

# Exact!

Application stories from around the world

## Inside Issue No.14



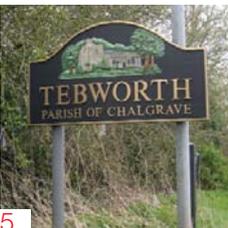
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## New pumps for old!

It seems like only yesterday, but back in 2000 we introduced the P80 drum pump (see left), designed to cater for drums of up to 80 litres capacity, directly replacing the existing 50 litre capacity model, which for many years had been our best selling drum pump.

The P80 though, has itself been even more of a success, featuring more stable twin post rams and a two hand safety drum loading device which has allowed us to conform to current EU legislation, as well as giving our customers the opportunity to use the newer and increasingly more popular 80 litre capacity drums.

However, it has not escaped our notice that even now there are still many of the old style 50 litre drum pumps in use, working perfectly satisfactorily. For those of our customers who fall into this category, we have produced a conversion kit which will upgrade the old 50 litre drum pump into a P80 drum pump for a fraction of the price of a new pump, generating all of the benefits of the P80 pump, plus guaranteed continuity of spare parts, available for many years to come.

Upgrade kits are available now from your local Hilger u Kern / Dopag Group distributor.



## SILCO-MIX Upgrades



The SILCO-MIX P20 has undergone a number of design modifications to incorporate the latest upgrades. Key feature of the upgrade is the provision of a touch screen terminal to replace the TD200 PLC control unit.

This operator-friendly technical enhancement makes use of a larger memory and will be capable of simpler future upgrades. It will result in a wider, more versatile use of SILCO-MIX systems.

These latest design changes will in future also be incorporated into the H200 and L200 models.



Hilger u. Kern / Dopag Group



# Belting up for dummies

Precision grease metering system reduces maintenance and improves efficiency for seat belt manufacturer



*A seatbelt retractor spool showing the metered grease deposit*

 Autoliv has been producing parts for the South African motor industry since 1965. The company is a global supplier to all major vehicle manufacturers and its safety systems can be found on almost every brand of vehicle worldwide.

Seat belt production began in South Africa at their site in Gauteng in 1980, followed by airbag production in 2002.

Now, with the start of steering wheel assembly in 2007, Autoliv is currently in a position to offer the full range of safety equipment to their customers in South Africa, which includes BMW, GM, Ford, Nissan, Toyota and VW.

Recently, as part of a continuous improvement programme, Autoliv needed to meter small shots of a specialist grease onto the spools of seatbelt retractors. Seatbelt retractors use a spool as its

central element that is attached to one end of the seatbelt webbing. Inside the retractor, a spring applies a rotational force, which works to rotate the spool in such a way as to wind up any loose webbing when not in use.

When the driver or passenger in the vehicle pulls the webbing out, the spool rotates against the spring, so that when this tension is released, the spring will tighten up, rotating the spool until there is no more slack left in the belt.

The retractor also has a locking mechanism that stops the spool from rotating if the vehicle is involved in a collision.

There are two production lines producing seat belt retractors in Gauteng, both of which required accurately metered shots of grease to be automatically applied to specific positions on the retractor spools. The specification called for



*Autoliv seatbelt retractor mechanism*

each metered shot of grease to be 0.05 g with a tolerance of plus or minus 0.02 g.

Hilger u. Kern / Dopag Group local distributor Resin Processing Solutions (RPS) were called upon to design a system to achieve these objectives.

They chose to use a single DOPAG P30 drum pump to feed the grease from their original shipping containers, under pressure to the dispensing points on the two production lines.

At each metering station, DOPAG 418 series cartridge type metering valves were provided to accurately and repeatably meter the grease onto the spools as they were presented to the metering station.

The system has been a great success since installation, both in terms of reliability and efficiency.

Commented Autoliv Executive Technical Manager Pieter Mouton, "Since the introduction of the DOPAG metering system, the amount of maintenance on the production lines has been drastically reduced whilst the efficiency of the production lines has also improved considerably."



*DOPAG 418 series cartridge type metering valve*

# 10 Years Later

Multi national filter manufacturer opts for DOPAG metering systems again

 After 10 years and millions of cycles later, SOGEFI Filtration d.o.o. based in Medvode, Slovenia, decided to replace their DOPAG VARIO-MIX 1A adhesive metering, mixing and dispensing machines.

Not as you might imagine because they had worn out, but rather because their new ECO-FILTER product requires a much smaller metered dose of adhesive than had previously been required.

The company is part of the worldwide SOGEFI Group, whose brand portfolio occupies a leading market position in almost every country in Europe with such well known names as Coopers, Crosland, FIAAM, Fram and Purflux.

The newly developed ECO-FILTER is produced without any metallic

components whatever and during construction small but accurate shots of component 3.75:1 mix ratio polyurethane adhesive are dispensed into a mould before assembly of the pleated filters, replacing traditional metallic end caps.

Twin tandem DOPAG MICRO-MIX S machines dispense 6 g of the mixed adhesive per shot, with an accuracy of plus or minus 2%.

The individual adhesive components are fed from 45 litre size pressure feed containers to the DOPAG MICRO-MIX S machines, where they are accurately proportioned before being dispensed at adjacent stations of an automatic rotary table.

DOPAG MICRO-MIX S machines employ stepper motor driven piston



type shot pumps which are controlled by the DOPAG MR20 computer, leading to great flexibility in controlling the shot size, mixing ratio and speed of application, which in this instance is critical as the system is designed to produce 1200 parts per hour.

This method also has the benefit of ensuring a very high degree of accuracy of the metered shot size, leading to minimal rejects.

Given the same degree of continuing after sales support that SOGEFI has enjoyed with their VARIO-MIX machines, we are expecting an order for replacement machines around about the year 2018 - or maybe even a little later!



The DOPAG MICRO-MIX S dispensing stations



DOPAG MICRO-MIX S

# Sensing an increase in production

Highly accurate metering systems help German sensor manufacturer to increase production



 **di-soric**



*Sensor components are encapsulated with two component polyurethane using DOPAG ELDO-MIX 602 systems*

 For almost 25 years di-soric, based in Urbach, Germany, has developed and produced high quality sensors for use in automated systems at their Lüdenscheid manufacturing plant.

The product range of sensors includes about 40 product families with a total of more than 500 sensor types. Probably the company's most famous sensor is the "fork light barrier" which was originally designed 20 years ago and has since been continuously developed to suit changing technologies and requirements.

This successful company employs around 140 people and has recently expanded production with new facilities and additional work force.

As part of this planned growth,

extra encapsulation facilities were needed, with very specific requirements.

The task was to provide systems to semi-automatically encapsulate small to medium quantities of sensors that were not only able to guarantee a repeatable output rate and an absolutely homogeneous mixture at all times, but also possessed control units that were able to save a variety of mixing ratio and output rate settings.

It was during this conception of the new encapsulating facilities that Jörg Retzlaff, Consulting Engineer for Hilger u. Kern in Bottrop, came up with a comprehensive solution to the specified task, and as a result, di-soric ordered two DOPAG ELDO-MIX 602 metering and mixing systems.

Pressure vessels are used to supply the two material components to the gear pumps, which are used to feed and meter the materials. A metering computer is used to control and monitor the system.

One of the systems is used to handle a filled polyurethane material, which produces black encapsulations, where shot sizes of 1.7 to 20 mm<sup>3</sup>, or flow rates of 30 to 150 mm<sup>3</sup> per minute are required.

The system has a closed loop feedback device to ensure constant accuracy even with the smallest shot sizes and as a result, the standard electronic volume counters were replaced with Coriolis mass flow meters.

The second system is also used to handle a polyurethane material but in this case a transparent encapsulation is required. Either shot sizes of 1 to 20 mm<sup>3</sup> or flow rates of 20 to 140 mm<sup>3</sup> per minute are required.

To achieve such small quantities, the gear pumps are fitted with servo drives.

"These technically powerful Hilger u. Kern / Dopag Group metering and mixing systems were an integral part of our planning for increasing our productivity," said Kai Winter, Production Manager. "It turned out to be the perfect solution, starting with precision encapsulation and the technical reliability of the systems, and ending with service and support from our local partner in Bottrop, if required."



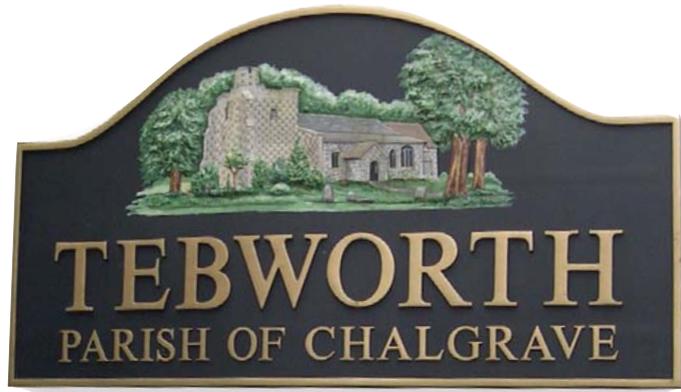
# Always a good sign

Sign maker chooses DOPAG ECONO-MIX in the face of stiff competition

 Nestling in the picturesque English countryside of Bedfordshire is the tiny hamlet of Tebworth.

Probably not the sort of place you might expect to find a thriving business manufacturing cast signs, but to the observant traveller the sign by the roadside when entering the village offers a clue.

Not for Tebworth the uniformly standard pattern signage of the style normally associated with local councils; but instead, an attractively



shaped sign with the raised letters of the village name picked out in gold, beneath a relief of their 12th century church.

A typical example of the quality of the work of Signs of the Times Ltd., who have been in the business of making signs in Tebworth for 28 years, for commercial as well domestic purposes.

Over the years the business has grown, whilst the customer profile has developed from almost exclusively supplying the domestic market, into producing signs for local authorities, housing associations, golf clubs and so on, including the manufacture of the famous circular blue plaques used to commemorate the birthplaces of celebrated historical figures.

Although offering products in cast bronze, aluminium and GRP, the majority of their output has always been in cast polyurethane.

Signs of the Times Ltd., approached DOPAG (UK) Ltd as they did a number of competitors, when it became obvious that their existing metering, mixing and dispensing machine, used for many years to process the two component polyurethane, was approaching the end of its life.

The polyurethane used for the signs has a mixing ratio of 2:1 and as it contains a high degree of filler, the abrasive nature of which makes it unsuitable for use with gear pump driven machines, a DOPAG ECONO-MIX piston pump driven system was recommended by DOPAG (UK) Ltd., Plural Component Sales Manager, Martyn Owen.

Explained Martyn, "Gear pump driven machines such as the DOPAG ELDO-MIX range have gained in popularity in recent years and can be easier and less time consuming to use, particularly if you need to change the mixing ratio frequently. Unfortunately, gear pumps do have the drawback of significantly increased wear if used with some filled or abrasive materials, which can turn out to be quite expensive in the long run, so it makes more sense to use piston type pumps in those cases."

With this in mind, we feel sure that Signs of the Times Ltd. will be producing their high quality signs for many years to come, with the help of their new DOPAG ECONO-MIX.



Dispensing mixed polyurethane into the mould



Signs are hand painted by skilled artists



DOPAG ECONO-MIX

# The winds of change

EU Energy Commissioner Andris Piebalgs, as chair of the European Wind Energy Conference that took place in Brussels between 30th March and 3rd April, welcomed delegates and other high-level speakers in the opening session with warm praise for the wind energy industry's achievements. "Of all the renewable energy technologies, wind energy has delivered the most promising result for a number of years now," he said.

His comments were later echoed by Janez Potocnik, the EU Commissioner for Science and Research, who closed the conference on a positive note, applauding the "remarkable European success story" of wind energy and encouraging the wind energy sector to step up to meet the technological and administrative challenges ahead.

The Hilger u Kern / Dopag Group, now a significant supplier to the wind energy market worldwide and who participated in the exhibition that ran concurrently with the conference, reported noteworthy enquiries from rotor blade manufacturers in a number of countries including the USA, Korea, Spain and China.

"A dynamic and record breaking event that attracted more top-level press, media and political attention than at any time in its 25 year history."

*Wind Power Monthly*

Indeed, such was the level of interest, that we have already reserved our stand at the next EWEC exhibition due to be held in Marseilles, France in 2009.



## Record attendance in Paris



Between the 1st and 3rd of April 2008, Paris became the world's capital for composite materials. The JEC Composites Show was a phenomenal success, with a record turnout and greatly expanded exhibit area.

The Show hosted 1,053 exhibitor companies, with 74% from outside France, whilst more than 100 new companies joined the exhibition, mainly from Europe where the JEC Show is the strongest composites exhibition, achieving 27,000 visitors from 96 different countries over the 3 days.

Aeronautical, marine, automotive, construction, energy and sports & leisure were just a few of the industries

that DOPAG France was able to discuss applications with and who once again represented the Hilger u Kern / Dopag Group at this important showcase for the composites marketplace, reporting brisk business from international as well as domestic visitors.

## Exhibition watch



22 - 25 September 2008 / Bondexpo 2008 / Stuttgart, Germany



20 - 24 October 2008 / EUROSURFAS 2008 / Barcelona, Spain



11 - 13 November 2008 / FEIPUR 2008 / São Paulo, Brazil

### Editor

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