

SHORT RUN WASTE STRIPPING ...the automatic way



Hand-stripping is often a bottleneck – it's dusty, can be injurious to wrists and backs, is slow and labour-intensive. Delicate designs can be damaged. Some companies outsource this activity altogether, whilst others take on contract workers according to the demands of production. However, a Japanese machine made for over 10 years, and little-known in Europe until recently, can provide an automatic solution delivering up to 12,000 sheets of typical 400 micron cartonboard per hour cleanly stripped.

The TXR blank separator was originally conceived by Kawahara Print & Packaging company of Nagoya, Japan to solve the problems associated with hand-stripping within its own print operation. Other Japanese companies were impressed, and so the company established a small machinery sales division to service the home market. In 1994, the first year of sales, 15 machines were sold. Since then sales have been steadily increasing with around 150 machines now in operation in Japan.

In late 2003 the first machine to be sold in Europe arrived in the UK dedicated to stripping sheets of horticultural plastic labels. The increase in productivity and reduction in direct labour over a three-shift operation gave the company a return on the investment within nine months. By this time Kawahara had granted sales agencies to a small number of distributors around the world including AN Corporation of Tokyo, who established a UK operation to service Northern Europe.

Sales Director of the UK office, Gary Compton, says, "Our first big exposure in Europe was at drupa 2004. We sold the display machine to a company in the in-mould label (IML) business. A lot of people at first sight think it's a kind of die-cutter but it is in fact a method of waste removal that has found great popularity in the shorter sheet run markets – typically anywhere from 5,000-30,000 sheets".

Drupa was swiftly followed by Ipex in April this year, and the demo machine again found popularity within the IML market and was despatched to Greece after the show.

TXR IN OPERATION

So how does it work? The TXR has a lower bed of narrow rubber-tipped pins that are automatically configured to the waste outline of a sheet design using an upper bed which then uses those pins to exert pressure on a stack of sheets and to separate the blanks from the waste. The movement of the press and the pin beds is controlled by a combination of electronic motors and compressed air which ensures a smooth stripping action each cycle.

There is no special tooling required other than a simple plastic template for each design to be stripped. The templates can be made by hand in 20 minutes, or a software package enables the template to be cut at the pre-press stage by the CAD operator. The templates can be stored and re-used.

The TXR is designed to strip a stack of material around 80mm in depth. The machine stripping cycle takes under 30 seconds, notwithstanding how many blanks are on the sheet, and after this process the operator removes the blanks from the supporting pins to a conveyor or bench. The remnant waste is then scooped from the pin bed into an adjacent waste palletainer or conveyor. In this way, up to 12,000 sheets of 400 micron cartonboard can be processed in one hour.

Typically, the machine is 5-6 times faster than hand-stripping and there is no heavy labour involved. With an automatic paper-feeder for larger sheet sizes, even the effort of moving the stack of sheets onto the pin bed is removed. Make-ready time is a speedy 10 minutes while the machine is registering a new design using the templates. This makes the TXR a great option for shorter run jobs and where there are a number of changeovers in a day.

There are several sizes of machine within the offered range, depending on the sheet size favoured by the manufacturer. The most popular are the TXR-800 for maximum sheet size 825mm x 568mm and the TXR-1100 for sizes up to 1092mm x 804mm — although there are smaller and larger size machines available.

Above: Stripped cartons.

SHORT RUN WASTE STRIPPING ...the automatic way

THE FUTURE OF STRIPPING

So, although originally developed for folding carton production, the TXR has found favour in many other areas including plastic packaging, plastic labels, microflute products, luxury packaging, point-of-sale and in-mould labels. "There are now six TXRs in operation in Europe", says Mr Compton, "and we have ambitious plans to increase this to 100 machines in the next five years".

Plans to achieve this include the establishment of a demonstration facility, along with the appearance of the TXR at drupa 2008.

"It is important that we maintain the profile of the TXR in the European marketplace", says Mr Compton. "At drupa 2004 visitors were seeing it for the first time and perhaps thought it was a novelty product. However, it

has been manufactured for over a decade now and has undergone design refinements during that time which mean that we can offer a virtually problem-free piece of equipment. This is reinforced by the fact that we have had no maintenance call-outs for any of the six machines currently in Europe".

High volume manufacturers will still look to a full in-line blanking station as a stripping solution, and they are right to do so, but where the TXR scores is at the lower-run end where hand-stripping is still the norm. "Waste stripping for shorter runs remains one of the few areas that have defied attempts at automation. It is often recognised as a



problem but companies traditionally throw labour at it as there has never been an automated solution. The TXR is the answer," concludes Mr Compton.

For more information on the TXR Series Blank Separator, visit www.an-corp.co.uk or contact email: gary.compton@an-corp.co.uk