WALTHER PILOT

- Spraying Systems for Dot Matrix Marking
- Marking Systems for Quality Assurance
- High-Precision Spraying Systems

WALTHER PILOT®

Die Beschichtungs-Experten

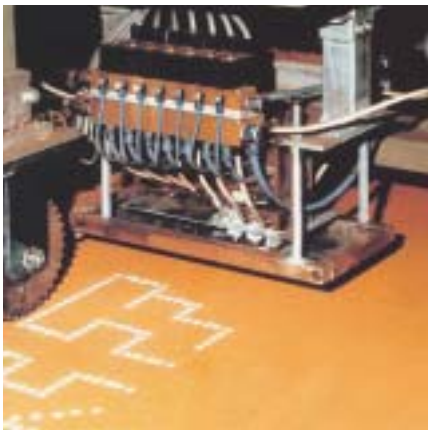
Automated Dot Matrix Marking

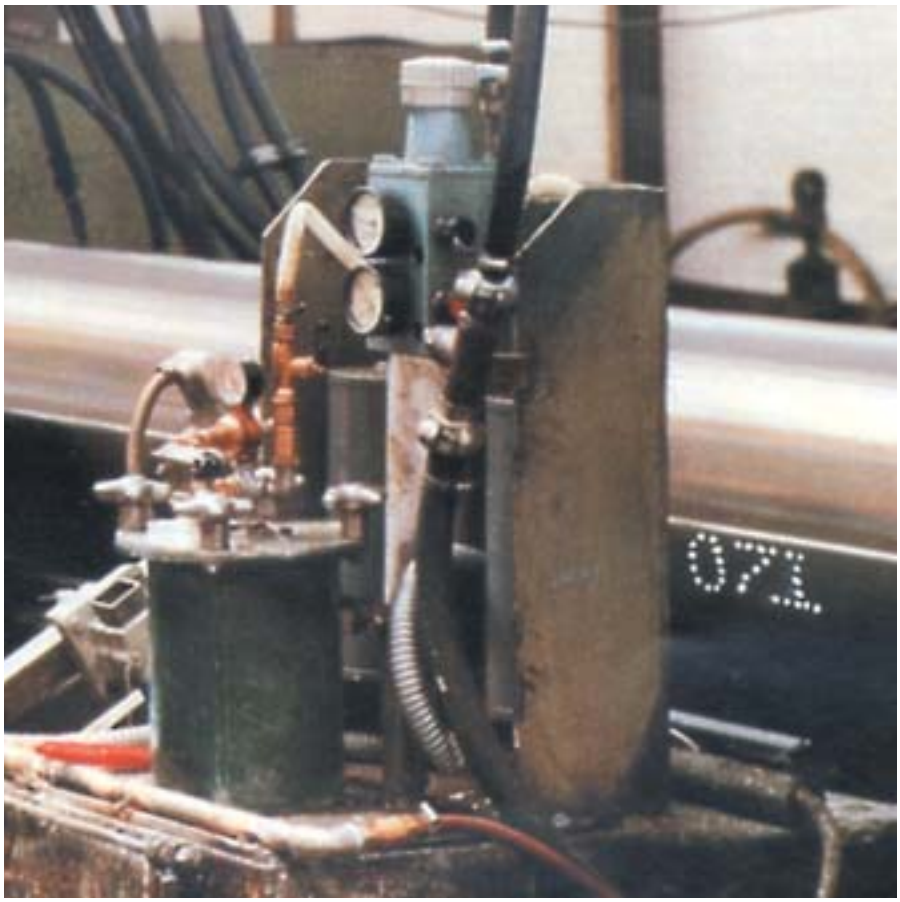
Whenever you require swift and efficient logistical control of your inventory, automated dot matrix spraying is often the ideal marking method for keeping a clear overview.

WALTHER PILOT supplies dot matrix marking blocks for use together with a control PC to apply alphanumerical characters and identification codes. A wide variety of parts such as strips, panels, profiles and coils can be marked reliably and in a continuous process.

Automatic synchronisation between the marking process and the conveyor speed is provided by a step sequencing unit. This ensures that the spray pattern remains constant even if the conveyor speed varies.

Extremely short switching times allow high conveyor speeds to be achieved. Your high-precision marking guns are specially designed to cope with extreme stresses and ensure maximum reproducibility.





Many Advantages

Unlike other marking systems, dot matrix spraying systems can be used to apply heat-resistant paints.

For cleaning and servicing, the individual guns can be quickly and easily removed from the block.

If fast-drying paints are used or if there are intervals between the marking operations, we recommend the use of flusher-type marking blocks. This system has been specially developed by WALTHER PILOT to remove all paint residues from the nozzle and air cap after the final marking operation.

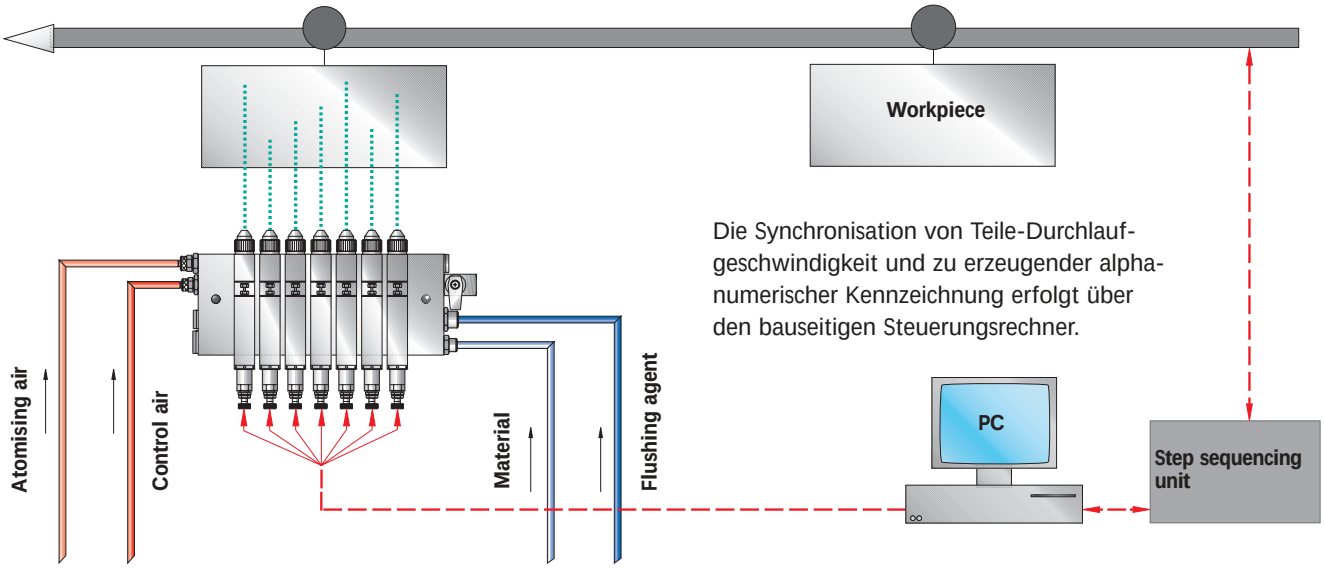
It ensures that each spray gun in the block remains fully functional at all times.

The paint and flushing agent are best supplied from material pressure tanks from WALTHER PILOT.

Our extensive range of tanks offers ideal solutions for every possible requirement.

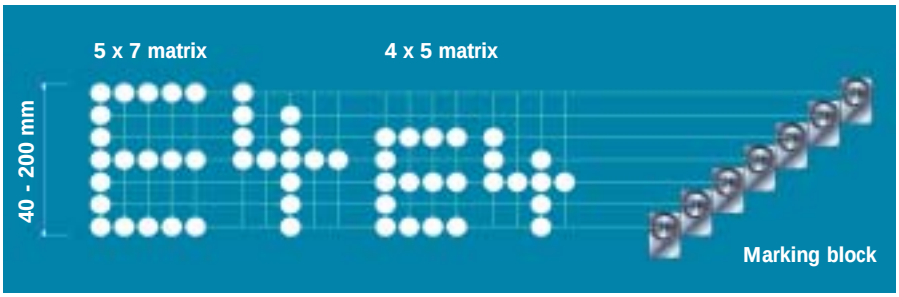
Single marking guns can also be mounted on robots for all kinds of alphanumerical marking.

- **A wide range of models to meet virtually any requirement**
- **The entire equipment from a single source – spray guns, pressure tanks, hoses, solenoid valves, compressed air cleaning systems**
- **High workpiece throughput rates due to extremely short gun operating cycles**
- **Flushing system for nozzle and air cap available as an option**
- **Tough, heavy-duty design for minimum wear**
- **Easy cleaning and servicing**



Die Synchronisation von Teile-Durchlauf-geschwindigkeit und zu erzeugender alpha-numerischer Kennzeichnung erfolgt über den bauseitigen Steuerungsrechner.

Marking block matrix sizes



The maximum marking speed is approx. 40 m/min.
The spray image per character consists of a 4x5, 5x7 or 7x9 dot matrix.
The dots of the matrix are applied in rows on the workpiece.
The character height is between 40 and 200 mm.
The dot size and paint thickness can be adjusted at the guns.

Each of the internally controlled guns opens for just a fraction of a second. Spraying periods (open – spray – close) of 20 milliseconds are possible.

Components for dot matrix marking

Marking block

For electronically controlled spray application of alphanumerical characters.

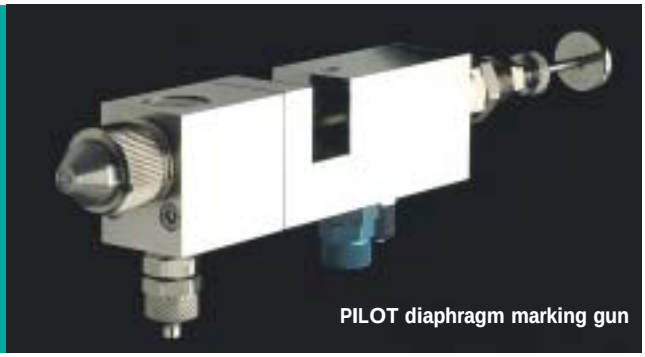
Diaphragm system – therefore virtually no wear.

Character heights of between 40 and 200 mm.

The block is also available with an optional flushing system.

Built to last

The automatic spray guns on the marking block have to perform literally thousands of cycles round the clock. For that reason, WALTHER PILOT uses extremely tough diaphragm spray guns. Their service life is many times longer than spray guns with a needle seal packing. Diaphragm guns are also the preferred choice for hot marking operations using paints with abrasive, sharp-edged pigments. PILOT diaphragm marking guns are also ideally suited for single-gun marking.



PILOT diaphragm marking gun

Pressure tanks for material and flushing agent supply

Small stainless steel pressure tanks of the series MDG or LDG (lightweight) are frequently used for dot matrix and other marking operations. They guarantee pulsation-free material supply.

WALTHER PILOT also offers a wide range of tanks in standard and special sizes. And when it comes to safety (Pressure Equipment Directive / ATEX), we make no compromises in our tank design.

Type MDG 1, 2 and 4 pressure tanks

Type LDG (lightweight) pressure tanks with matching inliners

Capacity: 5 litres or 10 litres

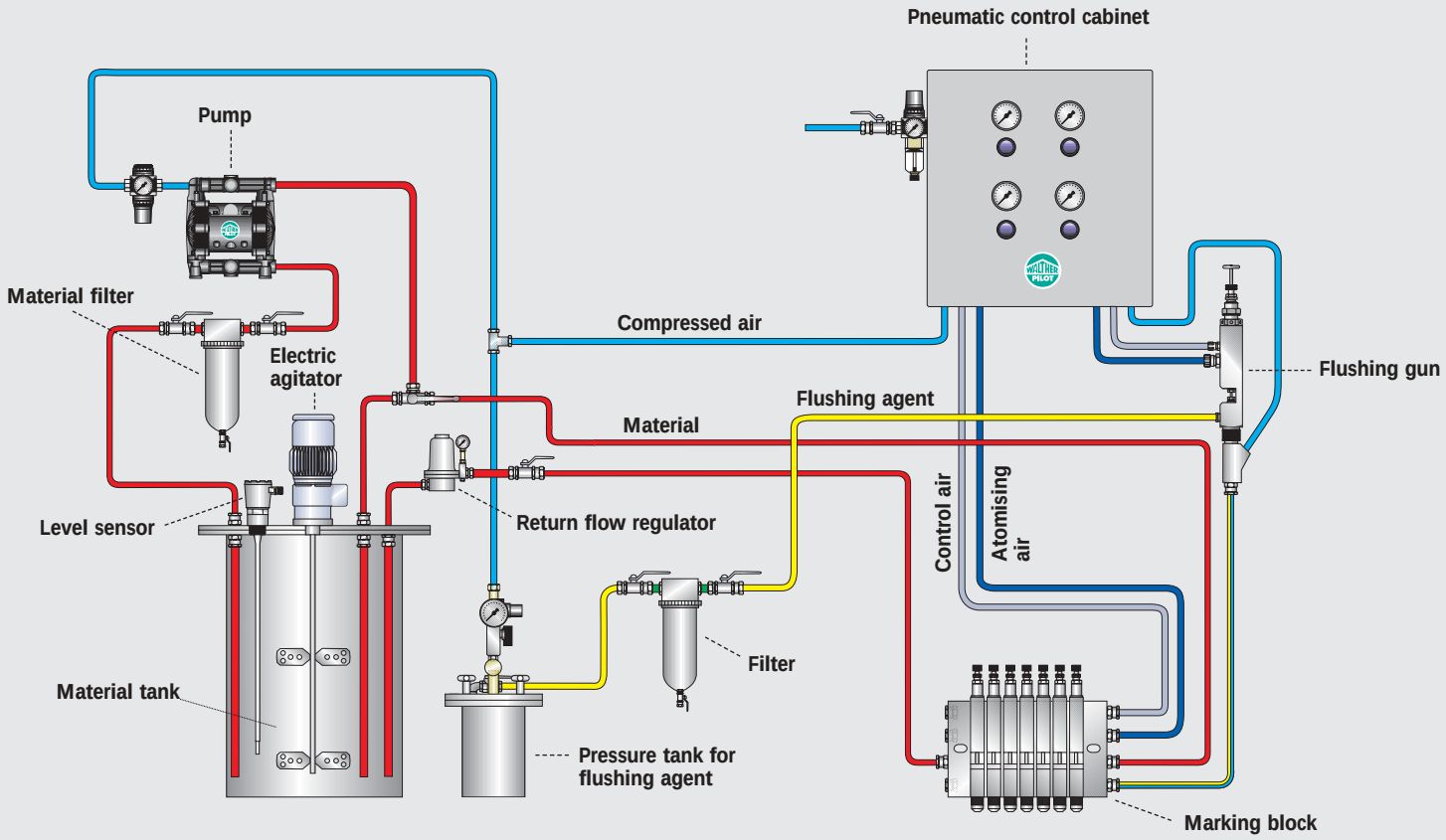
Inliners made of tough polypropylene protect the interior of the tanks against soiling. Cleaning is reduced to a minimum. Inliners can be used for all standard tanks.

Complete systems

Complete material transfer system for dot matrix marking

- We plan your system precisely according to your production requirements and specifications.
- The systems supplied by WALTHER PILOT require minimum maintenance and are designed for a long service life. They proudly bear the quality seal "Made in Germany". All components meet the highest quality standards.
- We can also optimise existing plant and equipment.
- In addition to providing specific system solutions, we also offer the after-sales service expected of a true specialist.

Material flow diagram of a circulation system for spray marking



The system has two circulation circuits:

1. Material circuit via the marking block and back to the mixing tank.
2. When spraying is interrupted, material with a strong tendency to settle is continuously circulated between the tank and the pump. Instead of the mixing tank, pressure tanks can be integrated into the circulation system as required.

Integrated flushing gun

A flushing gun specially developed by WALTHER PILOT is used to clean the nozzles and air caps of the marking block after each spraying process. It has a separate air connection to dry the nozzle with compressed air after each flushing procedure. A small pressure tank is provided to supply the spray gun with cleaning agent. This development guarantees maximum process reliability even for small application quantities.

Compact system for small application quantities with pressure tanks for the coating material and solvent as well as a double diaphragm pump and a flushing gun.

High-precision marking

Precise marking for guaranteed quality

Whenever parts require non-contact marking for quality assurance before they are further processed, WALTHER PILOT marking systems are the ideal solution.

For **position marking**, WALTHER PILOT has decades of experience and expertise in supplying the right spray guns – for example for precisely marking the location at which a welding seam is to be placed or where a pipe is to be bent.

Defect marking is also done by automatic marking systems. In this case, the gun is triggered by an automatic fault detection system. Marking can take place in any position. Marking can also be used for process control and monitoring – for example for identifying manufacturing lines.

Special gun arrangements can be used to spray different colours, allowing parts to be coded according to various criteria.

The constantly high reproducibility ensures that every mark is always right on target.

WALTHER PILOT supplies automatic spray guns with or without internal control that are ideally suited for your requirements. Internal control ensures that the atomising air is not constantly blowing but is activated for each spraying process. That cuts your energy costs.

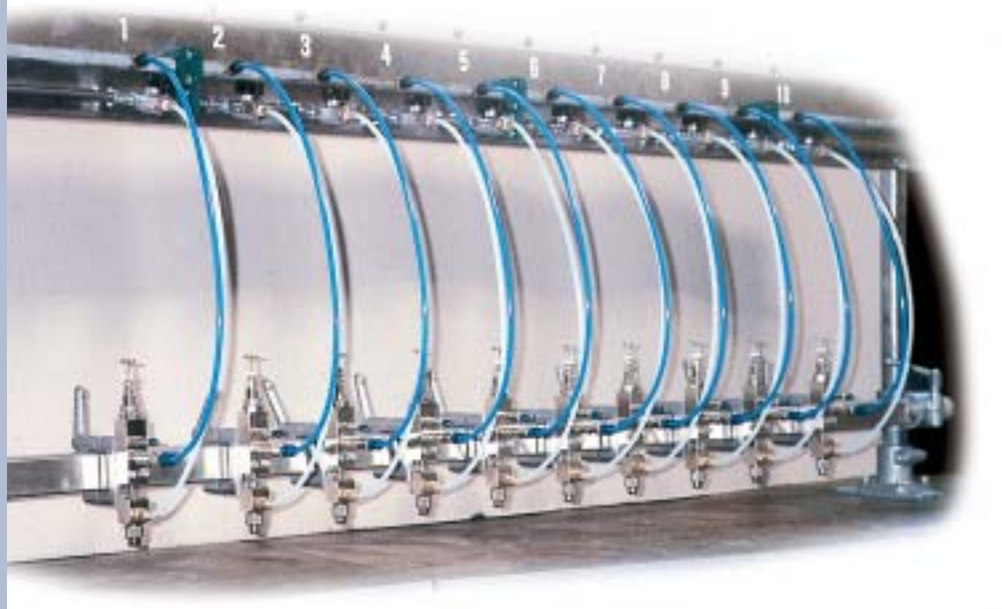
The model PILOT Signier is available in a flushable version, which means that its function is not impaired by paint residues even after a long pause in the spraying process. PILOT Signier is also available as a heavy-duty diaphragm gun.

Multi-colour marking of components

Gun arrangement for multi-colour marking

Typical applications

- **Weld seam testing, sheet metal testing**
- **Testing engine blocks, crankshafts, cam shafts**
- **Marking blowholes in glass manufacturing**
- **Assembly line identification**
- **Marking cutting and bending lines on cardboard**
- **Colour marking as visual assistance for correct assembly**
- **Colour marking of different components with a similar appearance**
- **Generation of spray images for inkjet marking**



Marking line for position marking

Complete systems

Material transfer for marking systems

WALTHER PILOT not only supplies automatic spray guns but also offers complete systems that are tailor-made to suit your requirements. Pressure tanks from our own production are available in a wide range of sizes from 1 litre capacity upwards. In most cases, they can also be fitted with agitators and/or level sensors.

Further components: filter/compressed air regulator and hoses for air supply and material. We also supply special circulation versions for ring circuit material transfer systems. We will be happy to advise you on providing special solutions.

Marking system with a control cabinet mounted on a frame, pressure tank with holder and automatic marking gun with fixture

Material supply from pressure tanks for three marking guns

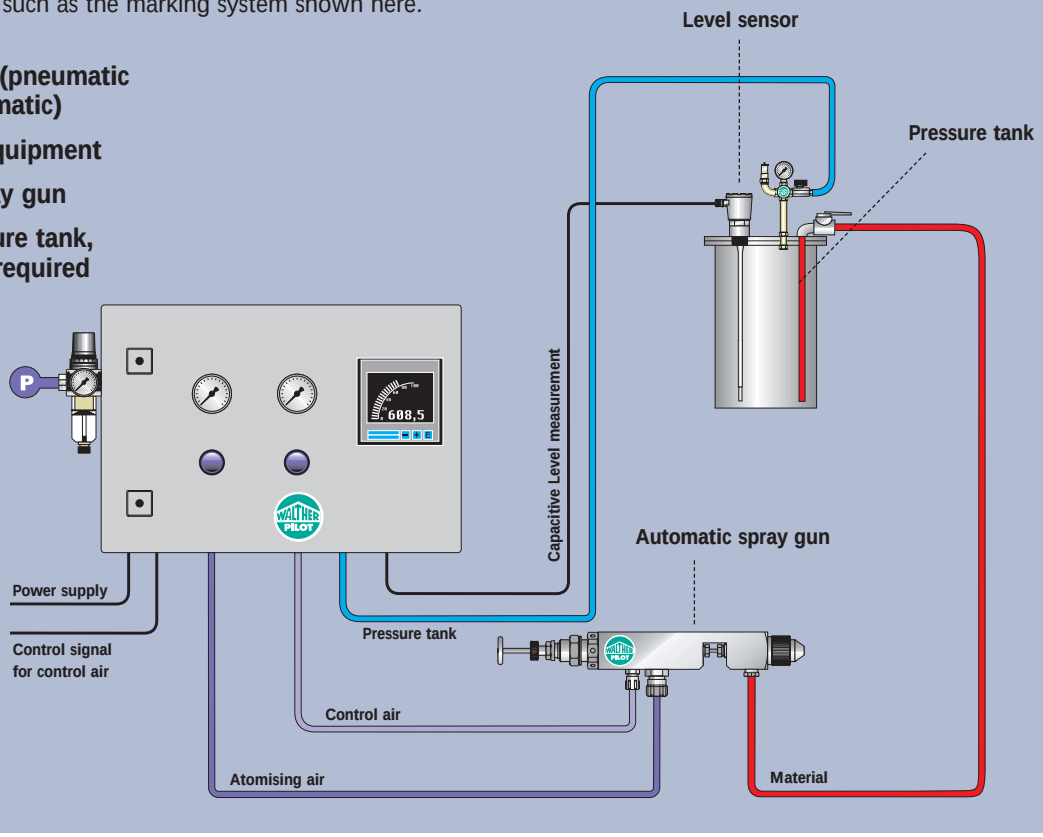
WALTHER PILOT offers ideal solutions for precision spraying applications:

- **Spraying with precise edge definition**
- **Application of sealing lacquer**
- **Spray coating small parts**
- **Edge pasting**

Material flow diagram of a marking system

We can supply the ideal complete solution even for complex system configurations such as the marking system shown here.

- **Control cabinet (pneumatic or electro-pneumatic)**
- **Level sensing equipment**
- **Top-quality spray gun**
- **Matching pressure tank, with agitator if required**



The spray gun is triggered by automatic fault detection

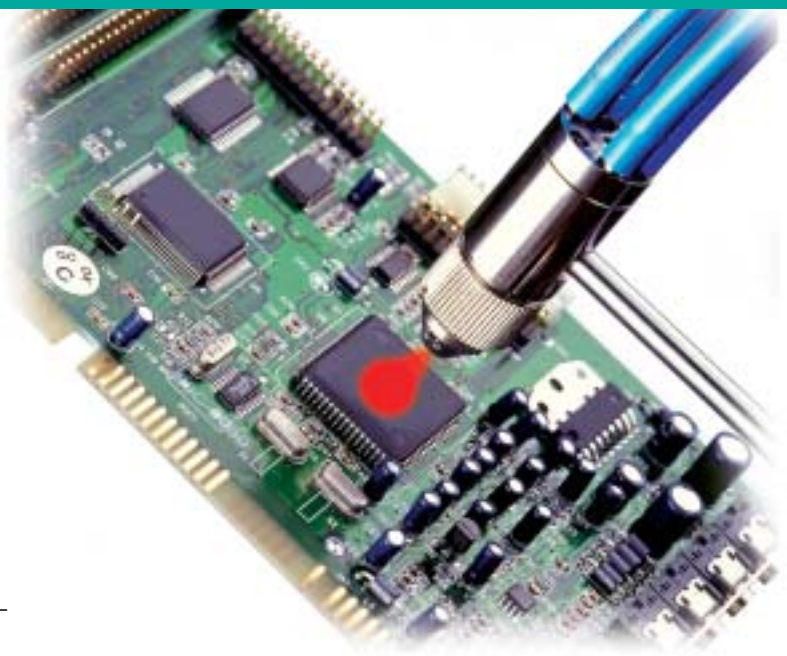
Precision coating technology

Coatings with precise edge definition

Spray marking guns and marking blocks are ideally suited for a wide range of applications. Although often used for spraying paint, they can also spray other materials such as adhesives, separating agents, sealing compounds or even cosmetics.

The material is best supplied by WALTHER PILOT pressure tanks or pumps.

WALTHER PILOT has earned an excellent reputation for solving the most difficult tasks. We will be happy to advise you on solving your coating problems. Such highly precise spraying systems generally need to be custom built – there are practically no "off the peg" solutions. Our testing centre will gladly carry out the necessary testing.



Sealing chips on a PCB

Applying lubricant

Coating "joints" in wall cladding without masking

A wide range of applications

- Application of locking cement for screws
- Application of lubricant, e.g. for drilling or milling
- Application of separating agent for rubber profiles
- Final position adhesion at paper roll
- Coating the necks of gas bottles
- Precise edge definition during coating
- Targeted application of adhesive (edge pasting, profiles)
- Metering of hardeners and adhesives
- Sealing PCB surfaces with protective varnish
- Encapsulation of circuit board components
- Coating small parts with complex geometries

Coating small parts

Tailor-made solutions

Clever solutions – even in tight corners

Precision spraying can even be used in places that are difficult to access.

Problem: A can manufacturer had the problem that the anti-corrosion coating inside the cans was being damaged at two places when the handle lugs were welded onto the cans.

Solution: A spraying system was designed especially for this customer that not only accurately meters the quantity of coating required to precisely repair the damage with a high cycle frequency, but which is also fitted with two miniature automatic spray guns. This allows the two points to be coated in a single process – thus saving an entire working step.

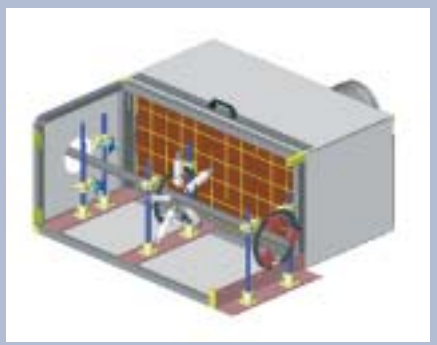
Compact spraying system with two guns on a lifting cylinder and multi-layer filter mats.

Pre-assembled complete system with overspray extraction and pressure tank.

In addition to the spraying and material transfer equipment, WALTHER PILOT also supplies extraction systems for overspray and solvent vapours. In order to change the highly efficient multi-layer paper filters, the operator merely has to pull out the removable cassettes.

Your system is ready for inspection – on the computer

We use state-of-the-art software to develop three-dimensional models that show every aspect of a complete system. As a result, you can be certain that the whole system and its components are represented in every detail. This allows you to inspect the system in advance and make any changes that you think are necessary – and then look at the finished version once again. The close cooperation between our designers and application engineers ensures optimum results.



Contact partners

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Automatic spray guns for every requirement

① PILOT WA 50

Miniature spray gun for precision spraying. No internal control. All wetted parts are made of stainless steel.

New: This model is now fitted as standard with a material quantity regulator. Round-jet or wide-jet nozzle insert possible.

Optional nozzle diameters (in mm):
0.3 / 0.5 / 0.8 / 1.0 / 1.2 / 1.5

② PILOT Signier

Fully automatic spray gun with round-jet or wide-jet air cap (shown here: wide-jet). Suitable for a wide range of delicate spraying jobs.

Gun body: brass, nickel plated
Nozzle: stainless steel
Needle: stainless steel or hard metal
Air caps: round-jet or wide-jet

Optional nozzle diameters (in mm):
0.3 / 0.5 / 0.8 / 1.0 / 1.2 / 1.5

④ PILOT Signier-Membrane

Sturdy, fully automatic marking gun with a diaphragm instead a needle seal packing. This efficiently minimises wear, particularly when spraying abrasive or moisture-curing materials.

Air caps: round-jet or wide-jet

Optional nozzle diameters (in mm):
0.3 / 0.5 / 0.8 / 1.0 / 1.2 / 1.5

Guaranteed parts availability for 10 years

③ PILOT Signier spülbar (flushable version)

The same as PILOT Signier but with an additional connection for flushing agent for cleaning the nozzle after the final spraying operation.

Round-jet or wide-jet air caps for all automatic spray guns

PILOT Signier-E

The gun is triggered electromagnetically. This means that extremely short switching times are possible. Compressed air is required only for the atomising air. This model has particularly low wear.

Optional nozzle diameters: 0.3 mm - 1.5 mm ø

PILOT Block

The same as PILOT Signier but with an extremely compact and space-saving design. This gun does not have an internal control feature, i.e. the atomising air is controlled separately.

Optional nozzle diameters 0.3 / 0.5 / 0.8 / 1.0 / 1.2 / 1.5 mm ø

PILOT WA 200

Fully automatic spray gun, i.e. with an internal control feature for opening and closing the atomising air. Extremely compact and space-saving design. The front body and all wetted parts are made of stainless steel. The material quantity is controlled by a ratchet adjuster.

Optional nozzle diameters 0.3 / 0.5 / 0.8 / 1.0 / 1.2 / 1.5 mm ø

PILOT WA 210

This gun is almost identical to the model PILOT WA 200, but features additional Mesamoll lubrication behind the needle packing. This effectively reduces packing wear caused by moisture-curing materials.

Needle seal packing or diaphragm gun?

The minimum-wear needle seal packing

A marking gun has to cope with extreme stresses as it opens and closes in rapid succession. This mainly affects the needle seal packing, a wearing part in every spray gun. Guns are available with special lubrication to minimise packing wear – although it can never be entirely eliminated.

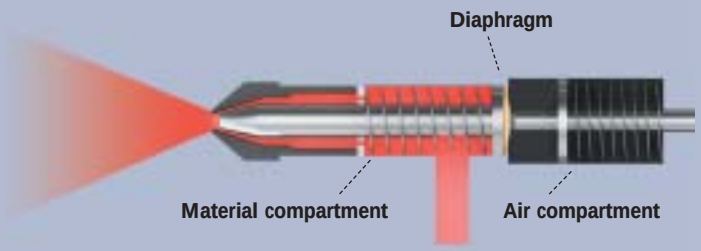
Diaphragm spray gun as an alternative

WALTHER PILOT has therefore developed an alternative to spray guns with a needle seal packing: the diaphragm spray gun.

The diaphragm ensures that the wetted parts are hermetically separated from the air components of the spray gun. The material needle does not go right through the gun.

The gun is opened by a pneumatic pulse that relieves the pressure of the rear spring located in the air compartment.

This special design ensures minimum wear. We will be happy to provide you with more information on this new technology.



WALTHER PILOT

WALTHER PILOT – the Systematic Product Range

Spraying Systems
Manual spray guns
Automatic spray guns
Airless equipment
Electrostatic spray guns

Tanks and Material Transfer Systems
Material pressure tanks
Non-pressurised containers
Material supply systems
Agitator systems
Level measuring equipment
Fluid pumps

Multi-Component Systems
Mechanical mixing and metering systems
Electronically controlled mixing and metering systems

Spray booths and vetilation systems
Combined spraying and drying booths
Spray booths with filter mats
Spray booths with water-wash function
Paint sludge removers
Ventilation systems

Filter techology
Multi-layer paper filters
Labyrinth filter
Glass fibre filter mats
Andreae filters
Bag filters

Dryers
Chamber dryers
Continuous dryers

Environmental protection
Spray gun cleaning equipment
Solvent distillation systems

Safety at work
Filter technology
Cleaning technology

Compressed air supply
Air filters/regulators

Complete range of accesso-ries

Always up-to-date:
the WALTHER PILOT website

www.walther-pilot.de

WALTHER PILOT®
Die Beschichtungs-Experten

TÜV CERT
EN ISO 9001
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