

Turning demands into opportunities for glass containers



GLASS IS AN INCREASINGLY UPMARKET CHOICE FOR PACKAGING, ATTRACTING THE INTEREST OF LEADING INVESTMENT COMPANIES. YET TO ACHIEVE THE HIGH RETURNS EXPECTED, GLASSMAKERS MUST DELIVER CONSISTENTLY HIGH QUALITY, WHILE ALSO CUTTING COSTS SIGNIFICANTLY. EMHART GLASS' NEW I.S. TECHNOLOGY OFFERS MAJOR IMPROVEMENTS IN OPERATIONAL EFFICIENCY AND CONSIDERABLE COST SAVINGS.

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NEW PARTICIPANTS, NEW IDEAS

The recent decision by two of Europe's renowned investment firms to take major participation in Danone's prestigious *BSN* and, more recently, in Viag's small container division *Gerresheimer Glas*, are a major vote of confidence in the European glass container business. With operating profits selectively estimated as high as 13 per cent of revenue in 1998¹, European glass container manufacturing still ranks among the world's most profitable packaging businesses. With established experi-

ence in the luxury sector (e.g. Tiffany) Investcorp offers invaluable insights into small ware market opportunities. Their decision to commit to glass containers supports our view of the high value, high return potential the small ware sector can offer. Economic recovery in South East Asia and Europe might soon prove them right.

Another noteworthy event is the recent announcement by Beck's Breweries to divest from their bottle making operation. Such a decision follows a more general trend whereby vertical integration is no longer of strategic priority to large brewers and beverage

companies. It also offers major regional players the opportunity to capitalize on its operational strengths and pursue new markets.

Thirdly, Danone's divestiture of Kronenbourg reflects a situation of over supply of beer brands in Europe. It also points towards increased price pressures at all levels of the supply chain. Nevertheless, it is our view that price pressures will most likely affect the low price beer segment where cans dominate and where PET containers are currently attempting market entry.

NEXT GENERATION IS MACHINE

Examples of past Emhart Glass contributions to automation are the introduction of Servo-Electric gob feeding, Servo-Electric gob cutting, Servo-Electric gob distribution and Electronic Event Timing. Nevertheless, we believe that the IS process lends itself to further automation which can result in significant operational savings. With rising energy costs and heightened competition, times could not be more opportune to consider significant steps towards a cost reduction.

IS technology plays a central role in influencing operational costs: concepts such as Verti Flow® have helped improve the overall operational performance of container forming by as much as 20 per cent. However, mechanism-related concepts that address associated idle time have been far fewer during the past years. The advent of recent control technology promises a ma-

Servo-electric takeout



major step in that regard. In all, it could result in as much as a 30 per cent reduction to the glassmaker's operational costs.

One major improvement potential is the reduction of mechanism complexity in the IS machine. Looking across technologies used for cans, cartons and plastics, we find that glass container forming still requires a wide array of support tasks and parts that surpass any other process. The elimination of complex piping, piston rods, mechanism cushioning and associated operational tasks in the IS machine are examples of steps towards a simpler and less costly glass container forming.

A second improvement area is a significant reduction of process variation, thus increase in machine output. Recent developments at Emhart Glass have shown that automatically controlled and more precise mechanism movement leads to fewer process variations: a major step towards a fully automatic IS machine. Advanced electronics to control mechanism position have also helped drastically reduce set-up time and start-up assistance.

A third consideration is the longevity and quality of mould equipment. Improvements to current slamming of moulds at closing are achievable: trials of Servo positioning and motion control between mould equipment elements have yielded unprecedented reliability. Servo-electric control of mould motion, velocity and acceleration have helped "tighten slack" in between motions, thus securing pack rate of over 90 per cent.



**Control modules:
the General Purpose
Control Module (left)
and the Amplifier
Module (right)**

CONCLUDING NOTE

As market conditions improve, the glass container industry should consider the most recent ideas in IS technology as a means towards drastic cost reductions.

The next generation IS machines promises a major leap in output and quality at significantly lower costs. An evolving market is pushing the glass container further into the premium sector where variety and brand image increasingly require technology standards less prone to process variations and downtime.

REFERENCES

1. "Survey of Glass Container Manufacturing, EBIT Performance", Emhart Glass, Market Research 1998.

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