



**2** Silicone rubber insulators



**3** Drive shaft greasing



**4** Distributor meeting



## New entry level machine is good news

The brand new ELDO-MIX 001 "entry level" machine perfectly compliments the existing extensive and well proven ELDO-MIX range of gear pump driven metering and mixing systems.

This is good news for users of polyurethanes, silicones and epoxy resins who are involved with such processes as rapid prototyping, badge doming

and encapsulation and do not need especially high production rates.

Developed directly in response to calls from customers for a machine with lower output capacity for processing low viscosity two component media with a volumetric mix ratio of between 1:1 and 10:1, the compact and lightweight ELDO-MIX 001 is still able to process up to 0,5



litres per minute of mixed material.

The ELDO-MIX 001 may be at the lowest level of this machine range, but DOPAG quality still comes as standard.

Each gear pump is protected against over pressure and is fitted with a mesamoll grease filled chamber to guard against contamination from isocyanate.

## New market-specific brochures



Launched at the recent distributor meeting at Vitznau in Switzerland in May, (see page 4) were a series of brochures targeted specifically at individual market sectors.

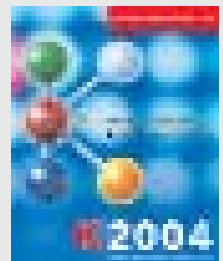
By concentrating exclusively on particular sectors, we have been able to give very precise information about which products are most suitable for the applications that are commonly found within that particular market.

Currently available are "Resin Dispensing for Composites", "Adhesive Dispensing for Flexible Laminating" and "Edge Sealant Dispensing in the Insulated Glass Industry."

## Dates for your diary

Don't forget to mark 20th October 2004 in your diary as the start of K2004 in Dusseldorf, the No.1 exhibition in the world for the plastics and rubber industries.

We will be looking forward to meeting you on stand No. **B43** in hall No. **13**.



## Miniature Encapsulation



Interprox have been manufacturing high-tech proximity sensors in the town of Delemont in the French speaking part of Switzerland for over 20 years.

Now part of the international TURCK group of companies and employing around 120 people in this one location, they currently produce around 100 different products in their sensor range.

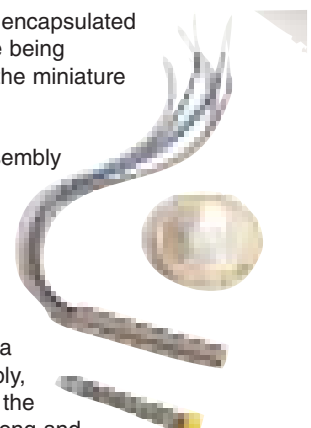
Quality is naturally of paramount importance and every single sensor of the 18,000 sensors produced each week is individually tested.

It comes as no surprise to learn then, that Interprox choose DOPAG ELDO-MIX 101 machines to proportion, mix and dispense the two component epoxy resins used to encapsulate the PCB's and coils into their housings.

Encapsulation in this case is a two stage process.

Firstly, the coil is encapsulated separately before being assembled onto the miniature PCB.

The coil/PCB assembly is then subsequently fitted into it's cylindrical housing before being finally encapsulated as a complete assembly, thereby ensuring the sensor enjoys a long and trouble free life.





## Shedding light on safety



"Dedication to public safety, the system and the environment." So says part of Nexans' corporate statement.

With total worldwide sales of 4.6 billion, Nexans is a major force in the global cable manufacturing industry, producing cables and components for the most advanced systems and technologies in such industries as energy, telecommunications, buildings, automobiles and aeronautics, with production facilities in twenty countries.



In Switzerland, Nexans operate three specialised production sites and at Cossonay-Gare close to Geneva, the Company is



engaged in the production of stress cones, joint bodies and composite type hollow insulators.

Traditionally, insulators have been and are still manufactured in porcelain, but Nexans now produce an alternative, utilising composite type insulators with sheds of liquid silicone rubber.

Two DOPAG SILCO-MIX machines (one H200 model and one PH200 model) pump, meter, mix and apply the liquid silicone rubber into carefully designed moulds to create the lightweight sheds.

The importance of maintaining mixing ratio accuracy is highlighted by the use of DOPAG gear type volume counters fitted to the outlet of the SILCO-MIX machines so that ratio checking is permanent and independent.

Twin steel static mixers mounted in series

ensure a homogeneous mix. Commented Nexans' Industrial Process Manager, Daniel Rollier, "Compared to traditional porcelain insulators, composite insulators have several advantages, in that they are much easier to keep clean, lighter in weight making them easier to handle and will not explode in the way that porcelain can, which of course can be a very dangerous event, not to mention the damage that can be caused to other equipment in the vicinity."



Composite insulators with silicone sheds therefore, may be the perfect solution, bringing benefits to the customer whilst exercising corporate safety responsibility.



## Braking news

Founded almost a century ago by engineer and inventor Georg Knorr, Knorr-Bremse now employ more than 11,000 people in 47 countries and enjoy a turnover of 2.1 billion.

With headquarters based in Munich, Germany, Knorr-Bremse is a world leader in the manufacture of vehicle braking systems.

The company operate 28 production units world-wide, the French site being in the town of Lisieux, where more than 3000 brake systems are manufactured every day.

Quality in both design and manufacture is of course of the utmost importance when producing safety critical components such as braking systems, a consideration that led Knorr-Bremse to choose to work with DOPAG and lubricant

supplier Fuchs, in order to develop a semi-automatic system for metering and applying the lubricant onto the inside wall of hollow components ranging from a few millimeters to more than 20 centimeters in diameter that would guarantee perfect results every time.

Applying either too much or too little lubricant onto the component can result in a serious malfunction of the brake system. These criteria are however commonplace for DOPAG metering equipment and can easily be accommodated with DOPAG standard chamber metering valves. The real challenge though, was to design and construct a complete system that would be both simple to operate and adjust whilst ensuring that the lubricant

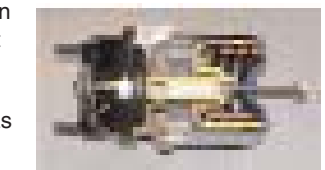


was deposited in exactly the right place.

The solution was to meter the lubricant under high pressure through a spray nozzle whilst rotating under centrifugal force.

Such was the success of this configuration that Knorr-Bremse have now decided to equip all new and existing production lines with this system.

The system not only ensures perfect quality products, but also makes significant material savings and a cleaner workplace.





## Universal advantage



### Drive shaft grease metering system has multiple benefits



Electronic flowmeter grease metering module

Cost savings on material, a reduction in waste, improved quality and environmental benefits are all good reasons for investing in capital equipment. If your investment includes all of these factors and the capital costs can be recovered in less than 2 years, then this is the industrial equivalent of the jackpot.

But this is exactly what GKN Driveline have done with the installation of a new DOPAG grease metering system at their factory in Aldridge in the heart of the industrial West Midlands in England.

GKN Driveline who are part of the massive GKN group of companies specialise in the manufacture of drive shafts, which includes universal jointed propshafts as well as constant velocity drive shafts. Their customer base is international, ranging from light automotive to heavy truck and bus serving such household names as Jaguar, Land Rover, Volvo, Fiat,

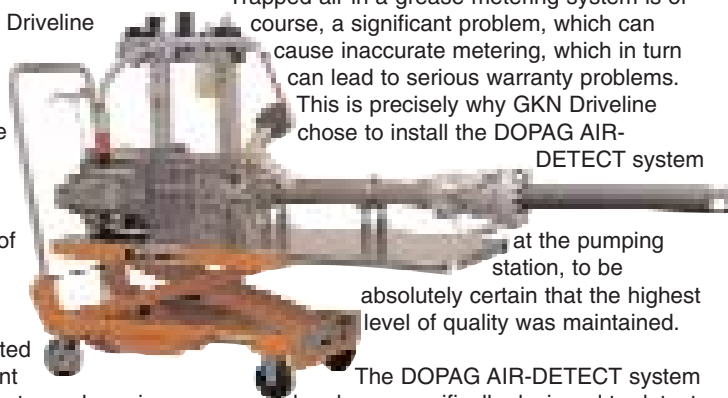
Renault, Aston Martin, Chrysler as well as the world famous London Taxi. Switching from purchasing grease in 200 litre size drums to 1.7 tonne bulk containers gave immediate cost savings in economy of scale as well as a considerable reduction in the quantity of wasted grease. It also provided the opportunity to take advantage of DOPAG's newly launched horizontally mounted bulk container unloader.

This pump is designed to reduce downtime during container changeover as well as reducing the possibility of material contamination when compared to 200 litre drums.

Based on the standard DOPAG 48:1 ratio drum pump, this portable, scissor lift mounted pump is able to slide effortlessly, directly through the outlet valve of the IBC right to the centre of the container, ensuring perfect priming and minimising the possibility of air entrapment.

Trapped air in a grease metering system is of course, a significant problem, which can cause inaccurate metering, which in turn can lead to serious warranty problems.

This is precisely why GKN Driveline chose to install the DOPAG AIR-DETECT system



at the pumping station, to be absolutely certain that the highest level of quality was maintained.

The DOPAG AIR-DETECT system has been specifically designed to detect air inclusion in grease systems, using piezo electric ultrasound transducers to sense any volume of trapped air above 1 cubic millimetre



without contact with the grease. If air is detected in the system, a valve system automatically discharges the affected amount to waste.

Metering the grease into the joints is carried out automatically at a number of remote stations and makes use of DOPAG flowmeter technology to ensure that correct volumes of grease are deposited into every joint. This is achieved by electronically measuring every shot of grease as it is dispensed and comparing the result to the pre-selected volume. Should the volume of any shot fall outside the pre-selected tolerance band then that component is rejected.

Accredited to environmental quality standard ISO 14001, GKN Driveline are committed to a year-on-year reduction in waste, which fits perfectly with the acquisition of their new DOPAG grease metering system.



DOPAG AIR-DETECT module



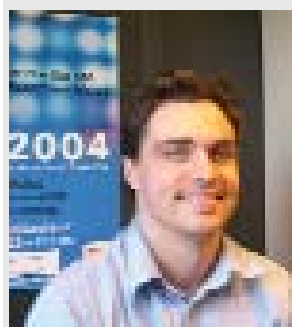
## New materials database

### Matching materials with machines

During the last 28 years, DOPAG metering and mixing systems have processed literally thousands of different materials, from polyurethanes, polysulphides, epoxy resins, silicones and acrylics to oils and greases, in many hundreds of different market sectors and applications.

The wealth of knowledge amassed from this experience is now being harnessed for practical use by the formation of a comprehensive central reference database that will cross reference material details with equipment data and will even include individual machine serial numbers. It's creation will be an invaluable tool for our customers and distributors alike when faced with selecting the right DOPAG equipment to use in a new project.

Responsible for the implementation and maintenance of this database is Thomas Iten, based at DOPAG headquarters in Cham. Commented Thomas, "In the past, this information has resided only in the heads of individuals, but now details of all applications throughout the world will be available from a single source to anyone who needs it."

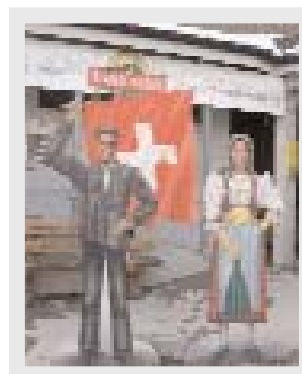
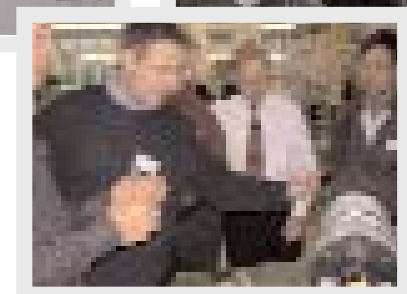
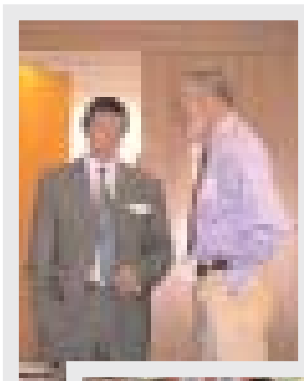
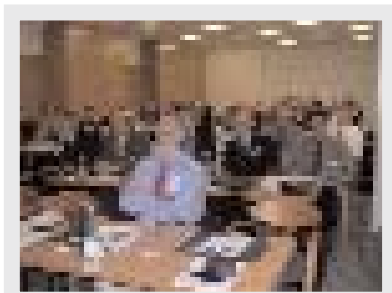
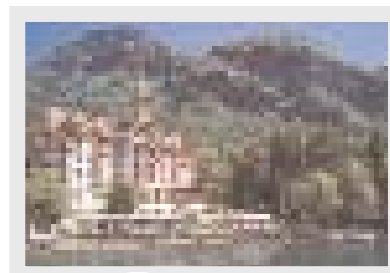




# International Distributor Meeting

63 delegates from DOPAG distributors and subsidiaries from 21 countries as far away as Taiwan, South Africa and the U.S.A. gathered in Vitznau in Switzerland in mid May for a two day intensive seminar. Held every three years, the meeting focussed on marketing strategies for both single and plural component markets as well as updating delegates with the significant number of new products that have been made available by DOPAG since the last meeting, by means of an "in-house trade show."

However, there was also time enough to enjoy the delights of the spectacular Swiss scenery, viewed from the Stanserhorn mountain, which rises above the shores of Lake Luzern, where the funicular railway and cable car whisked the delegates to the summit at 1900 metres above sea level.



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