dosing and
dispensing
technology

WALTHER
SYSTEMTECHNIK

Conveying.
Dosing.
Applying.

Dosing equipment for industrial production

Performance overview

Walther Systemtechnik GmbH
Dosing and Application systems for liquid and pasty media

Your specialist for dosing technology

The perfect solution from one single supplier

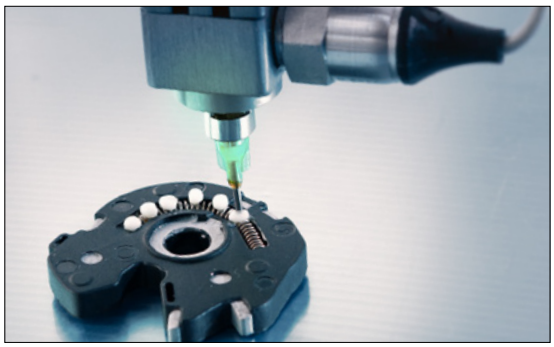
Walther Systemtechnik develops projects and both designs and manufactures components, systems and automated units for conveying, dosing and applying liquid and pasty media.

Like from a one-stop shop, you can get everything from a single source covering the entire dosing process chain, including media characterization, mechanical engineering and automation. In other words: Whether you need sealing, gluing, marking, greasing or oiling, we will assist you in your project from A to Z.

Your advantage: You only have one contact person, but many specialists will skillfully take care of your project. We will remain at your disposal far beyond commissioning.

With our worldwide service and sales network, we will be at your side in all matters whenever you need our assistance.

Our broad, cross-industry positioning makes us your reliable partner for all disciplines and areas.



Walther Systemtechnik develops fluid application technology for viscous media such as ...

Wax and cavity seals, preservatives, silicones and adhesives, anti-friction coatings, fluxes, release agents, paints, primers, lubricants in the form of oils, greases and pastes, and much more.

Founded in 1974 as a mechanical engineering company, Walther Systemtechnik has developed over the years into an innovative manufacturer and powerful system partner in the field of dosing technology.

Since then, the focus on specific application technology and the ongoing research and development have significantly shaped modern fluid application technology.

As a specialist in highly integrative and process-safe solutions, our company is an attractive partner for a wide range of machine and plant manufacturers worldwide and has been part of the HAHN Group since 2019.

With the perfect combination of many years of experience, system know-how, media knowledge and innovative ideas, we create the perfect dosing solution for every industry.

Our solutions are used in key industries such as the automotive and aviation sectors as well as in industries such as consumer goods, electronics and pharmaceuticals.

This is what sets us apart:

Own technical lab
Everything from one source
Worldwide distributor network
Fast response times
ISO certification

Products and Services

Intelligent dosing

Components

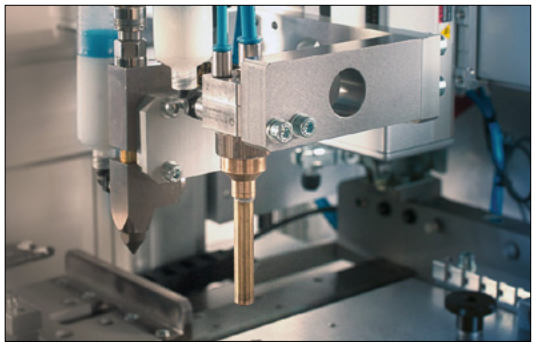
Our portfolio of tried and tested components stands for a new generation of innovative function carriers.
They show a high degree of function integration and intercommunication, are perfectly in synch, and thus enable the design of sophisticated system solutions with low engineertign effort and high flexibility.

Special machines

Where dosing technology processes require independent, partially or fully automated solutions, we supply suitable special machines from the idea through the development to realization. Walther Systemtechnik designs and builds unique, specialized machines and systems for applying viscous media according to customer-specific tasks.

Fluid systems

With the custom-designed combination of individual components, we create your fluid system according to the modular principle which is exactly matched to your application and thus guarantees an optimal function.

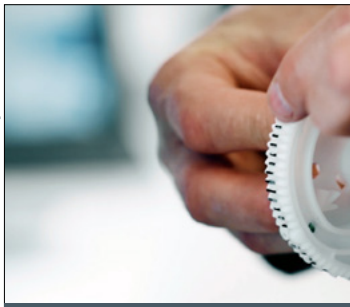


In our technical lab, we perform application-related tests for you. We then provide you with comprehensive advice and recommend the most suitable solution.

Services

Always there for you: As a competent partner with regard to feasibility and technical requirements of dosing applications, our range of services covers every phase of your dosing project.

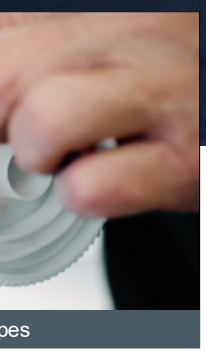
- Initial trials
- Feasibility studies
- Sampling
- Training
- Installation
- Commissioning
- Maintenance
- Repair
- System optimization



Sampling and production of prototyp

Good service starts exactly when and where you need it: We assist you comprehensively from the beginning and far beyond the successful commissioning.

Training courses convey the basics of dosing and process engineering and link those to practice.



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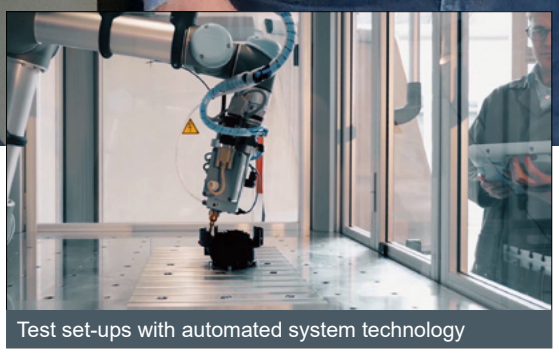


Test set-ups with automated system technology

Characterization of medium properties

Components

Comprehensive fluid handling from A to Z

From suppling and feeding to the perfectly dosed and controlled dispensing of viscous media: Thanks to the intercompatibility and modularity of our components, we offer you an extensive range of products covering the entire dosing process chain.

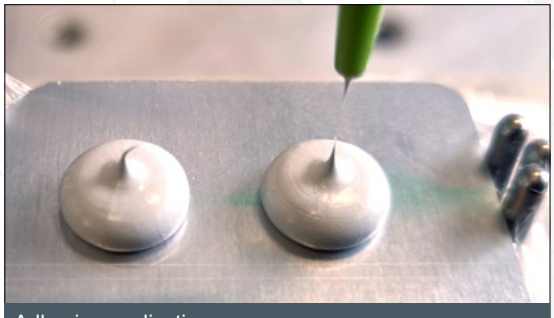
Supplying and feeding

We offer suitable solutions for removing liquid and viscous media from any packaging and secure the careful feeding into the system.

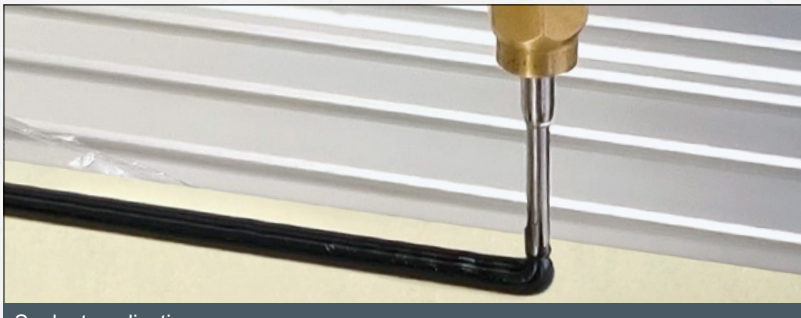
Transfer and treatment

Dedicated components such as pressure controllers and filters are available for all necessary media treatment and transfer functions.

Everything from a single source: With our tightly integrated portfolio, you can implement these and many other applications.



Adhesive application



Sealant application

Our standardized and tried-and-tested components offer maximum flexibility and cost-effectiveness.

All components can be configured individually and according to specific requirements.

Thanks to robust materials that reduce wear and tear and maintenance costs, those components work reliably and precisely in a wide variety of industries, even under difficult conditions. They can be used both to build new systems and to extend existing ones.

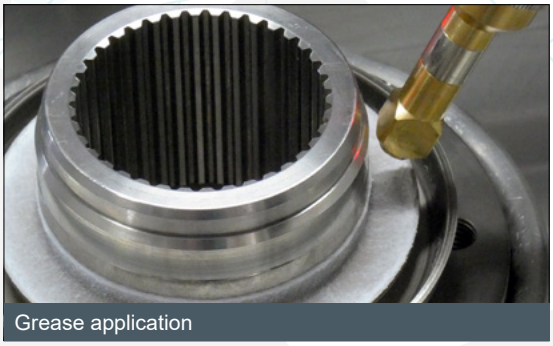
Processing and application

With different setups, types and sizes, our valve range provides a suitable dosing solution for every application requirement.

Instrumentation and control

Our products offer the ability to continuously record and monitor relevant process parameters in order to visualize and ensure quality.

Oil application



Grease application

Components /
Supplying and feeding

Whether cartridge, can, bucket or barrel: for the careful and constant removal of media from original containers, Walther Systemtechnik offers unloading systems with different degrees of automation tailored to individual requirements. In particular, users of costly media benefit from the almost complete container emptying. Special elaborated systems with a homogenization unit for on-site media treatment or with an integrated media reservoir for a media feed during the container change ensure process reliability. Tandem versions of the ADVANCED pump system guarantee a continuous medium supply at all times.

WKSK cartridge emptying system

Our WKSK enables the process-reliable dosing from cartridges – even in highly automated production and assembly systems. With an integrated pressure regulator and pressure display as well as an optional pre-empty and empty signalling, the system operates autonomously. An uninterrupted medium supply can be ensured by means of cascading.

WKF small-scale supply unit

Our WKF is a compact solution for the controlled emptying of small containers with a maximum height of 285 mm and an inner diameter of 90 to 200 mm. This robust system meets all requirements for removing even highly viscous media such as resins, waxes or greases and to safely feed follow-up processes. With the direct connection of a valve, dosing applications can be implemented within a small installation space.

WDBS pressure tank system

Our stainless-steel pressure tank systems are used for the pulsation-free conveying of low- to medium-viscosity media. With various container sizes, an integrated control system for the stirrer, a process valve and a level sensor, the provision and monitoring of various process parameters as well as a wide range of upgrading options, they offer flexible configuration options and meet the highest requirements.

WPS ADVANCED pump system

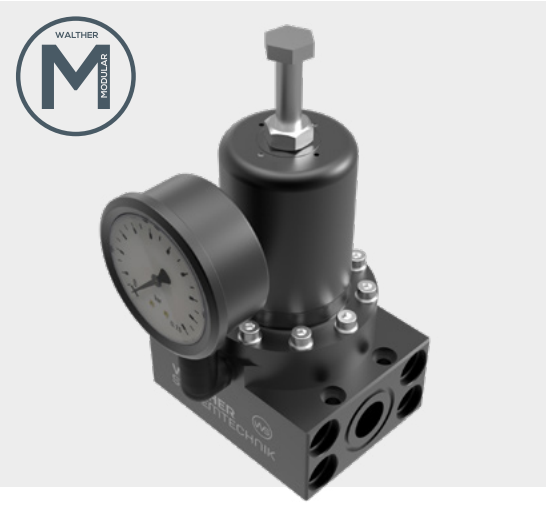
WPS ADVANCED is used to supply medium- to high-viscosity media from the manufacturer‘s container. The pneumatic control system can also be operated remotely using digital I/Os and enables integration into automated systems. The system is characterized by features such as an adjustable follower plate pressure, container level monitoring and automatic pressure relief, and it is also available as a tandem version.

WPS PROFESSIONAL pump system

With the automation of various processes and consistent user guidance via touch panel, the close-to autonomous pump system largely removes the influence of the operator, reduces operating errors and ensures comprehensive quality and process control by monitoring and providing process parameters. It is also expandable with a media reservoir and a homogenization unit.

Components /
Transfer and treatment

Bridge power outages, disconnect whole media stream areas, or simply divert media streams: With our components of the category „transfer and treatment“, we offer you the ability to tailor an individual fluid system precisely to your application requirements. Standardized function carriers enable a fast and simple project planning. Options such as continuous degassing or filtration ensure optimal pre-treatment of your medium in order to achieve the best possible application quality.



WMDR material pressure regulator

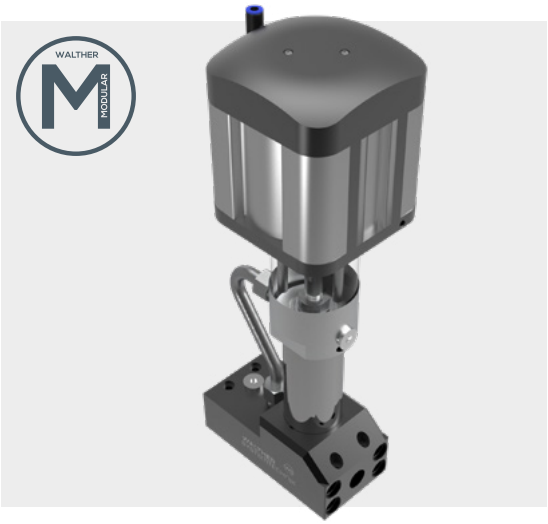
Our WMDR is used for the manual regulation of the liquid pressure in the pipe systems of supply and circulation systems. It reliably compensates for fluctuations in system pressure, minimizes the influence of varying inlet pressures and keeps a lower and constant pressure in the downstream system. Its innovative design ensures high dynamics and very good stationary accuracy.

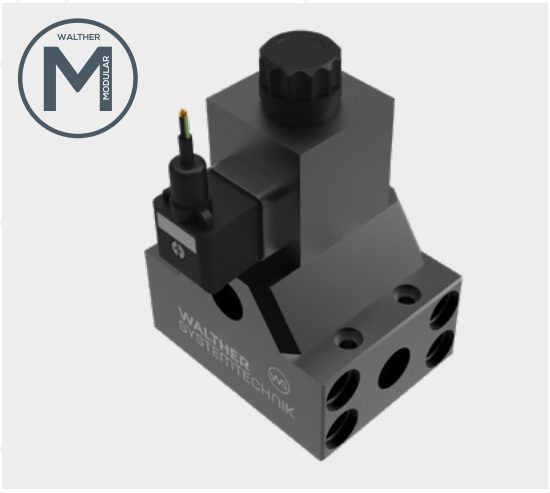
WFSD diagnosable filter system

Our WFSD filters your medium and ensures consistent purity and stable application conditions. The device also monitors important process parameters such as the degree of contamination of the filter cartridge. In the true sense of ‘predictive maintenance’, the cartridge can be changed in time during routine maintenance if necessary. This reduces machine downtimes and increases system availability.

WBP booster pump

Long supply distances, low line cross-sections, extreme level differences or high pipe friction resistance: There are many reasons for low pressures in supply lines. With a ratio of 25:1 and a maximum outlet pressure of 250 bar, our Walther Booster Pump can be integrated directly into the medium supply line as a pressure booster and provides a powerful remedy.





WGV media switch

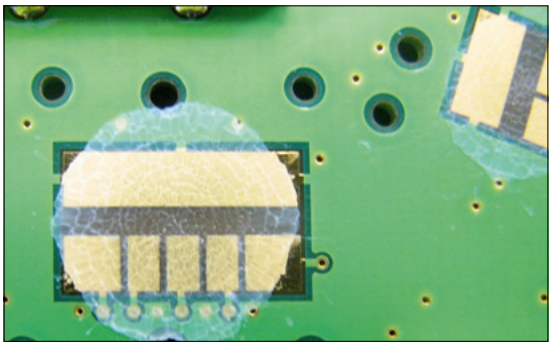
Control your media streams reliably, lock media streams from each other or divert them completely: The grease valves of the WGV series are controlled electrically and offer high flow values, fast switching times and high switching frequencies in a compact design.

WADS advanced degassing station

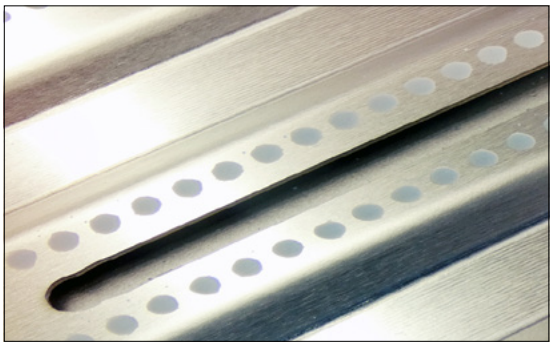
Our Advanced Degassing Station detects gas inclusions in the medium and discharges them reliably and efficiently with low media loss. In this way, it protects the downstream components of your fluid system, ensures a homogeneous application image of the medium and helps to increase and stabilize the application quality. As an independent component, WADS can be integrated quickly and easily into existing process chains.

Components /
Processing and application

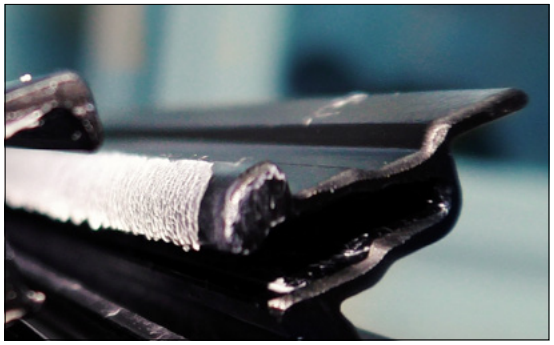
Whether spraying, pulsing or dosing – our products offer a wide range of possibilities for the application of viscous media onto the target component according to your requirements. Depending on the application, valves can be selected for applying dots, lines or flats.



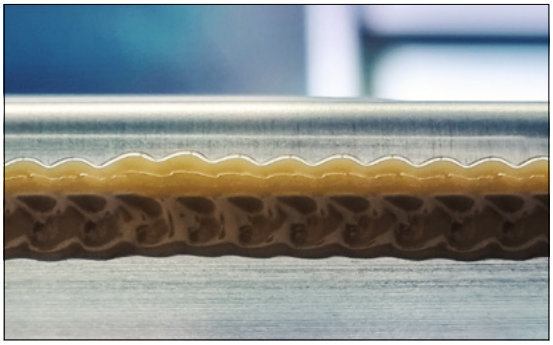
1 Contact coating (electronics)
Dot application of contact grease to prevent corrosion and reduce the transition resistance of electrical contacts.



3 Flux application (e-mobility automotive)
Contactless dot application with a moving valve. The flux is fired onto the battery base plate for the soldering process.



2 Lubricant application (automotive)
Spray application on moving components to ensure the functionality of elements with tribological properties.



4 Cavity sealing (automotive)
Application of wax lines/beads with a moving valve for the sealing of seams of local connecting elements, e.g. screws.

For lubricants, adhesives and sealants: The quality and reliability of our valves form the basis for the high precision and reproducibility of your application.

With our valves, you can apply viscous media very precisely and accurately repeatable in small quantities. Which valve type is best suited for your application depends on the type of application. The following overview can be used as a selection aid:

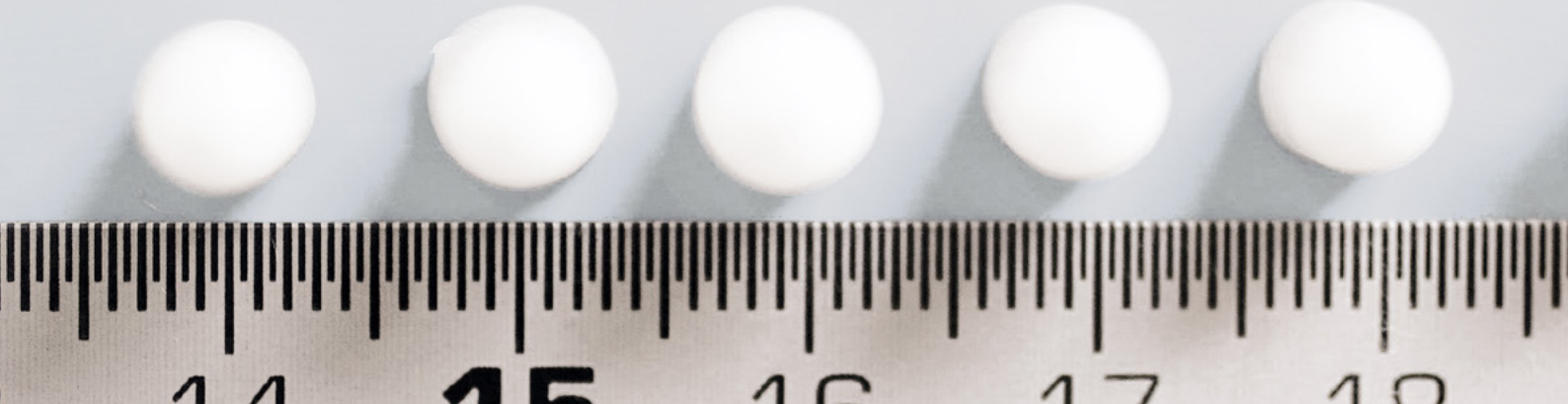
1 Spraying – local
Dot spray applications without moving the valve or component.

2 Spraying – path
Spray application along a path.
(by moving the valve or component)

3 Dot – local
Dot application of the medium, without atomizing it.

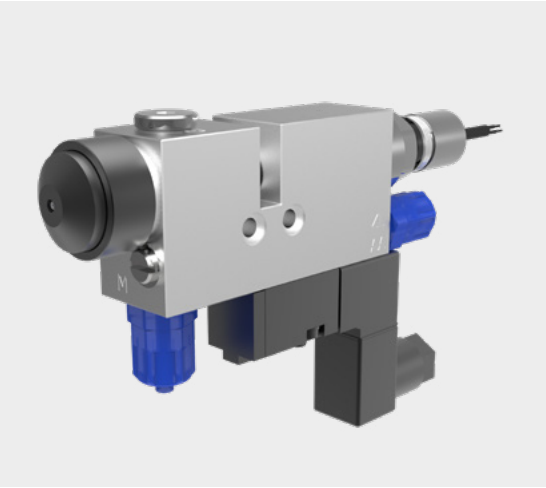
4 Line/bead – path
Line/bead application along a path.
(by moving the valve or component)

	Pressure/time controlled		**Pressure/time/frequency controlled**		**Pressure/volume controlled**	
influencing factors (control factors)	medium pressure, application time		medium pressure, discharge time, output frequency/ quantity		medium pressure, application volume	
location	local (1-D)	path (2/3-D)	local (1-D)	path (2/3-D)	local (1-D)	path (2/3-D)
valve type **SMS**	spraying	spraying				
valve type **WSV**	spraying	spraying				
valve type **MPP**			dot	bead		
valve type **VMS**	dot	bead				
valve type **WDV**					dot	
valve type **WSDV**					bead	
free parameter (determined)	application volume		application volume		application time	
controllable to a limited extent	temperature		temperature		temperature	
disturbances (cannot be influenced)	physical/rheological properties of the medium		physical/-rheological properties of the medium		physical/-rheological properties of the medium	



Components /
Processing and application

Spray valves from Walther are designed for both the intermittent and for the continuous application of viscous media. They allow for components and workpieces to be sprayed with a homogeneous film. By means of different air cap combinations as well as nozzles and nozzle extensions, an extremely precise adjustment to the desired spray pattern can be made. This is why the valves can be used for dot, line or flat application without waste of material or extensive contamination of the process area even in corners that are difficult to access.



SMS-02 spray valve

With our electro-pneumatic SMS-02, you have all the factors for spray application firmly under control. Different nozzle sizes, adjustable medium flow and atomizing air pressure, an integrated air valve unit which controls the purging air duration, as well as short control air distances for fast opening and closing of the needle allow for an individual adjustment of the spraying process.

SMS-04 spray valve

If you need to implement spray applications in a very confined space, the SMS-04 is the ideal solution. The robust and easy-to-maintain spray valve guarantees a homogeneous and precise spray application and, due to its compact size and weight, can be used wherever space is limited or the mass to be moved needs to be reduced to a minimum.

SMS-20 spray valve

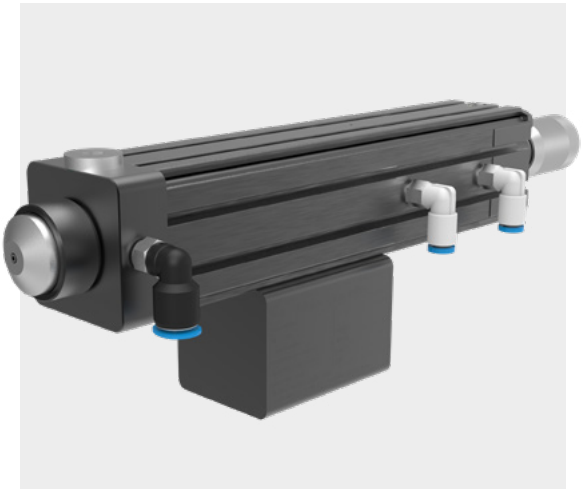
This multi-talent of a spray valve was developed for use in harsh production environments and is controlled via an external pneumatic 3/2 directional valve. The valve needle is opened by control air pressure and closed by spring pressure. The atomizer air can be controlled autonomously via a separate air inlet in order to precisely adjust the application result and prevent contamination of the valve nozzle by blowing through.

WSV spray valve

Our WSV is an electric universal spray valve and combines control, monitoring and evaluation in its small size. With an Ethernet-based bus system for parameterization via web interface, four DIOs as well as integrated valve heating, temperature control and a pressure sensor, the WSV spray valve offers maximum flexibility, user-friendliness and process reliability.

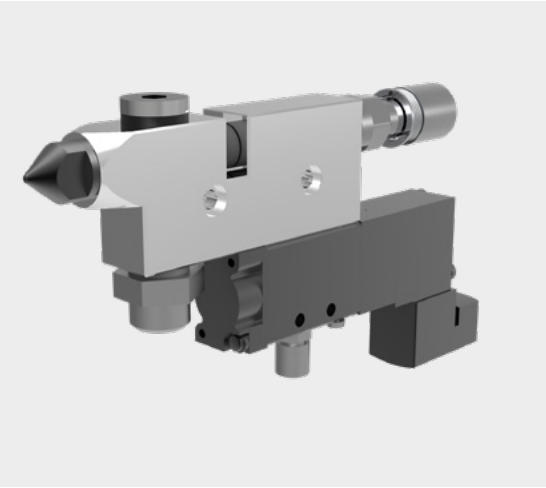
WSDV spray metering valve

Spraying or dosing? Why not both! WSDV can spray defined (and even tiny) quantities of viscous media precisely and with accurate repeatability. The dosing quantity can be adjusted continuously in the requested dosing range by means of an adjusting screw and is not influenced by fluctuations in the medium properties thanks to volumetric dosing. WSDV is controlled pneumatically by an external 5/2 directional valve.



Components /
Processing and application: Pulsing

With our pulse valves, low- to high-viscosity media can be applied extremely quickly. Small amounts of media are shot onto the carrier component at a frequency of up to 400 Hz over a distance of up to 150 mm as dots or lines with an extremely high repeat accuracy. The use of nozzle extensions makes it possible to reach even angled component geometries. Since the application is performed without any contact between the component and the valve, accompanying process steps such as feed movements of the Z-axis are not necessary. There is also no risk of collision between the component and the dispensing needle.

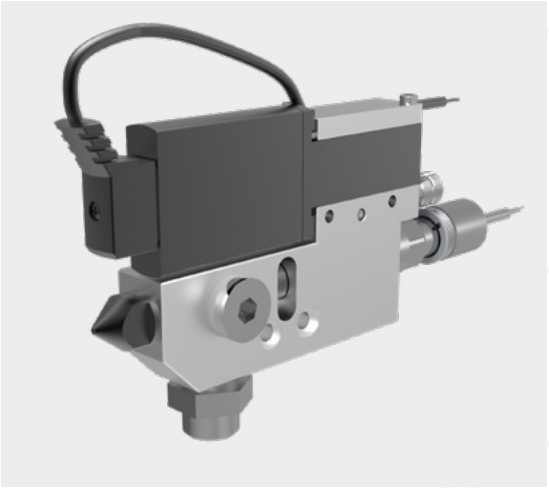


MPP-01 pulse valve

From dynamic micro-quantities to jet dosing – our MPP-01 pulses media contact-free over a distance of up to 150 [mm]. This operating principle also enables the application of medium into difficult-to-access points, such as in bore holes or beads. A light barrier and a pressure sensor for monitoring each individual medium dot are available as an option.

MPP-03 pulse valve

When the MPP-03 was developed, the speed of the integrated high-frequency switching valve was the benchmark for maximum performance. The result: A pulse valve ideally suited for very high process speeds with a frequency of up to 200 Hz, it allows for even faster and even finer dosing. Same as the MPP-01, the MPP-03 also offers process monitoring.



MPP-Speed

Our MPP-SPEED has been developed for the application of the smallest dosing quantities (approx. 0.5 µl) and is used in very fine precision applications. With a pulsing frequency of 400 Hz at a service life of up to 500 million cycles and its purely electrical operation, this pulse valve is ideally suited for series production. Its low weight and compact design make it ideal for integration into automated systems.

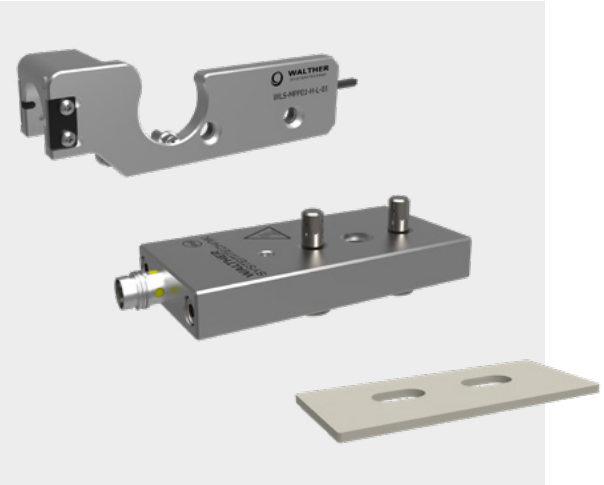
WPV pulse valve

The purely electric WPV combines everything you need for the application of low- to medium-viscosity media in compact design. In addition to the electronics for controlling, monitoring and online assessment of process data, the integral compact design combines a pressure sensor and valve heating with temperature control. Its Ethernet connection allows the direct remote parameterization and remote diagnosis via web interface.

Accessories

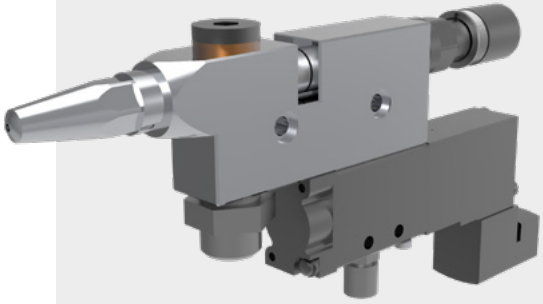
Pressure sensors, light barriers, needle stroke sensor, heating plates, insulating plates, temperature control and much more ...

Our product portfolio comprises a wide range of accessories and peripheral devices that help you design your application task precisely and safely.



Components /
Processing and application: Dosing

Our dosing valves are designed for application focussing on exact amounts of media and repeatable, contact-based dosing. The valve and the component are usually routed towards each other via the Z axis. The medium leaves the valve nozzle and sticks to the component. This results in a clean application pattern without splashing. Furthermore, the valves are perfectly suited to be mounted stationarily to jigs where, in combination with an application head (see page 26 fig. 3), complex geometries or several areas of the same workpiece can be tackled.



VMS-02 full-jet valve

With the VMS-02, you have access to a fast-switching, electropneumatically controlled application valve which is preferred for sealants, adhesives and oils. This full-jet valve was developped for the application of beads/lines and dots by means of pressure/time dosing and is highly appreciated by its users because of its robustness paired with high precision and excellent reproducibility of the application quantity.

WDV volume dosing valve

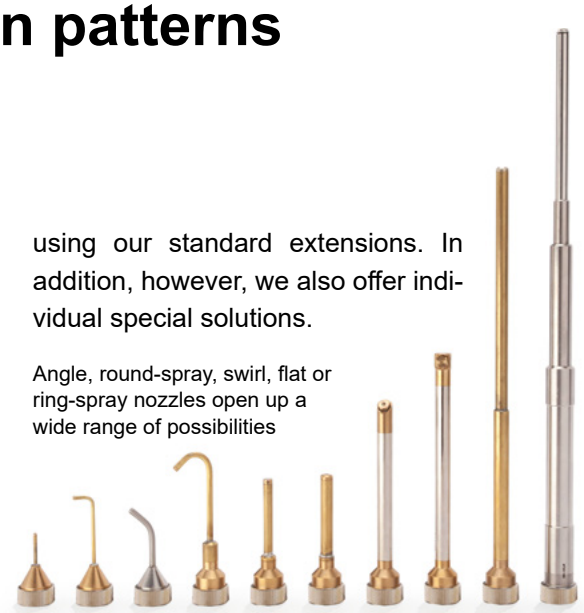
The WDV is a robust chamber dosing valve in which the dosing chamber volume can be adjusted continuously using the adjusting screw. Due to its mode of operation, neither media pressure nor viscosity have an influence on the discharge quantity. After the chamber is emptied, the residual medium is sucked back into the valve, which prevents dripping. Modern sealing elements guarantee a long service life even at high inlet pressures.

Individual application patterns

of the highest quality

All our valves have in common that the application pattern can be adjusted individually. A variety of nozzle extensions also covers different shapes and angles depending on your requirements.

You can even master complex workpieces with difficult geometries such as back-cut, angled channels and cavities with exactly the right tool. Most challenges can therefore be met using our standard extensions. In addition, however, we also offer individual special solutions.

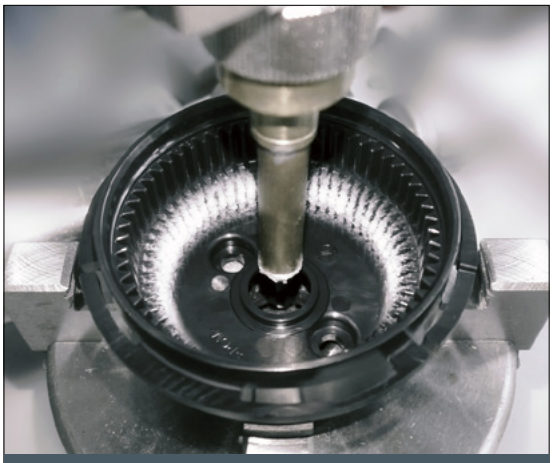


Angle, round-spray, swirl, flat or ring-spray nozzles open up a wide range of possibilities

Spray application with an angled nozzle

Pulse application with an angled nozzle

Spray application with a swirl nozzle



Spray application with a 360° ring-jet nozzle

Components /
Instrumentation and Control

Manage and stabilize your processes reliably: The devices in our „instrumentation and control“ category are equipped with high-precision sensors. These continuously record relevant process values and control its output so that the deviation between the targeted and the actual values is low even if there are disturbances. The continuous process monitoring provides important data for assessing processes and, if necessary, optimizing them. Being equipped with various interfaces, our devices can be seamlessly integrated into the control concept of your overall system.

WVC valve control

Control, analyze and optimize order processes more conveniently than ever before: As a smart dosing center, WVC not only controls the entire spectrum of our electrically and electropneumatically controlled spray, pulse and dosing valves as well as many other conventional valves, but also monitor and evaluate sensors and actuators mounted directly on the valve. The parameterization is performed simply via a web browser.

PS4 pressure sensor

The PS4 pressure sensor detects the current process pressure, displays it locally and clearly legible on a well-designed digital display and enables the monitoring of a previously defined pressure range. If the range is undershot or exceeded, a signal can be output to the PLC, keeping you aware of irregularities. The display can be rotated by 320 degrees.

WTRB temperature control bundle

The Walther Temperature Controller Bundle is a simple and cost-effective possibility of operating heating plates and heating hoses reliably and independently of external influences without a higher-level control. It is optimally pre-parameterized, easy to operate and already equipped with a mandatory relay (for Walther heating products).

WGFM gear flow meter

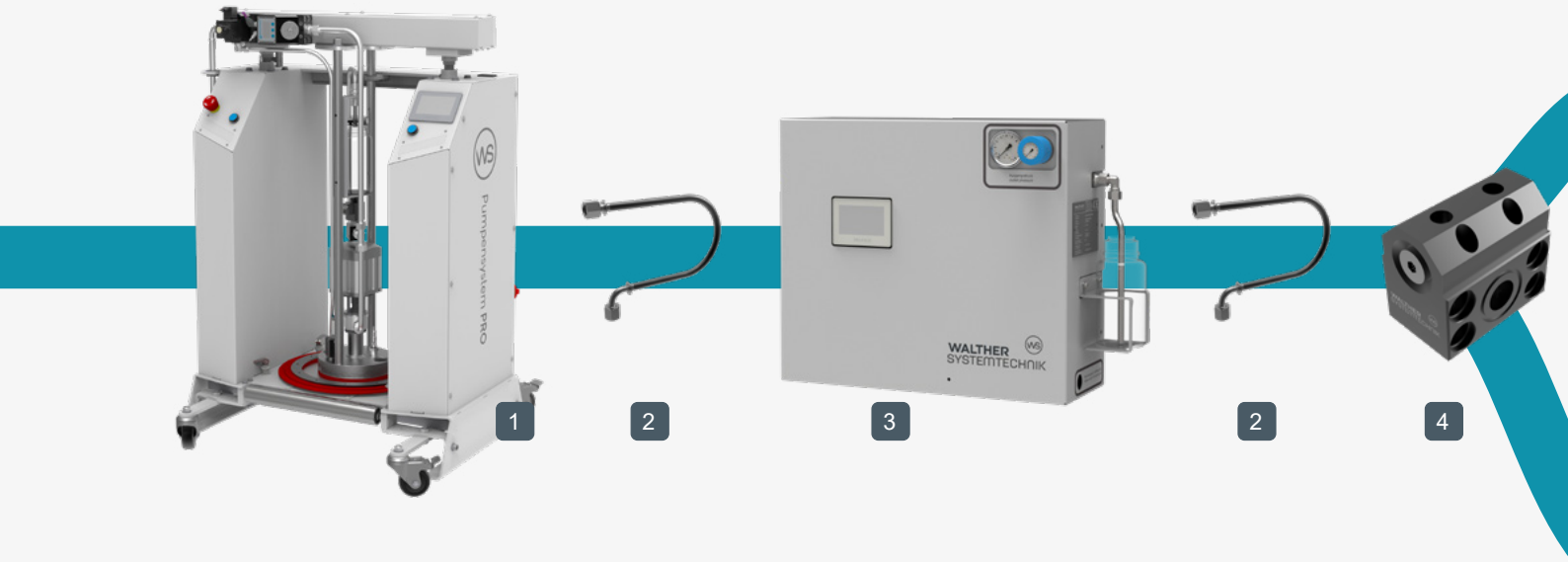
Our WGFM gear flow meter precisely measures the flow rate during the dosing process. Thanks to the integrated control system which also evaluates the raw data, you do not need any additional peripheral elements; instead, you can reduce the commissioning time and effort and are able to directly control valves. Digital interfaces enable the connection to higher-level systems if required.

WSDS control & diagnostic system

This multi-functional mobile unit for maintenance, commissioning and parameter studies combines important interfaces and helpful features to control individual components of your dosing system and to check, evaluate and optimize the operating function on the basis of recorded process data. Parameterization is carried out flexibly and platform-independent via web interface.

Fluid systems

Cost-effective individual solutions



Example for the system design of a greasing system. The individual components of the configuration:

1. WPS Professional pump system
2. HDS high-pressure hose
3. Advanced degassing station
4. WVM distribution module
5. WMDR material pressure regulator
6. WGFM gear flow meter
7. MPP-03 pulse valve
8. WSV spray valve
9. Nozzle extension

Our product portfolio is a unique modular system. The individual components each possess different main functions, and by combining those, the required overall function of a fluid application system can be realized.

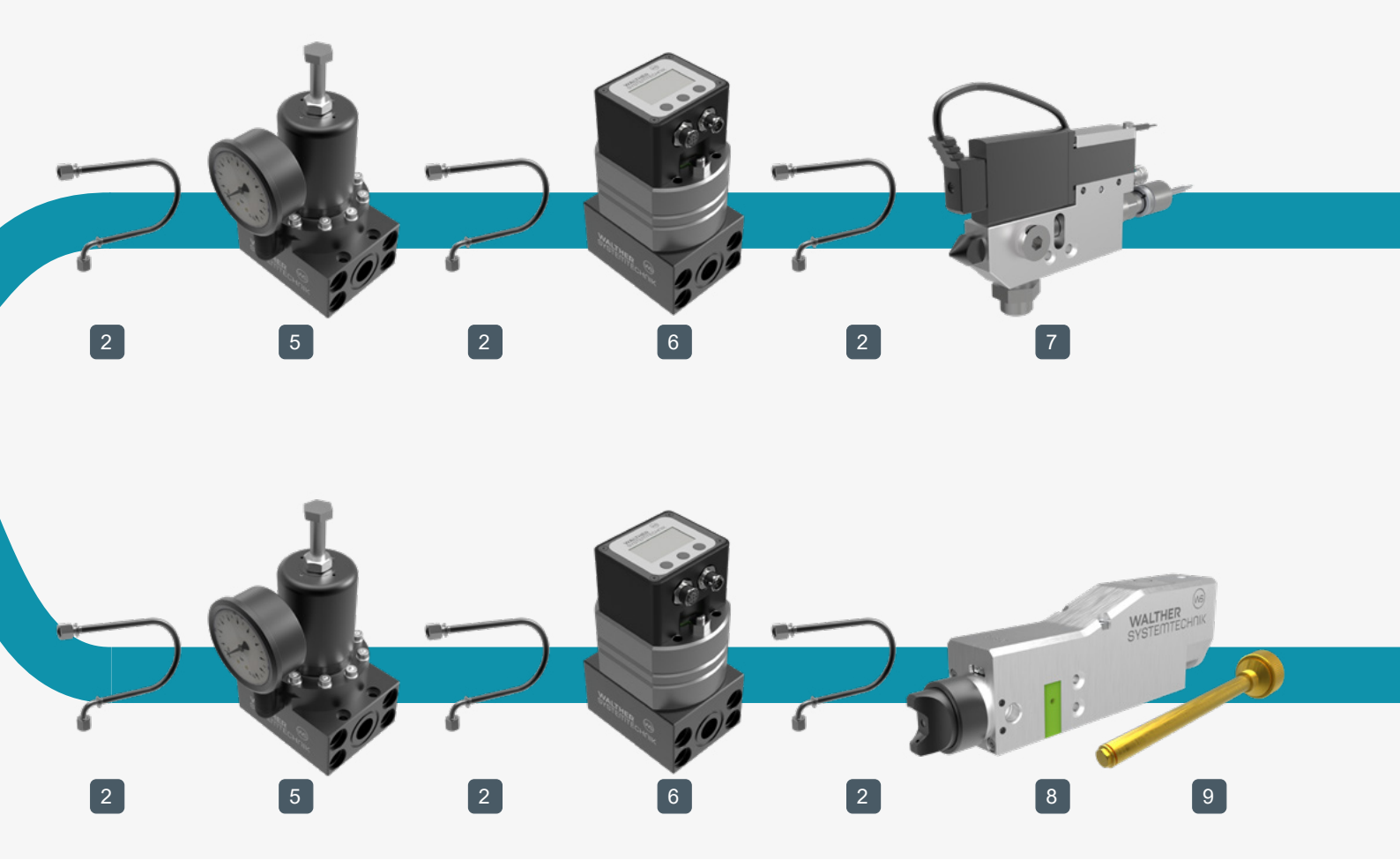
Even after the assembly of the fluid application system, its elements remain variable. As the need arises, components can be added, changed, or grouped differently to adapt the system to new requirements.

More efficiency, higher profitability

With the use of standardized, proven modules, the project planning of fluid systems can be carried out much simpler and quicker.

For example, applications can be devised in a short period of time without any design expertise, while at the same time reducing the engineering risk.

With our modular system, many applications can be implemented using our standard elements. Even complex special solutions can be implemented on this basis.



The modular system design makes it easy to remove individual components, e.g. for maintenance or repairs, reducing the downtime to a minimum.

Designed for perfect interaction

With WALTHER MODULAR, our approach to systemic solutions becomes a space-saver: All components of the MODULAR series can be flanged together in no time at all – without additional piping – by a tie rod connection.

System design

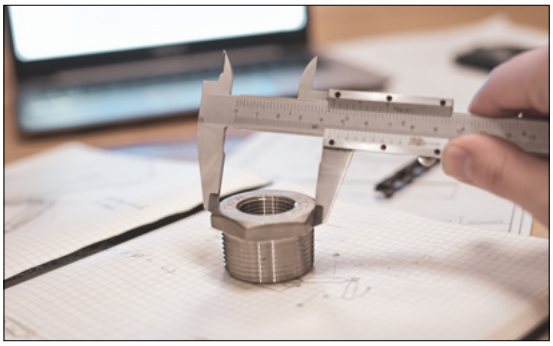
The right course from the start

High-quality individual components are only one step towards for the realization of successful fluid application processes with a high system availability. In addition, it is essential to analyze the overall process and to coordinate the individual components on the basis of the identified environmental conditions and influencing parameters. As your competent partner, we are happy to perform this task for you.

of the overall concept. In the next step, we set up your fluid application system in our company. In extensive tests, we check the functionality together with you and optimize the system if necessary.
With the integration into your production environment and by supporting you during commissioning, we are assisting you until your production process is up and running.

Step by step towards the right concept

Our project planning is based on the installation conditions, integration possibilities and system architecture on site; we carry out preliminary tests with original components and your medium and thus ensure the functionality



Benefit from our comprehensive services

- Validation of the application equipment for your application task
- Calculation and design of entire systems
- Comprehensive monitoring throughout the entire life cycle of your fluid application system
- All from a single source – including maintenance, service and repair

Know what matters:

Fluid handling is one of the key technologies of many industrial applications.

The focus is on economic efficiency, process capability and quality.

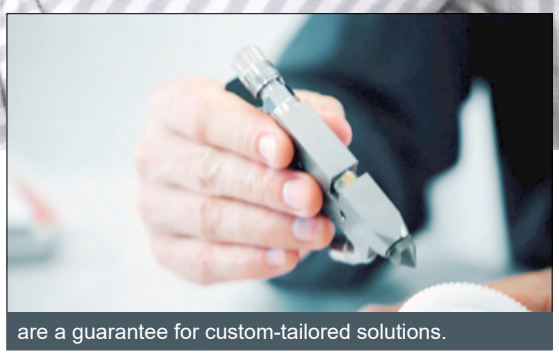
We master the challenges resulting thereof in close dialogue with our customers from the very beginning.

Extensive preliminary testing ...

Depending on the respective task at hand, the design of fluid application systems can be highly complex. As a rule, many influencing variables need to be considered carefully, and the system components need to be perfectly matched.

Experienced project engineers have everything in view and take care of the system design.

and the selection of the appropriate equipment ...



are a guarantee for custom-tailored solutions.

Special machines

Custom-tailored and turn-key

Walther Systemtechnik offers you the entire range of special machine construction: assemblies, manual workstations, individual stations and complete production lines. From the conception according to your specifications to the project planning up to the commissioning, we carry out all steps to have your individual solution ready for operation in the best quality and with the shortest-possible implementation time.

In our research and development, we place our emphasis on flexible concepts and modern technologies. In addition to process-optimized fluid technology with service-friendly modular architecture, we also use automation and robotic components as well as special sensor systems and control conception. This is how we create first-rate special machines for you which can operate either manually, semi-automated or fully automated. The expertise of our project managers grants you planning reliability in every phase of your project.

1

Mastering fluidic processes is crucial for your success

Increased security in all processes reduces the error rate and the rejects.

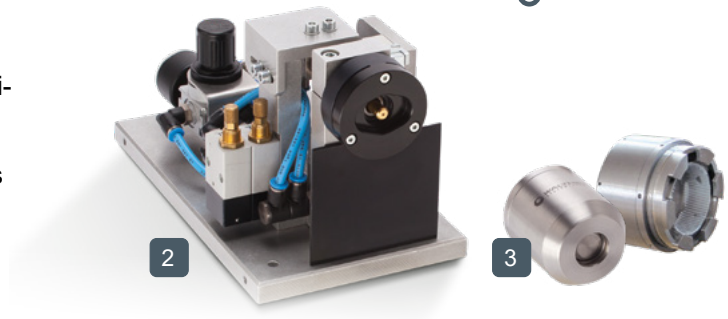
To ensure constant compliance with the desired result quality, we offer comprehensive process monitoring.

The additional integration of a functional test for specified features of your product also opens up the possibility of integrating quality assurance directly into the production process.

1 Automated dosing cell

2 Table-top greasing unit for the semi-automated application of lubricant

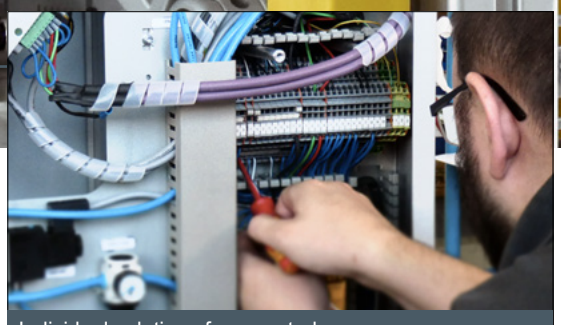
3 Customer-specific application tools for inside and outside greasing



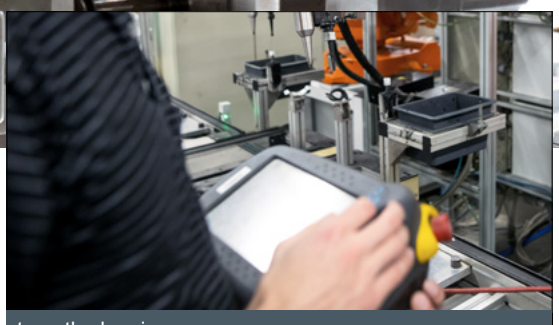
2 3

Special machines from Walther Systemtechnik are customer-specific. They are built with strict focus on the individual process requirements and are matched precisely to the respective application.

As a problem solver
for demanding tasks,
we focus on your
process.



Individual solutions from control ...



to path planning

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