

**WHEN HE MADE THE MOVE FROM THE PRINTED PAPER SACK MARKET TO THE MANUFACTURE OF CORRUGATED PACKAGING, TREVOR MAUND WAS CLEAR ABOUT ONE THING — HE WAS CERTAIN THAT HE COULD SET NEW STANDARDS FOR FLEXOGRAPHIC PRINTING ON CORRUGATED BOARD. A REPORT BY DON HAINES**

**T**welve years on, UK based TRM Packaging has just completed the latest phase of a £20 million investment programme with the installation at its Burscough plant of a Göpfert Impression seven colour printing machine.

“When we bought the company we had to decide how to make TRM stand out from the crowd,” says Trevor Maund. “Buying the Göpfert is the culmination of the ambition that we had when we bought the business 12 years ago. However, you can't just go out and buy a state of the art machine like this and expect to produce world-class printed products the day after installation is completed without the

necessary competences. In 2002, we didn't really understand the printing process. The operators had two ways of controlling the print — either adding more ink or applying more pressure! We knew how to make boxes, but we were still a just another boxmaker who could print. It has been a long journey, and one that we have made in relatively small steps, but now I can confidently say that the organisation has the skills and support services to be a high quality printer that makes boxes.”

**Always at the forefront**

Mr Maund is an accountant by background, but prior to his

# TRM IMPRESSES WITH GÖPFERT





purchase of the Burscough business he was involved in the paper sack industry, where he oversaw the evolution of a fresh produce paper sack manufacturer into a major player in the dried pet foods market, with its far more demanding multi-colour printing standards. This is the blueprint that he brought with him into the corrugated industry, where TRM is now the leading independent producer of boxes using high quality printed coated and uncoated liners. He explains the challenges of the early years in the development of the business; "There were a number of immediate changes that had to be made in the culture and attitudes to housekeeping and machine maintenance. To achieve a high standard of print, machines have to be kept in good condition for there to be control of every aspect of the process. Our machines were mainly two-colour or three-colour, but all the new casemakers that have been purchased are four-colour machines with the benefit of doctor blade systems. All our machine operators have been through a structured training programme with support from our ink and stereo suppliers."

Asked if the initial aim was to target different markets, Mr Maund replies, "The initial focus was on doing a better job for existing customers, but our continually improving printing capabilities has enabled us to win more business in our established markets, as well as attracting new customers. Of course, the market has changed over the years, not least with the introduction of retail ready packaging, but we have always tried to be at the forefront of where the market is going. We were one of the first independents to have multi-point gluers as an integral part of the work-flow and to have a

casemaker with a die-cut and pre-creasing unit specifically for retail ready packaging."

Annual turnover at the 225,000 sq ft Burscough plant is an impressive £38 million, but without a doubt, the key to the success of the business lies in the targeted investment in both machinery and people. Mr Maund continues, "Our operators have increased their printing skills as the working environment has changed and we have improved our understanding of the process beyond all recognition. As our skills improved, we have been able to produce the same high quality print using recycled papers instead of Kraft. Now, even on non retail ready products such as crisp boxes, the quality of our print stands out from that of our competitors. Our 'Print Champion' is involved with planning the print of every new job to ensure the right anilox and stereo polymers are used to deliver the highest standard of print."

### Expanding the market

The Göpfert Impression, with a working width of 2.4 metres and a top speed of 10,000 feeds per hour, incorporates the same high accuracy servo drives and control



systems as the well-known Ovation printers and Evolution die-cutters. With the features specified by TRM, the machine is capable of running work with tight register, fine screen high resolution HD plates and very fine anilox roll screens, enabling TRM to meet the growing demand for high quality post print boxes.

The Göpfert pre-feeder incorporates design details that assist in the processing of lighter weight, smaller flute profile board. The feeder is the Göpfert designed vacuum belt feeder which delivers greater accuracy than more conventional feed rolls and performance is further enhanced by the Lead Edge Register camera. This ensures that the print is accurately positioned relative to the lead edge of the sheet, a key requirement for an off-line printer. A Göpfert sheet cleaner removes dust from the sheet prior to printing, and for precise setting, the machine is equipped with an electronic board caliper gauge which sets the machine to the actual board caliper, rather than default values. Board is transported through the machine by vacuum belts, which offer greater accuracy, lower maintenance and lower noise compared to vacuum rollers.

Control of ink is by chambered doctor blades with carbon fibre chambers from Absolute Engineering, and ink feed and return uses the well proven Göpfert system of twin double diaphragm pumps. The Ink Conditioning System (ICS) continuously monitors the ink temperature to maintain constant operating conditions. The plate cylinder is equipped with motorised angle adjust, enabling the operator to make adjustments without entering the machine and allowing the plate angle to be included in the Göpfert Dimension

Control feature. Instead of the more usual steel impression cylinders, the machine is equipped with carbon fibre cylinders. These offer greater stiffness and lower inertia than the steel versions and contribute to the high quality print capabilities of the machine. The impression cylinders and anilox rolls are adjusted in 0.01mm increments using servo positioning systems to ensure accurate and

*“THE GOPFERT IS EQUIPPED WITH A FULL COMPLEMENT OF JB INFRARED DRYERS — SIX INTER-STATION AND A FINAL DRYER. THIS CONFIGURATION PROVIDES FOR COMPLETE DRYING OF BOTH INKS AND VARNISH, OFFERING THE CAPABILITY TO PRINT UP TO SIX COLOURS WITH OVERPRINT VARNISH ON ALL SUBSTRATES INCLUDING SEMI OR FULLY COATED SHEETS, AT HIGH PRODUCTION SPEEDS.”*



repeatable settings. To close the loop on the print control, the TRM machine is fitted with colour to colour register control. This continuously monitors and adjusts the machine and cross direction print position, and in addition, the register camera is used for job set-up with the Göpfert Quick Set system. Utilising control marks on the leading and trailing edge of the print, the first print through is checked by the system for machine and cross direction register, skew and print length. The machine is then automatically adjusted to bring the control marks into perfect alignment. Any fine tuning by the operator is then memorised and used when the job is next run.

Height limitations at take-off of the new printer may have dictated that a shingled take-off was installed. However, in order to avoid the possibility of sheet-to-sheet abrasion affecting print quality, the floor was lowered in order to accommodate a down-stacker. Instead of specifying the standard Impression stacker, TRM opted for the design used on the Ovation printer. This holds the sheets by a vacuum on the back, unprinted, side of the sheet so that there is nothing in contact with the print between the last print unit and the stacker hopper, ensuring that print quality is maintained. Finally, a specially designed unit automatically inserts bottom sheets to protect the printed work during transport on the materials handling system.

### Dryers essential

The Göpfert is equipped with a full complement of JB Infrared Dryers - six inter-station and a final dryer. This configuration provides for complete drying of both inks and varnish, offering the capability to print up to six colours with overprint



varnish on all substrates including semi or fully coated sheets, at high production speeds. Continuous plate cleaning is regarded as essential in the pursuit of zero flexographic printing defects and TRM elected to include JB's KleenPlate™ Printing Defect and Plate Wash Eliminator. The system eradicates the downtime associated with plate washing during or after scheduled and unscheduled production breaks by continuously traversing the plate and removing paper dust particles (hickies), dry ink and other impurities. KleenPlate™ also helps to ensure minimal colour variation and near-perfect tones and screens by eliminating ink bridging, plugging and colour variation. Warren Bird, JB Machinery – Vice President, says, “We are very excited to have been selected as the vendor of choice to partner with TRM as they continue their journey in the ever-growing direct print, high-quality graphics marketplace. Having had the opportunity to meet and discuss this significant investment with key team members, we realised very early on that their existing market presence and competencies made this an obvious next step.”

### Leading producer

As a leading supplier of retail ready packaging, TRM is routinely involved in discussions between its customers and their clients, the major supermarkets. When one of these decided that they were looking for a high gloss finish, the business moved swiftly to install dryers on one of TRM's four-colour printers, a pre-requisite for printing on coated board, as Mr Maund confirms, “This created a whole new set of challenges and a raising of the bar in terms of cleanliness and ink application with far tighter

printing tolerances. Within six months, we went from having no experience of printing on coated board to becoming a leading producer, setting new standards, both for ourselves and in the market. This is precisely how we have progressed over the years, making large numbers of small steps, always advancing our knowledge and expertise, and all the time improving our level of understanding and keeping ourselves at the forefront of the market. We have understood the importance of vacuum board cleaning on the corrugator, of factory cleanliness, and the use of spectrometers on every printer. A measure of our progress was our success at the 2012 European Flexographic Industry Association awards, where we won Gold and Silver in one category, and a Bronze in another. Our aim is to continue to lead and to grow the market for high quality corrugated print and with the installation of the seven colour Göpfert there is no reason why TRM shouldn't grow its annual turnover to £50million.” ■





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