

BAGGING

LATEST DEVELOPMENTS IN VERTICAL FORM-FILL-SEAL AND PRE-MADE BAG FILLING EQUIPMENT.

HAYSSEN SANDIACRE EUROPE

High speed potato bagger monitors seals

Fresh produce supplier Fenmarc Produce is achieving speeds of 100 a minute on 1kg bags of Jersey potatoes using an improved version of the Sandiacre TG250-RC bagging machine recently installed at its plant in Cambridgeshire.

A smaller version of the standard TG250, the TG250-RC is based on a "short-drop" platform in which the vertical fall of products during the bagging operation is reduced.

"Seasonal potatoes such as Jersey's cause production peaks that need to be managed quickly and at an affordable cost," says Darren Howell of Fenmarc. "The Sandiacre bagger is currently handling 1kg bags of potatoes at speeds of 100 bags a minute. We are very pleased that the machine can handle such a delicate product at high speed without damage."

Fenmarc operators are also contributing to higher output with a 60 second film change.

The Sandiacre machine is equipped with a new temperature control system called Intelli-

gent Trending which, explains Sandiacre sales manager Keith Morrow, "is our way of radically reducing the wide temperature variability in the sealing jaws that plague typical bagging machines."

"Seal temperature is particularly important when handling the film used in potato bagging as each type of film has a specific temperature band that ensures a durable seal."

Intelligent Trending maintains jaw sealing temperatures to within ± 2 deg C on average by monitoring both the temperature and power draw over time, then letting the software predict just how much power is needed to maintain future conditions within the ± 2 deg C temperature band.

The TG250-RC employs four independent servo drives for the film feed, the horizontal and vertical drives of the sealing jaws, and the back seal.

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KLIKLOK-WOODMAN INTERNATIONAL

Expanded range for up to 220 a minute

The Woodman range of bagging machines has recently been expanded and updated to give a series of models able to cater for duties extending from entry level to high speed production in excess of 220 bags a minute, from a single tube machine.

A variety of bag styles, including reclosable versions, can be produced by the machines.

In particular, Woodman has introduced its Insight operator panel on all models, with the aim of improving ease-of-use and reducing reliance on the skill of the operator. The Insight system depends almost entirely on graphic icons for rapid understanding and user adoption, but perhaps most important says Kliklok-Woodman, uses a program to establish and set almost all machine parameters automatically.

"On several models, only three inputs are



Fast on wide bags: The new Kliklok-Woodman KWest

required: speed, sealing jaw temperature, and product weight, with all other settings being automatically set to ensure repeatable machine performance, shift after shift, regardless of the operator," explains the company.

All Woodman baggers use servo motors for critical machine functions, including the company's new Compak II described as an economic option for small to medium size food producers that need pack size flexibility, up to a maximum width of 250mm. Speed is up to 80 bags a minute.

There is now an upgraded Polaris II, with a top speed of 100 bags a minute, and the Cyclone series of machines. These offer extended seal dwell time with the Cyclone SF model providing a number of features specifically designed for the snack food industry, including a product clamp and settler.

The Evolution, built in stainless steel to a dairy hygiene specification and capable of speeds up to 220 bags a minute offers an expanded size range – up to 380mm wide – as well as the flexibility to produce gusseted, flat bottom, four-corner seal stand-up bags, or traditional pillow pouches.

Kliklok-Woodman's latest bagger, the KWest combines a speed of 100 a minute with a 380mm maximum bag width and is said to be one of the most versatile form-fill-seal machines available, capable of producing conventional pillow pouches, reclosable zippers,



Handling potatoes: TG250-RC at Fenmarc Products

block bottom or four corner seal stand-up bags.

"The KWest will re-define what refrigerated and frozen food packagers come to expect from a vertical bagmaker" says Graham Holbrook, general sales manager. "Its enormous bag size range, package style flexibility, intuitive interface and user-friendly nature provide the KWest with a significant competitive advantage."

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ERAPA (UK)

Layflat tubing gives bags up to 2m long

The Simplicita Bag Plus 400 bagger works with layflat tubing, either plain or printed, forming bags with a horizontal base seal, mechanically opening them for filling and then making a top seal. A third weld can also be introduced, incorporating a punched Euroslot.

For bag width changes the film reel is replaced in seconds, says Erapa, with pre-programmed controls then adjusting the sealing positions automatically.

Bag width is 80 to 200mm while bag lengths up to 2 metres can be produced, allowing the machine to cater not only for small components, but also for larger or irregular shaped products such as rolls of cable, radio aerials, or window blinds.

The SP can be operated as a standalone unit or linked into an automatic line fed by robotic systems.

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ROVEMA PACKAGING MACHINES

Linear motor drive for frozen food

The Rovema VPL 400 bagging machine is aimed in particular at frozen food and employs linear motors to drive the two axes of the box motion sealing jaws, replacing the conventional gearboxes.

As result of the drive system the machine is almost maintenance and wear free, says Rovema, while both sealing times and sealing pressures are pre-programmable for both the

product and the film. Positioning is repeatable to within 5 micron.

Sealing pressure is infinitely variable between 50 and 8000N at the operator console and can be saved as part of the product program. "Time consuming trials with pneumatics or compression spring adjustments when packaging materials are changed are now history," says Rovema.

The machine is also able to detect product in the jaw at speeds of 150 a minute and makes a double bag without stopping.

Built in stainless steel, the VPL 400 offers a broad format range of 80-400mm wide with bag length up to 600mm and can produce a variety of styles including pillow pouch, block bottom and four-corner seal Stabilo bags.

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Linear motor sealing: Rovema VPL 400

BOSCH PACKAGING SERVICES

High speed unit offers variety of styles

A machine able to produce all common bag forms and run, on conventional pillow packs, at speeds up to 180 a minute is now available from Bosch.

The SVE 2510 DR provides the flexibility to allow a single machine to be used for standard pillow packs, block-bottom bags, gusseted bags, four corner sealed block bottom bags and also Doypack style pouches, which can be produced at speeds up to 100 a minute.

A servo driven, continuous motion machine, the SVE 2510 is also said to provide lower costs per bag in comparison with other

machines that produce these styles of pack.

Unlike most baggers able to produce a four corner seal pouch, the SVE 2510 DR makes three of the seals while the film is travelling horizontally between the unwind and the forming shoulder.

This gives a reduced drop height, particularly for delicate products, and allows a circular rather than rectangular forming tube to be employed, giving room for a larger diameter auger and hence faster filling.

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GOLCONDA

Sack filler makes handles from same film

A method of creating handles at both ends of a finished sack is among recent developments on the Continua range of vertical form-fill-seal machines from Italian manufacturer Concetti, represented in the UK by Golconda.

The Continua machines are available with a wide range of options for most applications in filling polyethylene sacks, either flat or gusseted, and can be fed by nett or gross weighers. Even liquids or liquid based products can be dispensed and filled using a newly developed feeding device.

The handle system has been specified on two Continua 900 machines ordered by a UK user to pack cement based building materials and requires no additional consumables, the handles being made out of the tubular film employed to make the bags themselves. "This feature is particularly useful for products intended for the retail sector where ease of handling is essential," notes Golconda.

Other features of the Continua range include various de-aeration systems for fine powders, corner seals to improve subsequent palletising, air evacuation lances, plastic seal reinforcement, bottom-up auger fillers for extremely difficult materials, hot foil printing, all stainless steel construction, and installation on rails for multiple lines. Speeds range from 400 up to 2000 bags an hour.

The Concetti IGF handles pre-made pillow or gusseted paper and plastic bags of 5-25kg at speeds up to 1200 bags an hour with closure by sewing, heat sealing or gluing. An advanced version is fitted with servo motors to allow press



Pre-made or form-fill-seal: Concetti IGF-FFS fills and seals pre-made bags as well as making bags from a reel

button changeover between different bag sizes in the range 2-20kg.

For smaller packs of 1-5kg the Concetti IPF is aimed in particular at the dried petfood market. Speeds of 2400 bags an hour can be achieved with closure by a variety of means.

According to Golconda, lower cost and improved reliability have fuelled a current trend to polyethylene bags handled on a form-fill-seal basis, but few producers are able to switch completely from pre-made paper bags to polyethylene bags made from a reel. Usually, there is a need to produce both from separate machines.

However, Concetti's combination unit, the IGF-FFS, enables users to employ a single machine to fill pre-made paper, coated paper, paper and pe liner, polyethylene or PP woven sacks as well as polyethylene bags made from tubular film on a reel.

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ANCHOLME

Low drop model is aimed at delicate items

Ancholme has enlarged its range of bagging machines with a stainless steel low drop height model to handle delicate products, particularly in the food industry.

The AB330 Mk 3 is capable of producing bags up to 320mm wide and 300mm long and, for example, is currently employed in one application handling orange and apple slices at

speeds of 90 bags a minute. In other applications the machine is able to achieve speeds in excess of 100 bags a minute.

Like other machines in the Ancholme range, the AB330 can be installed with a multihead weigher and feed system beneath a 3 metre high ceiling, the machine itself measuring just 1300mm high.

Standard equipment includes a reel clamp system that avoids the need to lift heavy reels into the film carriage while optional equipment includes servo jaw closing for high speeds and automatic film tracking.

Further machines from Ancholme are able to produce bags up to 600mm wide and 600mm long, or longer on a double draw basis.

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GAINSBOROUGH ENGINEERING

Modular design allows choice of specification

Gainsborough Engineering's range of vertical form-fill-seal machines are based on a modular concept in which frame size is determined by the size of the bag and further specification by the user: from the type of drive, pneumatics, plc and electronics through to feeding arrangements such as auger, multihead weigher, in-line vibratory tray feeds, or robotics.

Further options include block bottom attachments, valve applicators, gas flushing facilities, carry handle and tear strip applicators and a

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choice of printers. These modules are available as bolt on units with the connections and programming pre-installed into the bagger, which allows installation by the user. As a result, a relatively low cost bagging system can be bought initially and upgraded with additional modules if required.

Gainsborough says that changeover times have been substantially reduced by incorporating easy washdown features, tool free parts and settings that are readily accessed via the touch screen. The screens have self-help menus and even warn the operator if potentially conflicting data are entered.

Fault diagnostics reporting can be carried out via ethernet or wireless connection to a base station and an engineer sent a text message. T: 01427 617677

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FORDS PACKAGING SYSTEMS

Stand-up coffee packs with degas valves

Italian manufacturer ICA is launching a new machine to pack ground and whole bean coffee in a gas-flushed four-corner sealed, stand-up flat top bag. It incorporates an AromaSystem degassing valve in the pack, and applies a tintie and a face label.

The CSV40 Paket Tin-Tie Quad Seal machine is capable of packing 12oz of whole bean coffee at 45 bags a minute on the single tube configuration and 75 bags a minute on the twin tube version.

The same twin tube machine can also produce up to 150 pillow packs a minute, says UK representative Fords Packaging Systems.

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GAINSBOROUGH INDUSTRIAL CONTROLS

Continuous motion for 100 bags a minute

Gainsborough Industrial Controls (GIC) has enlarged its range of continuous motion baggers with the VFB3000 machine, aimed in particular at applications requiring speeds in excess of 100 a minute, such as confectionery,



Addition to range: The new GIC VFB3000

snackfood and also fresh produce.

Capable of handling bags up to 250mm wide, the new machine complements the established VFB8000 machine, which gives a maximum flat bag width of 400mm. Both employ a control system based on a high speed industrial PC and use servo drives for all machine movements.

In addition, the operator interface is a 10.4in colour touch screen offering multiple access levels for operators, engineers and management.

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PFM PACKAGING MACHINERY

Big bags carry catering and food ingredients

Aimed in particular at bulk packaging operations such as catering packs, food ingredients, building materials or even multi-packs, the Zenith EEW announced by PFM can produce bags 460mm wide up to 1000mm long.

The machine can be fed by any of PFM's filling systems including augers for powders, cup fillers for larger particulates or linear or multi-head weighers, and equipped with sealing jaws to handle polyethylene or laminated and co-extruded films.

Power assisted film reel loading and power unwind are standard, to cope with reel weights of up to 80kg.

The Zenith EEW was developed initially to give a plastic closures manufacturer – which now has several of the machines – a low cost solution to packing the injection moulded components on line. Caps are fed from the moulding equipment at 1000 a minute through foil liner insertion equipment and then into the PFM holding unit and the bagger.

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FILLING AND SEALING PRE-MADE BAGS

Quick changes suit a variety of materials

Pre-made bags are still often the preferred packaging choice when runs are short and a wide choice of packaging media is required. Pre-made bags are also available in many different designs and types of packaging material, ranging from plain paper through to complex laminates, many of which cannot be run on vertical form-fill-seal machines.

In many cases also, changeover from one bag size to another is virtually instantaneous, with no loss of material, which is one reason Automated Packaging Systems (APS) gives for attracting customers who were previously bagging items by hand.

In addition, APS points out, material suppliers frequently over gauge on flat film, which can increase costs by as much as 10-20 per cent. Further money is wasted on scrap, largely produced during set up and changeover.

APS supplies the Autobag system, which operates with pre-made bags on a reel and can be equipped with a variety of feed systems as well as a printer for information such as bar codes and product codes, avoiding the need for a separate labelling operation.

One recent application is at West Midlands electrical accessories distributor GET, which has installed an Autobag Excel Print and Pack system to automate its packaging process.

GET special projects manager Darren Shotter says: "The machine is quick to set up and changeover of bags is fast and efficient. The saving to the company is in excess of £20,000 a year in terms of materials and labour since implementation."

At handmade cosmetics manufacturer Lush, Poole, gifts production manager Sharon Ether-



Eliminating labels: Lush is using an Autobag

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ington, says the use of an Autobag machine has given a much more professional appearance. "And we have removed the need to print a separate label therefore eliminating that extra cost."

Also using pre-made bags, but on a string, is the Pronova-Joker bag filling and sealing system from Supreme Plastics, recently updated to handle an extended range of packs including those that require hermetic sealing, stand-up pouches and wet-wipe packs as well as laminate bags with gas barrier properties.

The Pronova machine works with a continuous chain of pre-formed bags which feature channels that allow the bags to run along two fixed guide rods, supporting and opening each bag at the point of filling.

Generally speaking, machinery to handle pre-made bags divides between those that work with a string or roll of bags and those that use individual pre-made bags, usually held on a wicket.

One of the latest for wicketed bags, able to handle bags 50 x 50mm up to 400 x 800mm, with virtually instant changeover between different sizes, is now available in the UK from Advanced Dynamics. Speed is up to 2000 bags an hour.

Aimed in particular at short runs of goods

such as toys, stationery, clothing, automotive parts and DIY goods, the German-built Strubl Plug & Pack machine consists of four stations – empty bag magazine, thermal transfer overprinting, bag opening/loading, and bag sealing – linked by a captive chain conveyor.

This conveyor indexes on a fixed pitch between each station, with the bag automatically centred, so eliminating any need for width adjustment. Only the side guides in the empty bag magazine – where the bags are supported on the wicket – need be altered for different bag widths.

As a result, the Plug & Pack is said to be particularly efficient on extremely short runs such as just a few bags, as well as larger batches, and can be size changed in a matter of 10 seconds or less by simply placing the new bags in the slide-out magazine and moving the guides.

The machine can be supplied for hand-loading only, or equipped with a range of filling, weighing and counting systems. Thermal transfer coding equipment can also be installed for printing one or both sides of the bag with product information, bar codes, graphics and date and batch codes.

At the loading point, bags are held open by an

air knife or mechanical fingers, while the sealing system, which requires no adjustment, delivers the flattened, sealed bags direct into transit cases or onto an outfeed conveyor.

The Plug & Pack machine operates with pre-made bags made in a range of materials and supplied either plain or printed in up to eight colours. Bags can also be made with a reinforced header that prevents heavy products stretching or tearing the Euroslot. ■

For further information

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For full details of all PPMA members able to supply bagging machinery, consult the PPMA machinery finder service, tel: 020 8773 8111, or visit www.ppma.co.uk