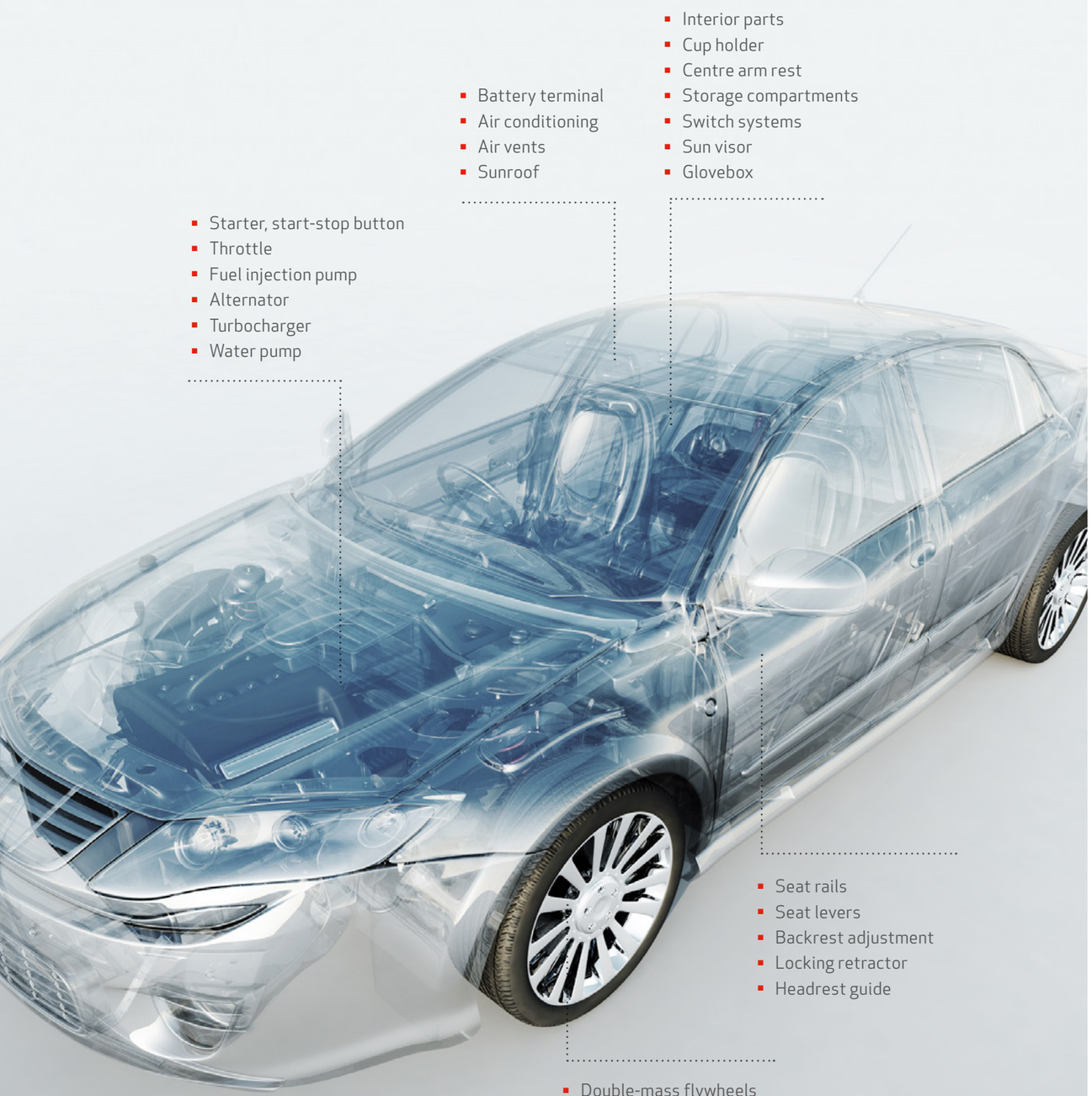
DOPAG

A MEMBER OF THE
HILGER&KERNGROUP

lubriLine

SOLUTIONS FOR THE METERING AND DISPENSING OF LUBRICANTS



High precision application of lubricants

Every task has a perfect solution

Typically, the production of a single vehicle will involve over 150 grease and oil applications. Depending on the specific car model, there can be even more. The purpose of lubrication is the reduction of friction, noise prevention, component durability and the general smooth running of a vehicle. Each application carries a unique set of parameters and so the designing of a metering system always needs to take numerous factors into account. For example, is the material being applied in a dot, bead or spray form? What is the available time frame for the application? How will the metering system be integrated into the production line? In order to match the specified criteria in each and every case, the following key factors must be carefully analysed and incorporated into the system design:

- Material properties
- Process description
- Temperature
- Control and documentation requirements

Complete and customised solutions from a single provider

A metering system usually consists of three main parts: material feeding, metering and dispensing, and monitoring and control. Depending on the parameters of each case, a metering unit can take various forms: for example, it could be a 1K metering system consisting of multiple components and a dispensing valve or it could be a system with metering valves.

The lubriLine is a selection of products developed by DOPAG to address the specific challenges and needs faced by the automotive industry production. The prime area of use of these products is in highly automated and accurate greasing and oiling processes. Owing to the modular structure of lubriLine, we are able to engineer solutions that are tailored exactly to the parameters of every application. With a wide selection of material feeding systems, valves and process monitoring systems, DOPAG provides everything you need for a smooth and precise fluid metering.

The development of metering systems for lubrication belongs to DOPAG's core areas of expertise since 1976. This places us among the oldest manufacturers on the market, while allowing us to draw on decades' worth of experience. As of 2019, we have worked with more than 160 material manufacturers, having tested over 2,000 materials.

Engineers at the DOPAG Competence Center in Cham (Switzerland) keep exploring the boundaries of metering technology and its applications. Additionally, they have a DOPAG technical center to their disposal, where they test materials and applications during the system conception stage. With eleven subsidiaries and plentiful distributors worldwide, our customers have access to the DOPAG network in more than 40 countries, enjoying the full benefit of excellent local sales and services.

Your project plan

- Customer makes an enquiry
- Enquiry is processed by DOPAG (application form, datasheets, sketch)
- Feasibility study, first layout design, possibly testing in the technical centre
- Budget quotation is made
- Customer reviews budget quotation
- Further testing in collaboration with customer
- Fixed quotation is made
- Customer places an order
- Project engineering / elaboration of detailed configuration
- Production
- Delivery and commissioning

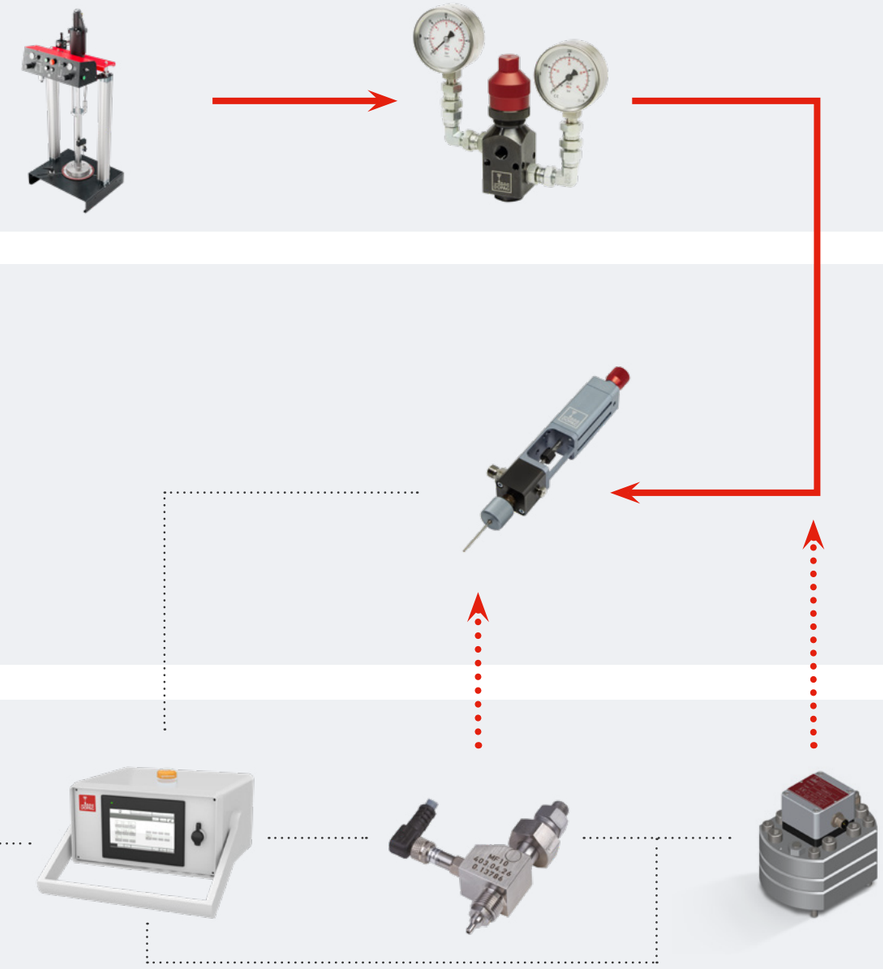
Products for every part of the process

Material feeding 06

Metering & Dispensing 14

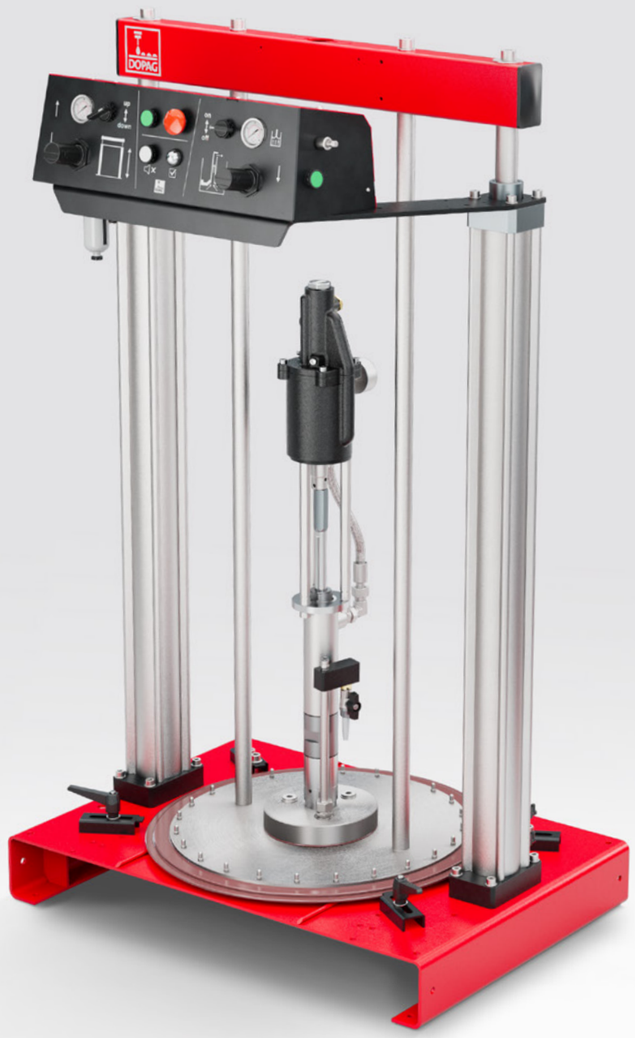
Monitoring & Control 28

Accessories 34



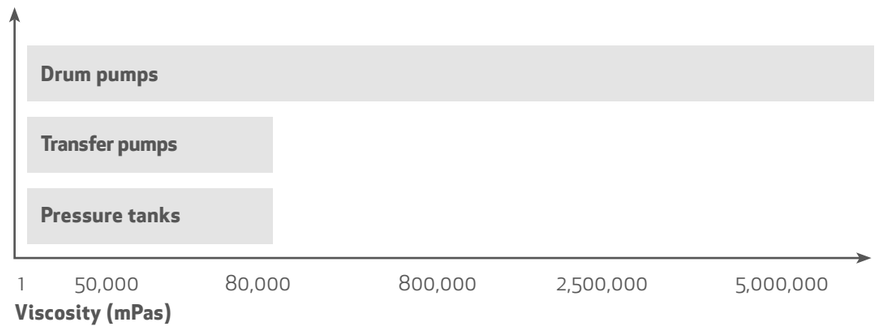
Material feeding

A reliable supply of grease and oil

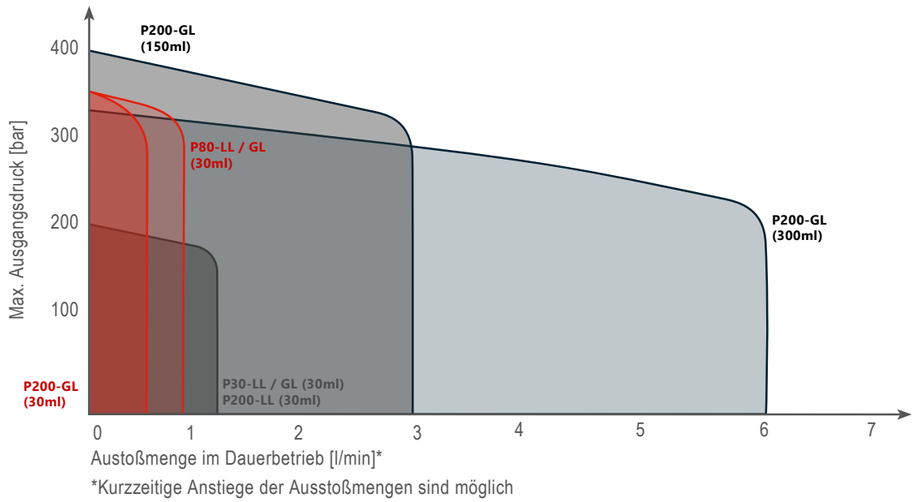


If we want to achieve perfect results with grease and oil metering, it is important that our material be pumped efficiently and without air pockets (air bubbles). An uninterrupted and reliable material supply is absolutely essential to achieve that. With every application, the selection of an optimum feeding system must consider factors such as material properties, process parameters and container size. The DOPAG product portfolio offers an extensive range of solutions for fluid metering, including drum pumps, transfer pumps and pressure tanks. All DOPAG feeding systems rely on the proven technology of piston or gear pumps. Moreover, thanks to their modular design, they can be individually configured to match the application and material specifics.

Viscosity ranges of feeds



Working ranges of drum and barrel pumps



*Kurzzeitige Anstiege der Ausstoßmengen sind möglich

Pumps for lubricants

Feed grease reliably

The drum pumps of the lubriLine product range have been specially developed for the efficient processing of lubricants in consistency classes NLGI 0 to 4. Their robustness ensures a long service life and smooth operation. Users also benefit from a high ease of maintenance.

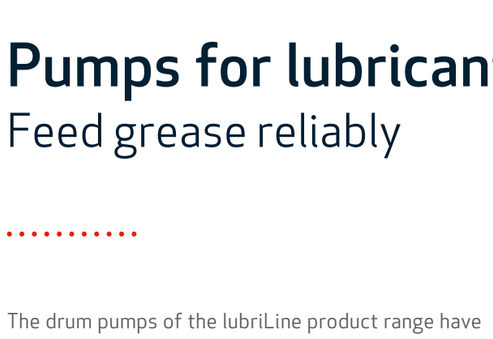
Individually configurable
The modular design enables individually configured pumps for every requirement. Depending on customer requirements, the drum and barrel pump can be expanded with various options such as mixers, filters or an external communication for monitoring and control purposes.

Ensuring high-quality processing
In order to reduce the system pressure during downtimes and prevent material separation, a pressure release or homogenisation unit can be optionally integrated. When the pressure is relieved, it is ensured that the pump and ram pressure are relieved.

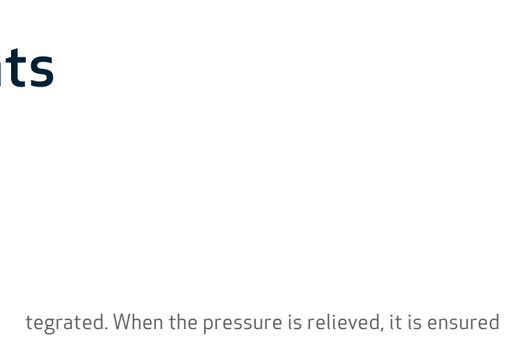
In the homogenisation unit, the material is additionally circulated by being transported through a mixer and from there back into the container by a circulation circuit.

Reducing waste
To reduce material waste when changing containers, it is also possible to use drum bottom detecion. This is fitted on the follower plate and ensures that the container is emptied to a minimum residual amount.

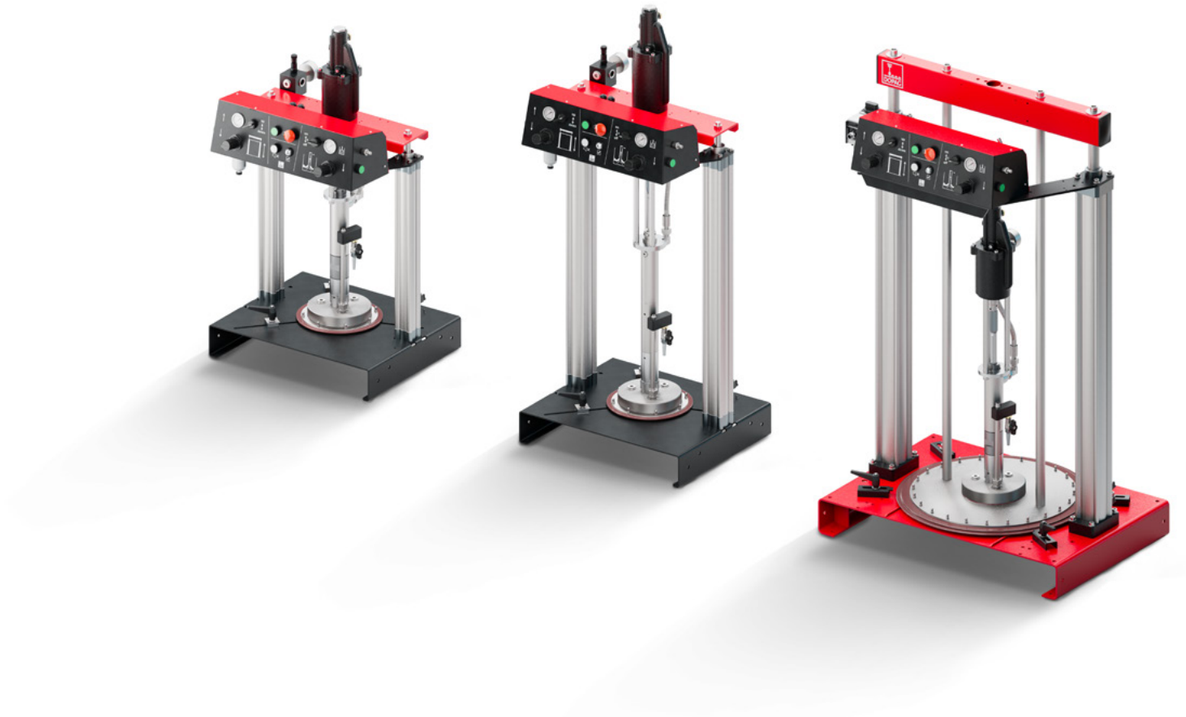
Automatic follower plate deairing is also optionally available, which ensures a correct deairing process when changing containers. The risk of operating errors is reduced, whilst air pockets and unnecessary material waste are prevented.



Connecting block with deairing valve



Compact 1-hand operation



Product features

- Supply of low to medium viscosity materials
- Flow rate up to 1.2 litres/minute at 40 double strokes
- Pressure ratio up to 30:1
- Compatible with lubricants of NLGI class 0 – 3
- Differential piston pumps with fast-switching air motors
- 1- or 2-hand operation
- Modular design with configurable components

Benefits for you

- Individual configuration
- User-friendly and ergonomic 2-hand operation
- Material circulation and homogenisation prevent material separation
- Drum bottom detection to minimise material waste when changing containers
- Automatic follower plate deairing to make changing containers easier
- Clean, oil-free high-performance drives

Tandem pumps

Many applications require an uninterrupted material feed maintained at all times. For such cases, all DOPAG pump models are available as a tandem version. Tandem pumps feature an automatic mechanism that switches between the pumps whenever material level is low, so that container change can proceed without interruption and time pressure. With clean handling and minimal material residue left in the drum, DOPAG pumps have earned their place in the most efficient production lines around the world. All sizes are available as tandem versions.

Transfer pumps for direct supply from original containers

Depending on the application type, it may be useful to be able to supply material directly from the original containers using a transfer pump. DOPAG transfer pumps are double-acting pumps with a fast-switching air motor. It should be noted that the use of transfer pumps is always dependent on the material properties and the container type.

Product features

- Low viscosity material feeding via bung hole
- Flow rate up to 1.0/6.0 litres/minute at 20 double strokes
- Pressure ratio up to 21:1/36:1
- Max. viscosity 80,000 mPas
- Sealing available in various sizes and material finishes

Pressure tanks

Thin fluids delivered effortlessly

Low-viscosity media such as oils can be delivered to the point of application directly from pressure tanks by means of compressed air. The tanks can serve either as buffer storage within a metering system or as the main system supply. They are available in various sizes and with options, to accommodate different application requirements. With visual level indicators and electric level sensors, you will always be aware how much material is left in the tank. Alternatively, DOPAG pressure tanks are also available with mounting fixtures.

Product features

- For low viscosity media such as paint, oils and preservatives
- Modular construction
- Input pressure max. 6 bar
- Bottom outlet with ball valve
- Max. viscosity 80,000 mPas

Options

- Air maintenance device
- Material filter on outlet
- Agitator
- Fill level sensors
- Heating sleeve
- Gauge glass

Material pressure regulators

Pulsation-free dispensing with the correct pressure

DOPAG material pressure regulators reduce the pressure of the pumped material down to the optimum working value. They are designed specifically for the precise dosing of greases, oils and silicones. Along with reducing pressure, the valves also compensate for pulsations that occur when material is delivered via piston pumps, more specifically in the moment of the changeover position of the pump. This problem manifests itself in fluctuations in material pressure and flow, and can lead to reduced product quality – particularly in cases of very small doses, continuous or spray applications. The material pressure regulator is a guarantee of a perfectly stable material flow. For abrasive or reactive material, we recommend our material pressure regulator with a diaphragm .

Product features

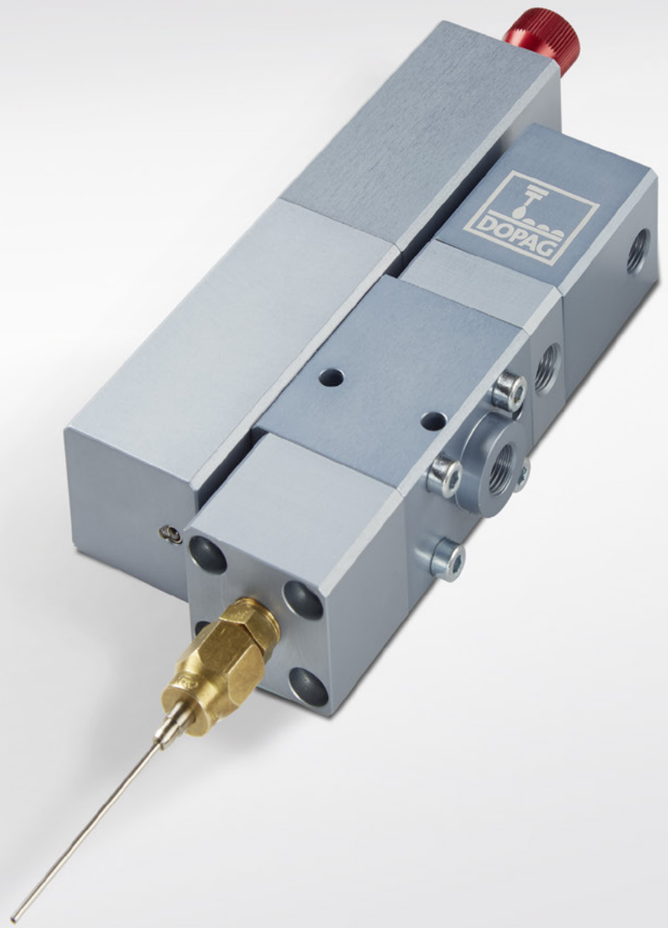
- Pressure reduction and minimisation of pulsations
- Internal diameter of standard sizes: 4, 8 and 12 mm
- Max. input pressure 250/400 bar
- Max. pressure reduction 1:5
- Outlet pressure depending on model
- Integrated material filter 30 mesh
- Version with diaphragm available for more challenging applications

Options

- Pressure gauge
- Heating
- Spare filter in different mesh sizes
- Fixing bracket
- Safety cap

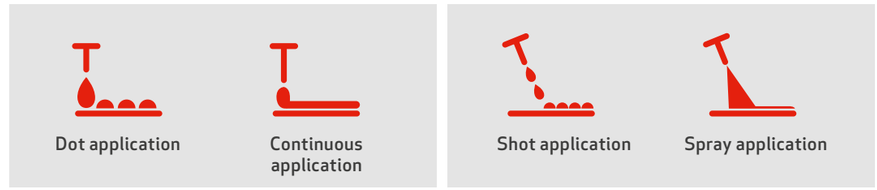
Metering and dispensing

As precise as you need

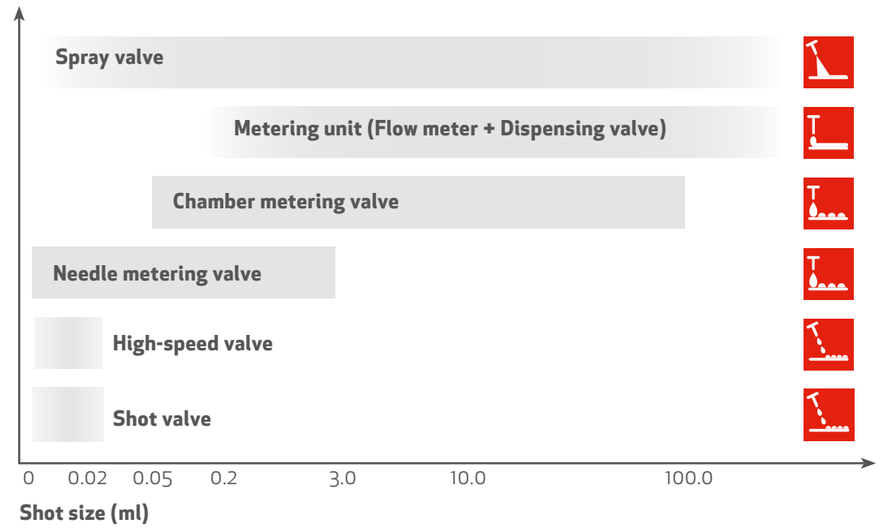


Metering and dispensing valves from DOPAG demonstrate all the qualities that are essential for optimum results in metering: high precision, excellent reproducibility and high quality standards. The DOPAG range includes various valve types, all of which are based on one of two dispensing principles. The needle and chamber metering valves work on the volumetric principle (dot application). Here, each cycle means that the contents of the valve chamber are completely emptied upon a trigger signal. This has the advantage of high repetition accuracy and flexibility thanks to the possibility of volume adjustment. On the other hand, dispensing, spray and shot valves work on a different principle, where the discharged quantity is defined by material pressure and valve needle opening time. This allows for application of small quantities from a distance, as well as continuous applications of any material amount.

Order types

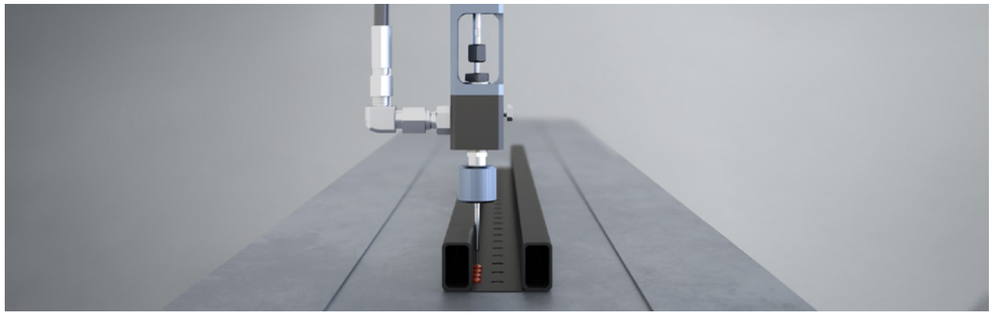


Shot ranges of metering technologies



Needle metering valves

Greater accuracy for small dot size



The needle metering valve works according to the volumetric metering principle, application is carried out in shots. The metering quantity is fixed by means of a stop screw. This ensures extremely high repeatability, reproducibility and process reliability at all times. The same valve can be used for different metering quantities and end products.

The needle metering valve is insensitive to pressure fluctuations (3–50 bar) and thus also independent of viscosity and temperature changes. A system temperature control device is not necessary. Pressure tanks can be used to process low-viscosity materials. The material is ejected directly from the needle metering valve. This is why extremely short cycle times are possible.

With the DOPAG Long Life Seal concept, up to 10 million shots are possible leak-free. Compared to existing variants, this results in 20 per cent lower maintenance costs and fewer interruptions to your production process.

The needle metering valve features a pneumatic drive. This is separated from the metering chamber. The material cannot penetrate the drive cylinder and interfere with the movement of the valve needle. That is why the valve also processes reactive, aggressive and abrasive adhesives.

The magnetic stroke sensor installed in the valve makes it possible to use common C-slot sensors. They work magnetically, are more accurate, and are quick and easy to install. The process reliability is increased, as is the position query accuracy.

Benefits for you

- Unique minimal quantity valve with a minimum metering volume of 0.001 ml
- Up to 10 million shots leak-free thanks to the DOPAG Long Life Seal concept
- Metering accuracy < ±1 per cent
- Short cycle times with up to 2 shots per second

Product features

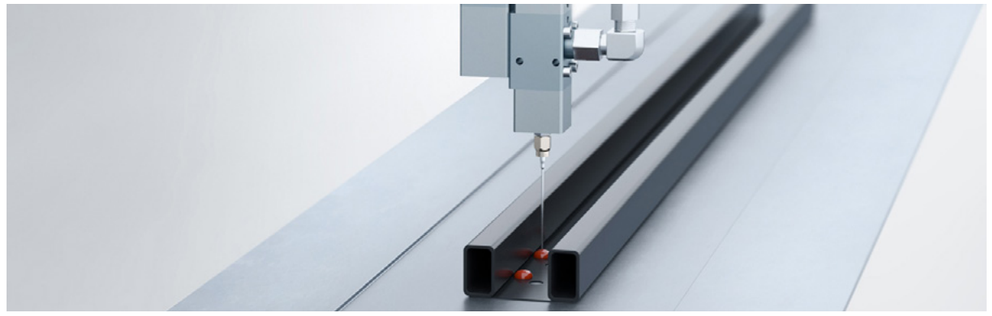
- Dot application (volumetric dispensing)
- Shot size 0.001 – 3.00 ml (depending on model)
- Material input pressure 3 – 50 bar
- Compatible with stroke detection (see p. 29)
- Sealing available in various sizes and material finishes

Options

- Solenoid valve plate 24 V
- Signal generator with various cables
- Various adapters and needle tips
- Micro-flow sensor (see p. 28)
- Pneumatic or electric handle
- Spray adaptor

Chamber metering valves

Process stability and shot size flexibility



Chamber metering valves work according to the volumetric metering principle. The material is discharged in shots via a metering piston. This results in a metering process that is insensitive to pressure fluctuations (25 – 150 bar). Benefit from maximum repeatability, reproducibility and process reliability.

The metering volume (0.05 to 100 ml) can be infinitely adjusted and fixed quickly and easily using a stop screw. The same valve can therefore be used for different metering quantities and end products.

With the DOPAG Long Life Seal concept, we have further improved the sealing technology of the series, which has been tried and tested over many years. Intensive field tests have shown that the valve applies approximately 1.2 million shots without leakage. Up to 8 million shots can be metered with consistent accuracy.

When filling and discharging the metering chamber, the metering piston is controlled by the material pressure.

A stroke sensor monitors the movement of the metering piston and thus indirectly detects the material flow. This eliminates the need for a complex system for additional monitoring of the material flow.

The closing principle used generates a snuff-back effect at the material outlet. This prevents the material from dripping and ensures an accurate and clean thread break.

Benefits for you

- Up to 8 million shots with consistent accuracy thanks to the DOPAG Long Life Seal Concept
- Metering accuracy < ±1 percent
- Short cycle times
- Reliable process even without additional monitoring
- Clean break, absolutely uniform dot application

Product features

- Dot application (volumetric metering)
- Shot size 0.05 – 100.00 ml (depending on model)
- Material input pressure 40 – 80 bar
- Compatible with stroke detection (see p. 29)
- Snuff-back effect

Options

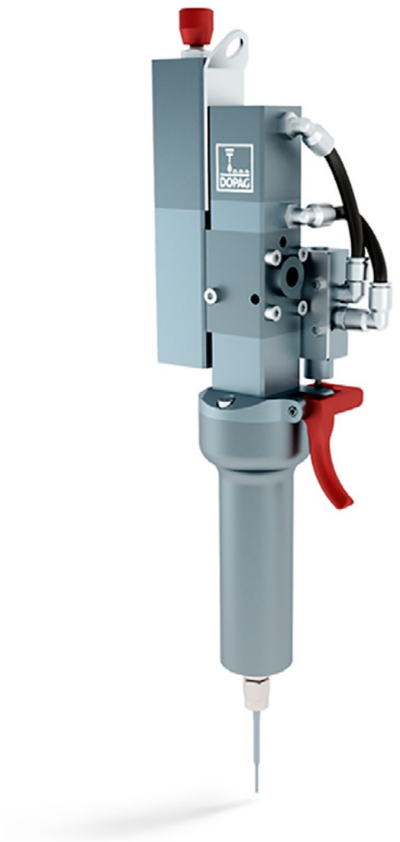
- Solenoid valve plate 24 V
- Signal generator with various cables
- Various adapters and needle tips
- Pneumatic or electric handle
- Spray adaptor

Handheld metering valves

Manual dispensing of lubricants

Based on the design of the tried and tested lubriLine metering valves, DOPAG has developed vertical handheld metering valves for manual use. The valves are available in three different versions and are suitable for all applications requiring a highly accurate and clean manual application of grease or oil. Even hard to reach areas are very easy to access with them. Moreover, their user-friendly design will come handy at any manual workplace relying on simple and quick handling.

The handheld metering valves are built for volumetric, dot application of material. They are the perfect choice for applications where high repeatability is important. However, if the requirement is for continuous dispensing instead, then we recommend using our handheld dispensing valves.



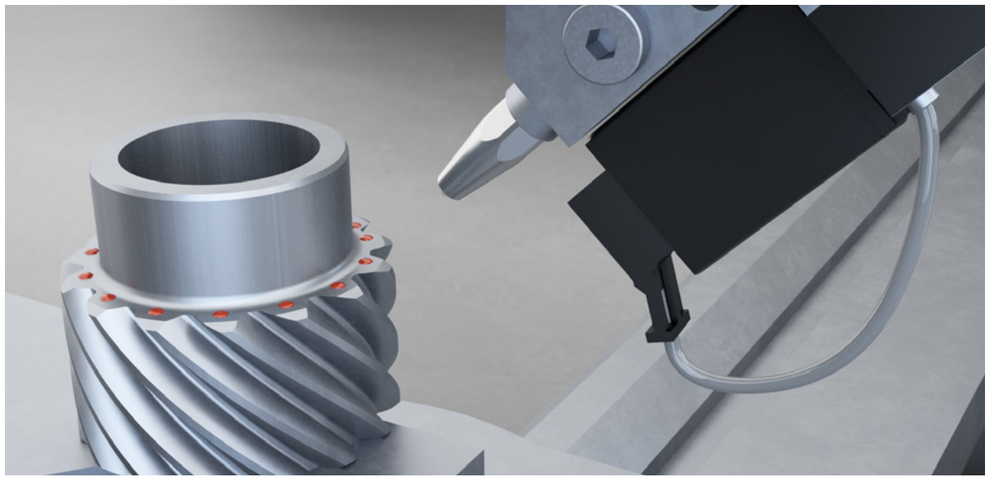
Features

- Available in the following versions:
  - 0.003 – 0.2 ml (based on needle metering valve)
  - 0.05 – 0.5 ml (based on chamber metering valve)
  - 0.1 – 3 ml (based on chamber metering valve)
- Only available as a complete assembly
- Pneumatic or electronic version
- For vertical mounting on a balancer or similar
- Ergonomic handle

Shot valves

Lubrication of hard-to-reach places in automated processes

Shot valves are extremely fast-switching valves designed for the application of grease and oil from distance (contactless) in automated processes. They are capable of dispensing the smallest amounts of material at the speed of up to 200 cycles per second. This is possible thanks to the integrated 5/2 way solenoid valve (also used for control), together with short paths in the entire air supply system. The valves are available with both short and long nozzles, which enables them to cover various angles of application. Depending on the nozzle size, media with different viscosities can be processed easily.



Product features

- Shot application
- Nozzle size Ø 0.2 – 1.0 mm
- Input pressure max. 100 bar
- 24 V DC solenoid valve for maximum shot frequency 200 Hz SHV-01 / 30 Hz SHV-02
- Adjustable needle rise (raster regulation)

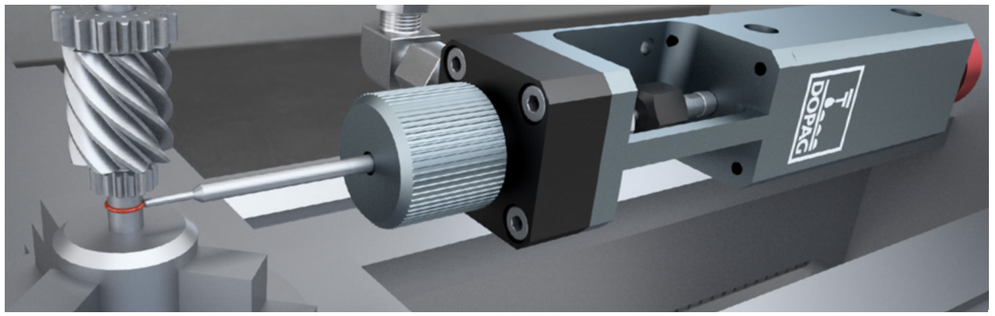
Options

- Stroke detection device with cable (see p. 35)
- Nozzle extensions with various lengths and shot angles
- 24 V / 50 W heating with temperature sensor PT100
- Pressure sensor (see p.35)
- Light barrier for shot detection (see p. 34)
- Rotary applicator

Needle dispensing valves

Continuous dispensing with great flexibility

Needle dispensing valves are versatile and process a wide range of materials: Greases, oils, adhesives and lubricants. Reactive, aggressive or abrasive materials are not a problem for them. Our portfolio offers a variety of different sizes and designs. Choose the right valve for your application!



On the needle dispensing valve, the metering chamber and the pneumatic drive are separated. The material cannot penetrate the drive cylinder and the movement of the valve needle cannot be impaired. This is why the valve also processes reactive, aggressive and abrasive adhesives and sealants excellently. The needle dispensing valve is an attractively priced alternative for metering high-viscosity materials. The valve is available in different sizes and we will choose the suitable variant for you.

The valve needle stroke can be infinitely adjusted using an adjusting screw. This allows the desired flow rate to be precisely tailored to your application.

Benefits for you

- Robust design with working pressure of up to 250 bar
- For continuous application of materials up to 2.5 million mPas
- Reliable and attractively priced metering of high-viscosity materials
- Suitable for reactive, aggressive and abrasive materials

Product features

- Continuous application (time-pressure dispensing)
- Internal diameter 1, 2.5, 6 and 12 mm
- Max. input pressure 250 bar
- Compatible with stroke detection (see p. 29)
- Sealing available in various sizes and material finishes

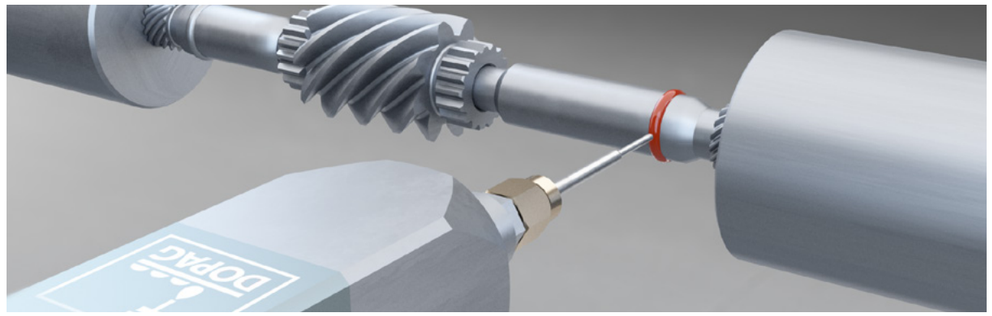
Options

- Solenoid valve plate 24 V
- Signal generator with various cables
- Various adapters and needle tips
- Pneumatic or electric handle

Diaphragm dispensing valves

Clever solutions to the greatest challenges

They are the specialists for challenging materials: Thanks to their absolutely leakproof and wear-resistant design, our diaphragm dispensing valves allow you to reliably process low to high-viscosity, abrasive and reactive lubricants, adhesives and sealants – at a maximum pressure of up to 200 bar.



This series features a unique high-pressure membrane design. The drive and metering element are hermetically sealed via a high-pressure membrane and the parts that come into contact with the material are made of stainless steel. On the one hand, this enables the processing of highly reactive materials. At the same time, it is ensured that there is no abrasion due to fillers on the drive and sealing system. In addition, the closing elements are made of carbide, which ensures extremely high wear resistance.

The diaphragm dispensing valve is available in different sizes. We can configure the optimum variant for each material and different discharge quantities or viscosities. The snuff-back effect prevents dripping and ensures a clean and accurate thread break.

An additional adjustment option is offered by the stroke adjustment. If necessary, fine-tune the amount of material directly on the valve, the pressure remains the same and you work with the best possible configuration.

Benefits for you

- Unique worldwide: Leak-free at high pressure level (maximum pressure up to 200 bar)
- Reliable application of abrasive, reactive and aggressive materials
- Maximum wear resistance for long service lives
- Clean break, absolutely uniform material application

Product features

- Continuous application (time-pressure dispensing)
- Internal diameter 2, 4 and 8 mm
- Max. input pressure 160 bar
- Snuff-back effect

Options

- Solenoid valve plate 24 V
- Various adapters and needle tips
- Pneumatic or electric handle
- Heated valve with or without plug 230 V AC / 200W

Handheld dispensing valves

For manual dispensing of grease and oil

The handheld dispensing valve draws on the tried and tested dispensing valves made by DOPAG. Having been developed specifically for use in manual applications, the handheld dispensing valve is an excellent performer in applications where grease or oil are dispensed continuously by hand. The shot volume is regulated by adjusting the valve opening time and material pressure. Additional components for measurement and control are available. The handheld dispensing valve is mounted vertically and allows access even to hard to reach areas. Due to its user-friendly design, the handling is simple and quick. For volumetric dispensing and dot application DOPAG recommends the handheld metering valve.

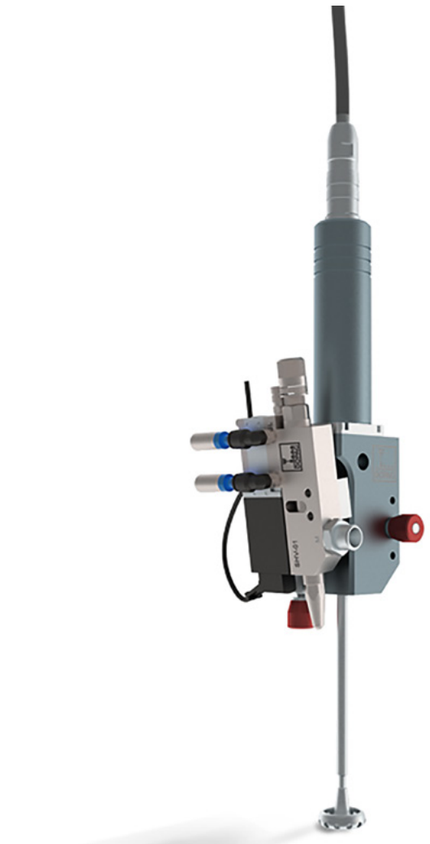
Product features

- Type: LW2.5 (based on the dispensing valve)
- Only available as a complete assembly
- Pneumatic or electronic version
- For vertical mounting on a balancer or similar
- Ergonomic handle

Rotary applicator

Contactless 360° greasing of holes

The rotary applicator was specially developed for 360° greasing or oiling of holes. For rotary lubrication, the applicator is attached to the SHV-01 shot valve from DOPAG. The material is applied shot by shot and contactless. The patented rotary applicator offers a high flexibility and various applications, as a wide range of different diameters can be covered. The amount of the material can be variably adjusted. A wide range of rotation speed ensures an ideal material distribution. The valve seat closes completely, so there will be no material dripping. Overspray will be avoided. Further, self cleaning with a special spinning function is included.



Product features

- Rotary lubrication with the shot valve
- 360° lubrication of bores and contours
- Different centrifuge sizes
- Max. shot frequency of 200 Hz (SHV-01)
- Max. rotation speed approx. 15.000 rev/min
- Bore diameter approx. 15 – 200 mm*
- Immersion depth approx. 0 – 200 mm*

* Different areas of application according to customer requirements possible.

Options

- 24 V / 50 W heating with temperature sensor PT100
- Silencer kit
- Light barrier for shot detection
- Stroke detection device with cable

Progressive cavity pumps

Continuous metering with the highest accuracy

The progressive cavity pump is a high-precision volumetric metering system that operates continuously and pulsation-free. The rotational motion of the eccentric screw ensures highly precise, constant metering, particularly in the case of small output rates from 0.1 ml/min. The special rotor-stator combination prevents excessive wear when processing abrasive materials. This guarantees a long service life and high cost-efficiency.

Thanks to progressive cavity pump technology, liquids and pastes with up to 60% filler content can be metered with high precision. The metering quantity can be adjusted completely linearly. This enables a metering precision of ± 1% and better.

Product properties

- Variable discharge rate from 0.002 ml
- Output rate of 0.1 to 45 ml/min
- Speed of 0 to 150 rev/min
- Maximum input pressure of 6 bar
- Maximum operating pressure of 10 bar
- Ideally suitable for all viscosities from highly fluid to pasty
- Snuff-back function

Options

- Cartridge supply 10cc / 30cc / 55cc
- Pressure regulator and level control for cartridge supply
- Spray adaptor
- Servo controller
- Various needle tips

Sizes

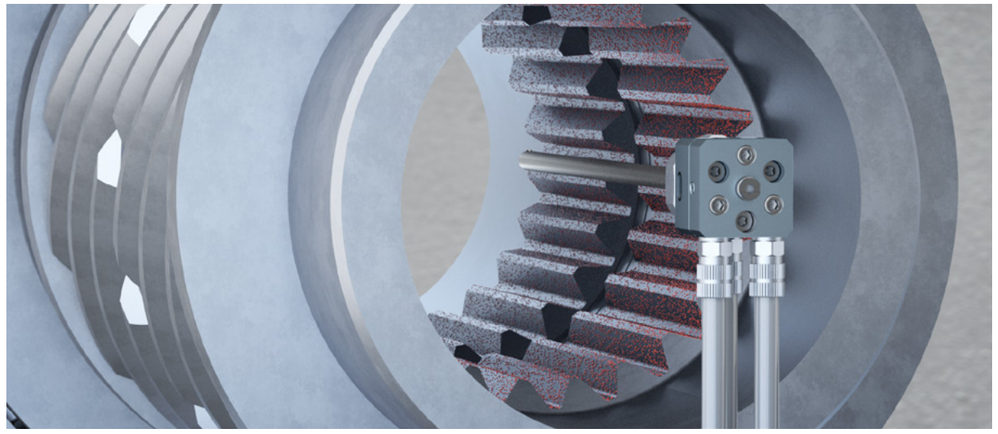
Size	Flow volume ml/rev	Input pressure bar	Operating pressure * bar	Speed range * min. $^{-1}$ min. / max.
1	0.01 / 0.05 / 0.15 /0.30	max. 6	max. 10	1 / 150
2	0.30 / 1.00 / 2.00	max. 8	max. 20	1 / 400
3	4.00	max. 8	max. 20	1 / 400

* Depending on viscosity

Spray valves

Full surface coverage applied from a distance

The spray valve is a special kind of valve designed for full-surface application of greases and oils. It is suitable for both intermittent and continuous material applications. A unique feature of this valve is the integration of a diaphragm , which is used for the adjustment of the air blow duration after each material shot - this serves the cleaning of the nozzle. Short air ways in the body of the valve and a flange-mounted 5/2 way solenoid valve allow a very fast and accurate intermittent operation. A wide range of available extensions and attachments open up the possibility of spray application in hard-to-access areas, while various aircaps allow the customisation of the spray coating pattern.



Product features

- Spray application
- Nozzle size Ø 0.2 – 1.5 mm
- Material input pressure max. 35 bar
- With 24 V solenoid valve (SPV-01) / Compact construction without solenoid valve (SPV-02)

Options

- Stroke detection with cable (see p. 35)
- Various nozzle extensions with different spray cones and angles
- 24 V/ 50 W heating with temperature sensor PT100
- Pressure sensor (see p. 35)

Spray guns

A perfectly clean application by hand

In cases, where manual, full-surface application of greases and oils is required, DOPAG offers a spray gun. The spray gun can process oils without fillers in the viscosity range of up to approx. 100,000 mPas, as well as unfilled greases of consistency class NLGI 0–3. A variety of nozzle sizes, air caps and extensions offers a high degree of flexibility, allowing the user to apply material reliably even onto hard-to-reach areas. Lastly, the gun is very easy and quick to handle, owing to its user-friendly design.

Product features

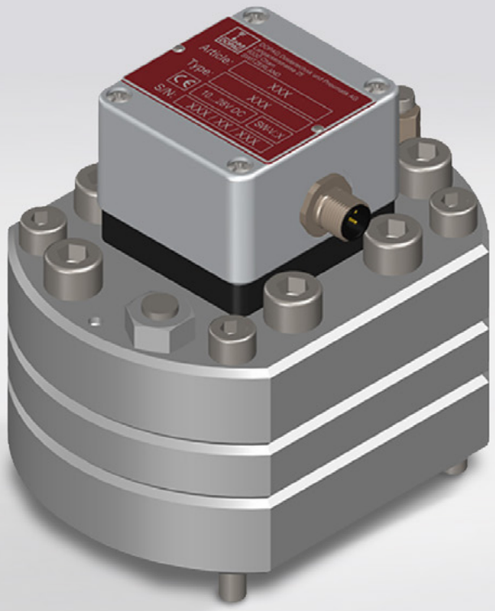
- Manual spray application
- Nozzle size Ø 0.2 – 1.5 mm
- Material input pressure max. 50 bar
- Pneumatic pressure max. 6 bar

Options

- Various nozzle extensions with different spray cones and angles

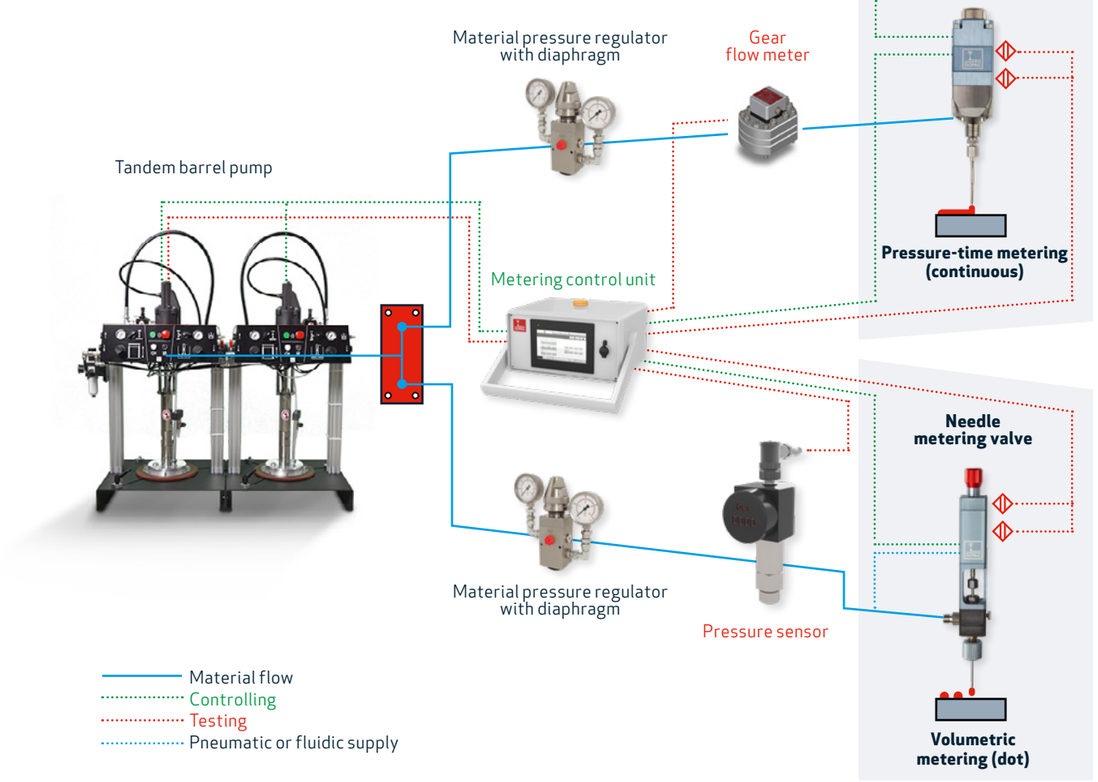
Monitoring and control

Process-stable and reproducible metering



Metering processes are generally defined by short cycles, high repetition rates and strictly given tolerances. Moreover, the shots being applied are often only minuscule amounts of material, in which case it is all the more important that the metering be reliable, accurate and reproducible. Modern production processes require a detailed monitoring of the process capability and the repeatability of applications. These requirements must be carefully defined right at the start and considered in the system concept design. DOPAG offers a comprehensive portfolio of process monitoring and control technology, including gear flow metering cells, light barriers, pressure sensors and metering control units. System concept designing at DOPAG involves our engineers working closely with the customer to align process control and monitoring mechanisms with the application requirements, and combining them with the appropriate pumps and metering components.

Pressure/time flow chart and volumetric metering



Gear flow meter

Precise monitoring and control of the metering process

The gear flow meter has been developed specifically for use in metering and mixing systems. In processes involving one-part media such as greases, oils and adhesives, it is used for measuring the exact material flow rate at any given moment. The measuring principle is based on the volumetric gear displacement system, characteristic for its accuracy and compressive strength. The measuring element comprises of a very precisely fitted pair of gears placed in the housing of the flow meter. The rotation of the measuring element is detected by a contactless sensor system and converted into digital signals. A metering unit containing a gear-based flow meter combined with a flow-regulating and dispensing valve is ideal for an accurate dispensing or filling of larger quantities of fluids.

Product features

- Monitoring and control of metering processes
- Adjustable pulse multiplication up to factor 128 for high measuring resolutions
- Status LED
- Tooth volume 0.04 / 0.1 / 0.2 / 0.4 / 1 / 2 cm^3
- Cast iron, stainless steel or aluminum design
- Plain or ball bearing version available

Options

- Different connections and adaptors
- Heating
- Connecting cables

Metering control unit

Connect and control your metering components

The MR40 is a control unit developed by DOPAG for the control of complex metering processes. It can be easily integrated into a system with a metering valve or into a 1K metering system with dispensing valves. The control unit enables communication between individual system components and coordinates their operation. Additionally, the featured software allows users to store numerous metering programmes and to recall and run them later. The control unit is equipped with connection ports for various material supply systems and is compatible with monitoring devices such as the gear flow meter or the light barrier. It can be used either as system control or as an interface between a higher-level system control and a metering system.

Product features

- Power supply 230 VAC 50 / 60 Hz
- 7" Touch screen control panel
- USB interface for programme updates
- Indicator light with buzzer for error messages

Options

- Profibus, Profinet or Ethernet IP module
- Different connection and heating cables
- Screen protection foil

Housing

- Plastic benchtop housing, 370 x 330 x 200 mm with positioning frame
- Sheet metal wall housing 400 x 400 x 210 mm, with fixing brackets

Micro-flow sensor

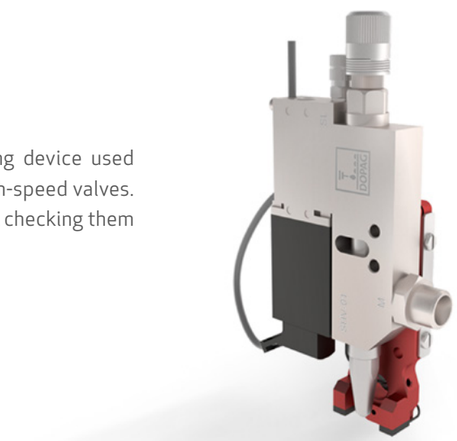
The micro-flow sensor can be used with needle metering valves to confirm that material is being dispensed. It is designed for the detection of very small quantities (0.005 – 3.00 ml). This device is meant purely for material discharge monitoring purposes, not as a means of volumetric measurement.

Compatible with:

- Needle metering valves (p. 16)

Light barrier

The light barrier is a process monitoring device used with the very fast-switching shot and high-speed valves. It counts the number of discharged shots, checking them against the set target quantity.



Compatible with:

- High-speed valves (p. 26)

Stroke detection

The stroke detection device monitors the correct activity of various valve types. Detecting the upstroke movement of the dispensing needle or the metering piston, it sends signals to indicate the proper functioning of a valve.

Compatible with:

- Needle metering valves (p. 16)
- Chamber metering valves (p.17)
- Needle dispensing valves (p. 20)
- Shot valves (p. 27)
- Spray valves (p. 28)

Pressure sensors

Pressure sensors can be firmly mounted on shot and spray valves or they can be positioned further up in the system. They indicate the current material pressure or transmit it over to a monitoring unit.

Compatible with:

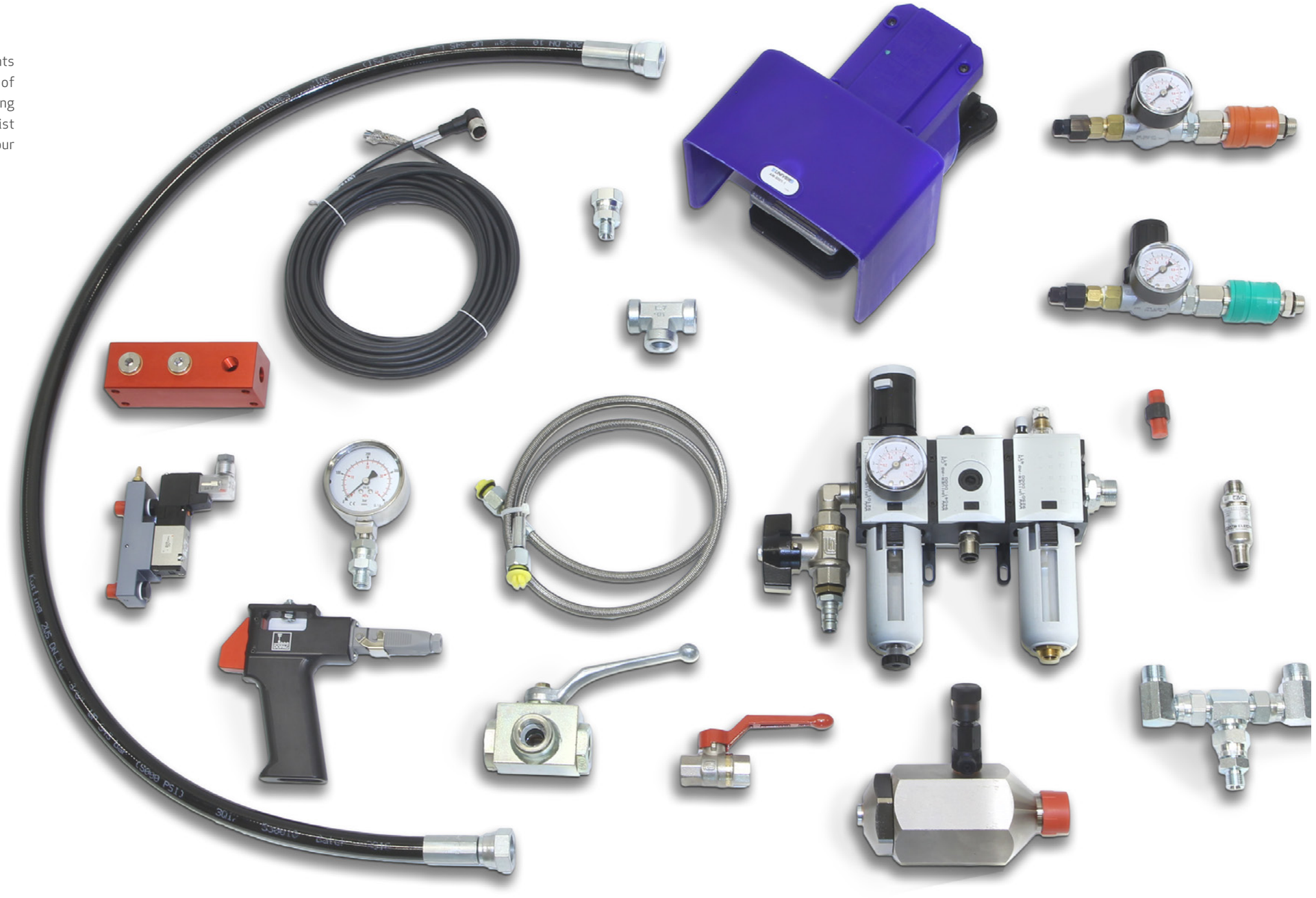
- Shot valves (p. 27)
- Spray valves (p. 28)
- Integration into a system (digital/analogue)

Accessories

Everything you need to build a perfect system

DOPAG pumps and metering components are complemented by an extensive range of accessories to create a complete metering system. Our technicians will be happy to assist you in selecting the right equipment for your needs:

- Multipliers
- Heated hoses
- Pneumatic tubing
- Hydraulic tubing
- Pressure gauges
- Material filters
- Mixer tubes
- Check valves
- Adapters



A MEMBER OF THE
HILGER&KERNGROUP

We are one of the world's most experienced manufacturers of high-quality metering technology. Wherever adhesives, resins, silicones or lubricants are metered and applied in industrial production, we offer reliable, precise solutions. We provide systems and components for highly automated production processes, including for the automotive, wind, household appliances and electrical industries, as well as for aviation.

DOPAG is part of the HILGER & KERN GROUP, a reliable supplier and a development and service partner to industrial companies in a variety of market segments for almost 100 years. The group employs around 350 people and has subsidiaries and distributors in more than 40 countries.

Global sales and service network

Find your local DOPAG contact

DOPAG Benelux
Bunnik
info@dopag.nl
www.dopag.nl

DOPAG China
Shanghai
office@dopag.cn
www.dopag.cn

DOPAG Eastern Europe
Prague
info@dopagcz.com
www.dopagcz.com

DOPAG France
Valence
contact@dopag.fr
www.dopag.fr

DOPAG Germany
Hilger u. Kern, Mannheim
info@dopag.de
www.dopag.de

DOPAG India
Bangalore
sales@dopag.in
www.dopag.in

DOPAG Italy
Alpignano (Turin)
info@dopag.it
www.dopag.it

DOPAG Korea
Seoul
info@dopag.co.kr
www.dopag.co.kr

DOPAG Mexico
Saltillo, Coahuila
sales@dopag.mx
www.dopag.mx

DOPAG Nordic
Göteborg
info@dopag-nordic.com
www.dopag-nordic.com

DOPAG Switzerland
Cham
info@dopag.ch
www.dopag.ch

DOPAG UK
Droitwich
uksales@dopag.com
www.dopag.co.uk

DOPAG USA
Erlanger, Kentucky
ussales@dopag.com
www.dopag.us

We're present in more than 40 countries. Find your local sales partner here:
www.dopag.com/contacts

2404-EN