



# Corporate responsibility is slow to impact sector

There is no doubt that sustainability is steadily gaining importance with consumers, even during tough economic times, and many want ethically and ecologically sourced products packed in a resource-conserving manner.

Fast moving consumer goods (fmcg) manufacturers are all devising corporate responsibility and sustainability plans – over many pages in a lot of cases – that set out their goals in this area. Much of which revolves around resource management, an area the machinery sector can contribute handsomely, especially in energy usage.

Evidence of fmcg companies setting out their eco ambitions includes Unilever. For instance, the owner of brands such as Dove soap and Domestos household cleaner has talked about its plans to double its worldwide sales from the current 40 billion euros by 2020, and simultaneously halve its carbon dioxide emissions by improving efficiency in packaging and production.

In the last twelve months, various

companies have made announcements such as Birds Eye targeting a 15% reduction in its packaging over the next two years as part of its Forever Food sustainability plan; the Kerrygold Company investing in a plant billed as one of Europe's most environmentally friendly facilities and many companies aiming to send zero waste to landfill at the very least.

## No to compressed air

In terms of machinery, there has been a flurry of launches that no longer require or need very little compressed air. There has been an increase in the use of servo motors to achieve energy savings. And machines have had to adapt to run bio plastics or recycled materials. But how many customers ask directly about sustainability issues when buying new equipment?

*Machinery Update* asked this question of a number of machinery manufacturers and although this is not a scientific poll, the

average figure seems to be between 0 and 15%. And unsurprisingly, many of those customers that mention eco issues are larger, household names rather than SMEs. Not a huge number, given the emphasis by fmcg companies.

Although only a few larger companies are asking Ilapak about such things so far, the company sees this whole area as an opportunity not a threat. "Since 2007 we have been redesigning our machinery to be less expensive to run and operate and we have also been experimenting with different types of sealing systems and materials to reduce energy and heat loss during sealing cycles," explains Tony McDonald, divisional sales manager at Ilapak UK.

## Waste is a concern

"Large companies certainly have sustainability as part of their corporate purchasing policy, particularly food companies where wastage is a major concern," says Gary Cowlard, chief

## sustainability

executive of Open Date. "But many small companies are selling healthy or organic products and want their production methods and packaging to reflect this. Small does not mean 'indifferent' in this area," he says.

One company that sees sustainability as becoming increasingly important for long-term success is Beumer. "For us, sustainability is not a trend, but rather a topic of long term importance and we have declared it to be one of our basic values," says Regina Schnathmann of Beumer. "We continually and systematically access the sustainability of our products and use a point system to validate our products in terms of economic, ecological and social responsibility," she says. "We call it the Beumer Sustainability Index."

### Embryonic interest

Wilson Clark, UK general manager of Logopak says interest in the subject is very much embryonic and the numbers are still very small. "However, while not one of our customers raised the issue of sustainability last year, we have experienced small but growing interest this year and now have three projects under way as part of sustainability projects with a major multi-site customer," he says.

Interest in the company's recycling scheme for silicon-coated release paper has been much higher and he expects about 15% of customers to be using the scheme by next year. "Particularly those now adopting a no-waste-to-landfill philosophy," he says.

### Machine build quality

Clark thinks that one important point to consider is that sustainability surely also applies to machine build quality, reliability and longevity.

"Specifically when buying coding and marking equipment, we find that less than 5% of our customers ask directly about sustainability," says Charles Randon, product manager at Linx Printing Technologies. "We believe that this is because coding has a relatively low amount of waste and environmental impact."

Neil Ashton, sales manager at Packaging Automation says that about 10% of its customers ask directly about sustainability but as the larger companies accept their responsibilities and acknowledge the changing world, "it would

*Ian Johnson, operations director at Coca-Cola Enterprises' Wakefield site feels that suppliers need to recognise the changing landscape that everyone now operates in and how consumers are savvy on sustainable issues*



***"Our suppliers are now adapting to more sustainable equipment to deliver cost and environmental benefits and recognise that it's a major part of our thinking. Our needs at the Wakefield site are still the same, but corporate responsibility and sustainability is now part of our DNA."***

*Turn over to read the full interview*

be fair to say the smaller companies will have to follow".

According to Chris Bolton, sales and operations director at PFM Packaging Machinery, not many customers ask directly about sustainability as a subject in its own right, but a large number of customers are looking at new ways in which machinery can help reduce the quantity of packaging they use and are also studying biodegradable and compostable materials.

### Biodegradable film

"Twinings, for example, is running biodegradable film on PFM flow wrappers," he says.

Meanwhile Endoline Machinery finds energy savings are an issue with customers. "While sustainability is not a direct question asked by our customers, the energy saving factor and ultimately cost saving while producing higher volumes, is factored into about 50% of our

machinery sales," says Alan Yates, md and ceo of Endoline.

"From our experience, larger companies do have a kind of master plan they are committed to follow in this area and therefore, they have a more frequent demand," says Ingolf Latz of OCS Checkweighers. "However, we believe that sustainability cannot be a matter of size, it is rather a matter of time and available in-house manpower."

The company's factory in Kaiserslautern, Germany has invested in alternative sources of energy to save fossil fuels and implemented many other eco features into its plant.

One company that has taken these issues on board is Rockwell Automation. It says that while working to make operations cleaner, safer, more energy-efficient and more competitive, it can turn 'sustainability challenges' into business advantage. For example, advanced automation solutions can save money in energy, raw materials and scrap/waste.

### Own label products

Torsten Giese, marketing manager – PR & exhibitions at Ishida Europe says that although the majority of companies asking about these issues are large, it is also smaller firms who produce retailer own label products. Also, he says, manufacturers and retailers in snacks are pushing for film reduction, waste reduction, transport reduction and energy reduction.

At Domino, the company is witnessing a huge upsurge in interest in these issues as Will Edwards, UK general manager explains. "In the past, about 10-15% of customers would ask directly about sustainability or corporate responsibility when buying equipment," he says. "However in recent times, this percentage has changed dramatically to around 40-50% of customers.

"Increasingly, total cost of ownership is becoming critical to equipment-buying customers and part of these ownership costs takes the form of waste and environment costs," he concludes.

Of course, using less material, less energy and less water is not only an environmental goal; it just makes plain good business sense. And machinery manufacturers who can offer benefits in this area will be grabbing the opportunity sustainability issues can present.

sustainability

# Sustaining soft drinks for future generations

**Machinery Update** talks to Ian Johnson, operations director at Coca-Cola Enterprises' Wakefield site, to find out how corporate responsibility and sustainability works in practical terms at the largest soft drinks manufacturing facility in Europe

Coca-Cola Enterprises (CCE) is by any measure a big business. It is the world's third largest independent Coca-Cola bottler, operates in seven European countries, and in Great Britain alone employs about 4,500 people at 22 production facilities, regional offices and depots. It has a national manufacturing footprint, with plants in Wakefield, Sidcup, East Kilbride, Milton Keynes, Edmonton and Morpeth producing brands such as Coca-Cola, Fanta, Powerade and Dr Pepper as well as Appletiser, Oasis and Capri-Sun.

Through its Commitment 2020 corporate strategy, CCE has set out bold plans to minimise the environmental impact of its products and operations, with a particular focus on sustainable packaging and recycling, water stewardship, and energy and climate protection.

And Wakefield is leading the way on that agenda – it was, for instance, the first CCE plant to send zero waste to landfill (a status it achieved in 2009), has had anaerobic digestion in place since 1989, and is exploring the use of combined heat and power.



Operations director Ian Johnson (right) shows David Cameron around the Wakefield plant during the election campaign last year



Close to £200m has been invested in various equipment since the Wakefield site opened in 1989

But Ian Johnson is the first to admit that cutting the impact his huge site – it covers a staggering 167,650 sq metres in total, with 72,000 sq metres under roof – has on the environment makes good business sense as well as being the right thing to do from an ethical standpoint. “The majority of corporate responsibility and sustainability (CRS) type projects we undertake have financial benefits which make it a win-win situation for us,” he says. “But as a business, we apply a lower threshold with lower payback parameters for CRS initiatives.” As the specific payback on capital investments is different to traditional spending, more CRS projects get board approval and therefore more projects are put into place.

At Wakefield, monitoring and targeting water and energy are key themes at the site – in line with the CRS masterplans that every CCE production plant has in place. A real time monitoring system (with nearly 150 individual meters on site) measures how much energy and water is

being used, where, when and under what circumstances. And the company has had much success in reducing its water use ratio which currently stands at just 1.22 litres per 1 litre of beverages made at the Wakefield site.

This has been achieved through the introduction of new water nozzles, air rinsing, dry lubrication, utilising recycled rinse water and even collecting rainwater to wash its vehicles.

“Water usage on can rinsing reduced dramatically when we simply introduced new nozzles,” says Johnson.

As for energy usage, new efficient boilers have been installed saving 15% on gas and reducing emissions, all the central chilling plant on site has been replaced with a system that uses about half the power of the old ones, and low energy LED lighting is now being installed throughout all offices and corridors.

There are ten lines in all at the plant filling soft drinks at mind-boggling rates into various packaging formats from 330ml

sustainability

cans to 3 litre PET bottles. Indeed, close to £200m has been invested at Wakefield since the site opened in 1989, making it one of the most efficient and sustainable sites in the Coke system.

The plant also has to be highly flexible to cope with the increasing number of pack formats that have to be produced with ever-lighter cans and bottles. Johnson, who joined the company when Wakefield was built in 1989, says that in the 1990s the plant packed 330ml cans into trays that were then shrinkwrapped. Today, multipacks in either board or film are produced for 4s, 6s, 8s, 10s, 12s, 15s and 18s. And they have been able to handle lighter cans – the weight has reduced by 30% since 1989 – and PET bottles that now weigh 21.7g compared to weighing 39g in 1994.

Another big change is the use of rPET in growing volumes. And CCE is now working towards incorporating 25% rPET in all its bottles by next year. That material will be sourced exclusively from a new recycling facility being built by CCE and ECO Plastics in Lincolnshire. This joint venture, for which Johnson sits on the board of directors, was announced in March this year with aims to more than double the amount of high quality rPET currently produced in Britain.

“We feel we have to take a lead on recycling,” says Johnson.

Wakefield also manufactures PET pre-forms on site on a further two lines which it



PET pre-forms are manufactured on site which has cut road miles drastically

started in October 2009. This one move cut 135,000 road miles a year. It also invested in a new bottle blower in

allows for further lightweighting of bottles.

This autumn will see the start of building a new Hi Bay automatic warehouse on site which will reduce dependence on outside storage as well as taking more miles out of the process.

With such high levels of investment, what does CCE want from suppliers, particularly of new equipment?

“We look for leading-edge technology on energy and water consumption,” says Johnson. “We also look for a partnership approach with suppliers that will take on board our own suggestions. We like to get close to suppliers and are willing to work with them to achieve our goals,” he tells *Machinery Update*.

For instance: when a new line 7 was installed last year, the company worked with KHS on developing equipment with a fully welded construction. “Building equipment to handle very light cans at 2,000 a minute, hygienically and without damage, was achieved and KHS did a fantastic job,” he says.

“We look at the total lifecycle cost of a



Famous brands produced by CCE

February last year which, says Johnson, has a vastly reduced requirement for air over the original equipment purchased and

machine and not just the capital cost,” he continues.

And the company is more than willing to take on board new ways of working to achieve its CRS ambitions. As Johnson’s engineering manager Mark Rollerson, says: “steal with pride” when it comes to new ideas.

Johnson feels that suppliers need to recognise the changing landscape that everyone now operates in and how consumers are savvy on sustainable issues. “Our suppliers are now adapting to more sustainable equipment to deliver cost and environmental benefits and recognise that it’s a major part of our thinking,” he says.

“Our needs at the site are still the same, but corporate responsibility and sustainability is now part of our DNA,” he asserts.



At Wakefield, monitoring and targeting water and energy are key themes at the site

# U Sell it... ...Our Systems Will Label it

Fast, Reliable and Easy to  
use Semi Automatic and  
Bespoke Fully Automatic  
Labelling Systems

- Programmable Stepper Driven IP55 & IP65 Label Heads
- In-line Applications including Cross Web Labelling Systems
- Project Management & Design
- Linerless Labels & Labelling Systems
- Servicing, Spares & Contracts
- Desktop Printers & Dispensers
- In-line Coding & Consumables
- RFID Labels & Solutions
- Plain & Printed Labels
- Label/Pack Validation Systems



**Atwell**  
self-adhesive **Labellers**

18 Bolney Grange Business Park,  
Stairbridge Lane, Hickstead,  
West Sussex, RH17 5PB, UK

Tel: +44 (0) 1444 239970

Fax: +44 (0) 1444 246609

E-Mail: [sales@atwell-labellers.co.uk](mailto:sales@atwell-labellers.co.uk)

[www.atwell-labellers.co.uk](http://www.atwell-labellers.co.uk)

## special feature

## sustainability

# Users benefit from low energy options

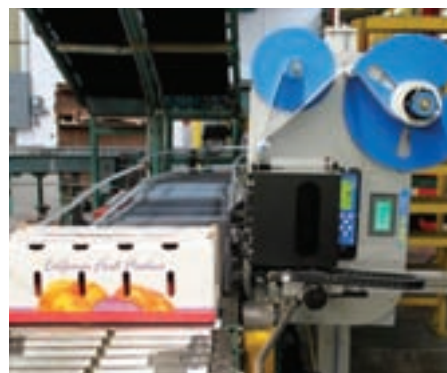
As consumers, we are all feeling the pinch when it comes to our heating bills and are desperately lagging our lofts, replacing our windows and insulating our cavity walls to try to make a difference. It is, of course, no different for the manufacturing sector who, as well as wanting to save money, is often trying to meet corporate responsibility and sustainability goals within their businesses.

This is why machinery manufacturers are developing equipment that uses less energy and here we highlight some of the most recent launches. For instance, Packaging Automation (PA) has developed a new version of its Eclipse range of high speed tray heat sealing machines to operate without using any compressed air. This, says PA's sales manager Neil Ashton, provides food manufacturers with the environmental benefits they are clamouring for without raising costs or compromising reliability.

Incorporating PA's E-Seal technology, the new Eclipse SL4 is a fully electrical machine that requires zero air for full operation while achieving the same standards of reliability, versatility and performance.

With all operations driven directly by small servomechanisms, running costs can be as low as 8% of an equivalent pneumatic system, resulting in significant savings. The SL4 is the first of the range to benefit from this new technology but the entire range will be upgraded.

"Some areas of the industry, such as soft fruit producers, do not have the year round demand for compressed air infrastructure so a tray heat sealer that can just plug and play when seasonally needed is an



*The all-electric labeller from Allen Coding uses less power than a hair dryer and no compressed air*

enormous advantage," argues Ashton. "We are acutely aware of the need for versatility in all sectors of the food industry and have worked with our customers to identify current operating and production priorities and build in future-proof flexibility."

Allen Coding Systems introduced Diagraph's platinum E series all electric labelling system earlier this year which as well as using less power than a hair dryer, does not use compressed air. It can also be moved from one production line to another without any problem.

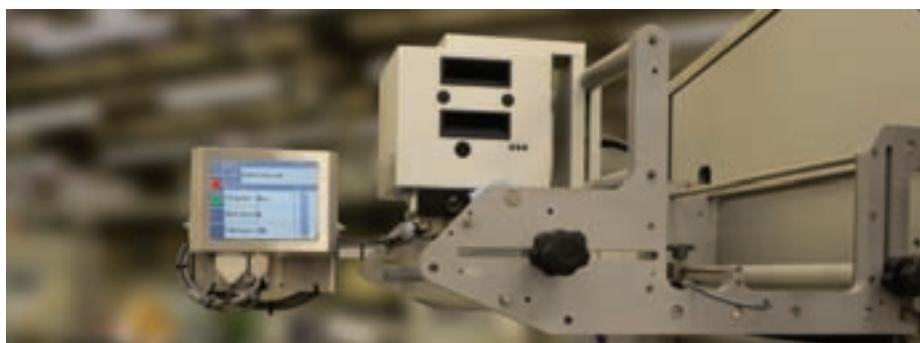
"We are now able to supply an all-electric labelling system that offers all the performance and throughput features customers are used to, with the added financial and environmental benefits associated with using less energy," says Steve Ryan, UK sales and OEM manager at Allen Coding.

01438 347770

[www.allencoding.co.uk](http://www.allencoding.co.uk)

01565 755000

[www.pal.co.uk](http://www.pal.co.uk)



*The Eclipse SL4 from Packaging Automation operates without using any compressed air*

# Reduce your total costs!

A competitive edge through integrated automation.

[www.discover-automation.com](http://www.discover-automation.com)

Shorten your development times and start series production sooner. Our perfectly coordinated hardware and software can be flexibly adjusted to your automation requirements. Complete scalability, from the smallest device to the largest system, reduces hardware costs. Energy efficient drive systems help lower operating costs. Intelligent diagnostics functions increase machine availability. Total costs can be reduced by up to 50% over the life cycle of your machine.

ETHERNET  
**POWERLINK**



**CANopen**



ETHERNET  
**POWERLINK**



**Modbus-IDA**  
Interconnection for Industrial Automation



Hall 5 / Booth D60

Perfection in Automation  
[www.br-automation.com](http://www.br-automation.com)



sustainability

**Energy managed with efficiency**

With energy costs continuing to rise, manufacturers from every sector strive to use less to produce more wherever possible.

The range of products to help this happen continues to expand, and includes the latest family of AC inverter products from **Yaskawa Europe** which have just been listed on the UK government's Energy Technology List.

This means the J1000, V1000 and A1000 products are officially recognised as 'green' technology ideally suited to saving energy and reducing carbon emissions.

Yaskawa inverter products can be used in applications such as fans, pumps and compressors as well as many other applications using standard AC motors.

Meanwhile, **Siemens Industry Automation & Drive Technologies** has extended its range of products for energy management in industry.

In its new Version 4.0, the Simatic powerrate software which measures and monitors energy values in production, is now also suitable for Simatic-S7-315 controllers and PC-based solutions using Simatic WinAC RTX 2010. Already applicable to the Simatic WinCC visualisation system and the Simatic PCS 7 process control system in its existing version, Simatic powerrate now also performs energy management tasks in smaller-scale applications.

With the KW1M series Eco-Power Meter, **Panasonic** offers the basis for an intelligent energy management system.

Energy consumption is identified efficiently and energy requirements of the various sub processes are made transparent so that an overview of where energy can be saved is provided quickly.

[www.yaskawamotoman.co.uk](http://www.yaskawamotoman.co.uk)

[www.siemens.co.uk](http://www.siemens.co.uk)

[www.panasonic-electric-works.co.uk](http://www.panasonic-electric-works.co.uk)

# Lightweight alternative to shrink wrapped PET

Krones has developed LitePac, which it describes as "a more resource-economical alternative to shrink wrapped packs" for large PET containers.

Following numerous experimental trials, a diagonal handle was deemed the sturdiest format and strapping technology as the equipment to deliver it.

The horizontal strapping band consists of 8mm-wide PET which is fitted with a broad tear tab for simple opening and assured by fixing a relief tab at two welding points with a loop. The vertical strapping is used as a handle and is positioned diagonally between the bottles – it is made from soft, easy to carry polypropylene and is 15mm wide.

The handle simultaneously centres and supports the strapping band, even at low temperatures and a low CO2 concentration in the containers. A barcode can be included with an adhesive film at the strapping band, or a code number can be printed on the vertical handle.

Testing pack stability has been a key theme of the development and comparative trials were run on film-wrapped shrink packs and their strapped counterparts. The pack's stability was also verified using tests on conveyors as well as palletisers. Palletising tests were carried out successfully with 1.5 litre bottles on half-pallets and for the track loading operation, bottles were not damaged.

One of the paramount goals pursued with this pack strapping was to reduce energy consumption and dispensing with shrink tunnels has achieved this, while the requirements for packaging materials also goes down, as well as



*A broad tear tab is included for simple opening of the LitePac format, making it easy to use*

achieving a reduction in domestic waste.

Another crucial benefit is higher pallet capacity utilisation, says Krones. The diagonal bottle formation creates a more efficient layer pattern and, claims the company, pallet capacity utilisation can be increased by up to 20%, depending on the bottle diameter involved.

The requisite technology required for LitePac is provided by the newly developed EvoLite packer, comprising a container infeed module and a container strapping module. In the infeed module, the containers are divided into two continuous lane flows, while four strapping units then create the LitePac packs in the container strapping module.

This equipment has also been designed with the environment in mind and includes efficient motors specifically matched to the movements and acceleration functions in the machine; reduced power consumption is optimised with fine-tuned motor dimensioning and standby circuits minimise heat losses at the welding tongues. Reduced compressed-air consumption is achieved thanks to optimised piping configuration and use of the best possible cross-sectional areas.

Also, the use of lifetime-lubricated bearings and special brush technology for lubricating conveyor chains means almost complete elimination of lubricants while specially selected components has minimised noise emissions and maximised personnel safety.

01942 845000

[www.krones.com](http://www.krones.com)



*Following numerous experimental trials, a diagonal handle was deemed the sturdiest option*



Conveying Loading Palletising Packaging Sortation/Distribution

## BEUMER stretch hood® The powerful solution for your packaging needs.

Optimal safety for all palletised loading units. Proven reliable in all weather conditions and keeps its appearance at the same time. The high-capacity packaging machine, BEUMER stretch hood®, efficiently combines the latest control technology, sophisticated function modules and secure film handling. You can find more information about the BEUMER company and its products on the Internet.



[www.beumer.com](http://www.beumer.com)



## VISION SYSTEMS FOR THE FACTORY FLOOR



Explore state of the art vision systems and smart cameras from Europe's largest provider. Discover how we combine leading products with outstanding competence and service to make you stronger!

Imaging is our passion.

- ▶ POSITIONING
- ▶ IDENTIFICATION
- ▶ MEASUREMENT
- ▶ VERIFICATION
- ▶ FLAW DETECTION
- ▶ DATE CODE INSPECTION
- ▶ 1D/2D CODE READING

See us at  
**PPMA 2011**  
Hall 5 Stand G31

Phone 01252 780000  
[www.stemmer-imaging.co.uk](http://www.stemmer-imaging.co.uk)

**STEMMER®**  
IMAGING

sustainability

# Turbine compliance proved

Proven Energy, the UK's largest supplier of small wind turbines, turned to Laidler Associates to help with the self-declaration of its latest P35-2 12.1 kW wind turbine to the new European Machinery Directive.

Completing the compliance procedure also included the preparation of the technical file.

The company was well aware that it could satisfy the CE marking requirements in relation to its products by self-declaring them for compliance with the EMC, Low Voltage and Machinery Directives. It decided, however, that due to the changes to the requirements with the new Machinery Directive, it would be prudent to get expert help.

"Laidler Associates was not only very responsive, it was also clear that the company had a deep understanding of how the requirements of the regulations implementing the Machinery Directive



*The P35-2 turbine is an ideal choice for use by agricultural landowners, in commercial premises, and in small-scale wind farms*

related to our product," explains Jonathan Nowill, engineering director of Proven Energy. "But what was really impressive was the report that it produced for us.

"This included a detailed 'to do' list that laid out very clearly the exact steps we needed to take to ensure compliance," he continues. "The list was easy to follow, and undoubtedly saved us a lot of time and trouble."

As an example of the type of issue identified by Laidler, the user manual was found to contain insufficient information on foreseen ways in which the wind turbine might be used or misused. This shortcoming, and the others highlighted in the Laidler report, was quickly remedied.

"Having carried out the work recommended by Laidler, and organised our compliance documentation in the way that the company suggested, we can have total confidence that the P35-2 satisfies the requirements of the latest version of the Machinery Directive," says Nowill.

0333 123 7777

[www.laidler.co.uk](http://www.laidler.co.uk)



introducing our latest tray sealing machine...

## the new Proseal

# CT1V



contact us for more information

Proseal uk Ltd  
Adlington Estate Adlington Cheshire SK10 4NL  
telephone 01625 856 600  
fax 01625 856 611  
email [info@prosealuk.com](mailto:info@prosealuk.com)  
website [www.proseal.com](http://www.proseal.com)



proven performance and reliability  
designed and manufactured in the uk

- automatic, high speed vacuum MAP system
- capable of up to 50 packs per minute
- rapid tool change
- simple design provides easy maintenance and operation
- high oxygen version available

sustainability

# Wasting no paint is messy process



Newlife Paints founder Keith Harrison surrounded by his raw material

A compact sieve from Russell Finex is helping Newlife Paints in its recycling process of waste emulsion paint.

A successful on-site trial proved that the sieves compact design and ease of use made it a hit with Newlife founder Keith Harrison. "The compact sieve is very easy to strip down and clean," he says, "and it is clearly built to a high standard and as a result, out performed other competitor vibratory sieves that we trialled at our site."

The compact sieve is mounted onto a stand high enough to fit a 210 litre drum underneath it. The sieve is hand fed and once the paint passes through, it is pumped into the paint tins. When an entire batch has been processed, it is instantly stripped down and cleaned.

"As different batches of colours are processed through the same machine, a key benefit of the sieve is that there is no colour contamination from one batch to the next and cleaning only takes a matter of minutes," says Harrison.

020 8818 2000

www.russellfinex.com

## Void fill brings green benefits

AirPouch has unveiled EarthAware pillows designed to deliver clean, lightweight and efficient void fill with better environmental credentials.

AirPouch company Automated Packaging Systems has developed two options: oxodegradable pillow or pillow made from reprocessed film at the manufacturing facility in Worcestershire. The AirPouch Express 3 machine outputs filled EarthAware pillows at speeds of more than 15 metres a minute. The new pillows are being introduced in Europe following success in North American markets. They are available in green and transparent finishes as standard, and can be custom-printed.

0800 731 3643

www.airpouch.co.uk



### ...NORD high efficiency geared motors.

Inline, right angle or parallel drives, offering a robust modular design which allows for flexible mounting arrangements. Available with a wide range of options such as brake, encoder, force ventilation, backstop, shrink disc and up to IP66 protection.

Generously dimensioned bearings on output shaft give extended lifetime and the ability to accommodate high axial or radial forces.

Can be supplied with IEC input module to allow B14 or B5 standard IEC motors to be fitted.

Interchangeable with European standard gearbox mounting and shaft dimensions.

- Motor powers from 0.12 up to 200kW
- Output speeds from 0.1 to 1037 r/min
- High efficiency up to 98%
- Mechanical or Electronic variable speed
- Built in UK for fast delivery
- ATEX approved

**NORD Gear Limited**  
 11 Barton Lane, Abingdon, Oxfordshire, OX14 3NB  
 Tel: 01235 534404 Fax: 01235 534414  
 Email: sales@nord-uk.com Web: www.nord.com