

Das WALTHER PILOT-Programm

- Hand-Spritzpistolen
- Automatik-Spritzpistolen
- Niederdruck-Spritzpistolen (System HVLP)
- Zweikomponenten-Spritzpistolen
- Materialdruckbehälter
- Drucklose Behälter
- Rührwerk-Systeme
- Airless-Geräte und Flüssigkeitspumpen
- Materialumlaufsysteme
- Kombinierte Spritz- und Trockenboxen
- Absaugsysteme mit Trockenabscheidung
- Absaugsysteme mit Naßabscheidung
- Pulversprühstände
- Trockner
- Zuluft-Systeme
- Atemschutzsysteme und Zubehör

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The WALTHER PILOT Programme

- Hand-Held Spray Guns
- Automatic Spray Guns
- Low Pressure Spray Guns (System HVLP)
- Two-Component Spray Guns
- Material Pressure Tanks
- Nonpressurized Tanks
- Agitator Systems
- Airless Equipment and Transfer Pumps
- Material Circulation Systems
- Combined Spraying and Drying Booths
- Dry Back Overspray Extraction Systems
- Wet Back Overspray Extraction Systems
- Powder Spray Stands
- Dryers
- Ventilation Systems
- Protective Respiratory Systems and Accessory Items

GB

Le Programme de WALTHER PILOT

- Pistolets de pulvérisation manuels
- Pistolets de pulvérisation automatiques
- Pistolets de pulvérisation - basse pression (Système HVLP)
- Installations de marquage
- Réservoirs sous pression
- Récipients de mélange et de stockage
- Appareils de pulvérisation sans air
- Pompes de transfert
- Murs à aspiration sèche
- Murs à rideau d'eau
- Cabines de poudrage
- Cabines mixtes peinture-séchage
- Installations de soufflage
- Etuves
- Très nombreux accessoires

F

Het WALTHER PILOT Programma

- Manuele spuitpistolen
- Automatische spuitpistolen
- Lagedruk-spuitpistolen (systeem HVLP)
- Markeerpistolen
- Airless apparaten en vloeistofpompen
- Druktanks
- Drukloze tanks
- Circulatiesystemen
- Roersystemen
- Gecombineerd spuit- en droogboxen
- Verfnevelafzuigsystemen met droge afscheiding
- Verfnevelafzuigsystemen met natte afscheiding
- Verluchttingsinstallaties
- Allerlei accessoires

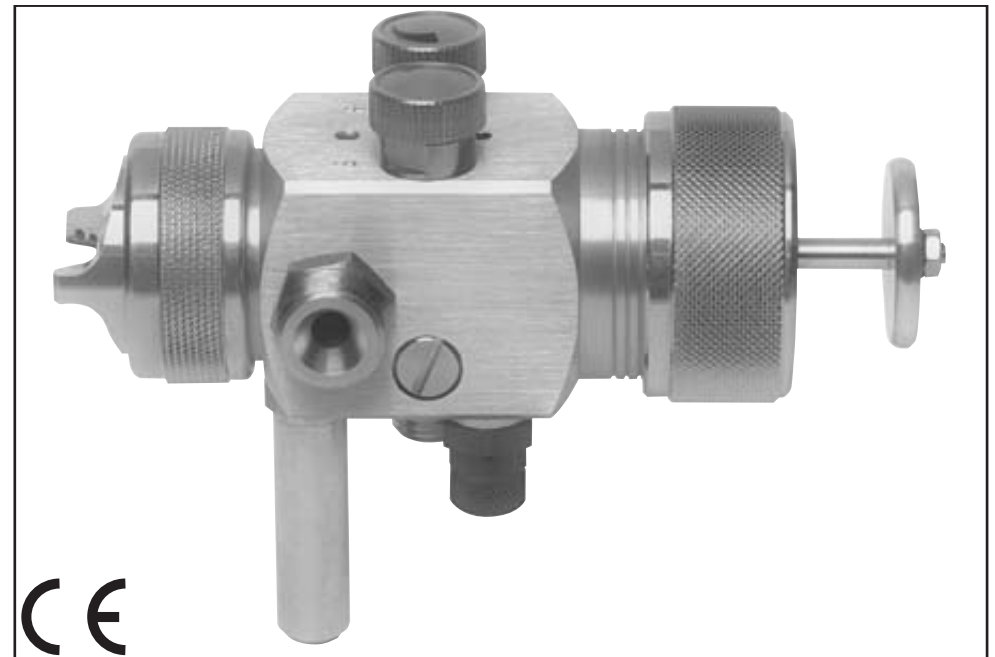
NL

WALTHER PILOT

Betriebsanleitung / Operating Instructions / Instructions de Service / Gebruiksaanwijzing

Automatische Spritzpistolen / Automatic Spray Guns
Pistolets de pulvérisation automatiques / Automatische spuitpistolen

PILOT WA 400 / PILOT WA 410 / PILOT WA 420 / PILOT WA 430
PILOT WA 470-K / PILOT WA 471-K / PILOT WA 472-K
PILOT WA 473-K



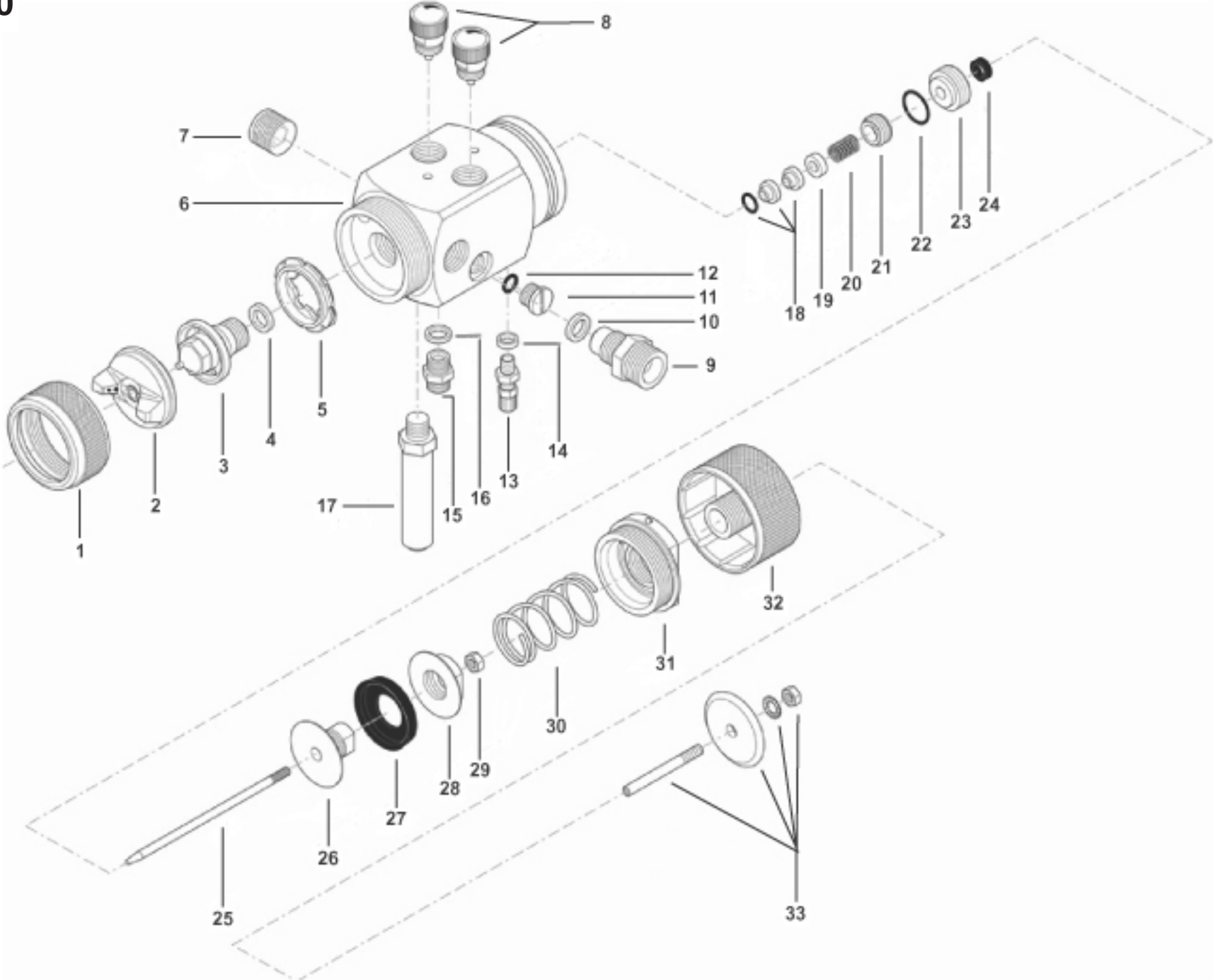
Die Beschichtungs-Experten

WALTHER Spritz- und Lackiersysteme GmbH
Kärntner Str. 18-30 • 42327 Wuppertal
Tel.: 0202 / 787-0 • Fax: 0202 / 787-217
www.walther-pilot.de
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Die Beschichtungs-Experten

PILOT WA 400



EG-Konformitätserklärung

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.

D

Hersteller	WALTHER Spritz-und Lackiersysteme GmbH Kärntner Str. 18-30 D-42327 Wuppertal Tel.: 0202 / 787-0 Fax: 0202 / 787-217 www.walther-pilot.de • Email: info@walther-pilot.de			
Typenbezeichnung	Automatische Spritzpistolen PILOT WA 400 (Standardausführung) 20 540 PILOT WA 410 (Umlaufausführung) 20 541 PILOT WA 420 (Niederdruckausführung HVLP) 20 542 PILOT WA 430 (Niederdruck- und Umlaufausführung) 20 543 PILOT WA 470-K (Kleberausführung - Standard) 20 580 PILOT WA 471-K (Kleberausführung - Umlauf) 20 581 PILOT WA 472-K (Kleberausführung - System HVLP) 20 582 PILOT WA 473-K (Kleberausf. - System HVLP - Umlauf) 20 583			
Verwendungszweck	Verarbeitung spritzbarer Materialien			
Angewandte Normen und Richtlinien				
EG-Maschinenrichtlinien 98 / 37 EG 94 / 9 EG (ATEX Richtlinien) DIN EN 292 Teil 1 DIN EN 292 Teil 2 DIN EN 1953				
Spezifikation im Sinne der Richtlinie 94 / 9 / EG				
Kategorie 2	Gerätebezeichnung		II 2 G c T 5	Tech.File,Ref.: 2407
Besondere Hinweise : 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

i.V. 

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

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.

GB

Manufacturer	WALTHER Spritz-und Lackiersysteme GmbH Kärntner Str. 18-30 D-42327 Wuppertal Tel.: 0202 / 787-0 Fax: 0202 / 787-217 www.walther-pilot.de • Email: info@walther-pilot.de			
Type Designation	Automatic Spray Guns WA 400 (Standard version) 20 540 WA 410 (Circulation version) 20 541 WA 420 (Low-pressure version) 20 542 WA 430 (Low-pressure and circulation version - standard) 20 543 WA 470-K (Adhesive application version) 20 580 WA 471-K (Ad. application version - circulation) 20 581 WA 472-K (Ad. application version - low-pressure) 20 582 WA 473-K (Ad. appl. vers. - low-pressure - circulation) 20 583			
Intended purpose	Processing of sprayable media			
Applied Standards and Directives				
EU-Machinery Directive 98 / 37 CE 94 / 9 EC (ATEX Directives) DIN EN 292 Part 1 DIN EN 292 Part 2 DIN EN 1953				
Specification according 94 / 9 / CE				
Category 2	Part marking		II 2 G c T 5	Tech.File,Ref.: 2407
Special remarks : 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

i.V. 

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 documentaion must be observed at all times.

Déclaration de conformité CE

En tant que fabricant de cet appareil, nous déclarons en toute responsabilité que le produit décrit ci-dessous est conforme aux exigences de sécurité et de protection de la santé actuellement en vigueur. Toute modification sans autorisation de notre part ou utilisation inadéquate de l'appareil, annulent la validité de cette déclaration.

F

Fabricant	WALTHER Spritz-und Lackiersysteme GmbH Kärntner Str. 18-30 D-42327 Wuppertal Tel.: 0202 / 787-0 Fax: 0202 / 787-217 www.walther-pilot.de • Email: info@walther-pilot.de			
Dénomination du modèle	Pistolets automatiques de pulvérisation WA 400 (version standard) 20 540 WA 410 (version circulation) 20 541 WA 420 (version basse pression - HVLP) 20 542 WA 430 (vers.syst. HVLP - version circulation) 20 543 WA 470-K (version pour l'application de colles - standard) 20 580 WA 471-K (vers. pour l'appl. de colles - circulation) 20 581 WA 472-K (vers. pour l'appl. de colles - syst. HVLP) 20 582 WA 473-K (vers. p. l'appl. de colles - syst. HVLP - circul.) 20 583			
Utilisation	Application de matières pulvérisables			
Normes et directives appliquées				
Directive UE sur les machines 98 / 37 UE 94 / 9 EG (directives ATEX) DIN EN 292 1 ère partie DIN EN 292 2 ème partie DIN EN 1953				
Normes et directives appliquées				
Catégorie 2	désignation de l'appareil		II 2 G c T 5	Tech.File,Ref.: 2407
Indications particulières: Le produit est conçu pour être intégré à un autre équipement. La mise en service n'est pas autorisée avant l'établissement de la conformité du produit final avec la directive 98 / 9 / UE.				

Wuppertal, le 7 juillet 2003

i.v. 

Nom: Torsten Bröker


Position dans l'entreprise: chef de l'exécution et du développement

Cette déclaration ne constitue pas un engagement de responsabilité dans le sens de la garantie du produit. Les signes de sécurité contenues dans les instructions de service devront être respectées.

EG-conformiteitsverklaring

De fabrikant verklaart onder geheel eigen verantwoordelijkheid dat het hierna beschreven product aan de algemeen aanvaarde veiligheids- en gezondheidsvoorschriften voldoet. Bij een niet met ons besproken wijziging aan het hierna beschreven product of bij oneigenlijk gebruik verliest deze verklaring haar geldigheid.

NL

Fabrikant	WALTHER Spritz-und Lackiersysteme GmbH Kärntner Str. 18-30 D-42327 Wuppertal Tel.: 0202 / 787-0 Fax: 0202 / 787-217 www.walther-pilot.de • Email: info@walther-pilot.de			
Typekentekening	Automatische spuitpistolen WA 400 (standard-versie) 20 540 WA 410 (rondpomp-versie) 20 541 WA 420 (lagedruk-versie) 20 542 WA 430 (lagedruk-versie voor rondpomp) 20 543 WA 470-K (voor het verspuiten van lijmen-standard-versie) 20 580 WA 471-K (voor het verspuiten van lijmen-rondpomp-versie) 20 581 WA 472-K (voor het verspuiten van lijmen-lagedruk-versie) 20 582 WA 473-K (v. h. verspuiten v. lijmen-lage.-rondp.-versie) 20 583			
Doelmatig gebruik	verwerking van verstuifbare stoffen			
Toegepaste normen en richtlijnen				
EG-richtlijnen voor machines 98 / 37 EG 94/9 EG (ATEX richtlijnen) DIN EN 292 Deel 1 DIN EN 292 Deel 2 DIN EN 1953				
Specificatie overeenkomstig richtlijn 94 / 9 / EG				
Categorie 2	Typenummer		II 2 G c T 5	Tech.File,Ref.: 2407
NB: Het product moet worden ingebouwd in een ander apparaat. De ingebruikname is niet geoorloofd, totdat de conformiteit van het eindproduct met de richtlijn 98 / 9 / EG is vastgesteld.				

Wuppertal, 7 juli 2003

i.v. 

Naam: Torsten Bröker

Positie: Manager Constructie en Ontwikkeling

Deze verklaring is geen garantie en kan derhalve niet worden gebruikt bij kwesties m.b.t. aansprakelijkheid. Raadpleeg s.v.p. de veiligheidsvoorschriften in de productdocumentatie.

Listing of Replacement Parts: PILOT WA 400

Pos. No.	Article-No.	Description
1	V 11 360 04 100	Retaining Ring
2	optional: V 11 360 30 050* V 11 360 30 200*	Air cap for nozzle size 0.5 - 1.8 mm ø 2.0 - 2.5 mm ø
3	optional: V 11 601 40 . . 3*	Material nozzle
4	V 09 002 16 000	Intermediate ring
5	V 11 601 04 000	Air distribution ring
6	V 20 540 10 000	Casing
7	V 20 540 40 003	Locking plug
8	V 11 601 20 000	Flat/wide jet control
	V 11 601 20 000	Round jet control
9	V 20 540 22 003	Material connection nipple
10	V 09 002 16 000	Intermediate ring
11	V 20 540 33 005	Plug
12	V 09 103 18 000	O-ring
13	V 66 100 02 027	Quick-release fitting compl.
14	V 66 100 02 223	Seal
15	V 00 101 01 000	Doubel nipple
16	V 66 100 02 224	Seal
17	V 20 510 21 003	Mounting Pin
18	V 09 001 72 000	Needle seal packing copml.
19	V 10 361 07 000	Pressure peace
20	V 20 510 12 003	Packing spring
21	V 20 510 11 003	Packing screw
22	V 09 103 30 001	O-ring
23	V 20 540 23 004	Sealing screw
24	V 09 222 00 000	Lip seal
25	optional: V 20 540 20 . . 3*	Material needle
26	V 20 540 26 004	Piston
27	V 20 651 06 000	Cup seal
28	V 20 540 25 004	Washer disc
29	V 20 540 17 003	Lock nut
30	V 20 540 16 003	Piston spring
31	V 20 540 31 000	Threaded bush compl.
32	V 20 540 35 000	Cap compl.
33	V 20 540 39 000	Draw bar compl.

Deviation from PILOT WA 400: Listing of Replacement Parts PILOT WA 410 / WA 420 / WA 430

PILOT WA 410 (Circulation system)

6	V 20 540 30 000	Casing-circulation
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PILOT WA 420 (Low-pressure)

Pos. No.	Article-No.	Description
2	optional: V 11 631 11 051* V 11 631 11 201*	Air cap for nozzle size 0.5 - 1.8 mm ø 2.0 - 2.5 mm ø
5	V 11 631 04 000	Air distribution ring
6	V 20 540 50 000	Casing-low-pressure

PILOT WA 430 (Low-pressure and circulation version)

2	optional: V 11 631 11 051* V 11 631 11 201*	Air cap for nozzle size 0.5 - 1.8 mm ø 2.0 - 2.5 mm ø
5	V 11 631 04 000	Air distribution ring
6	V 20 540 55 000	Casing-low.press.-circulation

Listing of Replacement Parts PILOT WA 470-K, WA 471-K, WA 472-K, WA 473-K (Adhesive application vers.)

2	optional: V 11 631 12 054* V 11 631 12 204* V 11 631 12 254*	Adhesive-air cap 0.5 - 1.0 mm ø 1.2 - 1.8 mm ø 2.0 - 2.5 mm ø
3	V 11 641 40 . . 3*	Material nozzle
26	V 20 580 30 . . 3*	Material needle

Low-pressure-air distribution rings for:

5	V 11 631 04 000	WA 420-K
	V 11 631 04 000	WA 430-K

Casings for:

6	V 20 580 01 000	WA 470-K
	V 20 581 01 000	WA 471-K
	V 20 582 01 000	WA 472-K
	V 20 583 01 000	WA 473-K

Other air caps on demand.

* Please make sure to quote the required size(s) when placing an order for replacement parts. We recommend that BOLD-faced replacement parts (i.e. wearing parts) are held on stock to avoid work stoppages.

Nozzle sets

The nozzle sets consist of air cap, material nozzle and material needle.

Art. No.: V 15 400 06 . . 3 (WA 400 / WA 410)
Art. No.: V 15 420 03 . . 3 (WA 420 / WA 430)
Art. No.: V 15 580 02 . . 3 (WA 470-K - WA 473-K)

Nozzle sizes optional:
0.5 • 0.8 • 1.0 • 1.2 • 1.4 • 1.5 • 1.8 • 2.0 • 2.2 • 2.5

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1 General

1.1 Identification of Model Version

Models: Automatic Spray Gun PILOT WA 400, WA 410, WA 420, WA 430,
WA 470-K, WA 471-K, WA 472-K,
WA 473-K

Type series: WA 400 (Standard version)	20 540
WA 410 (Circulation version)	20 541
WA 420 (Low-pressure version)	20 542
WA 430 (Low-pressure and circulation version)	20 543
WA 470-K (Adhesive application version - standard)	20 580
WA 471-K (Adhesive application version - circulation)	20 581
WA 472-K (Adhesive application version - low-pressure)	20 582
WA 473-K (Adh. appl. vers. - low-pressure - circulation)	20 583

Manufacture: WALTHER Spritz-und Lackiersysteme GmbH
Kärntner Str. 18-30
D-42327 Wuppertal
Tel.: 00 49 202 / 787-0
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www.walther-pilot.de • Email: info@walther-pilot.de

1.2 Normal Use

The automatic spray guns PILOT WA 400, WA 410, WA 420, WA 430, WA 470-K, WA 471-K, WA 472-K and WA 473-K are exclusively designed for use with sprayable material types and grades. All material conduction parts are made of stainless steel so as to permit handling of hydrous and/or aggressive media such as:

- paints and lacquers
- greases, oils and corrosion preventives
- adhesive compounds
- ceramic glazes
- acidiferous media and
- pickling solutions

Should the materials which you want to spray not be listed above, please contact us for further and detailed information.

Please note that sprayable material may only be applied to work pieces and/or similar items.

The temperature of the spraying materials shall never exceed 80 degrees Celsius. The models PILOT WA 400 - WA 430 and the corresponding versions of adhesive coating PILOT WA 470-K - WA 473-K are not designed for manual operation, and must be installed in a suitable gun mounting device.

The term normal use also implies that any and all safety warnings, operational handling details, etc., as stated in these operating instructions, must be carefully read, understood and duly complied with.

This equipment complies with the explosion protection requirements of Directive 94/9/EC (ATEX 100a) 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 authorisation 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 PILOT 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

This spray gun shall not be used for purposes other than set forth in the above Chapter *Normal Use*. Any other form of use and/or application is prohibited.

Improper use is for example:

- spraying of material onto persons and animals
- spraying of liquid nitrogen, etc.

2 Technical Description

The models PILOT WA 400 - WA 430 and WA 470-K - WA 473-K are automatic air-controlled guns operating in combination with a 3/2-way control valve. Hand, foot or solenoid-actuated valves can be used.

Actuation of the 3/2-way valve directs control air into the cylinder inside the gun so as to open - in sequence - the atomizing air and the material input.

Closing of the 3/2-way valve is followed by the control air escaping from the cylinder inside the gun, upon which the spring-loaded material control needle returns to its initial position, where it shuts the material and atomizing air input off.

The material flow rate and the spray jet contour (flat/wide/round) are adjusted at the gun by way of regulating screws.

The material inlet duct of PILOT WA 400 - WA 430 and WA 470-K - WA 473-K can be opened manually so as to permit, for example, cleaning of a clogged material outlet nozzle.

The models PILOT WA 410 / 471-K and WA 430 / 473-K permit connection to circulation systems. Thus, several spray guns can be supplied with spraying material through the closed loop layout at the same time.

The spray guns PILOT WA 400 / 470-K and WA 420 / 472-K can be connected to material pressure tanks and pumping systems.

The models PILOT WA 420 / 472-K and WA 430 / 473-K are solely low-pressure spray guns and operate with a spraying pressure of 0.7 bar using an inlet pressure of 4.5 bar.

3 Safety Warnings

3.1 Safety Warning Symbols



Warning

This pictograph and the accompanying warning note „Warning“ indicate possible risks and dangers for yourself.

Possible consequences: Injuries of any kind.



Caution

This pictograph and the accompanying warning note „Caution“ indicate possible damage to equipment.

Possible consequences: Damage to equipment, workpieces, etc.



Notice

This pictograph and the accompanying note „Notice“ indicate additional and useful information to help you handling the spray gun with even greater confidence and efficiency.

3.2 Generally Applicable Safety Precautions

All applicable accident prevention rules and regulations as well as other recognised industrial safety and health rules and regulations must be observed at all times.

Use the spray gun only in well-ventilated rooms. Fire, naked flames and smoking are strictly prohibited within the working area. WARNING – during the spraying of flammable materials (e.g. lacquers, adhesives, cleaning agents, etc.), there is an increased risk to health as well as an increased risk of explosion and fire.

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 $10^6 \Omega$).

Before carrying out maintenance or servicing work, always ensure that the air and material feed to the spray gun have been de-pressurised. Risk of injury!

When spraying materials, do not place your hands or other parts of the body in front of the pressurised nozzle or the spray gun. Risk of injury!

Never point the spray gun at persons or animals. Risk of injury!

Always observe the spraying and safety instructions given by the manufacturers of the spraying material and the cleaning agent. Aggressive and corrosive materials in particular can be harmful to health.

Exhaust air containing particles (overspray) must be kept away from the working area and personnel. In spite of these measures, always wear the regulation breathing masks and protective overalls when using the gun. Airborne particles represent a serious health hazard!

Always wear hearing protection when using the gun or when in the vicinity of a gun that is in use. The noise level generated by the spray gun is approx. 85 dB (A).

After carrying out assembly or maintenance work, always ensure that all nuts, bolts and screw connections have been fully tightened before the gun is used.

Use only original replacement parts, since WALTHER can only guarantee safe and fault-free operation for original parts.

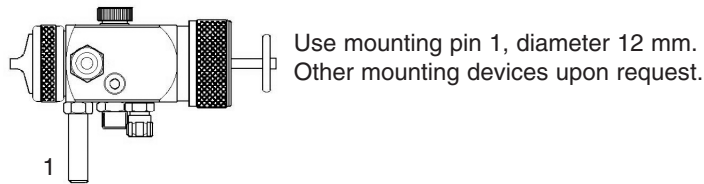
For further information on the safe use of the spray gun and the spraying materials, please contact WALTHER Spritz- und Lackiersysteme GmbH, D-42327 Wuppertal, Germany.

4 Assembly / Installation

This spray gun is delivered in completely assembled condition. Before taking the spray gun into operation perform the following preparations:

4.1 Mounting of Spray Gun

Install the gun in a suitable and stable mounting device as shown in the following example:

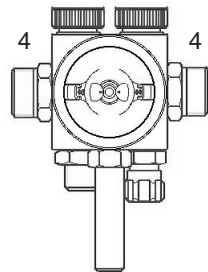
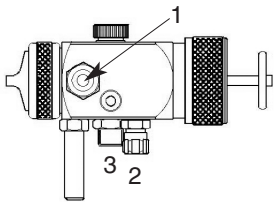


4.2 Connection of Input Lines



Warning

Make sure not to confuse the control and atomizing air connections -risk of injury.



1 = Material inlet fitting (G 1/4")

2 = Control air inlet fitting (G 1/8") marked with **ST**

3 = Atomizing air inlet fitting (G 1/4") marked with **Z**

4 = Material inlet fitting for the circulation versions PILOT WA 410 / 471-K and
WA 430 / 473-K

The spray gun is now properly installed and connected and ready for operation.

5 Operational Handling

5.1 Safety Warnings

Please pay special attention to the following safety warnings prior to taking this spray gun into operation!

- Wear proper respiratory protection masks and protective overalls, whenever you are operating this spray gun. Air-borne particles represent a health hazard.
- Make sure to wear suitable hearing protectors. The gun produces sound levels of up to 86 dB (A) which may cause hearing defects.
- Open fires, naked lights and smoking prohibited in the working area. Spraying of readily flammable media such as paints and adhesive compounds is always accompanied by the risk of fire and explosion.

5.2 Starting / Stopping Requirements

The following requirements must be met before taking this spray gun into operation:

- control air must be available at the gun.
- atomizing air must be available at the gun.
- material pressure must be available at the gun.



Caution

The material pressure shall not exceed

- 10 bar,

as, otherwise, the functional reliability of the spray gun will suffer.

Adjust the control air pressure to

- at least 4,5 bar, in order to operate the spray gun.

The operation of the spray gun can be started/stopped by way of the 3/2-way control valve (see the Operating Instructions of the plant systems manufacturer).



Warning

It is important to remember that the spray gun must be relieved of all pressures whenever work is terminated. Lines left in pressurized condition could burst, with their contents likely to injure anybody present nearby.

5.3 Spray Pattern Test

Spray pattern tests should be performed whenever:

- the spray gun is taken into operation for the first time.
- the spraying medium is changed.
- the spray gun was taken apart for servicing or repairs.

The spray pattern can be tested using a work piece sample, a sheet of metal, cardboard or paper.

**Warning**

Keep away from the front of the spray gun - imminent risk of injury.

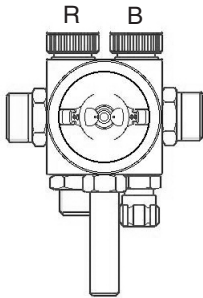
**Warning**

Make sure that nobody is present in the spraying zone when the gun is started - imminent Risk of Injury.

1. Start the gun to produce a spray pattern sample (see 5.2. *Starting/Stopping Requirements*).
2. Inspect the sample and readjust the settings of the gun as may be required (see 5.4 *Spray Pattern Adjustments*).

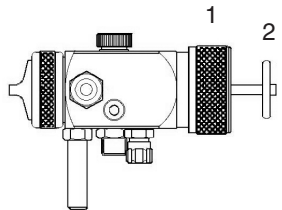
5.4 Spray Pattern Adjustments

The spray pattern of the PILOT WA 400 - WA 430 and the corresponding versions of adhesive coating PILOT WA 470-K - WA 473-K can be adjusted as follows:

Adjusting the jet pattern

An optimum spray pattern can be achieved by using control screws B and R.

The control screw R regulates the round jet, the control screw B regulates the wide/flat jet.

Adjustment of the material flow rate

Turn cap 1 from the standard position (= notch mark on the piston housing)

- to the inside in order to decrease the material flow rate.
- to the outside in order to increase the material flow rate.

The material flow through the nozzle can be performed without using atomizing air, when the drawbar 2 is used.

Adjustment of the Material Pressure

This adjustment can only be made at the pump or the material pressure tank. Please comply with the operating instructions and safety warnings issued by the manufacturers concerned.

Adjustment of the Atomizing Air Pressure

The atomizing air pressure is adjusted at the air pressure reducing valve of the compressor system. Please comply with the operating instructions and safety warnings issued by the manufacturer.

If you wish to change the spraying pattern beyond the adjustments outlined so far, you must retool the spray gun. (See 5.5 *Retooling of Spray Gun*).

WALTHER offers a great variety of air control head/-material control nozzle/needle combinations for this purpose.

Correcting of Spray Pattern Imperfections

The following table shows what to do to correct a spray pattern.



desireable spray-painting result

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

5.5 Retooling of Spray Gun

Combinations of air control head, material control nozzle and needle, designed to match specific spraying media types and grades, form a unit - namely the nozzle insert assembly. In order to maintain the desired spray-finish quality standard always replace the complete nozzle insert assembly.



Warning

Prior to retooling: Make sure that the spray gun is in unpressurized condition, i.e. all air and material inputs must be shut off - if not, imminent risk of injury.



Note

In order to perform the following procedures please use the drawing at the beginning of these operating instructions.

Replacement of Air Control Head

1. Unscrew the knurled air control head retaining ring (pos. 1) from the casing (pos. 6).
2. Pull the air control head (pos. 2) of the casing.
3. Position the required air control head on the casing.
4. Screw the air control head retaining ring in the casing.

Replacement of Material Control Nozzle and Needle

1. Remove the air control head (see 5.5 *Replacement of Air Control Head*)
2. Unscrew the material nozzle (pos. 3) from the casing. Remove the sealing washer (pos. 4) and the air distribution ring (pos. 5).
3. Unscrew the drawbar (pos. 33).
4. Unscrew the cap (pos. 32) from the casing.
5. Pull off the material control needle (pos. 25-29) from the casing.

Installation of the new nozzle insert assembly and the remaining parts is performed in the reverse order.

6 Cleaning

6.1 Safety Warnings

- Prior to any servicing and repair work: Make sure that the spray gun is in unpressurized condition, i.e. all air and material inputs must be shut off - if not, imminent risk of injury.
- No open fires, naked light and smoking allowed in the work area. When spraying readily flammable media such as cleaning solutions, there is an increased risk of fire and explosion.
- Observe the safety warnings issued by the manufacturer. Aggressive and corrosive media represents risks and hazards to personal health.

6.2 Cleaning - Complete

Regular cleaning and lubrication of the spray gun has to be performed, in order to increase the service life and the function of the spray gun.

Clean the gun only with cleaning solutions recommended by the manufacturer of the spraying material used at the time. It is important to make sure that cleaning solutions do not contain any of the following constituents:

- halogenated hydrocarbons
(e.g. 1,1,1-trichloroethane, methylene chloride, etc.)
- acids and acidiferous cleaning solutions
- regenerated solvents (so-called cleaning dilutions)
- paint removers.

The above constituents cause chemical reactions with the electroplated components resulting in corrosion damage.

WALTHER PILOT is not responsible for any damages resulting from such treatment.

Clean the spray gun

- prior to each change of the spraying medium.
- at least once a week.
- as often as may be required by the spraying medium handled and the resultant degree of fouling.



Caution

Never immerse the spray gun in solvent or any other cleaning solution. The functional reliability and efficiency of the gun can otherwise not be guaranteed.



Caution

Do not use any hard, pointed or sharp-edged objects when cleaning the spray gun. Any damage of the precision-made parts are likely to affect your spraying results.

1. Dismantle the spray gun in accordance with 5.5 *Replacement of Material Control Nozzle and Needle*.
2. Use a soft brush together with a compatible cleaning solution to clean the air control head and nozzle.
3. Clean the remaining parts and the spray gun body with a suitable cloth and cleaning solution.
4. Apply a thin film of the appropriate grease to the:
 - sealing collar of the piston
 - O-ring of the piston
 - material control needle
 - needle spring

Make sure to use a non-acidic, non-resinogenic grease and a soft brush.

6.3 Cleaning - Routine

The spray gun need not necessarily be dismantled for cleaning if and when the spraying medium is changed in regular intervals or upon termination of work (depending on the material used).



Note

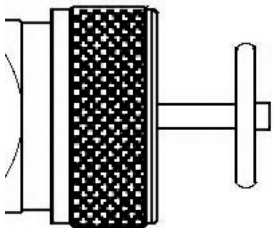
Clean and lubricate the spray gun frequently in accordance with Chapter 6.2 *Cleaning - Complete*. This will ensure functional reliability of the spray gun.

The following requirements must be met before the routine cleaning work can be performed:

1. The material tank must be cleaned and then be filled with a compatible cleaning solution. Material pressure has to be available at the spray gun.
The cleaning solution should not be sprayed.
2. Take the spray gun into operation (see 5.2 *Starting the Spray Gun*).
3. Do not stop the spray gun until clear cleaning solution emerges from the nozzle.

The material supply of the PILOT WA 400 - WA 430 and WA 470-K - WA 473-K can be manually released so that it is not necessary to operate the complete spraying system.

All pressures should then be removed from the complete spraying system until the next operation.



1. Pull back the draw bar of the spray gun.
The material inlet is now open and both material duct and material nozzle will be cleaned.
2. Do not let go of the drawbar until clear cleaning solution emerges from the nozzle.

7 Repairs / Replacements



Warning

Prior to any repairs / replacements: Make sure that the spray gun is in unpressurized condition, i.e. all air and material inputs must be shut off - if not, imminent risk of injury.



Note

Please use the drawing at the beginning of these operating instructions to perform the following procedures.

7.1 Replacement of defective Needle Seal Packings

1. Remove all pressures from the gun.
2. Unscrew the drawbar (pos. 33).
3. Unscrew the adjuster cap (pos. 32) from the casing (pos. 6).
4. Remove the threaded ring (pos. 31) from the casing.
5. Remove the piston spring.
6. Pull out the piston plus the material needle (pos. 25-29) from the casing.
7. Unscrew the packing screw (pos. 21).
8. Remove the packing spring (pos. 20) and the pressure ring (pos. 19).
9. Pull out the needle packing (pos. 18) with an auxiliary tool. Use a strong wire on which one end is bent making a small hook.
10. Lubricate the new needle seal packing with non-acidic, non-resinogenic grease.
11. Install the new needle seal packing into the casing.
Installation of the remaining parts in reverse order.



Note

Never reinstall a used needle seal packing (pos. 18) as otherwise the functional sealing reliability of the spray gun will suffer.

7.2 Replacement of Nozzles, Needles, Springs and Seals

Dismantle the spray gun in accordance with Chapter 5.5 *Replacement of Material Control Nozzle and Needle*, if the following components have to be replaced:

- Material Control Nozzle
- Piston Spring
- Material Control Needle*
- Needle Spring*
- Piston Sealing Collar*
- Piston O-Ring*



Note

Parts marked with * must be lubricated with non-acidic, non-resinogenic grease prior to installation.

WALTHER PILOT repair kits are available for PILOT WA 400 - WA 430 and the corresponding versions of adhesive coating PILOT WA 470-K - WA 473-K spray guns including all wearing parts:

Article No.: V 16 400 06 . . 3 (WA 400 / WA 410)

Article No.: V 16 420 03 . . 3 (WA 420 / WA 430)

Article No.: V 16 580 02 . . 3 (WA 470-K - WA 473-K)

Wearing parts are also shown in the listing of replacement parts (in bold face).

8 Troubleshooting and Corrective Action



Warning

Prior to any servicing and repair work: Make sure that the spray gun is in unpressurized condition, i.e. all air and material inputs must be shut off - if not, imminent risk of injury.

Fault	Cause	Remedy
Gun is dripping	Material control nozzle or needle fouled	see 5.5 Removing Material Control Nozzle or Needle and cleaning
	Material control nozzle or needle damaged	see 7.2 Replacing Material Control Nozzle or Needle
	Packing gland too tight	Loosen packing screw in (pos. 21) slightly with a screw driver
Gun fails to open	Control air pressure too low	Increase control air pressure to at least 4.5 bar
Material leaks from leakage boring	Needle seal packing leaks	see 7.1 Replacing Needle Seal Packing
	Packing gland too loose	Tighten packing screw in (pos. 21) slightly with a screwdriver
Spray jet pulsating or unsteady	Level in material tank too low	Top-up material level (see operating instructions of plant systems manufacturer)

9 Disposal of Cleaning / Servicing Substances

Disposal of any such substances must be in accordance with all applicable local and national regulations, directives and laws.



Warning

Pay special attention to all processing specifications and safety warnings issued by the manufacturers of spraying and cleaning media. The improper disposal of any toxic waste material represents a serious threat to the environment, i.e. to the health of mankind and animal life.

10 Specification Data

Nozzle Sizes: 0.5 - 0.8 - 1.0 - 1.2 - 1.4 - 1.5 - 1.8 - 2.0 - 2.2 - 2.5 mm \varnothing

Weight: 580 g

Connections:

Atomizing Air G 1/4 "
Control Air G 1/8 "
Material Inlet G 1/4 "

Pressure Ranges:

Control Air Pressure min. 4,5 bar
Material pressure max. 10 bar
Atomizing Air max. 8 bar

max. Operating Temperature of Spray gun 80 °C

Sound Level (measured at a distance of 1 m from the spray gun) 86 dB (A)

Air Consumption

Models PILOT WA 400 / 470-K and WA 410 / 471-K		Models PILOT WA 420 / 472-K and WA 430 / 473-K	
Air control head: twelve-bore version		Air control head: low-pressure	
Atomizing air pressure	Air consumption	Air input of the spray gun	Air consumption
1,0 bar	18.0 m ³ /h	1,0 bar	12.0 m ³ /h
2,0 bar	24.6 m ³ /h	2,0 bar	16.2 m ³ /h
3,0 bar	29.4 m ³ /h	3,0 bar	18.6 m ³ /h
4,0 bar	33.0 m ³ /h	4,0 bar	21.6 m ³ /h
5,0 bar	36.0 m ³ /h	4,5 bar	22.8 m³/h*
6,0 bar	39.0 m ³ /h	6,0 bar	26.4 m ³ /h

* The spraying pressure is 0.7 bar with an air input pressure of 4.5 bar.

Right to effect technical changes reserved.