



# AirSpray Automatic Spray Gun GA 1900

## Translation of the Original Operating Manual

**€ € € € 2**G T80°C

For professional use. Always observe the information in this manual, particularly the safety instructions and the warning instructions. Store the manual in a safe place.



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## **1 ABOUT THESE INSTRUCTIONS**

#### 1.1 PREFACE

The operating manual contains information about safely operating, maintaining, cleaning and repairing the device. The operating manual is part of the device and must be available to the operating and service personnel.

The device may only be operated by trained personnel and in compliance with this operating manual. Operating and service personnel should be instructed according to the safety instructions.

This equipment can be dangerous if it is not operated according to the instructions in this operating manual.

#### 1.2 WARNINGS, NOTICES AND SYMBOLS IN THESE INSTRUCTIONS

Warning instructions in this manual highlight particular dangers to users and to the device and state measures for avoiding the hazard.

$\triangle$	DANGER	Immediate risk of danger.
		Non-observance will result in death or serious injury.
$\triangle$	WARNING	Potential danger.
		Non-observance may result in death or serious injury.
$\triangle$	CAUTION	Potentially dangerous situation.
		Non-observance may result in minor injury.
	NOTICE	Potentially dangerous situation.
		Non-observance may result in damage to property.
<b>i</b> )	Info	Provides information about particular characteristics and how to
		proceed.

These warning instructions fall into the following categories:

#### **Explanation of warning notice:**

#### 

#### This notice warns you of a danger!

Possible consequences of not observing the warning notice.

• The measures for preventing the hazard and its consequences.

# $\triangle$

#### **1.3 GENERAL CHARACTERS AND SYMBOLS**

The characters and symbols in this operating manual indicate the following:

- ✓ Requirement that must be fulfilled before an action can be performed.
- 1. Step 1 of an action to be performed with several action steps.
  - Second level action step
- 2. Step 2
  - ⇒ Intermediate result of an action
- ⇒ Result of a complete action
- Action to be performed with an action step
- 1. Numbered list, first level
  - Numbered list, second level



- Non-numbered list, first level
  - Non-numbered list, second level
- [▶ 8] = cross-reference on page
- ♦ = wearing parts
- $\star$  = included in service set
- = not part of the standard equipment but available as a special accessory

#### 1.4 LANGUAGES

The operating manual is available in the following languages:

#### Original operating manual

Language	Order no.
German	2395639

#### Translation of the original operating manual

Language	Order no.
English	2395640
Hungarian	2424491
Chinese	2429139

Additional languages upon request or at:www.wagner-group.com

#### **1.5 ABBREVIATIONS**

Order no.	Order number	
ET	Spare part	
K	Marking in the spare parts lists	
Pos	Position	
Stk	Number of pieces	
SW	Wrench size	

#### 1.6 TERMINOLOGY FOR THE PURPOSE OF THIS MANUAL

#### Cleaning

Cleaning	Manual cleaning of devices and device parts with cleaning agent.
Flushing	Internal flushing of paint-wetted parts with flushing agent.
· ·	Pump or pressure tank.
generator	



#### Personnel qualifications

Trained person	Is instructed in the tasks assigned to him/her, the potential risks associ- ated with improper behavior as well as the necessary protective devices and measures.
Electrically trained person	Is instructed by an electrician about the tasks assigned to him/her, the potential risks associated with improper behavior as well as the necessary protective devices and measures.
Electrician	Can assess the work assigned to him/her and detect possible hazards based on his/her technical training, knowledge and experience in relevant provisions.
Skilled person in accordance with TRBS 1203 (2010/Revision 2012)	A person, who, based on his/her technical training, experience and re- cent vocational experience, has sufficient technical knowledge in the ar- eas of explosion protection, protection from pressure hazards and elec- tric hazards (if applicable) and is familiar with the relevant and generally accepted rules of technology so that he/she can inspect and assess the status of devices and coating systems based on workplace safety.

## 2 USING IN ACCORDANCE WITH THE INSTRUCTIONS

#### 2.1 DEVICE TYPE

Automatic spray gun for automatic coating of work pieces:

#### 2.2 TYPE OF USE

The automatic spray gun is suitable for atomizing liquid products, particularly coating products, using the AirSpray process.

WAGNER explicitly prohibits any other use!

Thanks to its compact construction and its low weight, the automatic spray gun is especially suitable for use on automatic coating machines and robots.

The device may only be operated under the following conditions:

- Use the device only to work with the materials recommended by WAGNER.
- Do not deactivate safety fixtures.
- Use only WAGNER original spare parts and accessories.
- The operating personnel must be trained on the basis of this operating manual.
- Follow the instructions in the operating manual.

#### 2.3 FIELD OF APPLICATION

As defined in Directive 2014/34/EU (ATEX), the device is suitable for use in potentially explosive areas (see Explosion Protection Identification [ >> 9]).

#### 2.4 PROCESSIBLE WORKING MATERIALS

Top-coat lacquers, primer paints, corrosion protection, textured lacquers, lyes, staining solvents, clear lacquers, separating agents, etc. with a solvent or water base. If you want to process working materials other than the aforementioned, please contact a WAGNER representative.

When operating the device with a coating product with a temperature greater than 43 °C; 109.4 °F, identify the device with a warning label that says "Warning - hot surface" according to Touching Hot Surfaces [ >> 13].

#### Info

Contact your local WAGNER dealer and the lacquer manufacturer if you encounter application problems.

#### 2.5 MISUSE

Misuse can lead to physical injury and/or property damage! Special attention must be paid that:

- No dry coating products, e.g., powder are processed.
- No food, medicine or cosmetics are processed. It is important to note that the device's materials are not food-safe.



## **3 IDENTIFICATION**

#### 3.1 EXPLOSION PROTECTION IDENTIFICATION

As defined in Directive 2014/34/EU (ATEX), the device is suitable for use in potentially explosive areas.

Device Type

Manufacturer

Automatic spray gun GA 1900 Wagner International AG 9450 Altstätten Switzerland



CE	European Communities
Ex	Symbol for explosion protection
II	Device class II
2	Category 2 (zone 1)
G	Ex-atmosphere gas
T80° C	Maximum surface temperature

#### Safe Handling of WAGNER Spray Devices

Mechanical sparks can form if the device comes into contact with metal. In an explosive atmosphere:

- knocking or pushing metal against metal is to be avoided;
- > Do not drop the device.

#### Ignition temperature of the coating product

• Ensure that the ignition temperature of the coating product is above the maximum surface temperature.

#### Medium supporting atomizing

• To atomize the product, use only weakly oxidizing gases, e.g., air.

#### Cleaning

If there are deposits on the surfaces, the device may form electrostatic charges. Flames or sparks can form during discharge.

- 1. Remove deposits from the surfaces to maintain conductivity.
- 2. Use only a damp cloth to clean the device.









CE

## **4 BASIC SAFETY INSTRUCTIONS**

#### 4.1 SAFETY INSTRUCTIONS FOR THE OPERATOR

- Keep this operating manual at hand near the device at all times.
- Always follow existing regulations concerning occupational safety and accident prevention regulations.

#### 4.1.1 A Safe Work Environment

#### Danger due to dangerous fluids or vapors!

Severe or fatal injuries due to explosion danger or inhalation, swallowing or contact with the skin or eyes.

- Ensure that the floor in the working area is static dissipative in accordance with EN 61340-4-1 (resistance must not exceed 100 MΩ).
- Paint mist extraction systems/ventilation systems must be fitted on site according to local regulations.
- Make sure that the ground connection and potential equalization of all system parts are reliable and continuous and can withstand the expected stress (e.g., mechanical stress, corrosion).
- Ensure that product hoses/air hoses adapted to the working pressure are used.
- Ensure that personal protective equipment is available and is used.
- Make sure that all people within the work area wear static dissipative shoes. Footwear must comply with EN 20344. The measured insulation resistance must not exceed 100 MΩ.
- Ensure that during spraying, persons wear static dissipative gloves. The grounding takes place via the spray gun's handle or its trigger.
- Protective clothing, including gloves, must comply with EN 1149-5. The measured insulation resistance must not exceed 100 MΩ.
- Ensure that there are no ignition sources such as naked flames, sparks, glowing wires, or hot surfaces in the vicinity. Do not smoke.
- Ensure that the pipe joints, hoses, equipment parts and connections are permanently, technically leak-proof:
  - Periodic preventative maintenance and service (replacing hoses, checking tightness strength of connections, etc.)
  - Regular monitoring of leaks and defects via visual inspection and odor testing, e.g., daily before commissioning, at the end of work or weekly.
- Ensure that maintenance and safety checks are performed regularly.
- In the event of defects, immediately bring the device or system to a stop and arrange to have repairs carried out immediately.

#### 4.1.2 Personnel Qualifications

#### Danger due to incorrect use of device!

Risk of death due to untrained personnel.

Ensure that the operating personnel has been instructed by the operator in accordance with the operating manual and the operating instructions. The device must only be operated, maintained and repaired by trained personnel. Refer to the operating instructions for information about the required personnel qualifications.







#### 4.2 SAFETY INSTRUCTIONS FOR THE PERSONNEL

- Always observe the information in this manual, particularly the safety instructions and the warning instructions.
- Always follow existing regulations concerning occupational safety and accident prevention regulations.

#### Danger due to high-voltage field!

Danger to life from malfunction of active implants.

 Persons belonging to a risk group according to EMF guideline 2013/35/EU (e.g., carriers of active implants), must not enter the high-voltage area.

#### 4.2.1 Personal Safety Equipment

#### Danger due to dangerous fluids or vapors!

Serious or fatal injuries due to inhalation, swallowing or contact with the skin or eyes.

- When preparing or working with lacquer and when cleaning the device, follow the working instructions of the manufacturer of the lacquers, solvents and cleaning agents being used.
- Implement the prescribed safety measures, in particular the wearing of safety glasses, safety clothing and protective gloves as well as the use of protective hand cream.
- Use a mask or breathing apparatus if necessary.
- For sufficient health and environmental safety: Operate the device in a spray booth or on a spraying wall with the ventilation (extraction) switched on.
- Wear suitable protective clothing when working with hot products.

#### 4.2.2 Safe Handling of WAGNER Spray Devices

#### Danger due to injection of lacquer or flushing agent into the skin!

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

Avoid injection of lacquer or flushing agents:

- Never point the spray gun at people.
- Never reach into the spray jet.
- Perform the following measures before any work on the device, in the event of work interruptions and malfunctions:
  - Switch off the energy/compressed air supply
  - Relieve the pressure from the spray gun and device
  - Securing the Spray Gun Against Actuation
  - Disconnect the control unit from the mains
  - In the event of functional faults, remedy the fault as described in the Troubleshooting chapter
- If needed, the liquid ejection devices must be checked by experts (e.g., WAGNER service technician) at least every 12 months for their work-safe condition in accordance with DGUV regulation 100-500 Chapter 2.29 and Chapter 2.36.
  - For shut down devices, the examination can be suspended until the next start-up.

#### In the event of skin injuries caused by lacquer or flushing agents:

- Note the lacquer or flushing agent that you have been using.
- Consult a doctor immediately.



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#### 4.2.3 Grounding the Device

#### Danger due to electrostatic charge!

Risk of injury, explosion hazard and damage to the device.

Friction, flowing liquids and air or electrostatic coating processes create charges. Flames or sparks can form during discharge. Correct grounding of the entire spraying system prevents electrostatic charges.

- Ensure that all devices and tanks are grounded before each spraying process.
- Make sure that the ground and potential equalization of all system parts are performed reliably and continuously and can withstand the expected stress (e.g., mechanical stress, corrosion).
- Earth the workpieces being painted.
- Ensure that all persons inside the working area are grounded, e.g., that they are wearing static dissipative shoes.
- Wear static dissipative gloves when spraying. The grounding takes place via the spray gun's handle or its trigger.

#### 4.2.4 Product Hoses

#### Danger due to bursting of product hose!

The product hose is under pressure and may cause dangerous injuries.

- Ensure that the hose material is chemically resistant to the sprayed products and the flushing agents used.
- Ensure that the product hoses and the fittings are suitable for the pressure generated.
- Ensure that the following information can be seen on the high-pressure hose:
  - Manufacturer
  - permissible operating pressure
  - Date of manufacture
- Make sure that the hoses are laid only in suitable places. Hoses should not be laid in the following places under any circumstances:
  - in high traffic areas
  - on sharp edges
  - on moving parts
  - on hot surfaces
- Ensure that the hoses are never run over by vehicles (e.g., fork lifts), or that the hoses are never put under pressure from the outside in any other way.
- Ensure that the hoses are never kinked. Observe maximum bending radii.
- Ensure that no work is ever performed with a damaged hose.
- Make sure that the hoses are never used to pull or move the device.
- The electrical resistance of the product hose, measured at both valves, must be less than 1 MΩ.
- Suction hoses may not be subjected to pressure.







#### 4.2.5 Cleaning and Flushing

#### Danger due to cleaning and flushing!

Explosion hazard and damage to the device.

- Non-ignitable cleaning agents and flushing agents should preferably be used.
- When carrying out cleaning work with flammable cleaning agents, make sure that all equipment and resources (e.g., collection tank, funnel, transport cart) are conductive or static dissipative and grounded.
- Observe the specifications of the lacquer manufacturer.
- Ensure that the flash point of the cleaning agent is at least 15 K above the ambient temperature or that cleaning is undertaken at a cleaning station with technical ventilation.
- Never use chloride or halogenated solvents (such as trichloroethane and methylene chloride) with devices containing aluminium or galvanized/zinc-plated parts. They may react chemically thus producing an explosion danger.
- Take measures for workplace safety.
- It should be noted that when the device is put into operation or emptied: depending on the coating product used, depending on the rinsing agent (solvent) used, there may briefly be a mixture inside the pipes and equipment which can ignite.
- Only use electrically conductive tanks for cleaning and flushing agents.
- The tanks must be grounded.

An explosive gas/air mixture forms in closed tanks.

• Never spray into a closed tank when using solvents for flushing.

#### **External Cleaning**

When cleaning the exterior of the device or its parts, also observe the following:

- Relieve the pressure from the device.
- De-energize the device electrically.
- Disconnect the pneumatic supply line.
- Use only moistened cloths and brushes. Never use abrasive agents or hard objects and never spray cleaning agents with a gun. Cleaning the device must not damage it in any way.
- Ensure that no electric component is cleaned with or immersed into solvent.

#### 4.2.6 Touching Hot Surfaces

#### Danger due to hot surfaces because of hot coating products!

Risk of burn injuries

- Only touch hot surfaces if you are wearing protective gloves.
- When operating the device with a coating product with a temperature of > 43 °C; 109 °F, apply a warning label to the device that says "Warning - Hot Surface."

Instruction label: Order no. 9998910

Protection label: Order no. 9998911







#### Info

Order the two labels together.

#### 4.2.7 Maintenance and Repair

#### Danger due to improper maintenance and repair!

Danger to life and equipment damage.

- Only a WAGNER service center or a suitably trained person may carry out repairs and replace parts.
- Repair or replacement of devices or parts of devices are only allowed to be performed outside the hazard area by qualified personnel.
- Use only WAGNER original spare parts and accessories.
- > Do not change or modify the device; if change is necessary, contact WAGNER.
- Only repair and replace parts that are listed in Chapters Accessories [>> 39] and Spare Parts and that are assigned to the device.
- Do not use any defective components.
- Before all work on the device and in the event of work interruptions:
  - Relieve the pressure from the spray gun, product hoses and all devices.
  - Secure the spray gun against actuation.
  - Switch off the energy and compressed air supply.
  - Disconnect the control unit from the mains.
- Observe the operating and service manual for all work.

#### 4.2.8 Protective and Monitoring Equipment

#### Danger due to removal of protective and monitoring equipment!

Danger to life and equipment damage.

- Protective and monitoring equipment must not be removed, modified or rendered unusable.
- Regularly check for perfect functioning.
- If defects are detected on protective and monitoring equipment, the system must not be operated until these defects are remedied.

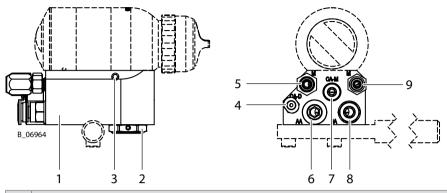






## **5 DESCRIPTION**

#### 5.1 COMPONENTS



## Pos Designation

1	Adapter plate	
2	Valve for opening/closing the second product connection	
3	Gun attachment	
4	CA-D control air dump	
5	Circulation (dump)	
6	Atomizing air	
7	CA-M control air product	
8	Shaping air (horn air)	
9	Product connection	

#### **MODE OF OPERATION**

- The automatic GA 1900 spray gun is switched on and off via the control air.
- The shaping and atomizing air flows are supplied separately, which allows them to be set separately.
- As soon as the product valve is opened, the product that is under pressure is applied to the workpiece.

#### 5.2 EXTENT OF DELIVERY

#### Automatic spray gun:

With circulation	Order no.
GA 1900EC C 0.5 mm	2394305
GA 1900EC C 0.8 mm	2394304
GA 1900EC C 1.0 mm	2394303
GA 1900EC C 1.2 mm	2394302
GA 1900EC C 1.4 mm	2394297
Without circulation	Order no.
Without circulation GA 1900EC 0.5 mm	<b>Order no.</b> 2394294
GA 1900EC 0.5 mm	2394294
GA 1900EC 0.5 mm GA 1900EC 0.8 mm	2394294 2394291



Stk	Order no.	Designation
1	see above	Automatic spray gun, complete
The standard equipment includes:		
1	2396154	CE Declaration of Conformity
1	2395639	Operating manual, in German
1	see chapter Languages	Operating manual in local language
1	2394321	Special tool kit
Accessories:		
	See chapter Accessories	Accessories

The delivery note shows the exact scope of delivery.

#### 5.3 TECHNICAL DATA

#### 5.3.1 Materials of the parts transporting paint

Paint-wetted parts	Product	
Nozzle	Stainless steel	
Valve needle	Stainless steel, tempered and diamond-coated	

#### 5.3.2 Technical Data for GA 1900

Description	Units	Value
Maximum pressure for atomizing air	MPa; psi; bar	0.9; 130.5; 9
Maximum pressure for horn air / shaping air	MPa; psi; bar	0.9; 130.5; 9
Maximum pressure for control air	MPa; psi; bar	0.9; 130.5; 9
Minimum pressure for control air	MPa; psi; bar	0.55; 79.8; 5.5
Maximum product pressure	MPa; psi; bar	1.8; 261.1; 18
Compressed air quality: free from oil and water	Quality standard	7.5.4 according to ISO 8573.1: 2010
		7: Particle concentration 5 – 10 mg/m <sup>3</sup> 5: Humidity: pressure dew point: ≤ +7 °C 4: Oil content ≤ 5 mg/m <sup>3</sup>
Maximum product temperature	°C; °F	50; 122
Maximum air temperature	°C; °F	50; 122
Switching time	ms	<30
Weight	g; oz	890; 31.4
Maximum spray jet width with atomizer cap	mm; inch	480; 18.9
Maximum ambient temperature	°C; °F	5-40; 41-104

## 

#### Exhaust air containing oil!

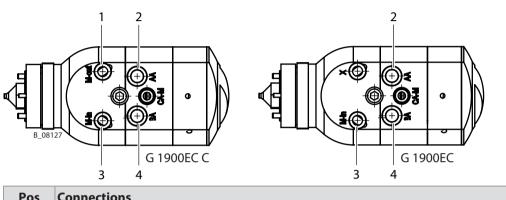
Risk of poisoning if inhaled.

• Provide compressed air free from oil and water.

#### 5.3.3 Connections



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Pos	Connections
1	Circulation
2	Atomizing air
3	Product
4	Horn air



## 6 ASSEMBLY AND COMMISSIONING

#### 6.1 TRAINING OF ASSEMBLY/COMMISSIONING PERSONNEL

- The assembly and commissioning personnel must have the technical skills to safely commission the device.
- When assembling, commissioning and carrying out all work, read and follow the operating manuals and safety regulations for the additionally required system components.

A skilled person must check to ensure that the device is in a reliable state after it is assembled and commissioned.

#### 6.2 STORAGE CONDITIONS

Until the point of assembly, the device must be stored in a dry location, free from vibrations and with a minimum of dust. The device must be stored in closed rooms.

The air temperature at the storage location must be between -20 °C and +60 °C (-4 °F and +140 °F).

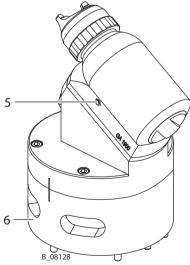
The relative air humidity at the storage location must be between 10 and 95% (without condensation).

#### 6.3 INSTALLATION CONDITIONS

The air temperature at the installation site must be in a range between 0 °C and 40 °C; 32 °F and 104 °F.

The relative air humidity at the installation site must be between 10 and 95% (without condensation).

#### 6.4 CONNECTING AUTOMATIC SPRAY GUN

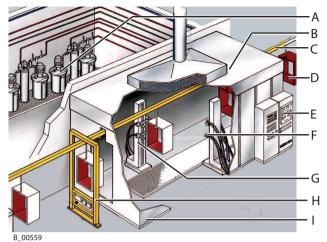


The automatic spray gun is mounted on the adapter plate using clamping spigots and centering bolts with an Allen screw (5). The connection plate (6) is mounted on the spraying system's movable arm.

#### 6.4.1 Typical Airspray Spraying System

The automatic spray gun is combined with various components to make up a spraying system. The system shown in the figure is only one example of an AirSpray spraying system.





F А Paint supply Spray guns В Supply air system and exhaust air sys-Reciprocator G tem С Conveyor Н Part recognition D Work piece I Spray booth Е Control cabinet

#### 6.4.2 Ventilation of the Spray Booth

- Operate the device in a spray booth approved for the respective 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.

#### 6.4.3 Air Supply Lines

## 

#### **Hose connections!**

Risk of injury and damage to the device.

- Do not mix up hose connections of product hose and air hose.
- Ensure that only dry, clean atomizing air is used in the spray gun! Dirt and moisture in the atomizing air worsens the spraying quality and spray pattern.





#### 6.4.4 Product Supply Lines

## 

#### Impurities in the spraying system

Spray gun blockage, products harden in the spraying system.

• Flush the spray gun and paint supply with a suitable flushing agent before commissioning.

## \rm **DANGER**

#### Bursting hose, bursting threaded joints!

Danger to life from injection of product.

- Ensure that the hose material is chemically resistant to the sprayed products.
- Ensure that the spray gun, fittings and product hose between the device and the spray gun are suitable for the pressure generated in the device.
- Ensure that the following information can be seen on the high-pressure hose:
  - Manufacturer
  - Permissible operating pressure
  - Date of manufacture.

#### 6.5 GROUNDING

A conductive connection (potential equalization cable) must be established between original tank and the equipment.

- 1. Earth all unit components.
- 2. Earth the workpieces being painted.

#### 6.6 SAFETY CHECKS

• Carry out safety checks in accordance with Safety checks and maintenance intervals chapter.

#### 6.7 LACQUER PREPARATIONS

The viscosity of the lacquer is of great importance. The best spraying results are obtained with values between 80 and 260 millipascals (mPas) × sec. Processing of up to 260 mPas is generally possible without problems if high coating thicknesses are required. It is important for the optimum coating quality that the paint temperature is kept constant during coating. Further information can be found in the product's technical datasheets. Please contact your local WAGNER dealer and the lacquer manufacturer if you encounter application problems.

Millipascal × sec	Centipoise	Poise	DIN cup	ISO cup			Ford cup	Zahn cup
			4 mm	4 mm	5 mm	6 mm	Number 4	Number 2
mPa s	сP	Ρ	sec	sec	sec	sec	sec	sec
10	10	0.1		14			5	16
15	15	0.15		17			8	17
20	20	0.2		20			10	18

#### 6.7.1 Viscosity conversion table





Millipascal × sec	Centipoise	Poise	DIN cup	ISO cup			Ford cup	Zahn cup
			4 mm	4 mm	5 mm	6 mm	Number 4	Number 2
mPa s	сР	Р	sec	sec	sec	sec	sec	sec
25	25	0.25	14	23			12	19
30	30	0.3	15	26			14	20
40	40	0.4	17	33			18	22
50	50	0.5	19	40			22	24
60	60	0.6	21	47			26	27
70	70	0.7	23	54			28	30
80	80	0.8	25	62	28		31	34
90	90	0.9	28	70	31		32	37
100	100	1	30	78	34		34	41
120	120	1.2	33	90	40		41	49
140	140	1.4	37	105	46		45	58
160	160	1.6	43		52		50	66
180	180	1.8	46		58	28	54	74
200	200	2	49		63	31	58	82
220	220	2.2	52		69	34	62	
240	240	2.4	56		75	37	65	
260	260	2.6	62		82	40	68	
280	280	2.8	65		89	43	70	
300	300	3	70		95	46	74	
320	320	3.2				48		
340	340	3.4				51		
360	360	3.6	80			54		
380	380	3.8				57		
400	400	4	90			60		

#### 6.8 START UP

#### 6.8.1 Preparation Before Commissioning

## **I**NOTICE

#### Impurities in the spraying system

Spray gun blockage, products harden in the spraying system.

• Flush the spray gun and paint supply with a suitable flushing agent before commissioning.

#### 6.8.2 Procedure

- 1. Correctly mount the desired paint nozzle and atomizer cap on the automatic spray gun (see Chapter Changing the Nozzle [ ▶ 26]).
- 2. Mount the automatic spray gun on the connection plate.
- 3. Make sure that all system components and all other conductive parts within the work area are grounded.



- 4. Visually check the permissible pressures for all the system components.
- 5. Before commissioning, the automatic spray gun must be flushed with a solvent.
- 6. Keep the flushing process as short at possible.
- 7. Observe the superordinate operating manual.

#### 6.8.3 Verifying a Safe Operational Condition

A skilled person must check to ensure that the device is in a reliable state after it is assembled and commissioned.

This includes:

- Safety checks in accordance with Safety checks and maintenance intervals chapter.
- Function test, in accordance with Function test chapter, after repair work.



## **7 OPERATION**

#### 7.1 TRAINING THE OPERATING PERSONNEL

- The operating personnel must be qualified to operate the entire system.
- The operating staff must be familiar with the potential risks associated with improper behavior as well as the necessary protective devices and measures.
- Before work commences, the operating personnel must receive appropriate system training.

#### 7.2 TASKS

Ensure that:

- the regular safety checks are carried out in accordance with Chapter Safety Checks and Maintenance Intervals [ >> 25],
- 2. commissioning is carried out in accordance with Chapter Start up [>> 21].
- 3. the superordinate operating manual is observed.

#### 7.3 PRESSURE RELIEF / WORK INTERRUPTION

The pressure must always be relieved:

- after the spraying tasks are finished,
- before servicing or repairing the spraying system,
- before carrying out cleaning tasks on the spraying system,
- before something must be checked on the spraying system,
- before the nozzle is removed from the automatic spray gun.

#### **Pressure Relief Procedure:**

• Observe superordinate operating manual.

#### 7.4 BASIC FLUSHING

#### **Regular flushing**

- Regular flushing, cleaning and maintenance ensure the high spraying quality of the automatic spray gun and spraying system.
- Observe superordinate operating manual.
- > The cleaning and flushing agents used must be compatible with the working material.

## \land WARNING

#### Incompatibility of cleaning/flushing agent and working medium!

Risk of explosion and danger of poisoning by toxic gases.

• Examine the compatibility of the flushing and cleaning agents and working media on the basis of the safety data sheets.





## 8 CLEANING AND MAINTENANCE

#### 8.1 CLEANING

#### 8.1.1 Cleaning Personnel

Cleaning work should be undertaken regularly and carefully by qualified and trained personnel. They should be informed of specific hazards during their training.

The following hazards may arise during cleaning work:

- risk to health from inhaling solvent vapors,
- use of unsuitable cleaning tools and aids.

#### 8.1.2 Flushing and Cleaning the Automatic Spray Gun

The automatic spray gun or spray system must be regularly cleaned and flushed. The cleaning/flushing agents used for cleaning or flushing must be compatible with the working material.

- 1. Carry out basic flushing in accordance with Chapter Basic Flushing [>> 23].
- 2. Clean the outside of the automatic spray gun with a damp cloth.

#### 8.2 MAINTENANCE

#### 8.2.1 Maintenance Personnel

Maintenance work should be undertaken regularly and carefully by qualified and trained personnel. They should be informed of specific hazards during their training.

The following hazards may arise during maintenance work:

- risk to health from inhaling solvent vapors,
- use of unsuitable tools and aids.

A skilled person must ensure that the device is checked for being in a reliable state after maintenance work is completed.



#### 8.2.2 Safety instructions

## 

#### Incorrect maintenance/repair!

Danger to life and equipment damage.

- Only a WAGNER service center or a suitably trained person may carry out repairs and replace parts.
- Use only WAGNER original spare parts and accessories.
- Only repair and replace parts that are listed in the spare parts chapter and that are assigned to the device.
- Before all work on the device and in the event of work interruptions:
  - Relieve the pressure from the spray gun, product hoses and all devices.
  - Secure the spray gun against actuation.
  - Switch off the energy and compressed air supply.
  - Disconnect the control unit from the mains.
- Observe the operating and service manual for all work.

#### **Prior to maintenance**

It should be ensured that the unit is in the following state before carrying out any work on it:

- Carry out basic flushing in accordance with Chapter Basic Flushing [>> 23].
- Relieve the pressure from the spraying system, product hose and spray gun.
- Interrupt the air supply.

#### After maintenance

- Carry out safety checks in accordance with Chapter Safety Checks and Maintenance Intervals [>> 25].
- Put the system into operation and check for leaks as described in chapter Commissioning [▶ 21].
- Have the system checked for safe condition by a skilled person.
- If necessary, carry out a function test in accordance with Chapter Function Test after Repair Work [▶ 37].

#### 8.2.3 Safety Checks and Maintenance Intervals

#### **Every day**

- 1. Check grounding: see Chapter Grounding [ >> 20].
- 2. Check hoses, tubes and couplings: see Chapter Product Hoses, Pipes and Couplings
- 3. Carry out basic flushing in accordance with Chapter Basic Flushing [ >> 23].

#### Weekly

• Check spray guns for damage.

#### Yearly or as required

- 1. In accordance with DGUV regulation 100-500, Chapters 2.29 and 2.36:
  - The liquid ejection devices should be checked by an expert (e.g., WAGNER service technician) for their safe working conditions as required and at least every 12 months.
  - For shut down devices, the examination can be suspended until the next start-up.





#### 8.2.3.1 Product Hoses, Pipes and Couplings

The service life of the complete hoses between product pressure generator and application device is reduced due to environmental influences even when handled correctly.

- 1. Check hoses, pipes, and couplings every day and replace if necessary.
- 2. Before every commissioning, check all connections for leaks.
- 3. Additionally, the operator must regularly check the complete hoses for wear and tear as well as for damage at intervals that he/she has set. Records of these checks must be kept.
- 4. Replace the complete hose if one of the following two periods is exceeded:
  - 6 years from the date of the hose crimping (see fitting embossing).
  - 10 years from the date of the hose imprinting.

Fitting embossing	Meaning
(if present)	
xxx bar	Pressure
yymm	Crimping date (year/month)
XX	Internal code
Hose imprinting	Meaning
WAGNER	Name / manufacturer
yymm	Date of manufacture (year/month)
xxx bar (xx MPa) e.g. 270 bar (27MPa)	Pressure
XX	Internal code
DNxx (e.g., DN10)	Nominal diameter

#### 8.3 CHANGING THE NOZZLE

#### 

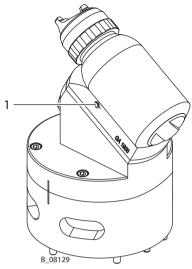
#### **Defective nozzle!**

Insufficient paint application quality.

- Do not use sharp-edged objects on the carbide on the nozzle.
- ▶ Carry out basic flushing in accordance with Chapter Basic Flushing [ >> 23].
- Depressurization in accordance with Chapter Pressure Relief / Work Interruption [ >> 23].
- Clean the outside of the automatic spray gun with a damp cloth.



#### Disassembly:

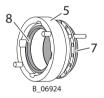


1. Loosen the grub screw (1) with the Allen wrench. Remove the automatic spray gun from the connection plate.

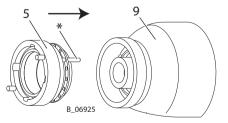


- 2. Remove the union nut (2) and atomizer cap (3). **Note:** Note the position of the air manifold ring (5).
- 3. Dismount the nozzle (4) and air manifold ring (5). Clean union nut (2), atomizer cap (3), nozzle (4) and air manifold ring (5) after removal.

#### Assembly:



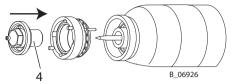
- 1. Furnish the air manifold ring (5) with two new seals for the installation in the automatic spray gun.
  - Mount the air manifold ring seal on the top (7) on the gun side.
  - Mount the air manifold ring seal at the bottom (8) on the nozzle side.
- 2. **Visual control:** Check that the positioning pin, air manifold ring (5) and atomizer cap (3) are free of defects.



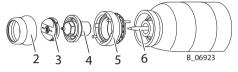
3. Insert the air manifold ring (5) in the head (9).



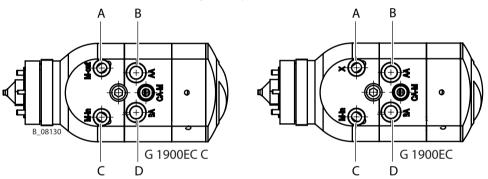
 Insert the alignment pin (\*) on the air manifold ring (5) in the provided drilled hole (see dismounting step 2). The position of the atomizer cap (3) is determined by the bored holes in the head.



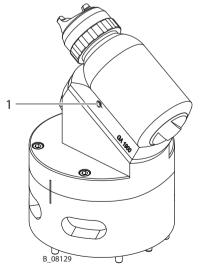
- 4. **Visual control:** Check that the nozzle (4) is free of defects.
- 5. Tighten the nozzle (4) up to stop (approx. 20 Nm) with a socket wrench (size 13).



- 6. Center the atomizer cap (3) with the air manifold ring's positioning pin (5).
- 7. Put on the union nut (2) and tighten by hand.



- 8. Replace O-rings (A, B, C, D) on the automatic gun.
- 9. **Visual control:** Check that the connection plate and the automatic spray gun are free of defects. Ensure that there are no foreign bodies in the supply line. Contamination of the conveyed product leads to a diminishing of the automatic spray gun's service life.



- 10. Position the automatic spray gun on the connection plate and securely mount it using the grub screw (1).
- Carry out basic flushing in accordance with Chapter Basic Flushing [ >> 23].



- Carry out safety checks in accordance with Chapter Safety Checks and Maintenance Intervals [>> 25].
- Put the system into operation and check for leaks as described in Chapter Start up [>> 21].



## 9 TROUBLE SHOOTING AND SOLUTION

Functional fault	Cause	Solution	Chapter
Insufficient	Nozzle too small	Select larger nozzle.	Accessories [ >> 39]
Product output	Product pressure too low.	Increase product pressure.	Technical Data for GA 1900 [൝ 16]
	Nozzle clogged.	Clean the nozzle.	Changing the Nozzle [ ▶ 26]
Insufficient spray pattern	Nozzle worn.	Replace the nozzle.	Changing the Nozzle [ ▶ 26]
	Viscosity of material too high.	Thin the product in accordance with the manufacturer's instructions.	Viscosity conversion ta- ble [
		The product temperature is too low.	Technical Data for GA 1900 [  ▶ 16]
	Nozzle partially clogged.	Clean the nozzle.	Changing the Nozzle [ ▶ 26]
	Drilled holes in distribu- tor cap damaged or clogged.	Clean or replace the distributor cap.	Changing the Nozzle [
	Incorrectly selected dis- tributor cap.	Use correct atomizer cap (sol- vent-based/water-based lac- quer).	Changing the Nozzle [



## **10 REPAIRS**

#### **10.1 REPAIR PERSONNEL**

Repair work should be undertaken carefully by qualified and trained personnel. They should be informed of specific hazards during their training.

The following hazards may arise during repair work:

- risk to health from inhaling solvent vapors,
- use of unsuitable tools and aids.

A skilled person must check to ensure that the device is in a reliable state after it is repaired. A function test should be performed.

#### **10.2 REPAIR NOTES**

### \Lambda DANGER

#### Incorrect maintenance/repair!

Danger to life and equipment damage.

- Only a WAGNER service center or a suitably trained person may carry out repairs and replace parts.
- Use only WAGNER original spare parts and accessories.
- Only repair and replace parts that are listed in the spare parts chapter and that are assigned to the device.
- Before all work on the device and in the event of work interruptions:
  - Relieve the pressure from the spray gun, product hoses and all devices.
  - Secure the spray gun against actuation.
  - Switch off the energy and compressed air supply.
  - Disconnect the control unit from the mains.
- Observe the operating and service manual for all work.

#### **Before Repair Work**

- Carry out basic flushing in accordance with Chapter Basic Flushing [ >> 23].
- Depressurization in accordance with Chapter Pressure Relief / Work Interruption [>> 23].
- Clean the outside of the automatic spray gun with a damp cloth.

#### **After Repair Work**

- Carry out safety checks in accordance with Chapter Safety Checks and Maintenance Intervals [ >> 25].
- Put the system into operation and check for leaks as described in Chapter Start up [>> 21].
- Have the system checked for safe condition by a skilled person.
- ▶ Function test in accordance with Chapter Function Test after Repair Work [ >> 37].

#### 10.3 TOOLS

The following tools are required for carrying out the repair work on the gun described below:

#### Special tool kit (order no. 2394321) consisting of:





- pin spanner for grease buffer
- synthetic lubricant, Anderol 757
- mounting aid for grease buffer
- grease quantity dosing device, 10 ccm
- nut, 1/4i 13mm
- ratchet, 1/4 inch
- torx wrench, T40x200
- Allen wrench, T wrench size 4.0x100

#### Assembly aids:

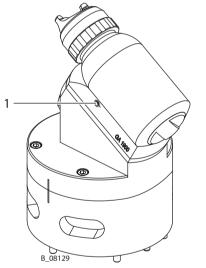
Order no.	Quantity	Designation
9992698	1 pc = 200 g	Vaseline white, PHHV II
2423189	1 pc = 100 g	synthetic lubricant, Anderol 757
2394321	1 set	Special tool kit

#### 10.4 DISASSEMBLY

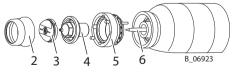
- Carry out basic flushing in accordance with Chapter Basic Flushing [ >> 23].
- Depressurization in accordance with Chapter Pressure Relief / Work Interruption [ >> 23].
- Clean the outside of the automatic spray gun with a damp cloth.

#### Info

Automatic spray gun is under spring tension.

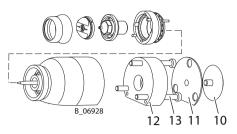


1. Loosen the grub screw (1) with the Allen wrench. Remove the automatic spray gun from the connection plate.

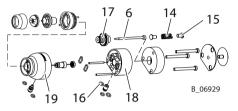


- 2. Remove the union nut (2) and atomizer cap (3). **Note:** Note the position of the air manifold ring (5).
- 3. Dismount the nozzle (4) and air manifold ring (5). Clean union nut (2), atomizer cap (3), nozzle (4) and air manifold ring (5) after removal.

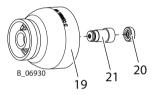




4. Dismount cap (11) using screw plug (10) and end plate (12) using three cylinder screws (13).



Remove pressure spring (14) with spring pin (15). On the head holder (18), remove both seals (16, horn and atomizing air seals).
 Remove the head (19) from the head holder (18). Press the piston (17) and valve needle (6) out of the head holder (18).



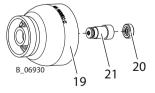
- Unscrew grease buffer (20) with special tool.
  Note: Insert Allen wrench up to stop in the needle packing (21).
- 7. Unscrew the needle packing (21) out of the head (19) with an Allen wrench (6 mm).

#### 10.5 ASSEMBLY

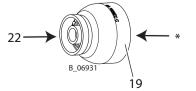
✓ To perform mounting, the service set (order no. 2394319) and the special tool kit (order no. 2394321) are needed.

## **I**NOTICE

Grease the needle packing's plastic thread with Vaseline and insert the Allen wrench up to stop in the needle packing.

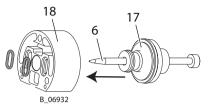


 With the Allen wrench, screw the needle packing (21) 4.8-5mm into the head (19) (measured from the start of the thread M12×1 and the upper edge of the needle packing). Screw the grease buffer (20) up to stop in the head (19) with the special tool.

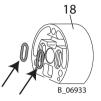




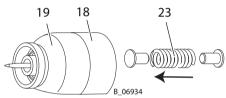
2. Screw the mounting aid (22) up to stop in the front side of the head (19). With a syringe (\* size 4) inject Vaseline until it exits the mounting aid (22) without bubbles.



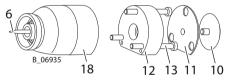
3. Put together the valve needle (6) and the piston (17). Lightly grease the piston with Vaseline and push it into the head holder (18).



4. On the head holder, use two new O-rings for horn and atomizing air.



Mount head holder (18) on head (19) (head and head holder are fixed with two alignment pins). Push pressure spring with spring pin (23) into the head holder (18).
 Note: If the valve needle is pulled out of the needle packing or out of the grease buffer after mounting, they must be refilled with Vaseline (see mounting step 2).

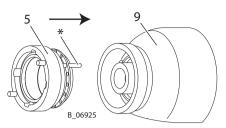


6. Mount the end plate (12) onto the head holder (18) and screw it tight with the socket cap screws (13). Mount the cover (11) onto the end plate (12) with the screw plug (10). Pull off mounting aid (22) and remove excess Vaseline from the valve needle (6).

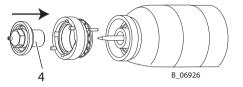


- 7. Furnish the air manifold ring (5) with two new seals for the installation in the automatic spray gun.
  - Mount the air manifold ring seal on the top (7) on the gun side.
  - Mount the air manifold ring seal at the bottom (8) on the nozzle side.
- 8. **Visual control:** Check that the positioning pin, air manifold ring (5) and atomizer cap (3) are free of defects.

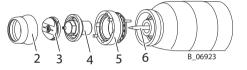




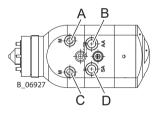
- 9. Insert the air manifold ring (5) in the head (9).
  - Insert the positioning pin (\*) on the air manifold ring in the provided drilled hole.
    The position of the atomizer cap (3) is determined by the bored holes in the head.



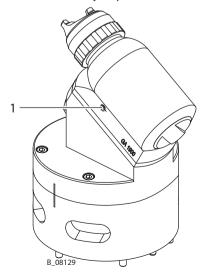
- 10. Visual control: Check that the nozzle (4) is free of defects.
- 11. Tighten the nozzle (4) up to stop (approx. 20 Nm) with a socket wrench (size 13).



- 12. Center the atomizer cap (3) with the air manifold ring's positioning pin (5).
- 13. Put on the union nut (2) and tighten by hand.



- 14. Replace O-rings (A, B, C, D) on the automatic gun.
- 15. **Visual control:** Check that the connection plate and the automatic spray gun are free of defects. Ensure that there are no foreign bodies in the supply line. Contamination of the conveyed product leads to a diminishing of the automatic spray gun's service life.





- 16. Position the automatic spray gun on the connection plate and securely mount it using the grub screw (1).
- Carry out basic flushing in accordance with Chapter Basic Flushing [ >> 23].
- Carry out safety checks in accordance with Chapter Safety Checks and Maintenance Intervals [ >> 25].
- Put the system into operation and check for leaks as described in Chapter Start up [>> 21].



# **11 FUNCTION TEST AFTER REPAIR WORK**

After all repair work, the spray gun must be checked for safe condition before recommissioning. The necessary scope of inspection and testing depends on the repair carried out and must be documented by the repair personnel.

Acti	vity	Aid tools				
1. A	1. Assembly inspection					
►	Automatic spray gun correctly mounted on robot arm?	Visual inspection				
2. T	ightness check					
1.	Product and air hose may not be damaged.	Visual inspection				
2.	Product hose and air hose must be properly connected (air max. 9 bar; product max. 18 bar).					
3. F	unction test					
1.	Valve needle (opens and closes correctly).	Visual inspection				
2.	Atomizer and air cap are clean.					
3.	There is horn and atomizing air.					



# **12 DISPOSAL**

When the devices must be scrapped, please differentiate the disposal of the waste materials.

The following materials have been used:

- Stainless steel
- Aluminium
- Titanium
- Perfluoro-elastomers FFKM
- Stainless steel, tempered and diamond-coated

The consumable products (lacquers, adhesives, solvents) must be disposed of in accordance with the specifically applicable standards.



# **13 ACCESSORIES**

### 13.1 NOZZLES

Order no.	Designation			
2394322	GA 1900 nozzle needle set 0.5 mm			
2394323	GA 1900 nozzle needle set 0.8 mm			
2394327	GA 1900 nozzle needle set 1.0 mm			
2394328	GA 1900 nozzle needle set 1.2 mm			
2394329	GA 1900 nozzle needle set 1.4 mm			

#### 13.2 AIR CAPS

Order no.	Designation		
2392763	2392763 GA 1900 air cap, standard (wide spray jet 20-40 cm)		
2394316 GA 1900 air cap, medium (medium spray jet 15-25 cm)			
2394317 GA 1900 air cap, narrow (narrow spray jet 10-20 cm)			

### 13.3 UNION NUT FOR AIR CAP

Order no.	Designation
2392764	Air cap union nut

#### **13.4 CONNECTION PLATE AND ADAPTER**

Order no.	Designation	
2425806	60° adapter for distribution base robot applications With integrated flushing valve, for Fanuc P 250i in general for 2K products Product can be dumped and flushed in the adapter, upstream of the gun. Complete GA 1900 adapter plate is necessary	B_08122
2425806	60° adapter for circulation base robot applications With integrated flushing valve, for Fanuc P 250i in general for 2K products Product can be dumped and flushed in the adapter, upstream of the gun. Complete GA 1900 adapter plate is necessary	B_08123
2426690	<b>Complete adapter plate for GA 1900</b> To complete the GA 1900 robot adapter for distribution base or circulation base	B_08125
2396123	<b>Standard GA 1900 connection plate</b> 0° adapter without fittings, can be used with or without circulation	B_08132



Order no.	Designation	
2390527	<b>Connection plate GA 1900 C</b> 0° adapter for fixed mountings; for 1K products with circulation with integrated dump valve and fittings	
2394306	<b>Connection plate GA 1900</b> 0° adapter for fixed mountings; for 2K products without circulation and with fittings	B_06957
2394308 2394309	Adapter plate for AGMD 517/PaintPro Adapter plate for standard WA905	
2392156	Gun adapter GA 1900 for TF Robot Bell 1	B_06959



# 14 SPARE PARTS

# 

#### Incorrect maintenance/repair!

Danger to life and equipment damage.

- Only a WAGNER service center or a suitably trained person may carry out repairs and replace parts.
- Use only WAGNER original spare parts and accessories.
- Only repair and replace parts that are listed in the spare parts chapter and that are assigned to the device.
- Before all work on the device and in the event of work interruptions:
  - Relieve the pressure from the spray gun, product hoses and all devices.
  - Secure the spray gun against actuation.
  - Switch off the energy and compressed air supply.
  - Disconnect the control unit from the mains.
- Observe the operating and service manual for all work.

#### 14.1 HOW TO ORDER SPARE PARTS

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

#### Order number, designation and quantity

The quantity need not be the same as the number given in the quantity column "Stk" on the list. This number merely indicates how many of the respective parts are used in each component.

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

- billing address
- delivery address
- name of the person to be contacted in the event of any queries
- type of delivery (normal mail, express delivery, air freight, courier etc.)

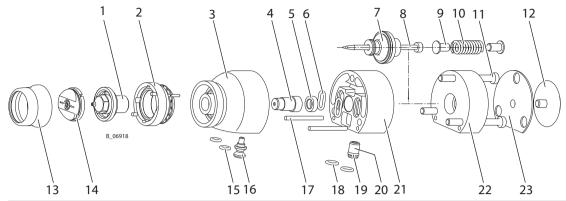
### Identification in spare parts lists

Explanation of column "K" (marking) in the following spare parts lists:

- Wearing parts. Wearing parts are not included in the warranty.
- **\*** = included in service set
- not part of the standard equipment but available as a special accessory Explanation of order no. column:
- -- Item not available as spare part.
- / Position does not exist.



# 14.2 GA 1900EC AUTOMATIC SPRAY GUN



Pos	К	Stk	Order no.	Designation	
1	*	1	See accessories in chapter Nozzles [ >> 39].	Paint nozzle GA1900, complete	
2		1	2394343	Air manifold ring GA1900, complete	
	•	1		Seal for air manifold ring, above	
	•	1		Seal for air manifold ring, below	
3		1	2394330	Head, GA1900 1/4 without circulation	
		1	2404777	Head, GA1900 1/4 with circulation	
4	*	1		Needle packing	
5	•	1		Grease buffer	
6	<b>♦</b>	2	2405000	O-ring 9.75 x 1.78	
7	*	1	2394347	Piston GA1900	
8	*	1	See accessories in chapter Nozzles [▶ 39].	Valve needle GA1900	
9		1	2394349	Spring pin	
10	*	1		Pressure spring GA1900	
11		3	2394348	Socket cap screw	
12		1	2394342	Screw plug GA1900	
13		1	2392764	Union nut*	
14		1	See accessories in chapter Air caps [ >> 39].	Air cap	
15	•	2	2404998	O-ring 5.28 x 1.78	
16		1	2394344	Clamping spigot for connection plate	
17		2	2394350	Parallel pin	
18	•	2	2404999	O-ring 6.75 x 1.78	
19	•	1	2404998	O-ring 5.28 x 1.78	
20		1	2394345	Centering bolt	
21		1	2394336	Head holder GA1900	
22		1	2394340	End plate GA1900	
23		1	2394341	Cover GA1900	

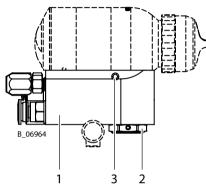


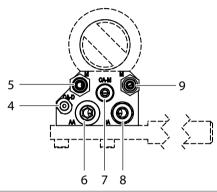
- ♦ = Wearing part.
- $\star$  = included in service set
- = not part of the standard equipment but available as a special accessory

### Tool and service set

Pos	К	Stk	Order no.	Designation	
		1	2394321	Special tool set	
		1	2394319	Service set GA 1900 (seals, pistons, pressure spring, needle packing)	
		1	2405102	O-ring set, GA 1900 (O-rings pos. 15 and 18)	

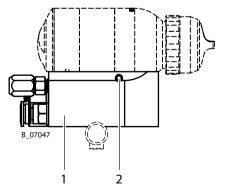
## 14.2.1 Adapter Plate with Circulation

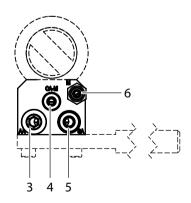




Pos	К	Stk	Order no.	Designation	
1		1	2390527	Connection plate GA 1900 C	
2		1	2342424	Needle valve, M16×1	
3		1	2363204	Threaded pin, M6×12 with hexagon socket	
4		1	3208666	Push-in fitting, QSM-M5-6	
5		1	2389467	GE fitting, C1/8" - 6/8	
6		1	3204227	Push-in fitting with hexagon socket, R 1/4"	
7		1	3127700	Push-in fitting, R 1/8"	
8		1	2325372	Push-in fitting, R 1/4"	
9		1	2305586	GE fitting, C1/8"	

### 14.2.2 Adapter Plate without Circulation







Pos	К	StK	Order no.	Designation	
1		1	2394306	Connection plate, GA 1900 0° without circulation	
2		1	2363204	Threaded pin, M6×12 with hexagon socket	
3		1	3204227	Push-in fitting with hexagon socket, R 1/4"	
4		1	3127700	Push-in fitting, R 1/8"	
5		1	2325372	Push-in fitting, R 1/4"	
6		1	2305586	GE fitting, C1/8"	



# **15 EU DECLARATION OF CONFORMITY**

Herewith we declare that the supplied version of:

Automatic spray gun **GA 1900** 

complies with the following guidelines:

2006/42/EC

2014/34/EU

Applied standards, in particular:

EN ISO 12100:2010	EN ISO 4414:2010	EN ISO 80079-37:2016	
EN 1953:2013	EN 1127-1:2011	EN ISO/IEC 80079-34:2011	
EN ISO 4413:2010	EN ISO 80079-36:2016		

Applied national technical standards and specifications, in particular:

TRGS 727

Identification: CE (Ex) II 2G T80°C

## EU Declaration of Conformity

The EU Declaration of Conformity is enclosed with this product. If needed, further copies can be ordered through your WAGNER dealer by specifying the product name and serial number.

**Order number:** 2396154







Order number DOC 2395640 Edition 7/2021

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Subject to changes without notice

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