



Exact!

Hilger u. Kern / Dopag Group

Application stories

Issue No. 9

New website goes on-line



easy-to-understand, step-by-step experience.

Visitors arriving at the home page have the opportunity of selecting their industry sector from a range of options, which will then lead the enquirer to a choice of application options relevant to that particular industry.

Recommended products and systems are then displayed that are the most suitable solution for the selected industry and application.

featuring applications from around the world that have been included in previous editions of Exact!, whilst the current issue can be downloaded in its entirety from the home page.

Visitors can contact DOPAG with any questions by filling in the contact form, which will automatically be routed to the most appropriately located DOPAG subsidiary.

Remark DOPAG Sales and Marketing Manager, Alois Tschopp "We believe that this new and exciting facility will prove to be of tremendous use and an easy to use tool for our customers, when seeking out metering, mixing and dispensing equipment for specific applications."



An entirely new and upgraded website for the Hilger u. Kern / Dopag Group has been launched and is now live and on-line.

The aim of the new site is to provide the visitor with clear, concise and easily navigable web pages that make selecting the right equipment for specific applications an

At any time, the visitor has the option of navigating directly from the home page to the products pages, which show the full range of DOPAG single and plural component machines, systems and components.

Individual machine brochures are available for download, as are actual case history stories,

MR20 Computer now available with remote maintenance facility

Many DOPAG systems, from single component grease metering systems to plural component VARIO-MIX and ELDO-MIX machines utilise the versatile MR20 computer for optimum controllability.

Remote diagnostics for DOPAG metering and mixing systems equipped with this computer have been possible over a GSM, ISDN- or analogue modem for some time.

Now though, a software expansion enables wide ranging remote maintenance capability, including software updates of the metering and mixing system, directly through a modem.



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Tilting at windmills

Renewable energy for the future



Whilst the demand for energy increases throughout the world, concern over traditional methods of generating electrical power has begun to foster a move towards renewable energy sources.

The use of wind, water, and solar power are already widespread, but the mass production of electricity using renewable energy sources has become popular only recently, reflecting the major threats of climate change, concerns about the exhaustion of fossil fuels and the environmental, social and political risks of extensive use of fossil fuels and nuclear power.

Wind energy is abundant, renewable, widely distributed, clean, and mitigates the greenhouse effect if it is used to replace fossil-fuel-derived electricity.

Although current production accounts for less than 1% of worldwide electricity use and is still a relatively minor source of electricity for most countries, it accounts for 23% of electricity use in Denmark, 4.3% in Germany and around 8% in Spain. Globally, wind power generation more than quadrupled between 1999 and 2005 and is targeted to reach 12% of worldwide energy demand.

Wind power is now used in large-scale wind farms for providing power to national electrical grids both onshore and more recently offshore.

Construction of the huge rotor blades used in the latest generation of wind generators is bringing with it new technical challenges, the production of which is a three-stage process.

Firstly, each glass reinforced plastic (GRP) blade is manufactured in two halves by the infusion of two component resin into the fibre matt. Secondly, the two halves are glued together with two component epoxy resin and finally, a gel coat system is applied to the outer surface of the blade.

These processes may sound simple enough, but in reality the sheer scale of the rotor blades demands highly specialised metering, mixing and dispensing systems.

For example, the infusion process for a standard 50 metre long blade will take upwards of six hours to dispense and use around 1000 kg of resin, whilst 600 kg of resin is typically used for gluing the two halves together.

It was for these reasons that the Hilger u. Kern / Dopag Group has developed a new range of ELDO-MIX metering, mixing and dispensing systems especially for the purpose of producing rotor blades using the two-form construction technique.

Over the next three issues of Exact!, we will examine each process in more detail and present the three different systems now available from the Hilger u. Kern / Dopag Group.



Displaying savings

DOPAG France helps cut adhesive dispensing costs for point of sale merchandising displays

Founded in 1953, Diam International is now the leading retail merchandising solutions company in the world, providing point of sale displays and fixtures for retail outlets worldwide.

The company operates globally from its USA headquarters as well as its European subsidiaries, manufacturing taking place in France and the UK as well as in the USA.

Diam's customer base reads like a who's who of high profile global brands and includes such household names as Microsoft, L'Oreal, Dior, Nintendo, Wal-Mart, Disney and Kodak.

In Diam's French manufacturing facility, merchandising displays are assembled by skilled technicians, using high performance two component, 1:1 ratio, methacrylate adhesives, for fastening parts together.

The work is often of an intricate nature requiring the technician to demonstrate a good deal of accuracy and flexibility during the application of the adhesive.

The adhesive is therefore applied by means of ready-filled two component syringes, a method which has proved over a period of time to be the most successful in achieving the desired results.



The system allows the two components to be fed separately from 18 kg drums to twin gear type bench mounted stainless steel flow-meters, located at the dispensing station, which volumetrically meters the two components separately into a twin syringe.

The syringes are placed into a small fixture directly beneath the dispensing valves, and when they are correctly positioned the operator initiates the metering cycle by depressing a push button.

The system is controlled by a DOPAG MR10 controller, which ensures that the exact volume of adhesive is dispensed into the syringe on each occasion.

Should an error occur that falls outside the pre-programmed acceptable tolerance band, which might be caused by a blockage or a hose rupture for instance, the system would immediately alarm and close down, guaranteeing perfect results every time.

Savings in the cost of material have been impressive, with Diam reporting that their return on investment will be less than one year.



The syringe dispensing station in use

However, although the dispensing technique has proved to be satisfactory, purchasing adhesive in ready-filled syringes is in fact quite an expensive option.

Whereas purchasing adhesive in bulk containers would provide a significant cost saving, bulk applicators would not offer the same degree of flexibility required for this often complex process.

Luckily, DOPAG France was able to present a compromise solution that took advantage of the savings to be made from bulk material purchase, but retained the flexibility of the existing applicators.

Diam chose to meter the adhesive into the syringes themselves directly from bulk containers, accurately metering the two components on demand and at the correct ratio into empty twin cartridges, allowing the technicians to continue to use syringe applicators whilst reaping the cost benefits of bulk material purchase.



The syringe dispensing station showing twin DOPAG dispensing valves



Good vibrations

Quality improvements save time and money for international switch manufacturer



The process of efficiently lubricating components during production plays a vitally important role in the quality of a manufacturer's finished products.

The most frequently used method of lubrication is to place a component into a fixture, either manually or automatically and deposit a predetermined volumetric dose of grease or oil onto a specific contact point or points on the component.

However, a major manufacturer of switch disconnectors and cam switches in the UK has chosen a more efficient and appropriate alternative technique to lubricate their plastic switch components.

The route they have adopted is to apply a very thin film of grease to the entire surface of each component, which not only lubricates the contact points evenly, but also allows up to 36,000 components to be treated simultaneously.

In order for the grease to form a light, even film, its viscosity must be significantly reduced and this is achieved by mixing the grease with a solvent, which following application is then evaporated, leaving only an even thin film of grease on each component.

The grease and solvent mixture is proportioned by means of a DOPAG ECONO-MIX piston type metering machine at a ratio of 1:1 and is then fed under pressure to a vibratory bowl, where it is mixed before entering the bowl by a DOPAG TWIN VALVE fitted with a static mixer.

A DOPAG P80 drum pump is used to feed the grease from standard 25 litre size pails to the ECONO-MIX, whilst the solvent is fed by a diaphragm pump mounted onto a 200 litre size bung drum.

After charging the bowl with components and before dispensing commences, the bowl is programmed to vibrate for a few minutes to allow the components to spread evenly around the bowl, following which the proportioned and mixed liquid is accurately metered into the bowl.

It is important that the precise volume of mixture is dispensed on each occasion, as different types of component and different batch sizes both affect the volume needed to be dispensed to achieve an even coverage. A typical shot size would be in the region of 0.25g per 100 components.

The programme for each type of component and batch size is stored on an MR20

computer, which receives information from gear type volume counters and requires the operator merely to select the correct programme to ensure a perfect result.

After a short period of vibration, air at a temperature of 165 degrees Centigrade is used to evaporate the solvent, leaving only the grease in contact with the components.

This innovative system has proved a great success in applying an even and light coating of grease quickly, efficiently and without mess, whilst ensuring perfect quality every time.



A batch of components inside the bowl

When quality really counts

Linear actuators lubricated automatically



Danish company LINAK has gone through a remarkable transformation since its establishment in 1907 by the grandfather of its present owner Bent Jensen.

Back then, the company manufactured a diverse mix of products, including flat belt and V-belt pulleys, grinding mills and forges, something quite different from the state-of-the-art products manufactured today.

When Bent Jensen took over the company in 1976, he brought with him a brand new idea. An idea that led to the development of the very first linear actuator in 1979.

The idea stemmed from Bent Jensen's student days when a friend lost his mobility in an accident and was confined to a wheelchair. Far from satisfied with his friend's chair, he felt there was a better solution, so he started working on what was to become the linear actuator.

The invention was to have an even larger potential than anyone could possibly have imagined at that time.

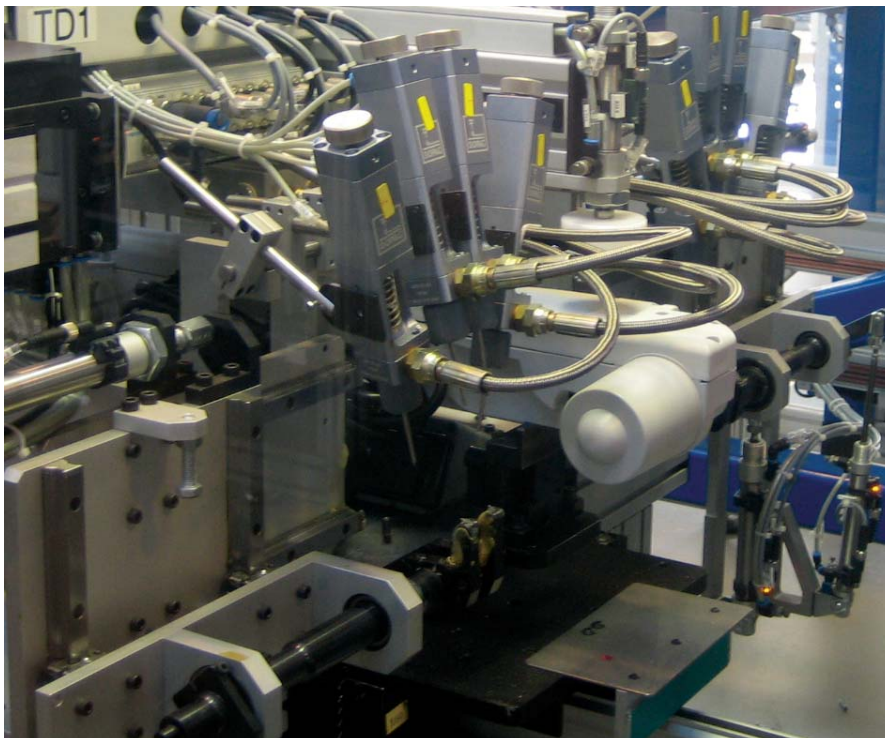
Today, the company has significantly extended its manufacturing facilities, not only in Denmark, but also in the USA, has subsidiaries in 29 countries and has a turnover in excess of 135 million Euros.

Central to the success of the company has been their philosophy of making high quality their first priority, believing that the quality of their products affects the quality of people's lives.

Little wonder then, that when the company was looking for systems to pump and



DOPAG P80 drum pump



DOPAG dispensing valves automatically dispensing grease onto the linear actuators

dispense lubricant onto its actuators, that they should turn to DOPAG SCAN, based in Denmark.

The systems that DOPAG SCAN have supplied to the LINAK factory in Guderup form part of an automated process that automatically applies shots of grease directly onto the actuators.

The grease is fed directly from standard size shipping pails by a DOPAG P80 ram mounted drum pump via a DOPAG material pressure regulator to two banks of four automatic dispensing valves that are mounted within the automation cell.

During production, the actuators are presented beneath the dispensing station, where shots of grease are automatically dispensed onto the critical parts of the actuators.

Commented Henning Pedersen, Sales Director of DOPAG SCAN "We are very proud to be a supplier to LINAK. We believe that the high quality of DOPAG products fits well with their values and expectations and we look forward to developing our relationship further with them in the future."



Meet the DOPAG Customer Service team



(Front row from left to right)

Frank Bals, Service technician, responsible for distributors and coordination of international customer service. Izzet Karaalioglu, Internal repair service. Daniel Müller, Service technician for direct customers worldwide.

The DOPAG Customer Service team is probably the most multi-faceted department at DOPAG headquarters in Cham, Switzerland.

The team is not only responsible for repairing and servicing DOPAG systems, but also for many other technical areas of the business, including material assessment, preliminary testing, system screening and revisions, as well as solving all kinds of technical metering and mixing problems.

Led by Werner Wymann, the team support 1,450 direct customers, 5 subsidiaries and 17 distributors worldwide.

(Back row from left to right)

| | |
|------------------|---|
| Werner Wymann | Responsible for customer service department |
| Bruno Elsener | Service technician, specific for Swiss customers |
| Hanspeter Wenger | Internal repair service |
| Bruno Meienberg | Service technician for direct customers worldwide |
| Marco Rütter | Responsible for the repair service team and coordination of the local service technician. (position created in 2005 as a result of expansion) |



New distributor in USA



Air Flo Spray Equipment Co. Vice President finance, Julie Ann Ludwig and President, Christopher Ludwig

The Hilger u. Kern / Dopag Group has recently expanded its distributor network within the USA with the appointment of Air Flo Spray Equipment Co. Inc.

Located in Romeoville, to the west of Chicago, Illinois, Air Flo Spray Equipment Co. Inc., were founded in 1964 and have evolved into a leading supplier of ink delivery and control equipment for the commercial printer in the USA. Already experienced in many other fluids handling applications including paints, adhesives, mastics, sealants and lubricants, having access to the DOPAG range of systems is a natural progression for this dynamic, family run company.

Commented Air Flo Spray Equipment Co. President Christopher Ludwig during a recent visit to DOPAG headquarters in Cham, "Over the years we have built our business on a simple strategy: a commitment to customer service that is unrivalled in our industry. We are committed to continuing our long tradition of excellence and value for our customers and believe that the DOPAG product range will fit perfectly with our strategy."

Editor

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Marketing Communication
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Author: Bob Jones: bjones@dopag.com

1500 copies printed
Printed on chlorine free bleached paper
Konrad Print, Arth, Schweiz / 2006



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