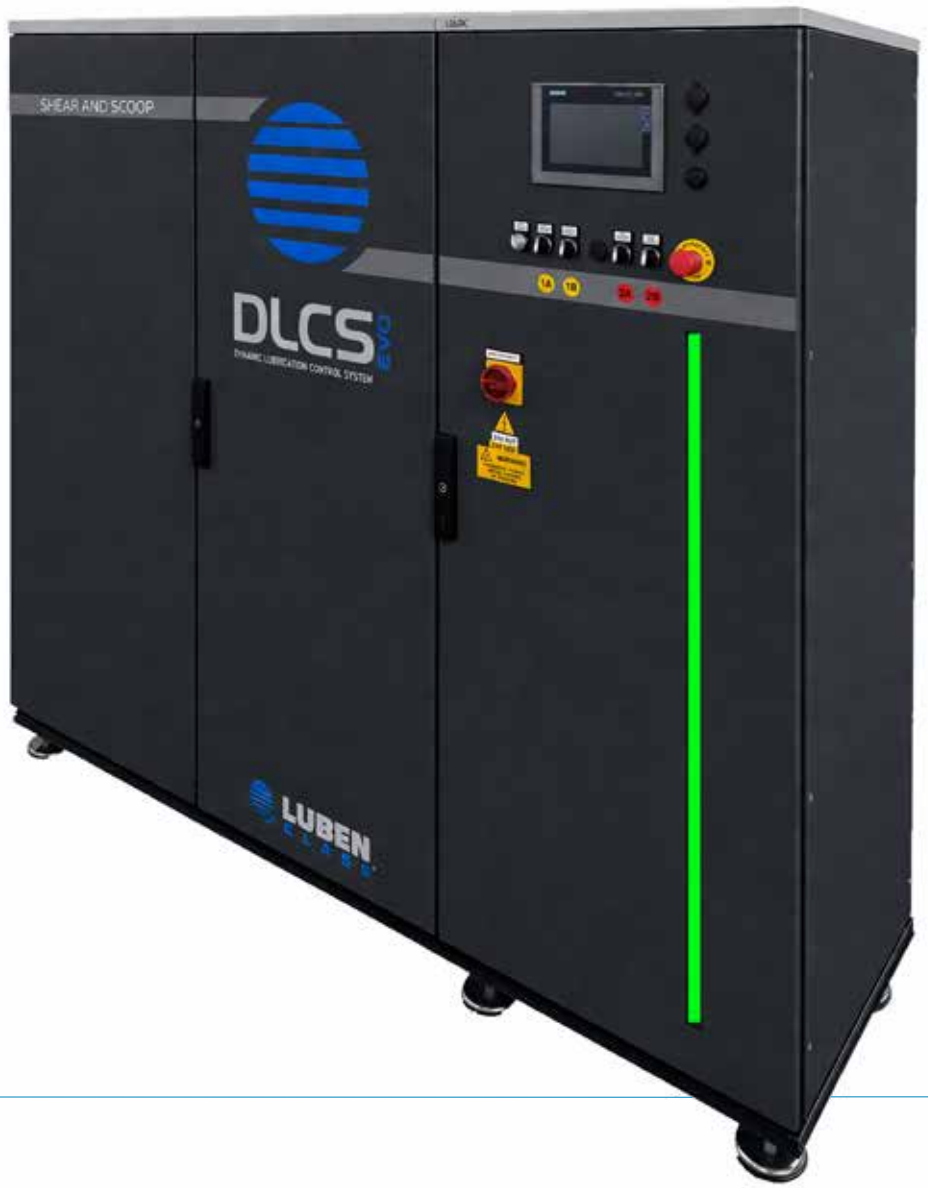
The precision cutting optimisation in LUBEN GLASS systems

It begins with a drop of molten glass which, after being carefully sized and cut, begins its brief journey toward becoming a container of many possible forms. In this early stage, precision is essential, as even the smallest variation during cutting can influence the entire outcome. The transformation from molten material to finished container is rapid, but the quality of that transformation is determined in these first critical moments.



ORIGINS OF DEFECT FORMATION

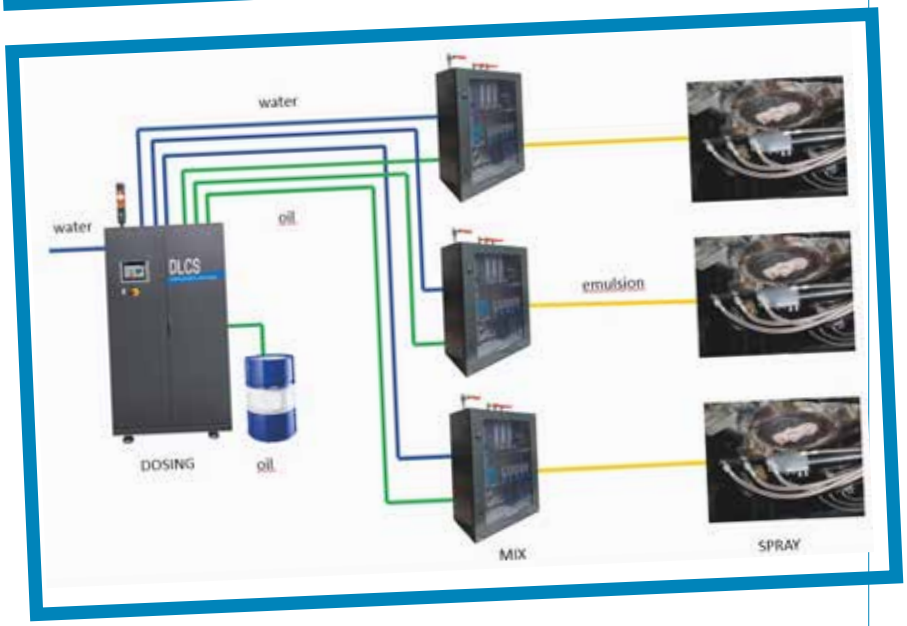
Glass containers, valued for their brilliance, transparency and wide variety of shapes, remain highly sensitive to imperfections introduced during production. Among the most critical stages is the cutting of the glass drop. If this process is not executed correctly, visible cut marks can appear on the final container. Despite the adaptability of molten glass, these marks persist, directly affecting the aesthetic and structural quality of the product. In most cases, such defects result in the rejec-

Achieving consistent quality in glass container production depends heavily on precise cutting and effective blade lubrication. Systems developed by LUBEN GLASS address these critical factors – supporting continuous operation while reducing defects and improving overall efficiency in demanding manufacturing environments where reliability and precision remain essential.

tion of the container, contributing to considerable production losses and inefficiencies within the manufacturing cycle. The causes of these defects can be traced to several interconnected factors. The performance of the cutting mechanism itself plays a central role, as does the condition of the cutting blades. However, one of the most decisive elements is the lubrication of those blades. Each of these aspects must function in harmony to ensure a clean, precise cut that preserves the integrity of the glass as it forms.

THE ROLE OF LUBRICATION AND COOLING

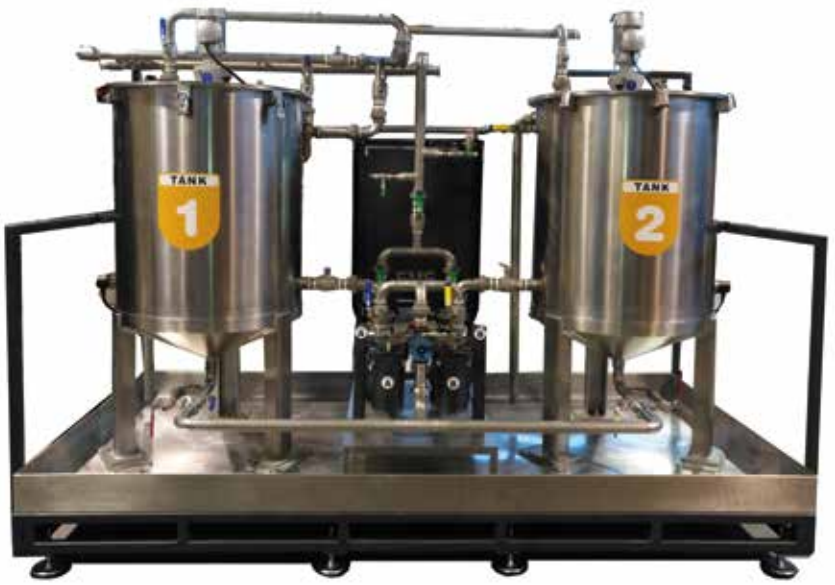
Inadequate blade lubrication is a frequent source of operational and quality-related issues. Without proper lubrication, blades deteriorate more rapidly, increasing the likelihood of irregular cuts and surface defects. This deterioration not only affects product quality but can also lead to mechanical complications. In more severe cases, insufficient lubrication contributes to the jamming of the cutting mechanism, potentially forcing a complete shutdown of the IS machine and interrupting production. Closely linked to lubrication is the process of blade cooling,

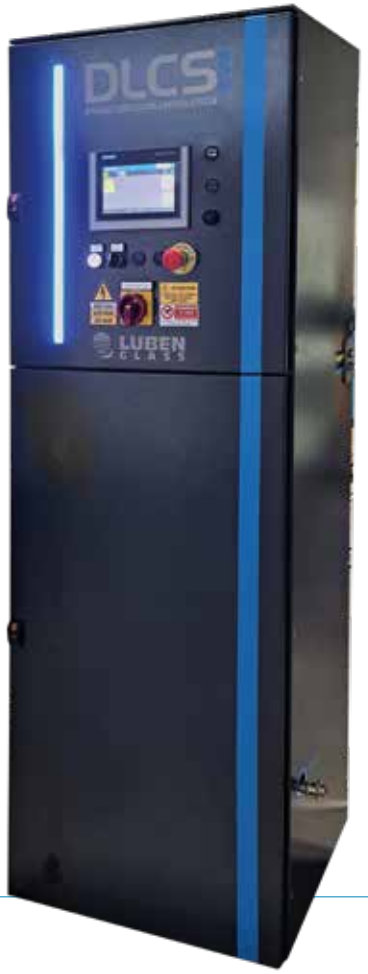


which plays a fundamental role in container formation. Cooling is not merely a supportive function but an integral part of the cutting process itself. The condition of the blades, influenced by both lubrication and cooling, directly impacts the formation of the glass drop and, ultimately, the quality of the finished container. For this reason, maintaining consistent and effective lubrication is essential for both operational stability and product excellence.

INTEGRATED SYSTEMS FOR RELIABLE OPERATION

For years, Luben Glass has focused on the development of blade lubrication systems designed to address these challenges. Its DLCS line represents a continuation of this effort, emphasising simplicity, reliability and precision in system design. These machines form the core of blade lubrication and cooling systems, supporting consistent cutting performance across a range of production environments. The DLCS systems operate in conjunction with additional components, including mixing panels, storage tanks and pressurisation units. Together, these elements create a comprehensive system capable of delivering stable and effective lubrication, provided that other operational conditions -such as the efficiency of the cutting system, the quality of the blades and the suitability of the oil- are properly maintained. When these factors align, the result is a cutting process that minimises defects and supports continuous production. Built using high-quality electronic components, DLCS systems are designed for uninterrupted operation. Automatic backup functions enable continuous performance around the clock, while integrated fluid pressure monitoring provides real-time alerts related to system piping across the entire line. This level of monitoring enhances operational awareness and helps prevent issues before they escalate into larger disruptions. The control unit, constructed with commercial-grade components and high-quality electromechanical systems, offers a practical advantage in maintenance. By allowing users to source replacement parts independently, it reduces dependency on specialised supply chains and supports more efficient long-term operation. This approach reflects a broader emphasis on reliability and accessibility within the system design. Flexibility is another defining feature of the DLCS range. Nozzles, spray bars and spray adjustment systems are available to accommodate different lubrication modes, including oil-in-air and oil-in-water configurations. Additionally, the dimensions and number of lines, as well as the number of oils used, can be tailored to meet specific production requirements. This adaptability ensures that the system can be aligned with varying operational needs while maintaining consistent performance.





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