

BAGGING

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

SANDIACRE PACKAGING MACHINERY

Gentle handling vital to fresh produce packing

While packing speeds are important in handling fresh produce, avoiding product damage is also vital. So Sandiacre, which builds machines capable of 200 bags a minute or more, has developed a number of features that prevent damage, whether the equipment is handling heavier products such as potatoes and root vegetables, or lighter, more delicate items such as broccoli and cauliflower florets.

For example, the Sandiacre TG350-RC continuous motion bagger, which can produce bags up to 350mm wide, features specially developed low drop-height formers which enables heavier crops to be fed, even into large bags, at high speeds without damage. Typically, this machine can drop a single 5kg load of main crop potatoes into bags without any blocking in the forming tube, allowing speeds up to 50 bags a minute to be achieved.

Indeed, the TG350-RC machine has been selected by one of Ireland's leading suppliers of main crop potatoes, Country Crest, which processes up to 150 tonnes of potatoes a day. The machine is fed by a Newtec weigher and packs bags holding 2, 2.5 and 5kg of potatoes at a speed of 35-40 a minute on the 2.5kg size.

For an operation such as this, the low drop height is a distinct advantage and the Allen Bradley control system has been found easy to use by Country Crest's operators who, says Sandiacre are finding the new machine a great improvement on the old system of using pre-made bags and a bag presenter.

For packing lighter loads of salad potatoes, a Cambridgeshire based company has recently chosen a Sandiacre TG320-LE intermittent motion



Produce packing: Sandiacre has developed machinery to handle large and small drops without damage



machine. The pack sizes used by this company extend from 500g to 2kg and so, to meet the order pattern from the supermarkets supplied, there are several size changes every day.

According to Sandiacre, one of the reasons for the TG320-LE being chosen was the ease with which changeovers and washdowns can be carried out. The machine is fed by an Ishida multihead weigher using an early tip hopper to stream the product and prevent blockages in the forming tube.

For more delicate products such as cauliflower florets, Sandiacre has developed a system on its TG320-LD intermittent motion bagger that provides smooth travel of the product into the bag. The entire machine can be tilted from the vertical to a maximum angle of 45deg, so that products slide gently down the forming tube into the bag rather than drop directly.

Indeed, Heveco's prepared mushroom packing factory at Thakeham, Sussex, is now bagging sliced mushrooms for the first time, using a new Sandiacre stainless steel TG250-L bagging machine. Traditionally, damage and product handling problems have limited the packing options for this delicate product to punnets.

Packing 180g at 60 bags a minute and 1.2kg at 20 bags a minute, the single tube, intermittent motion TG250-L – equipped with an Allen Bradley's ControlLogix controller – is handling over 12 tonnes of sliced mushrooms a week.

The machine is fed by a Multipond MP1401-

FF multihead weigher, which interfaces directly with Sandiacre's graphic operator interface and is fitted with purpose designed product contact surfaces for handling the sliced mushrooms.

"Retailers will be instrumental in driving advances in machine technology in Europe, and developments will be based on price, product differentiation, and freshness," says Sandiacre sales and marketing director Michael Woods.

"Shorter runs for both the growing fresh product market and the array of different pack styles now used to gain on-shelf impact means that machines will have to be more modular in construction and lines will need to adapt to additions such as zipper units. Speed will also be a critical factor."

T: 0115 967 8787

E: sandiacre.uk@molins.com

WEBSTER GRIFFIN

Auto bagging line for salt lifts availability

A new quick-changeover automatic bagging and palletising line installed by Peacock Salt, one of the UK's longest established suppliers of de-icing salt, at its depot in Ayr, Scotland, has improved availability for customers, reducing their stockpiles, and allowed the entire line to be overseen by a fork truck driver.

The old semi-automatic line at Peacock Salt's Glasgow depot required three, sometimes four operators. Instead, the new line is overseen by the driver who, twice a day, loads a 600kg roll of film onto the bagger, keeps the empty pallet magazine stocked and moves wrapped pallets onto waiting transport.

Supplied by Webster Griffin, the new line packs different grades of salt into 5 and 10kg bags with handles, as well as 15 and 25kg sacks, at the rate of 900 bags an hour.

Two NWG-E high speed electronic scales alternately weigh and discharge the nominated charge of salt into the filling tube of the

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CV2080 form-fill-seal bagging machine which operates from reels of flat printed film.

Webster Griffin says that Peacock chose this concept because, apart from being flexible, it has fewer moving parts than a machine that forms and fills bags from a tubular roll of film, particularly important in terms of exposure to the corrosive effects of salt.

Filled bags are micro-perforated allowing the excess air to be squeezed out as they pass through the 1.8 metre long bag flattener on which the gap between the upper and lower belt is electronically adjustable. In this way the degree of compression can be fine tuned to suit the bag size. Flattened bags are then conveyed to the palletiser.

Webster Griffin says that the versatility of the system, combined with a high packing rate means that it is now cost effective for Peacock Salt to pack small, specialised batch runs as well as long production runs.

"On a conventional automatic bagging line changing from one bag size to the other could take one or two hours. With the new line, switching to a different product is instantaneous and from a 5kg to a 25 kg bag takes 20 minutes, enabling Peacock to meet changes in customers demand swiftly," says the company.
T: 01892 664250
E: info@webstergriffin.com

ROVEMA PACKAGING MACHINES

Slider and zip added for reclosable packs

Rovema's VVI intermittent motion bagger can now produce reclosable bags with a slider, using a new attachment that has been specifically designed by the company to place the slide without risk of damaging the profile.

Once the zipper is in position, the zipper is then spot welded to the film, taken over the forming shoulder and secured within the vertical seal of the bag, which is made at 90deg to its eventual facing. A gusset is formed on the opposite side to produce a free-standing bag.

The VVI can also be equipped for gas flushing and is capable of producing a bag with under 1 per cent residual oxygen. Films as thin as 20 micron can be employed as a result of the machine's vacuum film drawdown system, says the company.



Fast changeover: CV2080 bagger at Peacock carries its large forming tubes on a carousel

Linear motor drive is now used on the cross-seal jaws of the new Rovema VPL 400 and VPL 180 baggers.

The motors are said to be maintenance and wear free, to give quick response, free of backlash, and to improve seal quality, even on fast running with difficult films, by allowing both sealing times and sealing pressures to be pre-programmable for both product and film.

Rovema has also co-operated with film supplier Amcor Flexibles to develop the Aqua Flex-Can concept, a stand-up pouch for single serve still drinks.

Made from a single web of film on a modified Rovema VPI 260 vertical form-fill-seal machine, it has a gusseted top and bottom to provide a parallel-sided container and includes a spout with laser perforated tear-off strip.

Potential markets are seen as alternatives for cans and PET bottles up to 250ml, particularly for water and fruit juice, and for events where solid beverage packs are prohibited.

T: 01296 642060
E: sales@rovema.co.uk

PFM PACKAGING MACHINERY

Pasta supplier gains choice of formats

Sussex-based pasta manufacturer Pasta Reale, Crawley, which supplies products such as tortellini and ravioli to the major retailers, has raised speed and reduced giveaway with the

installation of a complete packing line from PFM. This consists of a Vetta vertical form-fill-seal machine, 16 head IP 65 rated multihead weigher with stepper motor control, and associated conveyors and vibratory screens.

The PFM Vetta, a multi-format bag maker, is capable of producing stand-up pouches and what are commonly known as 'quad' packs with reinforced corners, in addition to standard pillow pack bags. The variable axis sealing jaws, which can be turned horizontally through 90deg also mean that it is possible to produce Doppack style bags.

"The PFM line has considerably reduced product giveaway while speed and accuracy has been significantly increased. In addition, the noise levels from the line are extremely low," says Davide Lopalco, senior production manager at Pasta Reale. "The Vetta machine is extremely accessible and all the components are clearly visible."

T: 0113 239 3401
E: sales@pfm-ltd.co.uk

TNA EUROPE

High speed unit suits wide range of products

TNA's latest vertical form-fill-seal machine, the Robag 3, runs faster than its predecessors and is able to handle a much wider range of products. Models include a stainless steel version with stainless multihead weigher, suitable for fresh produce such as salads and vegetables.

The Robag 3 is capable of packing up to 220 bags a minute on a rotary triple jaw configuration and, says TNA, gives efficiencies greater than 95 per cent and a reject rate of less than 0.5 per cent.

In particular, the stripper/tube closer mechanism employed on the machine is now able to provide a greater strip distance, maintaining seal security for a wide range of products that include potato chips, pretzels, tortillas, loose and wrapped confectionery, peanuts, pork crackles and now also fresh salad leaves.

Film and former changes can be made in less than a minute while jaws, knives and drive belts can each be changed in 60 seconds.

For example, the Robag 3 features a redesigned, ergonomic swing-out mechanism for easy unloading and rapid changeover of the

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former, without tools. Integrated with the mechanism is an optional auto connect system for air and nitrogen flushing gas, eliminating the need to connect up pipes and hoses.

The film system has also been redesigned and includes single action film threading – including the date coder – a simple dancing roller arrangement for film tensioning and feeding, and a splice assist unit.

The new servo drive system is software controlled with auto positioning and auto opening, and has self adjusting vertical seal units. Pulling a lever frees the belt for changing.

The Robag 3 is available with a range of jaw mechanisms and can produce bags from as narrow as 40mm to as wide as 420mm at virtually any length, using OPP, laminates and co-ex hdpe films.

Optional extras include equipment to produce block bottom, four-corner seal, string, sachets and multipacks, while retaining the capacity to make the conventional pillow pack format. Promotional strip units, labellers and inserters can be added to the machine for a total systems approach.

T: 0121 628 8900

E: mktg_euro@tnarobag.com

KLIKLOK-WOODMAN INTERNATIONAL

Expanded range runs up to 220 a minute

The Woodman range of bagging machines has recently been expanded and updated to give a series of eight 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 machine.

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 programming algorithm to establish and set almost all machine parameters automatically.

“On several models, only three inputs are 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 – introduced at Interpack – described as an economic option for small to medium size food producers that need pack size flexibility, up to a maximum width of 250mm.

The company’s most recent introduction is the Evolution, built in stainless steel to a dairy hygiene specification and capable of speeds up to 220 bags a minute.

It 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. All can be produced with an integrated zipper-for reclosure.

Special versions of the Evolution can also produce a three-side seal or Doypack style stand-up pouch at speeds said to rival, or even exceed, those of traditional horizontal pouch machines.

T: 01275 836131

E: m.tatum@kliklok-woodman-int.com



Packing module: Compact Audion 1901C bagger with sorting table and outfeed conveyor

SWISSVAC (GB)

Compact bagger fits below bench level table

A compact, low height vertical form-fill-seal machine which has been developed specifically to work with a bench level sorting table and feed conveyor has been launched by Dutch manufacturer Audion Elektro, represented in the UK by Swissvac.

Servo driven, the AVM 190 IC measures just 950mm high, which allows the unit to sit beneath the level of the sorting table from which operators load the sectioned conveyor belt that feeds the machine. Sealed bags fall onto a conveyor that takes them back up to bench height for the next operation, such as case-packing.

Bag width is 50-190mm and bag length 50-300mm with a maximum production speed on polyethylene of 40 a minute. Sealing is via impulse heated sealing bars while memory is provided within the controls to carry set-up data for up to ten products.

T: 01753 546777

E: mail@swissvac.co.uk

GAINSBOROUGH ENGINEERING

Modular range offers 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 the type of interface, bag styles and sealing methods.

"The benefit of the modular baggers is not just in the initial specification but in the flexibility to add and change modules to the machine at any time, such as gas flushing, block bottom forming systems, tear strips, carry handles and printers," points out Gainsborough Engineering.

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 changed for all parameters via the touch screen. When setting up product codes, the screens have self-help menus and even warn the operator if potentially conflicting data is entered.

Potential problems can also be handled by most new Gainsborough machines using a self-monitoring and fault diagnostics system that can report via ethernet or wireless connection to a base station and text message an engineer.

T: 01427 617677

E: sales@gains-eng.co.uk

THE FOOD MACHINERY CO

Entry level bagger and feed systems

The M10 Mini vertical form-fill-seal machine now available from The Food Machinery Co will run at speeds up to 40 bags a minute and costs from just £7500.

Pneumatically operated, it offers a maximum



Modular approach: The GV2K bagger from Gainsborough Engineering

bag size of 100 x 170mm and there is a range of automatic feeders to handle small mechanical parts, powders, food items and pharmaceuticals as well as liquids.

These, too, are at entry level costs with a feeder for granular products costing £4770 and a counter based on a vibratory bowl feeder priced at £4400.

T: 01634 272345

E: sales@food-machinery.co.uk

HAYSSEN EUROPE

Reclosable bags have slider and four corner seals

Hayssen's Ultima SV vertical form-fill seal machine can now be equipped to provide a stand-up bag with fin seals at each vertical corner and a reclosable zipper with slider.

The machine can also be quickly changed over to conventional flat-bottom bags and pillow packs and also to attach zipper profile without the slider.

According to Hayssen, the packaging system provides an eye-catching and highly visible on-shelf presentation with the latest in reclosable convenience.

T: 01842 754171

E: info@hayssen.co.uk

FILLING AND SEALING PRE-MADE BAGS

Quick changes and 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 example is the installation of an APS Autobag print and pack system at Joseph Gleave & Son, which distributes a wide range of hand and power tools, engineering consumables and workshop equipment.

With so many different items of varying sizes and shapes, packing was previously a laborious and time-consuming process, with operators placing products into loose bags of a suitable size by hand, taping them and applying a pre-printed label. As the company is a significant supplier to the Ministry of Defence, packaging flexibility and standards were also key issues.

Commenting on the installation, logistics manager, Andy Gibney says: "We chose the Autobag systems based on the potential time saving in both packaging and labelling. We are currently testing more of our line items through the machines and are averaging about 3000 to 4000 bags per machine per day.

"Now I can report that output has increased and we are also saving a significant amount of time on the packaging and labelling operation."

The AB 180 bagging machine is at the heart of the print and pack system, and is capable of bagging and sealing at speeds of up to 80 bags a minute, with pack size changes possible in less than 2 minutes, says APS.

Generally speaking, machinery to handle pre-made bags divides between bag-on-roll systems and those that use individual bags, usually held on a wicket.

For example, a compact bagging system able to handle wicketed pre-made bags up to 200mm wide x 300mm long, with virtually instant changeover between different sizes, has been launched on the UK market by Paramount Packaging Systems, agent for the German manufacturer Strubl. Speed is up to 1500 bags an hour.

Aimed at short runs of goods such as toys, clothing, stationery, automotive parts, DIY goods and healthcare and medical devices, the Plug & Pack Compact occupies a footprint of just 1400 x 900mm. It has 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 automati-



Handling single bags: Examples of products bagged on the Strubl Plug & Pack Compact

cally 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.

“This means that the Plug & Pack Compact can be used efficiently on very short runs – maybe just a few bags – as well as larger batches,” points out John Roberts at Paramount Packaging Systems. “A size change only involves placing the new bags in the magazine and moving the guides, a matter of less than 10 seconds.”

The machine can be supplied for hand-loading only, or equipped with a range of filling, weighing and counting systems.

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. During sealing the bag top is held in tension to prevent wrinkling, particularly on heavy gauge films.

The pre-made bags, in a range of heat seal materials up to 400 micron, can be supplied either plain or printed in up to eight colours and can be made with a reinforced header for heavy products. This prevents stretching or tearing of the Euroslot and also ensures that the bag stays put on the Euroslot holder and is held flat for optimal presentation of the product. ■

For further information:

Automated Packaging Systems
T: 01684 891400
E: contact@autobag.co.uk

Paramount Packaging Systems
T: 01252 815252
E: fuji@paramount-packaging.co.uk

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