEYE PROCESS CONTROL (HPC): KEY NNPB SUPPORT

This intelligent system regulates all relevant forming parameters -such as gob weight, plunger movement and timing- in real

time. Recommended by global brand owners, HPC results in consistent quality, reduced waste and higher efficiency. With over 1,000 installations worldwide, HPC has proven itself as a benchmark for process stability and the integration of digital technologies into production environments.

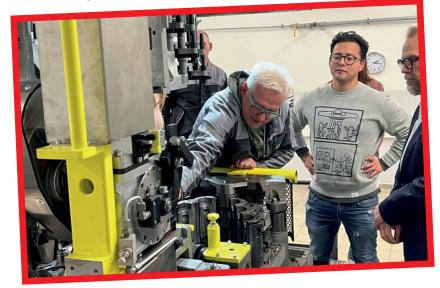
CONNECTING HPC TO SMARTLINK

To support transparent and efficient process monitoring, Heye SmartLink can be connected to Heye Process Control. It serves as a secure data interface, allowing production data from the HPC to be accessed, stored within the local network, and used for analysis or integration into higher-level systems. This connection enables data-driven decision-making and process optimization without compromising system integrity or security.

HPC UPGRADE FOR A SYSTEM REFRESH

Newer HPC generations offer:

- Enhanced process stability
- Real-time data access and analytics
- Improved energy and resource efficiency
- Predictive maintenance features
- Easy integration into smart factory environments ■



ABOUT HEYE INTERNATIONAL

Based at Obernkirchen, Germany, Heye International GmbH is one of the container glass industry's foremost suppliers of production and inspection technology, high performance equipment and production expertise. Its mechanical engineering has set industry standards for more than six decades, significantly contributing to customer success. Heye's vision is to ensure highly cost-effective, sustainable and safe operation of glassworks worldwide and thus further strengthen the position of glass as the packaging material of the future. The company considers glass to be the purest and most natural packaging on the planet. Heye's actions are driven by experience, courage and passion as it seeks to make a positive impact on the environment and health while fostering a sustainable future. Today. Tomorrow. Together.



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