

### Das WALTHER PILOT - Programm

- Hand-Spritzpistolen
- Automatik-Spritzpistolen
- Niederdruck-Spritzpistolen (System HVLP)
- Zweikomponenten-Spritzpistolen
  
- Materialdruckbehälter
- Drucklose Behälter
- Rührwerk-Systeme
  
- Airless-Geräte und Flüssigkeitspumpen
- Materialumlaufsysteme
- 2-K - Anlagen
- Signieranlagen
  
- Kombinierte Spritz- und Trockenboxen
- Absaugsysteme mit Trockenabscheidung
- Absaugsysteme mit Nassabscheidung
- Pulversprühstände
- Pulverspritzgeräte
- Kleberspritzsysteme
  
- Trockner
  
- Zuluft-Systeme
  
- Atemschutz-Systeme und Zubehör

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### The WALTHER PILOT Product Range

- Manual spray guns
- Automatic spray guns
- HVLP spray guns
- Two-component spray guns
  
- Pressure containers
- Nonpressurized containers
- Agitator systems
  
- Airless equipment and fluid pumps
- Material circulation systems
- Two-pack systems
- Marking equipment
  
- Combined spraying and drying booths
- Spray booths with dry filtering
- Spray booths with wet filtering
- Powder booths
- Powder spraying equipment
- Adhesive spraying systems
  
- Dryers
  
- Air regulators / air filters
  
- Health protection equipment

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# WALTHER PILOT

## Betriebsanleitung / Operating Instructions

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## Automatische Spritzpistolen / Automatic Spray Guns

### PILOT WA 600 / WA 610 / WA 625

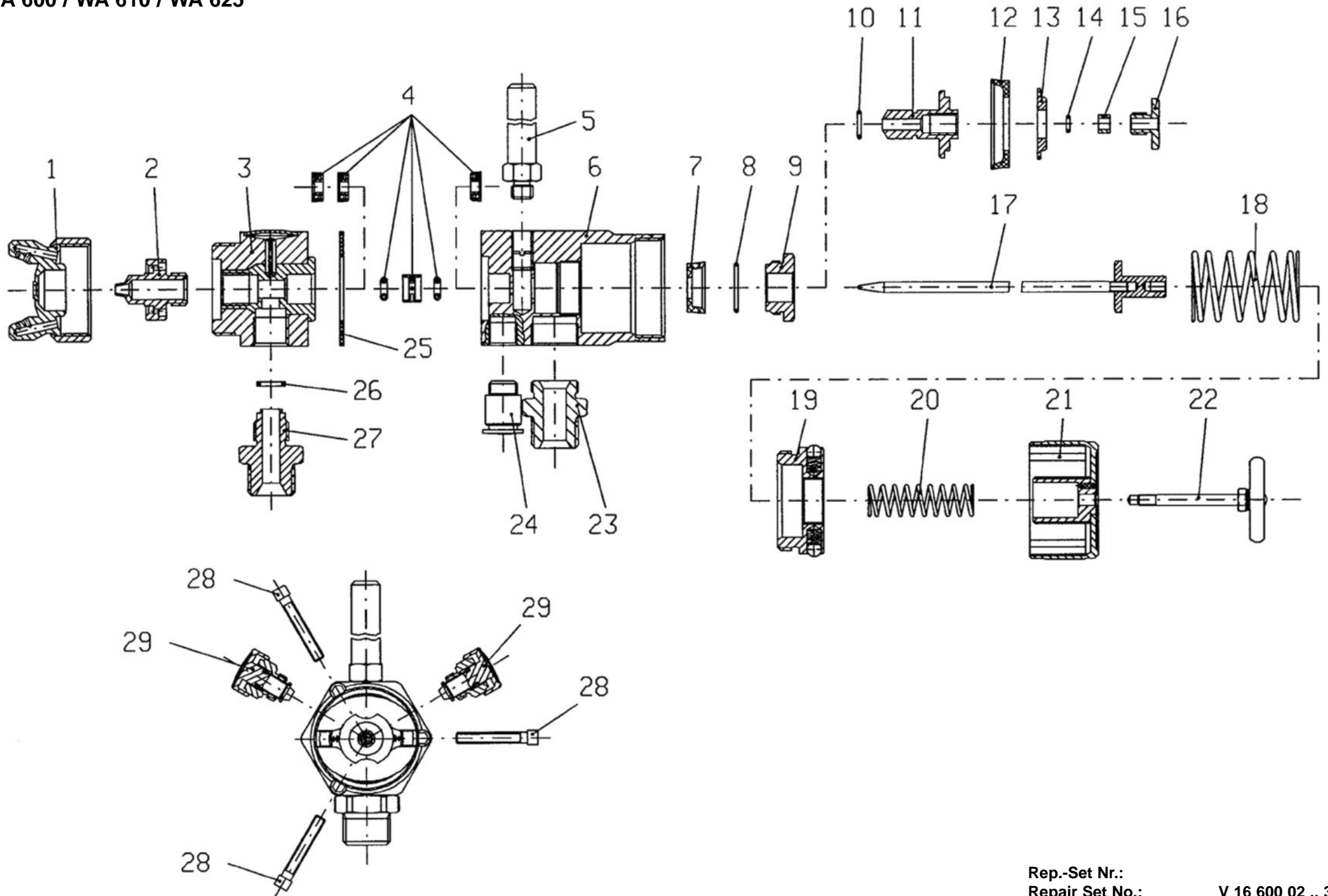


Die Beschichtungs-Experten

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Die Beschichtungs-Experten



## EG-Konformitätserklärung

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Wir, der Gerätehersteller, erklären in alleiniger Verantwortung, dass das Produkt in der untenstehenden Beschreibung den einschlägigen grundlegenden Sicherheits- und Gesundheitsanforderungen entspricht. Bei einer nicht mit uns abgestimmten Änderung an dem Gerät oder bei einer unsachgemäßen Verwendung verliert diese Erklärung ihre Gültigkeit.

<b>Hersteller</b>	WALTHER Spritz-und Lackiersysteme GmbH Kärntner Str. 18-30 D-42327 Wuppertal Tel.: 0202 / 787-0 Fax: 0202 / 787-217 • www.walther-pilot.de		
<b>Typenbezeichnung</b>	Automatische Spritzpistole PILOT WA 600 / WA 610 / WA 625  WA 600            V 20 600 WA 610            V 20 610 WA 625            V 20 607		
<b>Verwendungszweck</b>	Verarbeitung spritzbarer Materialien		
<b>Angewandte Normen und Richtlinien</b>			
EG-Maschinenrichtlinien 98 / 37 EG 94 / 9 EG (ATEX Richtlinien) DIN EN 12100 Teil 1 DIN EN 12100 Teil 2                      DIN EN 1953 DIN EN 1127                                DIN EN 13463-1			
<b>Spezifikation im Sinne der Richtlinie 94 / 9 / EG</b>			
<b>Kategorie 2</b>	<b>Gerätebezeichnung</b>	 II 2 G c T 5	Tech.File,Ref.: 2406
<b>besondere Hinweise :</b> Das Produkt ist zum Einbau in ein anderes Gerät bestimmt. Die Inbetriebnahme ist so lange untersagt, bis die Konformität des Endproduktes mit der Richtlinie 98 / 9 / EG festgestellt ist.			

Wuppertal, den 7. Juli 2003




Name: Torsten Bröker  
Stellung im Betrieb: Leiter der Konstruktion und Entwicklung

Diese Erklärung ist keine Zusicherung von Eigenschaften im Sinne der Produkthaftung. Die Sicherheitshinweise der Produktdokumentation sind zu beachten.

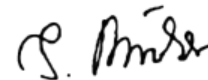
## Declaration of CE-Conformity

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We, the manufacturers of the equipment, hereby declare under our sole responsibility that the product(s) described below conform to the essential safety requirements. This declaration will be rendered invalid if any changes are made to the equipment without prior consultation with us.

<b>Manufacturer</b>	WALTHER Spritz-und Lackiersysteme GmbH Kärntner Str. 18-30 D-42327 Wuppertal Tel.: 0202 / 787-0 Fax: 0202 / 787-217 • www.walther-pilot.de		
<b>Type Designation</b>	Automatic Spray Gun PILOT WA 600 / WA 610 / WA 625  WA 600            V 20 600 WA 610            V 20 610 WA 625            V 20 607		
<b>Intended purpose</b>	Processing of sprayable media		
<b>Applied Standards and Directives</b>			
EU-Machinery Directive 98 / 37 CE 94 / 9 EC (ATEX Directives) DIN EN 12100 Part 1 DIN EN 12100 Part 2                      DIN EN 1953 DIN EN 1127                                DIN EN 13463-1			
<b>Specification according 94 / 9 / CE</b>			
<b>Category 2</b>	<b>Part marking</b>	 II 2 G c T 5	Tech.File,Ref.: 2406
<b>special remarks :</b> The named product is intended for installation in other equipment. Commissioning is prohibited until such time as the end product has been proved to conform to the provision of the Directives 98 / 37 / CE.			

Wuppertal, the 7th of July 2003



Name: Torsten Bröker  
Position: Manager, Design and Development

This Declaration does not give assurance of properties in the sense of product liability. The safety instructions provided in the product documentation must be observed at all times.

## Listing of Replacement Parts WA 600, WA 610 and WA 625

Item	Parts No.	Description
1	V 10 151 30 039*	<b>Air Control Head 0,3 - 1,5 mm Ø</b>
	V 10 151 30 189*	<b>Air Control Head 1,8 - 2,2 mm Ø</b>
2	V 10 151 40 .. 3*	<b>Material Nozzle</b>
3	V 20 410 10 000	Front Part
4	V 09 001 80 000	<b>Needle Packing compl.</b>
5	V 20 310 09 003	Connection
6	V 20 410 40 000	Piston Casing
7	V 09 220 27 000	<b>Cup Seal</b>
8	V 09 103 22 001	O-Ring
9	V 20 410 24 004	Piston-Boss Bushing
10	V 09 102 67 000	<b>O-Ring</b>
11	V 20 410 23 004	Piston Bushing
12	V 09 220 28 000	<b>Cup seal</b>
13	V 20 410 18 004	Clamping Washer
14	V 09 102 20 001	<b>O-Ring</b>
15	V 20 410 39 004	Pressure Ring
16	V 20 410 16 004	Piston Screw
17	V 20 410 30 .. 3*	Material Needle
18	V 20 410 17 000	<b>Piston Spring</b>
19	V 20 410 27 000	Threaded Ring
20	V 20 410 28 003	<b>Needle Spring</b>
21	V 20 410 29 000	Cap
22	V 20 410 36 000	Threaded Rod compl.
23	V 20 410 19 005	Atomizing Air Connection
24	V 66 101 53 322	Control Air Connection
25	V 09 001 81 000	<b>Seal</b>
26	V 09 002 51 000	<b>Seal</b>
27	V 20 410 13 003	Material Connection
28	V 20 410 37 003	Hexagonal Screw
29	V 20 410 20 000	Round- and Wide-Fan-Adjustment

### Deviating spare parts Model WA 610

3	V 20 420 10 000	Front Part
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### Deviating spare parts Model WA 625

1	V 10 141 30 xx8	<b>Air Control Head MP</b>
6	V 20 60 701 000	Piston Casing
23	V 20 607 03 005	Atomizing Air Connection

\* Please make sure to quote the required size when placing an order for replacement parts, diameter: 0.3 • 0.5 • 0.8 • 1.0 • 1.2 • 1.5 • 1.8 • 2.0 • 2.2 mm

We recommend to hold all bold-faced replacement parts on stock.

### Repair Set No.: V 16 600 02 .. 3

Includes all bold-faced wearing parts

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## 1 General

### 1.1 Identification of Model Version

**Model:** Automatic Spray Gun PILOT WA 600 / WA 610 / WA 625

<b>Type:</b>	WA 600	V 20 600
	WA 610	V 20 610
	WA 625	V 20 607

**Manufacturer:** WALTHER Spritz- und Lackiersysteme GmbH  
Kärntner Straße 18-30  
D-42327 Wuppertal  
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### 1.2 Normal Use

The automatic spray gun must be used only for processing sprayable materials, in particular:

- lacquers and paints
- grease, oil and anti-corrosion agents
- adhesives, grease, oil and anti-corrosion agents
- ceramic glazes
- stains

If you intend to spray materials that are not listed here, please contact WALTHER Spritz- und Lackiersysteme GmbH, Wuppertal.

The sprayable materials must be sprayed only on workpieces or objects.

The temperature of the material to be sprayed must not exceed 80°C.

The models PILOT WA 600, WA 610 and WA 625 are not a hand-held spray guns and must therefore be mounted in a suitable bracket.

Proper use of the spray gun also includes the fact that you have read, understood and observed all information, advice and safety requirements presented in this instruction manual.

This equipment complies with the explosion protection requirements of Directive 94 / 9 / EC (ATEX) for the explosion group, equipment category and temperature class indicated on the type plate. When using the equipment, the requirements specified in these Operating Instructions must be observed at all times.

The technical data indicated on the equipment rating plates and the specifications in the chapter "Technical Data" must be complied with at all times and must not be exceeded. An overloading of the equipment must be ruled out.

The equipment may be used in potentially explosive atmospheres only with the authorization of the relevant supervisory authority.

**The relevant supervisory authority or the operator of the equipment are responsible for determining the explosion hazard (zone classification).**

The operator must check and ensure that all technical data and the marking of the equipment in accordance with ATEX are compliant with the necessary requirements.

The operator must provide corresponding safety measures for all applications in which the breakdown of the equipment might lead to danger to persons.

If any irregularities are observed while the equipment is in operation, the equipment must be put out of operation immediately and WALTHER Spritz- und Lackiersysteme must be consulted.

Grounding / Equipotential Bonding

You must ensure that the spray gun is properly earthed (grounded) either separately or in connection with the equipment with which it is being used (maximum resistance  $10^6 \Omega$ ).

### 1.3 Improper Use

The spray gun must not be used in any other way than as described above in the section *1.2 Normal Use*.

Any other form of use is prohibited.

Improper use includes:

- spraying materials onto persons or animals
- spraying liquid nitrogen

## 2 Technical Description

The models PILOT WA 600, WA 610 and WA 625 are operated automatically by compressed air and is controlled via 3/2-way control valves. Hand-operated, foot-operated or solenoid-valve-operated valves can be used for this purpose.

First, the atomising air is introduced by a 3/2-way valve.

Then, the 3/2-way control valve required for the control air is actuated.

The compressed air flowing into the cylinder chamber moves the control piston and opens the material feed.

If the control air is interrupted by the 3/2-way valve, the compressed air in the cylinder chamber is allowed to escape. The spring pressure of the piston spring shuts off the material feed to the material nozzle.

After this, the atomising air is switched off by the 3/2-way valve.

Nozzle and needle are made of corrosion-free stainless steel.

## 3 Safety

- The spray gun must be used only by trained and qualified persons.
- All relevant rules of safety and workers' safety regulations applicable in the country or area of use must be fully observed.
- Observe the instructions given by the manufacturers of the spraying material and the cleaning agents with regard to safety and proper use.
- Use the spray gun only in well-ventilated rooms. Fire, naked flames and smoking are prohibited within the working area.

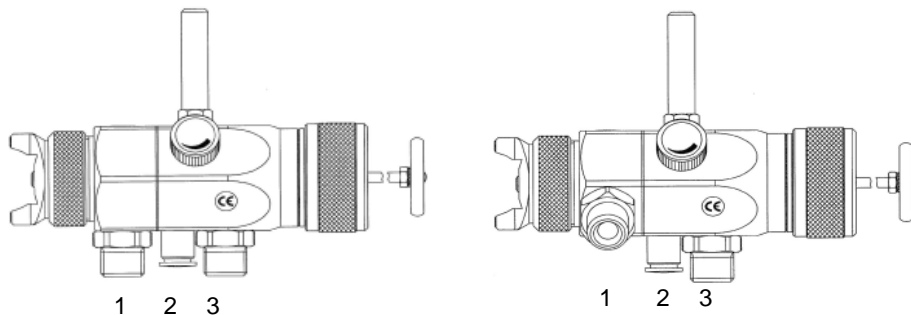
- Always wear the regulation breathing masks, protective clothing and hearing protection when using the spray gun.
- Exhaust air which contains particles must be kept away from the working area and operating personnel. Make sure that adequate exhaust extraction is provided.
- When spraying materials, keep your hands and other parts of the body away from the pressurised nozzle of the spray gun.
- Do not direct the spray gun at persons or animals.
- Before carrying out maintenance or servicing, ensure that the air and material feed to the spray gun have been depressurised.
- You must ensure that the spray gun is properly earthed (grounded) either separately or in connection with the equipment with which it is being used (maximum resistance  $10^6 \Omega$ ).
- After carrying out assembly and maintenance work, ensure that all nuts, bolts and screw connections have been fully tightened.
- Use only original spare parts, since WALTHER can only guarantee safe and fault-free operation for original parts.

For further information on the safe use of spraying equipment, please contact WALTHER Spritz- und Lackiersysteme GmbH, Wuppertal.

## 4 Using the Spray Gun

Before using the spray gun, ensure that the following conditions apply:

- The control air pressure is applied to the spray gun
- The atomising air pressure is applied to the spray gun
- The material pressure is applied to the spray gun



1 = Material connection    2 = Control air connection    3 = Atomizing air connection

### 4.1 Connections for Control Air, Atomising Air and Material

- Connect the control air connector (via the 3/2-way valve) to the spray gun and set the control air pressure (min. 4.5 bar).

- Connect the atomising air connector to the air hose (filtered compressed air supply) and to the atomising air connection.
- Switch on the compressed air and set the required atomising air pressure at the reducing valve (max. 8 bar).
- Fill the pressure pot with the material to be sprayed and close the lid.
- Connect the material feed hose to the pressure pot or the pump and to the material connection. Set the required material pressure (max. 8 bar).
- Open the material valve on the pressure pot.

### 4.2 Spraying a Test Pattern

A test spray pattern should always be made whenever:

- the spray gun is used for the first time
  - the spraying material is changed
  - the spray gun has been disassembled for maintenance or servicing.
- The test pattern can be sprayed on a test workpiece, panel, cardboard or paper.

### 4.3 Changing the Spray Pattern

- Round-fan or wide-fan air caps are available.
- The fan width can be varied by changing the atomising air.
- The material flow rate is determined by the material pressure and the diameter of the material nozzle.

### 4.4 Correction of Spray Pattern Imperfections

The following table shows how to correct a defective spray pattern.



Spray pattern test	Fault	Necessary adjustment
	Swollen centre	• Spray jet should be flatter
	Swollen ends	• Spray jet should be rounder
	Coarse pearl effect	• Increase atomising air pressure
	Unduly thin paint layer in centre	• Decrease atomising air pressure
	Split centre	• Increase nozzle diameter • Reduce atomising air pressure • Increase material pressure
	Split centre	• Decrease material pressure • Increase atomising air pressure

## 5 Retooling the Spray Gun

The combination of air cap, material nozzle and needle for a certain spraying material forms a specially matched unit - the nozzle assembly. Always exchange the complete nozzle assembly in order to maintain the desired spray pattern quality.



### Warning

Air and material inputs must be shut off prior to re-tooling - risk of injury.



### Note

Please refer to the exploded view at the beginning of this manual to perform the steps detailed below.

### 5.1 Changing the Air Cap

1. Unscrew the air cap nut.
2. Remove the air cap (Pos.1).

### 5.2 Changing the Material Nozzle

1. Unscrew the air cap nut.
2. Remove the air cap.
3. Unscrew the material nozzle (Pos.2) from the spray gun head.
4. Installation takes place in reverse order.

### 5.3 Changing the Material Needle

1. Unscrew the threaded rod (Pos. 22).
2. Unscrew the air cap (Pos. 21).
3. Remove the needle spring (Pos 20).
4. Unscrew the threaded ring (Pos. 19).
5. Withdraw the piston (Pos. 11) together with the material needle (Pos. 17).
6. Unscrew the material needle from the piston.
7. The distance between the tip of the material needle and the piston should be set at 79,0 mm.
8. Installation takes place in reverse order.

### 5.4 Changing the Needle Seal

1. Unscrew the front part from the piston casing.
2. Remove the seal.
3. Remove the complete needle packing using a strong wire with a hook at its end.
4. Lubricate the new needle seal packing..
5. Installation takes place in reverse order.

## 6 Troubleshooting



### Warning

Prior to any servicing and repair work the spray gun should be inunpressurised state, i.e. all control air and atomising air pressure as well as all material inputs must be shut off - risk of injury.

Spray pattern	Fault	Adjustment
Gun drips	Material needle or nozzle dirty	Remove and clean
	Material needle or nozzle damaged	Replace
Gun does not open	Control air pressure too low	Increase control air pressure to min. 4.5 bar
Irregular or splattering spray	Insufficient material in container	Fill up with material (see instructions from material manufacturer)
Gun sprays when switched off	O-ring Item 7 damaged	Replace
Material bubbling in material container	Atomising air is entering the material container via the material channel. Material nozzle or air cap not properly tightened	Clean the parts, tighten or replace
Spray fan one-sided	Air cap horn bore dirty	Remove and clean

## 7 Cleaning and maintenance

- To ensure that the spray gun functions properly and to maximise its service life, the spray gun must be maintained, cleaned and lubricated regularly.
- Before carrying out any maintenance, ensure that the control air and atomising air as well as the material feed are depressurised.
- Cleaning should be carried out after every colour and material change or according to the degree of contamination.
- For cleaning the spray gun, use only those cleaning agents that are specified by the material manufacturer and ensure that they do not contain any of the following components:
  - halogenated hydrocarbons,( e.g. 1,1,1-trichloroethane, methylene chloride,etc.)
  - acids or acidic cleaning agents,
  - paint strippers,
  - regenerated solvents (cleaning thinners).
- Never immerse the whole spray gun in solvent or cleaning agent, as this could harm the correct functioning of the gun.

- Do not use sharp or hard objects to clean the spray gun, as this might cause damage to precision parts and impair the spraying result.
- WALTHER Spritz- und Lackiersysteme cannot accept any liability for damage caused by improper treatment of the spray gun.

## 8 Technical Data

Weight:	360 g
Connections	
Atomising air:	G 1/4
Control air:	CK 1/8 PK 4
Material feed:	G 3/8
Pressure range:	
Control air pressure:	min. 4,5 bar
Material pressure:	max. 8 bar
Atomising air pressure:	max. 8 bar
Noise Level (measured at a distance of ca. 1 m from spray gun)	83 dB (A)

### Air Consumption:

Air input:	Round fan	Wide fan
1,0 bar	150 L/min.	180 L/min.
2,0 bar	210 L/min.	260 L/min.
3,0 bar	250 L/min.	310 L/min.
4,0 bar	280 L/min.	360 L/min.
5,0 bar	310 L/min.	400 L/min.
6,0 bar	340 L/min.	430 L/min.

Technical data are subject to change.