

Introducing Flo-Grade™

Flo-Mech are pleased to announce the launch of a new Flo product. The Flo-Grade™ has been developed to be installed with our Flo-Cut™ sizer halver unit or on its own as a standalone potato or tuber grader.



The Flo-Grade™ has been developed to improve on existing grading performance and technology. Its CE & PI compliant, low impact design minimizes damage caused to the potato.

Flo-Grade™ has been designed to meet the

end-users needs with the costs remaining competitive against other comparable technologies.

With retro-fit opportunities, the Flo-Grade™ is also a close couple of our Flo-Cut™ auto-halver. Its hygienic and sanitary design throughout eliminates the risk of foreign materials into the process. Due to minimal moving parts, the Flo-Grade™ is both easy to operate and low maintenance with less spare component storage required. The Flo-Grade™ requires minimal running power and general energy needs, the machine capacity can also be tuned to suit different process requirements.

Unlike other commercially available solutions, Flo-Grade™ has been developed with the following features for your operational benefit:

- Fixed centre screws – no adjusting tensioners/mechanisms/supports (ledges)
- Easy access toothed belt drive – simple pulley transmission
- Adjustment is by means of mechanical manual diverter



- Scroll profile can be tailored to your process requirements
- Solid food-grade plastic rolls are in contact with the product – no impacts, no risk or breakage
- Direct integration to Flo-Cut™ halver, improved transfers, lower impacts
- Hygienic and sanitary design throughout
- Improved accuracy of diameter grade
- Retro-fit opportunities
- Low maintenance – minimal moving parts
- Easy to operate and access for maintenance

Flo-Mech Flo-Cut™ Sizer Halver



Flo Cut™ Systems as the name indicates, carries out two useful functions, namely size-grading and halving.

Potatoes enter the machine and those under the pre selected size are graded out onto a vibratory conveyor, whilst the larger potatoes are transported onto the halving section where they are carefully orientated and cut in half before they are reintroduced into the product flow along with the smaller size product.



Message from Stuart Elderkin

Welcome to the Spring 2010 edition of Newsflo. You will notice the new face to the right! - as I write this, my first message as the new MD of Flo-Mech Ltd, taking over from Alan who has moved into the CEO role. I am looking forward to the challenge and will ensure Flo-Mech continues to innovate, meet our customer requirements and continues to be successful in business.

Like many companies, 2008/09 was a difficult year for us. However through careful running of

the company, we remained sound. I am pleased to say that 2009/10 has started well and that our prospects for this year look positive. I would like to thank our new and existing customers for their business, and our partners for their continued support.

Since the last Newsflo our innovations and developments team have been busy with Flo-Grade™ (new screw grader developed for our sizer-halver unit) - and the Flo-Therm™ G4 Heater (with

pollution control unit) which have been successfully installed, to KPIs, into a PC line within Europe. Both units are featured within this edition of Newsflo.

Yours, Stuart



Zacmi Seaming Technology



Why use Zacmi seamers?

- All Zacmi seamers are constructed in stainless steel (except for the upper head – price on application) to guarantee maximum corrosion resistance.
- Heavy gauge, stainless steel base manufactured using a specific thermal treatment, guarantees absolute stability and absence of vibration.
- Watertight base to prevent product/water ingress to base.
- Innovative centralised automatic lubrication system with closed circuit oil recirculation.
- Zacmi seamers are designed and built to the most stringent hygienic standards, to avoid any kind of contamination.
- Zacmi seamers are equipped with high quality seaming components e.g. TIMKEN® conical rollers, and levers both lubricated with recirculated oil.
- Thanks to high quality construction methods and advanced mechanical features, maintenance is considerably reduced.
- Engineering time for “size changeover” of mechanical parts and seaming sets (plates + rollers + chucks) are minimal and very simple.
- Noise emissions are within the values laid down by the most stringent international rules.



Monitoring the seaming process to eject “bad” cans and control seamer deviation.

Zacmi seamers can be equipped with a patented monitoring system, D.S.M. (Double Seam Monitoring), for the seaming process in order to eject “bad” cans and control seamer wear and tear.

Defects such as product in seam, cracked rolls and lid/can deformation are detected and rejected automatically in real time, up to 1200cpm.

For more information on this innovative technology please contact Zacmi's UK partner, Flo-Mech Ltd, tel: 01733 233166 or email: sales@flo-mech.com



BMA Steam Peeling



The BMA steam peeler has been used for many years in potato processing factories, e.g. for French fries, potato flakes and potato granules. Potato chip (crisps) producers are also among BMA's customers.

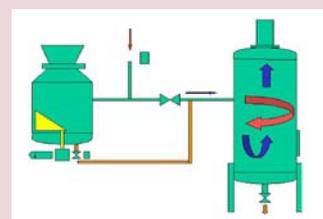
Operation Principle

Product inside a pressure vessel is briefly exposed to high pressure steam. Upon contact, the steam condensates in the outer layer (skin) of the product.

When the pressure is released, the water in the potato skin starts to boil. When the boiling water flashes out into steam it is expanding enormously. The potato skin contains less water than the potato itself, and forms a kind of coat around the potato. Because the expanding steam cannot penetrate through this coat, it removes the coat from the potato.

Operation

The product is weighed with a weighing belt or weighing hopper. The vessel is filled with the preset weight of raw product via the inlet door mounted on top of the vessel. The pneumatically operated door opens to the inside of the vessel. This ensures that the door closes correctly against the seal and that the vessel is hermetically sealed during steaming.



Once the door is closed, high pressure steam is injected into the pressure vessel from the side. The pressure vessel starts to rotate to ensure uniform contact between product and steam. After a preset steam time, the outlet valve opens so that the vessel is decompressed in a very short time and the product inlet door can be opened. The pressure vessel now rotates to its unloading position so that it can be emptied. The vessel then rotates back to the filling position and the next cycle can commence. The whole operation of the steam peeler is carried out automatically, controlled by a PLC. For smaller capacities the steam peeling process is followed by brushing off the potato skin with a brushing machine, for larger capacities we recommend the BMA Centrifugal Dry Deskinner type ODC.



Advantages and Features: Low peeling losses • Optimum steam distribution • Rugged, simple machine with few moving parts • Easy to operate via touch-panel • Proven, hygienic design • High safety standard • Minimum maintenance • No angles or edges inside pressure vessel • High capacity due to large diameter inlet door and fast product discharge • Condensate discharge • Modular design, capacity increase possible.

Flo-Mech Partnership Update

Flo-Mech

Flo-Mech Appointed Key Partner for UK & Ireland



Flo-Mech are pleased to announce the official UK & Ireland partnership with Key Technology. Flo-Mech and Key Technology who have had a long term relationship have made it official by the appointment of Flo-Mech as the exclusive UK and Ireland Sales partner.

Key Technology, founded in 1948, is an international leader in the design and manufacture of process automation systems for the food processing and industrial markets. Based on the principles of innovation, reliability, and superior customer service, Key develops next-generation solutions that produce competitive advantages for its customers. The company's products integrate electro-optical inspection and sorting systems, specialised conveying systems, and processing equipment to serve the unique needs of processors around the world.

Key's process automation systems provide multiple benefits to its customers including: reduced operating costs through labour reduction, consistent product quality, optimum yield, and increased process control capabilities to optimise plant efficiencies.

A publicly-held company, Key's stock trades on the NASDAQ stock exchange under the symbol KTEC. Key is also an ISO-9001 certified company.



Introducing the Key Range

- Optical Inspection Systems including Manta®, Tegra®, Optyx®, and Optyx® with Raptor and Fluoraptor™ Laser Technology, which identify and remove defects.
- Specialised Conveying Systems: Iso-Flo® vibratory conveyors, Impulse™ electromagnetic conveyors, Spiral-Flo™ elevators, pumping systems, and grading systems for sizing, grading, and separating.
- Preparation Systems for blanching, air cooling, air cleaning, washing, and feeding.
- Fresh-cut food processing equipment including washers, dryers, and integrated lines.
- Services such as application testing, custom engineering, installation and start-up, training, and customisable service packages for maintenance and repairs.



Key Technology serves a broad range of market segments with its equipment solutions including processed and packaged food, pharmaceutical and industrial products, such as fresh and processed fruits and vegetables, potatoes, nuts, snacks, and meat as well as coffee, tobacco, plastics, paper, and other products.

The Company's core values include:

- Industry leadership through technology innovation.
- Dedication to strong customer relationships that drive new application development.
- Service programs and comprehensive migration paths assure no customer is left behind.
- Quality engineering and manufacturing that delivers precision and long equipment life.

Key Technology maintains demonstration and testing facilities, manufacturing, engineering, R&D, parts and service at its headquarters in Walla Walla, Washington and at Key Technology BV in the Netherlands. Key operates one additional manufacturing site in the USA, and sales and service offices in Shanghai, China; Melbourne, Australia; and Santiago de Queretaro, Mexico.

Flo-Mech will be responsible for all UK sales and spares back up and look forward to a successful partnership.



Introducing Steve Lovell Flo-Mech / Key Sales Manager

We are pleased to announce that Steve Lovell has joined the Company to actively promote the sales of Key equipment throughout the UK and Ireland. Many of you will know Steve from his previous employment and experience with vibratory conveyors. Steve has completed training by Key Technology on the product range and will be contacting all existing and new customers. If you have a Key enquiry please do not hesitate to contact him

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Flo-Cut	Belgium	BMA Fines Filter Box	North East (UK)
Flo-Therm.....	Portugal	Steam Extraction System	North West (UK)
Cablevey System	Cambridgeshire (UK)	Key High Speed Infeed Vibrator	Portugal
Stork Tempura batter applicator.....	(UK)	Key Optical Sorter.....	North East (UK)
Key Electronic inspection system	East Anglia (UK)	Sifting System.....	Midlands (UK)
Cablevey System	Midlands (UK)	Batch Abrasive Peeling System.....	Midlands (UK)
Flo-Therm Energy Optimisation package.....	Turkey	Batch Abrasive Peeling System.....	North West (UK)
Flo-Therm Heat Exchanger Upgrade	Midlands (UK)	Batch Abrasive Peeling System.....	North East (UK)

Flo-Therm™ G4 Update

The Flo-Therm range heater has evolved over the last decade and today we are proposing a heater which ensures maximum efficiency.

Key features of the Flo-Therm Generation 4:

Flo-Therm Heater: Our heater has been designed to ensure perfect homogeneity of heat transfer across the heat exchanger via computer flow modelling. A baffle-plate allows excellent mixing of pollution gas which allows complete incineration. The pollution flow velocity distribution has been optimised so that minimum pollution deposit is formed hence reducing risk of fire hazard.

Burner Pre-Heat: Our Pre-Heat exchanger uses patented technology which allows maximising heat transfer with minimum pressure drop increase to the burner system.

Combustion Management: Our current burner is a Weishaupt burner which offers great versatility. Added to our burner we also have an additional combustion tuning management which allows tuning of the burner excess air.

Burner Optimisation: Burner optimisation allows fine tuning of the pollution flow, fryer damper and excess air through the range of the production throughput, to ensure that the heat quantity to the heat exchanger is delivered with minimum gas use.

Heat Exchanger: Our heat exchanger has been designed and optimised to: (i) reduce pressure drop in both the oil and air side (ii) maximise exchange surface area which corresponds to the best heat transfer coefficient for sunflower oil, (iii) optimise oil velocity throughout the different passes which allows reduce bulk to skin temperature. Counter-flow and U-tubes



heat exchanger, with increased surface area maintaining adequate pressure drop.

Efficiency Calculation: To ensure accuracy and consistency we utilise both accurate data for both the oil and the calorific value of the gas and we also ensure that our temperature probes have been UKAS calibrated in the range of operation.

inFlo General news...



Tim Gregory Project Engineer

Tim Gregory joined the Flo-Mech project team in late 2008 as project engineer. Tim who has joined us from another large local business has completed a vast training programme at Flo-Mech and has already completed some successful projects for

some of our major customers European sites.

We wish Tim well for the future and look forward to many successful Flo-Mech projects with him on board.



Anthony Middleton Project Engineer

Anthony Middleton joined Flo-Mech in July 2008 and has completed several successful Flo-Mech projects including a number of Energy and Sustainability projects involving energy saving upgrades to our Flo-Therm oil heating systems.

We are glad to have Anthony on board and wish him well for the future.



Roger Pettican Retires

Roger Pettican has retired from Flo-Mech after more than 11 years service. Roger joined the company in 1999 as Stores and Spare parts Manager and has done a fantastic job over the years.

We wish Roger all the best and a very happy retirement.



Mark Barrett Stores and Shipping Manager

Mark has joined the Flo-Mech team as Roger Pettican's replacement. Mark will be managing the stores department and looking after our spare parts holding and shipping requirements. Rocco Staffieri works with Mark to make up the Spares team.

To request parts through our Spares team please contact Mark Barrett or Rocco Staffieri on +44(0)1733 233166 or email spares@flo-mech.com