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Scheugenpflug

Part of the Atlas Copco Group

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Shaping the Future Together

Olaf Leonhardt, Executive Director of Scheugenpflug GmbH

Dynamic developments require reliable partners – even and especially in these challenging times. In recent years, the challenges for companies to secure their own competitiveness and future viability have not diminished. This is all the more true in view of disruptive developments that are changing entire markets, as well as steadily accelerating trends such as digitization, increasing individualization, e-mobility and autonomous driving. Particularly during challenging times like these, reliability, connectedness and stability are more important than ever.

At Scheugenpflug, we view our long history as a guide and as a commitment to you – our customer. For 30 years we have been helping you successfully shape the technologies of the future. We always keep the entire process in mind and develop customized solutions and system concepts for your specific dispensing tasks. Together with our national and international partners, we will continue to support you in defining technological standards. We will continue to be measured by this claim – even now under the umbrella of Atlas Copco.

We will also make it through these challenging times together.
We look forward to working with you!

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NEW

Piston Dispensers

Gear Pump Dispensers

Feeding from Cartridges

Feeding from Hobbocks

NEW

Systems for Liquid, Self-Leveling Media

Manual Work Stations

Systems for Integration

NEW

Dispensing Cells

Vacuum Potting Systems

NEW

EViS

SCP210 and SCP210+

UViS5 and UPiC5

Custom System Solutions

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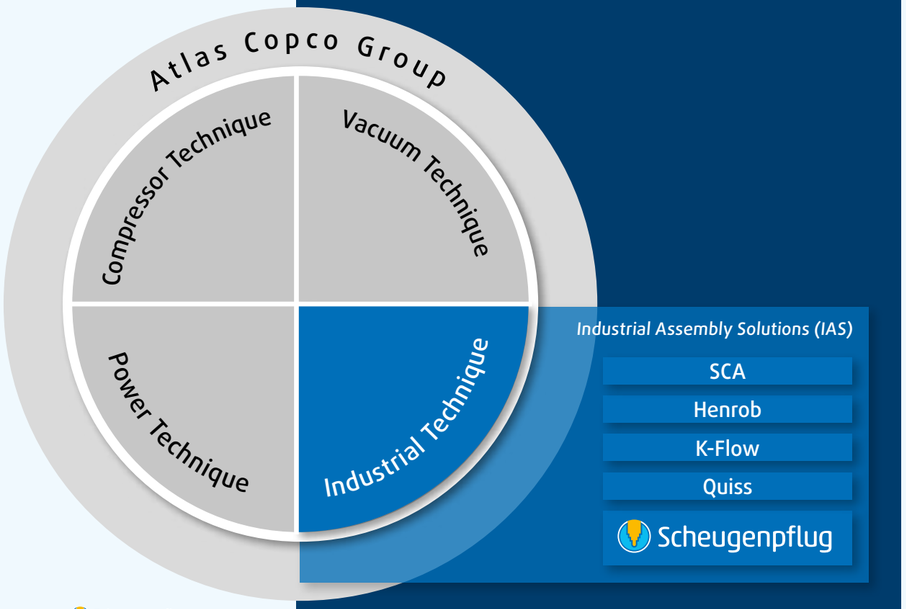
The Future Firmly in Sight – 30 Years of Scheugenpflug

More Than the Sum of Its Parts: We Are Part of the Atlas Copco Group



Scheugenpflug
Part of the Atlas Copco Group

In January 2020, Scheugenpflug became part of the Swedish industrial Group Atlas Copco. Now under the "Industrial Assembly Solutions" division, we provide high performance dispensing solutions to the electronics industry.

The "Industrial Assembly and Solutions" division bundles the full spectrum of innovative joining technology solutions. In addition to Scheugenpflug dispensing solutions, the division also includes the adhesive bonding, sealing and insulation technology of the SCA product line, self-pierce rivets and self-pierce riveting systems of the Henrob product line, the flow punch screws of the K-Flow product line and the visual quality monitoring system from Quiss.

But no matter the company under which umbrella we operate, we have been your partner for 30 years – and will remain so. With our knowledge and expertise and market-leading solutions, we will continue to support you in successfully shaping the technologies of the future.

Our Milestones

2020 Integration: Scheugenpflug operates as an independent business line "Electronics Dispensing" within the IAS Division of Atlas Copco

2019 Founding of dipotec GmbH, Neustadt a.d. Donau
4 subsidiaries and 15 sales and service partners worldwide
Winner of TOP 100

2018 Founding of Scheugenpflug S.R.L., Romania
Winner of "Bayerns Best 50"

2017 Winner of the "Grand Prize for Midsized Enterprises"

2016 Founding of Scheugenpflug México, S. de R.L. de C.V., Mexico

Finalist 2009
Winner 2019

2015 25th anniversary of Scheugenpflug
Winner of "Bayerns Best 50"
Finalist for the "Grand Prize for Midsized Enterprises"

2009, 2012, 2015, 2018

2012 Expansion of the production area at the Neustadt site in Germany to 11,500 m²
Winner of "Bayerns Best 50"

Finalist 2015
Winner 2017

2009 Winner of "Bayerns Best 50"
"Top 100" finalist

2007 Expansion of the company office building in Neustadt to 5,800 m²
Founding of Scheugenpflug, Inc., USA, including service center and spare parts warehouse

2003 Conversion to a publicly traded company
Founding of Scheugenpflug Resin Metering Technologies Co., Ltd., China

1990 Erich Scheugenpflug established Scheugenpflug GmbH

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Industries

Profit from our 30 Years of Experience!

Whether automotive and electromobility, medical technology, industrial or consumer electronics: we are represented in the most diverse markets. With high-quality, innovative adhesive bonding, sealing and potting solutions, leading process technology and industry specific expertise, we have the ideal system for every industry and component.
From potting compound expertise to determining the right process technology to commissioning of completed system, you always have a strong partner with us by your side.

Automotive Electronics

Your Challenge:

Motor & Battery
Transmission & Powertrain
Chassis & Bodywork
Entertainment Systems
Comfort & Convenience
Safety
Driver Assistance Systems

Our Expertise in dispensing of:

Electronic Control Units
Batteries
Drive Motors
Inverters & Converters
On-Board Chargers
Engine and Transmission Control Systems
Steering & Braking Systems
ADAS

and much more...

Industrial Electronics

Your Challenge:

Telecommunication
Renewable Energy Sources
Motors & Drives
Construction & Agricultural Machinery
White Goods
Robotics
Sensors & Optics

Our Expertise in dispensing of:

5G Base Stations
Transformers
PV/Solar Modules
Stators for Wind Power Stations
Charging Stations, Amplifiers, Inverters
PCBs
Connectors & Switches
Cable Harnesses
Housing & Control Panels

and much more...

Medical Electronics

Your Challenge:

Personal Medical Devices
Point-of-Care Devices

Our Expertise in dispensing of:

Pacemakers
Hearing Aids
Temperature Sensors for Clinical Thermometers
Pressure Sensors for Blood Pressure Monitors
Surgical and Dental Instruments

and much more...

Consumer Electronics

Your Challenge:

Computer & Tablets
Smartphones & Wearables
Multimedia & Household Appliances

Our Expertise in dispensing of:

Displays & Touchscreens
Audio (Speakers & Microphones)
Camera Systems
PCBs and Processors
Power Supplies
Safety Systems
Smart Home Controllers
Motion Sensors

and much more...

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Customers wide world trust in technology made by Scheugenpflug

André Tausche, Managing Director
FTCAP GmbH
(Fischer & Tausche Capacitors)

"The cooperation with Scheugenpflug has been worthwhile for us in more than one way. Thanks to the high-performance system technology, we can guarantee the highest quality for our products and our customers. During the project we also benefitted from extensive experience – in process technology and materials processing for instance. When more projects come up, we know who to turn to."

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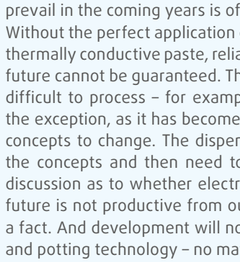

We must not reduce our mobility to the drive system alone.
Christian Ostermeier, General Manager Marketing

E-mobility

is a key topic in our automobile-oriented society. If you follow public discourse, you could practically talk about it as entering a new era: This "system-relevant" industry sector is about to undergo a profound change. Viewed more soberly and fully independently of how our vehicles will be powered in the future – by electricity, natural gas, fuel cells or synthetic fuels – another change has long since taken place: Our vehicles – from trains to automobiles to e-bikes – are rolling computers with a growing number of electronic components.

To ensure that they operate reliably and safely, they need to be potted, bonded and sealed as well as protected from damaging heat. The requirements will be even higher when our cars drive autonomously in the future and we are fully dependent on electronics. All of this requires the current and future availability of dispensing solutions for a wide variety of materials – precisely matched to the particular application. These include, for instance, power electronics and electronic assemblies, electric motors, sensors, displays, LED headlights as well as charging stations. With this in mind, the type of drive technology that will prevail in the coming years is of secondary importance.

Without the perfect application of sealant and adhesive, potting compound and thermally conductive paste, reliable and safe driving of vehicles today and in the future cannot be guaranteed. The fact that materials used here are increasingly difficult to process – for example because of their high filler content – is not the exception, as it has become common practice. It is standard for production concepts to change. The dispensing solutions first need to be integrated into the concepts and then need to change as the concepts change. The critical discussion as to whether electro mobility is even the drive technology of the future is not productive from our perspective. Electrification of our mobility is a fact. And development will not fail because of adhesive bonding, dispensing and potting technology – no matter which drive concept we rely on.

Download: Brochure on Dispensing Solutions for Tomorrow's Mobility

We have already successfully processed more than

2,500

different reactive components and adhesives in the 30 years of our market activity.

More information about our Technology Center

Competitiveness Needs a Basis –

Lean Thinking

The ability to compete in these dynamic times is a challenge for companies. They need to respond fast, flexibly and efficiently to changing customer requirements. Adjustments to production due to globalization strategies, market changes, new materials, etc. are now the rule and not the exception. Our proven lean thinking philosophy is an important key to your ability to compete. You can use the standardized components of the Scheugenpflug modular system to react flexibly and quickly to the requirements of your customers. This concept also helps you keep your costs under control. Tailored system solutions are available to meet particular requirements: from manual work stations to fully automated production lines. All modules and controls are designed to work perfectly together and can be expanded or supplemented as needed. There are real-life classic scenarios in which our solution plays to its strengths over the entire product life cycle. And of course there are other applications that make our concept interesting. All solutions have one thing in common – the scalability of the systems ensures the required quality, minimizes costs and conserves resources. These are key elements to ensure your competitiveness.

Starting on page 22, you can learn more about our modular system concept

Reusability

When a product becomes obsolete, conventional production lines are written off and often scrapped. In a modular system, most system components can be reused for the next product generation or for a completely different production line.

Product modification

Component designs are often adapted prior to start of production (SOP). If required, our system modules can be adjusted to the new framework parameters.

Capacity expansion

The number of cycle time relevant modules needed for your production is simply added to and connected with the existing modules.

After-market production

Products have life cycles and are less needed at the end. With our modular system concept, modules with fast cycle times can be removed gradually from the process and integrated into a new system.

Our systems offer this and much more for your production

New product variants

You do not necessarily have to plan new production lines for this. With a lean-based system, work steps that are identical in both variants can run on the original system. Any new manufacturing steps required are simply supplemented.

Global manufacturing

Work steps that are now automated in Europe are still performed manually in Asia. A modular system allows for similar systems to be implemented either as fully automated systems or manual work stations, depending on the location used.

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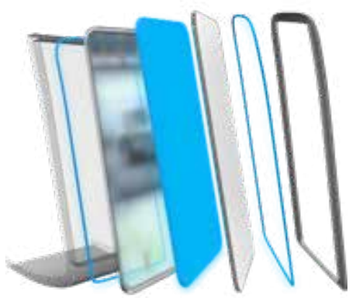
Mr. Piller, how important is perfect optical bonding?

Very important, as it is essential for our everyday life with regard to the availability of information and means of communication. And often enough this interface between humans and technology determines the market success of the corresponding product.
Sebastian Piller, Manager Technology Center

Displays. Displays everywhere. You get the impression that we couldn't live without the help of displays. Displays are ubiquitous: they are in smartphones, tablets, vehicles and are used to control machines. Similar requirements are placed on all of them: perfect readability under all light conditions, durability, optimum touch functions, etc.

Comfort may have initially been a priority, but now safety-related factors, such as in head impact testing, are gaining in importance. Additionally, displays in the vehicle cockpit, for example, need to be easily visible – at all temperatures, on all roads and under all light conditions. Modern standard, OLED and curved displays do this with the help of innovative adhesives, application methods and perfect optical bonding. However, there is a lot to consider when working towards a premium display: The constantly changing requirements for construction, size, tolerance and production quantity have led to different processes, such as gel bonding, LOCA, OCA and AIR-GAP. Due to its complexity, optical bonding requires a high degree of innovative development work, experience and expertise. This is why, in addition to innovative process concepts and manufacturing technologies, proven and established processes are also used in the realization of new projects. As a result of many years of experience, we have come to rely primarily on processing liquid optical clear adhesives (LOCA). We employ different methods for applying these adhesives. In addition to full film coating with a slot die, dam and fill is also used. To achieve a specific dispensing contour, needle encapsulation can also be implemented.

No matter which direction the development of display technology is headed: In the foreseeable future we will hardly be able to do without displays – and thus optical bonding. Our task is to improve display readability, convenience, durability and safety. Our optical bonding approach achieves this at the interface between humans and technology.



Digital displays and touchscreens will play an important role on the way to autonomous vehicles.

Mr. Murgia, what does autonomous driving *have to do with dispensing?*

More than you'd think! As a road user I want to and have to rely on the safety electronics to work perfectly. Optimal dispensing performance is a prerequisite for this.
Marco Murgia, Manager Sales

Autonomous driving is coming. Regardless of the future drive technologies, this trend is leading to extensive changes in automotive engineering. Even now many electronic systems make driving safer and more comfortable – from safety systems, to connectivity, to assistance systems. And the further the development of vehicles towards level 5 automation progresses, the more of these systems will be added. The smooth operation of related computers, sensors, control units, cameras, etc. – and thus also our safety as road users – depends here, among other things, on optimally applied sealants, adhesives, potting compounds and thermally conductive pastes. They protect parts and components from damaging influences, such as high temperatures, dirt, moisture or strong vibrations, and thus prevent both costly and safety-related part failures and defects.

The challenge of applying these materials cost-effectively within the specified cycle times and at a high quality lies less in the individual application – this has already been mastered. Rather, it is about covering the entire range of materials and volumes reliably and above all with the required flexibility. The conditions in production are also changing along with the changed mobility concepts: Here, the requirements for a project are not fixed up front, as is usually the case, but often develop in the course of the project. The degree of automation of the electronics and automotive industries, which are moving closer together as a result of autonomous driving, will continue to increase. In this context, dispensing solutions must be able to adapt flexibly and deliver the highest level of quality. Because this is about safety. We are prepared for these requirements. Our flexible service solutions and our modular system of scalable system components form the basis for this, allowing for flexible system planning to suit your needs. It goes without saying that we dispense a wide variety of materials while ensuring process safety.
The type of autonomous driving that is ultimately adopted remains to be seen. However, it is and will continue to be exciting to be involved in shaping the technologies of the future together with our customers.

Video: Dispensing solutions for tomorrow's mobility

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Process Engineering

Efficient Bonding, Sealing and Potting – a Question of the Right Process Technology

Efficient bonding, sealing and potting has a major influence on the sustainable function and safety of electronic components. The key to success here lies in the comprehensive view and control of process engineering. In order to determine the optimum for you, we have developed a proven procedure in the course of several thousand successfully realized projects and gained a lot of experience. For instance, the wrong order in the implementation of a project costs time and money. If central aspects are not taken into account, component quality and process reliability are generally no longer guaranteed or only guaranteed to a limited extent. To avoid this we always take a comprehensive approach to process engineering – at the start of a project, but also in the case of adapting a system to changing conditions. Even our modular system concept shows its full potential only when approached comprehensively.

We accompany you through your project, clarify all aspects, carry out tests and commission the system. If necessary, we will help you optimize your systems further and ensure their efficient operation with our various service modules.

Info: Learn more about process engineering

Optimal adhesive bonding, sealing and potting also means answering the central questions in the right order:

1. Task
2. Workpiece design
3. Material and material properties
4. Material feeding
5. Homogenizing
6. Degassing
7. Atmospheric or vacuum dispensing?
8. Dispensing method
9. Mixing
10. Application
11. Process and quality control
12. Integration into production line

Our modular system and service concept forms the basis for your success

"Only a complete analysis of the task allows for sustainable and efficient solutions to be developed. A smart approach saves resources, time and money."
Sebastian Piller, Manager Technology Center

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The right preparation saves time, money and stress


Insulation

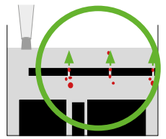

Filling

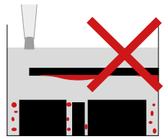

Sealing

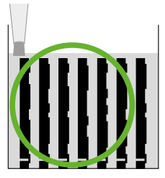

Conformal coating

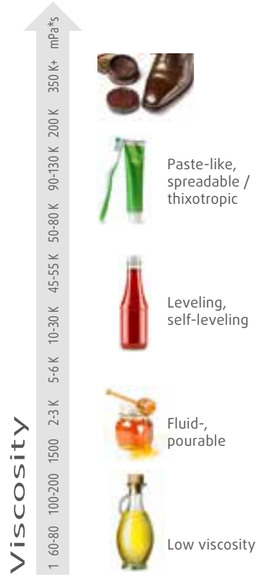

Adhesive bonding


Heat dissipation

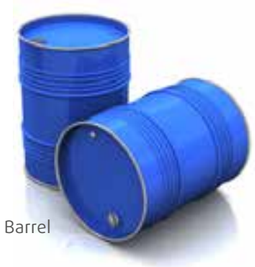

Ventilation holes




Optimized layout of flat, large-area modules




Fillers


Barrel


Hobbock


Cartridge

▷ *Video: Reliable degassing of dispensing material with the A310 preparation and feeding unit*

1. Task

At the beginning of a project, the task is documented in detail. Whether the task is to seal, encapsulate, fill, insulate or dissipate heat has a major influence on the choice of the adhesive or potting material and thus also on the subsequent process engineering. If required, various tasks can be combined in a single system. However, three main influencing factors must always be taken into account in this context: Air bubbles, moisture and the pot life of the materials used.

Info: Learn more about the different applications

2. Workpiece design

Several central factors of the process engineering depend on the workpiece design. Increasingly smaller components and more complex geometries, spaces to be filled, undercuts, etc. determine, for example, whether atmospheric or vacuum processes are to be used.
Starting with the first project phases, our Technology Center will be at your side with support and advice. Our experts will also advise you about adhesive-friendly design and component optimization.

Info: Examples and guidelines for optimized component design

3. Material and material properties

The number of adhesives, sealants and potting materials is growing steadily. If required, we will quickly and easily find a solution with our material partners to determine which medium is best suited to your requirements. Whether epoxy, polyurethane, silicone or other materials – they all have their advantages and limitations. Factors such as viscosity and filler content, but also curing and necessary pre-treatment must be taken into account. These few aspects show that there are many processes nowadays, which must be integrated into a comprehensive process engineering concept in terms of system and process technology.

Info: Learn more about the different adhesives, sealants and potting materials

4. Material feeding

Viscosity, filler content and filler type as well as the respective container size represent relevant basic information with regard to the feeding technology used. It is important here to avoid the introduction of air, to feed the medium gently and consistently throughout the entire process and to empty the selected containers as completely as possible.
We also set standards in this area – for example with our patented vacuum follower plate.

On page 51, you can learn more about our patented vacuum follower plate

Info: What must be considered when feeding material?

5. Homogenizing

Only a homogeneous medium provides the necessary performance. Fillers are added to many materials to achieve specific properties. However, depending on the density or viscosity of the material, these fillers tend to sediment. Temperature also has an influence on the sedimentation process. For optimum homogenization results, the combination of stirring and circulation via the tank lid has proven effective in our material preparation units. In addition, time and quantity controlled material circulation in pumps and lines prevents sedimentation.

Info: How can filler sedimentation be prevented?

6. Degassing

Depending on the application requirements, air bubbles in the adhesive, sealing or potting material can lead to problems. If they get into the dispensing unit, they may falsify the dispensed quantity and the mixing ratio. This results in irregular production results and even rejects. However, various technical solutions make it possible to reduce the formation of air bubbles to a minimum. For an absolutely bubble-free material, preparation under vacuum is the optimum solution.

Info: How can the formation of air bubbles in the material be avoided?

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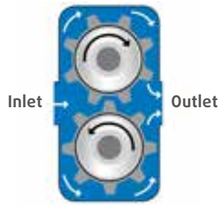
The right preparation saves time, money and stress

Starting on page 58, you can learn more about our solutions for atmospheric dispensing

Starting on page 74, you can learn more about our vacuum systems

On page 30, you can learn more about the operating principle of our piston dispenser



On page 38, you can learn more about the operating principle of our gear pump dispenser

Video: Static mixing principle

Custom solution:
Cell for atmospheric dispensing

Custom solution:
Chamber for vacuum potting

Dispensing quantity control

Needle measurement

- Pre-treatment
- Dispensing equipment
- Post-treatment

7. Atmospheric or vacuum dispensing?

Atmospheric dispensing is standard nowadays and sufficient for many applications. Considering ever smaller workpieces, increasingly complex geometries and higher quality requirements, systems for vacuum potting are increasingly used as well. However, concerns about technology that is difficult to control and high costs are no longer justified here: Our modular concept also offers interesting and economical entry-level solutions.

Info: Learn more about atmospheric and vacuum dispensing

8. Dispensing method

Precision and repeatability are crucial factors for dispensing processes. Consequently, the decision for the right dispensing process under consideration of all general conditions is decisive for the dispensing quality. For processes with the highest quality requirements, volumetric dispensing systems like piston and gear pump dispensers have established themselves.

Info: Learn more about the different dispensing methods

9. Mixing

If a 2C material is selected, the next step is to decide on a mixing method. In static mixing, the two components are brought together and mixed homogeneously in a plastic tube fitted on the inside with helical mixing panels offset by 90° to each other.
Through the series of helical deflection panels, the 2C medium flowing through the tube is fragmented a billion times and is then phase-shifted as it comes together again. Due to the simple process and the low maintenance requirements, static mixing is an efficient and cost-effective solution.

Info: Learn more about mixing

10. Application

To achieve a dispensing result that meets the individual requirements, the type of material application is essential. Regardless of the quantity, complex axis movements or varying geometries, we can apply the most diverse materials with the highest quality in predefined cycle times – thanks to our process technology and automation.
The optimum application unit is tailored to the customer's individual requirements and the system is adjusted to fit the dispensing task in terms of process technology.

Info: Learn more about material application

11. Process and quality control

Highest quality requirements are standard for many sealed, encapsulated and bonded components these days. With numerous process control options, we ensure that these requirements are met during production, thus providing maximum process reliability.
State-of-the-art sensors that are integrated into our systems enable simple and reliable monitoring of the entire process.

Info: Process and quality control - which options do you have?

12. Integration into production line

Dispensing systems rarely work stand-alone. They are integrated into increasingly complex production processes. This means to interconnect several dispensing systems, but also to connect them to upstream and downstream process steps, such as surface pre-treatment or curing.
Our modular system concept provides the basis for the simple integration of our process technology and systems in production environments of any complexity and automation level.

Starting on page 96, you can learn more about our customized solutions
Info: Learn more about production integration

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Flexibility Is Our Standard

The Modular System Concept from Scheugenpflug

“These boots are made for walking …

Everyone is familiar with the problems caused by shoes that don’t fit. It’s no different with dispensing systems. However, these systems differ from shoes in one critical way: you can’t break them in. They have to fit right from the start. To go beyond the standard in the case of shoes means to use customization. The costs are known – and many people welcome doing without them.
In the case of dispensing systems there are hardly any “complete off-the-shelf solutions”. This primarily has to do with the fact that the systems must be selected for compatibility with the workpiece and the adhesive, sealant or potting compound used. Even factors such as the specific dispensing task (contour, filling, etc.), cycle time as well as quality requirements and the process environment play an important role in designing the optimal dispensing system.

The conflict of interest between superior performance and cost must therefore be solved differently. We have solved this problem with modularity.

We have developed a system based on automotive industry platform strategies which uses standard system modules. Individual processes can be drawn from our expertise and accordingly combined to develop the right system solution to fit your individual requirements – without abandoning standard practices. For instance our dispensing cell concept, which is based on many different material preparation and feeding units, dispensers, axis systems, operating concepts and control units in separate enclosures, provides the best fit at series production prices. The same approach is used for manual work stations and is linked to the production environment when using special integration systems.

To us, however, “fit” doesn't just mean that the system is tailor-made to fit the application. If your production changes, our systems change flexibly with it. The systems can handle it all: different materials, larger production quantities, faster cycle times, higher quality requirements, more process reliability, etc. You define what you need and we configure the best system for you. Our modular approach then facilitates fast delivery of your system. In addition to our decades of best-practice experience, you also benefit from our development knowledge and expertise. Further enhancements are continually incorporated in our solutions. You decide the point at which adding an extension is worthwhile to you. However, with each modification of your modules, they will remain “state of the art”.

‘Cause …

Examplary system solution for adhesive bonding, filling and sealing

Individual components: LiquiPrep LP804 preparation and feeding unit, 2 component;
Process automation: DispensingCell DP803 with DosP DP803 dispenser, 2 component, 1 nozzle;

… these systems are made for perfect dispensing!

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Solutions Tailored to Your Needs

Our modular system forms the foundation for your optimum system solution. You can choose the processes you want and combine them to fit the requirement. This keeps pricing attractive and delivery times short.
Johann Gerneth, Global Manager Sales & Development

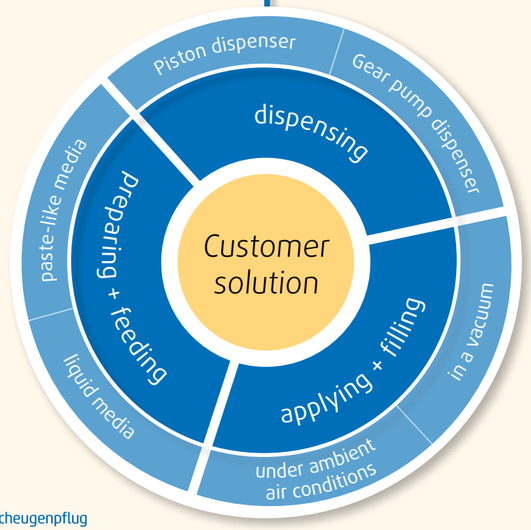
How are modular customer solutions created?

Customer requirement
- Adhesive, sealant or potting material
- Material quantity
- Workpiece
- Cycle time
- Interfaces

System selection and performance
- Process consultation
- Configuration
  - Feed rate
  - Dispensing speed
  - Traversing speed
- Dispensing test

Commissioning of the system solution
- Acceptance
- Instruction
- Initial start-up
- Training

Services
- Technical services
- After Sales services
- Academy



Scheugenpflug
Part of the Atlas Copco Group

30
years of practical experience have been invested in the modules of the Scheugenpflug modular system.

What can our modular system offer you?

High flexibility and scalability
Several combination options and additional features make it possible to plan a system that fits your individual needs.

Short delivery times
Our modular system covers a variety of adhesive bonding, sealing and potting tasks while still meeting standard requirements. This is also worthwhile for you in view of the delivery times.

High quality of the individual modules
Over 30 years of expertise, experience and development have been invested in all of the modules. Further enhancements are also continually incorporated in the systems.

High future viability
In keeping with our lean thinking philosophy, our systems can be adapted flexibly to equipment and automation requirements – without the need to procure new basic modules.

Scheugenpflug
Part of the Atlas Copco Group

Modularity

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Not All Dispensing Methods Are the Same

The Right Solution for Any Task

Heat dissipation

To prevent drops in performance or faults in electronic devices and components, the heat produced in the component must be dissipated in a reliable way. This is achieved by using dosed thermally conductive materials.

When applying these high viscosity and highly filled media, it is important to check for compatibility with the system technology in order to ensure optimum material application and to prevent damage to the application systems.

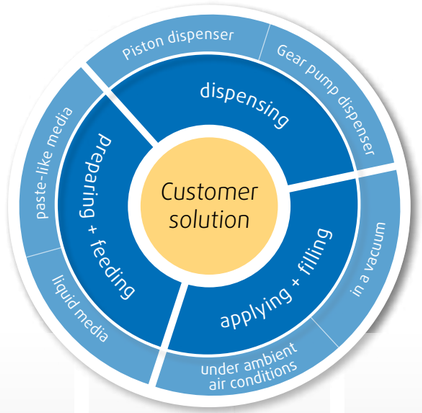
Info: Learn more about thermal management

Filling

The purpose of the potting process is to shield sensitive electronics from harmful outside influences. Reducing thermal loads, dissipating heat and providing camouflage or fire hazard protection can also play a role.

Different filling process methods may be needed depending on the workpiece geometry or potting material properties. The medium used can be potted in a single potting step, at multiple points at the same time or with interruptions.

Info: Learn more about potting



Scheugenpflug
Part of the Atlas Copco Group

We draw from our modular system to put together the right system solution for your dispensing process based on your specific requirements.

Adhesive bonding

To make sure that effective, lasting adhesive can be achieved, it is important to consider not only the pure material application and the subsequent joining processes, but also the upstream and downstream process steps. This includes workpiece designs suitable for adhesive bonding, the application of suitable cleaning and pretreatment processes as well as appropriate curing processes, including attaching the parts to be joined.

Hybrid processes, in which the adhesive bond also performs another function such as sealing or heat dissipation, are becoming increasingly important.

Info: Learn more about adhesive bonding

Sealing

Used on components such as housings or ECUs, the applied liquid seals act as a barrier against outside influences while at the same time functioning as a bonding agent when special adhesive materials are used. When applying these materials, it is important that the material is applied precisely and with repeat accuracy along the intended contour.

Info: Learn more about sealing

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Dispensing

"That is true: Potting materials are more abrasive, cycle times are shorter and production environments are increasing in complexity. But our modular system ensures that we have everything under control for your application."
Harald Müller, Team Leader Product Development – Dispensing Systems

The Right Dispenser for Every Material

Deciding on an adhesive, sealant or potting medium is followed by selecting the dispenser. Today, materials that were difficult to process just a few years ago now have to be dispensed as standard. Thermally conductive pastes are a good example for this. Behind the right dispenser for your individual application are sophisticated technology and decades of experience. In our 30 years of business we have processed almost all of the latest materials at least once. Thanks to our close collaboration with several material manufacturers, we learn about new media before they are brought to market, so you are safe from any surprises. However, if a new, unfamiliar material is to be processed, our Technology Center experts can handle it *[see page 114]*. For different media and tasks, a wide variety of piston and gear pump dispenser variants are available. Here you benefit from our modular design as well: The perfect dispenser is always the best foundation for superior results.

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DosP DP803
Dos P016
Dos P050
Dos P100
Dos P300
Dos P-A
Dos P-X

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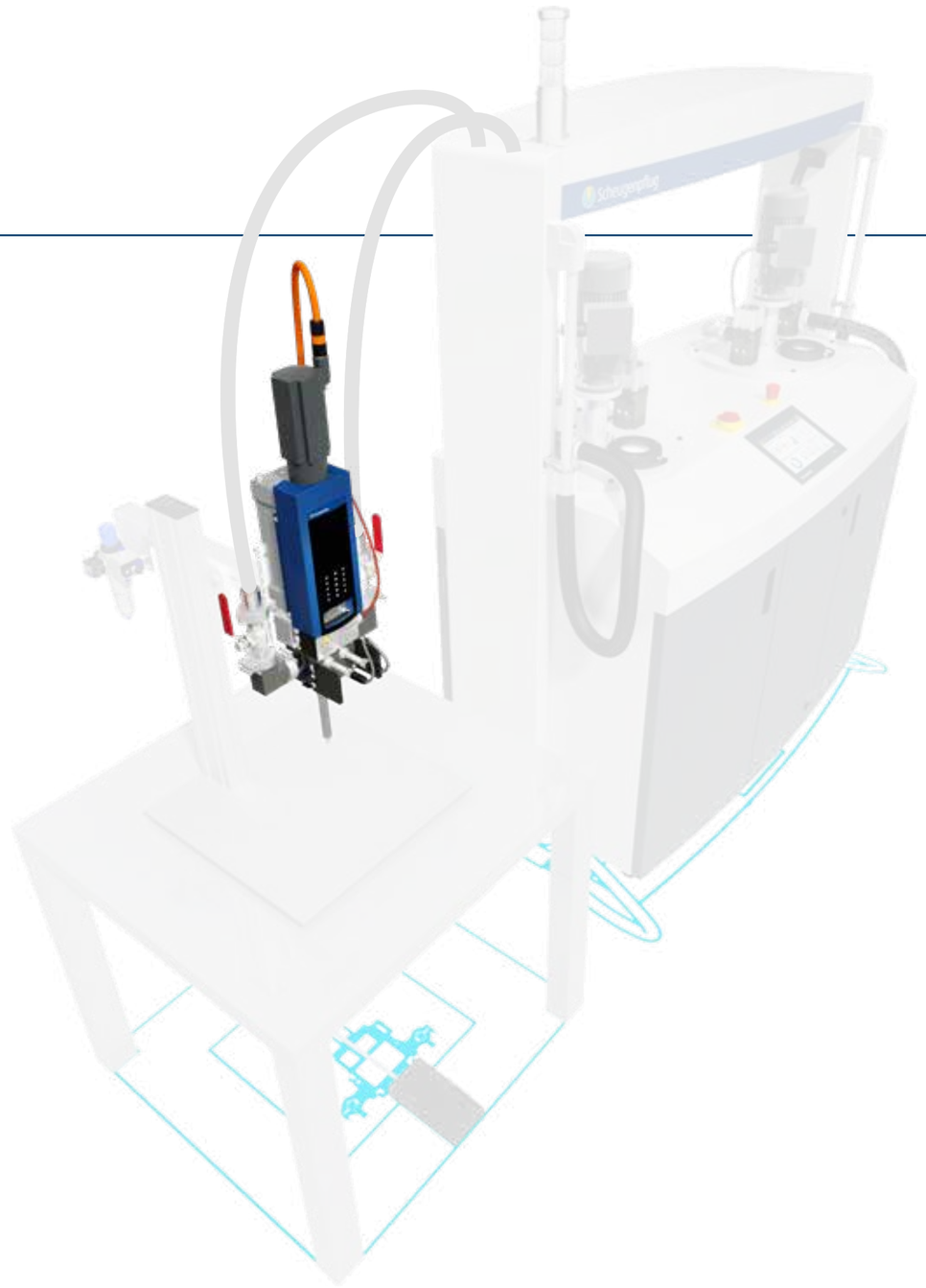

System solution example:
Dos LiquiPrep LP804 manual work station, consisting of DosP DP803 016 dispenser, 2 component, 1 nozzle;
LiquiPrep LP804 50/20 material preparation and feeding unit, 2 component

Piston Dispensers

All-In-One Solution for Many Applications

Volumetric piston dispensers are ideal for very liquid and highly viscous materials alike. Even applying filled and/or abrasive media as well as 1C and 2C casting resins poses no problem. This is why volumetric piston dispensers are used for filling, sealing and adhesive bonding applications as well as for applying thermally conductive pastes.

Our piston dispensers are based on the volumetric dispensing principle. The dispensed material quantity is determined by the geometry and stroke of the associated cylinders. Since the material quantity is mechanically determined in this case, the dispenser does not depend on the temperature, feed pressure or material viscosity. When 2C media are used, the mixing ratio is kept constant within a range of 1:1 to 100:10 by simultaneously discharging both cylinders into the shared mixing tube. Depending on the adhesive, sealant or potting material used, more challenging mixing ratios from 100:10 to 100:5 can also be realized. The key is that the reaction time or pot life always begins when the two components blend in the mixing tube – not in the material tank or dispenser. This makes the volumetric piston dispenser a highly precise system that can be used to achieve excellent and reproducible dispensing results. Thanks to optional features such as valve monitoring, mixing tube and/or dispenser heating as well as the “alternating” *[see page 30]* and “multi-piston” models *[see page 30]*, our volumetric piston dispensers can be adapted flexibly to fit any task. Users benefit from this system’s rugged mechanical construction as well as from fast and easy maintenance, long service life and significantly reduced servicing costs.

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NEW

DosP DP803 016

With the DosP DP803 016, a new generation of our proven volumetric piston dispenser Dos P016 is now available for your individual dispensing application.

Compared to its predecessor, the DosP DP803 016 is 30 percent more compact and over 15 percent lighter. This makes it the ideal integration component for your production. Sensors on the inlet valves ensure even greater process reliability during dispensing. Thanks to additional equipment options such as mixing tube or dispenser heating, the new piston dispenser can also be flexibly adapted to your task.

In addition, users benefit from simple and fast maintenance as well as market-leading service life.

Info: Learn more about DosP DP803 016

lightweight

compact design

ideal integration component

DosP DP803 piston dispenser, 2 component, 1 nozzle

Detailed view: The optional inlet valve monitoring provides even more process reliability

Equipment options (abridged list)

- *Heatable components Dispensing head, mixing tube, dispensing needle*
- *Inlet valve monitoring*
- *High-performance bushings*
- *Measuring adapter*
- *Mixing tube and needle attachment*
- *Mixing tube valve*

Product Data	DosP DP803 016	
	1C	2C
Volume/shot at 1:1 min./max. [ml]	0.06/17	0.1/32
Dispensing speed max.[1] [ml/s]	2	
Dispensing accuracy at max. stroke [%]	< 0.5	
Outlets	1	
Heatable up to max. [°C]	80	
Dimensions (W x H x D) [mm]	290 x 540 x 160	
Weight [kg]	11	

[1] *application dependent*

Request data sheet

TCA Model for Thermal Management Applications

A special TCA version (Thermally Conductive Adhesive) of the DosP DP803 016 is available for applying thermally conductive pastes and adhesives. This makes application quick and accurate even in the case of highly filled and highly abrasive materials. Thanks to structural adaptations and the integration of new, heavy-duty high-performance components, this model offers significantly improved wear resistance as well as optimized material flow.

Let's talk about your project:
+49 9445 9564 ext. 0,
sales.de@scheugenpflug-dispensing.com

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minimal maintenance

reliable

high dispensing speed

long service life

Dos P050 piston dispenser, 2 component, 1 nozzle

Dos P050 piston dispenser, 2 component, 1 nozzle

Dos P016 | P050 | P100 | P300 The Dos P covers a **wide range of requirements** with its variants for different volumes. Moreover, these systems are suitable for **adhesives, sealants and potting materials that are sensitive to pressure, moisture and shearing.** Among other things, the volumetric piston dispensers are used for filling, sealing, adhesive bonding, the application of thermally conductive materials as well as conformal coating and insulating.

If **short cycle times** are priotity, variants with multiple outlets are also available, depending on the size of the dispenser. For consistently optimum dispensing results, these systems provide a **high parts throughput per time unit.**

Info and video: Learn more about the Dos P and its variants

Reliable Dispensing Process

Resins and hardeners used with our piston dispensers make first contact with each other in the static mixing tube. As a result, the two components do not react inside the dispenser, thus minimizing cleaning and changeover costs.

Product data	Dos P016		Dos P050		Dos P100		Dos P300	
	1C	2C	1C	2C	1C	2C	1C	2C
Volume/shot at 1:1 min./max. [ml]	0.06/17	0.1/32	0.4/45	0.8/90	0.4/114	0.8/229	0.4/159	0.8/318
Dispensing speed max.[1] [ml/s]	2		8		12		15	
Dispensing accuracy at max. stroke [%]	< 0.5		< 0.3		< 0.2		< 0.1	
Outlets	1-4, 6, 8	1-4	1-4		1		1	
Heatable up to max. [°C]	80		80		80		80	
Dimensions (W x H x D) [mm]	290 x 350 x 230		335 x 550 x 240		350 x 600 x 240		350 x 670 x 240	
Weight [kg]	14		19.5		33		48.5	

[1] *application dependent*
[2] *Material output temperature may vary*

Request data sheet

Let's talk about your project:
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short cycle times *wide application range* *homogeneous mixture*

Dos P-A alternating piston dispenser, 2 component, 1 nozzle

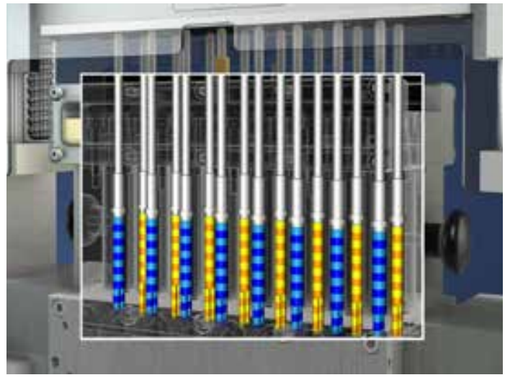
Dos P-X piston dispenser for multi-nozzle dispensing, 2 component, 8 nozzles

Dos P-A The Dos P-A alternating volumetric piston dispenser is the system of choice for dispensing **large quantities quickly –** such as for filling applications or when applying long beads of sealant or adhesive. In this model, one cylinder pair is loaded while the other is discharged, which allows for **uninterrupted production.**

Info: Learn more about the Dos P-A

Dos P-X Multi-piston dispensers are used for the **output of large batch quantities and for short cycle times.** They are predestined for applications in a vacuum – such as for a large number of small components to be potted without bubbles. Their **high performance** is the result of distributing the filling, evacuation and ventilation time among many workpieces. One or more nozzles can be disabled if the workpiece holders are partially empty.

Info: Learn more about the Dos P-X



Maximum performance in the smallest of spaces

A shared expulsion unit guarantees absolutely simultaneous and consistent dispensing from all outlets of our multi-piston dispenser. Optimal results can be achieved thanks to the expert design of the nozzle manifold. The nozzle spacing can be individually adapted to the particular process in advance.

Product data	Dos P-A		Dos P-X	
	1C	2C	1C	2C
Volume/shot at 1:1 min./max. [ml]	0.4/45	0.8/90	Optimized for cycle time[1]	Optimized for cycle time[1]
Dispensing speed max.[1] [ml/s]	8		Optimized for cycle time	
Dispensing accuracy at max. stroke [%]	< 0.3		< 0.5	
Outlets	1		4-12	
Heatable up to max. [°C]	80		80	
Dimensions (W x H x D) [mm]	395 x 585 x 240		Permanently integrated in the vacuum chamber *[see page 76]*	
Weight [kg]	34.5		Permanently integrated in the vacuum chamber *[see page 76]*	

[1] *application dependent*

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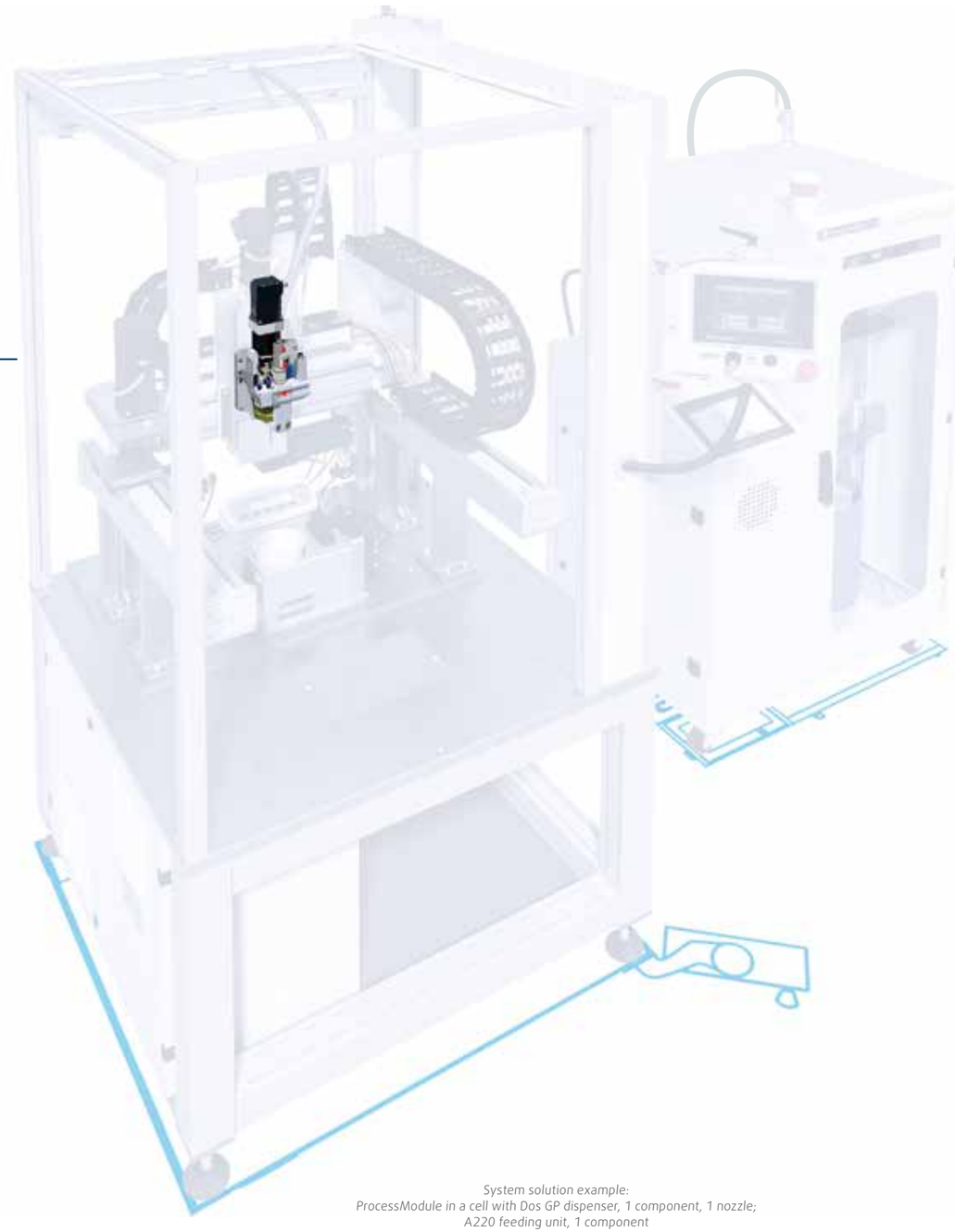

System solution example:
ProcessModule in a cell with Dos GP dispenser, 1 component, 1 nozzle;
A220 feeding unit, 1 component

Gear Pump Dispensers

Perfect for Continuous Bead Application

More complex workpiece geometries are a real challenge for dispensing – for example when applying sealing beads to component housings or adhesives as part of bonding processes. Our volumetric gear pump dispensers are the solution. They have been specially designed for the continuous application of paste-like adhesives, sealants and potting materials. Due to their principle of operation, allow for a very gentle, low-pulsation feed of shear-sensitive and highly viscous media. Dispensing is completely consistent – even with high inlet pressures. Moreover, these systems provide a high degree of flexibility when working with variable material quantities or when applying media to different workpieces. Users also benefit from minimal downtimes, low maintenance costs and thus reduced overall operating costs thanks to their rugged construction.

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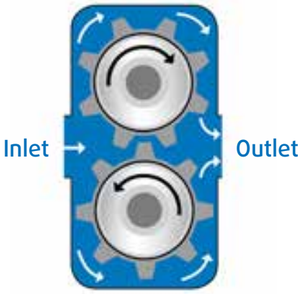
consistent application
for all geometries
continuous dispensing

Dos GP gear pump dispenser, 1 component, 1 nozzle

Dos GP gear pump dispenser, 2 component, 1 nozzle

Dos GP These systems are the first choice when you need to **apply variable material quantities continuously at high dispensing speeds.** The dispensing process is absolutely continuous and consistent. A swivel needle is also available for gear pump dispensers to handle 2D/3D contours. Perfect performance and superior results are achieved with other equipment features, such as a drive with position feedback, an inspection glass to check the rinsing liquid, and a pressure monitoring and pressure release unit.

Info and video: Learn more about the Dos GP



Operating principle of gear pump dispensers

Our gear pump dispensers operate on the principle of displacement. The dispensing medium is fed through the inlet via material delivery pressure, guided along the outside of the gear wheels, and is then pressed through the outlet. The amount of material discharged is determined by the tooth and gear geometry, the number of cogs and the set rotational speed.

Produktdaten	Dos GP		
	Einzelpumpe		
Volume/shot at 1:1 min./max. [ml]	0.66	1.32	2.6
Dispensing speed max.[1] [ml/s]	0.06 / 0,33-0.66	0.12 / 0.66-1.3	0.24 / 1.3-2.6
Dispensing quantity min.[1] [ml]	0.055	0.1	0.2
Dispensing accuracy[1] [%]	< 1 (quantity dependent)		
	1C	2C	
Outlets	1	1	
Dimensions (W x H x D) [mm]	167 x 400 x 129	253 x 557 x 186	
Weight [kg]	8.5	12.7	

[1] *application dependent*

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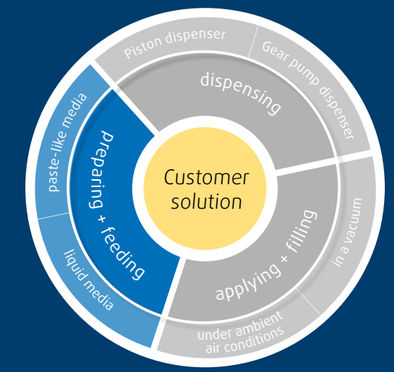
Preparation and Feeding

Mr. Vogl, is material preparation really that important?

"Yes. Errors made at this stage are financially disastrous at later stages in the process."
Jürgen Vogl, Team Leader Assembly Material Preparation Units



Good Preparation Increases Economic Efficiency

There's no denying it: electronic components have to work. An optimal material application process is a key prerequisite for this. Requirements increased in recent years and resulted in growing numbers of adhesives, sealants, and potting compounds with special properties on the market. We are experts when it comes to these media. However, they require well-adjusted material preparation and/or feeding systems that prepare the particular medium reliably and ensure consistent feeding to the dispenser. These high requirements also apply if the systems are to be integrated into an automated production process. We have the right solution for any requirement. Our systems facilitate the material preparation and feeding process for you, which is a key factor in controlling the economic efficiency and quality of your products.

46-51
Paste-Like Media
A90 C
A90 CV
A90 B
A90 D
A220 Basic
A220
A280
Vacuum Follower Plate
Opt. with Expanding Ring

54-57
Liquid Media
LiquiPrep LP803
Barrel Agitator Station

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System solution example:
Integration system, consisting of Dos P016 dispenser, 2 component, 1 nozzle; two A90 C feeding units

Feeding from Cartridges

The Entry into Automated Material Feeding

Adhesives, sealants or potting media with extremely precise characteristics are used in many applications. For example, they have very complex formulations or high filler content. In light of this, processing these materials can be a challenge. With the right systems, however, careful, reliable feeding to the dispenser is possible using these media.

The A90 product line is the perfect entry-level solution for automated material feeding when it comes to applications with very low material consumption and less demanding media with regard to homogenization, heating and evacuation. Various models and options are available depending on the medium and application.

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easy to use

reduced operating costs

small footprint

A90 C
(for cartridges)

A90 CV
(for cartridges)

Innovative docking sleeve

An innovative docking sleeve with filter insert has been developed to facilitate vacuum docking. It allows for automated ventilation when changing cartridges in the A90 CV without the risk of introducing air bubbles. This results in significant cost savings – particularly when using very expensive adhesives or potting media.

A90 C with
A90 B (booster)

A90 D
(degassing)

A90 C | A90 CV The A90 C offers an optimal, consistent expulsion process using **standard cartridges.** The advanced A90 CV features the additional vacuum docking function, which allows for automated ventilation when changing cartridges and thus **reduces material waste per cartridge change by up to 90 percent.** Replacing the cartridge in these two models can be done with very little effort. A notification on the user interface as well as different colored LEDs on the feeding unit notify the operator when it is time to change the cartridge.

Info: Learn more about the A90 C and A90 CV

Video: A90 CV – Cartridge changes without trapping air

A90 B The A90 B (booster) is necessary when the feeding pressure of an A90 C is insufficient or when processing **highly filled, high-density materials.** Our proven piston pump, which is filled by an A90 C, acts as a booster. It boosts the feeding pressure and **accelerates filling** of the dispenser. The A90 B also allows cartridges to be placed outside the working area.

Info: Learn more about the A90 B

A90 D The A90 D degassing and feeding unit proves its worth when **demands for bubble-free material are higher. Thin-film degassing** removes air bubbles from the material and then a piston pump feeds the material to the dispenser.

Product data	A90 C / A90 CV				
	Semco 6 oz	Semco 12 oz	Semco 20 oz	Semco 32 oz	Euro
Cartridge capacity [ml]	170	340	610	950	310
Height max. [mm]	469 419.5[1]	734 684.5[1]	594 544.5[1]	795 745.5[1]	588 --
Diameter max. [mm]	83	83	99	99	86
Weight (without material) [kg]	1.85	2.05	2.28	2.49	2.22

[1] *deviating dimension for A90 CV*
Additional cartridge sizes available upon request.

Product data	A90 B	A90 D	
		Stand-alone	Backpack
Delivery volume [cm³/stroke]	190	200	280
Material feed pressure [bar]	4.8 - 29[1] at 1-6 bar pneumatic pressure	9.5 at 6 bar pneumatic pressure	24 at 6 bar pneumatic pressure
Final vacuum pressure [mbar]	--	1.5	1.5
Dimensions (W x H x D) [mm]	124 x 652 x 97	200 x 700 x 250	185 x 1000 x 380
Weight (without material) [kg]	35	15	40

[1] *boost factor: 4.85*

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System solution example:
ProcessModule in cell with Dos GP dispenser, 1 component, 1 nozzle;
A220 feeding unit, 1 component

Feeding from Hobbocks

Patented Solution for High Viscosity Media

High viscosity and/or abrasive adhesives, sealants and potting media, which are usually provided in standard containers such as hobbocks or pails, require a rugged, reliable feeding process in many areas of application. The A220 and A280 material feeding units were developed for such cases. In addition to their space-saving housing design, the two systems in particular feature our patented vacuum follower plate *[see page 51]*. It enables direct, bubble-free feeding of highly viscous media from hobbocks and pails. This feature offers users a significantly simplified material feeding process, thus ensuring high process reliability.

The original container is placed inside the extendable hobbock drawer. After closing the safety door, the operator starts the docking procedure using the convenient SCP210 controller *[see page 88]*. The vacuum follower plate is lowered into the drum, where it automatically and quickly (< 5 min) docks to the material without creating air pockets. Fully automated feeding then begins. After the material is removed, the vacuum follower plate is disposed of along with the emptied hobbock. This prevents the risk of introducing residual material into a new container.

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durable
easy to use
reduced operating costs

A220 Basic
1 component

A220
1 component

A280
2 component

Vacuum Follower Plate

Vacuum Follower Plate The patented vacuum follower plate was designed specifically for feeding **highly viscous media** from a hobbock or pail and is used in the A220 Basic, A220 and A280. It facilitates bubble-free docking to the material and nearly complete emptying of the pail. Alternatively, if a standard-size container is not available, our feeding units can also be equipped with a conventional rubber follower plate.

Info and video: Learn more about the vacuum follower plate

Operation via SCP210 Control Unit

A220 Basic The A220 Basic is an **entry-level solution** for highly viscous, non-abrasive media from **20 liter standard containers** designed to guarantee **reliable material feeding.** Like its larger sibling A220, the A220 Basic also features an integrated reciprocating pump, ensuring consistent feeding. The patented vacuum follower plate provides clean, bubble-free docking via a two-hand control mechanism.

Info: Learn more about the A220 Basic

A220 With this system a **fully automated feeding unit with protective housing** for paste-like, unfilled media is available. The heavy duty reciprocating pump provides a **continuous supply of material,** which is pumped during both the downward and upward stroke. The extendable hobbock drawer with centering mechanism makes loading the system easy.

Info and video: Learn more about the A220

A280 The A280 feeding unit with its proven dual-piston pump is used for **highly viscous and simultaneously abrasive adhesives and potting materials.** Only one side of the pump comes in contact with the material. The rear side contains a barrier fluid, which prevents frequently present fillers from adhering to the seal and pump components. This **ensures a long service life.**

Info and video: Learn more about the A280

Product data	A220 Basic	A220		A280	
	1C	1C	2C	1C	2C
Reciprocating pump delivery rate with 20 double strokes [l/min]	0.6	0.6		--	
Dual-piston pump delivery volume [cm³/stroke]	--	--		260	
Material feed pressure max. [bar]	83	100		20[1,2]	
Dimensions (W x H x D) [mm]	610 x 1480 x 500	900 x 1850 x 700	1500 x 1850 x 700	900 x 1850 x 700	1500 x 1850 x 700
Weight (without material) [kg]	67	200	330	230	390

[1] *at 6 bar pneumatic pressure*
[2] *boost factor: 3.35*

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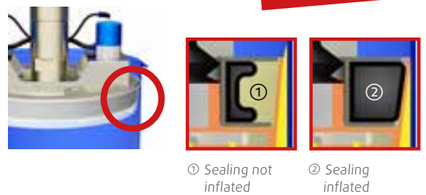
NEW



① *Sealing not inflated* ② *Sealing inflated*

Optional: Expanding Ring

The new expanding ring extends the range of applications of the vacuum follower plate. An integrated inflatable seal expands the follower plate during material drum docking. This now also ensures bubble-free feeding of potting material from full conical containers. This also reliably covers variable container sizes (inner diameter: 281.5 - 288 mm).

Info: Learn more about the expanding ring

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System solution example:
Dos LipuiPrep LP804 manual work station, consisting of DosP DP803 P016 dispenser, 2 component, 1 nozzle;
LiquiPrep LP804 50/20 preparation and feeding unit, 2 component

For Liquid, Self-Leveling Media

Our All-In-One Solutions: Homogenize, Heat, Circulate and Evacuate Air

Many adhesives, sealants and potting materials are difficult to prepare and dispense. No compromises should be made in this case, since obtaining optimum dispensing results, and thus superior quality in a workpiece, can only be achieved by using an absolutely homogeneous and bubble-free medium.

For this reason, our LiquiPrep material preparation and feeding unit is equipped with a temperature control which allows a targeted influence on the viscosity of the medium. The integrated evacuation system removes the air contained in the material during processing. Circulation also prevents sedimentation of the contained fillers. Even after production pauses or longer production interruptions, for example at the weekend, the medium used is available for further processing with the same high quality.

The LiquiPrep system is easy and intuitive to control via our EViS operating concept *[see page 88]* using the touch display. If large material quantities are required, the LiquiPrep can be combined with our barrel agitator *[see page 56]*, which was designed specifically for large drums.

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fully automated
easy to service
handles any throughput
superior material quality

NEW

LiquiPrep LP804

The LiquiPrep LP804 is a new generation of our proven A310 system for process reliable preparation and feeding of self-leveling potting materials with a viscosity of up to 70,000 mPa·s.

The heart of the LiquiPrep LP804 is a robust, intelligent diaphragm feed pump. The pump also offers significantly increased wear resistance and twice the service life of a piston pump. Integrated sensors independently determine the optimum filling level. This ensures a continuously high feeding performance.

In the material tanks of the LiquiPrep LP804 with a usable volume of 20 and/or 50 liters, minimum quantities starting from 5 liters can now be processed reliably. With increasing purchase quantities, a repid increase in material output is also possiblewhile maintaining the same process qualiity.

Operation via EViS Control Unit

LiquiPrep LP804
2 component

Info and videos:
Learn more about the LiquiPrep

Convenient Operation and Maintenance

Thanks to the newly redesigned ergonomic front panel and optimized arrangement of all relevant system components, the LiquiPrep LP804 offers a high level of operating convenience. This ensures efficient handling and easy system integration into existing production environments.

Users also benefit from improved serviceability.
The front doors provide the operator with easy access to the pump to perform maintenance work.

Video: LiquiPrep LP804 – The New Standard for Material Preparation and Feeding

Product Data		LiquiPrep LP804	
		1C	2C
Tank models[1] [l]		20 50	20/20 50/20 50/50
Delivery volume diaphragm feed pump [ml/stroke]		100	
Evacuation rate	Ejector [l/min]	12	
	Vacuum pump [l/min]	267	
Final vacuum pressure [mbar]	Ejector	180	
	Vacuum pump	2	
Agitator speed [rpm]		39	
Temperature adjustable up to [°C]		80	
Dimensions (W x H x D) [mm]		1000 x 2050 x 770	1500 x 2050 x 770
Weight (without material) [kg]		280	430

[1] *In the tank models listed, even minimum quantities from 5 liters can be processed reliably.*

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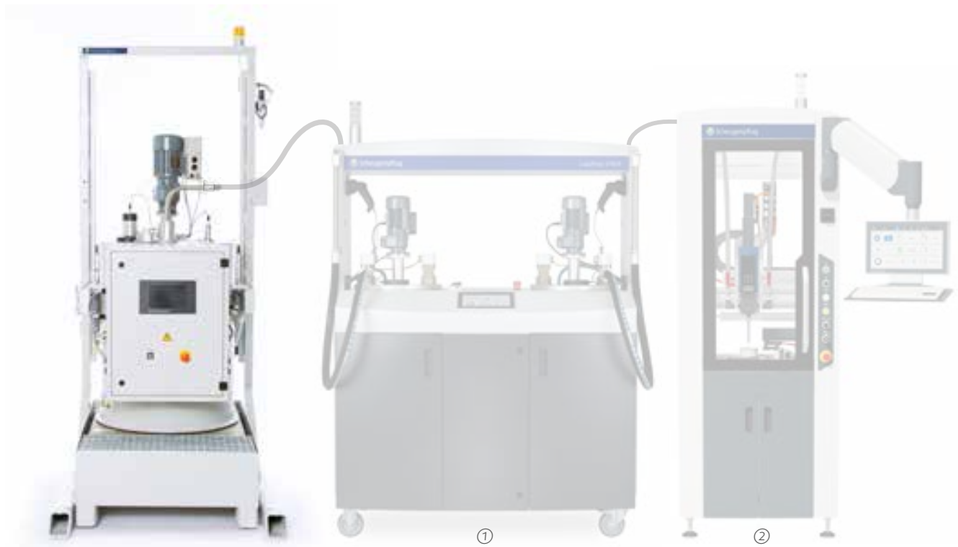
time-saving for large containers

complete preparation



The barrel agitator base model is operated together with the ① LiquiPrep LP804 material preparation and feeding unit.
Here: Example of system solution with ② DC803 dispensing cell and DosP DP803 016 dispenser

Operation via
SCP210 Control Unit

Barrel agitator station The barrel agitator station, designed for 200 liter barrels, provides homogeneous medium at the right temperature. The base model is operated in combination with the LiquiPrep preparation and feeding unit. The barrel agitator station was developed for **stirring and heating** of self-leveling media. The barrel can be fully evacuated, also allowing for complete **preparation of moisture-sensitive media** from large drums. Loss of material due to damage from moisture, for example with PU materials, is therefore a thing of the past.

Another option is the **direct supply of the dispenser with potting medium** – without the need for additional material preparation by the LiquiPrep system. This model allows potting under vacuum **up to 100 mbar.**

Info: Learn more about the barrel agitator station

Video: Barrel agitator station – perfect preparation of large material quantities

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Expanded Features

Thanks to an integrated eccentric screw pump, this barrel agitator station variant provides direct feeding of the material used to the dispenser.

This not only reduces the required floor space, but also saves time and money. The new model can also reliably process media with a viscosity of up to 70,000 mPa·s.

Barrel agitator station with direct feeding to dispenser

Product data		Barrel agitator station	
		Base model (with LiquiPrep LP804)	Stand-Alone
Delivery volume[1] [cm³/rotation]		27[2]	27
Material feed pressure[1] [bar]		12[2]	12
Evacuation rate[3] [m³/h]		14,5-16	14,5-16
Final vacuum pressure[3] [mbar]		10 (+/-5)	10 (+/-5)
Agitator speed [rpm]	Scheugenpflug type	20-86	20-86
	ViscoJet type	100-480	100-480
Temperature adjustable up to [°C]	Scheugenpflug type	80	80
	ViscoJet type	40	40
Dimensions (W x H x D) [mm]		1080 x 2900 x 1650	1080 x 2900 x 1650
Weight (without material) [kg]		800	800

[1] *eccentric screw pump*
[2] *when processing higher viscosity media*
[3] *vacuum pump*

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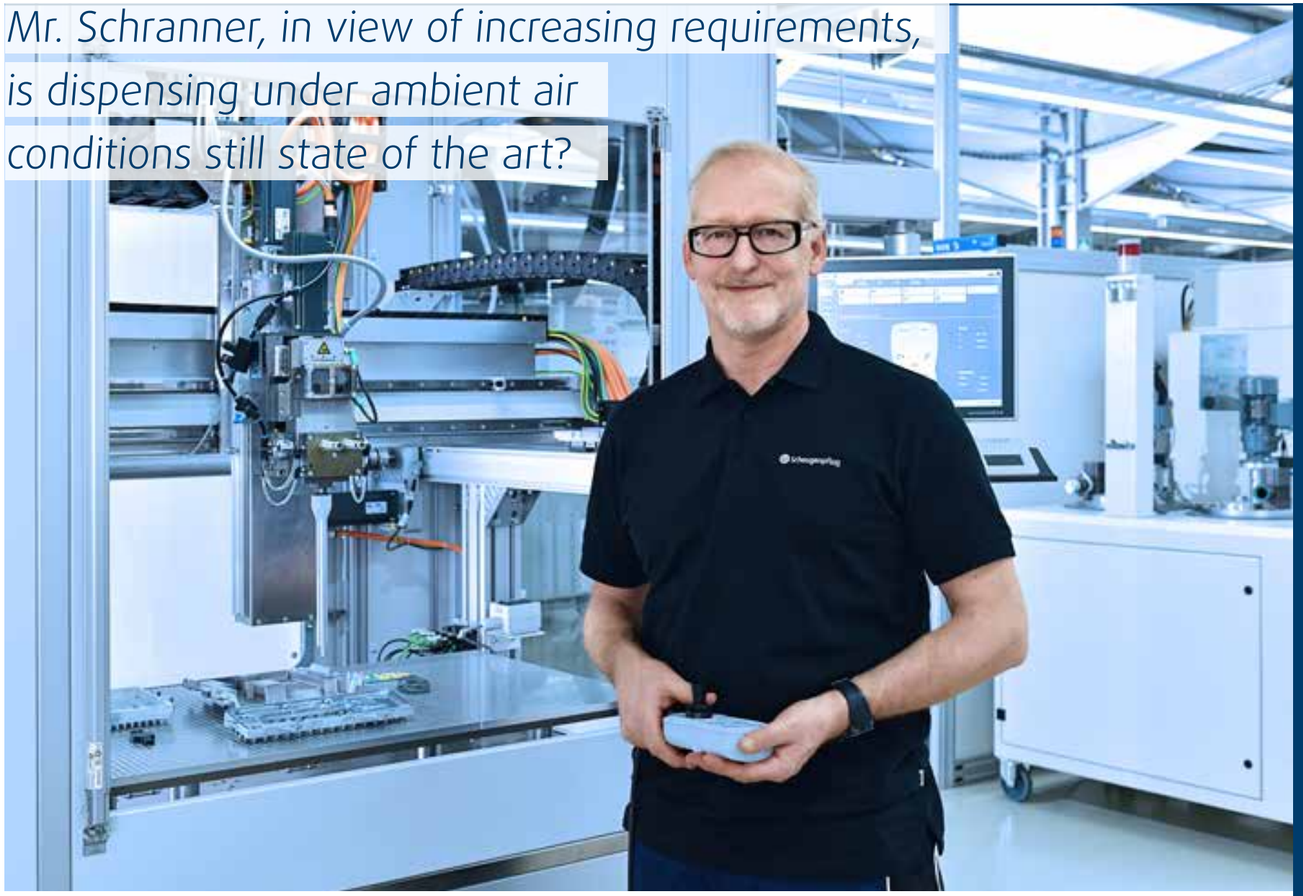
Atmospheric Dispensing

Mr. Schranner, in view of increasing requirements, is dispensing under ambient air conditions still state of the art?



"Absolutely! We experience this every day when conducting dispensing tests in our Technology Center. This method allows us to meet most specified requirements."
Detlef Schranner, Technology Center

A Proven Standard – Even for More Complex Requirements

Atmospheric dispensing is standard for many applications and quality requirements today. We now dispense materials that were quite bothersome to process just a few years ago. Take thermally conductive pastes, for example. They play a key role in many electronic parts and components, and we offer perfectly tailored solutions for these pastes. Selecting the right dispensing system is a key factor when considering the process engineering of a project as a whole *[see page 16]*. With our manual work stations, systems for integration and cells, you benefit from over 30 years of experience. Our modular concept *[see page 22]* ensures that you can implement the ideal system for any task and that the system can be adapted to changing conditions as needed. For different materials and tasks we use either piston or gear pump dispensers *[see page 28]* to optimally meet your requirements. Your production processes will always be more efficient using our modular and coordinated system solutions than using single systems. Material preparation, mixing and dispensing units as well as the control technology are optimally coordinated with regard to the medium used. This is cost-effective – and produces the right quality.

62-63
Manual Work Stations
Module combination of material feeding + dispenser + stand + control unit

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Systems for Integration
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Dispensing Cells
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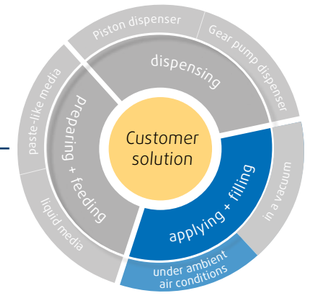
System solution example:
Integration system, consisting of Dos P016 dispenser, 2 component, 1 nozzle; two A90 C feeding units



Manual Work Stations

Our Entry-Level and Integration Solutions – Dispensing Without Compromising Quality

The dispensing system needs to fit the task and must flexibly change with it. Anything else would not be cost-effective and could cause production problems. Dos manual work stations are a simple and reliable solution for atmospheric dispensing. Based on our proven modular concept, a complete system is individually composed of a dispenser and a material preparation and/or material feeding unit – depending on the performance required, material used and required quantities. The base model includes a material preparation and/or feeding system and a dispenser with stand. The Dos manual work stations can be integrated easily into existing production systems or production lines. Standard, documented interfaces reduce the amount of costly programming that is usually required.

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flexible upgrades

flexible integration options for small and medium-sized batches

Dos A90 manual work station (with stand) / integration system (without stand), consisting of Dos P016 dispenser, 2 component, 1 nozzle; two A90 C feeding units

Dos A280 manual work station (with stand) / integration system (without stand), consisting of Dos P016 dispenser, 2 component, 1 nozzle; A280 feeding unit, 2 component

Dos LiquiPrep LP804 manual work station / integration system (without stand), consisting of DosP DP803 016 dispenser, 2 component, 1 nozzle; LiquiPrep LP804 preparation and feeding unit, 2 component

Operation via SCP210 Control Unit

Manual Work Stations The Dos manual work stations – consisting of **standard modules of various performance classes** – can be adapted easily and **flexibly upgraded** to meet specific project requirements. The entire preparation, feeding and adhesive bonding, sealing or potting process is managed by a single control unit. As a manual work station, the system is conveniently started using a foot-operated switch. Manual work stations can also be integrated easily into existing production lines if required. These systems are also suitable for **more complex part geometries** and support **fast workpiece and batch production changes.** Especially small batches can be handled easily and economically. When combining the manual work station with an external material feeding unit, such as an A220, A280 or LiquiPrep LP804, the complete system is controlled using the EViS- or SCP210 control unit *[see page 84-89]* of the chosen preparation and/or feeding system. Systems with an A90 feeding unit have a separate control unit based on the SCP210.

Info: Learn more about the manual work stations

Combination options

Dos A90	Piston or gear pump dispenser with A90 material feeding unit
Dos A220	Piston or gear pump dispenser with A220 material feeding unit
Dos A280	Piston dispenser with A280 material feeding unit
Dos LiquiPrep LP804	Piston dispenser with material preparation and feeding unit LiquiPrep LP804

Dispenser and stand	Dispenser product data	Stand dimensions (W x H x D) [mm]	Large Stand Table (W x D) [mm]
DosP DP803 016	see page 33	450 x 620 x 360	450 x 360
Dos P016	see page 35	450 x 620 x 360	450 x 360
Dos P050	see page 35	530 x 1057 x 453	450 x 453
Dos P100, Dos P300	see page 35	530 x 1055.5 x 450	450 x 450

Material preparation and/or feeding system	Product data	Dimensions (W x H x D) [mm]
Additional control unit for use with A90	--	442 x 268 x 508
A90	see page 46	see page 46
A220 1C und 2C	see page 50	see page 50
A280 1C und 2C	see page 50	see page 50
LiquiPrep LP804	see page 55	see page 55

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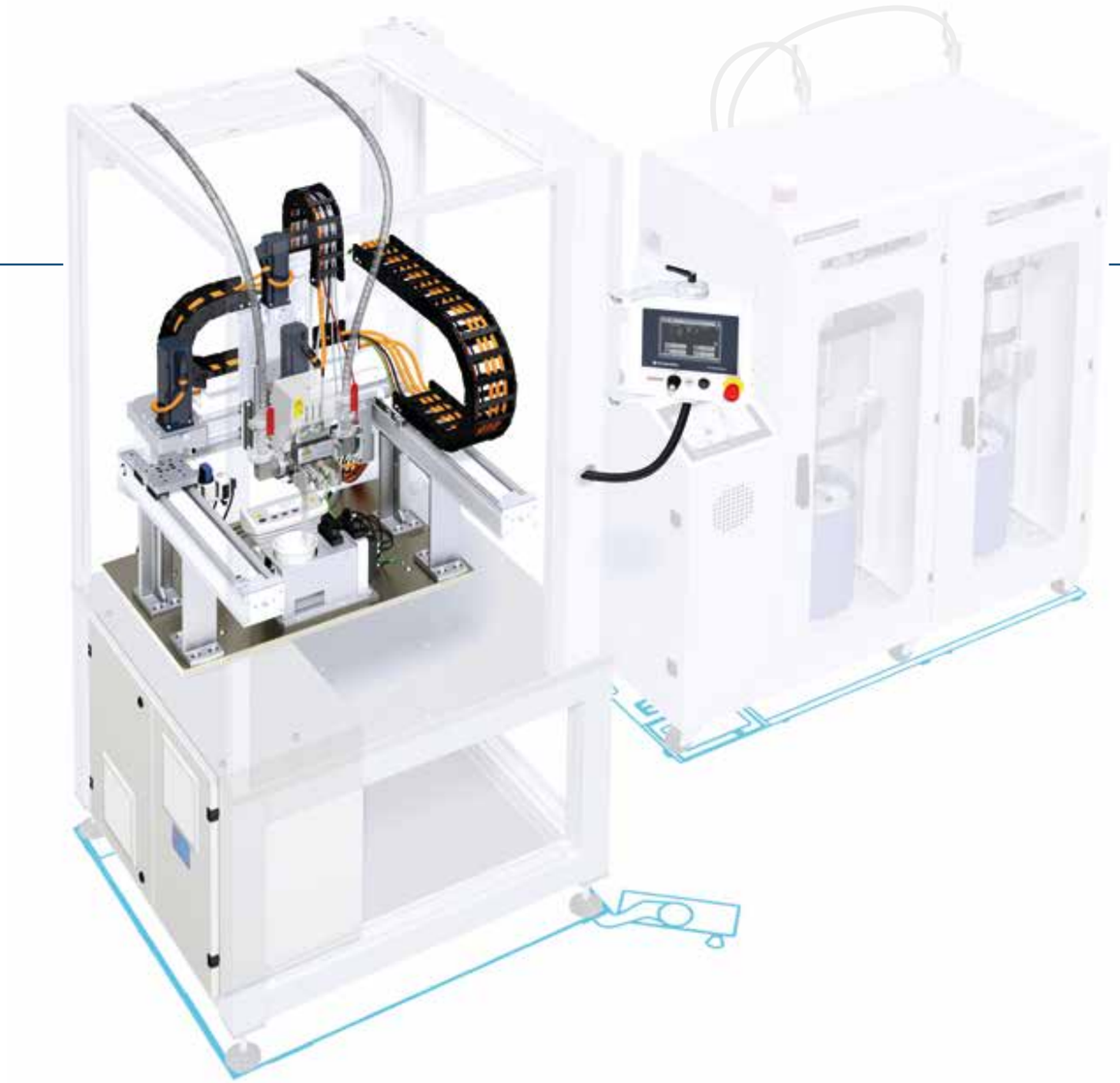

System solution example:
ProcessModule in cell with Dos P016 dispenser, 2 component, 1 nozzle;
A220/A280 feeding unit

Systems for Integration

Take Advantage of Our Cutting-Edge Expertise!

Our ProcessModule allows systems integrators and automation providers to leverage the benefits of our technology in their own production lines or cells. Plug-and-produce, optimal space utilization and high time and cost efficiency thanks to optimally coordinated components and interfaces speak for themselves. As a result, the reliable application of adhesives, sealants and potting materials is optimally solved – independent from the rest of the system.

Particularly in the automotive industry with its highly automated production processes, applying thermally conductive materials often causes a bottleneck in the production. This bottleneck can be alleviated with our high performance dispensing solution. The system, consisting of the Dos HP dispenser and PailFeed200 Abrasive material feeding unit, was specifically developed for applying thermally conductive materials to HV batteries. It also achieves dispensing speeds of up to 80 ml/s – even with these highly viscous and highly filled media.

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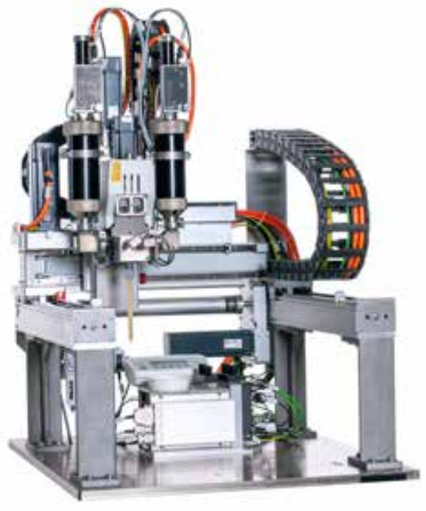
plug-and-produce *scalable* *flexible configuration* *small footprint*



ProcessModule with Dos P016 dispenser, 2 component, 1 nozzle; two A90 C feeding units

One module, all options

- *Dispensing process from a single provider*
  Whether adhesive bonding, potting, sealing or applying thermally conductive pastes, the new ProcessModule gives you access to virtually the entire range of Scheugenpflug processes.
- *Efficient integration thanks to plug-and-produce*
  Standard, compatible components provide fast and efficient integration in the production environment.
- *Specifically designed for integrators and automation providers*
  This ProcessModule offers you over 30 years of dispensing expertise for your production line – while simultaneously minimizing integration and project efforts.

Operation via UViS Control Unit

ProcessModule With our **optimized module**, you get the benefit of our adhesive bonding, dispensing and potting experience and you can speed up the construction of your production lines and **minimize integration and project costs.** Due to the high traversing speeds the ProcessModule allows **short cycle times in matrix, bead and filling applications.** One feature is the large traversing range, which enables dispensing of adhesives, sealants and potting materials on several workpieces in a single operation. Other features of the module include its high flexibility with regards to process and workpiece parameters, the ease of using conveyor belts as well as different process monitoring options.

Video: ProcessModule – Integrable dispensing technology for automation engineers

Info: Learn more about the ProcessModule

Combination options		ProcessModule
Compatible dispensers		DosP DP803 016 Dos P016 Dos P050 Dos GP
Compatible preparation and/or feeding units		All Scheugenpflug material preparation and/or feeding units
Product data		
Kinematic setup		Portal axis system
Traversing range max.[1] (X x Y x Z) [mm]		275 x 555 x 240 to 1035 x 795 x 240
Axis speed max. [mm/s]		X/Y: 600 Z: 200
Repeatability of axes [mm]		X/Y: +/- 0.05 Z: +/- 0.02
Dimensions (W x H x D) [mm]		800 x 1411 x 1100 to 1600 x 1611 x 1300
Interfaces	electric	Material feeding unit SUB D25, Ethernet RJ45
	pneumatic	KS4 coupling
	Communication	Digital I/O, Profibus, Profinet, ADS
Weight (incl. mounting plate) [kg]		287 to 400 (depending on model)

[1] *without dispenser or process control*

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System solution example:
DispensingCell DC803 with Dos P016 dispenser, 2 component, 1 nozzle;
A220/A280 feeding unit

Dispensing Cells

Two Modular Cells for Maximum Flexibility

Dispensing cells are usually the ideal solution for medium to large quantities. In addition to reliable dispensing, a limited amount of space and frequently changing components must be taken into account in batch production today. The new DC803 dispensing cell, a custom-made, multifunction cell constructed from standard modules, fills this need. The system can be started quickly thanks to its “plug-and-produce” features.

All of our cell solutions provide excellent performance for the price and a high level of planning and investment security through simple system extensions based on our modular system. You can expect superior dispensing results.

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wide range of uses

scalable and upgradeable

maximum performance

NEW

DispensingCell DC803

For challenging dispensing applications, the DC803 dispensing cell includes a new, powerful multifunction cell. The cell is an improved version of our proven CNCell. It has been **specially tailored to industrial batch production of medium to large quantities**.

The DC803 dispensing cell covers several different dispensing tasks. The servo motor technology and powerful axis system allow for high traversing speeds and thus **short cycle times**. The system can be started quickly thanks to its "plug-and-produce" features.

The multifunction cell can be flexibly adapted in **scope and degree of automation,** thus enabling **highly customized system planning tailored to your requirements.** The cell can also include additional equipment such as handling systems or joining equipment.

Operation via UViS5 Control Unit

DispensingCell DC803 with DosP DP803 016 dispenser, 2-component, 1-nozzle; two A90 C feeding units

Info and video: Learn more about the DispensingCell DC803

Extensive Process Control and Monitoring Options

For even greater process reliability and thus optimum dispensing results, a variety of options for fully automated process control and monitoring are available. These range from additional sensors to part recognition and needle XYZ calibration, to weight-based quality monitoring.
For moisture-sensitive potting materials, a needle parking system is also available, which prevents the medium in the dispenser from reacting with the surrounding humidity.

Combination options	DispensingCell DC803
Compatible dispensers	All Scheugenpflug dispensers
Compatible preparation and/or feeding units	All Scheugenpflug material preparation and/or feeding units

Product data		DispensingCell DC803		
Model	X x Y	1000 x 1100	1180 x 1300	1380 x 1300
Dimensions [mm]	Width	1000	1180	1380
	Depth	1100	1300	1300
	Height	2385*		
Axis speed max. [mm/s]		X/Y: 600 Z: 200		
Repeatability [mm]		X/Y: +/- 0.05 Z: +/- 0.02		
Control unit		Beckhoff industrial computer with Windows 10		

** incl. signal lamp*

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compact *optimized for your application* *economical* *fast production start-up*

LeanCNCell with Dos P016 dispenser, 1 component, 1 nozzle; A90 C feeding unit

Operation via UViSneo Control Unit

LeanCNCell This system is specially designed to handle dispensing of **small to medium-sized batches.** It combines all the advantages of a CNC system with **superior dispensing quality** and great performance for the price. Standard applications include applying seals (dot and bead dispensing) or sealing electronic assemblies and their housings with 1D, 2D or 3D contours. The LeanCNCell is operated using the Scheugenpflug UViSneo control unit.

Combination options	LeanCNCell
Compatible dispensers	All Scheugenpflug dispensers
Compatible preparation and/or feeding units	All Scheugenpflug material preparation and/or feeding systems

Product data		LeanCNCell
Traversing range max. (X x Y x Z) [mm]		360 x 270 x 240 to 470 x 625 x 240
Axis speed max. [mm/s]		160
Repeatability of axes [mm]		+/- 0.02
Interfaces	electric	Material feeding unit: SUB D25, Ethernet RJ45
	pneumatic	KS4 coupling
	Communication	Front USB, rear USB on support arm
System safety		Housing, light curtain, emergency stop
Dimensions (W x H x D) [mm]		800 x 2150 x 800 to 1200 x 2150 x 1200

Info: Learn more about the LeanCNCell

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Potting in a Vacuum

Mr. Pilz, are vacuum potting systems only used whenever atmospheric potting does not deliver the quality required?

"This is a widely held opinion, but vacuum potting is not just a production technology. It provides degrees of freedom across the entire value chain. For example, most high-quality displays are encapsulated and joined in a vacuum."
Thomas Pilz, Commissioning

78-81
Vacuum Potting Systems
LeanVDS U
VDS B
VDS U
VDS P

Utilize potentials easily and consistently

Complex part geometries and increasing workpiece quality and reliability requirements can necessitate the use of vacuum potting systems. This still scares users – too complex, too expensive and difficult to control. Fears of this kind are unfounded in this day and age. After all, we are experts in this technology. And higher system costs quickly pay for themselves when considering the full cost. Higher product quality also increases market opportunities and reduces complaints. Completely new potential is created if you take advantage of the additional degrees of freedom in the workpiece design and development offered by this technology. To take advantage of this for efficient batch production, different versions of our vacuum potting systems are available – as standalone systems or integrated in the production line. Even here, our modular system concept has proven itself and provides the ideal balance between technology and cost – tailored to the particular application.

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System solution example:
VDS P with Dos P-X dispenser, 2 component, 4 nozzles,
LiquiPrep LP804 preparation and feeding unit, 2 component

Vacuum Potting Systems

Different Systems for the Highest Quality Requirements

A vacuum process is worth considering if reliable and safe operation of the workpiece must be guaranteed over its entire service life. This is particularly true for the maximum high-voltage or insulating resistance of workpieces and for highly complex workpiece geometries. When corners and edges create potential gaps, these gaps can collect air bubbles during potting, which could later result in faults or complete failure of the components. The same is true for transformers, batteries, motors and ignition coils, for instance, where very fine air bubbles may remain in their coils.
This can be prevented by potting in a vacuum. In addition to providing a continuous, safe vacuum, the most important factors here are no bubbles and effective protection against moisture. You should expect no more and no less from our four systems, which can be modularly adapted to the particular applications. A dispenser for 1C or 2C potting media is a standard feature of these systems. Bubble-free preparation of the material is handled by a LiquiPrep preparation and feeding unit *[see page 54]*.

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economic

LeanVDS U with Dos P016 dispenser, 2 component, 1 nozzle;
LiquiPrep LP804 preparation and feeding unit, 2 component

compact

optimized evacuation

VDS B with Dos P050 dispenser, 2 component, 1 nozzle;
LiquiPrep LP804 preparation and feeding unit, 2 component

Operation via
SCP210 Control Unit

LeanVDS U This **compact entry-level system** offers high quality, budget-friendly vacuum potting. The LeanVDS U features up to three motion axes, allowing for precise filling, dabbing and bead application without CNC functions. The system is particularly suitable **for small to medium batch sizes, lab and prototype applications** and for eliminating unreliable, time-consuming sub-processes such as post-evacuation.

Info: Learn more about the LeanVDS

Video: LeanVDS – Vacuum potting for entry-level users

Operation via
UViS5 Control Unit

VDS B This model has been **optimized for large to very large components** and is particularly suitable for use in small batch production. Omitting axes allows it to provide **efficient, high quality potting** of large workpieces such as alternator coils, for which traversing the workpiece geometry is not necessary.

Info: Learn more about the VDS B

Let's talk about your project:
+49 9445 9564 ext. 0, sales.de@scheugenpflug-dispensing.com

Combination options	LeanVDS U	VDS B
Compatible dispensers	Dos P016	Dos P016 Dos P050 Dos P100 Dos P300 (single outlet only)
Compatible preparation and/or feeding units	LiquiPrep LP804	LiquiPrep LP804

Product data	LeanVDS U	VDS B
Axis speed max. [mm/s]	155	--
Evacuation time at 10 mbar [s]	90 (standard) 35 (upgrade)	40
Absolute final vacuum pressure [mbar]	5 (standard) 3 (upgrade)	5
Pallet drawer[1] (W x D) [mm]	--	650 x 400
Traversing range max. (X x Y x Z) [mm]	180 x 180 x 100	--
Dimensions (W x H x D) [mm]	790 x 2150 x 732	1000 x 2200 x 1700
Weight[2] [kg]	250	700

[1] *without cup*
[2] *without vacuum pump*

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superior potting quality

wide range of uses

short cycle times

The VDS P also provides the ultimate performance as an integration solution for the large-scale production of electronic components.

More information about this integration solution is available starting on page 108.

VDS U with Dos P050 dispenser, 2 component, 1 nozzle; LiquiPrep LP804 preparation and feeding unit, 2 component

VDS P with Dos P-X dispenser, 2 component, 4 nozzles; LiquiPrep LP804 preparation and feeding unit, 2 component

Operation via UViS5 Control Unit

VDS U **Fast reaction to product changes** – a strength of universal systems. The universal vacuum potting system can handle the batch production of **medium to large sized workpieces.** With its three traversing axes, this system is equally suitable for potting multiple parts in a single pass as well as for complicated workpiece geometries or more complex potting programs.

Info: Learn more about the VDS U

Operation via UViS5 Control Unit

VDS P **Processes with short cycle times** are no challenge for our VDS P(ower) vacuum potting system. With up to three traversing axes, automatic cup positioning and multi-piston dispenser (2 to 12 nozzles, more upon request) *[see page 36]*, as many workpieces as possible are processed in an even grid at the same time per evacuation process. This makes it possible to achieve **high part throughput per time unit** while maintaining the same high quality potting results. The VDS P offers all the advantages of the VDS U, including higher performance.

Info and video: Learn more about the VDS P

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Combination options	VDS U	VDS P
Compatible dispensers	Dos P016 Dos P050 Dos P100 Dos P300 (single outlet only)	Dos P-X (4 to 12 nozzle outlet)
Compatible preparation and/or feeding units	LiquiPrep LP804	LiquiPrep LP804

Product data	VDS U				VDS P		
	U1000	U4030-550	U4030-650	U5040	P1000	P6030	P8030
Axis speed max. [mm/s]	155	155	155	155	155	155	155
Evacuation time (at 10 mbar) [s]	40 (standard)	40	52	45	40 (standard)	35	38
Absolute final vacuum pressure [mbar]	5 (standard) 3 (upgrade)	3	3	3	5 (standard) 3 (upgrade)	3	3
Pallet drawer[1] (W x D) [mm]	300 x 200	400 x 300	400 x 300	500 x 400	300 x 300	600 x 300	800 x 300
Traversing range max. (X x Y x Z) [mm]	405 x 170 x 200	500 x 320 x 200	500 x 320 x 200	570 x 410 x 200	405 x 85 x 200	720 x 85 x 200	920 x 85 x 200
Dimensions (W x H x D) [mm]	1000 x 2350 x 1700	1130 x 2450 x 2000	1130 x 2450 x 2000	1300 x 2450 x 2200	1000 x 2350 x 1700	1660 x 2350 x 1700	1980 x 2350 x 1700
Weight[2] [kg]	700	700	800	800	700	670	900

[1] *without cup*
[2] *without vacuum pump*

Request data sheet

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Control and Operation

Mr. Böhm, what is important when controlling and operating dispensing systems?

"Increasingly complex systems need to be intuitive and easy to use. Considering our self-developed control systems and software tools, our customers regularly confirm that we are leaders in this area."

Ulrich Böhm, Manager Development

Lean Control Technology

Increasing automation of production processes requires powerful control systems. They are also the key to success in Industry 4.0. Regardless, control and operation solutions have a major impact on the cost-effectiveness and efficiency of partially or fully automated systems. Initial criteria include optimization of the required scope of performance as well as a simple control via touch panel in the language of the respective country. Smooth import of construction data, effective programming support and remote control for remote maintenance are also key. You should expect no less from current dispensing system control technology. Thanks to our modular system concept, we can ensure that the system's control technology is lean – without excess "baggage". This, combined with intuitive operation, functional programming and the easy import of data, also guarantees superior performance and process reliability. And since no one knows these requirements better than we do, we have developed the EViS and SCP210/SCP210+ control programs ourselves for our material preparation and feeding systems, manual workstations and dispensing systems with a lower degree of automation. The same can be said for the UViS5 operator software with integrated UPiC5 programming tool, which is used with our dispensing cells and vacuum potting systems. This ensures that every system has the control module that it needs.

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Control Units

EViS

SCP210

SCP210+

UViS5

UPiC5

UPiC5 DXF

UPiC5 portable

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EViS Control Unit

EViS and SCP210/SCP210+ Control Units

Optimized for Material Preparation and Feeding Units and Dispensing Systems with a Lower Degree of Automation

Together with the integrated microcontroller control units, our visualization programs EViS and SCP210/SCP210+ provide easy, intuitive operation of our material preparation and feeding systems, manual workstations and dispensing cells with a lower degree of automation. These control programs monitor and control all steps in the production process, from the docking of the follower plate and material preparation (heating, agitating, evacuating, automatic reloading of material, etc.) and the feeding of the dispensing material into the system up to the actual dispensing itself. Any additional components added to the system use the existing designated interfaces.

In addition, freely programmable parameter sets are available for various adhesives, sealant and pottong compounds. Operation is carried out via a capacitive 10" multi-touch display in accordance with DIN ISO 9241, which is also prepared for the use of multi-finger gestures. Plug-and-play start-up and country-specific operating languages ensure fast deployment and trouble-free operation worldwide. User instruction during initial start-up is enough to get up and running. If required, existing possibilities for optimization can be identified based on data analysis. This makes it possible to develop existing potential for added value quickly and easily. In addition, a USB interface for software updates and backups as well as remote control help to ensure the system's efficiency over its entire lifespan – no matter where in the world and for what application the system is used.

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NEW

EViS

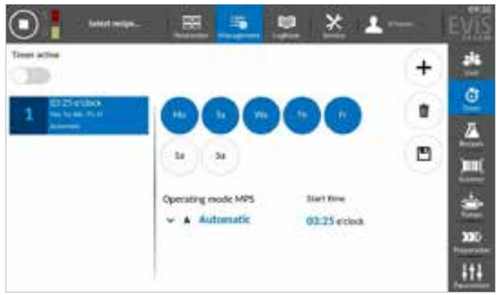
The intuitive EViS control program supports simple system operation in times of increasing digitalization. The new visualization feature is an improvement of the SCP210 and is currently used with the LiquiPrep LP804 *[see page 54]*. Thanks to the redesigned, clear layout, EViS offers more than just an **improved user experience.**

In addition to easy adjustment of process parameters, it also allows continuous monitoring of system performance.
The uniform look and feel of the Scheugenpflug control programs offers a dramatically improved user interface.

Control program for:
LiquiPrep LP804 material preparation and feeding system
Dos LiquiPrep LP804 manual workstation

easy to use

EViS – Customizable overview of key process parameters (production view)

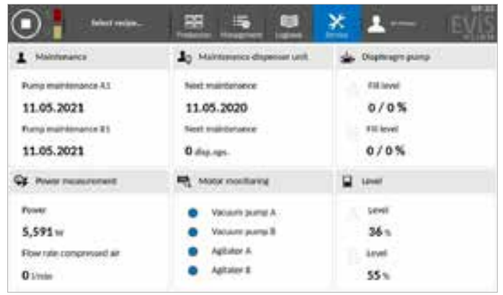


EViS – Personalized user administration

Info: Learn more about the EViS

quick access to key functions customizable

EViS – With the integrated timer, it is possible to define the start times of different operating modes individually.



EViS – Comprehensive service and maintenance module

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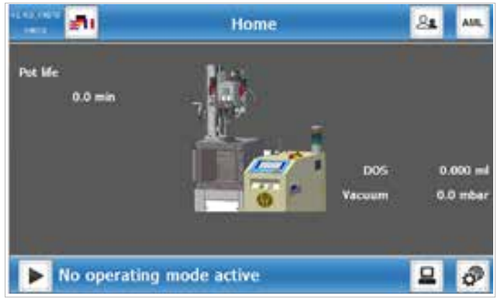
intuitive operation *network capable* *plug-and-play* *flexibly expandable*

Control unit for:
Material preparation and/or feeding systems
A220 Basic
A220
A280
Barrel agitator station

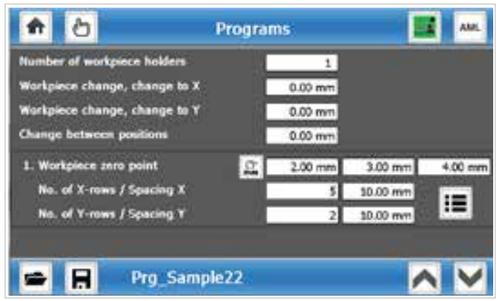
Manual workstations
Dos A90
Dos A220
Dos A280

SCP210 – A220 material feeding unit start screen

SCP210 – A220 material feeding unit maintenance menu



SCP210+ – Lean VDS vacuum potting system start screen



SCP210+ – Programming the Lean VDS vacuum potting system

Control unit for:
Vacuum dispensing system LeanVDS

SCP210 With the SCP210 you have **an overview of everything.** The SCP210 **simplifies monitoring, maintenance and analysis tasks** and helps you perform all production processes quickly and smoothly. Operational data acquisition and the maintenance menu provide you with an overview of the system's performance, condition and potential for optimization at all times.

SCP210+ A PLC solution might be too large-scale for smaller dispensing systems. **Additional vacuum and motion functions** have therefore been added to the SCP210+ control unit to expand on the proven SCP210. For instance, when combined with a system such as the LeanVDS *[see page 74]*, this controller enables the operator to use the full range of functions of the respective system. In addition to improved efficiency, this focus also provides for clearly simplified operation. Other features include **pre-definable, configurable processes** (such as start position, teaching, pot life monitoring with mixing tube or dispensing needle rinsing) and matrix programming.

Info: Learn more about the SCP210

Info: Learn more about the SCP210+

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UViS5 Control Unit

UViS5 and UPiC5 Control Units

Optimal Control of Dispensing Cells and Vacuum Potting Systems

The more complicated the processes and modules, the higher the demands placed on the control unit. We have accumulated extensive experience in this area which we have used in the development of our UViS5 (Universal Visualization) operator software – the standard software for our cells and vacuum potting systems. The integrated programming tool UPiC5 (Universal Programming Interface) also allows users to create complicated dispensing programs quickly and easily. The PC-based control system with high resolution 16:9 display can be operated intuitively via the touch control function.

A comprehensive user interface, pre-defined standard functions for a wide variety of dispensing tasks as well as quick access to key process-related parameters help simplify control of system operations. Configurable user access rights, a recipe database and mapping of the organization hierarchy and user groups with associated rights meet the standards required in this field.Simple matrix programming and free CNC programming, remote control and a USB interface for software updates, data transmission and backup contribute to the high efficiency of the systems. Thanks to our worldwide support and services *[see page 126]*, users can maintain this efficiency in the long run.

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process documentation

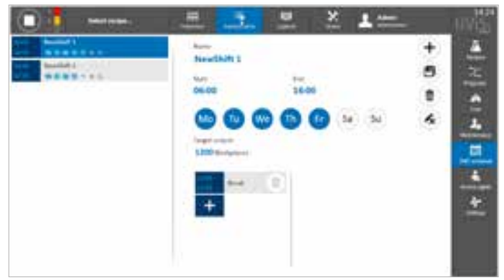
Control unit for:
Dispensing system DispensingCell DC803
Integration system ProcessModule
Vacuum dispensing systems
VDS B
VDS U
VDS P

UViS5 – Customizable overview of key systems and process parameters in a modern tiled layout

easily handle various dispensing programs

UViS5 – Quick overview of stored dispensing programs

extensive rights management



UViS5 – Freely define shift models

UViS5 This user interface software **provides an ideal way to visualize dispensing and potting systems**. For all processes and the associated monitoring, maintenance and analysis tasks, the user has the relevant data at a glance on a 15.6" multi-touch display. Efficiency is improved thanks to pre-defined functions for the most common dispensing tasks as well as quick access to relevant process parameters.

Process reliability is improved as a result of the **various available options to fully automate process control and monitoring.** These range from pot-life monitoring to needle XYZ calibration, to weight-based quality monitoring. Values such as machine availability and production data can be exported easily from the program. The values can then be analyzed and used as the **basis for further process enhancements.**

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Info: Learn more about the UViS5

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NEW

UPiCs DXF

UPiCs DXF is an upgrade to the UPiCs programming tool and **is used to create dispensing and CNC programs quickly and easily based on existing CAD data.**

Thanks to an **integrated CAD/CAM interface**, adhesive, sealant or potting contours can be transferred easily from a component drawing **using the DXF import option**. Using suitable tools, these contours can then be reworked in the UPiCs.

CNC program code is then extracted from this data and loaded into the system. The integrated 3D contour view used for inspection and troubleshooting improves process reliability.

UPiCs portable

The new UPiCs portable tool lets you conveniently create new dispensing programs **on an office PC and easily further process existing data.** With this programming module, dispensing programs can be conveniently created and further processed on the office computer instead of the machine itself. The finished dispensing program can then be easily and quickly transferred to the dispensing system via the USB stick. The UPiCs portable also makes it **easy to transfer one program to several machines**. The CAD/CAM interface is already integrated.

dynamic 3D contour view

UPiCs DXF – Fast and easy creation of dispensing programs based on CAD data

UPiCs portable – Convenient creation and further processing of dispensing programs on office computers

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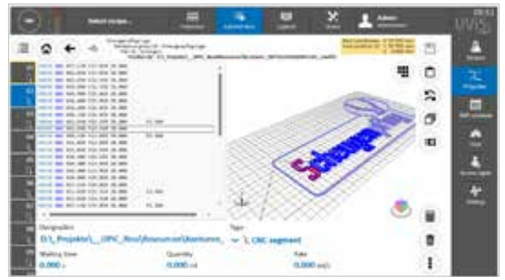
easy for users to program
fast contour creation thanks to DXF import function



UPiCs – CNC program creation: The selected values displayed are highlighted in color for better clarity.

UPiCs – Fast duplication of the contour using the raster function

Control unit for:
Dispensing system DispensingCell DC803
Integration system ProcessModule
Vacuum dispensing systems
VDS B
VDS U
VDS P

UPICs This tool enhances and expands on the UViS5 user interface software and allows you to **create dispensing programs without having to rely on specialists.** You can choose between a DIN-based CNC program or a direct CNC matrix program.

With just a few clicks, this program quickly outputs an **overview of stored process data** in the form of charts and graphs. Using the program is simple thanks to practical features such as copy and paste or quick duplication of an existing contour using a raster function. The functions are completed by an intelligent code completion feature, including error detection and automatic warning messages when limits are exceeded.

Info: Learn more about the UPiCs

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Customization

"These situations come up occasionally. We fulfill specific customer requirements with custom system solutions – based on our modular system. The processes required can be combined easily. The only standard thing about it is the attractive price."
Marco Murgia, Manager Sales

When Standard Solutions Are Not Enough

80:20 – this familiar distribution in many fields also applies to the several thousand dispensing solutions that we have installed in recent decades: We have successfully covered 80 percent of the requirements presented to us with standard systems and implemented associated processes. We have achieved this with the carefully matched modules in our modular system concept, among other things.

However, current sealing, potting and adhesive bonding projects are placing ever increasing demands on reliable dispensing, which cannot always be met using "standard" solutions. On the one hand, this leads to continuous further enhancement of our standard modular system. On the other hand, projects often have to be implemented quickly. This is also true in the case of safe integration of uncommon processes. We have therefore developed a system of processes that can be flexibly combined and easily integrated into standard solutions. If this is still not enough – we are now talking about less than 1 percent of requirements – we will sit down with you to work out the optimal solution together. To ensure that you always receive the most economic system as soon as possible, we first determine if our standard solutions can handle the particular case. If necessary, we then customize your system to include the required processes and associated systems for a total solution from a single source – as you have come to expect from us.

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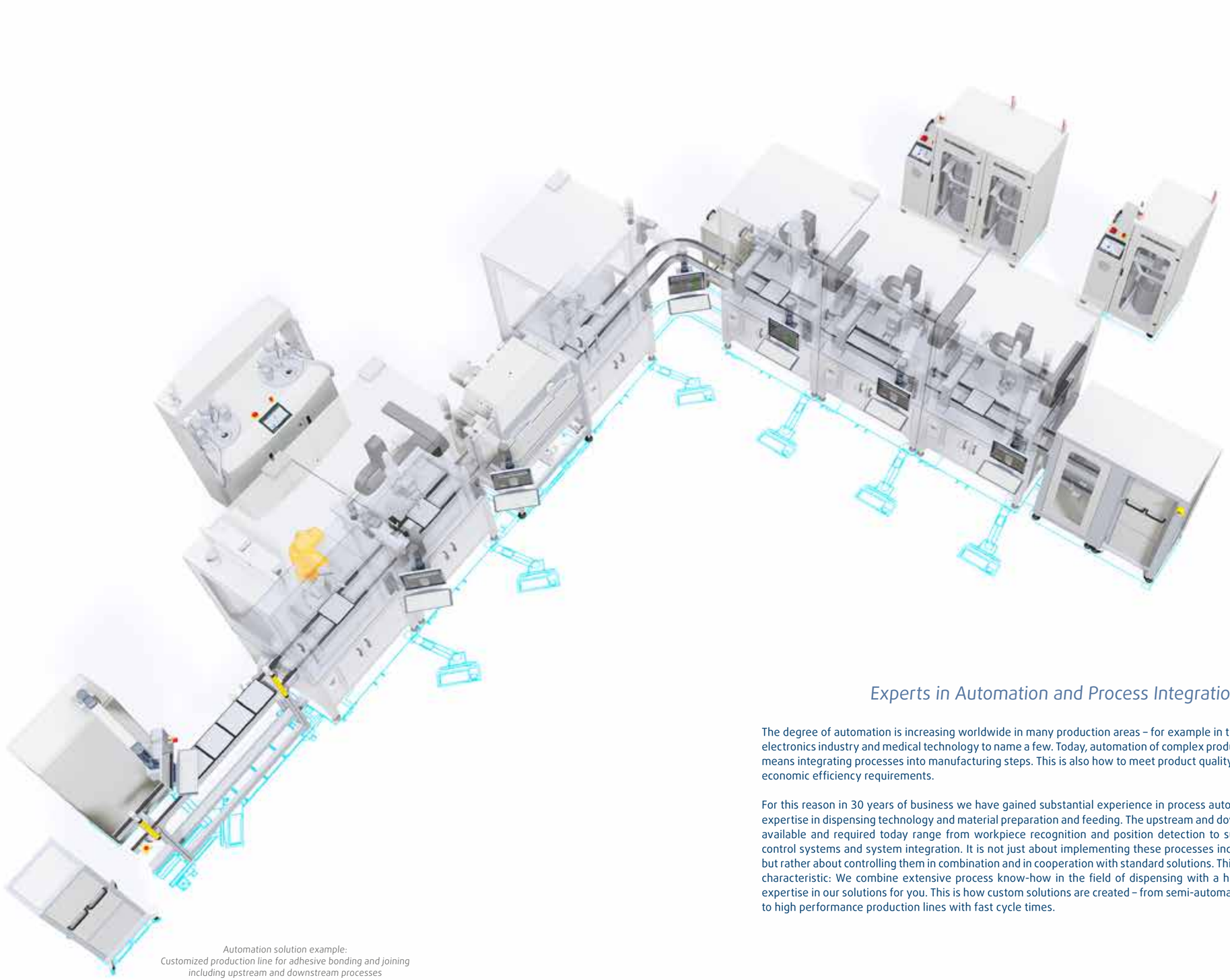

Automation solution example:
Customized production line for adhesive bonding and joining including upstream and downstream processes

Experts in Automation and Process Integration

The degree of automation is increasing worldwide in many production areas – for example in the automotive industry, electronics industry and medical technology to name a few. Today, automation of complex production processes always means integrating processes into manufacturing steps. This is also how to meet product quality, rate of production and economic efficiency requirements.

For this reason in 30 years of business we have gained substantial experience in process automation around our core expertise in dispensing technology and material preparation and feeding. The upstream and downstream process steps available and required today range from workpiece recognition and position detection to surface cleaning, quality control systems and system integration. It is not just about implementing these processes individually and optimally, but rather about controlling them in combination and in cooperation with standard solutions. This is precisely our unique characteristic: We combine extensive process know-how in the field of dispensing with a high level of automation expertise in our solutions for you. This is how custom solutions are created – from semi-automated production systems to high performance production lines with fast cycle times.

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Combinable Processes to Customize Our Standard Solutions

Part detection and identification systems
- Optical sensor / camera
- Data Matrix Code (DMC)
- Barcode
- RFID

Position detection and recording
- Optical sensor / camera: Fiducial Marks, contour-based
- Tactile: Displacement sensor

Surface cleaning and activation
- Plasma cleaning and activation
- UV activation
- Contact-free cleaning using rotating compressed air nozzles
- Pre-heating and drying oven

Curing, cross-linking and cooling
- Hot air and infrared curing (continuous furnace, batch and vertical ovens) with downstream part cooling
- UV curing

Handling systems
- Pick-and-place
- Automatic palletizing
- Transport systems (conveyor belt system, rotary indexing table, drawer system)
- Industrial robots (6-axis robots, Scara robots, cobot)

Joining technology
- Stationary and handheld screwdriver
- Joining methods (pressing, forming, vacuum bonding)
- Clinching
- Press-fit technology

Quality control systems
- Automated optical inspection (AOI) using camera or 3D scanner
- Leakage test
- Contact check

Component marking
- Labeling
- Laser marking

System integration
- MES connection
- Process Data Interface (PDI)
- Traceability systems
- Data interface (e.g. Profibus, Profinet, TCP/IP)
- Statistical process control (SPC)

Contact our Sales

70 %

of components in custom systems come from our modular system.

Johannes Blaser, Sales

What advantages do our custom system solutions offer you?

Solution from a single source

Adhesive bonding, sealing and potting and everything that goes with it. In addition to dispensing, we also handle related upstream and downstream processes. What this means for you: A dispensing process tailored precisely to your requirements and optimally integrated into your production environment.

Attractive pricing

Several extra options and processes for our standard modules give you the ability to plan for systems specifically tailored to suit your needs.
You receive and pay only for the functions that you really need.

Maximum flexibility

No matter whether different product variants are to run on a single system or whether there are still design modifications to a component before the start of production: Our scalable and customizable modules give you all the freedom you need to design your system.

Engineered with decades of experience

Technical and process technology innovations, such as new technolgies developed on a project basis, are continually incorporated in the modules. This ensures that your dispensing solutions are always cutting edge.

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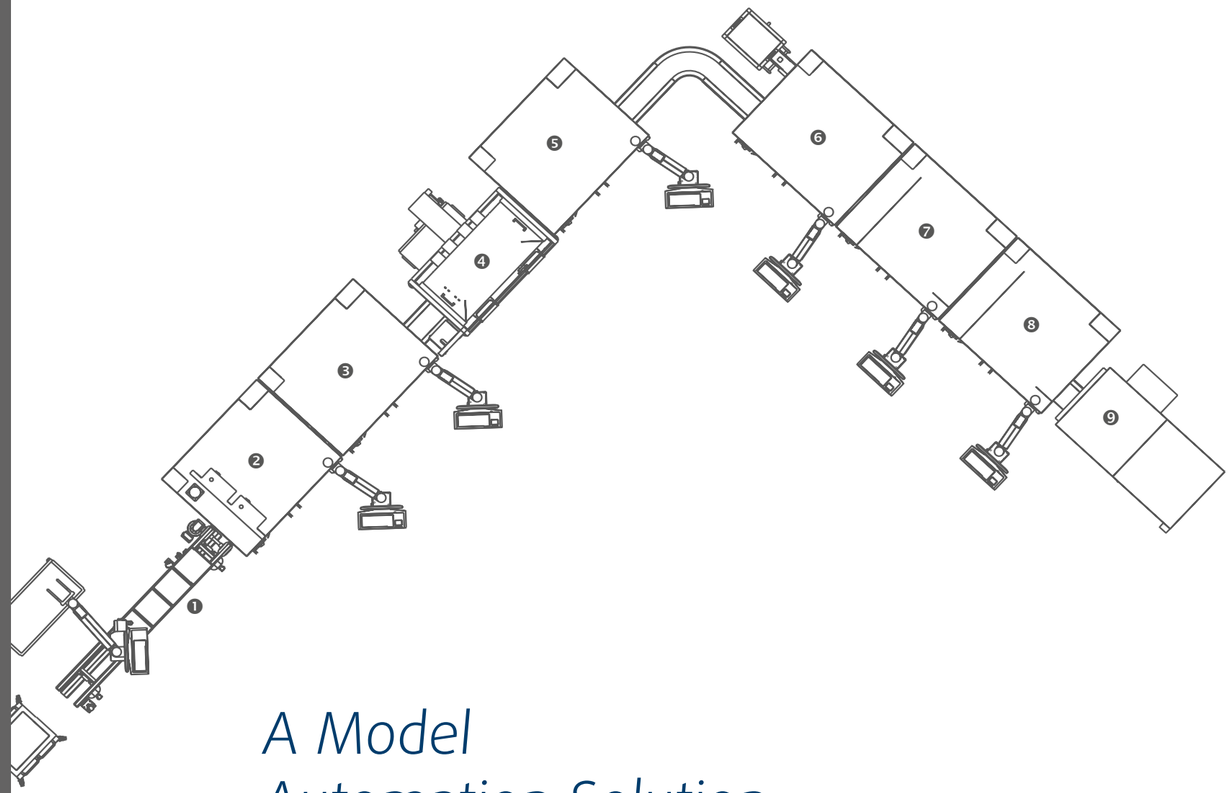
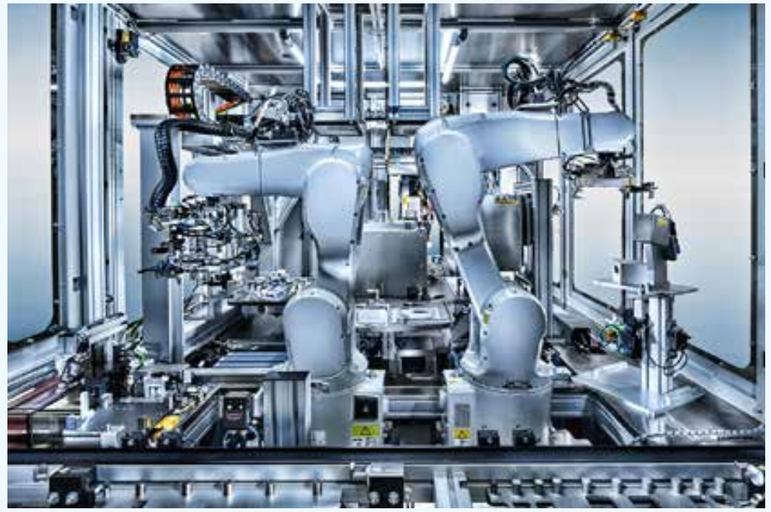


A Model Automation Solution – All Options Available to You!

1. Manual and automated loading
2. Part cleaning (ionized air)
3. Surface activation (plasma)
4. Adhesive application (in a vacuum or under ambient air conditions)
5. Part position detection and recording
6. Joining (in a vacuum or under ambient air conditions)
7. UV curing
8. Part quality control
9. Manual or automatic removal

Option to provide and transmit information to higher level systems in a live broadcast or on demand

A Practical Solution



As part of a fully automated line for high-precision adhesive bonding and joining of automotive displays, this rotary table was implemented with five process stations (see upper picture). Two robot arms equipped with special grippers (see lower picture) ensure fast and gentle part handling.

You can learn more about this customer-specific solution on pages 106 and 107.

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We Take Care of Everything

When it comes to customizing dispensing solutions, the right interaction between humans and system technology is essential. This is why our skilled teams will be there to assist you with their decades of experience and extensive expertise in engineering, project management, start-up and life-cycle service as well as during training and instruction by our Academy.

Well-coordinated project teams provide an efficient project flow, fast implementation of requirements, short response times and the right solutions based on our modular technology as well as proven and mature processes. They coordinate with our network of partners from a wide variety of areas (materials, cleaning/activation, curing, part handling, fastening, etc.) on a per project basis. Last but not least, our ISO 9001 quality management gives you the security of always having the ideal dispensing solution with which you can achieve your product-related competitive advantages.

Contact our Sales

The project flow – proven and always focused on optimal results for you

Customer request

Consultation, testing, finding a solution
- *Analyze specifications and check for ability to use standard modules*
- *Identify critical parameters (e.g. cycle time, process environment, tolerance chain)*
- *Develop test scenarios*
- *Develop suitable system concept*

Engineering
- *Prepare system concept*
- *Customer approval*

Production, assembly and start-up
- *In-house machining production*
- *Assembly*
- *Start-up by our dispensing experts*

Project management

Acceptance, instruction and handover
- *Pre-acceptance*
- *Recommissioning on site*
- *System operator instruction*

Series production

Support services
- *Supply of spare and wear parts*
- *Parts packages*
- *Customer service / maintenance*
- *Technical support*
- *Service agreements*
- *Upgrades*
- *Academy*

Modified production conditions
- *New product variants*
- *Capacity adjustments*
- *System upgrades*
- *New processes*
- *Higher degree of automation*

Scheugenpflug
Part of the Atlas Copco Group

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Real-world example:

High-Precision Bonding and Joining of Automotive Displays

This fully automated production line for the automotive industry, which is based on the proven Scheugenpflug modular system, was designed for cycle time-optimized bonding and high-precision joining of displays. It consists of four processing and dispensing cells connected in series as well as a connected rotary table with five process stages. This line can be adapted for **joining and processing different display variants** with extremely little changeover effort. In order to maintain the required cycle time, the cells were connected to each other with a double belt conveyor system. This allows two components to be processed in alternation – without idle periods resulting in longer cycle times.

In the first of the four cells, the display and the corresponding metal carrier on the workpiece fixture are identified and measured. A gap filler is then applied in the second cell before a adhesive is alternately applied to the display in the third and fourth cells. In order to meet the requirements of the **head impact test,** an **optimized dispensing contour** was developed specifically for the application of the material.
The display and metal carrier are then **precisely positioned and joined** in the connected rotary table by means of a **special double gripper** and optical differential measurement located on six adjustable spindle axes. Afterwards a UV-curing sealing adhesive is applied and cross-linked with UV light. The gripper **firmly holds the workpiece in place** during all processing steps on the rotary table, thus **ensuring the ideal gap width** between glass and carrier. Using a laser sensor, the finished displays are finally checked for quality (thickness, correct positioning) and discharged from the rotary table.

System components:
4 x CNCell
1 x CNCell as rotary table
1 x Dos P016 TCA, 2 component, 1 nozzle
1 x Dos P016, 1 component, 1 nozzle
2 x Dos GP, 2 component, 1 nozzle
1 x A220, 2 component
3 x A90 C

Adhesive application optimized for cycle time

In addition to the double belt conveyor system, the dual design of the cell for adhesive application also enables processing without idle periods and thus extremely short cycle times.

Gentle part handling

In the rotary table, two robot arms with specially designed grippers ensure fast, efficient and at the same time gentle handling of the display and the respective carrier.

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The potting process takes place in the second of the three vacuum chambers. As this chamber is kept under vacuum continuously, short cycle times are guaranteed.

Real-world example:

Bubble-Free Vacuum Potting of Electronic Components with a High Variety

Part and position recognition | Pre-evacuation | Vacuum potting | Ventilation

This fully automated line was designed for **bubble-free and economical vacuum potting** of large series with high component variety. The electronic components encapsulated here are used in **e-mobility and in the field of renewable energies.**

At the heart of this line is a high-performance VDS P vacuum potting system with three in-line vacuum chambers connected by a belt conveyor system. Thanks to this special system design, **short cycle times** are guaranteed: The actual potting chamber is kept under vacuum continuously, thus eliminating **evacuation and ventilation times.**

Before potting under vacuum, the electronic components are identified in an upstream inspection cell and checked whether they are correctly positioned. The components are then pre-evacuated in the first of the three vacuum chambers before being encapsulated with a silicone material in the larger main chamber. In the third chamber, the parts are ventilated and then transferred to the curing oven.

System components:
1 x VDS P with 3 chambers
1 x Dos P050, 2 component, 1 nozzle
2 x A310, 2 component

Powerful sensors for high component variety

To ensure the necessary flexibility during the potting process, the line was equipped with additional sensors for part identification and verification of correct positioning. The selection of the appropriate dispensing program is then fully automatic.

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Real-world example:

Process-Reliable Bonding and Joining of Industrial Displays

Loading | Centering + Adhesive application | Joining + Compressing

This high-performance rotary table has been specially designed for **precise, cycle time optimized bonding and joining of displays** for industrial environments. Thanks to additional sensors, reinforced axes and flexible component carriers, **various display sizes can be processed on this system without extra changeover effort.** The swivel-mounted control panel, which can also be moved sideways over the entire width of the line, provides additional flexibility for the line operator.

After positioning and automated inspection of the display and its housing, both parts are centered and positioned in the cell by integrated grippers. The next step is the application of a moisture-curing adhesive. The **high dispensing accuracy of the gear dispenser** ensures the **narrow tolerance specifications for this process step.** The display and housing are then joined and pressed together for a defined period of time using special equipment. The finished display can then be removed manually.

To process different display sizes, the system has been equipped with additional, powerful sensors.

Drawer system ensures uninterrupted production

On request, the rotary table was equipped with an additional drawer for waste cups and a needle parking system (Liquidcup). This solution not only offers ergonomically convenient access for the system operator, but also enables the exchange of cups and rinsing liquid during system operation.

System components:
1 x CNCell as rotary table
1 x Dos GP, 1 component, 1 nozzle
1 x A220, 1 component

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Technology Center – Dispensing Tests – Academy

Subcontracting

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Technical Services

Services

The success of your adhesive bonding, dispensing or potting process depends on more than just engineering and material selection. It also depends on the services tailored to your specific requirements and thus on our experts who support you. We are by your side as your partner throughout the entire life cycle of your systems. This starts with consultation meetings and dispensing tests in our Technology Center once we have jointly discussed your basic parameters and requirements. Here we work with your engineers and technicians to develop efficient solutions in close-to-production conditions. Our **Academy** additionally ensures that your staff always has the right knowledge for the respective decisions and tasks.

We provide assistance to you as you implement your projects by offering **rental machines** and our **subcontracting service.** These options give you all the freedom you need for a future-oriented business. Our **Technical Services** experts worldwide are available to advise and assist you when you need fast system support. As part of our **After Sales** service, we also offer you a wide range of services for efficient and reliable operation of your systems – from spare parts management to modifications and retrofits, to modular parts kits tailored to your requirements.

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Technology Center

Consultation, Analysis, Dispensing Tests – Working Together Towards an Efficient Process Solution

Reasons for choosing professional support and dispensing tests

- Tests in production-like conditions provide the necessary security for subsequent series production.
- Critical component geometries are detected and can therefore be eliminated.
- The potential areas that can be optimized are identified early on and can be exploited.
- The measurement results and experiences give you clarity and provide an economic basis for decision-making during each phase of the project.
- Dispensing experts with many years of experience are at your side with advice and practical assistance.

Scheugenpflug
Advanced Dispensing Technology

Technology Center
Dispensing Tests
Academy

The adhesive bonding and potting technology has only received noteworthy importance within the industrial context for a few decades. As a material-locking joining process, this technology increasingly supplements and replaces existing methods such as welding, riveting and clinching and offers new opportunities and options with regard to innovative product development.

Sealing, potting and adhesive bonding applications, however, are rarely standard projects. This is why it is important to answer fundamental questions when designing an optimal dispensing process before the start of series production. Typical questions during this phase include: “Does the material meet the requirements for my application?” or “What does the ideal system look like for my series production?” These and similar questions can be answered most effectively by conducting professional, well-structured dispensing tests. This sounds demanding at first, but it is not. This is how you obtain the necessary basis for decision-making and assurances at a very early stage of the project. Dispensing tests are verifiably the most efficient way to achieve economical and production-like process solutions.

Our Technology Center features just under 600 square meters of cutting-edge adhesive bonding, potting and dispensing equipment. This also includes a large number of pre- and post-treatment systems. Our engineers and technicians work together with you to develop and document efficient, reliable solutions under production-like conditions. In this context we clarify any burning questions you may have up to this point – from the ideal part design to the right method, to the issue of how to meet the planned cycle times. Other services include setting up dispensing programs for samples/prototypes and the development and analysis of your processes. A personal technical support representative assists you over the entire duration of the project. Within the scope of your projects you are also given the option of having samples and prototype parts produced in our clean room.

Contact our Technology Center

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Academy

Knowledge Dispensed Properly

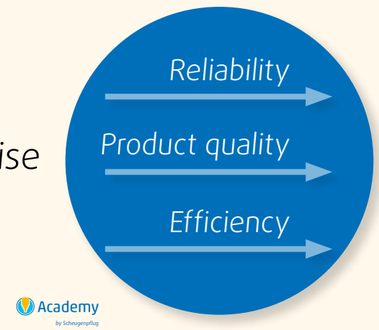
Employee knowledge, expertise and motivation are factors that make your company successful in a globally competitive market. This always applies in principle, but with complex adhesive bonding, sealing and potting processes it is an essential prerequisite for success. At the center are the people who need to have the right knowledge, understanding and mastery of not only system technology, but also the underlying processes and relationships for the defined tasks. Knowledgeable and proficient personnel provide the foundation for product quality and effective, reliable production. It is only through this knowledge and skills that sustainable and effective value creation is achieved.

Info: Learn more about our Academy
Contact our Academy

"Knowledge provides the foundation for effective adhesive bonding and potting processes – across the entire value chain. With our new Academy concept we pass this on to you."
Rainer Haslauer, Academy Trainer

Why is our Academy expertise worthwhile to you?

Academy expertise
Know, understand and master the process



Value creation

What are the factors that control your product quality?

Product

Academy
by Scheugenpflug

Adhesives, sealants and potting materials	*Systems*	*Processes*	*Employees*
Whether adhesive bonding, sealing, filling or applying thermally conductive pastes: The material used, its function and properties provide the foundation for the ideal system configuration.	*Systems control the course of the process: modular, highly available systems adapted to particular requirements – easy to understand and applicable for your processes.*	*These are based on understanding the operational sequences and on experience. This is followed by the practical implementation based on the ideal system technology.*	*Through their knowledge, understanding of processes and resulting ideas, they contribute considerably to the performance of the dispensing system.*

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Why do we care about sharing knowledge?

The best systems do not perform their best if they are not used optimally. You know us as a reliable partner: from the initial dispensing test, to commissioning, to competent support throughout the entire life cycle of your equipment. In order for you to get the best quality, cycle time and process reliability out of your application, we are sharing our 30 years of technology and process knowledge and expertise in the form of our Academy.

Thanks to our modular education and training service, you can choose between various trainings and courses, which are available online, at your location, or at our site. Within the framework of this concept, we begin our training at your employees' current level of knowledge and they learn how to get the most out of the systems and thus for your products. We use the latest educational methods to convey the required knowledge effectively to your employees.

Our course program will be continuously expanded. Schedule a personal consultation to learn more:

Rainer Haslauer
+49 9445 9564 225
academy@scheugenpflug-dispensing.com

What type of knowledge do you need?

Academy

Training

For your project and your system, this includes how to work with adhesives, sealants and potting materials as well as how to prepare, set up and operate the systems. Other topics covered range from proper maintenance and repair work to the best communication methods to prevent errors.

Course

At various levels we provide you here with comprehensive, state-of-the-art know-how, ranging from part design, to materials and systems, processing, adhesive bonding, dispensing and potting technology as well as process and quality assurance.

Refresher

Knowledge – short, sweet and to the point: Here we focus on the most recent innovations as well as refresh and expand on your current knowledge and experiences.

Academy by Scheugenpflug

What options can we offer you?

Sessions at Scheugenpflug

Our experts and our entire machinery are here for your benefit.

Sessions at your site

Sessions can be held on your premises and are focused entirely on your systems.

Webinars

Webinars are perfect for the location-independent transfer of knowledge and support of training sessions and courses.

E-learning

With this service you get the latest self-paced, interactive learning and practice with comprehensive support and 360-degree feedback regardless of your location.

Academy by Scheugenpflug

Info: Learn more about our course program

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Equipment Rentals

The Procurement Advantage

Fluctuating batch sizes and production peaks are frequent occurrences in many industries. The ability to plan for production quantities and time is becoming increasingly difficult. However, what matters is that you can deliver your products. It may also not be worthwhile to invest in a new or additional dispensing system, for example in the case of low quantities. You can close those “gaps” with our rental machines. This lets you take advantage of cutting-edge technology and does not tie up capital. You can take over the system at any time when you have more planning security.

When is rental equipment recommended?

- To handle short-term peak order periods
- To start production without major investment
- As a timely, near-production stopgap solution until delivery of the system you ordered
- To minimize risk when orders fluctuate
- Feasibility studies prior to start of production
- No capital commitment and no depreciation

Scheugenpflug
Advanced Dispensing Technology

Equipment Rentals

Get a quote

Let’s talk about your project:
+49 9445 9564 ext. 0, sales.de@scheugenpflug-dispensing.com

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Subcontracting

No More Delivery Bottlenecks

dipotec

Do you need implrement complex potting tasks reliably and in high quality? Does your production process include joining, but you don't have the necessary dispensing technology or required expertise? Then subcontracting is the ideal solution for you.

dipotec GmbH combines our many years of experience in this field with highly experienced experts and cutting-edge equipment from Scheugenpflug to help you with your individual dispensing task.
dipotec offers a wide range of different adhesive bonding, sealing and potting applications, both in vacuum and under atmospheric conditions. On request all adhesive or potting related upstream and downstream process steps are offered – optimally tailored to the respective requirements and professionally documented. You can be sure that your finished potted parts will be delivered safely and on time.

Get a quote

"Particularly in single and small batch potting, external subcontracting is a solution that is an economical and, above all, quickly available solution."
Hans-Georg Hartauer,
Managing Director dipotec GmbH

Let's talk about your project:
+49 9445 9564 500, info@dipotec.com

When is it worth it for you to use our subcontracting service?

- Dispensing is not a core area of expertise and should not have to be
- Low production quantities or small batches with a lot of variation
- Quickly accommodating production peaks
- Third-party financing or rental machines are not an option
- A system you ordered cannot be delivered quickly enough

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Subcontracting

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Technical Services

Fast, Easy and Global

Whether you need fast technical support or system availability, we are at your side with help and advice as part of our worldwide service network. With our expertise and experience from conducting thousands of dispensing tests, our skilled service technicians help you to ensure that your systems run smoothly. Together with our experts, you decide which of our modular support services you need: personal on-site assistance or troubleshooting by phone and/or remote control.

Info: Learn more about our technical services

Our Technical Service experts will help you here

Initial start-up
Fast on-site setup, comprehensive operator instruction and a speedy start to production are standard for us.

Technical support
You can rely on our experts, who provide fast, straightforward support by phone, remote control or through an experienced service technician on site.

Customer service/maintenance
As an on-site representative, experienced service technicians ensure that your systems are working properly, point out any potential for optimization, take care of maintenance, repairs and modifications, and carry out software updates. Combined with a fitness check, the best performance of your system is guaranteed.

Service agreements
Quickly and easily reserve your personal support based on our modular service packages to ensure the maximum availability of your system.

Scheugenpflug
Advanced Dispensing Technology

Technical Services

Customer Care Center

Germany:
Monday - Friday 7:00 a.m. to 5:00 p.m. (GMT +1)
+49 9445 95 64-20
service.de@scheugenpflug-dispensing.com

China:
Monday - Friday 8:30 a.m. to 5:00 p.m. (UTC +8)
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+1 770 218-0835
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Mexico:
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Romania:
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Our worldwide service and sales partners are available to assist you with international service.
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Potting Material Manu. from A-Z
International Sales + Service

After Sales Services

Your System Performance Is Our Priority

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Our worldwide service and sales partners are available to assist you with international service.
[see page 136-137]

Our comprehensive After Sales services are perfectly tailored to your requirements. In addition to our modular system concept, our years of experience always ensure maximum system performance at a minimum effort. Thousands of original spare parts from our large central warehouse are available to you to keep your systems running smoothly. And our conversion team is ready to assist you when you need function upgrades and/or system performance enhancements. You can also take advantage of the knowledge of our experienced cleaning experts who handle cleaning and maintenance of your components and systems on our premises. The use of unusual equipment, such as cleaning baths with bacteria or special cleaners, has proven its worth in this case. To increase your system availability, we have developed parts kits which our after sales team would be happy to assist you in putting together. Your system operations benefit directly from this experience and modularity.

Info: Learn more about our After Sales services

How our After Sales services can benefit you

Spare parts management
Fast delivery with high-quality spare parts for maximum process and product quality.

Cleaning, maintenance and repair work
Our skilled specialists, powerful equipment and high-quality original spare parts provide the basis for the optimum maintenance of your system on our premises.

Modifications and upgrades
These ensure that your systems run optimally for longer and/or perform better. This applies equally to functions and performance.

Parts kits
Increase your system availability with our maintenance and parts kits tailored to your requirements.

Scheugenpflug
Advanced Dispensing Technology

After Sales Services

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Potting Material Manufacturers from A to Z

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The Channel – Your Product Navigator

Our highly qualified team supports you with product selection, tailored to your individual needs.
The Product Portfolio contains **Adhesives/Sealants, Encapsulants, Gels** and **Coatings** for a broad range of applications in:
- Electronics-, Automotive-, Solar-Industry
- Lighting
- Thermal Management

Challenge us – we find **your** Solution

Biesterfeld
Competence in Solutions

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Futuristic, one stop solutions for e-mobility, printed electronics, 3D printing and smart surface

With more than 40 years of experience in application technology, Bodo Möller Chemie is the global full-service provider, especially for the automotive, rail and aviation industry. Well-known chemical companies like Huntsman, Henkel, HB Fuller, Dow and Dupont are our longstanding, valued partners. Our range of products for electronics and electrical engineering includes casting compounds (EP, PU, hotmelts), impregnating and trickling resins, silicones, adhesives and cleaning products for electrical components.

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Engineer chemistry

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copaltec: your innovative partner for challenging casting applications

We are the experts for efficient thermal management of your high-tech applications.

- **High thermal conductivity** of up to **3.5 W/m*K**
- **Non-metallic** fillers and **low viscosity**

Your optimization potential: increased performance and longer service time through lower operating temperatures.

Polyurethane is our passion! This is reflected in our broad product portfolio including **thermally conductive, transparent**, electrically **insulating** and **flame-retardant** resins with **UL certification.**

copaltec

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71034 Böblingen
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info@copaltec.de
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Meet your goals with Dow Silicones

- Thermally Conductive Adhesives, Compounds, Encapsulants and Gap Fillers for efficient heat dissipation
- Room Temperature and Heat Cure Adhesives for advanced assembly

✓ Ensure stability in harsh environments, especially at high and low temperatures
✓ Meet goals for easy processing and low cost of ownership

DOW

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www.consumer.dow.com

Casting and potting systems by ELANTAS Europe

ELANTAS Europe is specialized in the manufacture of resins for electrical insulation based on epoxy, polyurethane and silicone. Our customers benefit from our extensive know-how and long-term experience in the formulation and application of casting and potting systems. Our materials contribute to the reliability and sustainability of a wide range of end use applications. They are tailor-made and easy to apply.

ELANTAS Europe is part of the division ELANTAS of the ALTANA group. As supplier of liquid insulation materials ELANTAS Europe offers a wide product portfolio of casting and potting compounds, impregnating resins and varnishes as well as wire enamels for the electrical and electronics industry.

ELANTAS

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www.elantas.com/europe

Electrolube – the solutions people

Global manufacturer of specialist chemical solutions for the Electronics, Automotive and related industries. Manufacturing on three continents and a strong distribution network ensures the supply chain and a 'complete solution' throughout production.

Product portfolio includes:
- Polyurethane, Epoxy and Silicone Resins
- Thermal Management
- Conformal Coatings
- Lubricants
- Electronics cleaning solutions

ELECTROLUBE
THE SOLUTIONS PEOPLE

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EPOXONIC GmbH, synonymous for professional epoxy resins

EPOXONIC GmbH specialises in the development and production of highly demanding adhesives and casting compounds. Together with our customers we develop individually adjusted systems that are easy to handle but nevertheless make no compromises concerning stability, reliability and long service life. Highlights are high-strength adhesives with outstanding chemical resistance and flexible, temperature resistant potting compounds without anhydrides.

EPOXONIC® innovative epoxies

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HALA – Optimising Thermal Interfaces

HALA Contec is a world wide supplier of tailor made thermal management solutions and Thermal Interface Materials (TIM) for optimizing thermal interfaces. The wide product portfolio comprises thermally conductive foils and films, Gap Filler elastomers or 2 part dispensable compounds as well as phase change materials (PCM), adhesives and PSA tapes to be applied in industrial, LED, automotive applications and others.

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Innovative Solution Provider for Electronics Materials

Henkel is the world market leader in adhesives, sealants and surface treatment, offering a comprehensive portfolio of innovative products and systems solutions. Henkel's world-renowned Loctite, Technomelt and Bergquist product portfolios provide today's electronics specialists with the proven, reliable and compatible material solutions they need to stay competitive.

http://www.henkel-adhesives.com/electronics
http://www.bergquistcompany.com

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BERGQUIST

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KERAFOL® – Gap Filling Liquid for e-Mobility

KERAFOL® specializes in industrial supply, focus on automotive and power electronics, with thermal conductive & electrically insulating materials (TIM). The silicone-based 2K elastomers as well as customized Gap Fillers have a high thermal conductivity with the highest dielectric strength and are characterized by their material-friendly workability and unsurpassed layer properties.

KERAFOL® Keramische Folien GmbH & Co. KG

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LORD – Innovating Together

LORD Corporation specializes in developing world-class thermal management solutions for electric vehicles. Our CoolTherm® portfolio includes heat conductive potting and encapsulation materials, adhesives, gap fillers, gels and greases in a variety of chemistries – silicones, epoxies, acrylics and urethanes. Our passion for innovation is driven by a desire to create value for our customers. Through the power of collaborative relationships, we shape tomorrow with greater ideas.

LORD

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ThermalManagement@lord.com
www.lord.com/emea

Momentive Performance Materials – Inventing Possibilities

Momentive Performance Materials Inc. is a global leader in silicones with a long heritage of being first to market with performance applications for major industries.

Momentive's extensive product portfolio of unique materials includes Adhesive & Sealant Materials, Potting & Encapsulation Materials, Thermal Management Materials, Coating Materials and Optical Bonding Materials

MOMENTIVE™ inventing possibilities

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OTTO-CHEMIE – Do more with the right adhesive / sealant

OTTO stands for products perfectly suited for different purposes, individual advice and personal service.
Whether it is bonding, sealing, coating or potting, OTTO has decades of experience and is an expert partner to industrial companies from a variety of sectors.
Specially developed high-performance adhesives and sealants combine components flexibly defying the effects of heat, steam, temperature fluctuations and concussions; and serve as insulation against sound and vibrations.

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83413 Fridolfing, Germany
Phone +49 8684 908 0
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www.otto-chemie.de

Hightech Industrial Adhesives and Medical Grade Adhesives

Panacol is a leading international manufacturer of industrial adhesives as well as medical grade adhesives. We provide an extensive product range that includes UV adhesives, structural adhesives and conductive adhesives for a great variety of applications. As a member of Hoenle Group and as a partner of UV equipment manufacturer Hoenle, innovative UV- and UV-LED curing systems are also available from Panacol.

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www.panacol.de

Powerful electro casting resins, adhesives and sealants

Sika Industry offers a wide range of structural and elastic adhesives and sealants for the automotive, components, equipment and electronic industry.

The polyurethane and epoxy based casting resins of Sika Advanced Resins serving technical and electric potting applications and are suitable for highly advanced automated applications in Automotive, E-Mobility and Electronic Industries.

Sika Deutschland GmbH
and Sika Advanced Resins
Stuttgarter Strasse 139
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Phone +49 7125 940-7692 / -492
www.sika.com
www.sikaadvancedresins.com

Stobicast® polyurethane compounds for casting, potting, impregnation and encapsulation of transformers, capacitors, EMI-filters, motors, instrument transformers, sensors, electronics, lighting and LEDs.
Hard to soft-elastic systems with UL 94 V-0 and UL 746 RTI 130 °C, RoHS and REACH compatible, household appliances standard IEC 60335, processing in atmospheric and vacuum casting, low viscosity systems for good penetration, high heat conductivity.
STOCKMEIER Urethanes develops and produces in Germany, USA, France and UK. The product are sold worldwide.
Caused by globalization international product approvals are getting extremely important for potting systems.
Stobicast offers all relevant recognitions acc. to UL, VDE, DIN, NF, IEC, RoHS etc.

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Wacker Chemie AG

WACKER is a globally active chemical company with 13,811 employees and annual sales of around 4.92 billion (2017). Spanning the globe with five business divisions, we currently operate 25 production sites worldwide. WACKER is represented by subsidiaries and sales offices in 31 countries in the Americas, Asia, Australia and Europe.

WACKER SILICONES
Silicone fluids, emulsions, rubber and resins; silanes; pyrogenic silicas
Core Competence:
Silicone Elastomers & Gels as Encapsulants, Adhesives & Sealants

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TAILOR-MADE CASTING, BONDING AND SEALING SOLUTIONS

WEVO-CHEMIE GmbH are specialists in casting, bonding and sealing. Customized resin systems from Wevo based on polyurethane, epoxy and silicone for electrical and electronic components have become indispensable in the automotive, energy, household and engineering sectors. In short, Wevo products ensure safety and efficiency.

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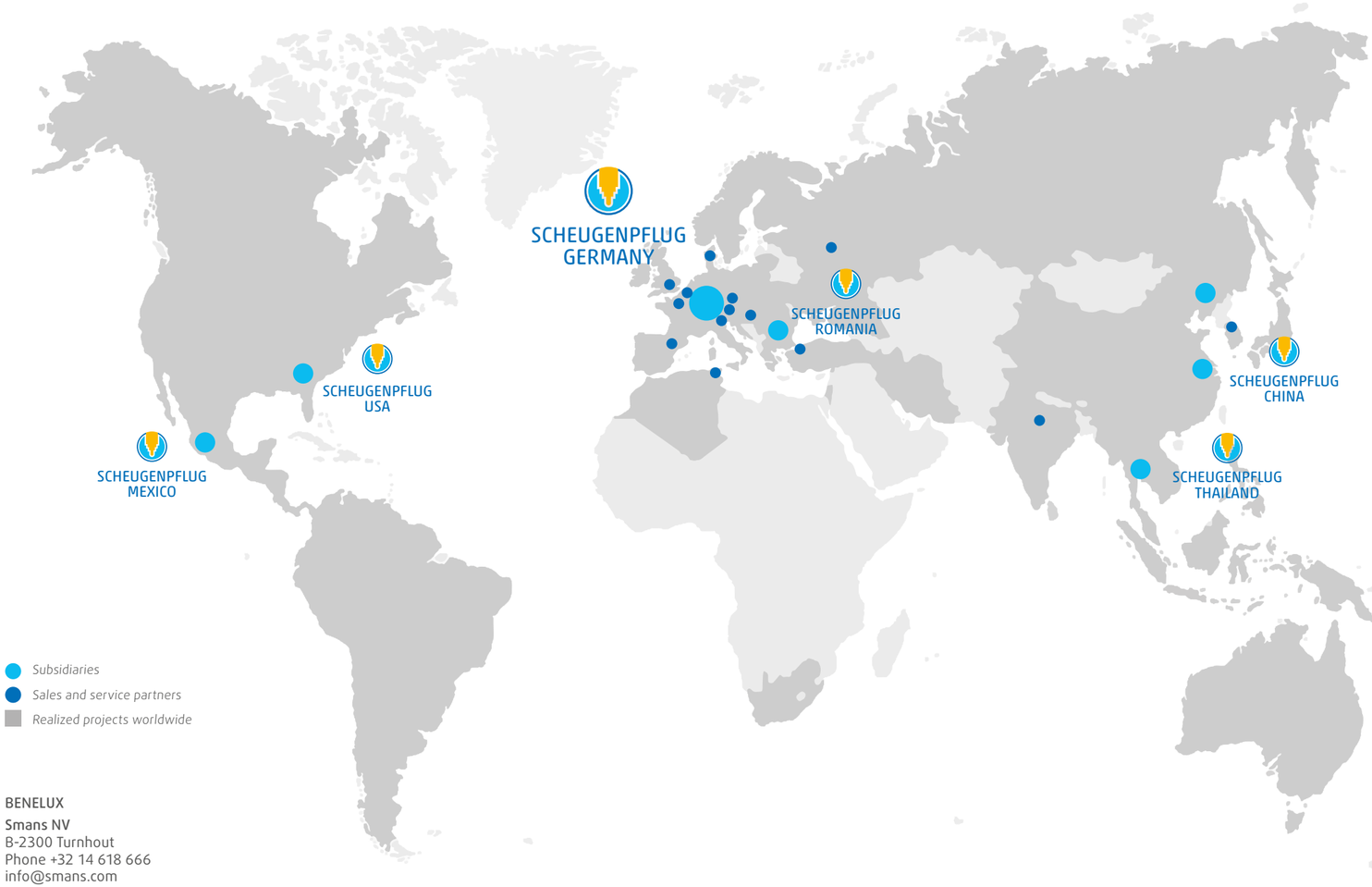
International Sales and Service: We are Right Where You need Us!



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