

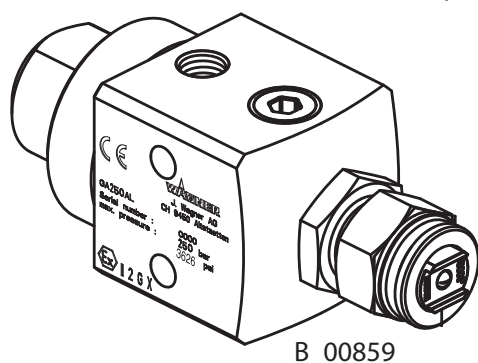


Translation of the original Operating manual

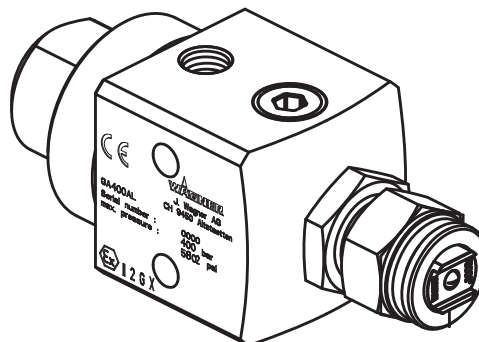
GA 250AL
GA 400AL

Edition 07 / 2005

Automatic Airless Spray gun



B_00859



B_00861



II 2GX (Atex 95)

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1 ABOUT THESE INSTRUCTIONS

This operating manual contains information on the operation, repair and maintenance of the unit.

→ Always observe these instructions when operating the unit.

This equipment can be dangerous if it is not operated in accordance with this manual.

Compliance with these instructions constitutes an integral component of the warranty agreement.

1.1 LANGUAGES

This operating manual is available in the following languages:

Language:	Part No.	Language:	Part No.
German	350939	English	350941
French	350946	Dutch	350947
Italian	350948	Spanish	350949
Danish	350951	Swedish	350950

1.2 WARNINGS, NOTES AND SYMBOLS IN THESE INSTRUCTIONS

Warning instructions in this manual point out particular dangers to users and equipment and state measures for avoiding the hazard.

These warning instructions fall into the following categories:

Danger - imminent danger. Non-observance will result in death, serious injury and serious material damage.

 SIHI_0100_GB	 DANGER
	This line warns of the hazard! Possible consequences of failing to observe the warning instructions. The signal word points out the hazard level. → The measures for preventing the hazard and its consequences.

Warning - possible danger. Non-observance can result in death, serious injury and serious material damage.

 SIHI_0103_GB	 WARNING
	This line warns of the hazard! Possible consequences of failing to observe the warning instructions. The signal word points out the hazard level. → The measures for preventing the hazard and its consequences.

Caution - a possibly hazardous situation. Non-observance can result in minor injury.

 SIHI_0101_GB	 CAUTION
	This line warns of the hazard! Possible consequences of failing to observe the warning instructions. The signal word points out the hazard level. → The measures for preventing the hazard and its consequences.

Caution - a possibly hazardous situation. Non-observance can cause material damage.

SIHI_0102_GB	CAUTION
This line warns of the hazard! Possible consequences of failing to observe the warning instructions. The signal word points out the hazard level. → The measures for preventing the hazard and its consequences.	

Note - provide information on particular characteristics and how to proceed.

2 GENERAL SAFETY INSTRUCTIONS

2.1 SAFETY INSTRUCTIONS FOR THE OPERATOR

- Keep these operating instructions to hand near the unit at all times.
- Always follow local regulations concerning occupational safety and accident prevention.



2.1.1 ELECTRICAL EQUIPMENT

Electrical plant and unit

- To be provided in accordance with the local safety requirements with regard to the operating mode and ambient influences.
- May only be maintained by skilled electricians or under their supervision.
- Must be operated in accordance with the safety regulations and electrotechnical regulations.
- Must be repaired immediately in the event of problems.
- Must be put out of operation if they pose a hazard.
- Must be de-energized before work is commenced on active parts. Inform staff about planned work, observe electrical safety regulations.

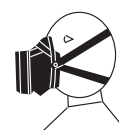


2.1.2 PERSONNEL QUALIFICATIONS

- Ensure that the unit is operated and repaired only by trained persons.

2.1.3 A SAFE WORK ENVIRONMENT

- Ensure that the floor of the working area is anti-static in accordance with EN 50053 Part 1, §7-2, measurement in accordance with DIN 51953.
- Ensure that all persons within the working area wear anti-static shoes, e.g. shoes with leather soles.
- Ensure that during spraying, persons wear anti-static gloves so that they are earthed via the handle of the spray gun.
- Customer to provide paint mist extraction systems conforming to local regulations.
- Ensure that the following components of a safe working environment are available:
 - Material/air hoses adapted to the working pressure
 - Personal safety equipment (breathing and skin protection)
- Ensure that there are no ignition sources such as naked flame, glowing wires or hot surfaces in the vicinity. Do not smoke.



2.2 SAFETY INSTRUCTIONS FOR STAFF

- Always follow the information in these instructions, particularly the general safety instructions and the warning instructions.
- Always follow local regulations concerning occupational safety and accident prevention.



2.2.1 SAFE HANDLING OF WAGNER SPRAY UNITS

The spray jet is under pressure and can cause dangerous injuries.

Avoid injection of paint or cleaning agents:

- Never point the spray gun at people.
- Never reach into the spray jet.
- Before all work on the unit, in the event of work interruptions and functional faults:
 - Switch off the energy/compressed air supply.
 - Secure the spray gun against actuation.
 - Relieve the pressure from the spray gun and unit.
 - By functional faults: Identify and correct the problem, proceed as described in chapter „Trouble shooting“.

In the event of skin injuries caused by paint or cleaning agents:

- Note down the paint or cleaning agent that you have been using.
- Consult a doctor immediately.

Avoid danger of injury through recoil forces:

- Ensure that you have a firm footing when operating the spray gun.
- Only hold the spray gun briefly in any one position.



2.2.2 EARTH THE UNIT

Electrostatic charges can occur on the unit due to the electrostatic charge and the flow speed involved in spraying. These can cause sparks and flames upon discharge.

- Ensure that the unit is always earthed.
- Earth the work pieces to be coated.
- Ensure that all persons inside the working area are earthed, e.g. that they are wearing antistatic shoes.
- When spraying, wear antistatic gloves to earth yourself via the spray gun handle.



2.2.3 MATERIAL HOSES

- Ensure that the hose material is chemically resistant to the sprayed materials.
- Ensure that the material hose is suitable for the pressure generated in the unit.
- Ensure that the following information is visible on the high pressure hose:
 - Manufacturer
 - Permissible operating overpressure
 - Date of manufacture.
- The electrical resistance of the complete high pressure hose must be less than 1 MOhm.



2.2.4 CLEANING

- De-energize the unit electrically.
- Disconnect the pneumatic supply line.
- Relieve the pressure from the unit.
- Ensure that the flash point of the cleaning agent is at least 5 K above the ambient temperature.
- To clean, use only solvent-free cloths and brushes. Never use hard objects or spray on cleaning agents with a gun.

An explosive gas/air mixture forms in closed containers.

- When cleaning units with solvents, never spray into a closed container.
- Earth the container.



2.2.5 HANDLING HAZARDOUS LIQUIDS, VARNISHES AND PAINTS

- When preparing or working with paint and when cleaning the unit, follow the working instructions of the manufacturer of the paints, solvents and cleaning agents being used.
- Take the specified protective measures, in particular wear safety goggles, protective clothing and gloves, as well as hand protection cream if necessary.
- Use a mask or breathing apparatus if necessary.
- For sufficient health and environmental safety: Operate the unit in a spray booth or on a spraying wall with the ventilation (extraction) switched on.
- Wear suitable protective clothing when working with hot materials.



2.2.6 TOUCHING HOT SURFACES

- Touch hot surfaces only if you are wearing protective gloves.
- When operating the unit with a coating material with a temperature of $> 43\text{ }^{\circ}\text{C}$; $109.4\text{ }^{\circ}\text{F}$:
 - Identify the unit with a warning label that says „Warning - hot surface“.



Order No.

9998910 Information label

9998911 Safety label

2.3 CORRECT USE

WAGNER accepts no liability for any damage arising from incorrect use.

- Use the unit only to work with the materials recommended by WAGNER.
- Operate the unit only as an entire unit.
- Do not deactivate safety equipment.
- Use only WAGNER original spare parts and accessories.



2.4 USE IN AN EXPLOSION HAZARD AREA

2.4.1 CORRECT USE

The unit is suitable for working liquid materials in accordance with the classification into explosion classes.

2.4.2 EXPLOSION PROTECTION IDENTIFICATION

As defined in the Directive 94/9/CE (ATEX 95), the unit is suitable for use in areas where there is an explosion hazard.



CE  II 2G X

- CE: Communautés Européennes
Ex: Symbol for explosion protection
II: Unit class II
2: Category 2 (Zone 1)
G: Ex-atmosphere gas
X: See: "Special Notes" in the operating manual

2.4.2 MAX. SURFACE TEMPERATURE

The unit's maximum surface temperature depends on the temperature of the coating material.

The unit is suitable for coating materials with a max. temperature of 80 °C; 176 °F.

Ambient temperature

Permissible ambient temperature +5 °C to +40 °C; +41 °F to +104 °F.

2.4.4 SAFETY INSTRUCTIONS

Safe handling of WAGNER spray units

Mechanical sparks can form if the unit comes into contact with metal.

In an explosive atmosphere:

- Do not knock or push the unit against steel or rusty iron.
- Do not drop the spray gun.
- Use only tools that are made of a permitted material.

Ignition temperature of the coating material

- Ensure that the ignition temperature of the coating material is above the maximum surface temperature.

Medium supporting atomizing

- To atomize the material, use only weakly oxidizing gases, e.g. air.

Cleaning

If there are deposits on the surfaces, the unit may form electrostatic charges. Flames or sparks can form if there is a discharge.

- Remove deposits from the surfaces to maintain conductivity.

3 GUARANTEE AND CONFORMITY DECLARATIONS

3.1 IMPORTANT NOTES ON PRODUCT LIABILITY

As a result of an EC regulation, effective as from January 1, 1990, the manufacturer shall only be liable for his product if all parts come from him or are approved by him, and if the devices are properly fitted, operated and maintained.

If other makes of accessory and spare parts are used, the manufacturer's liability could be fully or partially null and void.

The usage of original WAGNER accessories and spare parts guarantees that all safety regulations are observed.

3.2 GUARANTEE CLAIM

Full guarantee is provided for this device:

We will at our discretion repair or replace free of charge all parts which within 24 months in single-shift, 12 months in 2-shift or 6 months in 3-shift operation from date of receipt by the Purchaser are found to be wholly or substantially unusable due to causes prior to the sale, in particular faulty design, defective materials or poor workmanship.

The type of guarantee provided is such that the device or individual components of the device are either replaced or repaired as we think fit. The resulting costs, in particular shipping charges, road tolls, labour and material costs will be borne by us except where these costs are increased due to the subsequent shipment of the unit to a location other than the address of the purchaser.

We do not provide guarantee for damage that has been caused or contributed to for the following reasons:

Unsuitable or improper use, faulty installation or commissioning by the purchaser or a third party, normal wear, negligent handling, defective maintenance, unsuitable coating products, substitute materials and the action of chemical, electro chemical or electrical agents, except when the damage is attributable to us.

Abrasive coating products such as red lead, emulsions, glazes, liquid abrasives, zinc dust paints and similar reduce the service life of valves, packings, spray guns, tips, cylinders, pistons etc. Signs of wear and tear due to such causes are not covered by this guarantee.

Components that have not been manufactured by WAGNER are subject to the original guarantee of the manufacturer.

Replacement of a component does not extend the period of guarantee of the device.

The unit should be inspected immediately upon receipt. To avoid losing the guarantee, we or the supplier company are to be informed in writing about obvious faults within 14 days upon receipt of the device.

We reserve the right to have the guarantee compliance met by a contracting company.

The services provided by this guarantee depend on evidence being provided in the form of an invoice or delivery note. If an examination discovers that no guarantee claim exists, the costs of repairs are charged to the purchaser.

It is clearly stipulated that this guarantee claim does not represent any constraint to statutory regulations or regulations agreed contractually in our general terms and conditions.

J. Wagner AG

3.3 CE-CONFORMITY



Herewith we declare that the supplied version of

350032 Automatic spray gun GA 400AL

350033 Automatic spray gun GA 250AL

Complies with the following guidelines:

98/37/EG

94/9/EG

Applied standards, in particular:

EN 292-1 EN 1050

EN 292-2 EN 1953

EN 563 EN 13463

Applied national technical standards and specifications, in particular:

BGV D 15 BGR 104

BGV D 25 BGR 132

Marking:



CE Certificate of Conformity

The certificate is enclosed with this product. The certificate of conformity can be reordered from your WAGNER representative, quoting the product and serial number.

Part number:

GA 250AL, GA 400AL 350907

3.4 GERMAN REGULATIONS AND GUIDELINES

- a) BGR 500 Part 2, Chap. 2.36 Working with liquid ejection devices
- b) BGR 500 Part 2, Chap. 2.29 Using coating materials
- c) CHV 9 Regulations on flammable liquids
- d) BGR 104 Explosion protection rules
- e) BGR 132 Avoiding ignition risks
- f) BGR 180 Setting up for cleaning with solvents for cleaning workpieces with solvents
- g) ZH 1/406 Guidelines for liquid ejection devices
- h) BGI 740 Painting rooms and equipment

Note: All titles can be ordered from Heymanns Publishing House in Cologne, or they are to be found in the Internet.

4 DESCRIPTION

4.1 TYPICAL APPLICATIONS, USING IN ACCORDANCE WITH THE INSTRUCTIONS

The gun is suitable for atomising liquid materials, particularly coating materials, using the Airless-process.

4.1.1 WHAT KIND OF SPRAY MATERIAL CAN BE APPLIED?

- Top-coat paints, primer paints, corrosion protection solvents, textured paints, lyes, staining solvents, clear paints, parting solvents, etc. on a solvent or water basis.
As well as
- High viscosity materials, i.e. special paints, undercoating sealers, thick oil, adhesives etc.

Note

In the event of application problems, contact your WAGNER branch and the paint manufacturer.

4.2 SCOPE OF SUPPLY

4.2.1 TYPE DESIGNATION

GA XXX AL

① ② ③

- ① GA = Automatic gun
- ② 250 = Gun type 5 MPa; 250 bar; 23626 psi
400 = Gun type 40 MPa; 400 bar; 5802 psi
- ③ AL = Airless spraying system

Part No.	Description
350032	Automatic gun GA 400AL
350080	Automatic gun GA 400AL USA
350033	Automatic gun GA 250AL
350081	Automatic gun GA 250AL USA

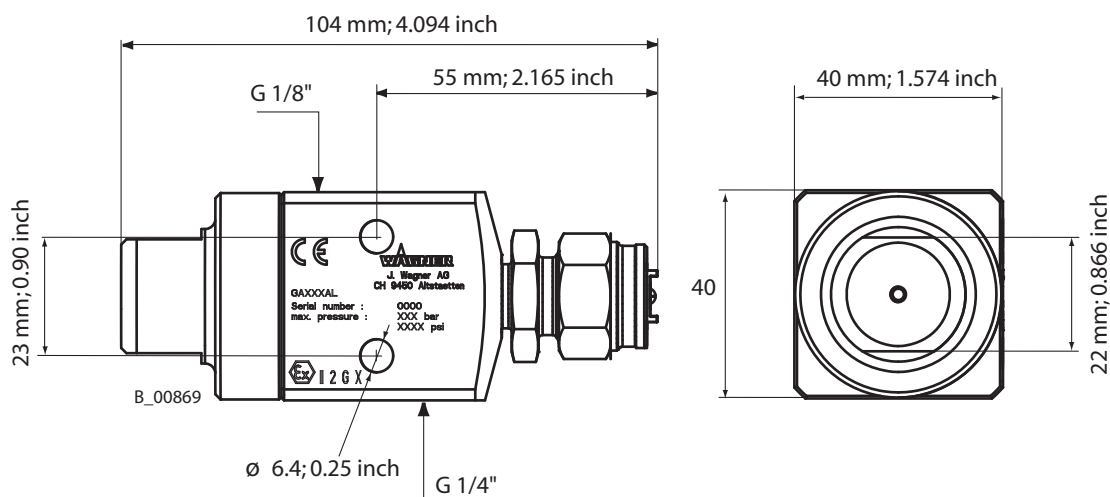
The standard equipment includes:

Quantity				Part No.	Description
350032	350080	350033	350081		Automatic gun GA 400AL Automatic gun GA 250AL
1	1	1	1	350907	CE-Declaration of Conformity
1	-	1	-	350939	Operating manual German
-	1	-	1	350941	Operating manual English
1	1	1	1	See 1.0	An operating manual in the local language

For special versions the delivery note applies.

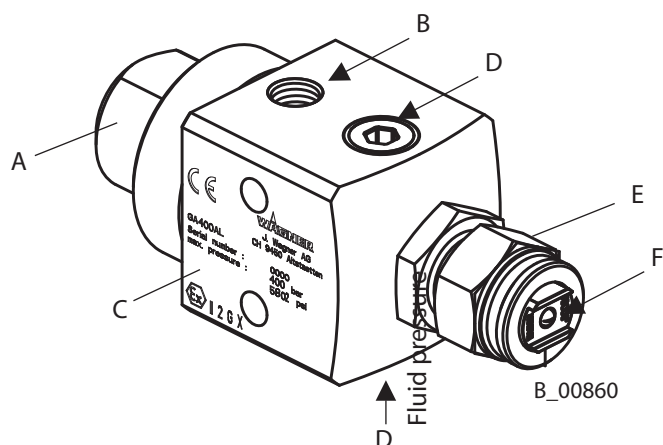
4.3 DATA

	GA 250AL	GA 400AL
Maxi. material pressure	25 MPa	40 MPa
	3626 psi	5802 psi
	250 bar	400 bar
Control air pressure	0.45 - 0.8 MPa	
	65 - 116 psi	
	4.5 - 8 bar	
Paint connection (internal thread)	G 1/4" (2x)	
Control air connection (internal thread)	G 1/8"	
Weight	545 g	
Maxi. temperature material	60 °C; 140 °F	
Working temperature range	+5 - +40 °C; +41 - +104 °F	
Sound power at 4 bar; 0.4 MPa; 58 psi air pressure (depending on nozzle used)	84 dB(A)	

Dimensions

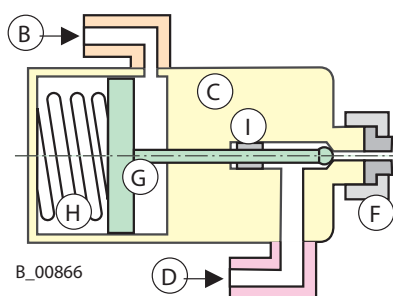
4.4 FUNCTION OF SPRAY GUN

4.4.1 DESIGN OF SPRAY GUN



Tension cap	A
Control air connection	B
Housing	C
Paint connection	D
Nozzle nut	E
Flat jet nozzle	F
Valve stem, see chapter 4.4.2	G
Compression spring, see chapter 4.4.2	H

4.4.2 FUNCTIONAL DESCRIPTION

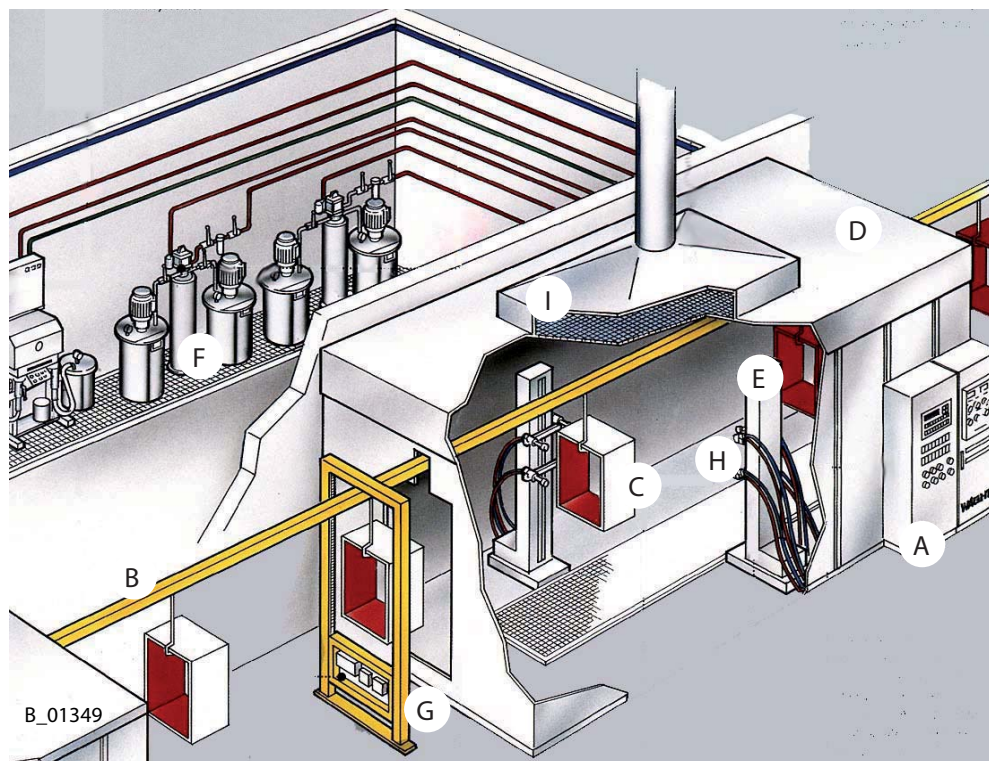


- The automatic gun GA 250AL or GA 400AL is controlled by way of the control air (B).
- The control piston on the valve stem in the housing (C) of the spray gun GA 250AL or GA 400AL has pressure applied to it and thereby opens the paint duct to the flat jet nozzle (F).
- Closure takes place with the compression spring (H) after the pressure drop of the control air (B) valve.
- The set of seals (I) prevents that material can flow into the housing (C).
- Secure the gun: Remove the air hose from the control air connection (B) on the spray gun.

5 STARTING UP AND OPERATION

5.1 SET UP AND CONNECT

5.1.1 TYPICAL AUTOMATIC SPRAYING SYSTEM



Description	
Control cabinet	A
Conveyer	B
Object	C
Spraying booth	D
Movement device system	E
Paint supply system	F
Part identification	G
Spray guns	H
Gasper air system and exhaust air system	I

The spray gun must be used a part of an Airless spraying system. The Airless system shown in the figure is only one example. Contact your WAGNER distributor for assistance in designing a system to meet your needs.

The operating instructions and the safety regulations for the additional system components used must be read before starting-up

5.1.2 VENTILATION OF THE SPRAY BOOTH

	! WARNING Toxic and/or flammable vapor mixtures! Risk of poisoning and burns → Operate the unit in a spraying booth approved for the working materials. -or- → Operate the unit on an appropriate spraying wall with the ventilation (extraction) switched on. → Observe national and local regulations for the outgoing air speed.
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SIHI_0028_GB

5.1.3 FLUID (PAINT) HOSES

CAUTION Impurities in the spraying system! Spray gun blockage, materials harden in the spraying system → Flush the spray gun and paint supply with a suitable cleaning agent.
--

SIHI_0001_GB

	! DANGER Bursting hose, bursting threaded joints! Danger to life from injection of material → Ensure that the hose material is chemically resistant. → Ensure that the spray gun, threaded joints and material hose between the unit and the spray gun is suitable for the pressure generated in the unit. → Ensure that the following information can be seen on the high pressure hose: - Manufacturer - Permissible operating pressure - Date of manufacture.
---	---

SIHI_0029_GB

5.1.4 EARTHING THE SYSTEM

	! WARNING Discharge of electrostatically charged components in atmospheres containing solvents! Explosion hazard from electrostatic sparks or flames → Earth all unit components. → Earth the workpieces being painted.
---	--

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	! WARNING Heavy paint mist if earthing is insufficient! Risk of poisoning Insufficient paint application quality → Earth all unit components. → Earth the workpieces being painted.
---	--

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Any material containers and the unit must be connected by a potential equalisation (earth) cable.

5.2 PREPARATION OF PAINT

The viscosity of the paints is of great importance. The best results are obtained with paints between 80 and 150 mPas. In most cases, the application of paints of up to 260 mPas for thick layers does not cause problems.

In the case of application problems contact the paint producer.

5.2.1 VISCOSITY CONVERSION TABLE

milli Pascal x Sec mPas	Centipoise	Poise	DIN Cup 4 mm ; 0.16 inch	Ford Cup 4	Zahn 2
10	10	0.1		5	16
15	15	0.15		8	17
20	20	0.2		10	18
25	25	0.25	14	12	19
30	30	0.3	15	14	20
40	40	0.4	17	18	22
50	50	0.5	19	22	24
60	60	0.6	21	26	27
70	70	0.7	23	28	30
80	80	0.8	25	31	34
90	90	0.9	28	32	37
100	100	1	30	34	41
120	120	1.2	33	41	49
140	140	1.4	37	45	58
160	160	1.6	43	50	66
180	180	1.8	46	54	74
200	200	2	49	58	82
220	220	2.2	52	62	
240	240	2.4	56	65	
260	260	2.6	62	68	
280	280	2.8	65	70	
300	300	3	70	74	
320	320	3.2			
340	340	3.4			
360	360	3.6	80		
380	380	3.8			
400	400	4	90		

5.3 START-UP**5.3.1 GENERAL RULES FOR HANDLING THE SPRAY GUN**

	 WARNING
	Unintentional putting into operation! Risk of injury Before all work on the unit, in the event of work interruptions and functional faults: → Switch off the energy/compressed air supply. → Relieve the pressure from the spray gun and unit. → Secure the spray gun against actuation. → By functional faults: Identify and correct the problem, proceed as described in chap. „Trouble shooting“.

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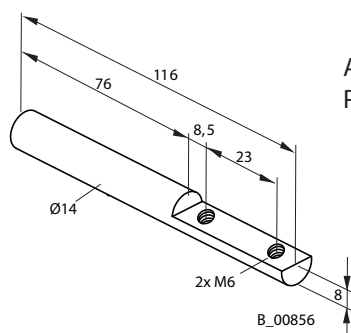
→ See Safety regulations in Chapter 2

5.3.2 PREPARATION

CAUTION
Valve does not open or opens only with only limited access! Increased wear on the valve seat and needle. → Use only compression spring for 250 bar; 25 MPa; 3626 psi (order no. 350498). The compression spring is marked red. → Never use a compression spring for 400 bar; 40 MPa; 5800 psi (order no. 350482).

SIHI_0040_GB

- Mount the spray gun on the automatic movement system.
- Connect material hose to the spray gun and the paint pump.
- Select and mount the required nozzle.
- Connect the air hose $\varnothing$ 6 mm; 0.24 inch / $\varnothing$ 4 mm; 0.16 inch for the control air to the air connection of the spray gun.
- Visually check the permissible pressures for all the system components.
- Make sure that the spraying unit and all other conductive parts within the work area are earthed
- Set material pressure approx. 250 bar; 25 MPa; 3626 psi or 400 bar; 40 MPa; 5800 psi and use a suitable medium (solvent or water) to check that connections do not leak.
- Relieve spray gun and unit pressure.



Accessories Suspension bolt
Part-No. 350480

5.4 WORK

5.4.1 START-UP FOR AIRLESS SPRAYING

1. Switch on the material supply (adjust from approx. 15 MPa; 150 bar; 2175 psi), and the control unit.
2. Spray on a test object.
3. Adjust the spray pressure and atomizing air in accordance with the nozzle and object.

Note:

The paint output volume can be changed by:

- Changing the material pressure.
- or
- Fitting another flat jet nozzle. See accessories.

5.4.2 REPLACING THE AIRLESS FLAT JET NOZZLE

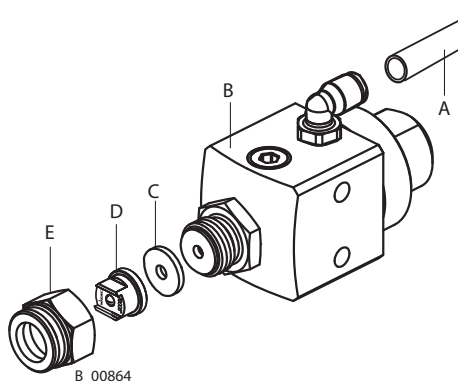
1. Replace material with cleaning agent and flush the spray gun.
2. Relieve spray gun and unit pressure.
3. Secure the gun. (Remove the control air hose)
4. Unscrew the nozzle nut (E) and remove the flat jet nozzle (D).

Note:

Ensure that the seal (C) is not lost.

Mounting:

5. Insert a cleaned or new nozzle into the nozzle nut (E).
6. Insert the seal (C) into the nozzle nut.
7. Put the nozzle nut, together with the nozzle and seal, onto the gun and tighten it gently.
8. Turn the nozzle (D) so that it corresponds to the required spray pattern.
9. Tighten the nozzle nut (E).
10. Reconnect the control air hose (A).



5.4.3 CLEANING THE AIRLESS FLAT JET NOZZLE

The Airless flat jet nozzle (D) can be put into a cleaning solvent recommended by the paint manufacturer.

Attention

Do not handle the flat jet nozzle with sharp-edged objects.

6 MAINTENANCE

→ See Safety regulations in Chapter 2.

CAUTION

Impurities in the spraying system!

Spray gun blockage, materials harden in the spraying system

→ Flush the spray gun and paint supply with a suitable cleaning agent.

SIHI_0001_GB

The cleaning solvent used for this must be suitable for the spray material.

CAUTION

Cleaning agent in the air duct!

Functional faults caused by swollen seals

→ Never immerse the spray gun in cleaning agent.

SIHI_0066_GB



WARNING

Incorrect maintenance/repair!

Risk of injury and damage to the equipment

- Repairs and part replacement may only be carried out by specially trained staff or a WAGNER service center.
- Before all work on the unit and in the event of work interruptions:
 - Switch off the energy/compressed air supply.
 - Relieve the pressure from the spray gun and unit.
 - Secure the spray gun against actuation.
- Observe the operating and service instructions when carrying out all work.

SIHI_0004_GB

6.1 FINISHING WORK AND CLEANING

	! DANGER Exploding gas/ air mixture! Danger to life from flying parts and burns → Never spray into a closed container. → Earth the container.
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SIHI_0008_GB

1. Ensure that the material pressure has been relieved and interrupt the air supply to the gun.
2. Connect the cleaning solvent supply.
3. Detach the Airless nozzle and clean separately (see Paragraph 5.4.3)
4. Connect the air supply and thoroughly rinse the gun.
5. Relieve spray gun and unit pressure.
6. Clean body of the gun with solvent recommended by the manufacturer and dry with a cloth or blow gun.

6.2 REPLACING THE VALVE STEM

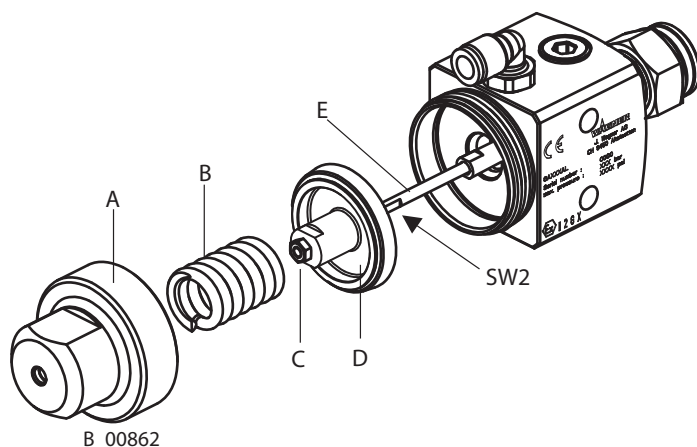
6.2.1 REPLACING THE VALVE STEM

1. Put out of operation and clean.
2. Unscrew the tension cap (A) and remove the compression spring (B).
3. Carefully pull out the valve stem (E) with the piston (D) until the flats of the valve stem are visible.
4. Hold the valve stem (E) with a spanner AF2 and unscrew nut (C).
5. Remove piston (D) from the valve stem (E).
6. With a spanner AF5 unscrew sealing screw (F) completely.
7. Pull out valve stem (E) including the sealing screw (F), the packing (G), the thrust piece (H), the disc spring set (I) (6 pieces), and the pressure ring (K).

Note:

If parts are caught in the hole, the nozzle (M) and the valve seat assy. (L) have to be unscrewed. The parts can be pushed out with a rod of max. $\varnothing$ 4.5 mm; 1.78 inch.

8. Exchange worn parts.



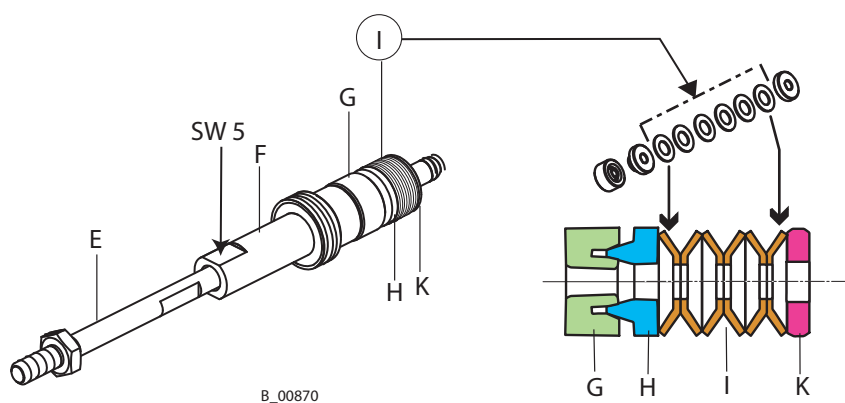
6.2.2 REASSEMBLING THE VALVE STEM AND THE SPRAY GUN

1. Place the sealing screw (F), the packing (G), the thrust piece (H), the disc spring set (6 pieces) (I), and the pressure ring (K) on the valve stem (E).

Note:

The disc springs (I) have to be arranged correctly

2. Insert the premounted valve stem into the housing.
3. Sealing screw (F) screw in and only so far carefully pull tight, until when shifting the valve rod (E) a lighter resistance is noticeable.
4. Fit the piston (D), the compression spring (B), and the tension cap (A) in revers order acc. paragraph 6.2.1, step 5 to 2.



7 TROUBLESHOOTING AND SOLUTIONS

Problem	Cause	Solution
Paint output too low	• Nozzle too small	• Select larger nozzle (see chapter. 8.1)
	• Paint pressure too low	• Adjust material pressure required.
	• Nozzle blocked	• Clean nozzle (see chapter 5.0)
	• High-pressure filter of pump blocked	• Clean or replace filter
Poor quality spray pattern	• Nozzle damaged	• Replace the nozzle
	• Nozzle too large	• Select smaller nozzle (see chapter 8.1)
	• Paint pressure too low	• Increase pressure
	• Material viscosity too high	• Thin material acc. to manufacturer's instruction.
	• Nozzle partially blocked	• Clean the nozzle (see chapter 5.4.3)
Valve stem leaks	• Packing worn	• Sealing screw re tighten
		• Replace the packing on the valve stem (see chapter 6.2)
	• Valve stem damaged	• Replace valve stem
Spray gun will not shut-off correctly, dripping	• Valve seat or valve ball is worn out	• Check valve stem and flat jet nozzle and replace the worn part.
	• Packing screw too tight	• Check tightness, if required loosen, then re tighten according to chapter 6.2.2

8 ACCESSORIES

8.1 AIRLESS FLAT JET NOZZLES

Part-No.	Nozzle-marking	Spray angle	Diameter of bore inch; mm	Spraywidth mm; inch	Applications  B_00857
90407	407	40 °	0.007; 0.18	163; 6.42	Natural paint Transparent lacquer Oil
90507	507	50 °	0.007; 0.18	190; 7.48	
90209	209	20 °	0.009; 0.23	148; 5.83	
90309	309	30 °	0.009; 0.23	158; 6.22	
90409	409	40 °	0.009; 0.23	198; 7.79	
90509	509	50 °	0.009; 0.23	215; 8.46	
90609	609	60 °	0.009; 0.23	225; 8.85	
90111	111	10 °	0.011; 0.28	87; 3.42	Synthetic resin paint PVC paint
90211	211	20 °	0.011; 0.28	93; 3.66	
90311	311	30 °	0.011; 0.28	127; 5.0	
90411	411	40 °	0.011; 0.28	210; 8.23	
90511	511	50 °	0.011; 0.28	225; 8.85	
90611	611	60 °	0.011; 0.28	270; 10.63	
90113	113	10 °	0.013; 0.33	103; 4.05	Paint Undercoat Zinc chromate primer Priming paint, Filler
90213	213	20 °	0.013; 0.33	107; 4.21	
90313	313	30 °	0.013; 0.33	142; 5.59	
90413	413	40 °	0.013; 0.33	207; 8.15	
90513	513	50 °	0.013; 0.33	255; 10.04	
90613	613	60 °	0.013; 0.33	282; 11.10	
90813	813	80 °	0.013; 0.33	375; 14.76	
90115	115	10 °	0.015; 0.38	98; 3.86	Filler Spray primer Rustproofing paint
90215	215	20 °	0.015; 0.38	100; 3.94	
90315	315	30 °	0.015; 0.38	162; 6.38	
90415	415	40 °	0.015; 0.38	202; 7.95	
90515	515	50 °	0.015; 0.38	252; 9.92	
90615	615	60 °	0.015; 0.38	268; 10.55	
90715	715	70 °	0.015; 0.38	295; 11.61	
90815	815	80 °	0.015; 0.38	395; 15.55	

Airless flat jet nozzles

Part-No.	Nozzle-marking	Spray angle	Diameter of bore inch; mm	Spraywidth mm; inch	Applications  B_00857
90217	217	20 °	0.017; 0.43	117; 4.60	Spray primer Rustproofing paint Minium Latex paint
90317	317	30 °	0.017; 0.43	153; 6.02	
90417	417	40 °	0.017; 0.43	190; 7.48	
90517	517	50 °	0.017; 0.43	235; 9.25	
90617	617	60 °	0.017; 0.43	283; 11.14	
90717	717	70 °	0.017; 0.43	342; 13.46	
90219	219	20 °	0.019; 0.48	147; 5.79	
90319	319	30 °	0.019; 0.48	168; 6.61	
90419	419	40 °	0.019; 0.48	192; 7.56	
90519	519	50 °	0.019; 0.48	272; 10.71	
90619	619	60 °	0.019; 0.48	315; 12.40	
90719	719	70 °	0.019; 0.48	330; 12.99	
90819	819	80 °	0.019; 0.48	402; 15.83	
90221	221	20 °	0.021; 0.53	148; 5.83	Mica paint Zinc dust coating Dispersions
90421	421	40 °	0.021; 0.53	183; 7.20	
90521	521	50 °	0.021; 0.53	252; 9.92	
90621	621	60 °	0.021; 0.53	313; 12.32	
90821	821	80 °	0.021; 0.53	380; 14.96	
90223	223	20 °	0.023; 0.58	130; 5.12	Rustproofing paint
90423	423	40 °	0.023; 0.58	185; 7.28	
90523	523	50 °	0.023; 0.58	253; 9.96	
90623	623	60 °	0.023; 0.58	298; 11.73	
90723	723	70 °	0.023; 0.58	340; 13.38	
90823	823	80 °	0.023; 0.58	355; 13.98	

Airless flat jet nozzles

Part-No.	Nozzle-marking	Spray angle	Diameter of bore inch; mm	Spraywidth mm; inch	Applications  B_00857
90225	225	20 °	0.025; 0.64	133; 5.24	Dispersions Dispersion paint Distemper paint Filler paint
90425	425	40 °	0.025; 0.64	198; 7.79	
90525	525	50 °	0.025; 0.64	250; 9.84	
90625	625	60 °	0.025; 0.64	265; 10.43	
90825	825	80 °	0.025; 0.64	360; 14.17	
90227	227	20 °	0.027; 0.69	143; 5.63	
90427	427	40 °	0.027; 0.69	222; 8.74	
90527	527	50 °	0.027; 0.69	233; 9.17	
90627	627	60 °	0.027; 0.69	270; 10.93	
90827	827	80 °	0.027; 0.69	353; 13.90	
90629	629	60 °	0.029; 0.75	288; 11.34	
90231	231	20 °	0.031; 0.79	130; 5.12	
90431	431	40 °	0.031; 0.79	220; 8.66	
90531	531	50 °	0.031; 0.79	223; 8.78	
90631	631	60 °	0.031; 0.79	273; 10.75	
90433	433	40 °	0.033; 0.84	220; 8.66	
90235	235	20 °	0.035; 0.90	120; 4.72	
90435	435	40 °	0.035; 0.90	220; 8.66	
90535	535	50 °	0.035; 0.90	270; 10.93	
90635	635	60 °	0.035; 0.90	310; 12.20	
90839	839	80 °	0.039/ 0.99	480; 18.90	
90243	243	20 °	0.043; 1.10	165; 6.50	Large-area paintwork
90543	543	50 °	0.043; 1.10	260; 10.24	
90552	552	50 °	0.052; 1.30	280; 11.02	

8.2 HOSES

Part No.	Description
9981939	Air hose, polyamide red 6/4 mm; 0.24/0.16 inch (Length given in meters)
9987008	HP-hose DN10, 15 m; 49.21 ft; 530 bar; 53 MPa; 7687 psi, M16x1.5
9984431	HP-hose DN10, 10 m; 32.81 ft, 530 bar; 53 MPa; 7687 psi, M16x1.5
9984420	HP-hose DN6, 10 m; 32.81 ft, 530 bar; 53 MPa; 7687 psi, M16x1.5
9984421	HP-hose NPS 1/4", DN6-ND 530 bar; 53 MPa; 7687 psi, 10 m; 32.81 ft
9987118	HP-hose NPS 3/8", DN10-ND 530 bar; 53 MPa; 7687 psi, 15 m; 49.21 ft

8.3 MISCELLANEOUS

Part No.	Description
0350480	Suspension bolt for spray gun mounting
0350499	Double nipple G1/4"-M16x1.5 for paint connection
9998110	Coupling L 1/8" -D6 for control air connection
0350883	Service-Set for spray gun
0350550	Double nipple G1/4"-NPS1/4" for paint connection
0367560	Double nipple NPS1/4"-NPS1/4"
0367561	Double nipple NPS3/8"-NPS1/4"

9 SPARE PARTS

9.1 HOW TO ORDER SPARE PARTS?

Always supply the following information to ensure delivery of the right spare part:

Part Number, description and quantity

The quantity need not be the same as the number given in the „Quantity“ column. This number merely indicates how many of the respective parts are used in each subassembly.

The following information is also required to ensure smooth processing of your order:

- Address for the invoice
- Address for delivery
- Name of the person to be contacted in the event of any queries
- Type of delivery required (air freight or mail, sea route or overland route, etc.)

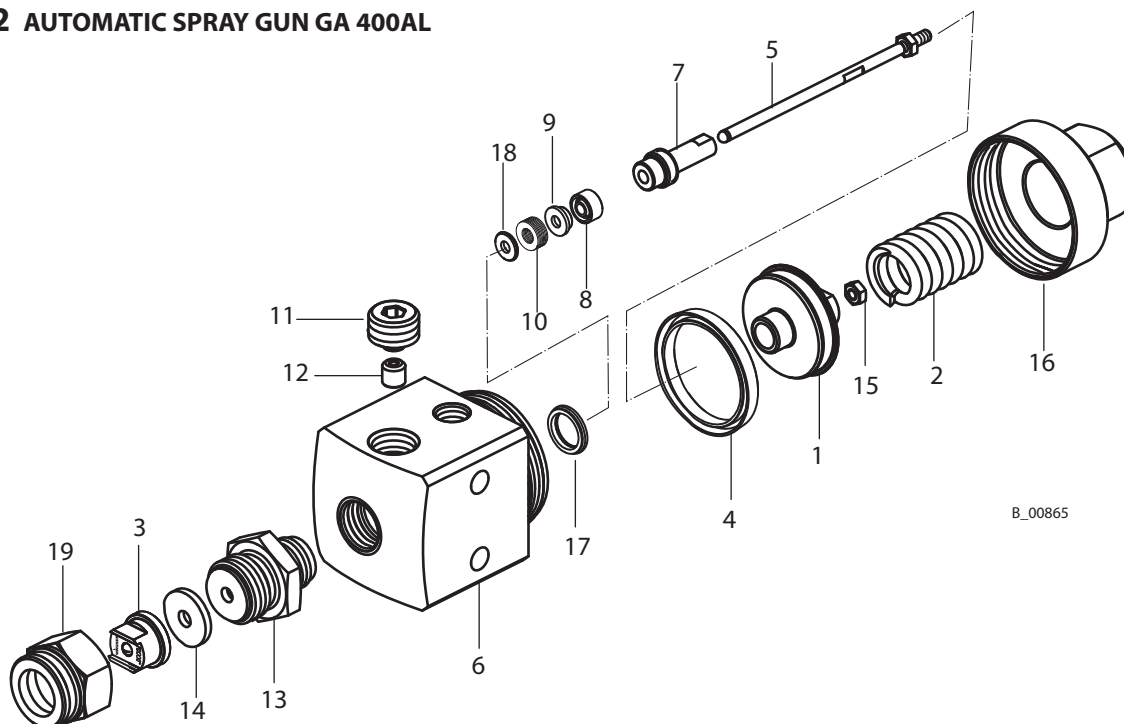
Marks in spare parts lists

Note to column „K“ in the following spare parts lists.

- ◆ = Wearing parts
Note: No liability is assumed for wearing parts
- = Not part of standard equipment, available, however, as additional extra.

	 WARNING
	Incorrect maintenance/repair! Risk of injury and damage to the equipment → Repairs and part replacement may only be carried out by specially trained staff or a WAGNER service center. → Before all work on the unit and in the event of work interruptions: - Switch off the energy/compressed air supply. - Relieve the pressure from the spray gun and unit. - Secure the spray gun against actuation. → Observe the operating and service instructions when carrying out all work.

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9.2 AUTOMATIC SPRAY GUN GA 400AL

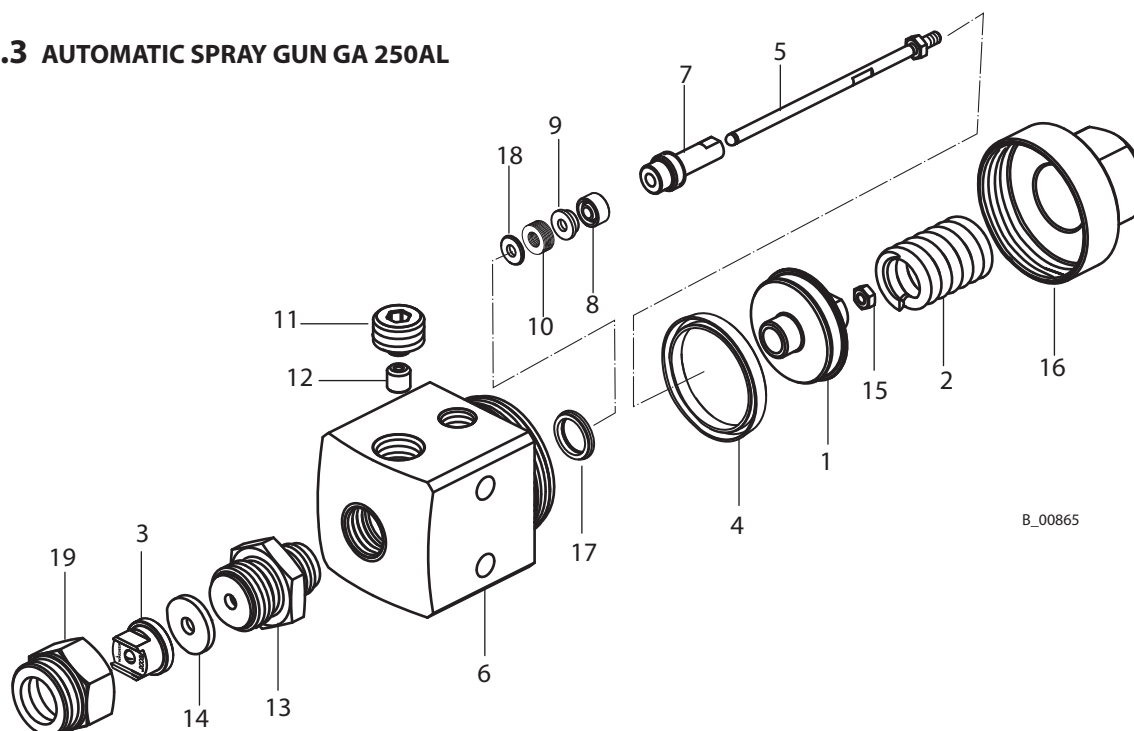
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Item	K	Qty	Part No.	Description
1		1	350481	Piston
2		1	350482	Compression spring 40 MPa; 400 bar; 5800 psi
3	●	1	90xxx	Standard nozzle ... (see accessories)
4	◆ ★	1	350483	Piston seal
5	◆ ★	1	350884	Valve stem GA 250AL+GA 400AL (SP)
6		1	350484	Housing GA 400AL
7		1	350485	Sealing screw
8	◆ ★	1	350486	Packing
9		1	350487	Thrust piece
10		1	335707	Disc spring set (6 pieces)
11		1	350488	Seal screw
12		1	350418	Plug
13	◆ ★	1	350161	Valve seat assy.
14	◆ ★	1	350489	Sealing
15		1	9913014	Hex nut M3
16		1	350882	Tension cap AL assy.
17	◆ ★	1	350422	Sealing
18		1	350491	Pressure ring
19		1	97404	Nozzle nut
▼			350883	Service set GA 250AL/ GA 400AL

◆ Wear part

★ Included in service set

● Not part of standard equipment for spray gun. Available, however, as additional extra

9.3 AUTOMATIC SPRAY GUN GA 250AL

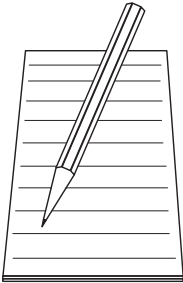
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Item	K	Qty	Part No.	Description
1		1	350481	Piston
2		1	350498	Compression spring 25 MPa; 250 bar; 3626 psi red marked
3	●	1	90xxx	Standard nozzle ... (see accessories)
4	◆ ★	1	350483	Piston seal
5	◆ ★	1	350884	Valve stem GA 250AL+GA 400AL (SP)
6		1	350512	Housing GA 250AL
7		1	350485	Sealing screw
8	◆ ★	1	350486	Packing
9		1	350487	Thrust piece
10	★	1	335707	Disc spring set (6 pieces)
11		1	350488	Seal screw
12		1	350418	Plug
13	◆ ★	1	350161	Valve seat assy.
14	◆ ★	1	350489	Sealing
15		1	9913014	Hex nut M3
16		1	350882	Tension cap AL assy.
17	◆ ★	1	350422	Sealing
18		1	350491	Pressure ring
19		1	97404	Nozzle nut
	▼		350883	Service set GA 250AL/ GA 400AL

◆ Wearing part

★ Included in service set

● Not part of standard equipment for spray gun. Available, however, as additional extra



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