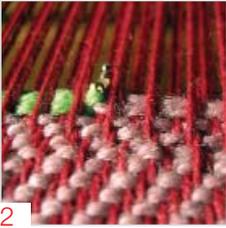


# Exact!

Application stories from around the world

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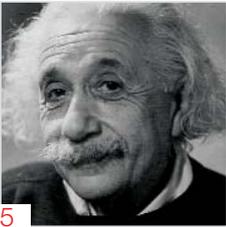
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## New precision flow-controlled dispensing system

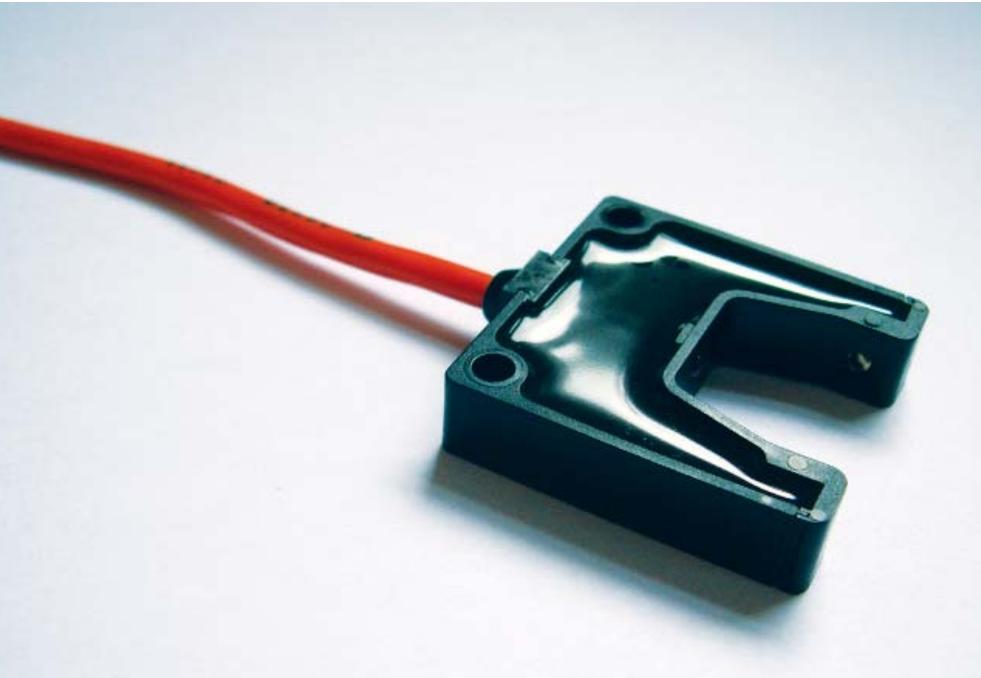


New from the Hilger u. Kern / Dopag Group is a new addition to the modis range of highly dynamic flow measurement and control systems. The 2K-modis is designed to meter two component materials with a high degree of accuracy, down to +/- 1%.

The 2K-modis is able to precisely control outlet rates, which allow robotically dispensed beads of material to automatically remain at a constant diameter even though the robot may be moving at varying linear speeds, or conversely, varying diameter material beads can be dispensed during constant robotic linear speeds. Particularly useful for applications in the White Goods, Consumer Electronics, Railway, Aerospace and Automotive sectors the 2K-modis is available immediately.



Hilger u. Kern / Dopag Group



# A good yarn



Instrumentation company returns to DOPAG again as production increases

 As far back as there are relics of civilized life, weaving was thought to be a part of developing civilizations, whilst archeological evidence in the form of fabric fragments have been discovered that date back to around 5,000 BC.

Fabric is now woven from yarn using much the same principles as it was then, although the level of technology for doing so has understandably developed beyond recognition.

At Colne in Lancashire, Dent Instrumentation Ltd., serve the textile manufacturing industry with specialised sensors specifically

designed to detect any breakages in the yarn that may occur during many of the processes.

The latest development from Dent is a small, low cost transmissive sensor, perfect for detecting traversing or straight line running yarns on weaving, spinning and twisting machines.

During production, the sensors are encapsulated using a two-component epoxy resin that has a mixing ratio of 100:32 by volume.

For this purpose, Dent chose to supplement their existing DOPAG systems with a DOPAG micromix E metering, mixing and dispensing

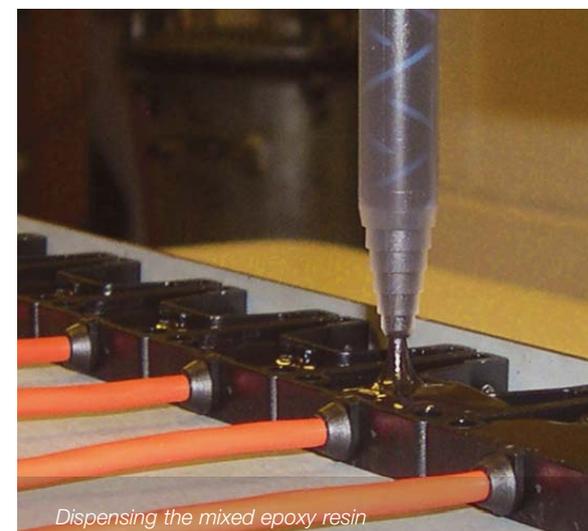
system. The metering pumps are high precision single acting piston pumps driven by a pneumatic motor and has an infinitely variable mixing ratio between upper and lower limits and a maximum shot size of 5cc.

In this case, the shots are performed in two equal stages, the second shot being dispensed after the first shot has cured in order to allow the initial shot to settle, thus ensuring that complete encapsulation occurs and that no air is trapped in the mixture.

Commented Production Director Chris Duckett "We produce over 3,000 sensors every day and rely entirely on DOPAG equipment for all our dispensing needs. We have been using DOPAG systems for over 20 years and we are happy to report that we are completely satisfied with their performance."



DOPAG micromix E dispensing system



Dispensing the mixed epoxy resin

# Metering in Health Valley



 Situated in Nijmegen, in what is known as “Health Valley” in the Netherlands, Urogyn is ideally positioned to take advantage of it’s location to connect the skills and knowledge of the Technical University of Twente and Eindhoven with the internationally recognized and respected capabilities of the Radboud University (and hospital) in Nijmegen.

Founded in 2010, Urogyn focusses its research and development specifically towards female healthcare and in particular, urology and gynaecology, where they have developed a number of innovative products based upon existing

silicone polymer technology. One such product required the filling of a two-component liquid silicone into 5ml capacity double syringes at a rate of 10,000 syringes a year, rising to ten times that amount within a few years.

For this application, which must take place under clean room conditions, Urogyn were recommended to DOPAG by their syringe manufacturer.

In use, the operator places an empty syringe into an adaptor which is located on a 180° rotary table, following which the table rotates, thus presenting the syringe

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DOPAG dosomed helps to lead the way in female healthcare development

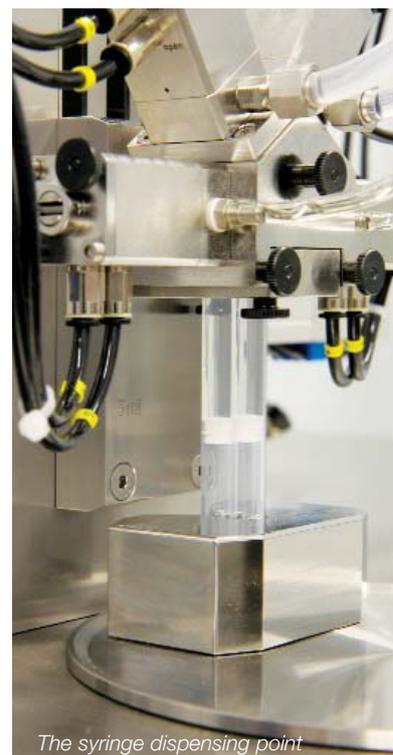
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beneath the filling head, where air is automatically evacuated from the syringe, before filling takes place. The two components of the silicone are accurately metered at a ratio of 100:100, separately into the double syringe. Prior to the removal of the syringe any possible contamination is extracted, so that the syringe can be removed in a clean condition.

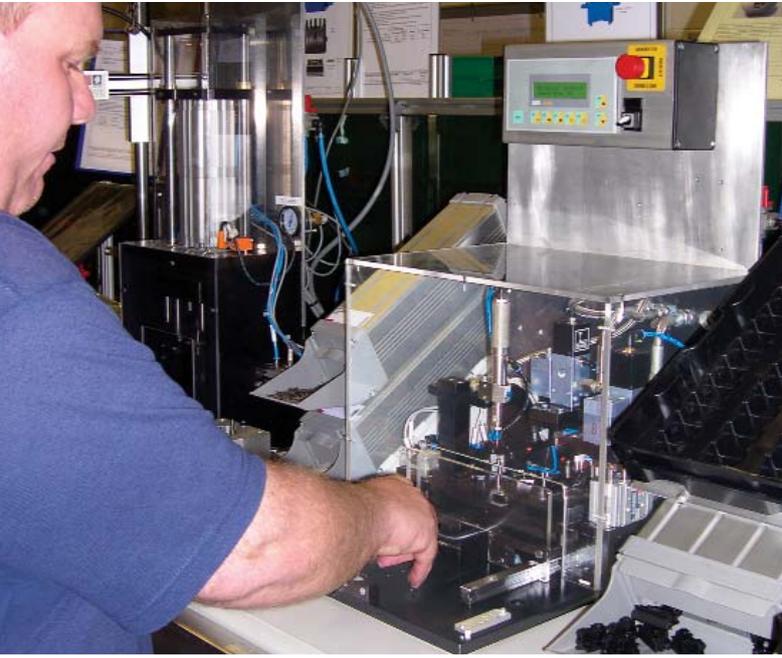
Urogyn are delighted with the performance of the dosomed. Said spokesman Ruben van der Vleuten “We are more than satisfied to have chosen such a high quality, high precision and technically advanced system for our filling needs. It satisfies all of our requirements.”



DOPAG dosomed



The syringe dispensing point



# Indicating success

## KOSTAL

Automotive component manufacturer relies on DOPAG metering systems to ensure quality

 A valued customer of DOPAG (UK) Ltd since 1993, the Kostal Group is an independent family company founded in the German town of Lüdenscheid in 1912.

The Group's main activities include the development and manufacture of technologically advanced electronic and electromechanical products. Many famous industrial companies, including all the world's leading automobile manufacturers and their suppliers feature in the Group's customer base.

One of the Group's four main business divisions, the Automobile Electrical Division, manufacture a

range of electromechanical products which extends from combined steering column switches for compact cars, through to "high-end" steering column modules for premium class vehicles.

In addition to standard components such as direction indicator switches, windscreen wiper switches and rotary couplers, the latest complex steering column modules also contain electronics to monitor functions such as the steering angle, as well as information on the controls mounted around the steering wheel. These electronics also include cruise control switches and gear selector systems.

Many of the moving parts in these complex assemblies require small, but accurately metered shots of grease applied prior to assembly and Kostal have chosen DOPAG systems to fulfill this role in their production facilities.

Typically, each system utilises either a DOPAG P10 or P30 drum pump, depending on the size of the original grease container.

The pump then feeds the grease under pressure to purpose built bench top fixtures, where the pressure is precisely regulated before entering DOPAG precision chamber type shot metering valves.

In use, the operator presents the component, which has been located into a sliding fixture, into the metering position where the correct volume of grease is automatically dispensed.

Each dispensing facility is purpose built for a specific component and often contain a number of DOPAG metering valves, frequently with multiple outlets, to cater for components that require multiple, accurately measured shots of grease, thus ensuring that quality remains paramount.



*DOPAG chamber type metering valves*



*A Kostal steering column module*



# Recharging your batteries



Encapsulating bicycle battery packs becomes more profitable with a DOPAG eldomix 603



Albert Einstein claimed that he thought of the theory of relativity whilst riding his bicycle and once famously remarked "Life is like riding a bicycle - in order to keep your balance, you must keep moving."

Keeping moving on a bicycle has become a whole lot easier in the last few years. There is now no need to endure the agony of peddling up steep hills if you own an electrically driven bicycle.

Rechargeable batteries are responsible for the surge in demand for this type of bicycle and in Karlstein, Germany, BMZ GmbH produce 300 such battery packs for electric bicycles every day.

Until recently, only lead-acid or nickel-cadmium type batteries were

available as the power supply for electrically driven bicycles. However, with the advent of rechargeable batteries that incorporate printed circuit boards, encapsulation is required in order to protect the battery from the ingress of moisture and other external influences.

BMZ have been using dispensing systems from the Hilger u. Kern / Dopag Group since their foundation in 1994, so it was natural that they should again turn to Hilger u. Kern for their encapsulating requirements. Two-component polyurethane is used to encapsulate the printed circuit boards, mixed at a ratio of 100:20.

For this application, Hilger u. Kern specified a DOPAG eldomix 603 gear pump type metering, mixing and dispensing system which was

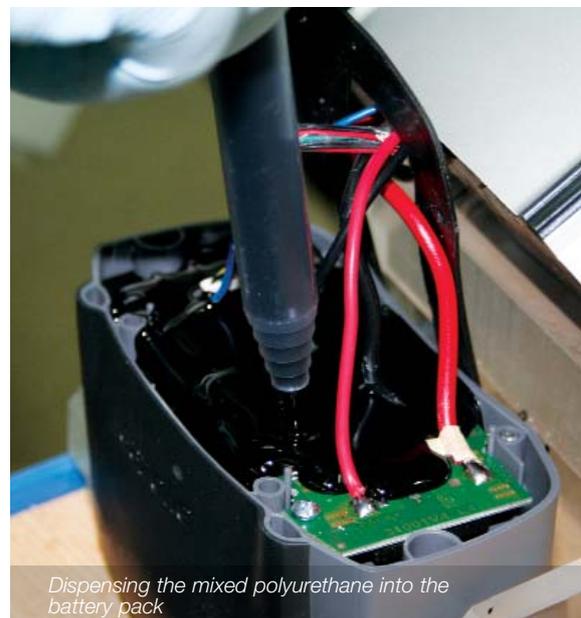
fitted with especially high capacity pressure feed vessels (90 litres for the "A" component and 45 litres for the "B" component) to ensure uninterrupted production.

The result has been less downtime and smoother workflow together with a system that is easy to use and operator friendly, all benefits that have contributed to a more profitable production process.

Commented BMZ production spokesman Mr. Ingo Horstbrink "We have now been in full production with the eldomix 603 system for more than six months and we are delighted with the quality of the results that we have obtained with this system," adding "My compliments go to the Hilger u. Kern team who worked with us on this project."



Holger Nesper (Hilger u. Kern / Sales) and Ingo Horstbrink (BMZ - Production) inspect a finished battery



Dispensing the mixed polyurethane into the battery pack



DOPAG (UK) Ltd staff celebrate a record start to the year. From left to right: Lee Norris, Bob Jones, Leigh Thatcher, Karen Coupland, Darren Holyhead, Martyn Owen and Steve Chandler.

## UK celebrates record results

 Despite the challenging business conditions that currently pervade the UK manufacturing sector, DOPAG (UK) Ltd has reported their most successful start to a year in almost 10 years of direct trading.

Following restructuring towards the end of last year, the company has gone from strength to strength and now enjoys a very healthy position in the UK market.

Commented General Manager Bob Jones, "We are lucky enough to have a very experienced, enthusiastic and dedicated team here in the UK. We set ourselves ambitious targets and I am delighted to report that so far, we have over-achieved our objectives despite the tough economic conditions. We fully intend to continue to aggressively develop and grow our business in the UK well into the future."

## Exhibition News

 With the composites market flourishing worldwide, it's rapid annual growth of an average of 6% is creating major opportunities for many of the companies who exhibited at the JEC show in Paris in March, particularly in the aerospace, automotive, sports and leisure and wind energy sectors.

The show attracted around 30,000 visitors from around the world during its three day run, driven by the appeal of products that are lighter and stronger than those constructed from traditional materials such as steel and aluminium and made even more desirable by the need to shed weight due to the increased cost of oil.

The JEC show is also an international event for the Hilger u. Kern / Dopag Group, bringing together staff from sales partners around the world, which resulted in our most successful event yet.



## Exhibition watch

-  27. - 29. September 2011 / Eurofinish / Gent, Belgium
-  10. - 13. October 2011 / Bondexpo / Stuttgart, Germany
-  9. - 10. November 2011 / Aero Engineering / Birmingham, UK
-  14. - 18. November 2011 / Expoquimia-Eurosufas-Equiplats / Barcelona, Spain

### Editor

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