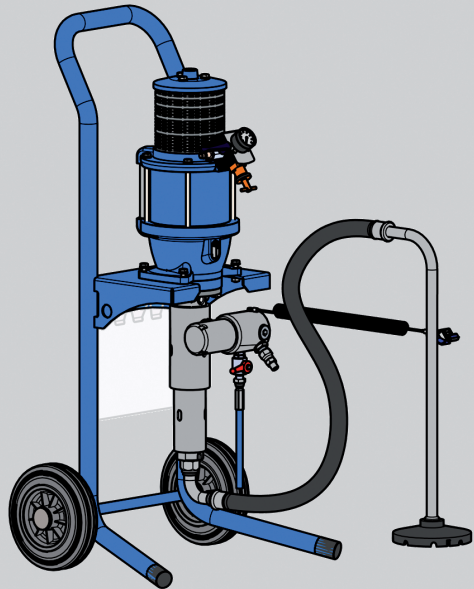


Operation Manual

PHOENIX GX SERIES

1K Airless/AirCombi



Serial No.:



EC declaration of conformity

in accordance with Annex II, No. 1 A of Machine Directive 2006/42/EC,
as amended by 2009/127/EC

The company **WIWA Wilhelm Wagner GmbH & Co. KG**
35633 Lahnau
Gewerbestraße 1–3
Germany

hereby declares that the ma- **PHOENIX GX SERIES**
chine type
with serial no.

conforms with the provisions of the above directives.
Responsible for documentation: **WIWA**, +49 (0)6441 609-0

Lahnau, October 21, 2021

Place, Date



Dipl.-Ing. (FH) Peter Turczak
Managing Director

EU declaration of conformity

in accordance with ATEX Directives

The company **WIWA Wilhelm Wagner GmbH & Co. KG**
35633 Lahnau
Gewerbestraße 1–3
Germany

hereby declares that the machine type **PHOENIX GX SERIES**
with serial no.

conforms with the provisions of Directive 2014/34/EU.
The listed machine is assigned to Group II, Category 2G.

Labeling:  II 2G Ex h IIB T4 Gb

Lahnau, October 21, 2021

Place, Date



Dipl.-Ing. (FH) Peter Turczak
Managing Director

Contents

1	Foreword	1
2	Safety	3
2.1	Explanation of symbols	3
2.2	Safety notes	6
2.2.1	Working pressure	7
2.2.2	Risks due to the spray jet	7
2.2.3	Risks due to electrostatic charge	8
2.2.4	Risks due to hot or cold surfaces	9
2.2.5	Explosion protection	9
2.2.6	Health risks	11
2.3	Safety signs	12
2.4	Safety features	13
2.4.1	Safety valve	14
2.4.2	Compressed air shut-off valve	15
2.4.3	Ground cable	16
2.5	Operating and maintenance personnel	16
2.5.1	Obligations of the owner	16
2.5.2	Personnel qualifications	17
2.5.3	Authorized operator	17
2.5.4	Personal protective equipment	17
2.6	Warranty and liability	18
2.6.1	Spare parts	19
2.6.2	Accessories	19
2.7	How to respond in an emergency	19
2.7.1	Shutting down the machine and relieving the pressure	19
2.7.2	Leakage	20
2.7.3	Injuries	20
3	Description	21
3.1	Intended use	22
3.2	Erroneous use	23
3.3	Machine design	24
3.3.1	Machine design variants	25
3.4	Optional expansions and accessories	26
3.4.1	Spraying accessory kits	26
3.4.2	Hose holder attachment kit	27
3.4.3	AirCombi attachment kit	28

4	Transport, installation, and assembly	29
4.1	Transport	29
4.2	Installation site	30
4.3	Assembly	31
4.3.1	Connecting the spraying hose and spray gun	32
4.3.2	Grounding the machine	33
4.3.3	Connecting the compressed air supply	33
5	Operation	35
5.1	Putting the machine into operation	35
5.2	Spraying	36
5.2.1	Setting the spraying pressure	37
5.2.2	Tips for good coatings	38
5.3	Flushing	38
5.4	Material change	41
5.5	Pressure relief	41
5.6	Work interruption	42
5.7	Decommissioning	42
5.8	Storage	43
5.9	Disposal	44
6	Maintenance	45
6.1	Regular testing	46
6.2	Maintenance schedule	47
6.3	Safety valve	47
6.3.1	Checking the safety valve	47
6.3.2	Replacing the safety valve	49
6.4	High pressure pump	49
6.4.1	Checking the release agent for material residues	49
6.4.2	Filling the release agent and checking the fill level	50
6.5	High pressure filter	50
6.5.1	Cleaning the filter element	50
6.5.2	Filter elements for high pressure filters	52
6.6	Checking the compressed air and material hoses	53
6.7	Recommended operating fluids	53
7	Eliminating operational faults	55
8	Technical Information	60
8.1	Type plate	60
8.2	QR code	60
8.3	Emission sound pressure level in the workplace	60
8.4	Technical data	62

1 Foreword

Dear valued customer,

We are delighted that you have chosen one of our machines.

This operation manual is directed at the operating and maintenance personnel. It contains all information required in order to work with this machine.



The owner must ensure that the operating and maintenance personnel always have access to a copy of the operation manual in a language that they understand.

In addition to the operation manual, further information is also essential for the safe operation of the machine. Read and observe the directives and accident prevention regulations valid in your country.

In Germany, these are:

- ▶ BGR 500, chap. 2.29 “Processing coating materials”,
- ▶ BGR 500, chap. 2.36 “Working with fluid jets”,

both from the professional association for gas, district heating and water management.

We recommend enclosing all relevant directives and accident prevention regulations with the operation manual.

Furthermore, always observe the safety data sheets, manufacturer’s instructions and processing guidelines for coating or conveyance materials.

If questions should arise, we would be happy to assist you. We wish you excellent working results with your machine

WIWA Wilhelm Wagner GmbH & Co. KG

Copyright

© 2021 **WIWA**

The copyright to this operation manual belongs to

WIWA Wilhelm Wagner GmbH & Co. KG

Gewerbestraße 1–3 • 35633 Lahnau • Germany

Phone: +49 (0)6441 609-0 • Fax: +49 (0)6441 609-2450 • Email: info@wiwa.de

• Website: www.wiwa.de

This operation manual is intended exclusively for the preparation, operating and maintenance personnel. It is expressly prohibited to distribute this operation manual, duplicate, exploit or communicate its contents, unless expressly authorized to do so. Infringement will lead to compensation. All rights to any patent, utility model or design registrations are reserved.

2 Safety

This machine has been designed and manufactured taking into consideration all safety aspects. It conforms to the current state of the art and the applicable accident prevention regulations. The machine left the factory in faultless condition and guarantees a high level of technical safety. However, improper operation and misuse will pose a risk to:

- ▶ the life and limb of the operator or third parties,
- ▶ the machine and other property of the owner,
- ▶ the efficient function of the machine.

It is fundamentally prohibited to implement any method of work that has a negative influence on the safety of the operating personnel and the machine. All persons involved in the installation, commissioning, operation, care, repair and maintenance of the machine must have read and understood the operation manual beforehand – in particular the “Safety” chapter.

Your safety depends on it!

We recommend that the machine owner have this confirmed in writing.

2.1 Explanation of symbols

Safety notes warn of potential accident risks and describe the measures required for accident prevention. In the **WIWA** operation manuals, safety notes are highlighted and labeled as follows:



DANGER

Signals a risk of accidents that are very likely to result in serious injuries and even death, if the safety note is not observed!



WARNING

Signals a risk of accidents that may result in serious injuries and even death, if the safety note is not observed!



CAUTION

Signals a risk of accidents that may result in injuries, if the safety note is not observed!



Signals important information for proper handling of the machine. A failure to observe this may result in damage to the machine or its environment.

Various pictograms are used in the safety notes for accident risks that may result in injury, depending on the hazard source.

Examples:



General risk of accident



Risk of explosion due to explosive atmosphere



Risk of explosion due to explosive substances



Risk of accident due to electricity or electrostatic charge



Warning of crushing



Warning of corrosive substances



Risk of cutting injuries due to rotating machine parts



Risk of burning due to hot surfaces



Risk of freezing due to cold surfaces

The first line of the safety instructions indicates the personal protective equipment that must be worn. This is also highlighted and labeled as follows:



Wear protective clothing

Signals an instruction to wear the prescribed protective clothing, in order to prevent skin injuries due to the processing material or gases.



Use eye protection

Signals an instruction to wear protective goggles, in order to prevent eye injuries due to material spray, gases, vapors or dust.



Use ear defenders

Signals an instruction to wear ear defenders, in order to prevent damage to hearing caused by noise.



Use respiratory protection

Signals an instruction to use respiratory protection, in order to prevent damage to the respiratory tract caused by gases, vapors or dust.



Wear protective gloves

Signals an instruction to wear protective gloves in order to prevent injuries due to aggressive chemicals, burns when processing heated materials, or freezing due to contact with very cold surfaces.

**Wear safety shoes**

Signals an instruction to wear safety shoes, in order to prevent foot injuries due to falling, toppling or rolling objects, as well as slipping on slippery floors.



Signals references to directives, work instructions and operation manuals that contain very important information and must be observed.



Indicates a special note on explosion protection.



Indicates a special note on grounding.

2.2 Safety notes

Always remember that this machine operates at high pressures and can cause life-threatening injuries if handled incorrectly!
Do not leave the machine unattended during operation. You must be able to intervene immediately in an emergency.



Always observe and follow all information in this operation manual and in the separate operation manuals for the individual machine parts and optional accessories.

2.2.1 Working pressure



WARNING

Parts that are not designed for the maximum permissible working pressure may rupture and cause serious injuries.

- ▶ It is essential to observe the prescribed maximum working pressures for all parts. With varying working pressures, the lowest value always applies as the maximum working pressure for the complete machine.
- ▶ Material hoses and hose assemblies must comply with the maximum operating pressure including the required safety factor.
- ▶ Material hoses may not exhibit leakage, kinks, signs of wear or bulges.
- ▶ Hose assemblies must be tight.

2.2.2 Risks due to the spray jet



WARNING

The material exits the spray gun under very high pressure. The spray jet can cause serious injuries through its cutting action, or by penetrating the skin or eyes.

- ▶ Never aim the spray gun at yourself, other persons or animals!
- ▶ Never hold your fingers or hand in front of the spray gun!
- ▶ Never reach into the spray jet!
- ▶ Always hold the spray gun tightly in your hands while working since great recoil forces can arise at high working pressures.

**WARNING**

An unintended ejection of material from the spray gun can cause personal injury and property damage.

- ▶ Do not clamp the trigger of the spray gun during operation!
- ▶ Secure the spray gun whenever interrupting work!
- ▶ Prior to each commissioning, always check the spray gun lock!

2.2.3 Risks due to electrostatic charge

**WARNING**

The high flow velocities can result in an electrostatic charge. Static discharges can result in fire and explosions.

- ▶ Ensure that the machine is correctly grounded!
- ▶ Also ground the object that is to be coated.
- ▶ Always use open, electrically conductive containers and put them on a grounded surface.
- ▶ Never spray solvents or materials containing solvents into narrow-mouthed cans or barrels with a bung opening!
- ▶ Only use electrically conductive material hoses. All original material hoses from **WIWA** are conductive and designed for our devices.
- ▶ Only use electrically conductive accessories/accessory parts.

**WARNING**

Dirty machines can become electrostatically charged. Static discharges can result in fire and explosions.

- ▶ Keep the machine clean.
- ▶ Always perform the cleaning work outside of EX zones.

2.2.4 Risks due to hot or cold surfaces



CAUTION

When using material heaters, the machine surfaces may become hot. A risk of burns exists.

- ▶ When processing heated materials always wear protective gloves with forearm protection.



CAUTION

Air motors can become very cold during operation. Local frostbite can occur due to contact with very cold surfaces.

- ▶ Prior to all work on the machine, heat air motors up to a temperature above 10°C.
- ▶ Wear suitable protective gloves!

2.2.5 Explosion protection


The following short designations are used in the instructions of **WIWA**:

- ▶ Ex protection: Explosion protection
- ▶ Ex area: potentially explosive or non-explosion protected area
- ▶ Non-Ex area: non-explosive or explosion protected area
- ▶ Ex zone: Explosion protection zone according to ATEX Directive
- ▶ ATEX knowledge: Knowledge of explosion protection according to ATEX Directive



WARNING

Machines and accessories that are not explosion-protected may not be used in operating facilities that fall under the explosion protection ordinance!

Explosion-protected machines can be identified by the corresponding  mark on the type plate and/or the ATEX-declaration of conformity provided.



When using the machine in Ex zones, the specialist personnel must have knowledge of ATEX.

Explosion-protected machines meet the requirements of the ATEX Directive for the device group, device category and temperature class cited on the type plate or in the declaration of conformity.

The owner is responsible for designating the zoning in accordance with ATEX Directive, Appendix II, No. 2.1-2.3 in accordance with the stipulations of the responsible regulatory body. The owner is required to check and ensure that all technical data and labeling comply with the applicable stipulations according to ATEX.

For applications, in which a failure of the machine could lead to dangers to personnel, the owner is required to implement appropriate safety measures.

Please note that some parts have their own type plate with separate labeling according to ATEX. In this case, the lowest explosion protection of all labels displayed applies to the entire machine.

If agitators, heaters or other electrically operated accessories are attached, the explosion protection must be checked. Plugs for heaters, agitators, etc. that do not have explosion protection may only be plugged in outside of areas that fall under the explosion protection ordinance, also if the accessory itself is explosion protected.



WARNING

Heating solvents can lead to an explosion. Serious personal injuries and property damage may result.

- ▶ Observe the flashpoint and ignition temperature of solvents.
- ▶ Switch all heating systems off when carrying out the following work: Cleaning, pressure testing, decommissioning, maintenance and repair.
- ▶ Never immerse a hot spray gun in solvent.

2.2.6 Health risks



CAUTION

Depending on the materials being processed, solvent vapors may arise, which could cause damage to health and property.

- ▶ Make sure the workplace is sufficiently ventilated and aired.
- ▶ Always observe the safety data sheets and processing instructions of the material manufacturer.



When handling paint, solvents, oils, greases, and other chemical substances, observe the safety and portioning instructions of the manufacturer and the generally applicable regulations.



Only use suitable skin protection, skin cleansing and skincare products for cleansing the skin.

In systems that are closed or under pressure, dangerous chemical reactions may arise, if parts produced from aluminum or galvanized parts come into contact with 1,1,1 - trichloroethane, methylene chloride or other solvents that contain halogenated chlorinated hydrocarbons (CFCs). If you wish to process materials that contain the aforementioned substances, we recommend that you contact the material manufacturer to clarify their suitability for use.

A range of machines in rust and acid-resistant designs is available for these types of materials.

2.4 Safety features



WARNING

If one of the safety features is missing or is not fully functional, the operating safety of the machine is not guaranteed!

- ▶ Put the machine out of operation immediately if you detect safety feature defects or any other faults on the machine.
- ▶ Only put the machine back into operation once the faults have been fully rectified.

The machine is equipped with the following safety features:

- ▶ Safety valve,
- ▶ Compressed air shut-off valve with automatic ventilation and
- ▶ Ground cable.

Check the safety features on the machine:

- ▶ Prior to commissioning,
- ▶ Always prior to starting work,
- ▶ After all set-up work,
- ▶ After all cleaning, maintenance, and repair work.

Checklist on the pressureless machine:

- Seal on the safety valve OK?
- Safety valve externally free of damage?
- Ground cable free of damage?
- Is the ground cable connected to the machine and OK at the circuit board?
- Mobility of the compressed air shut-off valve OK?

Checklist on the pressurized machine after all cleaning, maintenance, and repair work:

- Function of the safety valve OK? (For function test, section 6.3 on page 47.)



When checking additional safety features, observe the operation manuals for the optional accessories.

2.4.1 Safety valve

A safety valve is located on the air motor on the machine (for example, see Fig. 2).

The safety valve prevents the maximum permissible air inlet pressure from being exceeded. If the air inlet pressure exceeds the permanently set threshold value, the safety valve blows off.

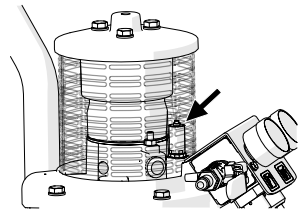


Fig. 2: Safety valve for Phoenix GX 140 AirCombi



WARNING

If the maximum permissible air inlet pressure is exceeded, parts may rupture. The consequences may be personal injuries and property damage.

- ▶ Never operate the machine without a safety valve or with a defective safety valve!
- ▶ If it is necessary to replace the safety valve, please refer to the spare parts list for the order number.
- ▶ With new safety valves, make sure that these are set to the maximum permissible air inlet pressure of the machine (see type plate or technical data) and sealed.

2.4.2 Compressed air shut-off valve

The compressed air shut-off valve on the maintenance unit interrupts the air supply to the entire machine. The machine immediately stops and the compressed air is released.

The functional principle:

- ▶ To open/opened \Rightarrow Position in flow direction

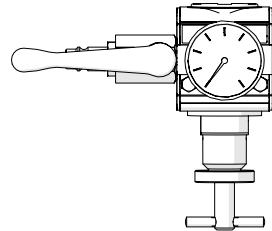


Fig. 3: Compressed air shut-off valve OPEN

- ▶ To close/closed \Rightarrow Position transverse to the flow direction

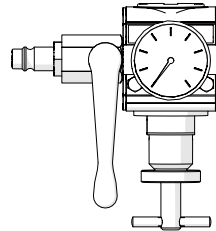


Fig. 4: Compressed air shut-off valve CLOSED



After shutting off the air, the machine remains under pressure with regards to material. Perform a complete pressure relief before all work on the machine (see section 5.5 on page 41)!

2.4.3 Ground cable

The ground cable serves to prevent electrostatic charging of the machine.

The ground cable is already connected to the machine at the time of delivery (e. g. to the high pressure filter, the frame, the grounding rail, or the like).

If a ground cable is lost or defective, it must be replaced immediately!

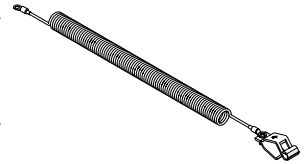


Fig. 5: Ground cable



The grounding points on this machine are labeled with the symbol shown on the left.

2.5 Operating and maintenance personnel

2.5.1 Obligations of the owner

The owner:

- ▶ is responsible for training the operating and maintenance personnel,
- ▶ must instruct the operating and maintenance personnel on correct handling of the machine, and on wearing the correct work clothing and protective equipment,
- ▶ must make work aids, such as lifting gear for transporting the machine or container, available to the operating and maintenance personnel,
- ▶ must make the user manual accessible to the operating and maintenance personnel and must ensure that this remains constantly available,
- ▶ must ensure that the operating and maintenance personnel have read and understood the user manual.

Only then are they permitted to put the machine into operation.

2.5.2 Personnel qualifications

Differentiation is made between two groups of personnel, depending on their qualifications:

- ▶ Instructed operator has received verified instruction from the owner regarding the tasks entrusted to him and the possible risks in the event of incorrect conduct.
- ▶ Trained personnel have received instruction provided by the manufacturer and are capable of carrying out maintenance and repair work on the machine, independently recognizing possible dangers and avoiding risks.

2.5.3 Authorized operator

Activity	Qualification
Set-up and operation	Instructed operator
Cleaning	Instructed operator
Maintenance	Trained personnel
Repair	Trained personnel



Children, young persons under the age of 16 and untrained personnel may not operate this machine.

2.5.4 Personal protective equipment



Wear protective clothing

Always wear the protective clothing stipulated for your working environment (e. g. anti-static protective clothing in potentially explosive areas) and also observe the recommendations in the safety data sheet of the material manufacturer.

**Use eye protection**

Wear protective goggles in order to prevent eye injuries due to material spray, gases, vapors or dust.

**Use ear defenders**

Ear defenders must be worn as of a sound pressure level of 85 dB(A). Ear defenders must be provided by the owner.

**Use respiratory protection**

Although the right pressure adjustment and correct work method minimizes the paint mist, we recommend that you use a respiratory protection mask.

**Wear protective gloves**

Wear anti-static, chemical-resistant protective gloves with forearm protection to prevent injuries due to aggressive chemicals, burns when processing heated materials, or freezing due to contact with very cold surfaces.

**Wear safety shoes**

Wear anti-static safety shoes, in order to prevent foot injuries due to falling, toppling or rolling objects, as well as slipping on slippery floors.

2.6 Warranty and liability



Except when otherwise stipulated,

- ▶ our General Terms and Conditions (GTC) apply for deliveries within Germany,
- ▶ our Orgalime SE 01 apply for deliveries to all other countries. You can check and download them at www.wiwa.de.

2.6.1 Spare parts

- ▶ When repairing and maintaining the machine, original spare parts from **WIWA** must be used.
- ▶ If spare parts are used that have not been produced or supplied by **WIWA**, the warranty is void and all liability shall be excluded.

2.6.2 Accessories

- ▶ If you use original **WIWA** accessories, their suitability for use in our machines is guaranteed.
- ▶ If you use third-party accessories, these must be suitable for the machine – in particular with respect to the working pressure, the current connection data, the connection variables, and use in Ex-zones, if applicable. **WIWA** will not be liable for any damage or injuries due to these parts.
- ▶ It is essential to observe the safety provisions applicable to the accessories. You can find these safety provisions in the separate operation manuals for the accessories.

2.7 How to respond in an emergency

2.7.1 Shutting down the machine and relieving the pressure

In an emergency, bring the machine to an immediate standstill and relieve the pressure.

1. Close the compressed air shut-off valve on the maintenance unit.
2. Pull the spray gun trigger until the material pressure is completely relieved.
3. Open the relief valve on the high pressure filter, so that no further material pressure is present and the machine has been fully relieved of pressure.



This process is not suitable for decommissioning. The machine is not flushed.

- ▶ For controlled decommissioning, observe section 5.7 on page 42.
- ▶ After remedying the emergency situation, the machine must be flushed (see section 5.3 on page 38). Observe the pot life of the materials used.

2.7.2 Leakage



WARNING

In case of leakage, material may escape under very high pressure and cause serious physical injuries and property damage.

- ▶ Stop the machine immediately and relieve the pressure.
- ▶ Tighten threaded connections and replace defective parts (must be performed by trained personnel).
- ▶ Do not seal leakage at connections and on high pressure hoses with the hand or by wrapping.
- ▶ Do not patch material / high pressure hoses!
- ▶ Check hoses and threaded connections for leak-tightness before starting the machine up again.

2.7.3 Injuries

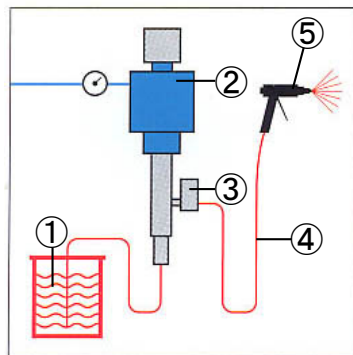
In case of injuries caused by processing material or cleaning agents, always have the safety data sheet ready to show to the doctor (supplier or manufacturer address, their telephone number, material designation and material number).

3 Description

The **WIWA** Phoenix series spray devices are intended for both airless spraying (in the airless design) and air-supported spraying (in the AirCombi design) of coating materials and additives in surface technology.

Airless spraying

Airless indicates a spray process in which the processing material is applied to the surface under high pressure without an additional air supply. The atomization of the processing material is achieved solely through the material pressure and the nozzle incorporated in the spray gun.



No.	Description
1	Airless spray device
2	Airless spray gun
3	High pressure filter
4	Spraying hose
5	Container with processing material

Fig. 6: Flow chart during airless spraying

AirCombi spraying

During the **AirCombi** spray process, the processing material is fed to the AirCombi spray gun with moderate pressure and pre-atomized. The fine atomization is achieved by feeding regulated compressed air during the paint discharge. A soft, controllable spray jet with minimal paint mist and rebound results.

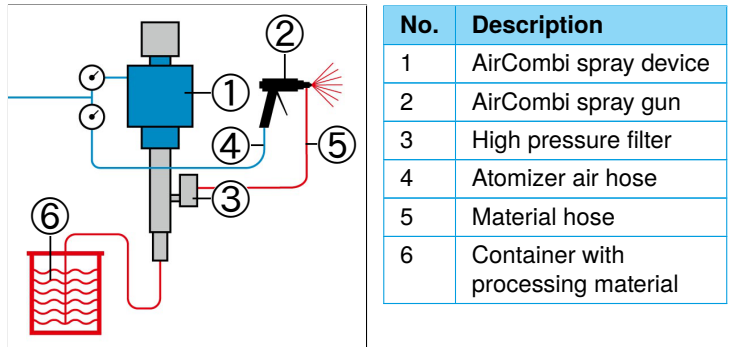


Fig. 7: Flow chart during AirCombi spraying

The technical data for your machine can be found on the machine card enclosed, or on the type plate.

3.1 Intended use

The **WIWA** Phoenix series spray devices are intended for both airless spraying (in the airless version) and air-supported spraying (in the AirCombi version) of coating materials and additives in surface technology.

The Phoenix GX series was especially developed for the wood and metalworking sector in industry and trade.

The Phoenix GX series is suitable e. g. for processing

- ▶ Primer
- ▶ Spray filler
- ▶ Sprayable lacquers and paints
- ▶ Two-component and tar epoxy paints (highly viscous and coarsely pigmented)
- ▶ Textured paint
- ▶ Hammer effect lacquer
- ▶ Zinc dust paint
- ▶ Corrosion protection and micaceous iron paints

- ▶ Low-solvent and solvent-free paints
- ▶ Mordants
- ▶ Water-based varnishes
- ▶ Clear lacquers
- ▶ Thick-layered stains




Intended use also includes:

- ▶ observing the technical documentation and
- ▶ complying with the operating, maintenance and servicing guidelines.

3.2 Erroneous use

Any use other than that stipulated in the technical documentation is deemed to be erroneous use and will void the warranty.

Erroneous use applies in particular if

- ▶ impermissible materials are processed,
- ▶ unauthorized modifications or changes are implemented,
- ▶ the safety features are removed, modified or bypassed,
- ▶ spare parts are installed that were not manufactured or delivered by **WIWA** (see section 2.6.1 on page 19),
- ▶ accessories are used that are not suitable for the machine (see section 2.6.2 on page 19),
- ▶ machines without  identification are used in potentially explosive atmospheres,
- ▶ the machine is operated outside of the operating limits according to the type plate.

3.3 Machine design

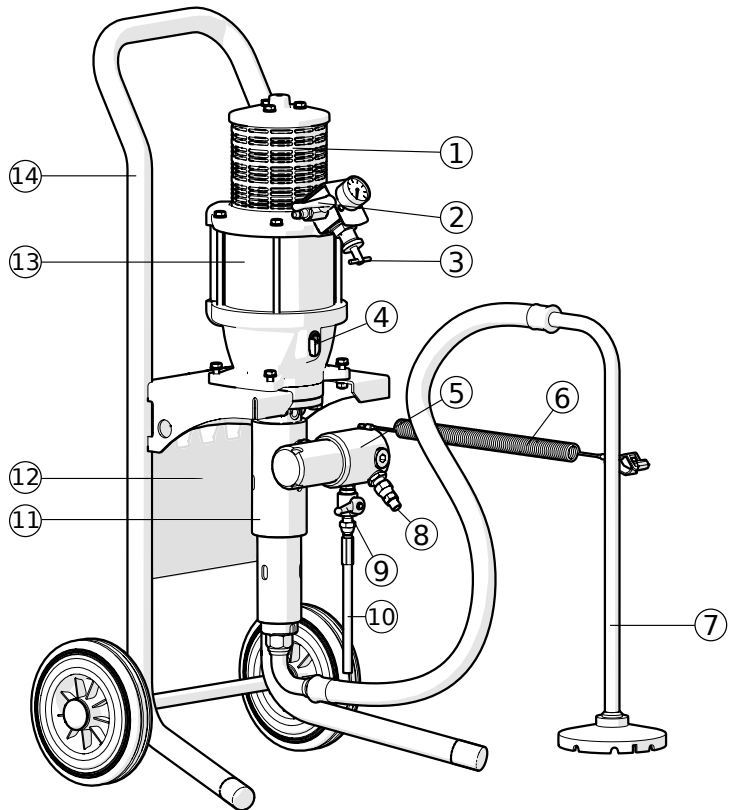


Fig. 8: Phoenix GX (here with air motor 140) on cart

No.	Designation	Further information
1	Muffer	
2	Compressed air shut-off valve	section 2.4.2 on page 15
3	Compressed air regulator	
4	Filler opening for release agent	section 6.4.2 on page 50

5	High pressure filter	
6	Ground cable	section 2.4.3 on page 16
7	Suction hose with suction tube and suction screen	
8	Relief valve	
9	Connection for spraying hose	section 4.3.1 on page 32
10	Relief hose	
11	Fluid pump	
12	Folder for operation manual	
13	Air motor (140 or 200)	
14	Cart	

3.3.1 Machine design variants

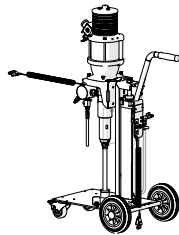


Fig. 9: Phoenix GX Airless with lift on cart

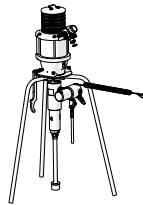


Fig. 10: Phoenix GX Airless on tripod

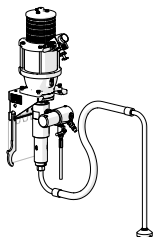


Fig. 11: Phoenix GX Airless on wall mount

3.4 Optional expansions and accessories

WIWA offers a comprehensive range of accessories for the optimum preparation and processing of processing materials. The accessories required are configured on a customer-specific basis for each machine. The following list contains just some of the most common accessories and expansions.

The detailed accessory catalog can be found at www.wiwa.de. For further information and order numbers, you can also contact a **WIWA** dealer or **WIWA** customer service.

3.4.1 Spraying accessory kits

The spraying accessory is not part of the scope of delivery by default, since the materials used and the application areas are too diverse. In the spraying accessory kits, you will compile the best suited spraying accessories for your specific application.

The spraying accessory kits include

- ▶ an Airless or AirCombi spray gun,
- ▶ a spraying hose
- ▶ and a standard or reversible nozzle.



Observe and adhere to the separate operation manual for the spray gun.

3.4.2 Hose holder attachment kit

The optional hose holder enables the space-saving storage of the spraying hose on the device.

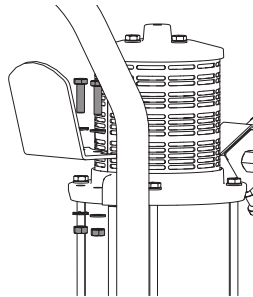


Fig. 12: Installing the hose holder

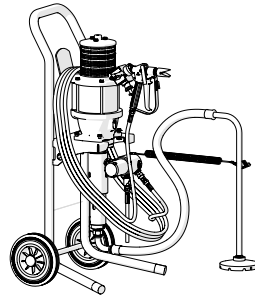


Fig. 13: Winding the hose

3.4.3 AirCombi attachment kit

In addition to the compressed air regulator for the air inlet pressure of the pump, AirCombi devices are equipped with an additional compressed air regulator to regulate the atomizer air pressure.

The 2nd compressed air regulator for the AirCombi operation can be retrofitted as an attachment kit.

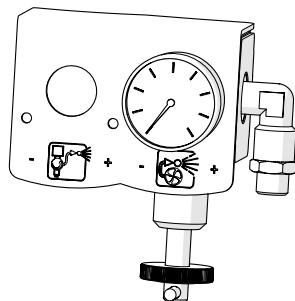


Fig. 14: AirCombi attachment kit

4 Transport, installation, and assembly



Only carry out the transport, installation, and assembly of the machine if you are equipped with the prescribed protective equipment. Details on this can be found in section 2.5.4 on page 17.

The machine left the factory in faultless condition, packaged correctly for transport. Check the machine at the time of receipt for any transport damage and for completeness.

4.1 Transport

When transporting the machine, observe the following information:

- ▶ With cart: Tilt the machine backwards by the handle and move it on the attached transport rollers.
- ▶ Secure the machine properly to a pallet for lifting and loading. Attention: danger of tipping!
- ▶ When loading the machine, ensure sufficient load-bearing capacity of the lifting gear and lifting accessories. The dimensions and weight of the machine can be found in the technical data and on the type plate.
- ▶ The machine may only be lifted at the intended attachment points for lifting accessories (e.g. forklift lugs, crane eyes or the like). If the pump has a handle, it is intended only for lifting the pump, not for lifting the complete machine.
- ▶ When using a forklift, ensure sufficient length of the lift truck forks. Each of the truck forks must be guided through the two forklift mounts located opposite each other on the frame.
- ▶ When transporting with a forklift truck, drive the forks as far apart as possible to keep the tipping moment to a minimum.

- ▶ Attention: danger of tipping! Ensure the load is evenly distributed, in order to prevent the machine from tipping.
- ▶ Do not transport any unsecured objects (e.g. material drum, tools) with the machine.
- ▶ Never stand under suspended loads or in the loading area. There is a risk of death here!
- ▶ Secure the load on the transport vehicle to prevent sliding and falling.

If the machine has previously been in operation, please observe the following:

- ▶ Disconnect the entire energy supply to the machine – even for short transport distances.
- ▶ Empty the machine prior to transport – residual liquids may still leak out of the machine during transport.
- ▶ Remove all loose parts (e.g. tools) from the machine.

4.2 Installation site

The machine is intended for installation outside of Ex-zones by default. Installation inside of Ex-zones is only possible with the explosion-protected version of the machine.

The machine can be installed inside or outside spray booths. However, in order to avoid contamination, an external installation is preferable.

The ambient temperature must be

- ▶ minimum: 0°C / 32°F
- ▶ maximum: 40°C / 104°F.



WARNING

If the machine is used outdoors during a storm, a life-endangering situation may arise for the operating personnel due to lightning!

- ▶ Never operate a machine outdoors during a storm!
- ▶ The owner must ensure that the machine is equipped with suitable lightning protection equipment.



Position the machine horizontally on a floor that is level, firm and free of vibrations. The machine may not be tilted or tipped. Make sure that all controls and safety features are easy to reach.

Safety measures at the installation site:

- ▶ Stability and sufficient free space for safe operation of the machine must be ensured.
- ▶ Fasten the machine to its installation site, in order to secure it against unintended movement.
- ▶ Keep the working area clean, especially all walking and standing areas. Remove any spilled material and cleaning agents immediately.
- ▶ In order to prevent harm to health and damage to property, ensure sufficient venting of the workplace. It is necessary to guarantee at least five-times air exchange.
- ▶ Although there are no legal regulations for the low-mist injection process itself, dangerous solvent vapors and material particles must be extracted.
- ▶ Always observe and follow the safety data sheets and processing instructions of the material manufacturer.
- ▶ Protect all items neighboring the object against possible damage due to material spray.

4.3 Assembly



WARNING

If untrained personnel carry out assembly work, they endanger themselves and others, and risk the operational safety of the machine.

- ▶ Electrical and electronic parts may only be installed by specialist personnel with electrical training; all other parts, e. g. the spraying hose and spray gun, may only be installed by personnel trained for this.



WARNING

During assembly work, ignition sources may arise (e.g. due to mechanical sparks, electrostatic discharge, etc.).

- ▶ Carry out all assembly work outside of potentially explosive areas.



When using the machine in Ex zones, the specialist personnel must have knowledge of ATEX.

Before the assembly work, ensure that:

- all compressed air shut-off valves are closed,
 - all compressed air regulators are completely turned down and
 - all material shut-off valves are closed.
- ▶ Prior to commissioning, correctly refit any parts or equipment removed for transport purposes, as required for the intended use.
 - ▶ Carry out further assembly work and establish the connections in accordance with the descriptions below.

4.3.1 Connecting the spraying hose and spray gun



WARNING

Parts that are not designed for the maximum permissible working pressure of the machine may rupture and cause serious injuries.

- ▶ Prior to installation, check the maximum permissible working pressure of the spraying hose and the spray gun. It must be greater than or equal to the maximum working pressure stated on the type plate.



Only use conductive material hoses.

All original material hoses from **WIWA** are conductive and designed for our machines.

1. Connect the spraying hose to the material outlet on the high pressure filter (Fig. 15).
2. Connect the other end of the spraying hose to the spray gun.

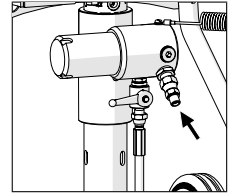


Fig. 15: Connecting the spraying hose to the high pressure filter



Observe and adhere to the separate operation manual for the spray gun.

4.3.2 Grounding the machine



WARNING

The high flow velocities during operation can result in an electrostatic charge.

Static discharges can result in fire and explosions.

- ▶ Ensure that the machine is properly grounded outside of Ex zones!
- ▶ Ensure correct grounding of the object to be coated.



The grounding point for the machine is located on the high pressure filter.

4.3.3 Connecting the compressed air supply



To ensure the required quantity of air, the compressor output must comply with the air requirement of the machine, and the diameter of the air supply hoses must match the connections.



Operation with contaminated or moist compressed air leads to damage in the machine's pneumatic system.

- ▶ Use only dried, oil-free and dust-free compressed air, which corresponds to purity class [7:5:4] according to DIN ISO 8573-1:2010!

1. Ensure that
 - ▶ the compressed air shut-off valve is closed,
 - ▶ the compressed air regulator is completely throttled back.
2. Insert compressed air line (coupling DN 7.2, G $\frac{1}{4}$ " A)

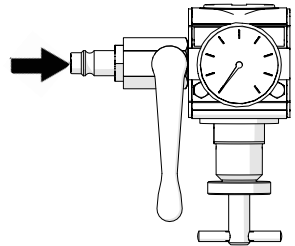


Fig. 16: Connecting the compressed air

5 Operation



Only put the machine into operation if you are equipped with the prescribed personal protective equipment. Details on this can be found in section 2.5.4 on page 17.

- The machine must be correctly installed and fully assembled.
- The air inlet pressure can be found in the information on the type plate (section 8.1 on page 60).
- The processing material must be available in sufficient quantity.

Multiple collecting vessels are also required for surplus material. These containers are not included in the scope of delivery.



Observe and follow the material and safety data sheets of the respective material manufacturer when processing and storing processing materials.



WARNING

If fluid pumps run dry, this can lead to fire or an explosion due to the resulting friction heat.

- During operation ensure that the drums never run empty.
- However, if this were to happen, bring the respective pump to an immediate standstill and add material.

5.1 Putting the machine into operation

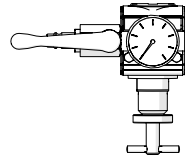
- Are all safety features present and fully functional (see section 2.4 on page 13)?

- Are the machine and the object to be coated correctly grounded (see section 4.3.2 on page 33)?
- Check the release agent level in the pump and top it off if necessary (see section 6.4.1 on page 49).
- Flush the machine (see section 5.3 on page 38) in order to flush out the factory-made test substance (during initial commissioning) or the remains of the previous processing material. Use the flushing agent recommended by the manufacturer of your coating material.
- During flushing, check that all machine parts are leak-tight and tighten the connections if necessary.

5.2 Spraying

Before spraying, the work steps for commissioning must have been performed (see chap. 'Putting the machine into operation' on page).

1. Put the suction into the spraying material.
2. Open the compressed air shut-off valve.
3. Adjust the air inlet pressure such that the pump runs slowly.



4. Unlock the spray gun and trigger it until the spraying material runs out clean and free of bubbles. Pump and hoses are now completely filled with material.
5. Let go of the gun trigger and lock the spray gun. The pump should stop when the trigger is released.
6. Close the compressed air shut-off valve.
7. Relieve the pressure in the machine (see 'Relieving the pressure' on page).

Fig. 17: Compressed air regulator with compressed air shut-off valve and pressure gauge

8. Install a spray nozzle suitable for the material used and the nozzle protector.



Observe the operation manual for the spray gun. It contains a table for selecting the spray nozzle and explanations for the correct installation.

9. Open the compressed air shut-off valve and adjust the spraying pressure on the compressed air regulator of the pump (see 'Setting the spraying pressure' on page).

5.2.1 Setting the spraying pressure

Observe the following information when setting the spraying pressure:

- ▶ The optimum spraying pressure has been attained when an even application with fading edge zones is obtained.
- ▶ Only operate the machine with as much pressure as required, in order to attain good atomization at the recommended spray distance of approx. 30 –40 cm (12"-16").
- ▶ An overly high spraying pressure increases material consumption and paint mist.
- ▶ If the spraying pressure is too low, this leads to streaking and varying coating thickness.

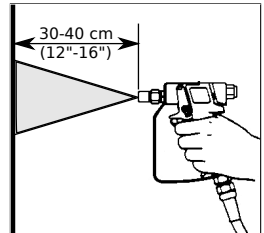


Fig. 18: Spray distance



Observe and follow the operation manual for your spray gun. It contains further information on optimizing the spray pattern.

5.2.2 Tips for good coatings

- ▶ Hold the spray gun at a right angle (90°) to the surface to be coated. As soon as you hold the spray gun at a different angle, the coating will become uneven and patchy (see Fig. 19).

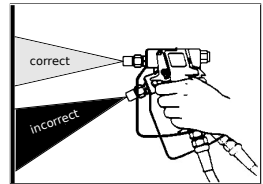


Fig. 19: Spray angle

- ▶ Ensure an even speed of the movement and guide the spray gun parallel to the coating surface. Weaving with the spray gun leads to an uneven coating (see Fig. 20).

- ▶ Move the spray gun with your arm and not with your wrist.

- ▶ Move the spray gun prior to activating the trigger. In this way you will achieve a faultless, soft and smooth overlapping of the spray jet and avoid an excessively thick material application at the start of the coating process.

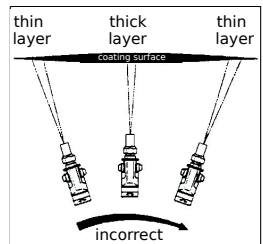


Fig. 20: Spray gun guide

- ▶ Release the trigger before stopping the movement.
- ▶ Change the spray nozzle before it becomes worn.



Worn nozzles lead to excessively high material consumption and adversely affect the quality of the coating.

5.3 Flushing

Flushing the machine is necessary

- ▶ during initial commissioning so that the processing material is not influenced by the test substance with which the machine was tested for fault-free functioning in the factory,
- ▶ when material is changed,

- ▶ when work is interrupted and when decommissioning in order to flush processing material out of the machine during an interruption to the spray operation before it hardens.



Observe the pot life of the materials used, in particular when using a multi-component material.



WARNING

The fine atomization of solvents can cause damage to health.

- ▶ If necessary, interrupt the supply of atomizing air during the flushing process.



WARNING

Heating cleaning agents can lead to an explosion. Serious personal injuries and property damage may result.

- ▶ Before flushing the machine, turn off the material fluid heater (optional) and let it cool off completely.

You will need:

- ▶ at least 5 l of cleaning agent, that is suitable for the material to be processed and is recommended by the material manufacturer, in an open container.
- ▶ an additional electrically conductive collecting vessel for the cleaning agent that is flushed out.

These containers are not included in the scope of delivery.

1. Close and lock the spray gun.
2. Turn the working pressure on the compressed air regulator down completely:
 - ▶ for the airless variant, this is the regulator for the air inlet pressure.
 - ▶ for the AirCombi variant, this is the regulator for the air inlet pressure and the regulator for the atomizing air.

3. All pressure gauges must display 0 bar.
4. Close the compressed air shut-off valve.
5. Hold the relief hose in the collecting vessel.
6. Briefly open the relief valve to relieve the pressure.

**CAUTION**

If parts of the machine are blocked (e.g. spray nozzle, material filter for the spray gun, material hose, high pressure filter, suction screen, etc.), the pressure can not be completely relieved. Material can escape under high pressure when threaded connections are released and injure you.

- ▶ Protect yourself against suddenly escaping material by covering threaded connections with a cloth while loosening them.
 - ▶ Loosen threaded connections particularly cautiously and allow the pressure to escape slowly.
 - ▶ Remove the blockages. Observe the fault table (see section 7 on page 55).
7. Remove the nozzle from the spray gun. Observe and follow the information in the user manual for the spray gun.
 8. Remove the filter element from the high pressure filter and clean it, if necessary (see section 6.5.1 on page 50).
 9. Remove the suction tube from the material drum. Scrape the paint residue off the suction tube and strainer.
 10. Position the suction tube with strainer in the container with the cleaning agent.
 11. Open the compressed air shut-off valve.
 12. Open the relief valve on the high pressure filter until clean cleaning agent escapes. Hold the hose in a collecting vessel while doing so.
 13. Set a low working pressure on the compressed air regulator so that the pump runs slowly.
 14. Close the relief valve.

15. Hold the spray gun sideways against the inner wall of the collecting vessel.
16. Trigger the gun until clean cleaning agent runs out.
17. Close and lock the gun.

5.4 Material change



The machine has been specially configured for your application case. It is necessary to check compatibility of the materials used with other materials in each individual case. **WIWA** is happy to help determine the suitability of your machine for another material.

1. Flush the machine as described in chap. section 5.3 on page 38.
2. Let the machine run to empty by taking the suction out of the cleaning agent and triggering the spray gun until air escapes.
3. Completely reduce the air inlet pressure (0 bar).
4. Close and lock the spray gun.
5. Relieve the pressure in the device (see section 5.5 on page 41).
6. Check the filter element in the high pressure filter (see section 6.5.1 on page 50).
7. After completing the work, spraying may begin with a new material (see section 5.2 on page 36).

5.5 Pressure relief

1. Close the compressed air shut-off valve. The machine vents automatically.
2. Hold the relief hose in the collecting vessel and secure it against slipping out unintentionally.
3. Briefly open the relief valve on the high pressure filter, so that the remaining pressure is relieved.
4. Pull the spray gun trigger until all pressure has escaped. Lock the spray gun.

**WARNING**

If parts of the machine are blocked (e.g. spray nozzle, material filter for the spray gun, material hose, high pressure filter, suction screen, etc.), the pressure can not be completely relieved. Material can escape under high pressure and injure you.

- ▶ Protect yourself against suddenly escaping material by covering threaded connections with a cloth while loosening them.
- ▶ Loosen threaded connections particularly cautiously and allow the pressure to escape slowly.
- ▶ Eliminate the blockages (see fault table in section 7 on page 55).

5.6 Work interruption

Lock the spray gun for even the shortest interruptions to work.



Observe the pot life of the materials used, in particular when using a multi-component material.

The machine must be flushed with the prescribed cleaning agent within the pot life specified by the manufacturer and be completely cleaned. Please note:

- ▶ At higher temperatures, the hardening time shortens.
- ▶ Let the cleaning agent circulate for some time.
- ▶ No paint residues may remain in the pump or the filter.

5.7 Decommissioning

For a longer decommissioning, proceed as follows:

1. Flush the machine as described (see section 5.3 on page 38).

2. Do not empty the machine completely. As soon as clean solvent runs out of the spray gun or the relief hose on the high pressure filter, turn down the working pressure completely (0 bar).
3. Close the compressed air shut-off valve.
4. Hold the spray gun sideways against the inner wall of the collecting vessel and trigger it again.
5. Hold the relief hose in the collecting vessel and secure it against slipping out unintentionally. Briefly open the relief valve to release the remaining material pressure.

The cleaning agent that is still in the machine remains in the machine until it is restarted, so that the machine parts do not stick together.

During a longer standstill, fill the machine with a mold oil since the cleaning agent evaporates over time.

5.8 Storage

The location for storing the machine must be

- ▶ clean,
- ▶ dry,
- ▶ frost-free and
- ▶ protected against direct sunlight.

Storage temperature:

- ▶ minimum: 0 °C or 32 °F
- ▶ maximum: 40 °C or 104 °F

5.9 Disposal



Residues of processing material, flushing agents, oils, greases and other chemical substances must be collected according to the legal regulations for recycling or disposal. The official local waste water protection laws apply.

At the end of the machine's use it must be put out of use, disassembled and disposed of according to the legal regulations.

- ▶ Thoroughly clean the machine of material residues.
- ▶ Disassemble the machine and separate the materials – metals must be taken to a scrap metal depot, plastic parts can be disposed of with household waste.

6 Maintenance



WARNING

If untrained personnel carry out maintenance and repair work, they endanger themselves and others, and risk the operational safety of the machine.

- ▶ Maintenance and repair work on electrical parts may only be performed by specialist personnel with electrical qualifications, all other maintenance and repair work may only be performed by **WIWA** customer service or specially trained personnel.



WARNING

W021-D During maintenance work, ignition sources may arise (e.g. due to mechanical sparks, electrostatic discharge, etc.).

- ▶ Carry out all maintenance work outside of potentially explosive areas.



Observe the maintenance information in the operation manual for the optional accessories.

Prior to maintenance and repair work:

1. Close the compressed air shut-off valve and remove the compressed air hose.
2. Completely de-pressurize the machine.

**WARNING**

If parts of the machine are blocked (e.g. spray nozzle, material filter for the spray gun, material hose, high pressure filter, suction screen, etc.), it is not possible to fully relieve the pressure. During disassembly work, residual pressures can escape and cause serious injuries.

- ▶ Protect yourself against suddenly ejecting material by covering threaded connections with a cloth while loosening them.
- ▶ Loosen threaded connections particularly cautiously and allow the pressure to escape slowly.
- ▶ Remove the blockages (see fault table in chap.7 on page).

After completion of the maintenance and repair work, check the function of all safety features and the faultless function of the machine.

6.1 Regular testing

The machine must be inspected and maintained regularly by a specialist:

- ▶ prior to first commissioning,
- ▶ after changes to / the servicing of parts of the installation that affect safety,
- ▶ after an interruption to operation lasting more than 6 months,
- ▶ although at least every 12 months.

In the case of machines that have been put out of use, the test can be delayed until the next time commissioning takes place.

The results of the tests must be recorded in writing and stored until the next test. The test certificate or a copy of this must be available at the machine's place of use.



Have repair work carried out exclusively by **WIWA** Service or trained specialist personnel (in/from authorized workshops if necessary). When using the machine in Ex zones, the specialist personnel must have knowledge of ATEX.

6.2 Maintenance schedule



The information in the maintenance schedule constitutes recommendations only. The time frames may vary depending on the characteristics of the materials used, as well as external influences.

Time frame	Activity	for further reading
Prior to each commissioning	Check the release agent level of the high pressure pump, fill release agent if necessary	section 6.4.2 on page 50
Once per week	Visual inspection of the compressed air and material hoses	section 6.6 on page 53
Every 50 operating hours	Check the high pressure pump release agent for material residues	section 2.2.1 on page 7
Every 3 years	Have the compressed air and material hoses checked by a specialist and replace if necessary	section 6.6 on page 53

6.3 Safety valve

6.3.1 Checking the safety valve



Only perform the function test with a filled pump!

Depending on the size of the pump used and the required working pressure, safety valves with a 1/4" or 1/2" connection are used.

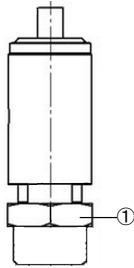


Fig. 21: 1/4" connection safety valve

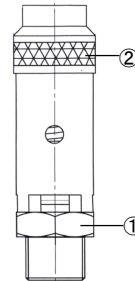


Fig. 22: 1/2" connection safety valve

No.	Description
1	Hexagon nut
2	Knurled nut

This is how to check the function of the safety valve:

Safety valve with 1/4" connection:

1. Increase the air inlet pressure on the completely filled machine briefly by approx. 10 % over the maximum permissible pressure according to the type plate. The safety valve must discharge!

Safety valve with 1/2" connection:



Only perform the test by hand. To prevent damage to the safety valve, do not use any tools to release the knurled nut.

1. Reduce the air inlet pressure on the completely filled machine by approx. 10 % below the maximum permissible pressure according to the type plate.
2. Open the safety valve for a few seconds by turning the knurled nut (Fig. 22 on page 48) counterclockwise. During this process, the closure of the safety valve opens, whereby the air must escape.

3. After this check, retighten the knurled nut clockwise.

6.3.2 Replacing the safety valve



Before replacing the safety valve, observe the following:

- ▶ the machine must be switched off and relieved of pressure,
- ▶ the data noted on the new valve must correspond to the data specified on the machine card. The calibration pressure specified on the safety valve may not be higher than the permissible working pressure of the machine.
- ▶ the new safety valve may not have any damage.

1. Attach an open end spanner to the spanner flat (Fig. 21 on page 48 and Fig. 22 on page 48) and unscrew the safety valve by turning counter-clockwise.
2. Check the connection point. It must be free of blockages and clean.
3. Insert a new safety valve and screw it tight clockwise with the open end spanner. The maximum torque is 30 Nm for a 1/4" connection and 40 Nm for a 1/2" connection.

6.4 High pressure pump

6.4.1 Checking the release agent for material residues

If material residues are discovered in the release agent, you must assume that the packing for the respective fluid pump is worn.

In this case, have the pump packing replaced as quickly as possible.

6.4.2 Filling the release agent and checking the fill level

Prior to every commissioning, check the release agent level if possible. Top off the release agent if necessary. We recommend using the release agent from **WIWA** (order no. 0163333).

No.	Description
1	To fill the release agent, slide the cover for the filler opening to the side and press the release agent in by means of the dosing bottle.
2	The release agent overflow is located below the screw connection of the air motor with the material pump.
3	The release agent should be at the center of the inspection glass for optimal filling.

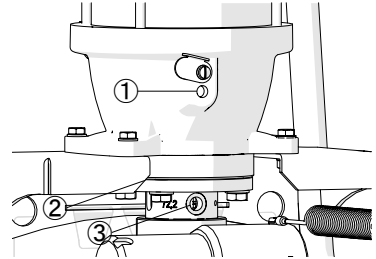


Fig. 23: Filling and checking the release agent

6.5 High pressure filter

6.5.1 Cleaning the filter element

The cleaning interval for the filter elements in the high pressure filters is dependent on the type and cleanliness of the material. Clean the filter elements at least once per week and with every material change.


WARNING

If the pressure in the machine is not relieved when the high pressure filter is opened, material can escape under very high pressure and cause serious injuries.

- ▶ Fully relieve pressure in the machine before opening the high pressure filter (see section 5.5 on page 41)

No.	Designation
1	Hook wrench
2	Cap
3	Stud bolt
4	Relief valve
5	Filter element
6	Nut

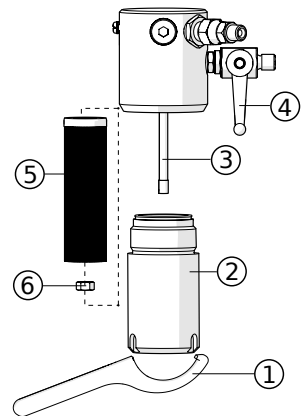


Fig. 24: Remove filter element

1. Open the relief valve (4) on the high pressure filter and briefly trigger the gun to make sure that the machine is absolutely pressureless.
2. Release the cap (2) using the hook wrench (1).
3. Unscrew the nut (6) and remove the filter element (5).
4. Clean the filter element with a suitable cleaning agent (water or solvent). If the filter element has damage, it should be replaced with a new filter element.
5. Attach the filter element onto the stud bolt (3) again and tighten it with the nut (6).
6. Screw the cap (2) onto the high pressure filter and tighten the cap with the hook wrench (1).

6.5.2 Filter elements for high pressure filters

Insert the filter element suitable for the spraying material and the spraying nozzle into the high pressure filter. The mesh size should always be slightly finer than the bore of the nozzle used:

Filter element	Nozzle size		WIWA art.no. HPF type 11 + 13	WIWA art.no. HPF type 01 + 05
M 200 (white)		up to 0.23 mm (.009")	0162744	0160636
M 150 (red)	> 0.23 mm (.009")	up to 0.33 mm (.013")	0162752	0160628
M 100 (black)	> 0.33 mm (.013")	up to 0.38 mm (.015")	0162760	0160059
M 70 (yellow)	> 0.38 mm (.015")	up to 0.66 mm (.026")	0162779	0160601
M 50 (orange)	> 0.66 mm (.026")		0162787	0163023
M 30 (blue)			0467782	0463779
M 20 (green)			0646628	–



Do not use a filter element when applying coarse pigmented or fibre filled materials. The standard suction strainer can remain in the filter housing or be replaced by a wider mesh screen. In the case of a material change, you must clean or replace both the filter element in the high pressure filter and the material screen in the suction system if necessary.

6.6 Checking the compressed air and material hoses

Check the compressed air and material hoses weekly for externally visible damage, such as kinks, cracks, signs of wear or bulges.



Improper use and impermissible stress are the most frequent causes of damage. Damaged hoses must be replaced immediately.

Hose lines are subject to a natural aging even with proper use and permissible stress. Their duration of use is thereby limited. Therefore, the compressed air and material hoses must be checked by a specialist every three years.



The duration of use of a hose line, including any possible storage duration, may not exceed six years. The manufacturing date of a hose line (month/year) is stamped on the ferrule.

6.7 Recommended operating fluids

Only use original operating fluids from **WIWA**:

Operating fluid	WIWA order number
Release agent, yellow, standard (0.5 l) ¹	0163333
Release agent, red, for isocyanate (0.5 l) ¹	0640651
Anti-freeze agent (0.5 l) ²	0631387
Pneumatic oil (0.5 l) ²	0632579
Locking agent (50 ml) ³	0000015
Lubricant (acid-free grease, 0.4 kg) ³	0000025
Lubricant for stainless steel ³	0000233

¹ Plasticizer for filling the release agent vessels of e. g. the proportioning pump, feed pump and flush pump as well as the dosing valves

² On the model with maintenance unit

³ Materials required during maintenance and repair work (see information in the spare parts lists)

The release agent and pneumatic oil are also available in larger containers on request.

7 Eliminating operational faults



Only eliminate operational faults if you are equipped with the prescribed personal protective equipment. Details on this can be found in section 2.5.4 on page 17.

fault	possible cause	remedy
Pressure relief not possible (compressed air shut-off valve closed)	<ul style="list-style-type: none"> ▶ Relief hose or relief ball valve clogged. ▶ High pressure filter blocked. 	<ul style="list-style-type: none"> ▶ Carefully loosen threaded connections and cover them with a cloth. ▶ Remove hardened material, if possible, with a solvent, soak parts in solvent if necessary, otherwise mechanically remove or replace. ▶ Replace relief hose or relief ball valve. ▶ Contact WIWA service if necessary.

fault	possible cause	remedy
Pump does not start up despite operation of the spray gun and the relief valve (on the high pressure filter) being opened.	Compressed air shut-off valve closed.	Open the compressed air shut-off valve.
	No air inlet pressure (compressed air regulator at 0 bar).	Increase air inlet pressure.
	Spray gun clogged.	Check, clean and, if necessary, replace nozzle, filter element.
	Relief hose or ball valve clogged.	Clean relief hose or ball valve, replace if necessary.
	Air motor defective.	Repair air motor using the spare parts list — if necessary contact WIWA customer service.

fault	possible cause	remedy
Pump is running, but no spraying material is being conveyed to the gun.	Suction screen clogged.	Clean the screen, replace if necessary
	Suction hose blocked.	Replace hose.
	The ball in the bottom valve does not lift (stuck).	<ul style="list-style-type: none"> ▶ Open the spray gun without nozzle. ▶ Open the relief valve on the high pressure filter. ▶ Move the bottom valve to the side with a slight impact (rubber hammer). ▶ Unscrew suction system and release the ball in the bottom valve from below using a pin or a screwdriver.
	Bottom valve does not close.	Unscrew the bottom valve and clean the ball and the seat thoroughly.
Pump is conveying material, but does not stop when the spray gun is closed.	Packing or valve worn out.	Disassemble the pump using the spare parts list and replace defective parts.

fault	possible cause	remedy
Pump running smoothly, but the required spraying pressure is not achieved.	Air pressure is too low or too little air.	Increase the air pressure on the compressed air regulator or check the air line for the correct cross-section.
	Spray nozzle (new) is too large.	Insert a smaller nozzle or use a larger pump.
	Spray nozzle worn (too large).	Insert a new nozzle.
	High pressure filter blocked	Clean the filter element (see section 6.5.1 on page 50)

fault	possible cause	remedy
Pump does not run consistently (recognizable by the different stroke speeds of the upstrokes and downstrokes) and does not reach the required spraying pressure.	Viscosity of the spraying material is too high (loss of suction).	<ul style="list-style-type: none"> ➤ Dilute spraying material. ➤ Use a larger pump. ➤ Improve fluidity e.g. by heating the material
	Suction system is leaking (fluctuations in spray jet).	Check the gaskets on all threaded connections of the suction tube and the suction hose and replace if necessary (see the spare parts list for the suction hose and the direct intake).
	Bottom valve is leaking (pump only stops in the upstroke when spray gun is closed).	Unscrew the bottom valve and clean the ball and the seat thoroughly, if necessary replace the ball or the valve seat.
	Piston valve is leaking (pump only stops in the downstroke when spray gun is closed).	Clean and check the ball and seat in the double piston, replace the valve seat as required.
	Lower or upper packing leaks (wear).	Replace the packing.
Material runs out of the overflow on the air motor.	Packings are worn.	Replace the packing. Note: Do not close the overflow!

8 Technical Information

8.1 Type plate

The type plate is located on the back on the cart.

It contains the most important technical data for the machine.



Please ensure that the data on the type plate matches the technical data for your device (see section 8.4 on page 62). In case of errors or a missing type plate, please inform us immediately.

8.2 QR code

The QR code is located on the cart and on the back of this operation manual and contains a link which will direct you to machine support for your device type on the **WIWA** website.

You can find further information for your device there, such as e.g. spare parts lists, repair instructions, etc.

- ▶ Scan the QR code using your mobile device (e.g. smartphone, tablet).

In order to decrypt the QR code, you will need a QR code reader. It can be obtained on the Internet as an App free of charge.

8.3 Emission sound pressure level in the workplace

The emission sound pressure level in the workplace was determined according to the standards DIN EN ISO 3744, DIN EN 31200, DIN EN 31201 and DIN 45635-20:

Air motor size	140
Sound pressure level at 15 DS with 8 bar	81
Sound power level L_{wA}	89

Ambient temperature	-30 °C to +50 °C (-22 °F to +122 °F)
Max. operating temperature	80 °C (176 °F)

8.4 Technical data

Manufacturer **WIWA** Wilhelm Wagner GmbH & Co. KG
 35633 Lahnau, Germany
 Designation **PHOENIX GX SERIES**

Type

Item no.

Serial no.

Date of manufacture

Pressure ratio

Max. output at 60 DS (l/min / gpm)

Delivery volume per DS (cm³ / fl.oz.)

Max. air inlet pressure (bar/psi) / safety valve

Max. permissible working pressure (bar/psi)

Air consumption at 20 DS/min at 1 bar (l/min / gpm) .

Air intake (maintenance unit) / connection thread

Material output (high pressure filter)

Weight (kg / lbs) ≈

Dimensions (L×B×H in mm / inch) ≈



DS = Double stroke

Headquarter and production

Wilhelm Wagner GmbH & Co. KG

Gewerbestraße 1–3

35633 Lahnau

Germany

Phone: +49 (0)6441 609-0

Fax: +49 (0)6441 609-2450

Email: info@wiwa.de

Website: www.wiwa.de

WIWA subsidiary USA

LLC – USA, Kanada, Lateinamerika

107 N. Main St.

P.O. Box 398, Alger, OH 45812

USA

Phone: +1-419-757-0141

Fax: +1-419-549-5173

Email: sales@wiwa.com

Website: www.wiwausa.com

QR-Code

www.wiwa.de