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## Making loaves last longer Packaging laminator chooses DOPAG again

Mid Wales based Wipak, part of the Finnish international conglomerate Wihuri Company, manufacture high technology laminated pack-



DOPAG ELDO-MIX 202  
model L4

aging films for perishable food products such as meats, fish and cheese.

The films, which are normally constructed of either two or three layers, are bonded together with solvent free two component polyurethane adhesive.

Previously, Wipak had standardised on DOPAG VARIO-MIX machines based on piston pump technology, for their polyurethane dispensing requirements.

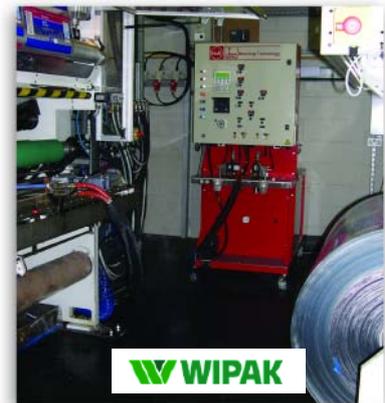
However, on this occasion they chose a DOPAG ELDO-MIX machine for a new production facility, aimed largely at producing films for long life part-baked breads.

Explained Wipak Managing Director, Philip Wolstenholme "Long life bread has a shelf life of around 6 months, so in order to conform to this requirement, we have developed a unique barrier laminated film with an extremely low oxygen permeability rate."

"However, because of its long shelf life, these



films must have an exceptionally high bond strength and we believe that the gear pump driven ELDO-MIX principle offers a better solution with the faster cure adhesives that are needed for this product, which in turn, has the added benefit of helping us to reduce our lead times to our customers."



## Introducing the new SYNCHRO-MIX Economical liquid silicone rubber metering



Designed specifically for use when metering two component liquid silicone rubbers (LSR) to injection moulding machines, the new SYNCHRO-MIX, which mounts directly onto the moulding machine, permits multiple moulding machines to be fed with proportioned material from just one pair

of standard feed pumps.

Both LSR components are fed directly from standard 200 litre size drum pumps to the SYNCHRO-MIX without any fear of generating unwanted pulsations and at the same time ensuring that the mix ratio remains at a constant 1:1 by volume.

The new system utilises twin rotating passive flow meters, which are connected to a magnetic clutch mechanism.

This arrangement allows the SYNCHRO-MIX to

operate only when both components of the LSR are fed to the system simultaneously, ensuring that the mix ratio is always maintained.

This development means that for a typical injection moulder who operates up to four LSR machines, the capital equipment requirement would now simply comprise of a pair of standard drum pumps feeding one SYNCHRO-MIX system for each moulding machine.

This represents a considerable cost saving of equipment compared to the alternative of purchasing four completely separate LSR metering, mixing and dispensing machines.

Equipment for injecting colour pigments into the LSR is available optionally.



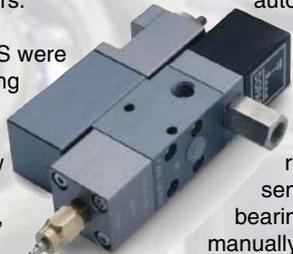
## Turkish delight

### Keeping the wheels of industry turning

Located in the city of Polatli, close to Turkey's capital city Ankara, ORS is one of Europe's premier precision ball bearing manufacturers.

Established in 1983, ORS were one of the first ball bearing manufacturers in the world to be accredited with ISO 9000. They now operate from a state of the art 40,000 m2 facility, where they employ over 1,400 people.

DOPAG has been supplying ORS with equipment for pumping and metering grease for 13 years through local distributor Gunmak, who are based in Istanbul.



During this period, ORS have installed 20 transfer pumps, the majority of which feed the grease directly from 200 litre size drums to fully automated production lines via pipework manifolds, that work 7 days a week on a 3 shift production schedule.

Stations where production requirements are smaller utilise semi-automatic facilities, where the bearings are presented to a fixture manually before the grease is automatically metered into the bearing.

Supplying bearings to the automotive industry via international customers such as Valeo demand the highest levels of accuracy and repeatability from the metering process, which is why ORS has standardised on DOPAG



Semi-automatic grease metering station

metering valves.

ORS plan to manufacture 50 million bearings during the coming year, so it must be comforting to know that it is DOPAG pumps and metering valves that will be responsible for keeping the wheels of industry turning.



## Cooking with gas



### Merloni saves £40,000 per year with DOPAG system!

In 2002, UK based General Domestic Appliances Ltd. (GDA), owners of the market-leading Hotpoint brand, became part of the giant Italian domestic appliance manufacturer Merloni Elettrodomestici.

Merloni enjoys around 15% of the domestic appliance market in Europe with famous household brand names such as Hotpoint, Indesit, Cannon, Ariston and Scholtès, turning over around 3,008 million during 2003.

Amongst the products produced by Merloni UK in the former GDA factory in Blythe Bridge, are both gas and electric cooker hobs, which range in size from 50 cm in width right up to 120 cm.



DOPAG P200 drum pump

It is important that all the hobs are sealed effectively against liquid spillage and particularly so in the case of ceramic/electric hobs, as any leaks could penetrate to the electrical components situated beneath the surface of the hob.

This is achieved by dispensing a bead of liquid RTV silicone supplied by Ambersil, around the periphery of the hob during the assembly process after which an inner frame is placed over the bead to form a barrier to moisture ingress.

Traditionally, the RTV silicone dispensing process has been carried out using 310 ml size cartridges, but following a cost reduction exercise, it was discovered that significant savings could be achieved through purchasing the silicone in bulk.

As this process takes place in two separate locations, DOPAG (UK) Ltd. designed a pipework distribution system for Merloni to install, to direct the flow of silicone to these locations. A DOPAG P200 twin post ram mounted pump was selected to pump the silicone directly from 200 litre size drums to the two work stations, from a convenient remote position.

Each work station was provided with a fluid pressure regulator in order to control the flow rate of the silicone and ensure constant pulse-free dispensing during the sealing operation. Finally, manual dispensing valves are used to apply the silicone onto the hobs.



Merloni produces approximately 700 ceramic hobs every day, each one of which is sealed using this process. It is estimated that savings in material alone are in the region of £40,000 per year, simply from purchasing the silicone in bulk, resulting in an outstanding return on investment.

In addition, the system provides other benefits in the form of a reduction in waste material compared to cartridges, shorter down time when drum changing, as well as the benefit to the environment in no longer having to dispose of used cartridges.

Apart from normal routine preventative maintenance, which is minimal, the system requires very little attention. Commented NPI Leader Andrew Panther, "The system looks after itself."



# Searching for that tenth of a second

New DOPAG ELDO-MIX 001 helps Renault Formula 1

**HUNTSMAN**



The village of Enstone, situated in rural Oxfordshire, just 15 miles north west of the city of Oxford, was mentioned in the Domesday Book in the year 1086.

Now, almost a millennium later, it is probably mentioned somewhat more frequently as the U.K. home of Renault Formula 1 racing. Their purpose built facility was built in 1992, but already it is the place of work to around 450 people and is responsible for the construction of 90% of the Renault Formula 1 car, as well as the coordination of the race team.

This resource houses two of the world's most high-performance racing cars in closely guarded secrecy. The fierce competition that exists between Formula 1 teams make sure that only the very best in research and development will help to achieve success on the track.

Rapid prototyping is a vital tool for the aerodynamic programme, producing resin parts ranging from solid bodywork for wind tunnel testing, to delicate honeycomb structures. Capable of producing parts much faster than traditional methods, they are a key aspect for the aerodynamicists in their search for extra tenths of a second.



Following a successful demonstration at Hartlebury, Renault decided that the DOPAG ELDO-MIX 001 was the ideal machine to meter, mix and dispense the "parts-in-minutes" polyurethane resins supplied by material manufacturer, Huntsman.

This latest addition to the well established DOPAG ELDO-MIX range of gear pump driven machines was developed specifically for processing low viscosity, two component media, where fast production rates are not necessary, such as in rapid prototyping.

The DOPAG ELDO-MIX 001 can however, dispense up to half a litre of mixed resin per minute if necessary, on a continuous basis, which is more than enough for the vast majority of rapid prototyping applications.



# Greasing solutions at **MECHATRONIC SOLUTIONS**

Mechatronic Solutions has built a reputation over the last 15 years for the design and manufacture of high quality bespoke manufacturing, assembly and test machinery.

Now, the Birmingham based Company enjoys successful relationships with some of the leading suppliers to the automotive industry,



*DOPAG metering valve bank*

who, in turn, supply their products to automotive companies like Ford, Jaguar, Volvo, Land Rover, Honda, Toyota and Saab. Ever since those early days, DOPAG has been

supplying high quality pumping, metering, mixing and dispensing systems for integration into their automation cells.

Often, as a result of the constant raising of quality standards in industry, the need has been for highly accurate systems to precisely meter small volumes of lubricant onto automotive components. These requirements have fitted perfectly with the DOPAG range of pumping and metering equipment, as the latest of many applications perfectly illustrates.

Designed for first tier supplier Brose, based in Coventry, an integrated cell of eight machines has been constructed in order to provide economic assembly and functional testing of window winding mechanisms for both Jaguar and Volvo. The process requires that the winding cable mechanism hubs are applied with closely controlled, accurate, specified volumes of grease.

Furthermore, each shot of grease must be verified after dispensing has taken place. This has been achieved by feeding banks of four, chamber type metering valves fitted with proximity sensors, with grease from a P80 drum pump. The result is a solution that systematically verifies the shot reliability, whilst recognising any of four sizes of components

and automatically applying the correct shot size. Importantly, the PLC controlled system complies to zero change time.

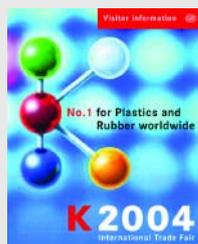
Commented Mechatronic Managing Director, Richard Evans, winner of the coveted 2004 Better Business Awards, "DOPAG's quality products and technical know-how are a perfect match for Mechatronic Solutions."



*DOPAG P80 drum pump*



## K2004 Success



Held every three years in Dusseldorf, Germany, the K

exhibition is the largest fair in the world that serves the plastics and rubber industries.

In October K2004, the Hilger & Kern / Dopag group showcased a variety of products widely used in the plastics and rubber industries, including VARIO-MIX piston pump and ELDO-MIX gear pump two component meter, mix and dispensing machines.



The stand also featured two working robotic cells, designed to illustrate a series of actual dispensing applications, including bead laying in the automotive and aerospace industries as well as encapsulation in the electronics industry.

## New generation of volume counters

A new generation of DOPAG 470 series Electronic Volume Counters (EVC's) has been launched to replace the existing 480 series, with improved specifications that will make servicing much simpler as well as increasing the number of materials that can be handled.



The wetted parts of the new 470 series will now be manufactured from stainless steel as standard, allowing many more different kinds of materials to be processed.

Additionally, the field conductor sensors used for signal detection have been upgraded to hall type sensors, which means that in the event of breakdown, they can be replaced very quickly. This is because unlike the sensors in the 480 series, they are pre-calibrated and simply push into their housings.

In addition, the connecting wiring terminates with a plug and socket rather than being hard wired, all of which makes exchanging sensors a very simple and time efficient task.

Assembled from a three-plate system, (sensor plate, measuring plate and base plate) the new 470 series EVC is fully compatible and interchangeable with the earlier model base plates.

Developed for use with DOPAG metering and mixing systems, these highly accurate meters can be used to verify the metering ratio of plural component metering and mixing machines, or alternatively, they can be used as a volumetric counter when metering single component materials, such as when filling oil into engines or grease onto automotive components.

## JEC Composites show - dates for your diary 5th, 6th & 7th April 2005

Almost 900 exhibitors, including processors, raw materials producers, machine manufacturers and service providers will come from the world over between 5th and 7th April 2005 to unveil their latest products at the JEC Composites show in Paris.

The show, which is the largest composites show in the world, takes place at the Paris Expo at Porte de Versailles and covers the latest applications, new materials and technologies for all sectors of the composites market, including automotive, aeronautics, marine and energy.

Always at the forefront of innovation in dispensing machine design for the composites industry, the DOPAG stand will be displaying a large and varied selection of composite components that have been manufactured using DOPAG dispensing machines.



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