Exact!

Application stories from around the world

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New laminating brochure

Newly available from the Hilger u. Kern / Dopag Group is a brand new brochure that shows in some detail all of the systems now available for metering, mixing and dispensing both solvent free and solvent based adhesives in the flexible packaging industry.

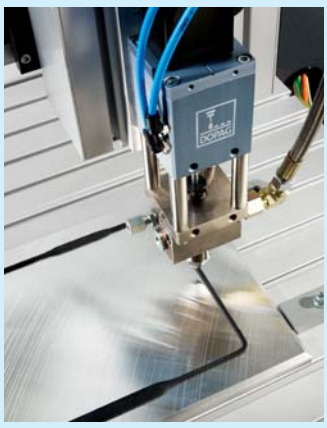
Gear pump, piston pump and flow meter systems are all covered in the form of ELDO-MIX, VARIO-MIX and LADO-MIX systems.

Copies are available from your local DOPAG office or distributor, or they may be downloaded on-line by visiting: www.dopag.com/?rub=194

New proportional control valve

A new lightweight and compact fast response automatic dispensing valve is now available that is able to control the flow of dispensed material in direct proportion to the speed of the robot to which it is attached.

This facility is particularly useful in automated gasketing applications where a constant bead width is usually required to be maintained regardless of any variations in the linear speed of the robot, or in other cases, where variations of the bead size is needed despite a constant speed of application by the robot.



The new valve, which is also designed to handle abrasive materials makes use of linear motor technology coupled to a pneumatic amplifier and communicates with the robot via a simple 0-10 volt analogue signal, resulting in precisely controlled and highly accurate adjustable flow rates of up to 1 litre/minute.

Hilger u. Kern / Dopag Group

Fit for a palace

Swiss window manufacturer chooses DOPAG to seal new patented range of windows

1a hunkeler are a fifth generation family owned window manufacturing and timber construction business located in Ebikon, close to Lucerne in Switzerland.

Their high quality products have constantly been in demand having supplied windows to many prestigious buildings in their 150 year history, including the luxurious 5 star Palace Hotel on the edge of lake Lucerne.

When Swiss window manufacturer 1a hunkeler needed to increase production and modernise the fabrication facilities of their patented **TOP-WIN®** range of windows, they turned to DOPAG for assistance.

The **TOP-WIN®** range of windows has set a new milestone in window construction achieving up to 30% increase in light penetration whilst simultaneously increasing thermal and acoustic insulation properties.

As part of this development and to maximise efficiency, 1a hunkeler chose to automate the process that involved applying a bead of sealant between the insulated glass and the frame of each window.

The semi-automated procedure involves manually placing the window frames onto a robot table where a bar code reader automatically recognises the type of frame. Double-sided adhesive tape is then applied, after which the frame is transported to a second station where a robot places the insulated glass onto the tape.

The first robot then moves into position to apply the sealant between the frame and the glass. A single component silicone material was selected for this application.

Working closely with the robot integrator, DOPAG designed a system to pump the silicone directly from the 20 litre hobbocks in which it was supplied, using a P30 drum pump. This pump feeds the sealant to a gear pump, the rotational speed of which is closely controlled in order to precisely manage the flow of sealant into the window frame. The pump module is located directly above the robot station on an overhead gantry in close proximity to the robot.

A material pressure regulator fitted between the two pumps ensures a smooth flow of material at the correct pressure.

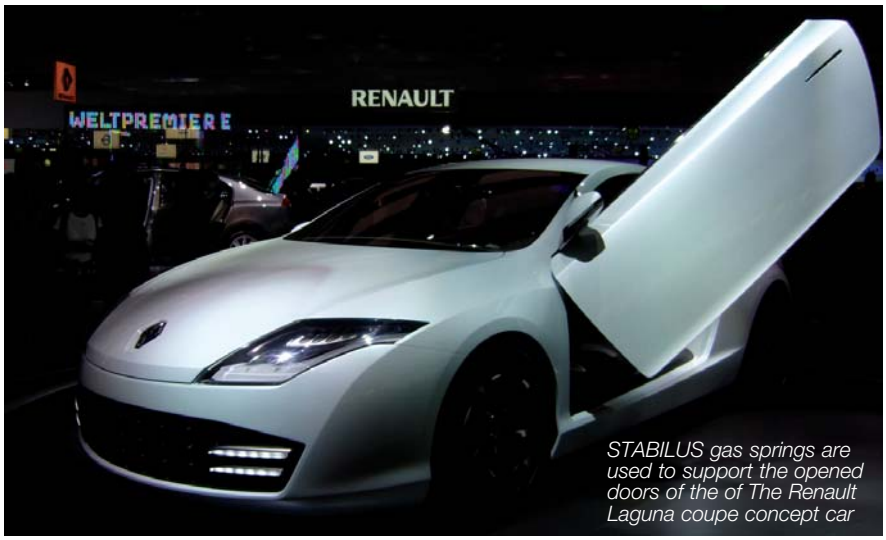
Finally, a DOPAG membrane type dispensing valve, mounted onto the robot and fitted with a special application nozzle dispenses the metered silicone.

1a hunkeler's new facility should ensure that their products are fit for a palace for many more years.

A DOPAG membrane dispensing valve and nozzle is mounted onto the robot ready for dispensing the sealant

The DOPAG P30 pump and gear metering pumps are mounted overhead, directly above the robot stations

Springing into action



STABILUS gas springs are used to support the opened doors of the of The Renault Laguna coupe concept car

Gas springs are lubricated accurately and automatically with DOPAG metering systems

For several decades, STABILUS gas springs and dampers have been well known for their successful use in the automobile and furniture industries, providing a practical design element in more than 300 different applications, wherever assistance in lifting, lowering, moving or adjusting is needed.


A selection of STABILUS gas springs

Applications in industries other than automotive (where they are used for trunk, tailgate, door and hood opening, as well as providing comfort and safety in seat adjustment applications) have evolved and STABILUS hydro-pneumatic gas springs can now be found in such diverse products as hospital beds, operating theatre tables, roof windows and office seating.

Located in Koblenz in Germany, the company is a leading worldwide manufacturer of gas springs, producing 120 million units annually, each and every one of which must be lubricated with accurate and repeatable volumes of grease or oil, depending on the location within the gas spring assembly.

During the assembly process the gas springs, which have been loaded onto a rotary table, firstly require a small pre-determined volume of grease to be automatically applied to the piston rods. This is achieved at the first lubricating station by means of DOPAG needle type metering valves, each capable of accurately metering volumes between 0.001 and 3.0 ml with each shot.

At the second lubricating station, tiny drops of oil are metered onto the double lip seals in the cylinders in order to minimise friction, using DOPAG chamber type metering valves. This type of metering valve is particularly useful for such applications as they feature a snuff-back facility.

This characteristic avoids the possibility of unwanted drips of oil contaminating other parts or components following the conclusion of the metering process.

Finally, at a third station, a pre-determined volume of oil is metered into the cylinders using a flowmeter system controlled by MR20 metering controllers before the cylinders are charged with nitrogen.

The entire lubrication cycle is thus completed automatically, thanks to Hilger u. Kern / Dopag Group advanced metering technology.

DOPAG needle type metering valves meter grease onto the piston rods

Deep sea soundings

Underwater acoustic system company chooses DOPAG ELDO-MIX 101 systems for encapsulation

A subsea template, weighing 1,150 tonnes and measuring 25 by 17 metres gets lowered into the water offshore Norway. Sonardyne's acoustic positioning products were used to position the template to within a few centimetres on the seabed in 1,100 metres of water.

Established in 1971, Sonardyne is a recognised world leader in the design, development and support of underwater acoustic navigation, positioning and communications systems.

Applications for their extensive product range are found within the offshore oil exploration, construction, drilling and oceanographic industries.

Their acoustic navigation and underwater positioning systems provide the highest accuracy and lowest risk, whether you are navigating a diver in shallow water or installing equipment several thousand metres deep on the seabed.

Every transponder manufactured by Sonardyne must be protected from the potentially damaging effects of immersion in seawater by encapsulating the sensitive acoustic transducer in polyurethane.

In order to maintain the Company's exacting standards, this important process must take place in a temperature and humidity controlled environment, since excessive humidity could cause the isocyanate component of the polyurethane to crystallise, whilst variations in temperature would affect the pot life of the mixed material.

With this in mind, Sonardyne have recently constructed a new encapsulation facility where three different formulations of two component polyurethane can be dispensed onto the components in individual fume extraction cabinets.

As part of this state of the art facility, Sonardyne chose DOPAG ELDO-MIX 101 systems to meter, mix and dispense the polyurethane encapsulant onto their components.

These gear pump driven systems have the flexibility to precisely adjust flow rates quickly and easily when necessary, whilst mixing ratios can also be changed simply by selecting an additional programme from the controller.

The ELDO-MIX 101 systems are fed by pressure vessels, each of which are stowed neatly beneath their individual fume cabinets, whilst the control panels are wall mounted together at a convenient height for the operator.

Dispensing then takes place with DOPAG twin valves, fitted with static disposable mixers, ensuring trouble-free, precise encapsulation of components destined for the harsh environment of the world's oceans.


Dispensing the mixed polyurethane

A Sonardyne subsea positioning transponder

The wall mounted ELDO-MIX control cabinets

Intelligent metering

Schrader uses a DOPAG MICRO-MIX E for a new venture into the medical industry sector

Businesses frequently condemn new government regulations as restrictive, but in Northern Ireland, Antrim based Schrader Electronics, a small company by international standards but the leader in its field, welcomes a law passed in Washington which has driven its sales from £45 million three years ago to more than £110 million today.

Schrader Electronics designs and manufacturers remote tyre pressure monitoring systems, which have increasingly been adopted by the world's leading car manufacturers, but from the end of next year, every single car sold in the United States, including imported models will have to be fitted with these safety devices. At current estimates, that means four sensors for each of 16 million cars!

Unphased by this massive opportunity, Schrader are now applying this technology to applications in other diverse industries and in their first foray outside of the automotive sector, they have developed an intelligent pressure sensor for use in the medical industry.

Code named TIPI, this diminutive device - it measures just 40 mm square across its face, is designed for use with pressurised gas cylinders, where it can monitor, display and transmit not only the pressure in the cylinder, but also additional vital information such as the remaining volume of gas left in the cylinder, whilst simultaneously displaying the amount of time remaining available for gas use.

Following assembly of the devices, they are encapsulated with a two component clear silicone, which serves both to protect the sensitive electronics located within the housing and to securely fix the transparent screen in place.

Schrader chose a DOPAG MICRO-MIX E to meter, mix and dispense the silicone into the sensors in 5 gram shots, each shot actuated by the operator depressing a foot pedal. The two silicone components, which are mixed at a ratio of 100:100, are firstly degassed separately in pressure feed containers to ensure a bubble free LCD display.

They are then fed, again separately, to the MICRO-MIX system where they are proportioned and fed under pressure to the twin dispensing valve where they are homogenously mixed using a static mixing system.

A small bore flexible plastic tube is then used by the operator to direct the mixed shot of silicone into a small hole in the rear of the sensors via a tapered nozzle, following which the sensors are finally heated in an oven to assist with the curing time.

Accuracy, repeatability and reliability, backed up by first class service is a requirement of this progressive company, which is why Schrader Electronics were once again happy to select equipment from the Hilger u. Kern / Dopag Group for their production needs.

DOPAG SCAN ApS scoops prestigious award

Henning Pedersen, Managing Director of DOPAG SCAN ApS is delighted and honoured to have been selected by Børsen, Denmark's leading professional newspaper to join a much coveted and exclusive group of elite companies whose growth has been identified as being exceptional.

Known as ***Gazelle***, the award, which is based on official figures released by The Danish Commerce and Companies Agency is defined as: *"A company, which during the last four years has had continuous growth in turnover or gross profit and in total has more than doubled the turnover or gross profit in this period."*

Commented Henning "It is most rewarding to be officially recognised for this achievement. We are looking forward to continuing to expand our sales even further in the coming years."

Hilger u. Kern open new production facility in Mannheim

To mark the opening of their new production facility for DOPAG wind energy metering and mixing systems at Hilger u. Kern headquarters in Mannheim, Germany, colleagues from DOPAG Switzerland were invited to attend the opening ceremony, which included product briefings and live demonstrations.

The two days also provided the opportunity for networking during a cruise on the river Neckar and afterwards at the historic castle at Heidelberg, following which, a special dinner was enjoyed in the new production facility. Remarkably, entertainment during the evening included a rare guest appearance by none other than Elvis Presley!

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Marketing Communication

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1500 copies printed
Printed on chlorine free bleached paper
Arth, Schweiz / 2009

Hilger u. Kern / Dopag Group

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