Exact!

Application stories from around the world

Inside
Issue No. 21

New high volume pulsation free pumping system

Do you need to empty 200 litre size drums of pasty type products very quickly and without pulsations?

If so, then the newly launched DOPAG FIP system may well be the answer to your needs. Utilising a standard 200-litre size twin post ram, the new pump system can handle higher viscosity materials at flow rates of up to 10 litres per minute, depending on the viscosity.

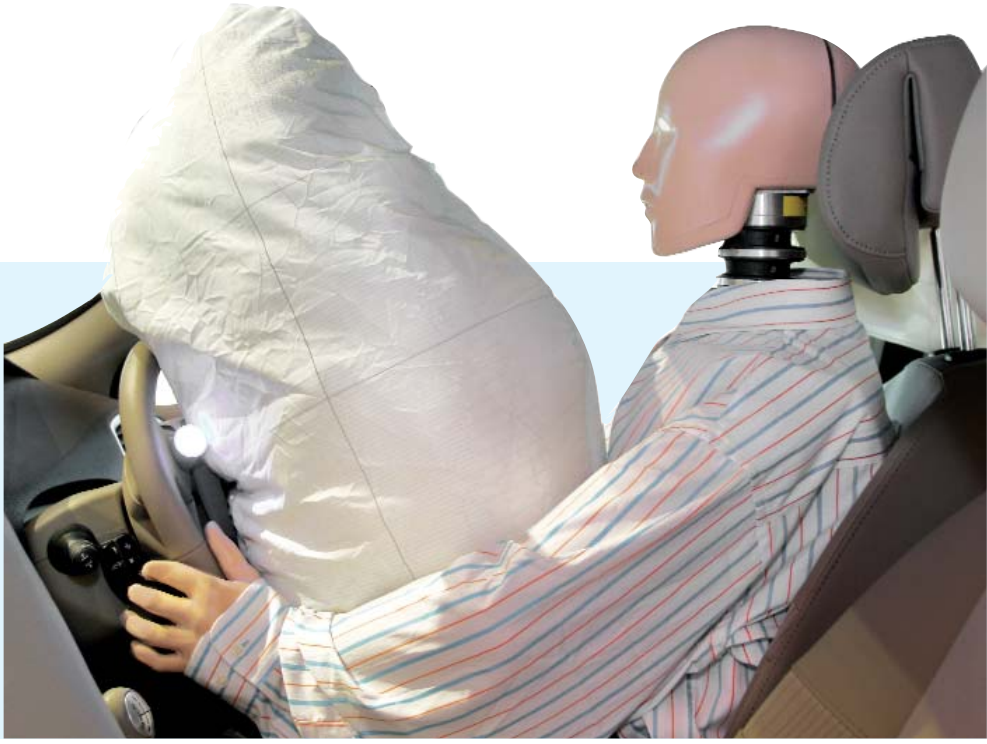
At the heart of this new system is a gear pump that is integrated into the ram plate and draws material directly from the drum, enabling higher flow rates than with conventional pumps.

Being a gear pump, material is dispensed at a constant flow rate and without any pulsations, something that can cause difficulties in certain applications when using a traditional piston pump without the use of a pulsation dampener.

Capable of developing output pressures of up to 160 bar, the pump can also be supplied with high-wear resistant components that allow it's use with abrasive materials. Suitable for use with pasty materials having viscosities nominally between 50,000 mPa s and 1,000,000 mPa s, the FIP system is a most useful new addition to the DOPAG range of drum pumps.

HuK DOPAG **Hilger u. Kern / Dopag Group**

Inflating on collison



Major global industrial fabric manufacturer returns to DOPAG for a fourth time

The Porcher Industries Group will soon celebrate a century of producing high quality fabrics for industries worldwide. From its early beginnings of weaving silk in the nineteenth century, the Group has progressed into a leader in the modern technical industrial textiles sector.

With two production sites in Europe and a sales presence on every continent, the Group's Automotive Business Unit is able to respond rapidly to new innovations and the demands of an ever-evolving market.

As a trusted supplier to the Porcher Group since 1999, DOPAG Sarl was well positioned to quickly evaluate requirements when the Group needed to increase production of fabrics destined for use in vehicle airbags, having previously designed and installed three plural component metering, mixing and dispensing systems for similar applications,

On this occasion, a two component BLUESTAR silicone material is used to impregnate the woven fabric. With a mixing ratio of 100:10, the "A" component is delivered to the factory in bulk 1 tonne containers, whilst the "B" component comes in 200 litre size open topped drums.

For ease of handling, the bulk containers are stored on a mezzanine floor where the "A" component is gravity fed to a 150 litre size buffer tank, where it is pumped to a DOPAG eldomix 203 system. A DOPAG P200 ram

"A" component is gravity fed from bulk containers before being pumped to the eldomix

mounted drum pump pumps the "B" component directly from its 200 litre shipping container.

The impregnation process requires that mixed material be dispensed onto the fabric at a rate of exactly 4.7 kg per minute, a flow rate that needs to be maintained and monitored.

For this purpose, a DOPAG eldomix 203 system was selected. This system utilises twin gear pumps to accurately proportion and meter the two components before dispensing the mixed material via a DOPAG 2K Valve fitted with a static mixing assembly.

Volume counters are also fitted to monitor flow rates, which are then automatically corrected by means of a DOPAG MR20 electronic controller should either the flow rate or the mixing ratio fall outside acceptable tolerances.

Commented DOPAG Sarl Sales Manager Elain Montala "The fact that this is the fourth such system that we have supplied to Porcher Industries Group is an indication of the satisfaction that our customer has with DOPAG systems."

An elevating experience

DOPAG shotmix reduces both the weight and the cost of producing elevator cabins for Schindler

The Schindler Group has executed some of the most technically challenging elevator, escalator and moving walkway projects that have ever been attempted worldwide. It is estimated that globally, Schindler equipment moves more than 900 million people every day.

The company has around 43,000 employees worldwide, spanning all five continents and has been innovating and producing elevators since 1874. At the Schindler Elevator Ltd plant in Ebikon, Switzerland, a new product line has been introduced that will be replicated worldwide.

During this process, U-sections are fixed to cabin panels for stiffening purposes, a process traditionally achieved by the use of mechanical fastenings. Research however, revealed that fastening the U-sections to the panels using an adhesive instead of mechanical fastenings would significantly reduce the weight of the cabins as well as the cost.

To achieve their aim, Schindler engineers sourced a two-component polyurethane Sikaflex adhesive for the purpose. The adhesive has a pasty consistency and must be mixed at a ratio of 100:10 by volume.

The automatic application of the adhesive onto the panels by means of a 3 axis XYZ robot, lends itself perfectly to the recently launched DOPAG shotmix.

The two components are fed by twin DOPAG P80 drum pumps, under pressure to the shotmix, which is mounted onto the robot directly above the panels. The robot is programmed to move at 0.2 metres per second, whilst dispensing the mixed adhesive at 20 ml per metre.

The shotmix is unique in that it is capable of metering, mixing and dispensing directly at the point of application and despite being more expensive that competitors products in this instance, was preferred by Schindler engineers for its simplicity of design and its ability to easily adapt for use with different materials.

Commented Production Support Manager Frrok Prenka “We are very satisfied with the results and believe that bonding is the future. It will also help to support our requirement to reduce stocks by the use of a just in time strategy.”

DOPAG shotmix dispensing mixed adhesive onto an elevator panel

DOPAG shotmix

Film star

REUTHER VERPACKUNG

DOPAG variomix scores through accurate metering and easy maintenance

REUTHER VERPACKUNG is a leading manufacturer in Germany of flexible packaging and high quality bags. The company was founded in Neuwied in Germany in 1912 and is now renowned for its packaging for pet food, chocolates, tea and coffee.

However, Back in 1912, bakers were the company's very first customers, so the company has a longstanding commitment to manufacturers of biscuits and confectionery.

Along with the products, the packaging has developed significantly over the years and the company is now recognised as a leading specialist in pre-formed bags and technically sophisticated machine reels. They are particularly proud of the fact that they are in a position to offer the complete production process for all types of flexible packaging, including pre-press, rotogravure, printing, laminating, cutting and bag making, all from a single source.

Flexible packaging often requires multi-layered laminated films, each layer of film having a specific purpose such as bacteria or aroma protection or as a printed film for product identification or point of sale marketing purposes. These films must meet strict requirements of modern food packaging in terms of shelf life as well as protection.

Bonding the films together is a process that requires accurate, high quality metering and mixing of a two-component adhesive, which is why REUTHER chose a DOPAG variomix system, supplied by the Hilger u. Kern / Dopag Group.

The multi-layered films are automatically fed from reels or webs and bonded together with the two-component adhesive in a continuous process, where mixed adhesive is metered at a ratio of 100:40 into a duct and applied to the films via a roller system. The variomix is fitted with flowmeters as standard for this type of application to ensure that the mix ratio never falls outside acceptable tolerance levels.

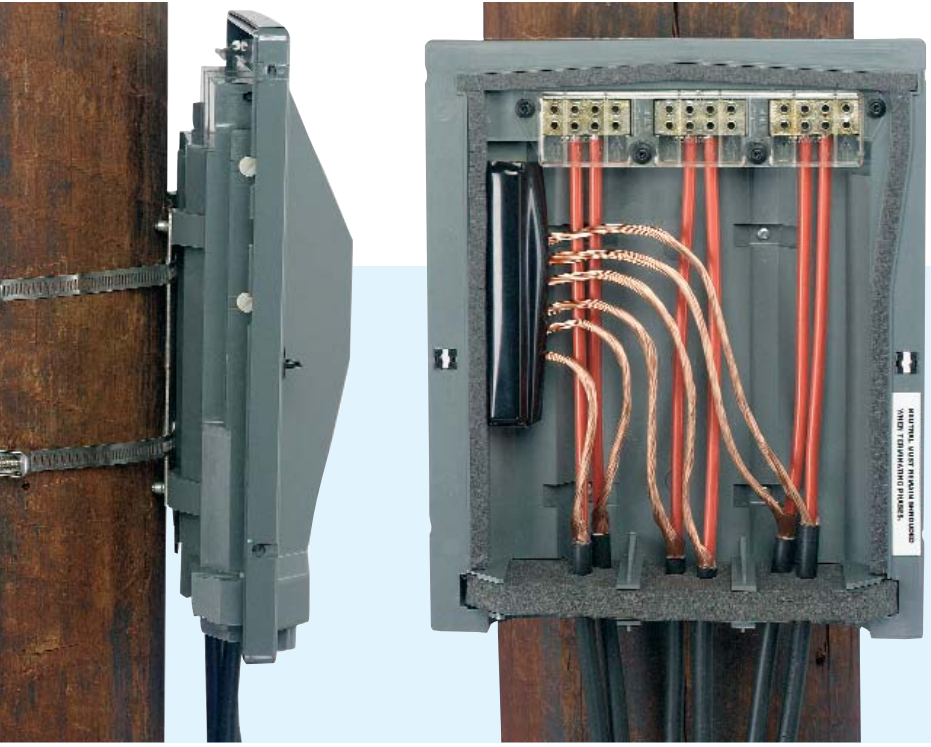
The two adhesive components are fed from heated 45 litre size pressure feed containers to the DOPAG variomix piston pump system, where they are proportioned, mixed and dispensed into the duct, at a flow rate of 650 cc/min.

A screening roller removes excess adhesive from the film, thus ensuring that the pre-defined film thickness is maintained, after which the laminated films are brought together and pressed between two further rollers.

REUTHER's specification focussed special attention on the need for the system to be easy to maintain and easily cleaned, which gave the variomix a significant advantage over other competing options.

An SOS embossed bag with window

DOPAG variomix



Terminal efficiency

New grease metering system helps to increase production, save time and decrease waste

Lucy Switchgear has over 100 years of experience within the power distribution industry and today is at the forefront of ring main unit design, the production of medium and low voltage switchgear and overhead line equipment.

Lucy Switchgear's multi-million pound, purpose built, state of the art facility in Oxfordshire, is home to its main manufacturing plant in the UK and it is here that distribution boxes are produced for overhead line distribution systems.

The units, known as ABC (Ariel Bundled Conductors) Distribution Boxes are designed to be pole or wall mounted, so they must be capable of withstanding exposure to extreme weather conditions.

Externally, the boxes feature a strong thermoplastic all weather casing, whilst their low profile angular styling is designed to prevent build up of snow during severe winter weather.

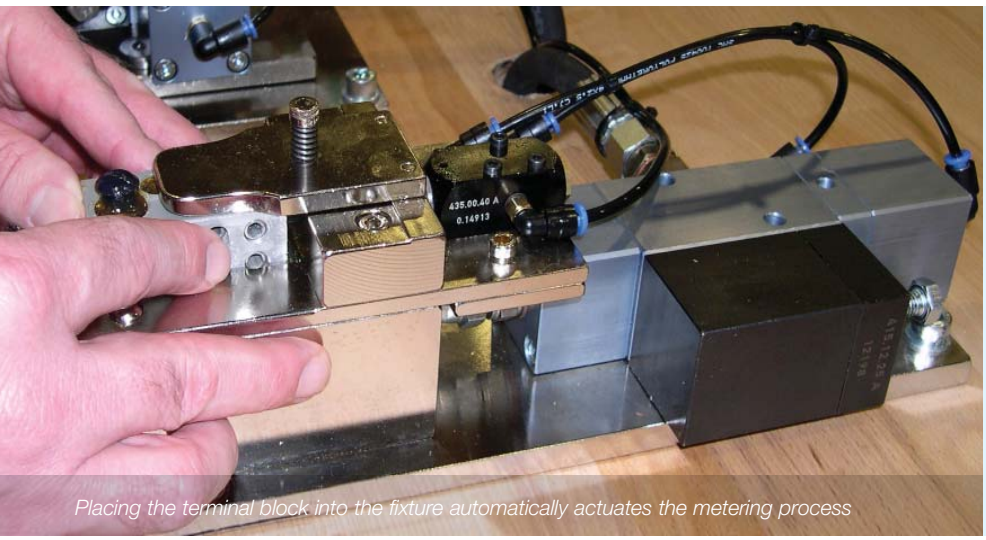
Internally, in order to eliminate any possibility of moisture ingress, all terminal blocks are pre-filled with grease prior to assembly.

The grease, which is formulated to remain solid at all temperatures, arrives in 25 litre size open top pails and is distributed under pressure by a DOPAG P80 drum pump to three bench mounted metering fixtures. Each fixture is specifically designed to accommodate one of the three differently sized terminal blocks.

Contrary to the previous greasing system, which was somewhat wasteful of grease, the ram mounted DOPAG P80 pump features a closely fitting follower plate with a flexible wiper seal that ensures that the sides of the drum are wiped clean, guaranteeing minimal waste material is left in the drum.

DOPAG shot metering valves automatically meter the appropriate volume of grease precisely into the terminal blocks when each block is offered up to the fixture, and being volumetric, the valves provide constantly accurate and repeatable results in contrast to the timed shot system previously employed by the company.

Explained Project Engineer Laurence Walker "We are delighted with the DOPAG metering system which has made our process faster, more efficient and less wasteful, perfectly complimenting our lean manufacturing philosophy."



Placing the terminal block into the fixture automatically actuates the metering process

DOPAG P80

In-house seminar for Sika

Sika recently accepted an invitation to attend an in-house seminar at DOPAG headquarters in Cham, Switzerland. During the day, along with a number of presentations, live demonstrations of new products were conducted before the international gathering of SIKA personnel.

Amongst the demonstrations featured the newly launched ceramix two component metering system, designed to effortlessly meter abrasive materials, along with the shotmix, with it's capability of metering, mixing and dispensing two component materials directly at the point of application.

Delegates were also treated to a preview of the brand new FIP ram plate mounted gear pump driven 200 litre drum pump system. *(See front page for more details)*

Moving News

The local service team in Gomaringen: (From left to right:) Manfred Buck, Angelika Trick, Erik Notter

The local Hilger u. Kern service team previously based in the town of Tubingen in the South West of Germany close to Stuttgart, have now moved, having found more suitable premises in the nearby town of Gomaringen. They relocated on 1st December 2010.

Exhibition News

Focussing on promoting the shotmix for adhesive and sealant applications, DOPAG (UK) Ltd participated in the recent Industrial Adhesives, Sealants & Encapsulants Exhibition in Birmingham, where it generated a good deal of interest. Evidently sufficient interest to put smiles on the faces of the exhibitors!

Exhibition watch

29. - 31. March 2011 / JEC Composites / Paris, France

10. - 13. October 2011 / Bondexpo / Stuttgart, Germany

9. - 10. November 2011 / Aero Engineering / Birmingham, UK

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