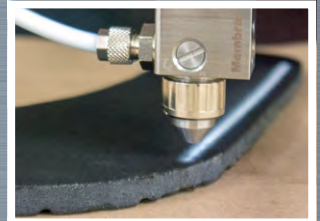
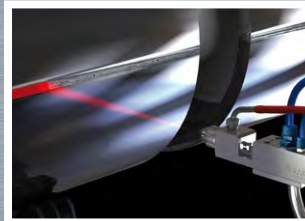
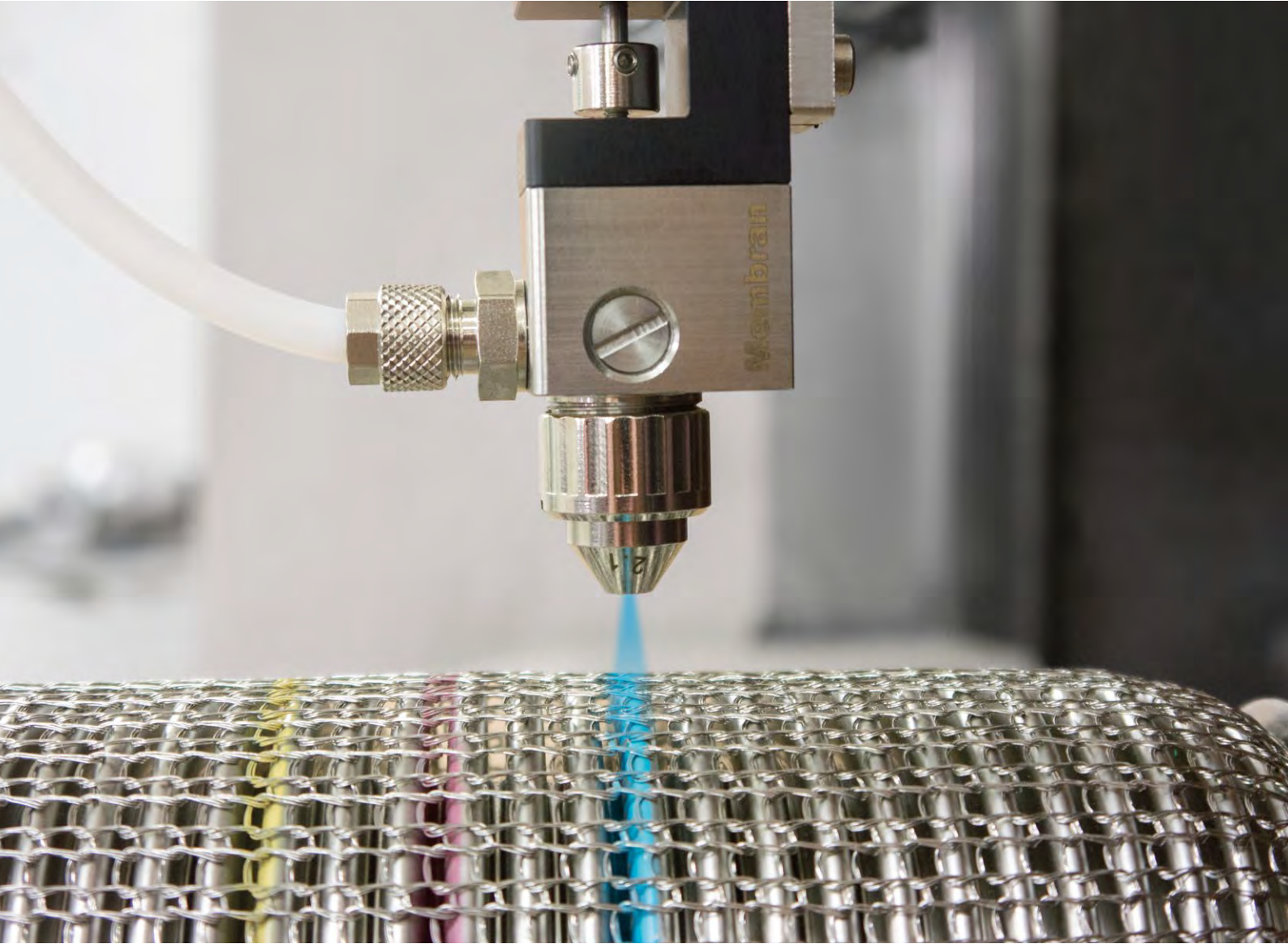


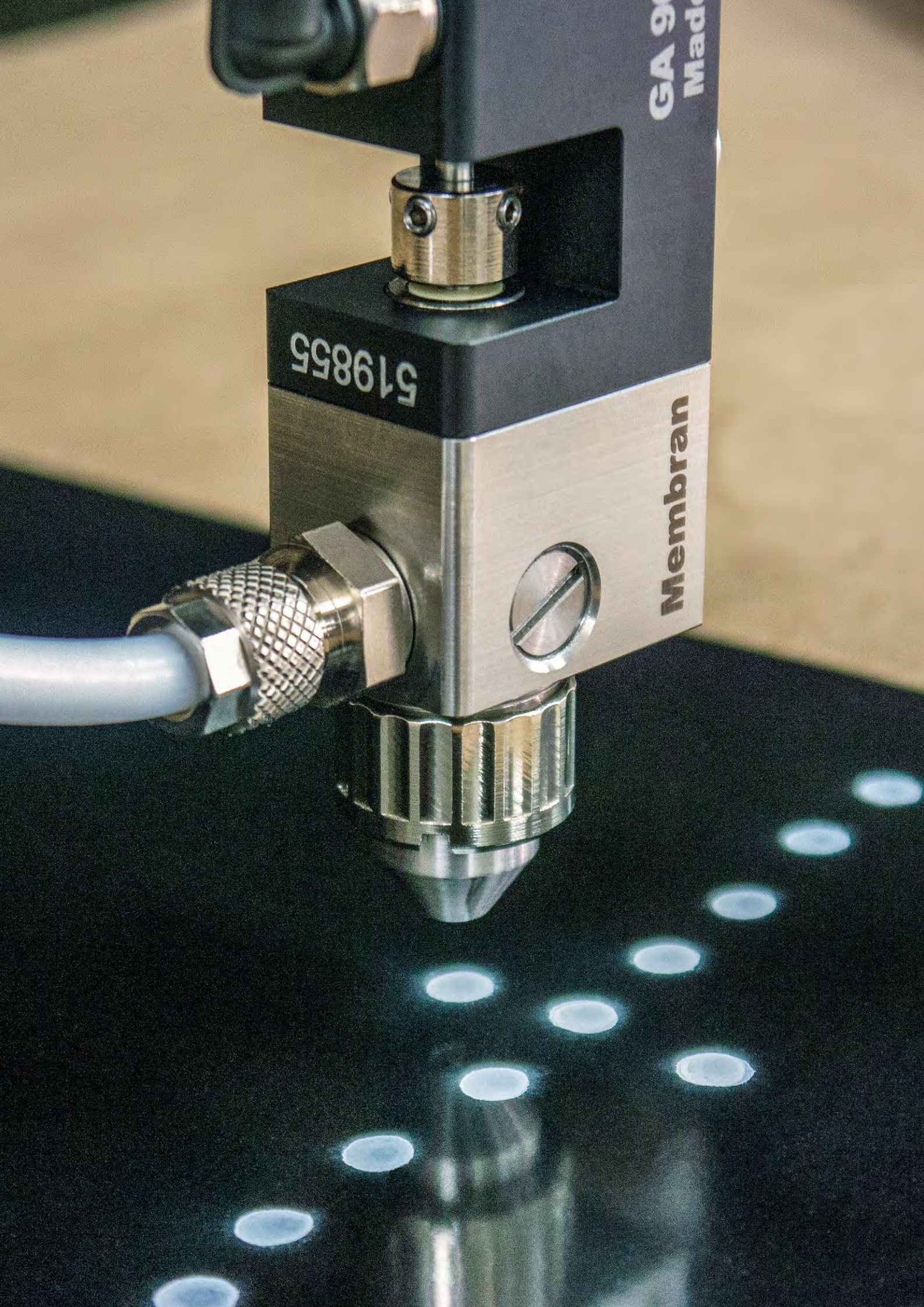


The Coating Experts



## MARKING SYSTEMS

COLOUR MARKING SYSTEMS • MARKING BLOCKS • FINISHING PAINT SYSTEMS • PAINTS AND INKS



GA 9000  
Madras



519855

Membran

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## ARTICLE NUMBERS / ORDERING INFORMATION

The article number must be specified when ordering. The wildcard symbol  – e.g. **WPS 20 000 001 0** 

– stands for optional nozzle diameters and needs to be supplemented by 2 numbers. For example, nozzle size 0.3 is represented by the numbers 03. Please refer to the catalogue for an overview of possible diameters.

# MARKING SYSTEMS – FOR FORWARD-LOOKING MARKING TECHNOLOGY

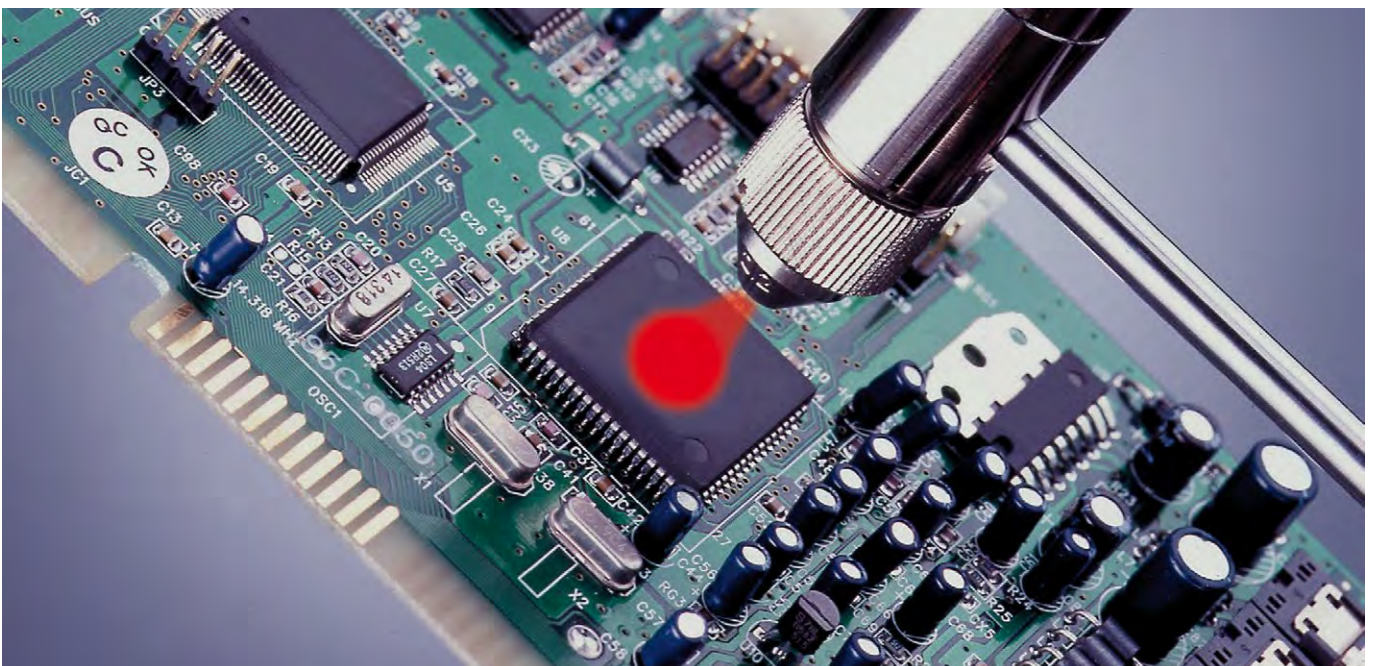
## WE OFFER:

- CUSTOM-MADE SYSTEMS
- HIGH-QUALITY COMPONENTS
- FROM PAINT SELECTION TO APPLICATION AND CONTROL TECHNOLOGY

Colour markings for highlighting quality standards or for process control are an essential component in modern production plants. That is why WALTHER PILOT offers custom-made systems and high-quality components that you can rely on for future-oriented marking technology.

As a rule, small quantities of paint and high precision are used, so only automatic spray guns with extremely short switching times can be used. The repeat accuracy of these guns ensures that even at high throughput speeds, every marking is in the right place.

From paint selection to application and control technology, we offer you the best possible result!



# YOUR BENEFITS AT A GLANCE

## ✓ NON-CONTACTING MARKING SYSTEMS

WALTHER PILOT offers a range of non-contact marking systems for applications in a variety of industries. System applications include defect marking, product identification or special marking throughout the entire manufacturing process. The markings can take a series of shapes, dots, lines or alphanumeric characters. These are high-precision spray marking systems that work with tiny amounts of paint and are very cost effective.

## ✓ ADHESIVE APPLICATION SYSTEMS

WALTHER PILOT offers a comprehensive range of adhesive application systems. These include solvent-based spray systems, water-based spray systems and spray systems for 2-component adhesives. Systems include a material pressure tank, spray gun and dispensing system. Special configurations of adhesive application systems are available on request.

## ✓ APPLICATION SYSTEMS

The application systems from WALTHER PILOT have been specially developed to meet the requirements of the material used and to achieve high-quality processing. The spray guns supplied with the system, as well as the material handling system, are adapted to the coating requirements. In order to meet customer-specific requirements, we can design the application system to fit into an existing control process or a customer-specific design. The application systems can be operated automatically or manually with one or more spray guns.

## ✓ DOT OR LINE MARKING WITH PAINT SPRAYING TECHNOLOGY

The applications of dot or line markings are extremely diverse. The special advantage of the paint spraying process is that the marking is applied without surface contact. For this reason, the process is mainly used for objects in the metal and plastics processing industries. Marking can be carried out in any position. Special gun arrangements are also possible, so that different colours can be used to classify the parts in order to enable coding according to different criteria.

## ✓ MARKING WITH MARKING BLOCKS

Pneumatically or electromagnetically controlled marking blocks are available for the application of alphanumeric characters. These large character printers are usually equipped with 4 to 9 spray nozzles. Special solutions can be created for each requirement profile.

## ✓ APPLICATIONS AND INTENDED USES

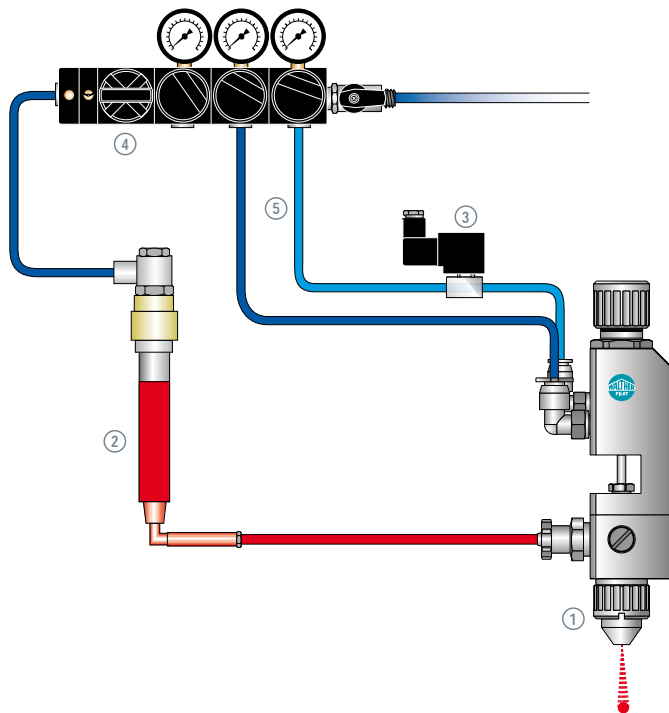
The spray marking technique is not only suitable for marking and signing, but also for the finest, sharp-edged paintwork and a wide range of other applications such as precision gluing. For example, markings on gear wheels facilitate error-free assembly. In steel production, thanks to the use of parallel marking guns, batch numbers can be applied to steel coils that can be easily deciphered even from great heights. In saw mills, on the other hand, the absorbent surface of logs is marked for further processing – but smooth, non-absorbent surfaces such as ceramic or metal catalytic converters can also be marked beforehand by the PILOT GA 9010 Marking for exact assembly in engines. The spray gun is also ideally suited for applications such as machine-readable line markings on tubes and profiles or the colour marking of banknotes that are to be voided.

## ✓ COMPONENTS, PAINTS AND INKS

While WALTHER PILOT previously had three spray guns and a complete system for line and dot marking in its product range, one gun now reliably covers the wide range of possible applications. For dot and line marking with the GA 9010 Marking spray gun, high-quality milled marking inks are used, which have less tendency to settle and clog in and at the nozzle than conventional coating materials. The inks are distributed by WALTHER PILOT and are available in all common colours. Custom colours are available on request.



# DOT AND LINE MARKING WITH PAINT SPRAYING TECHNOLOGY



EQUIPMENT	
1	<b>Marking spray gun PILOT GA 9010 Marking</b> ⊕ body: material-wetted parts completely from stainless steel ⊕ nozzle and needle: stainless steel ⊕ nozzle sizes: 0.3 / 0.5 / 0.8 / 1.0 / 1.2 / 1.5 mm Ø
2	<b>Miniature material pressure tank 20 ml</b> ⊕ stainless steel, max. 3 bar / 43.5 PSI
3	<b>Solenoid valve 3/2-way</b> ⊕ 24 VDC – other voltages available
4	<b>Compressed air fitting with pressure gauges and safety valve</b> ⊕ summary of the compressed air control functions for simple marking systems (control and spraying air of marking gun, tank air)
5	<b>Hose package (2 metres) incl. connections</b> ⊕ for air and material side

WPS 10 000 001 0

For detailed ordering information, see p. 3

## SYSTEM SELECT 1 / TYPE V 20

- ⊕ Small spraying system with miniature material pressure tank for approx. 3,500 dot markings (at a dot size of 5 mm Ø)
- ⊕ Simple operation, low-maintenance
- ⊕ For dot sizes from 3 to 30 mm Ø
- ⊕ The spray gun is triggered via the solenoid valve. The control is supplied by WALTHER PILOT if requested.
- ⊕ We will be glad to provide planning and assembly services for the integration of the system into your production line.
- ⊕ Available on short notice



Model system, delivery without display

WPS 10 000 001 0

## EQUIPMENT OPTIONS

- ⊕ The miniature material pressure tank is fastened directly to the gun, without hose connection
- ⊕ Brackets for signing guns
- ⊕ Spray mist extraction: Air on demand. Extraction is mandatory also for smallest amounts of paint. We offer economically priced solutions.
- ⊕ Paint sensors / measuring transducers for function monitoring
- ⊕ Integration of the system into your production line



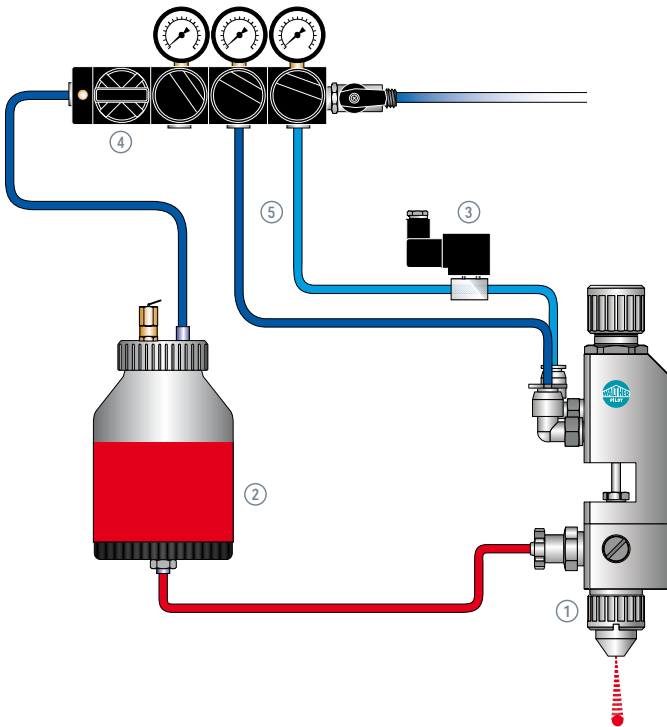
Compressed air fitting for small systems

V 35 454 003 00



Brackets for spray gun

V 21 300 250 00



## SYSTEM SELECT 2 / TYPE V 750

- ⊕ Small spray system with pressure cup for approx. 55,000 dot markings (at a dot size of 5 mm  $\varnothing$ ) or 3,300 metres line markings (width 5 mm)
- ⊕ Compact design for easy process integration
- ⊕ Simple operation, low-maintenance
- ⊕ For dot sizes from 3 to 30 mm  $\varnothing$
- ⊕ The spray gun is triggered via the solenoid valve. The control is supplied by WALTHER PILOT if requested.
- ⊕ We will be glad to provide planning and assembly services for the integration of the system into your production line.
- ⊕ Available on short notice



Small marking demo system with integrated pressure cup 750 ml for manual operation. These compact devices are also available for external control.

Dimensions H x W x D: 380 x 300 x 150 mm

2 33 22 72

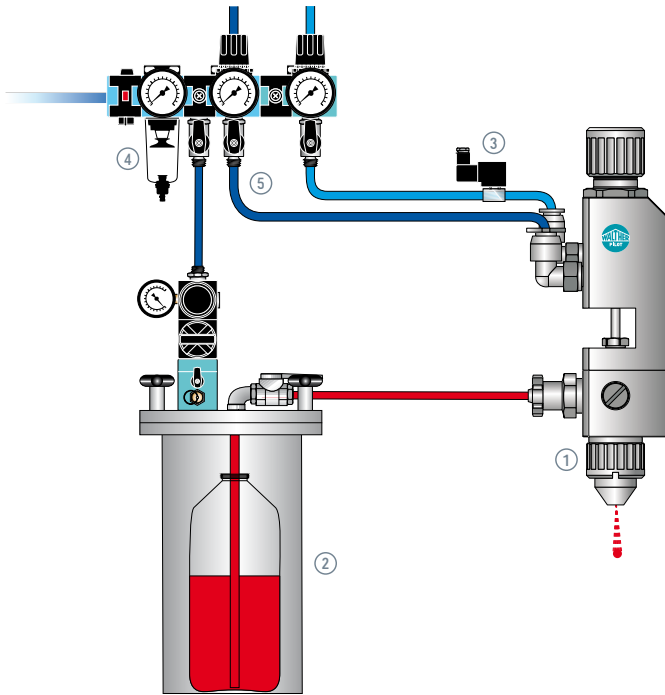
### EQUIPMENT

1	<b>Marking spray gun PILOT GA 9010 Marking</b> <ul style="list-style-type: none"> <li>⊕ body: material-carrying parts completely from stainless steel</li> <li>⊕ nozzle and needle: stainless steel</li> <li>⊕ nozzle sizes: 0.3 / 0.5 / 0.8 / 1.0 / 1.2 / 1.5 mm <math>\varnothing</math></li> </ul>
2	<b>Miniature material pressure tank 750 ml</b> <ul style="list-style-type: none"> <li>⊕ light metal, max. 3 bar / 43.5 PSI</li> </ul>
3	<b>Solenoid valve 3/2-way</b> <ul style="list-style-type: none"> <li>⊕ 24 VDC – other voltages available</li> </ul>
4	<b>Compressed air fitting with pressure gauges and safety valve</b> <ul style="list-style-type: none"> <li>⊕ summary of the compressed air control functions for simple signing systems (control and spraying air of signing gun, tank air)</li> </ul>
5	<b>Hose package (2 metres) incl. connections</b> <ul style="list-style-type: none"> <li>⊕ for air and material side</li> </ul>

WPS 20 000 001 0

### EQUIPMENT OPTIONS

- ⊕ Brackets for signing guns
- ⊕ Spray mist extraction: Air on demand. Extraction is mandatory also for smallest amounts of paint. We offer economically priced solutions.
- ⊕ Paint sensors / measuring transducers for function monitoring
- ⊕ Control cabinets
- ⊕ Integration of the system into your production line



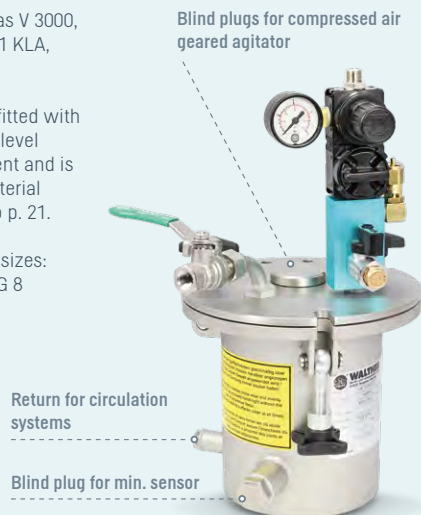
## EQUIPMENT

1	<b>Marking spray gun PILOT GA 9010 Marking</b> ⊕ body: material-wetted parts completely from stainless steel ⊕ nozzle and needle: stainless steel ⊕ nozzle sizes: 0.3 / 0.5 / 0.8 / 1.0 / 1.2 / 1.5 mm Ø
2	<b>Material pressure tank MDG 3 KLA, 2,500 ml</b> ⊕ stainless steel, max. 3 bar / 43.5 PSI ⊕ without agitator (fits 1-litre bottles)
3	<b>Solenoid valve 3/2-way</b> ⊕ 24 VDC – other voltages available
4	<b>Compressed air fitting with pressure gauges and safety valve</b> ⊕ summary of the compressed air control functions for simple signing systems (control and spraying air of signing gun, tank air)
5	<b>Hose package incl. connections</b> ⊕ air and material side

WPS 30 030 001 0

## SYSTEM VERSIONS

- ⊕ Type V 1000: same as V 3000, but with tank MDG 1 KLA, capacity 1,100 ml
- ⊕ MDG 1 KLA can be fitted with agitators and filling level measuring equipment and is also suitable for material circulation. See also p. 21.
- ⊕ Other possible tank sizes: MDG 2, MDG 4, MDG 8



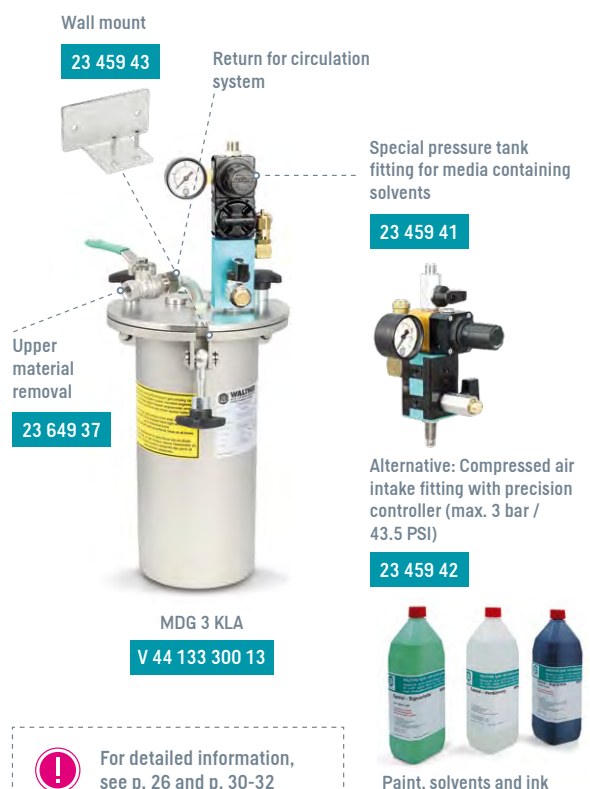
## SYSTEM SELECT 3 / TYPE V 3000

- ⊕ Small spray system with material pressure tank for approx. 70,000 dot markings (at a dot size of 5 mm Ø) or 4,500 metres line markings (width 5 mm)
- ⊕ Compact design for easy process integration
- ⊕ Simple operation, low-maintenance
- ⊕ For dot sizes from 3 to 30 mm Ø
- ⊕ Triggered via the solenoid valve. The control is supplied by WALTHER PILOT if requested.
- ⊕ We will be glad to provide planning and assembly services for the integration of the system into your production line.
- ⊕ Available on short notice

## EQUIPMENT OPTIONS

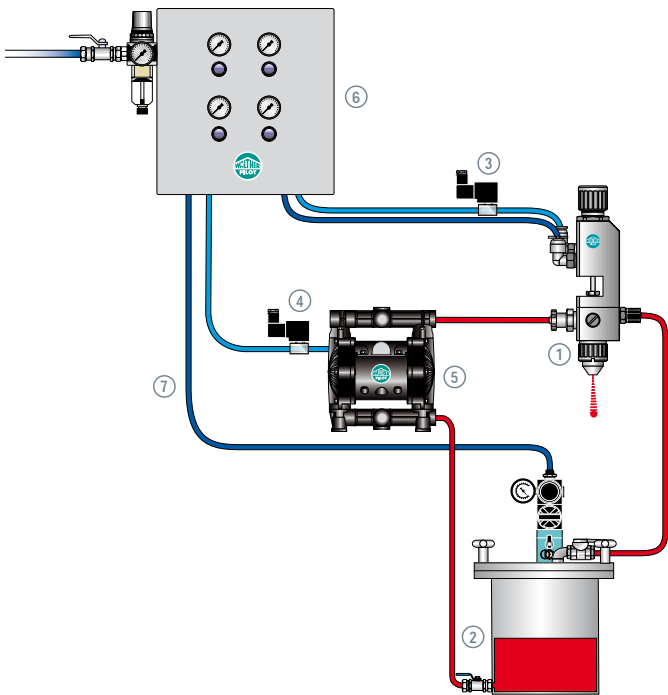
- ⊕ Brackets for signing spray guns (p.19)
- ⊕ Wall bracket for pressure tank
- ⊕ Easy integration of paint return
- ⊕ Spray mist extraction: Air on demand
- ⊕ Paint sensors / measuring transducers for function monitoring
- ⊕ Control cabinets / pneumatic cabinets
- ⊕ Integration of the system into your production line

## CONFIGURATOR MDG 3 KLA



⚠ For detailed information, see p. 26 and p. 30-32





EQUIPMENT	
1	<b>Marking spray gun PILOT GA 9010 Marking, design for circulation mode</b> ⊕ body: material-wetted parts completely from stainless steel ⊕ nozzle and needle: stainless steel ⊕ nozzle sizes: 0.3 / 0.5 / 0.8 / 1.0 / 1.2 / 1.5 mm Ø
2	<b>Material pressure tank MDG 1-KLA, 1,100 ml, circulation</b> ⊕ stainless steel, max. 3 bar / 43.5 PSI ⊕ without agitator (see also p. 20)
3	<b>Solenoid valve 3/2-way</b> ⊕ 24 VDC – other voltages available
4	<b>Solenoid valve 2/2-way</b> ⊕ 24 VDC – other voltages available
5	<b>Diaphragm pump MBP 2812</b> ⊕ Acetal (other designs possible)
6	<b>Pneumatics cabinet with pressure gauge</b> ⊕ for the connection 1 x pressure tank, 1 x signing spray gun, 1 x diaphragm pump
7	<b>Hose package incl. connections</b> ⊕ air and material side

WPS 41 010 031 0

## SYSTEM SELECT 4 CIRCULATION / TYPE V 1000

- ⊕ This system is used in particular for settling or fast-drying materials. These materials are therefore circulated. A dual diaphragm pump is used for this purpose.
- ⊕ This is a small spray system with material pressure tank for approx. 70,000 dot markings (at a dot size of 5 mm Ø) or 4,500 metres line markings (width approx. 5 mm)
- ⊕ Simple operation, low-maintenance
- ⊕ For dot sizes from 3 to 30 mm Ø
- ⊕ The spray gun is triggered via the solenoid valve. The control is supplied by WALTHER PILOT if requested.
- ⊕ We will be glad to provide planning and assembly services for the integration of the system into your production line.
- ⊕ Available on short notice

## EQUIPMENT OPTIONS

- ⊕ Brackets for signing spray guns (p.19)
- ⊕ Wall bracket for pressure tank
- ⊕ Agitators / filling level measuring equipment
- ⊕ Paint sensors / measuring transducers for function monitoring
- ⊕ Control cabinets
- ⊕ Integration of the system into your production line
- ⊕ Compressed air fitting instead of pneumatics cabinet

## SYSTEM VERSIONS

- ⊕ Depending on production requirements, the material supply of a signing system can include several material pressure tanks and diaphragm pumps. We develop custom-made concepts for your operation.
- ⊕ Instead of material pressure tank MDG 1, MDG 2 (1,800 ml), MDG 3 (2,500 ml), MDG 4 (3,100 ml) can be used. Tanks of the LDG series are another option.



Pneumatics cabinet



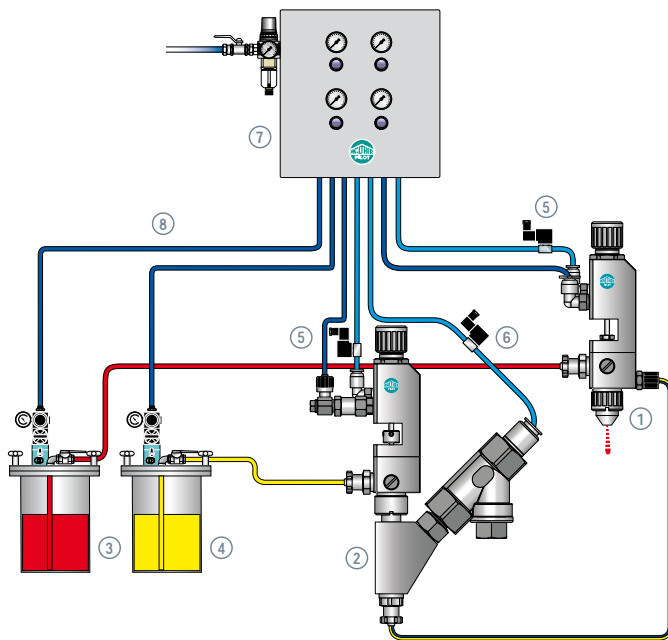
Compressed air fitting

V 35 475 000 01



Micro diaphragm pumps are also available. We'll be glad to assist you regarding possible applications.

V 23 341 64



EQUIPMENT	
1	<b>Marking spray gun PILOT GA 9010 Marking, flushable version</b> ⊕ body: material-wetted parts completely from stainless steel ⊕ nozzle and needle: stainless steel ⊕ nozzle sizes: 0.3 / 0.5 / 0.8 / 1.0 / 1.2 / 1.5 mm Ø
2	<b>Flushing valve</b> ⊕ body: Brass, nickel-coated
3	<b>Material pressure tank MDG 3, 2,500 ml</b> ⊕ stainless steel, max. 3 bar / 43.5 PSI ⊕ without agitator, for paint / ink
4	<b>Material pressure tank MDG 3, 2,500 ml</b> ⊕ stainless steel, max. 3 bar / 43.5 PSI ⊕ without agitator, for detergent
5	<b>Solenoid valve 3/2-way</b> ⊕ 24 VDC – other voltages available, 1 x flushing valve, 1 x signing gun
6	<b>Solenoid valve 2/2-way</b> ⊕ 24 VDC – other voltages available, 1 x flushing valve
7	<b>Pneumatics cabinet with pressure gauge</b> ⊕ for the connection 2 x pressure tank, 1 x signing spray gun, 1 x flushing valve
8	<b>Hose package incl. connections</b> ⊕ air and material side

WPS 51 030 301 0

## SYSTEM VERSIONS

- ⊕ Type V 1001: same as V 3003, but with tank MDG 1, capacity 1,100 ml
- ⊕ Type V 2002: same as V 3003, but with tank MDG 2, capacity 1,800 ml
- ⊕ Type V 4004: same as V 3003, but with tank MDG 4, capacity 3,100 ml
- ⊕ Option: Fitted with compressed air agitator



Flushing valve for nozzle cleaning of signing spray guns

V 21 328 000 53

## SYSTEM SELECT 5 FLUSHABLE / TYPE V 3003

- ⊕ Such systems are used whenever the nozzle and air cap are exposed to heavy soiling. This system is therefore equipped with an additional flushing valve. After spraying, an air/flushing agent mixture is pressed into the annular gap between nozzle and air cap.
- ⊕ This is a small spray system with material pressure tank for approx. 210,000 dot markings (at a dot size of 5 mm Ø) or 13,500 metres line markings (width approx. 5 mm)
- ⊕ Simple operation, low-maintenance
- ⊕ For dot sizes from 3 to 30 mm Ø
- ⊕ The spray gun is triggered via the solenoid valve. The control is supplied by WALTHER PILOT if requested.
- ⊕ We will be glad to provide planning and assembly services for the integration of the system into your production line.

## EQUIPMENT OPTIONS

- ⊕ Brackets for marking spray guns
- ⊕ Agitators and filling level measuring equipment
- ⊕ Spray mist extraction: Air on demand
- ⊕ Paint sensors / measuring transducers for function monitoring
- ⊕ Control cabinets
- ⊕ Integration of the system into your production line

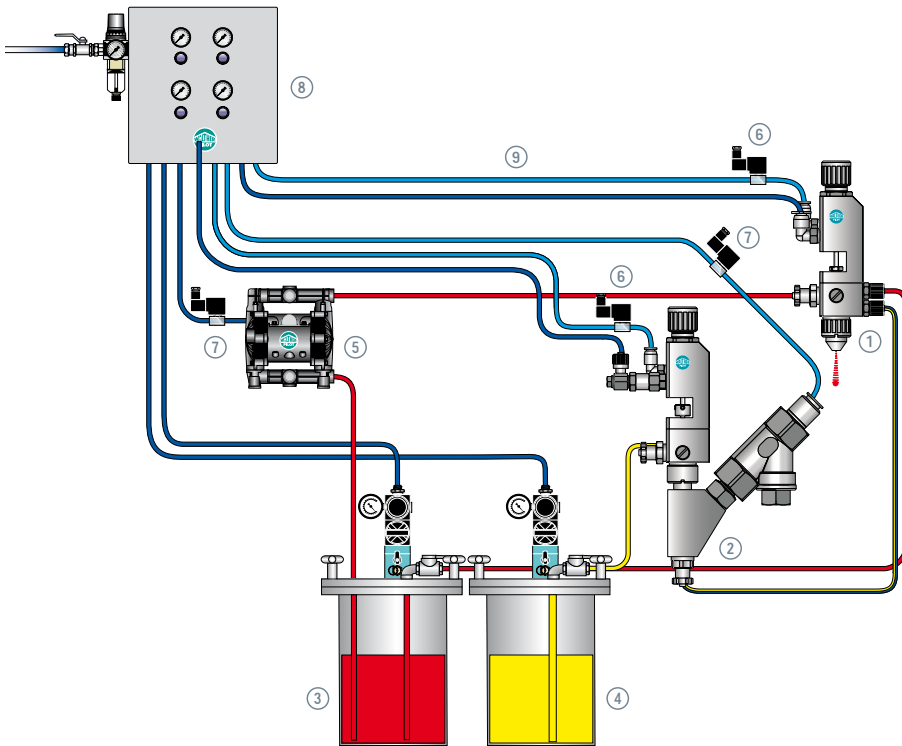
## FLUSHING PROCESS PROCEDURE

- ⊕ After completion of the marking process, close the signing gun via the solenoid valve.
- ⊕ Open the flushing valve for approx. 3-5 seconds via the solenoid valve. An air/solvent mixture cleans the area between nozzle and air cap.
- ⊕ Close flushing valve via solenoid valve after completion of the cleaning process.
- ⊕ Open the solenoid valve for drying the nozzle/air cap area for approx. 5 seconds.
- ⊕ Close solenoid valve, cleaning process is finished.

Pressure tank geared agitator for small tanks from MDG 1

V 46 200 400 13





## EQUIPMENT

	<b>Marking spray gun PILOT GA 9010 Marking, design for circulation mode – flushable</b>
1	<ul style="list-style-type: none"> <li>⊙ body: material-wetted parts completely from stainless steel</li> <li>⊙ nozzle and needle: stainless steel</li> <li>⊙ nozzle sizes: 0.3 / 0.5 / 0.8 / 1.0 / 1.2 / 1.5 mm ⌀</li> </ul>
2	<b>Flushing valve</b>
	<ul style="list-style-type: none"> <li>⊙ body: Brass, nickel-coated</li> </ul>
3	<b>Material pressure tank MDG 8, 6,400 ml</b>
	<ul style="list-style-type: none"> <li>⊙ stainless steel, max. 4 bar / 58 PSI</li> <li>⊙ without agitator, for paint, circulation version</li> </ul>
4	<b>Material pressure tank MDG 8, 6,400 ml</b>
	<ul style="list-style-type: none"> <li>⊙ stainless steel, max. 4 bar / 58 PSI</li> <li>⊙ without agitator, for detergent</li> </ul>
5	<b>Diaphragm pump MBP 2812</b>
	<ul style="list-style-type: none"> <li>⊙ Acetal (other designs possible)</li> </ul>
6	<b>Solenoid valves 3/2-way</b>
	<ul style="list-style-type: none"> <li>⊙ 24 VDC – other voltages available, 1 x flushing valve, 1 x signing gun</li> </ul>
7	<b>Solenoid valves 2/2-way</b>
	<ul style="list-style-type: none"> <li>⊙ 24 VDC – other voltages available, 2 x pressure tank, 1 x signing spray gun, 1 x flushing valve</li> </ul>
8	<b>Pneumatics cabinet with pressure gauge</b>
	<ul style="list-style-type: none"> <li>⊙ for the connection 2 x pressure tank, 1 x signing spray gun, 1 x flushing valve</li> </ul>
9	<b>Hose package incl. connections</b>
	<ul style="list-style-type: none"> <li>⊙ air and material side</li> </ul>

WPS 61 080 831 0

## SYSTEM SELECT 6 CIRCULATION FLUSHABLE / TYPE V 8008

- ⊕ System design for processing settling or fast drying materials with dual diaphragm pump for material circulation. An additional flushing device prevents interference through contamination of nozzle and air cap.
- ⊕ Spraying system for larger quantities of material with material pressure tank for approx. 37,000 metres of line markings (with a line width of 5 mm) and additional material pressure tank for the detergent.
- ⊕ With flushing valve for cleaning the nozzles of the signing gun
- ⊕ The spray gun is triggered via the solenoid valve. The control is supplied by WALTHER PILOT if requested.
- ⊕ Simple operation, low-maintenance
- ⊕ We will be glad to provide planning and assembly services for the integration of the system into your production line.



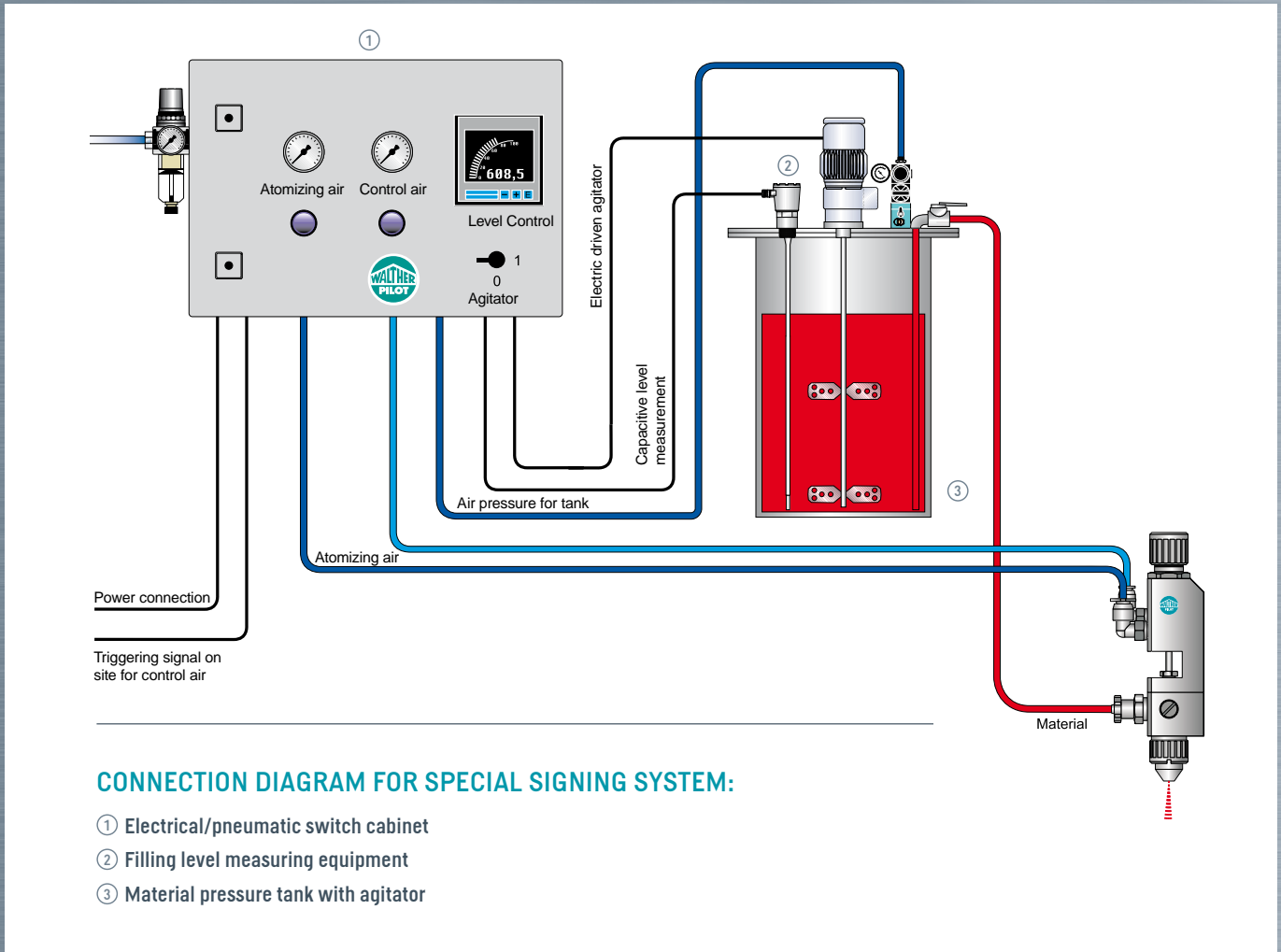
Options: same as Select 5, see page 10

## SYSTEM VERSIONS

⊙ Type V 12,012: same as V 8,008, but with tank MDG 12, capacity 11,800 ml

⊙ Type V 22,022: same as V 8,008, but with tank MDG 22, capacity 19,500 ml

# COMPLEX SYSTEM COMPOSITIONS ARE REQUIRED? WE HAVE THE SOLUTION!



## CONNECTION DIAGRAM FOR SPECIAL SIGNING SYSTEM:

- ① Electrical/pneumatic switch cabinet
- ② Filling level measuring equipment
- ③ Material pressure tank with agitator

## SWITCH CABINETS / CONTROL EQUIPMENT



We design the right product solution for your special production requirements.

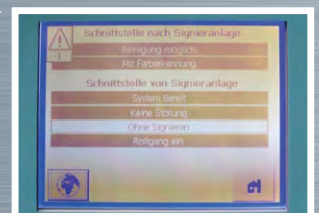
- + Pneumatics cabinets
- + Electrical/pneumatic switch cabinets
- + Electrical switch cabinets

We are your single-source provider of all components, such as mounting racks or frames, required for the system integration of these control elements.

Electrical switch cabinet

Pneumatics cabinet

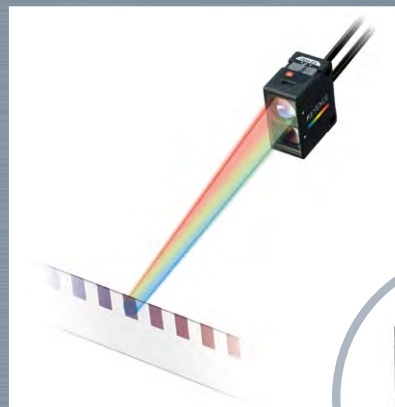
Mounting frame



Touch panel for convenient setting of the parameters (PLC)

# APPLICATION TECHNOLOGY, MATERIAL TRANSFER SYSTEMS, SPRAY MIST EXTRACTION TECHNOLOGY, FUNCTION MONITORING

- ✔ **MATERIAL SUPPLY SYSTEMS ACCORDING TO DEMAND:**  
Pressure tank with agitator and filling level measuring sensors, diaphragm pumps for material circulation, complete hose assembly
- ✔ **CABINETS FOR MATERIAL SUPPLY SYSTEM:**  
If necessary, with exhaust control for the extraction of harmful gases or vapours that may escape when opening the pressure tanks; drip pans for fluid handling of hazardous substances
- ✔ **SIGNING SPRAY GUNS WITH FLUSHING SYSTEM FOR OUTSIDE NOZZLE CLEANING AFTER EACH SPRAYING OPERATION**
- ✔ **SPRAY BOOTH:**  
with extraction system for solvent vapours and paint mists  
**FILTER SYSTEM:**  
Multilayer paper mats with high absorption capacity
- ✔ **PAINT SENSORS AND MEASURING TRANSDUCERS FOR FUNCTION MONITORING:**  
This gives you certainty as to whether the dot or bar code has really been applied and avoids faulty coatings and rejects
- ✔ **CONTROL EQUIPMENT:**  
Switch cabinets (pneumatic, electrical/pneumatic, electrical) exactly matching your demand
- ✔ **SPACE-SAVING INTEGRATION OF THE SIGNING SYSTEM**  
into your existing or planned production line, competent engineering from a single source



The complete assembly includes:

- + Sensor
- + Sensor housing
- + Housing bracket

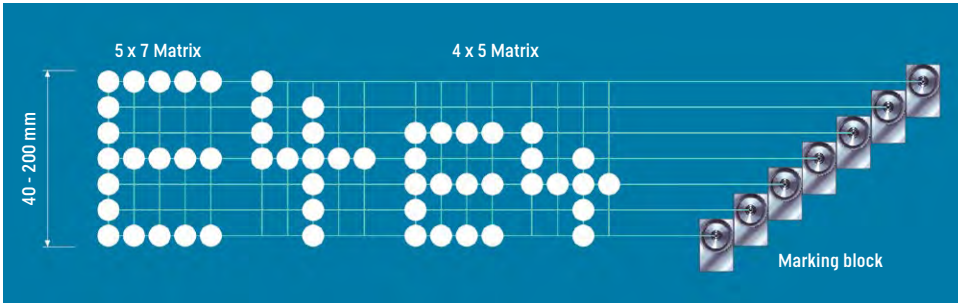
VCZ H 32 000 00



Top:  
Enjoy 100 % process reliability  
when using paint sensors.

Left:  
Cabinet with material supply (pressure tank with cover rest,  
dual diaphragm pumps, drip pans and filling level measuring  
sensor)

# MARKING BLOCKS



## MATRIX FOR MARKING BLOCKS

The character height lies between 40 and 200 mm. The main customers are steel plants marking their products with respective batch numbers. These signs can be read from a large distance.

## APPLICATIONS

- ⊕ For example, signing of slabs, tales, sheets, pipes, profiles, coils, containers
- ⊕ Colour coding

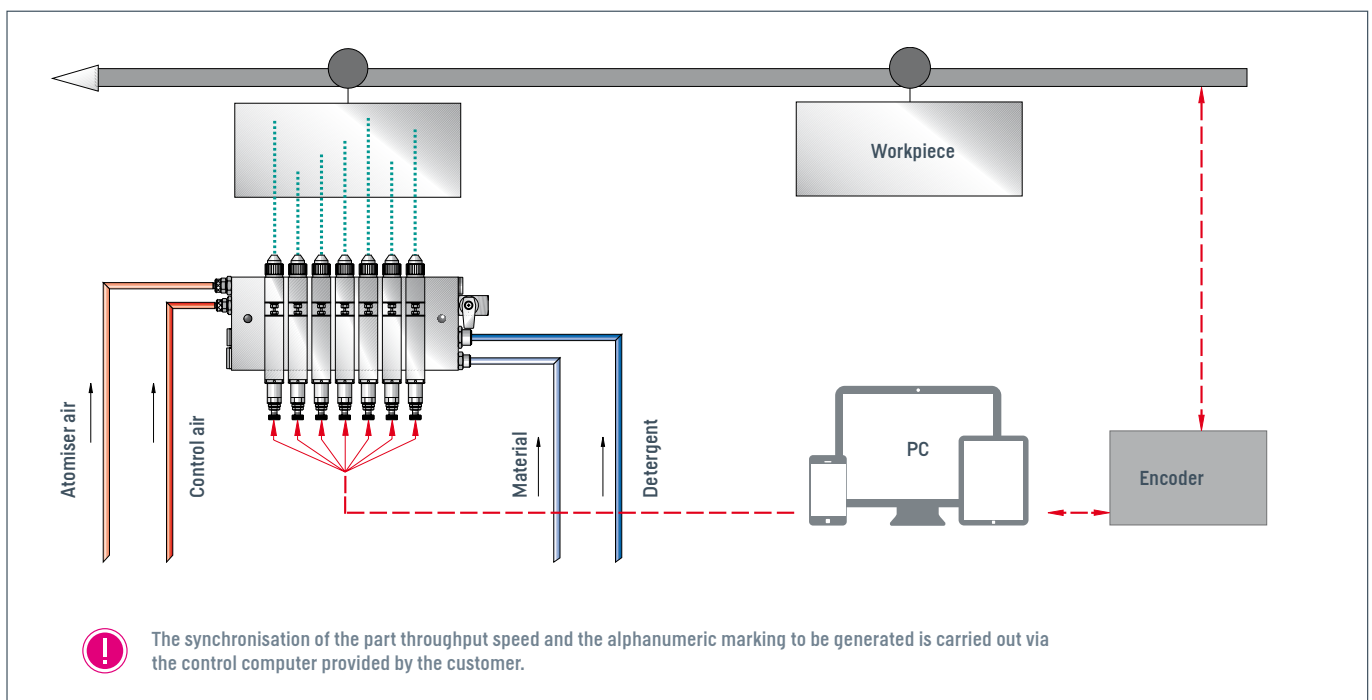
## BENEFITS

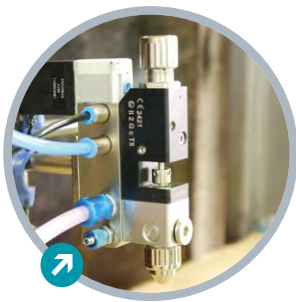
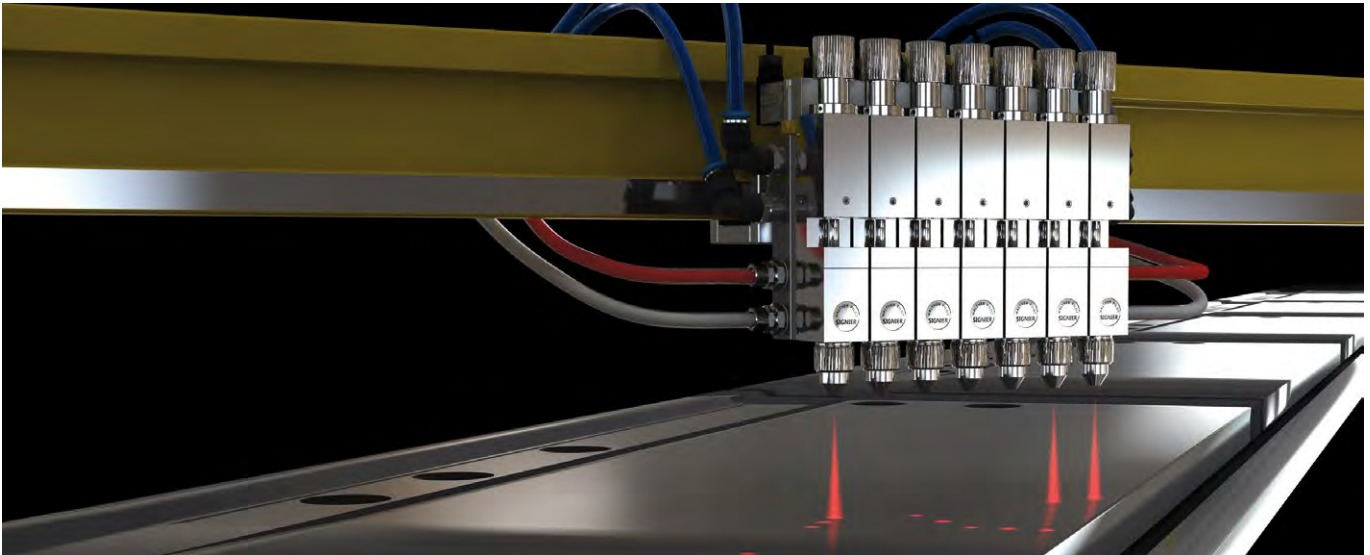
In contrast to other marking systems, signing systems allow the application of heat-resistant paints.

During cleaning and maintenance work, the individual guns can be easily and quickly removed from the block.

In the event that quick-drying paints are used or longer pauses occur between signings, we recommend using signing blocks with flushing device. This special WALTHER PILOT development ensures that paint residues are removed from the nozzle and air cap after the last signing process. In this way, the guns on the block remain fully functional.

- ⊕ Large variety of models for almost every requirement profile
- ⊕ The entire technology from a single source – spray guns, pressure tanks, hoses, solenoid valves, compressed air cleaners
- ⊕ High part throughput speeds due to short gun switching times
- ⊕ Flushing device for nozzle and air cap on request
- ⊕ Rugged design – low-wearing
- ⊕ Easy cleaning and maintenance





1 signing block  
faster than previous unit:  
10 milliseconds number of cycles

Equipment:

- ⊕ Air cap 2.3
- ⊕ Nozzle needle 0.3
- ⊕ Circulation diaphragm

2 39 97 31



Signing block with 7 spray guns and orifices for control air, spraying air, material and detergent (from left to right)

## PNEUMATICALLY SELECTED SIGNING BLOCKS

### COMPACT, SPACE-SAVING DESIGN

Low-wear diaphragm guns are used. The service life is many times longer than that of spray guns with needle seals. It also makes sense to work with diaphragm guns with regard to the paints used for hot-signing, which contain sharp-edged pigments.

- ⊕ The character heights lie between 40 and 200 mm. The dot size can be adjusted by means of a fine click adjustment.
- ⊕ The writing speed is max. 54 m / min.
- ⊕ The block is optionally available with flushing device.
- ⊕ Pneumatic signing blocks can be equipped with any number of guns.

## ELECTROMAGNETICALLY SELECTED SIGNING BLOCKS (ES SERIES)

### HIGH SPEED WITH PAINT JET

The new "Paint Jet" is small, light and unsurpassed fast. The direct selection of the nozzles via special magnets enables cycle times of 3 milliseconds from dot to dot.

- ⊕ The character heights lie between 40 and 200 mm. The dot size can be adjusted by means of a fine click adjustment.
- ⊕ The writing speed is max. 360 m / min.
- ⊕ The block is equipped with a flushing device as standard.
- ⊕ Systems with 7 or 9 nozzles are available as standard. Special solutions with a different number of nozzles are easily feasible.



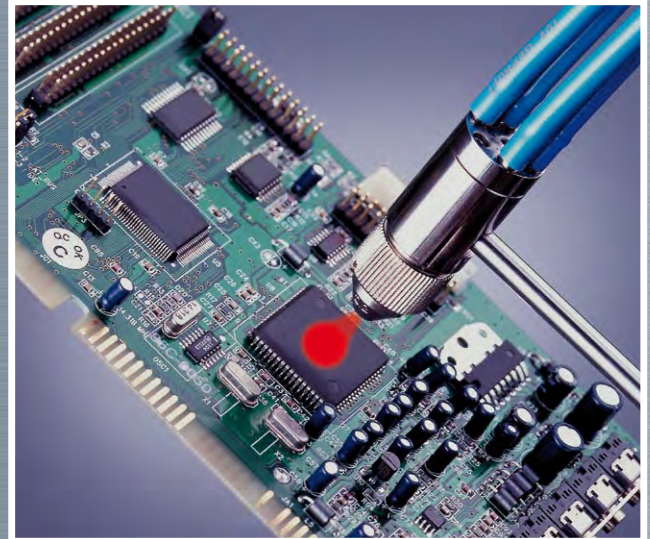
# A WIDE RANGE OF APPLICATIONS

## PRECISE AND EDGE-SHARP PAINT APPLICATION

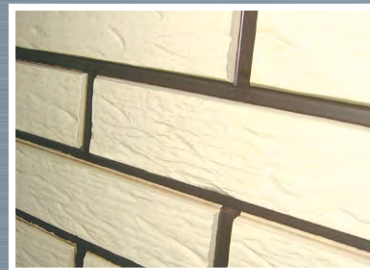
Marking and block guns can be used for a wide range of applications. These often have to do with paint, but also with other materials, e.g. adhesives, release agents, lubricants, casting compounds or cosmetics. The material is best fed using WALTHER PILOT material pressure tanks or pumps. WALTHER PILOT is your specialist, especially when it comes to demanding tasks. So get in touch with us. There are generally no off-the-shelf spraying systems for fine materials.

## APPLICATION EXAMPLES

- ⊕ Application of screw lock
- ⊕ Lubricant application, e.g. for drill bits and milling cutters
- ⊕ Release agent application for rubber profiles
- ⊕ End position gluing of paper rolls
- ⊕ Collar painting for gas cylinders
- ⊕ Targeted application of adhesives (edge gluing)
- ⊕ Adding of hardeners and adhesives
- ⊕ Sealing of printed circuit boards with protective lacquer
- ⊕ Casting of circuit board components
- ⊕ Painting of small parts with complex geometries
- ⊕ Precise and sharp-edged lacquer application



Sealing chips on a printed circuit board



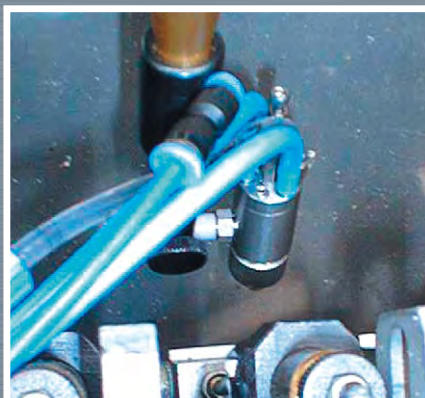
Sharp-edged lacquer application without stencils



These paint application systems are suitable for a wide range of the finest painting and gluing work - right up to colouring artificial flowers.



Food processing with individual guns on the robot

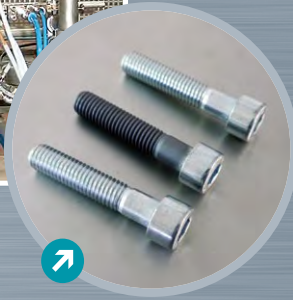
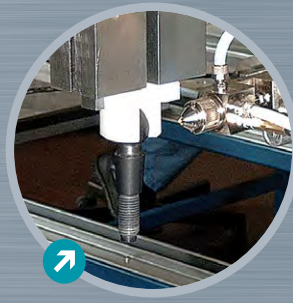
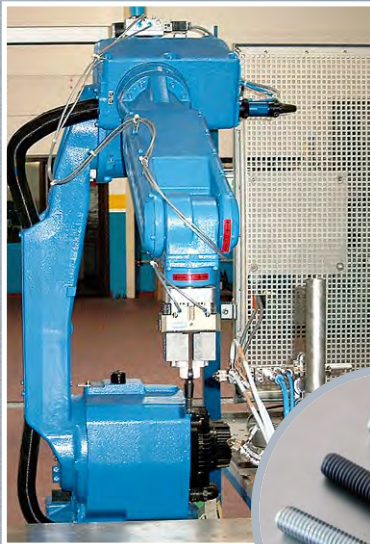


Lubricant application



Coating of small parts

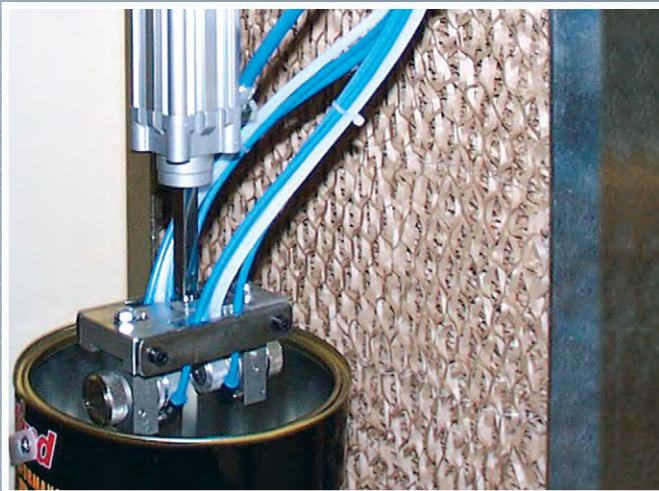




## IMPLEMENTING INNOVATIVE PAINT CONCEPTS

The marking gun is ideally suited for overspray-free coating of small parts because its sharp-edged paint application. This example shows the thread painting of a bolt. Due to the sharp-edged painting and the associated avoidance of overspray to a large extent, it is possible to use the robot to pick up the spray objects – instead of picking up the spray gun as usual. Do you also need innovative coating solutions? We will be pleased to advise you.

If necessary, we carry out tests with your workpieces and the coating material at our pilot plant. This way you can be sure that the optimum application technology is used.



## PAINTING IN HARD-TO-REACH AREAS

Particularly compact spray guns, which can be controlled externally, are installed in such a way that isolated coatings can also be applied in cavities and recesses.

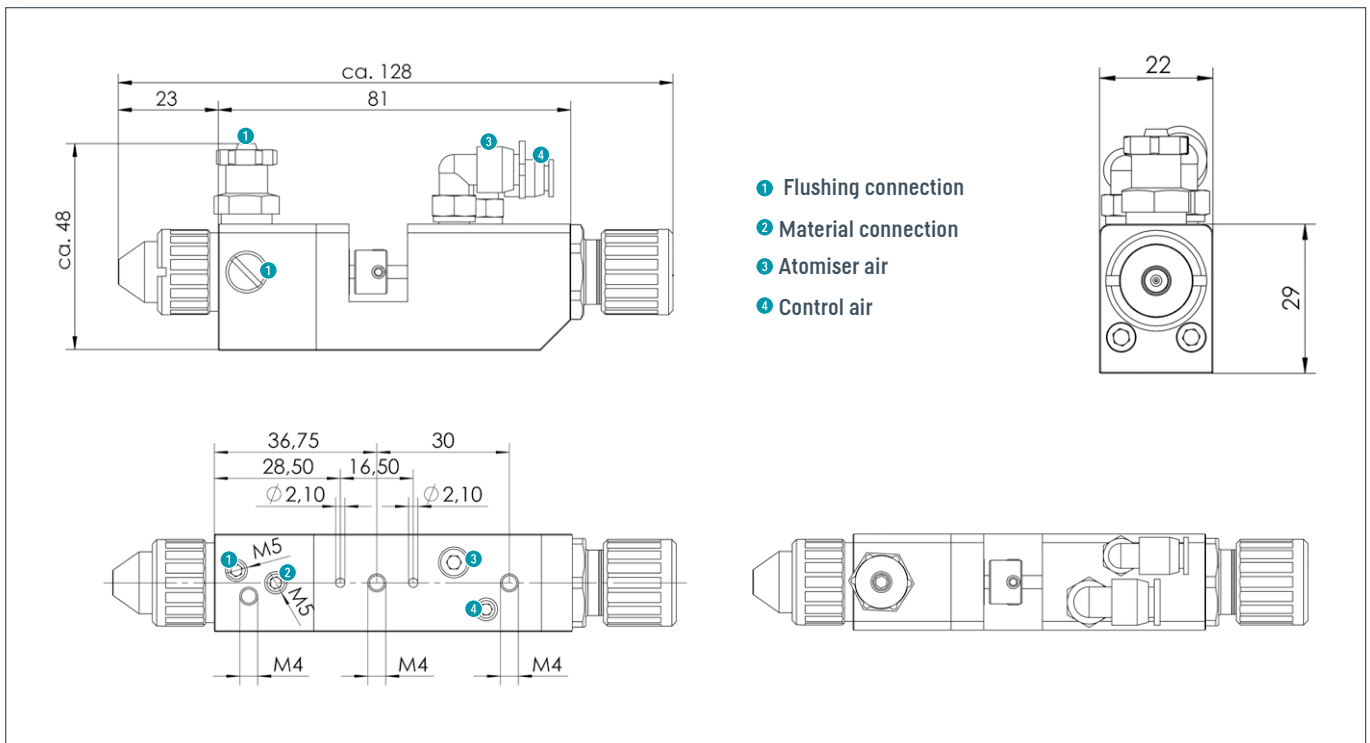
Example: Repair coating inside a can packaging. Two automatic spray guns in miniature design for the isolated paint application in the area of the handle loops. Even if the amount of paint is very small, paint mist extraction must be provided.



## SPRAY-ON MIRROR APPLICATION

In order to improve the legibility of printing by inkjet printers, primarily white lacquer is first applied with the spray gun. The objective: the writing or coding stands out clearly against this background and can be better captured by the reader. Example: Spray-on mirror on catalytic converter.

# SPRAY GUNS FOR COLOUR MARKING



Fully automatic spray gun for dot and line marking

PILOT GA 9010 MARKING		V 21 300 51		⊗		3		
AVAILABLE JET NOZZLE INSERTS								
Jet nozzle insert	⊗	mm Ø	0.3	0.5	0.8	1.0	1.2	1.5
		No.	03	05	08	10	12	15

## PILOT GA 9010 MARKING

With the PILOT GA 9010 Marking, sharp-edged markings are possible. The extremely short switching times (opening, spraying, closing) make it ideal for use in productions with short cycle times. The PILOT GA 9010 Marking guarantees a smooth production process even under the most difficult conditions thanks to specially suitable flushing equipment and a robust design.

- ⊕ Dimensions (H x W x D): 29 x 22 x 128 mm
- ⊕ Atomiser air connection: 2 x M 7 - 6 x 4
- ⊕ Control air connection: 2 x M 5 - 4 x 3
- ⊕ Material feed: 1 x M 5 - 6 x 4
- ⊕ Atomiser air pressure: 0-6 bar / 0-87 PSI
- ⊕ Control air pressure: min. 4 bar / 58 PSI - max. 6 bar / 87 PSI
- ⊕ Material pressure: 0-6 bar / 0-87 PSI
- ⊕ Operating temperature: max. 80 °C
- ⊕ Sound level: 1 bar / 14.5 PSI = 64 dB (A) 6 bar / 87 PSI = 83 dB (A)

## APPLICATIONS

- ⊕ Markings due to weld seam inspections for sheets and tubes
- ⊕ Marking of rejects
- ⊕ NOK part marking
- ⊕ Machine-detectable marking after leak test
- ⊕ Marking as orientation guide
- ⊕ Marking of different construction types with the same appearance
- ⊕ Production line marking (e.g. cutting and bending lines)



## PILOT GA 9010 MARKING DIAPHRAGM

Robust, fully automatic marking gun with diaphragm instead of needle seal. Particularly suitable for processing abrasive or moisture-curing materials and quick-drying paints.

- ⊕ Dimensions (H x W x D): 29 x 22 x 128 mm
- ⊕ Atomiser air connection: 2 x M 7 - 6 x 4
- ⊕ Control air connection: 2 x M 5 - 4 x 3
- ⊕ Material feed: 1 x M 5 - 6 x 4
- ⊕ Atomiser air pressure: 0-6 bar / 0-87 PSI
- ⊕ Control air pressure: min. 4 bar / 58 PSI - max. 6 bar / 87 PSI
- ⊕ Material pressure: 0,3-4 bar / 4.4-58 PSI
- ⊕ Operating temperature: max. 50°C
- ⊕ Sound level: 1 bar / 14.5 PSI = 64 dB (A) 6 bar / 87 PSI = 83 dB (A)

PILOT GA 9010 MARKING DIAPHRAGM		V 21 321 51	⊕	3			
AVAILABLE JET NOZZLE INSERTS							
Jet nozzle insert	mm Ø	0.3	0.5	0.8	1.0	1.2	1.5
	No.	03	05	08	10	12	15

## SPECIAL SPRAY GUNS WITH REDUCED SPACE REQUIREMENTS



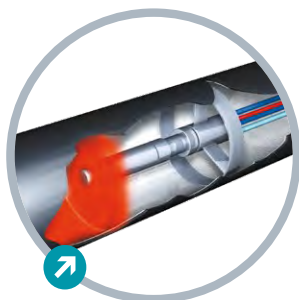
- ⊕ Material connection: 6 x 4
- ⊕ Control air connection: 4 x 2,5
- ⊕ Atomiser air connection: 2 tubes x 6 x 4

## PILOT WA 51 WITH NEEDLE STROKE LIMIT

Miniature spray gun for external control of the atomization parameters.

- ⊕ All wetted parts: stainless steel
- ⊕ Also available with material volume regulation

SPECIAL SPRAY GUN PILOT WA 51		⊕					
With round-jet nozzle insert	V 20 306 70		3				
With wide-jet nozzle insert	V 20 306 71		3				
AVAILABLE JET NOZZLE INSERTS							
Jet nozzle insert	mm Ø	0.3	0.5	0.8	1.0	1.2	1.5
	No.	03	05	08	10	12	15



- ⊕ Material connection: 6 x 4
- ⊕ Control air connection: 4 x 2,5
- ⊕ Atomiser air connection: 2 tubes x 6 x 4

## PILOT WA 81 – “THE PIPE CRAWLER”

The best option for internally coating longer pipes is the “Pipe Crawler”, i.e. the PILOT WA 81 automatic spray gun. Its axial connections make it possible to draw it through the pipe on a special carriage, enabling 360° circular spraying.

- ⊕ Maximum viscosity of Material 40 sec. (depending on material) / DIN 4 (140mPa•s)
- ⊕ Minimum diameter of lacquering object, interior 21 mm (measured at material with viscosity of 10 sec. /10 mPa•s)
- ⊕ Maximum diameter of lacquering object, interior 800 mm (measured at material with viscosity of 10 sec. /10 mPa•s)

V 20 381 51		⊕	3				
AVAILABLE JET NOZZLE INSERTS							
Jet nozzle insert	mm Ø	0.3	0.5	0.8	1.0	1.2	1.5
	No.	03	05	08	10	12	15




# NOZZLE EXTENSIONS

The new generation of nozzle extensions is based on a modular system. Threaded connectors are used throughout. The modular system allows custom configurations for different usage requirements.




- ⊕ Wetted parts: Stainless steel
- ⊕ Standard pipe lengths: 100 - 1,000 mm, other lengths available on request
- ⊕ Special flyer available on request or on [www.walther-pilot.de](http://www.walther-pilot.de)

- ⊕ Using pressure tanks or pump systems is recommended to achieve good coverage per milliliter
- ⊕ Air pipe also available in stainless steel

**!** Subject to the material viscosity nozzle extensions of 300 mm maximum can be used with Gravity-feed-cup-guns. There are no limitations with material connection.

NOZZLE EXTENSIONS		
	RV 67A	Sprays straight ahead / min. Inlet opening: 8 mm ø Nozzle sizes from 0.3 mm - 1.5 mm ø
	RV 67B	Sprays sideways 45° / min. Inlet opening: 8 mm ø Nozzle sizes from 0.3 mm - 1.5 mm ø
	RV 70	Internal mixing system 360° / min. Inlet opening: 8 mm ø Nozzle sizes: 1.0 mm und 1.5 mm ø (suitable only for spray guns with material connection)

# SURVEY OF SPRAY GUN LINE



SPRAY GUNS	PILOT 9010 MARKING	PILOT GA 9010 MARKING DIAPHRAGM	PILOT WA 51 with needle stroke limit
			
Suitable for abrasive and other problem media	—	✓	—
Stainless steel for parts contacting the material	✓	✓	✓
Hard-coated nozzle and needle	○	○	○
Available nozzle sizes 0.2, 0.3, 0.5, 0.8, 1.0, 1.2, 1.5 ø	✓	✓	✓
Atomiser air pressure / control air pressure / material pressure	0-6,0 bar / min. 4,0 bar-max. 6,0 bar / 0-6,0 bar 0-87 PSI / min. 58 PSI-max. 87 PSI / 0-87 PSI	0-6,0 bar / min. 4,0 bar-max. 6,0 bar / (0,3-4,0 bar MB) 0-87 PSI / min. 58 PSI-max. 87 PSI / (4.35-58 PSI)	0,1-8,0 bar / 6,0 bar / 1,0-6,0 bar 1.45-116 PSI / 87 PSI / 14.5-87 PSI
Length x width x height, weight	128 X 22 X 29, 440 g	128 X 22 X 29 mm, 440 g	67 x 20 ø, 94 g
Switching speed	13 ms (milliseconds)	13 ms (milliseconds)	25 ms (milliseconds)
Adapter plate	○	○	—
Comprehensive accessories*	✓	✓	✓

\*Pressure tanks, pumps, agitators, filling level indicators, valves, hoses, compressed air fittings

✓ in order, ○ Optional, — not applicable




# AIR CAPS & MATERIAL NOZZLES

## AIR CAPS PILOT SIGNIER / WA 51 / WA 200

	TYPE	INFORMATION	MATERIAL	DOT Ø	LINE Ø	SURFACE Ø	JET NOZZLE INSERTS	ARTICLE NUMBER
	3.1*	Round spray with impact edge	Stainless Steel	2-30 mm	2-30 mm	-	0.3 - 0.5 mm	V 20 339 13 033
	3.2*						0.8 - 1.0 mm	V 20 339 13 083
	3.3*						1.2 - 1.5 mm	V 20 339 13 123
	4.1	Wide jet with horns, 2 holes	Stainless Steel	-	-	15-30 mm	0.3 - 0.5 mm	V 20 339 14 032
	4.2						0.8 - 1.0 mm	V 20 339 14 082
	4.3						1.2 - 1.5 mm	V 20 339 14 122
	5.1	Round spray with impact edge	Stainless Steel	-	-	15-25 mm	0.3 - 0.5 mm	V 20 336 44 033
	5.2						0.8 - 1.0 mm	V 20 336 44 083
	5.3						1.2 - 1.5 mm	V 20 336 44 123
	6.1	Wide jet with horns, 4 holes	Stainless Steel	-	-	20-60 mm	0.3 - 0.5 mm	V 20 339 17 034
	6.2						0.8 - 1.0 mm	V 20 339 17 084
	6.3						1.2 - 1.5 mm	V 20 339 17 124
	7.1	Round spray with impact edge	Stainless Steel	2-30 mm	2-30 mm	-	0.3 - 0.5 mm	V 20 339 13 030
	7.2						0.8 - 1.0 mm	V 20 339 13 080
	7.3						1.2 - 1.5 mm	V 20 339 13 120

\* When marking with dots, choose an air cap one number larger.

## MATERIAL NOZZLES

	TYPE	INFORMATION	MATERIAL	JET NOZZLE INSERTS	ARTICLE NUMBER
	009	Water based	Stainless Steel	0.3 mm	V 20 336 25 033
				0.4 mm	V 20 336 25 043
				0.5 mm	V 20 336 25 053
				0.8 mm	V 20 336 25 083
				1.0 mm	V 20 336 25 103
				1.2 mm	V 20 336 25 123
				1.5 mm	V 20 336 25 153
	009	Standard	Stainless Steel	0.2 mm	V 20 336 23 023
				0.3 mm	V 20 336 23 033
				0.4 mm	V 20 336 23 043
				0.5 mm	V 20 336 23 053
				0.8 mm	V 20 336 23 083
				1.0 mm	V 20 336 23 103
				1.2 mm	V 20 336 23 123
	009	Adhesives / fast-drying paints	Stainless Steel	0.2 mm	V 20 336 23 02B
				0.3 mm	V 20 336 23 03B
				0.5 mm	V 20 336 23 05B

# MOUNTS / MARKING BRIDGES



## CUSTOM-MADE SOLUTIONS

We can also supply you with holders, e.g. for aligning the signing guns for multiple coding. In addition, we offer custom-made complete solutions, e.g. signing bridges.



Ankle clamping piece

23 648 11



∅ 12 X 500 mm

23 698 56



### MOUNTING FLANGE FOR SIGNING SPRAY GUNS

⊕ Pipe diameter: 12 mm

V 21 300 25 000



### CROSS CLAMP

⊕ Diameter: 18 X 12

23 251 72

⊕ Diameter: 18 X 18

23 251 72



### FLANGE CLAMP

⊕ Diameter: 18 mm

23 335 081



### FOOT CLAMP

⊕ Diameter: 18 mm

23 335 081



### ANKLE CLAMP

⊕ Diameter: 18 mm

23 210 27



### REDUCING SLEEVES

⊕ Diameter: 18 mm to ∅ 12 mm

23 336 22

# MATERIAL AND DETERGENT DELIVERY

## PRESSURE TANK MDG KLA

Stainless steel pressure tanks of the type MDG or LDG are often used for signing and marking. They ensure pulsation-free delivery of the material. The tanks are suitable for holding original containers. Consumables (paints, inks, cleaning agents) are also available from us. Agitator and filling level measurement equipment can also be easily integrated into small tanks. The modular design of the small stainless steel tanks MDG 1, MDG 3 and MDG 8 enables our plant construction department to implement custom-made material conveying concepts flexibly and promptly. The tanks are prefabricated so that agitators, filling level sensors etc. can be installed immediately.

### MATERIAL PRESSURE TANKS, STAINLESS STEEL

TYPE	MAX. PRESSURE	CAPACITY APPROX.	VERSION	NO. / STAINLESS STEEL
MDG 1	3 bar / 43.5 PSI	1.1 liters	Without agitator	V 40 121 30 013
MDG 3	3 bar / 43.5 PSI	2.5 liters	Without agitator, also suitable for 1 litre hazardous material bottles	V 44 131 30 013
MDG 8	4 bar / 58 PSI	6.4 liters	Without agitator	V 44 221 40 013
MDG 22 <sup>1</sup>	6 bar / 87 PSI	19.5 liters	Without agitator	V 44 321 60 013
MDG 45 <sup>2</sup>	6 bar / 87 PSI	42.5 liters	Without agitator	V 44 241 60 013

<sup>1</sup> For use with 10/15-liter containers – Please check container sizes!

<sup>2</sup> For use with 30-liter containers



Other sizes on request

Fast opening and closing with hinged cross-grip lock.

#### EXAMPLES



MDG 1 KLA, see p. 24



MDG 3 KLA, specially made for 1 litre bottles see page 26

MDG 8 KLA with air-driven type 46-810 agitator, capacitive fill level sensor as well as bottom valve for filling and two additional upper valves for material recirculation.

MDG 45 KLA without attachments

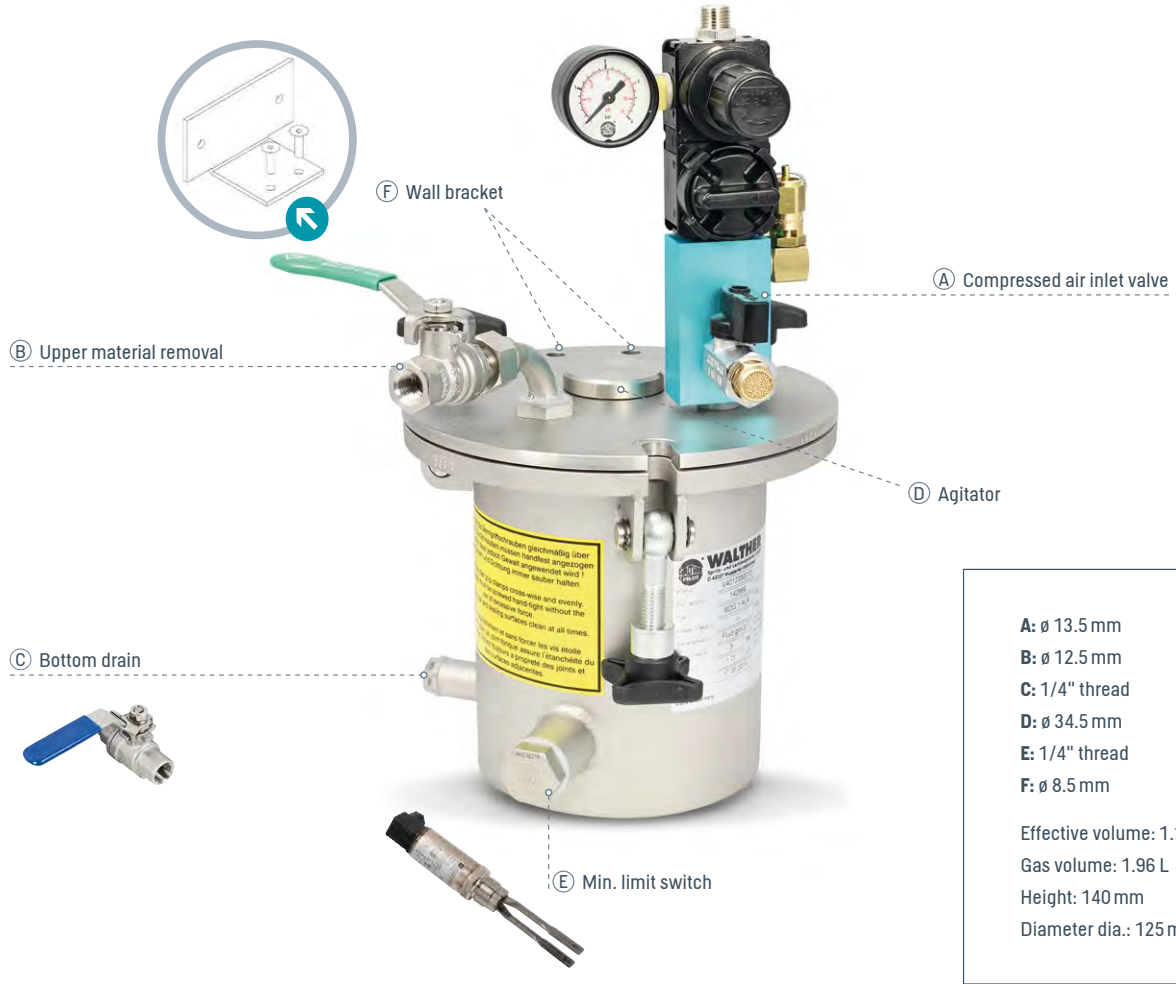


MDG 22 KLA with air-driven type 46-810 agitator, air inlet fittings with two additional regulators, as well as splitter with two ball valves to connect two spray guns. The tank is equipped with castors and hand grips for portable use.

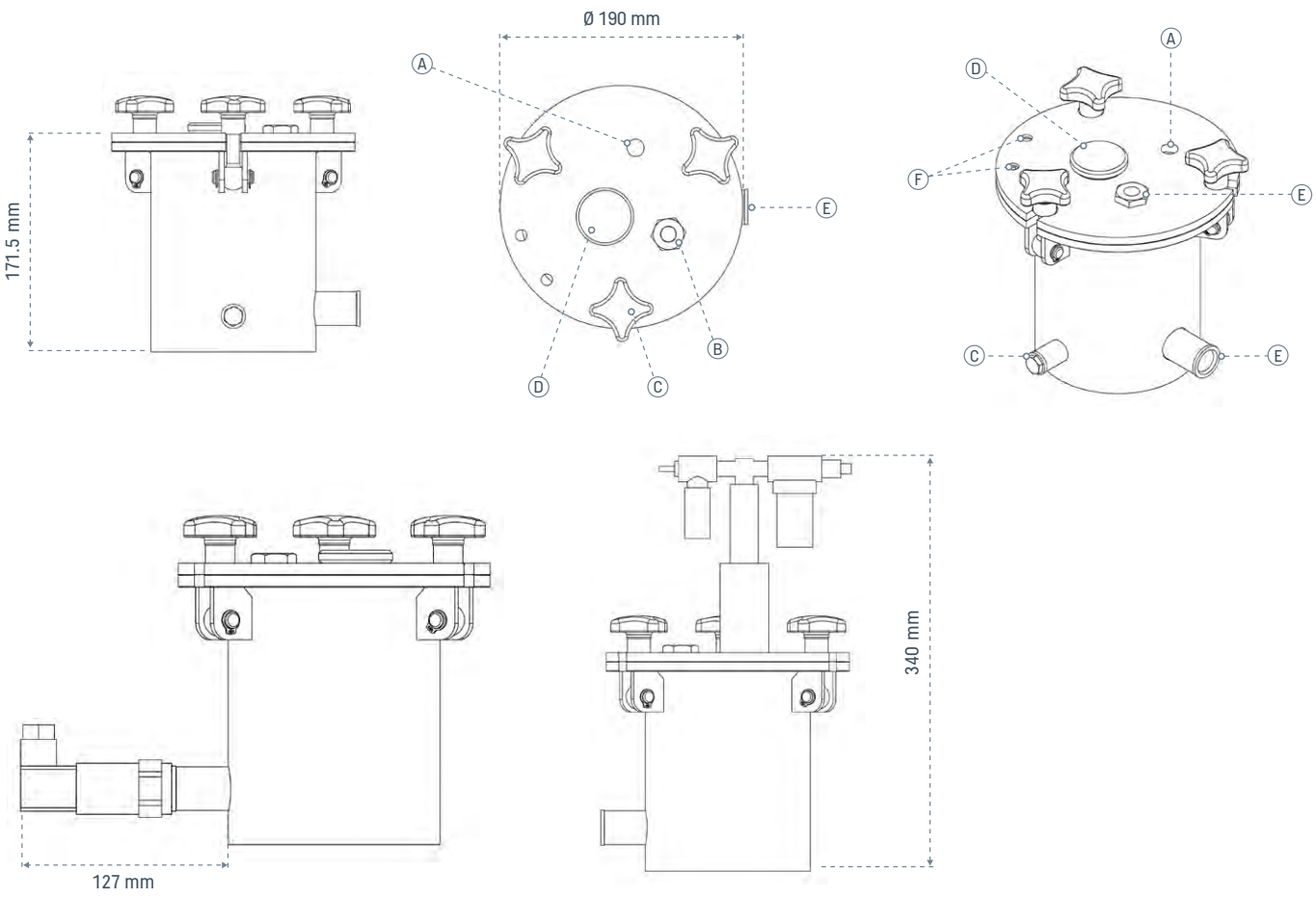


MDG 45 KLA with air-driven type 46-735 agitator along with tuning fork sensor to protect against overfilling. Fill at the bottom valve. The two upper valves for material recirculation - feed and return.










# OVERVIEW MDG 1 KLA



<b>A:</b> ø 13.5 mm
<b>B:</b> ø 12.5 mm
<b>C:</b> 1/4" thread
<b>D:</b> ø 34.5 mm
<b>E:</b> 1/4" thread
<b>F:</b> ø 8.5 mm
Effective volume: 1.1 L
Gas volume: 1.96 L
Height: 140 mm
Diameter dia.: 125 mm



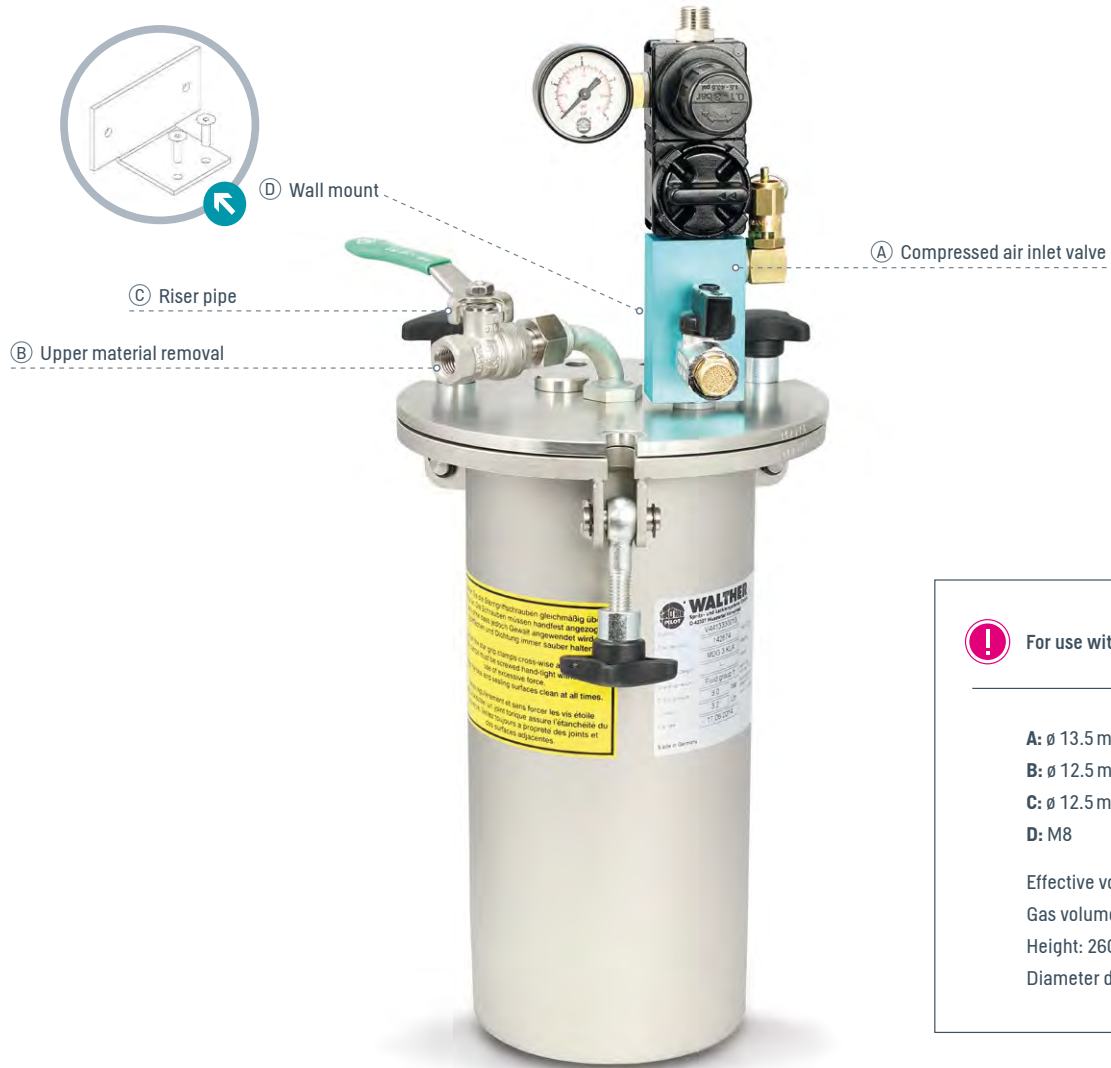


CONNECTIONS / EQUIPMENT		PART NO.	DESIGNATION	FIGURE	APPLICATION
MDG 1		V 40 123 300 13	Material pressure tank 1		<ul style="list-style-type: none"> <li>• For material supply</li> <li>• Max. operating pressure 3 bar / 43.5 PSI</li> <li>• Max. permitted operating temperature of 50 °C</li> </ul>
Compressed air regulation	A	23 649 38	DEA0 MDG-KLA 3 bar / 43.5 PSI		<ul style="list-style-type: none"> <li>• Compressed air inlet fitting for the tank</li> <li>• Max. connection cross-section is dia. 4 mm</li> <li>• Without regulator</li> </ul>
		23 459 41	DEA1 MDG-KLA 3 bar / 43.5 PSI		<ul style="list-style-type: none"> <li>• Compressed air inlet fitting for the tank</li> <li>• Control range 0.5 – 3.0 bar / 7.2 – 43.5 PSI</li> </ul>
		23 459 42	DEA precision regulator 3 bar / 43.5 PSI (1)		<ul style="list-style-type: none"> <li>• Precision pressure regulator for the tank</li> <li>• Control range 0.05 – 3.0 bar / 0.7 – 43.5 PSI</li> </ul>
Material withdrawal	B	23 649 39	Conversion kit with 2-way distributor and a shut-off valve		<ul style="list-style-type: none"> <li>• To expand an existing riser pipe to supply two consumers</li> <li>• Suitable for materials with a viscosity of up to 1000 mPa.s</li> </ul>
	C	23 626 72	1/4" shut-off valve for the lower outlet		<ul style="list-style-type: none"> <li>• To supply one consumer</li> </ul>
Agitator	D	V 46 200 400 13	Pneumatic agitator, DRW 0.16 kW 46-200 ex VA, max. 400 rpm operating pressure 1 – 6 bar / 14.5 – 87 PSI (2)		<ul style="list-style-type: none"> <li>• For the brief stirring of low-viscosity materials</li> <li>• Can be used in explosion hazard areas (Zone 0+1) &lt; 1000 mPa s</li> </ul>
Min. limit detection	E	23 189 82	Vibrating tuning fork probe 230 V, AC, not Ex-protected		<ul style="list-style-type: none"> <li>• To detect the minimum fill level in the tank</li> </ul>
		23 186 23	Vibrating tuning fork probe 24 V, DC, not Ex-protected		<ul style="list-style-type: none"> <li>• Only in combination with 23 651 98</li> </ul>
		23 177 24	Vibrating tuning fork probe 24 V, DC, not Ex-protected		<ul style="list-style-type: none"> <li>• To detect the minimum fill level in the tank</li> </ul>
	F	23 459 43	Wall mount		<ul style="list-style-type: none"> <li>• For mounting on a wall</li> </ul>

(1) : not in combination with the agitator

(2) : not in combination with the DEW Precision

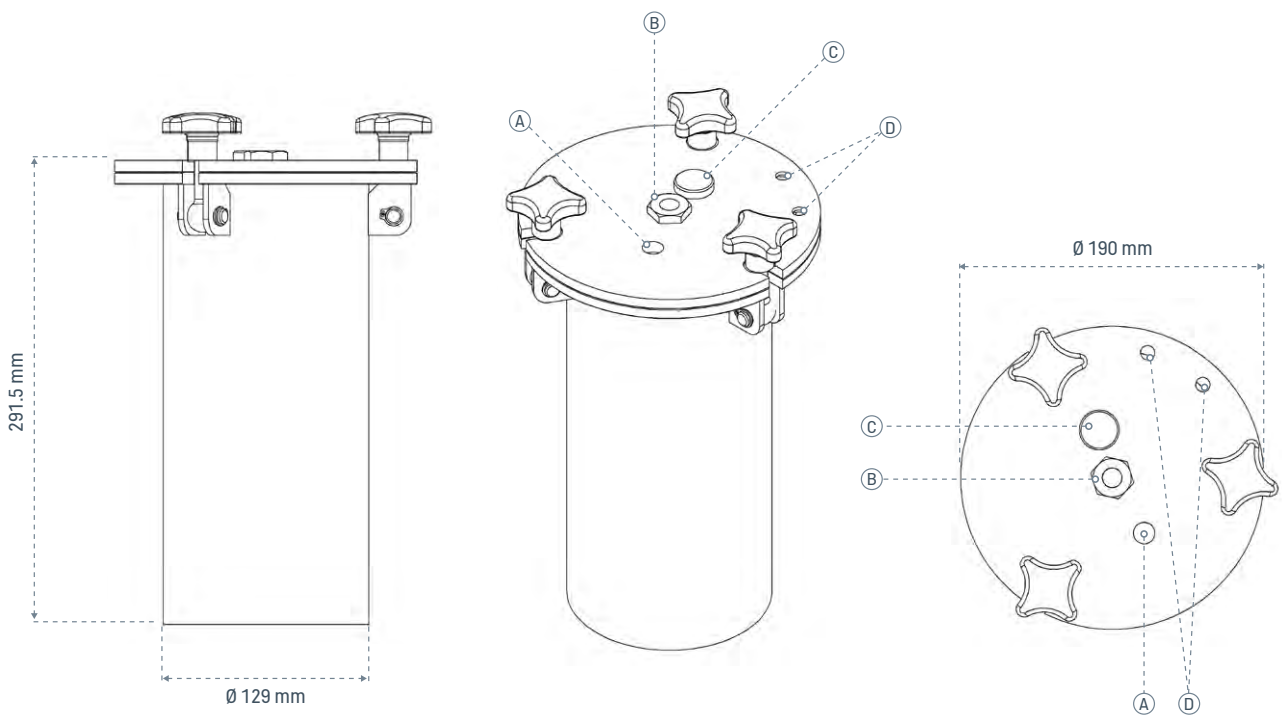
# OVERVIEW MDG 3 KLA









**!** For use with 1 liters bottle

- A:**  $\varnothing$  13.5 mm
- B:**  $\varnothing$  12.5 mm
- C:**  $\varnothing$  12.5 mm
- D:** M8

Effective volume: 2.5 L  
 Gas volume: 3.2 L  
 Height: 260 mm  
 Diameter dia.: 125 mm



CONNECTIONS / EQUIPMENT		PART NO.	DESIGNATION	FIGURE	APPLICATION
MDG 3		V4413330013	Material pressure tank 3		<ul style="list-style-type: none"> <li>• For material supply</li> <li>• Max. operating pressure 3 bar / 43.5 PSI</li> <li>• Max. permitted operating temperature of 50 °C</li> </ul>
Compressed air regulation	A		DEA0 MDG-KLA 3 bar / 43.5 PSI		<ul style="list-style-type: none"> <li>• Compressed air inlet fitting for the tank</li> <li>• Max. connection cross-section is dia. 4 mm</li> <li>• Without regulator</li> </ul>
		2345941	DEA1 MDG-KLA 3 bar / 43.5 PSI		<ul style="list-style-type: none"> <li>• Compressed air inlet fitting for the tank</li> <li>• Control range 0.5 – 3.0 bar / 7.2 – 43.5 PSI</li> </ul>
		2345942	DEA precision regulator 3 bar / 43.5 PSI		<ul style="list-style-type: none"> <li>• Precision pressure regulator for the tank</li> <li>• Control range 0.05 – 3.0 bar / 0.7 – 43.5 PSI</li> </ul>
Material withdrawal	B/C	23 649 39	Conversion kit with 2-way distributor and a shut-off valve		<ul style="list-style-type: none"> <li>• To expand an existing riser pipe to supply two consumers</li> <li>• Suitable for materials with a viscosity of up to 1000 mPa.s</li> </ul>
		On request			<ul style="list-style-type: none"> <li>• Return flow KH + PTFE hose (adapter)</li> </ul>
Handling	D	23 459 43	Wall mount		<ul style="list-style-type: none"> <li>• For mounting on a wall</li> </ul>

# OVERVIEW, MDG 8 KLA IN STAINLESS STEEL, MODULAR DESIGN

## AGITATORS

Complete with geared motor. For brief agitation: Type 46-810  
 Air-powered geared agitator, 0.36 kW, max. 200 rpm, 17 Nm.  
 Shaft and impeller: stainless steel

V 44 220 40 083

## SHAFT AND STANDARD IMPELLER

Type 44-220 standard, geared electric agitator, 0.12 kW,  
 60 rpm, max. 17 Nm, shaft and impeller: stainless steel

V 44 220 50 083

Other performance on request

## FILL LEVEL GAUGE TECHNOLOGY

Tuning fork sensor, long

23 209 25

Not explosion-proof

23 343 59

Capacitive fill level gauge

23 536 76

Not explosion-proof

23 536 63

## LIQUID TAPPING / FEED

Standard configuration:  
 Riser tube, manifold, ball valve

23 457 48

Splitter with another ball valve  
 (conversion kit)

23 457 51

Splitter with two ball valves  
 (conversion kit)

23 457 52

PRESSURE TANK  
 Max. operating pressure  
 4 bar / 58 PSI

V 44 213 400 13

INTAKE SIEVE  
 Mesh width 1.0 mm

V 44 220 09 520

Mesh width 1.8 mm

V 44 220 09 530

## COMPRESSED AIR INLET FITTINGS

Standard compressed air inlet fitting

23 537 46

Compressed air inlet fitting  
 with second regulator to  
 connect a spray gun

23 537 47

Compressed air inlet fitting  
 with second and third  
 regulators

23 537 48

Compressed air inlet fitting with  
 precision regulator  
 (max. 4 bar / 58 PSI)

23 537 49

Bottom drain valve for material

V 03 200 00 383

## OVERFILL PROTECTION

Tuning fork gauge, short

23 186 23

Not explosion-proof

23 198 82

Tuning fork gauge, short,  
 230 V AC, not explosion-proof

23 626 19

24 V DC

23 200 78



## SMALL PRESSURE TANK AND LEIGHT WEIGHT TANK LDG



LDG 20 with electrical geared agitator 0.12 kW

LDG 10 with compressed air geared agitator 0.36 kW

LDG 5 without agitator

Stainless steel pressure tank Type LDG 20, 5 and 10 (lightweight construction). Max. positive operating pressure each: 6 bar / 87 PSI.



Only for LDG 5 and 10: Inliners made of thin-layer, hard-wearing polypropylene protect against contamination. Only the riser pipe, agitator shaft or agitator blade need to be cleaned. ATEX suitable.

⊕ Inliner LDG 5

V 43 000 50 000

⊕ Inliner LDG 10

V 43 001 000 00

## LIGHTWEIGHT MATERIAL PRESSURE TANKS, STAINLESS STEEL

TYPE	MAX. PRESSURE	CAPACITY APPROX.	VERSION	NO.
LDG 5	6 bar / 87 PSI	3.5 liters	Without agitator	V 44 051 60 013
	6 bar / 87 PSI	3.5 liters	With manual agitator	V 44 051 60 113
	6 bar / 87 PSI	3.5 liters	With air-powered agitator (0,16 kW, 400 rpm)	V 44 051 60 213
LDG 10	6 bar / 87 PSI	9.0 liters	Without agitator	V 44 101 60 013
	6 bar / 87 PSI	9.0 liters	With manual agitator	V 44 101 60 113
	6 bar / 87 PSI	9.0 liters	With air-powered agitator (0,36 kW, 200 rpm)	V 44 101 60 213
	6 bar / 87 PSI	9.0 liters	With electric agitator (0,12 kW, 60 rpm)	V 44 101 60 313
LDG 20	6 bar / 87 PSI	15 liters	Without agitator	V 44 201 60 013
	6 bar / 87 PSI	15 liters	With manual agitator	V 44 201 60 113
	6 bar / 87 PSI	15 liters	With air-powered agitator (0,36 kW, 200 rpm)	V 44 201 60 213
	6 bar / 87 PSI	15 liters	With electric agitator (0,12 kW, 60 rpm)	V 44 201 60 313



Light metal pressure tank 750 ml, 3 bar / 43.5 PSI, for System Select 2, p. 7

Signing pressure tank

V 11 352 91 100

Optional: Wall mount

V 11 352 91 200

consisting of

⊕ console

V 11 352 91 300

⊕ clamp

V 11 352 91 400



Miniature material pressure tank 20 ml, 3 bar / 43.5 PSI from stainless steel. The tank is docked directly to the gun.

For System Select 1, p. 6



Diaphragm pump MBP 2812 for use with circulating systems.

For System Select 4 and 6, p. 9 and p. 11



Micro diaphragm pumps are also available. We are pleased to advise you regarding possible applications.

For System Select 4, p. 9

# MARKING PAINTS, INKS AND CLEANING AGENTS

WALTHER PILOT sells a range of inks, paints, solvents and cleaning agents for a variety of marking applications. Chemical compatibility and perfect interaction with all components ensure trouble-free operation.

Inks have an extremely diverse chemical composition. They must comply with product specifications. Drying time (<1 sec. or 15 sec.), UV resistance, durability, material compatibility, printing accuracy, degree of coverage and many other parameters must be adapted to the actual conditions on site based on their specific requirements.

For dot and line marking with the GA 9010 Marking spray gun, high-quality milled marking inks are used, which have less tendency to settle and clog in and at the nozzle than conventional coating materials. The inks are distributed by WALTHER PILOT and are available in all common colours. Custom colours are available on request.

The signing inks can be used on wet, hot (up to 800 °C), smooth, porous or even greasy surfaces. This makes them ideal for marking sheet metal, pipes, plastics, textiles, glass, but also wood, paper, ceramics and rubber. Signing inks (e.g.: WPF 1922, WPF0232) are fast-drying, well covering, oil-resistant, light-fast and waterproof. For clean and sharp-edged marking on bright background, we recommend signing ink, e.g. type WPT 1800.

## BENEFITS

- ✓ PACKAGE SIZES AS REQUIRED
- ✓ COST-EFFECTIVE DUE TO LOW CONSUMPTION
- ✓ CLEANER SUITABLE FOR THE SIGNING PAINT
- ✓ STANDARD COLOURS IN STOCK
- ✓ SPECIAL COLOURS AVAILABLE ON SHORT NOTICE

## WHICH REQUIREMENTS MUST THE MARKING INK MEET?

- ⊕ slow or fast drying
- ⊕ good adhesion or washable
- ⊕ light-fast and weatherproof
- ⊕ solvent-free or solvent-containing
- ⊕ fluorescent visible or invisible
- ⊕ pigmented or strongly pigmented
- ⊕ waterproof and temperature-resistant
- ⊕ high-contrast and machine-readable
- ⊕ highly viscous for absorbent surfaces
- ⊕ for hot and cold surfaces
- ⊕ annealing and abrasion resistant
- ⊕ food grade and water-based

### STANDARD MARKING PAINT TYPE WPF 1922

- ⊕ Characteristics: alcohol-based, eco-friendly product  
Quickdrying, clear marking points, weatherproof
- ⊕ Application: marking dry surfaces e.g. sheet metal, pipes
- ⊕ **WPF 1922:** different shades available on request
- ⊕ **WFF 1922:** white, red, fluorescent green
- ⊕ **WPV 0218:** Corresponding thinner

### STANDARD MARKING INK TYPE WPT 1800

- ⊕ Characteristics: eco-friendly alcohol-acetone-based product  
Quick drying, clear marking points, for light-colored surfaces
- ⊕ Application: for marking dry or slightly damp surfaces  
Frequently used to mark defects
- ⊕ **WPT 1800:** RGB Black color range, further shades available on request
- ⊕ **WPV 0166:** Corresponding thinner

### SPECIAL MARKING INK TYPE WPF 0232

- ⊕ Characteristics: dichloromethane-based product. Quick drying,  
dries within one second
- ⊕ Application: for marking dry and oily surfaces
- ⊕ **WPF 0232:** various paint shades as needed
- ⊕ **WFF 0232:** fluorescent magenta, white, red, green
- ⊕ **WPV 0222:** Corresponding thinner



 Exhaust equipment required when using dichloromethane.

- CONTAINERS:**
- ⊕ 1 liter can, for use with pressure tank type MDG 1
  - ⊕ 1 liter bottle, for use with pressure tank type MDG 3
  - ⊕ 2 liter can, for use with pressure tank type MDG 4
  - ⊕ 5 liter canister
  - ⊕ 10 liter bucket, for use with pressure tank type MDG 22
  - ⊕ 30 liter Hobbock Typ MDG 45

## OVERVIEW PAINTS AND INKS

TYPE	PAINT BASE	SHADES	DRYING TIME IN SEC.	USE ON SUBSTRATE	COMMENT	SUITABLE THINNERS
WPF1922	alcohol	yellow, red, green, blue, black, white, orange, pink, signal red, signal yellow, gentian blue	min. 15 sec.	dry surfaces	weather-resistant, clear dots, fast drying e.g. on tubes (signing block)	WPV0218
WFF1922	alcohol	fluorescent white, red, green		dry surfaces weather-resistant	clear dots, fast drying e.g. on pipes	WPV0218
WFF0974	acetone	fluorescent clear	<1 sec.			WPV200
WFT1642	water	blue fluorescent clear			visible in open air and under black light (UV), only absorbent substrates	warm water
WPT0974	acetone	red, green, black, blue	<1 sec.			WPV200
WPT0376	dichloromethane, glycolic acid	red, green, black, blue	<1 sec.			WPV0222
WPT0442 (SIMACO)	organic solvents	yellow	30-40s	rubber, and on non-absorbent surfaces	nozzle size: 0.2-0.3	WPV0111
WPT0808	water-based	red, green, black, blue				water
WPT0950		black				WPV0202
WPT0974	acetone	black	<1 sec.	additionally with adhesive resin		WPV200
WPT0980		black				WPV0202
WPT1800	alcohol, acetone	yellow, blue, red, black	<1 sec.	dry, slightly moist surfaces	defect marking for light surfaces – slightly oily/greasy	WPV0166
WPF1374	acetone	yellow, red, green, blue, black, white, orange, pink, signal red, signal yellow, gentian blue	<2 sec.			WPV0102
WFT1374		fluorescent blue clear				WPV0200
WPT1394	alcohol, acetone	blue, green, black, pink	5-10 sec.		fast drying, like WPT1800 only less hard parts	WPV0166

WPT: WALTHER PILOT inks, WPF: WALTHER PILOT paints, WPV: WALTHER PILOT thinner, WSF: WALTHER Special Paint, WSV: WALTHER Special Thinner

TYPE	PAINT BASE	SHADES	DRYING TIME IN SEC.	USE ON SUBSTRATE	COMMENT	SUITABLE THINNERS
WPF1228	alcohol, water	grey, red, black	<10 sec., only for NOK marking		glass	water, distilled or if necessary WPV0102
WFF 1280	alcohol	fluorescent green				
WPT1476	alcohol	green, red, blue, black		minus temperatures - 25 °C		
WPF1532		yellow, red, purple, green, blue, grey, brown, white		dry surfaces	oven bricks	WPV0102
WPF 1552	ethyl alcohol, isopropyl alcohol, propanone	white			especially for pipe marking	WPV0218
WPF 1478	alcohol	black, white, red			like WPF1922 only more abrasion-resistant	WPV0218
WPF 1600	alcohol	yellow, red			slightly oily/greasy max. 100 °C	WPV0166
WPF 1620	acetic acid, xylene, glycolic acid	black			up to 600 °C	WPV0198
WPF 1622		white				WPV0222
WPF 1624	Xylol	Schwarz, Grün, Weiß				WPV0300 UN1263 Farbzubehörstoff, 3, III, ADR
CE440 / WPT0440	xylene	fluorescent blue				
WPF0232	dichloromethane 65-75 %, xylene 4-10 %	red, yellow, blue, clear, white, green, black	<1 sec.		wet surfaces, container with FEP lid seals	WPV0222
WFF0232	dichloromethane 65-75 %, xylene 4-10 %	fluorescent magenta, clear, white, red, green	<1 sec.		wet surfaces, container with FEP lid seals	WPV0222
WPT0360	dichloromethane 65-75 %, xylene 4-10 %	black			faster than WPF0232 but only suitable for light-coloured substrates	
WPF 418	oil				high temperatures > 900 °C, use in steel market	
VP3009-1	water-based pigment	yellow	5-10s	dry, clean, porous, smooth not for rubber	good covering power	water, distilled
VP3009-2	water-based pigment	yellow	5-10s	dry, clean, porous, smooth not for rubber		water, distilled
WPF0994		white, black			hot signing up to 800°	
WPV0102		clear				
WPV0166		clear				
WPV0198		clear				
WPV0200	acetone	clear				
WPV0202		clear				
WPV0222		clear				
WPV0218		clear				
WPV0996		clear				
WSF1898		yellow				WSV1898
WSV1898		clear				

WPT: WALTHER PILOT inks, WPF: WALTHER PILOT paints, WPV: WALTHER PILOT thinner, WSF: WALTHER Special Paint, WSV: WALTHER Special Thinner



# 5 NOTES ON HANDLING MARKING SYSTEMS



- ① Atomiser air
- ② Control air
- ③ Material volume regulation
- ④ Material connection
- ⑤ Material connection (alternative)

## 1. BASIC SETTINGS

### SPRAY GUN:

- ⊕ Control air: 5.0-6.0 bar / 72.5-87 PSI
- ⊕ Atomizer air: 2.0-4.0 bar / 29-58 PSI
- ⊕ Material pressure: 0.8-1.5 bar (min. 0.5 bar) / 11.6-21.7 PSI (min. 7.3 PSI)

Note: Do not throttle the amount of material too much. The needle stroke setting should be screwed out at least two turns. Otherwise, select a smaller nozzle size.

### FLUSHING GUN:

- ⊕ Control air: 5.0-6.0 bar / 72.5-87 PSI
- ⊕ Atomizer air: 2.0-3.0 bar / 29-43.5 PSI
- ⊕ Dry blowing air: 4.0-6.0 bar / 58-87 PSI (selected via 2/2-way valve)
- ⊕ Material pressure: 2.0 - 3.0 bar / 29-43.5 PSI

Note: Atomiser air and material pressure must be operated at approximately the same pressure for the flushing gun. The atomiser air pressure should be slightly higher.

### MATERIAL PRESSURE TANK:

- ⊕ Pressurisation: 4.0-6.0 bar / 58-87 PSI

### COMPRESSED AIR:

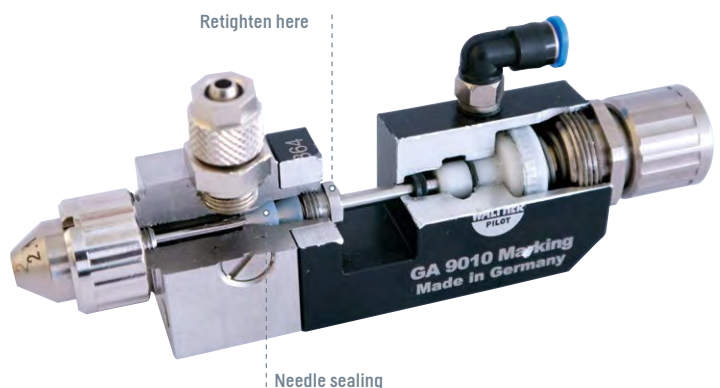
- ⊕ Use compressed air free from oil and condensate

## 2. HANDLING THE PAINT SYSTEM

- ⊕ Performing a leak test: Fill the system with water (attention, in special cases use a different medium) and check for leaks for approx. 1 hour at max. tank pressure and closed gun. Now use water-soluble solvent (e.g. alcohol). Only then can solvents such as nitro be used.
- ⊕ Press solvent out of the paint system until only residual solvent remains in the hose and gun.
- ⊕ Fill with paint and press out residual solvent
- ⊕ Always leave the filled system under pressure, max. 2 weeks if paint is used. Otherwise the paint must be emptied and replaced with solvent.

Note: Never leave the system unfilled (danger of drying in hoses and equipment). Always leave the material under low pressure - approx. 0.5 bar / 7.3 PSI – and close the ball valve to the compressed air.

Regularly check the needle seals of the spray gun. Start immediately after the first use and adjustment of the system. At intervals of 12 weeks the needle seals must be tightened by 3 - 5°.



### 3. HANDLING THE FLUSHING SYSTEM

- ⊕ The minimum material pressure should be 0.5 bar / 7.3 PSI.
- ⊕ Replace the flushing lines regularly (frequency depends on material)

Note: Regularly check the needle seals of the flushing gun. Start immediately after the first use and adjustment of the system. At intervals of 12 weeks the needle seals must be tightened by 3 - 5°.

### 4. SYSTEM CONTROL

#### DOT MARKING:

- ⊕ If the frequency of markings is low, multiple test shots are recommended to ensure that the desired dot is also sprayed.
- ⊕ Produces test shots regularly (frequency depends on the drying time)
- ⊕ Generate multiple test shots after a longer period of inactivity
- ⊕ Replace the paint lines regularly (frequency depends on material). We recommend a PTFE (Teflon) hose.

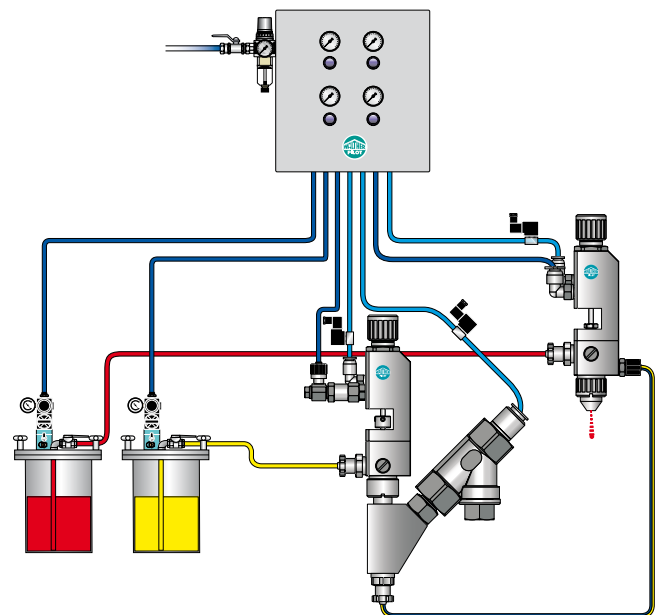
#### LINE MARKING:

- ⊕ In order to ensure optimum process reliability for line markings, it is advisable to avoid endless lines by short spraying interruptions.
- ⊕ Produces test shots regularly (frequency depends on the drying time of the paint, temperature and humidity)
- ⊕ Generate multiple test shots after a longer period of inactivity
- ⊕ Replace the paint lines regularly (frequency depends on material). We recommend a PTFE (Teflon) hose.

### 5. FLUSHING THE SYSTEM

- ⊕ After completion of the marking process, close the spraying gun via the solenoid valve 1.1.
- ⊕ Open the flushing gun for approx. 3-5 seconds via the solenoid valve 2.1. An air/solvent mixture cleans the area between nozzle and air cap.
- ⊕ Close flushing gun via solenoid valve 2.1 after completion of the cleaning process.
- ⊕ Open the air valve 2.2 for drying the nozzle/air cap area for approx. 5 - 10 seconds.
- ⊕ Close the air valve 2.2, cleaning process is finished.

Note: The flushing process (consisting of cleaning and drying) should be carried out several times in succession with short pulses for better cleaning. After flushing, check the cleaning result on the spray gun. This will help you to determine how much time the flushing process should take. In any case a drying process at high air pressure (4-6 bar / 58-87 PSI) is indispensable.



System Select 5

# QUESTIONNAIRE FOR THE CONFIGURATION OF A MARKING SYSTEM

OR SIMPLY COMPLETE ONLY AT:  
WWW.WALTHER-PILOT.DE

COMPANY	_____	CONTACT	_____
ADDRESS	_____	OFFICE TEL. NO.	_____
POSTCODE / CITY	_____	MOBILE TEL. NO.	_____
INDUSTRY	_____	E-MAIL	_____
SALES REGION	_____	FAX	_____

## PROPOSED PROCESS

\_\_\_\_\_

\_\_\_\_\_

## SUBSTRATE TO BE MARKED

steel     wood     glass     aluminium     plastic

other \_\_\_\_\_

## SURFACE CONDITION OF THE SUBSTRATE TO BE MARKED

wet     dry     oily     light colour     dark colour     scaly

other \_\_\_\_\_

Temperature of the object during marking \_\_\_\_\_ Room temp. \_\_\_\_\_

## TYPE OF MARKING TO BE PERFORMED

alphanumerical    font size \_\_\_\_\_    belt speed \_\_\_\_\_

code     EAN 8     EAN 13     EAN 128     data matrix

dots    dot size \_\_\_\_\_

lines    line width \_\_\_\_\_

other \_\_\_\_\_

Estimated number of markings per hour \_\_\_\_\_

Number of production hours per day \_\_\_\_\_ Working days per week \_\_\_\_\_

Desired drying time \_\_\_\_\_ Desired colour \_\_\_\_\_

Other requirements (e.g. marking must be weather-proof) \_\_\_\_\_

Send     quotation     appointment with sales rep     brochures

Author \_\_\_\_\_ Date \_\_\_\_\_

Subject to technical alterations and possible errors excepted. © WALTHER PILOT 09/2018



**Walther Spritz- und Lackiersysteme GmbH**  
Kärntner Straße 18-30 · D-42327 Wuppertal · Germany  
T +49 202 787-0 · F +49 202 787-2217  
info@walther-pilot.de · www.walther-pilot.de

**WAGNER** GROUP