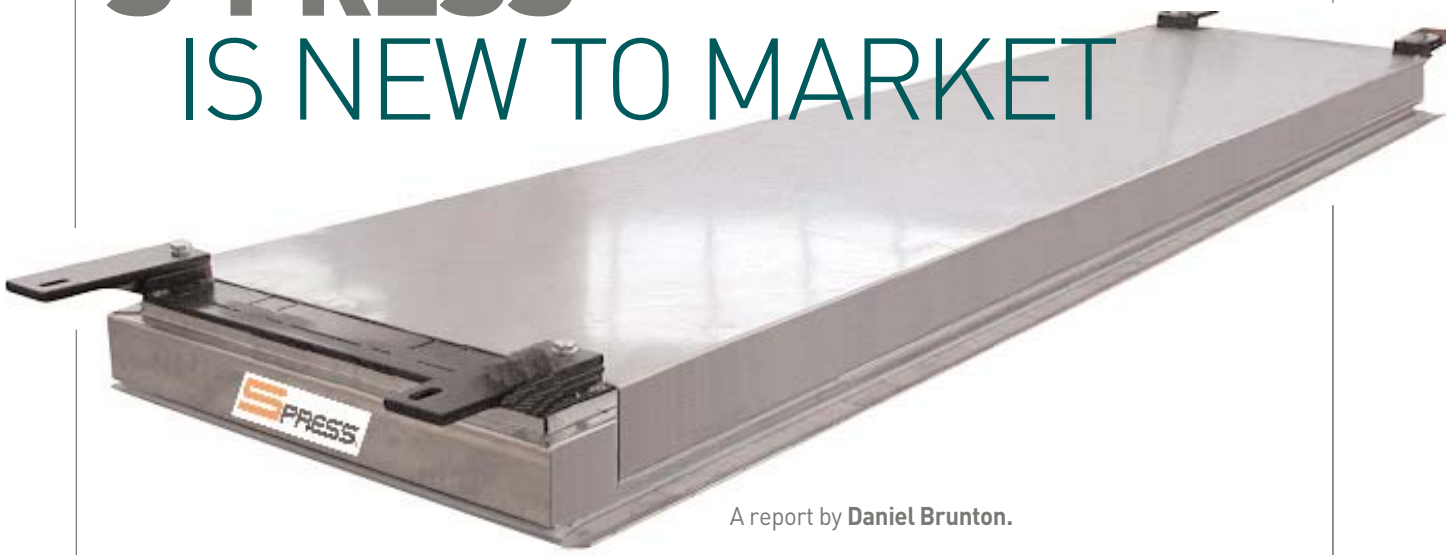
S-PRESS IS NEW TO MARKET



A report by **Daniel Brunton.**

With the launch of a new generation of Shortpress, Simon Container Machinery continues to play a leading role in the fast moving corrugated industry around the world.

Simon is a name well known in the corrugated industry. Dating back to the 1950s, the company was once one of the world's leading suppliers of corrugators and converting machinery. Time has moved on and so has the structure of the company. Now known as Simon Corrugating Machinery, this is the new name for the corrugated division of SHS Group and SCM Container Machinery.

Since July 2003, the company has been owned by Robert Lindsay. The company has four offices around the world — its headquarters is in Germany, staffed by a dedicated team who between them, speak many European languages. Manufacturing plants in Runcorn, UK and Agawam, USA are complemented by a dedicated service and re-build facility in Poland.

The company manufactures double facer conversions and heat transfer systems for corrugators. It also offers retrofit and upgrade packages to enable owners of Simon machinery to bring them right up to date, with sophisticated operating software, servo drives and the like. The company also manufactures sophisticated IR dryers for flexo printing machines that can easily be retrofitted to any type of pre-print machine or converting machine with print capabilities.

In addition, it has an extensive stock of spare parts for the thousands of Simon machines that are still in daily operation around the world. Another service offered to the market is the dismantling and re-installation of any type of corrugator or

converting machine and a first class second hand machinery service.

Machinery representation

Well known in the global industry, Simon also represents manufacturers, allowing an extensive portfolio of products. One of the key agencies is for Latitude, the Taiwanese manufacturer of complete corrugators, rotary die-cutters and flexo folder gluers. Simon is sales agent in mainland Europe, Scandinavia and Eastern Europe (not the UK or Ireland). The company confirms that since starting work with Latitude back in 2003, six machines have been sold, installed by Simon engineers and in daily production. "This is a really important string to our bow," explains Mr Lindsay. "We have worked closely with Latitude and all our engineers are fully qualified to install and service this range of machinery. We also hold and extensive stock of spare parts for their machines at our facilities in Poland and Germany."

Possibly one of the companies better known products of late is the Shortpress, a simple to use, easy to maintain double facer conversion. With thousands of these units installed all around the world (and with companies as well known as MHI fitting them as standard to all new corrugators), the latest development from this well known supplier is the S-Press.

What is S-PRESS?

The following is taken from a presentation made by John Shortt on behalf of Simon at the recent FEFCO Congress in Nice in April 2007 and from an interview between Dan Brunton and Mr Shortt at the Simon manufacturing facility in UK.

Mr Shortt explains how the Shortpress came about: "In 1988 when I was plant manager for Ondulati Maranello, I had to consider re-grinding the hot plates for the 3rd time or buy new wider hot plates to convert the Simon Double Facer from 245cm to 250cm. The machine was only installed in 1975, but because of abrasive papers, groves were very quickly worn in the hot plates in correspondence with the weight rolls. Having been an employee of Simon for many years, I decided to design a new hot plate system which would improve speed and reduce starch consumption. With the help of Simon, we developed the Shortpress heat transfer system. In 1989, Simon went on to patent the system.

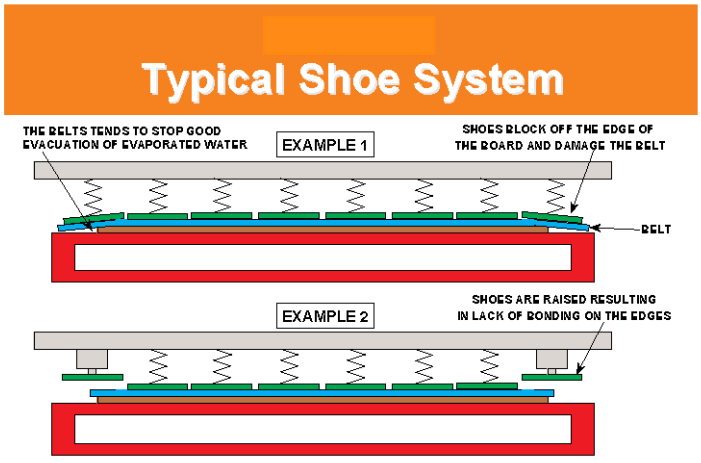
" In 2004, I realised that there were still possibilities to improve the now 15 year old Shortpress design. My new ideas had to keep the same advantages of the old machine, whilst making the system even more effective and simple. A year later, we made an agreement with SCM to produce the S-press. In 2006, six units were installed on a 2.5m Simon belt-less machine and worked well from day one. The S-Press was born."

How is it constructed?

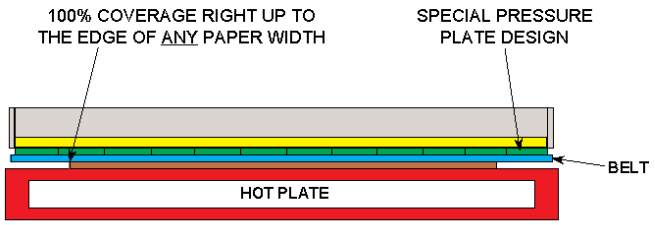
With very few moving parts is the simple answer. The system is simple in its operation. In the unloaded position, the pressure plates are raised from the board line, and held there by compression springs. In its loaded position, an air bag is inflated. The pressure inside the bag overcomes the compression springs and lowers the pressure plates to contact the belt, or in the case of a beltless machine, the plates directly touch the board. This special loading mechanism enables the S-press to achieve a 'kiss touch' principle providing sufficient pressure to create an extremely effective means of heat transfer to the corrugated board.

Benefits of S-press:

- Perfect contact between the pressure plates, and the belt/board



Benefits S-PRESS System



as with Shortpress, but with a greater contact area per module.

- One control that both applies the pressure required, and also brings the system into contact with the belt/board.
- It is impossible for the contact plates to damage the belt.
- S-Press applies pressure to the board right up to the edge without any form of adjustment being necessary.
- S-press follows any deflection in the hot plate.
- It can apply as little as 0.001 kg/cm pressure to the board, which results in 'kiss-touch.'
- Increased energy savings.

How do these benefits contribute in making better board faster and cheaper?

- Contact between the heat transfer systems and the belt/board is crucial, especially during the phase where the water in the starch reaches 100°C and becomes a gas. This normally happens in the area of the fifth or sixth hot plate depending on speed and weight of board. It is at this moment that it is important to hold the web to the liner when running micro flutes, and in the case of heavier production of other flute/paper combinations, to hold the board until sufficient bond has been achieved, and then maintain sufficient pressure to guarantee that the bond is held there whilst the board is curing.
- Using the Patented Shortpress method, S-Press uses the same fan control which is a 0.38kw fan controlled by an inverter to not only apply the required pressure to the board, but also to raise and lower it.
- Because of the design, the contact plates/shoes never press on the belt were there is no board. Not only this, but it is also impossible for the belt to come in contact with the edge of the plates/shoes. Typically, belts last any where between 200,000,000, and 250,000,000 linear meters before being replaced.
- The floating pressure plates fixed to a one piece, flexible frame guarantees that the plates make contact with the board right to the very edge, what ever paper widths are being run. This permits the board to dry without being hindered by the belt being pressed down on the edges.
- Shortpress has been successful due to its ability to follow the deflection in the hot plate. S-press maintains the same characteristics but with more contact area, and with lower pressures.
- The 'Kiss-touch' is an important feature. With S-press using the Patented Shortpress method of adjustment, the operator can simply apply the minimum amount of pressure to hold the bond together and ensure good curing of the board without over drying.
- Apply just the right amount of pressure leads to massive energy savings. If we take a typical double facer running at 300 m/min with single wall, it is not unusual to see the main drive pulling 250 amp when using weight rollers. This is equivalent to approximately 100kw, which on a 3-shift machine in one year equals:

100 x 24 x 230 x 0.12(euro/kw) = €66,240/annum.

Using the same calculation but with S-press on a belt-less application, as little as 70 amps (28 kw) have been measured. Using the same calculation following savings can be expected:

28 x 24 x 230 x 0.12(euro/kw) = €18,547/annum

Therefore, deduct the difference (€18,547 from €66,240) equals a saving of€47,693 in 1 year.

(Note: the above measurement were taken on a high speed machine in Italy).

Other advantages:

S-press (like Shortpress) lends itself to easy interfacing, whether it be board grade selectable or simply by flute ie. light weight single wall, heavy weight single wall, or light weight double wall etc.

Nearly all companies like Escada and E&L provide, as standard with their software packages, the tools for fine tuning of the SCM system. In the case were the customer hasn't got any form of process control, SCM can provide anything from a more sophisticated control via a touch screen or a simple selector switch, based on the board/flute type.