

Operation manual

AIRCOMBI-DEVICES

Series:

- ☐ PROFIT
- ☐ PHOENIX

Design size:

Serial number:



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1 Foreword

Dear Customer

We are delighted that you have decided in favour of a unit made by our company.

This operation manual is intended for operating and maintenance personnel. It contains all the information required for working with this unit.



The owner of the unit has to ensure that operators and maintenance personnel always have an operation manual at their disposal in a language that they understand.

Safe and reliable operation of the unit requires further information in addition to this operation manual. You should have read and understood the guidelines and accident prevention regulations that apply in your country.

In Germany, these are as follows:

- ZH 1/406 "Richtlinien für Flüssigkeitsstrahler" (Guidelines for Liquid Jets), published by the German "Hauptverband der Gewerblichen Berufsgenossenschaften";
- BGR 500, chapter 2.29 "Application of Coating Materials";
- BGR 500, chapter 2.36 "Working with Fluid Spraying Equipment" published by the employers liability insurance association for the gas, remote heating and water management sectors.

We strongly recommend adding all relevant guidelines and accident prevention instructions to this operation manual.

Moreover the manufacturer's instructions and guidelines for coating or feeder materials must be respected at all times.

However, if you have any questions, please do not hesitate to contact us.

Best wishes for good results with your unit from

WIWA Wilhelm Wagner GmbH & Co. KG

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This operation manual is solely intended for personnel involved in preparation, operation and servicing.

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2 Safety

This unit has been designed and manufactured under due consideration of all safety-related aspects. It complies with the current standard of technology and relevant accident prevention regulations. The unit left the factory in perfect condition and guarantees a high level of technical reliability and safety. Nevertheless, there are certain risks that can arise from incorrect operation or misuse:

- to life and limb of the operator or third parties,
- to the unit and other material assets of the owner,
- to the efficient working capacity of the unit.

You must refrain from any working methods that could affect the safety of operating personnel and equipment. Everyone involved in set-up, commissioning, operation, maintenance, repair and servicing of the unit must have read and understood the operation manual beforehand, especially the chapter entitled "Safety".

Your safety is at stake!

We recommend to the owner of this unit to have this confirmed in writing.

2.1 Explanation of symbols

Safety notes warn you of potential risks of accidents and tells you the measures that are required to prevent accidents.

In **WIWA** operation manuals, safety notes are specially highlighted and marked as follows:



DANGER

Indicates danger of accidents; if you ignore the safety notes, there is a high risk of severe injury including death!



WARNING

Indicates danger of accidents; if you ignore the safety notes, there is a high risk of severe injury including death!



CAUTION

Indicates danger of accidents; if you ignore the safety notes, severe injury can result!



Indicates important information on correct use of the unit. Ignoring it can result in damage to the unit or in its vicinity.

In the safety notes about the risk of accidents, different pictograms are shown after each hazard source – examples:



General accident risk



Risk of explosion from explosive atmosphere



Risk of explosion from explosive substances



Danger of injury due to electric voltage or electrostatic charging



Risk of crushing by moving unit parts



Risk of burning due to hot surfaces

Mandatory safety instructions primarily concern personal protective equipment to be worn. They are particularly highlighted and marked as follows:



Wear protective clothing

Indicates the requirement to wear the prescribed protective clothing to protect against skin injuries caused by spraying material or gases.



Use eye protection

Indicates the requirement to wear protective goggles to protect against eye injuries caused by gases, fumes or dust.



Wear ear defenders

Indicates the requirement to wear ear defenders to prevent your hearing from being damaged by noise.



Use a respiratory protection mask

Indicates the requirement to use a respiratory protection mask to prevent your respiratory tract from being damaged by gases, fumes or dusts.



Wear protective gloves

Indicates the requirement to wear protective gloves with lower arm protection to protect against burn injuries caused by heated materials.



Wear protective footwear

Indicates the requirement to wear protective footwear to prevent injuries to the feet due to objects that may fall, drop or roll around or due to hot or caustic liquids.



Indicates references to guidelines, work instructions and operating manuals that contain important information which you must observe at all times.

2.2 Safety notes

Please remember that the unit works at high pressure and may cause life-threatening injuries if used inappropriately!



Always observe and follow all instructions in this operation manual and in the separate operating manuals of individual unit parts and/or the optionally available accessory devices.

2.2.1 Operating pressure



WARNING

Components that do not comply with the maximum permissible operating pressure can burst and cause serious injury.

- The specified maximum operating pressures must generally be complied with for all components. In case of varying operating pressures, the lowest value is always the one to be taken as the maximum operating pressure for the entire unit.
- Material hoses and hose assemblies must comply with the maximum working pressure, including the required safety factor.
- Material hoses must be leak tight and free of kinks, signs of abrasion or bulges.
- Hose connections must be tight.

2.2.2 Risks caused by the spray jet



WARNING

The material is discharged from the spray gun under very high pressure. Due to its cutting effect the spray jet can cause severe injuries by penetrating the skin or entering into the eyes.

- Never point the spray gun at yourself, other persons or animals.
- Do not hold your fingers or hands in front of the spray gun!
- Do not reach into the spray jet with your hands!



WARNING

Unintentional material release from the spray gun may cause personal injury or damage to property.

- Always secure the spray gun during every work break!
- Always check that the safety mechanism on the spray gun works before each use!

2.2.3 Hazard from electrostatic charging



WARNING

The high flow velocities associated with the Airless spraying method may cause electrostatic charging. Static discharges can cause fire and explosion.

- Ensure that the unit has been properly grounded outside of explosive atmosphere areas!
- Also ground the object to be coated.
- Always use open containers!
- Never spray solvents or materials containing solvent into cone-top cans or drums with a bung-hole!
- Place the containers on a grounded surface.
- Avoid contact between spray gun and container wall.
- Use only electrically conductive material hoses.
All original material hoses from WIWA are conductive and perfectly adapted to our equipment.
- Use only electrically conductive accessories/accessory parts.



WARNING

If the unit is contaminated by material during operation, the increased coating thickness can lead to electrostatic charging. Static discharges can cause fire and explosion.

- Clean the unit immediately to remove any contamination.
- Carry out cleaning work outside areas with explosive atmospheres.

2.2.4 Hazards from hot/cold surfaces



CAUTION

The use of material heaters can cause the surfaces of the unit to become hot. Risk of burns.

- Always wear protective gloves with lower arm protection (gauntlet) when working with heated materials!



CAUTION

The air motor becomes very cold during operation. There is a high risk of local frostbite.

- The air motor should have warmed up to a temperature above 10 °C before starting any work on the unit.
- Always wear suitable protective gloves!

2.2.5 Explosion protection



WARNING

Units that are designed without explosion protection must not be used in workshops that are subject to the explosion protection ordinance.

Whether your unit has explosion protection is indicated by the  symbol on the type plate and/or on the enclosed ATEX declaration of conformity.

Explosion-protected machines meet the explosion protection requirements of Directive 94/9/EC for the explosion group, unit category and temperature class specified on the type plate or in the declaration of conformity.

The operator is responsible for determining the zone allocation according to the Directive of EC 94/9/EC, Appendix II, no. 2.1-2.3 when observing the measures of the responsible inspecting authority. The operator is responsible for checking and ensuring that all technical data and markings according to ATEX correspond with the necessary requirements.

Please note that several components have their own type plate with separate marking according to ATEX. In this case the lowest explosion protection of all attached markings applies to the entire unit. Applications where the malfunction of the unit can lead to danger to personnel must be provided with respective safety measures by the operator.

However, if agitators, heaters or other electrically operated accessories are additionally mounted, explosion protection has to 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, even if the accessory equipment as such is explosion protected.



WARNING

Heating up solvents can cause an explosion. This may result in serious injury to persons and damage to property.

- Pay attention to the flashpoint and the ignition temperature of the solvent.
- Switch off the material fluid heater if you need to perform the following work: cleaning, pressure testing, decommissioning, maintenance and repair.

2.2.6 Health risks



CAUTION

Depending on the materials being applied, solvent vapours may be generated which could cause damage to health and objects.

- Always ensure sufficient aeration and ventilation at the workplace.
- Always observe the processing instructions issued by the material manufacturers.



Follow the safety notes and dosing information of the manufacturer and the generally applicable regulations when handling paints, cleaning agents, oils, greases and other chemical substances.



When cleaning your skin, use only appropriate skin protection, skin cleaning and skin care products.

In closed or pressurized systems, dangerous chemical reactions may occur if parts made of aluminium or galvanized parts come into contact with 1.1.1 - trichloroethane, methylene chloride or other solvents containing halogenated hydrocarbons (CFC's). If you want to process materials containing the afore mentioned substances, we recommend to consult the material manufacturer to clarify the usability of such substances.

For these materials, we have available a range of rust- and acid-proof units.

2.3 Information signs on the unit

Information signs attached to the unit, such as safety information (Fig. 1), refer to possible danger areas and must be strictly observed.

They must not be removed from the unit.

Damaged and illegible information signs must be replaced immediately.

Apart from this you should also read and follow the safety notes in the operation manual.



Fig. 1: Safety Information

2.4 Safety features



WARNING

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

- If you discover any faults in the safety features or other deficiencies on the unit, stop operation of the unit immediately.
- Only resume operation of the unit after the fault has been completely eliminated.

Safety features must be checked on the unit:

- before initial commissioning,
- always before starting work,
- after set-up work,
- after all cleaning, servicing and repair work.

The unit is equipped with the following safety features:

- Safety valve
- Compressed air shut-off valve
- Ground cable



Please observe the operation manual for use for the optional accessories when testing other safety features.

Checklist

on the depressurized unit:

-  Lead seal on the safety valve still intact?
-  Safety valve free of external damage?
-  Ground cable free of damage?
-  Operability of compressed air shut-off valve correct?

on the pressurized unit:

-  Function of safety valve correct? (see Chapter 2.4.1 Safety valve on page 14)



Please observe the operation manual for use for the optional accessories when testing other safety features.

2.4.1 Safety valve

There is a safety valve on the air motor of the unit:

- The safety valve prevents the maximum permissible air inlet pressure from being exceeded. The safety valve will open and vent off air when the air inlet pressure exceeds the set limiting value.
- How to check the function of the safety valve: Briefly increase the air inlet pressure by about 10 % above the maximum permitted pressure as stated on the type plate. The safety valve has to discharge.

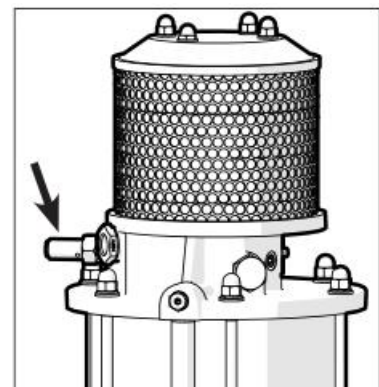


Fig. 2 Safety valve



WARNING

If the maximum permissible air inlet pressure is exceeded, components may burst. This may result in damage to persons and property.

- Never allow the unit to run without a safety valve or with a defective one!
- If the safety valve needs to be replaced, you can find the corresponding order number on the unit card.
- With new safety valves, ensure that they have been set to the maximum permissible air inlet pressure of the unit (see type plate/unit card) and sealed with a lead seal.

2.4.2 Compressed air shut-off valve

The compressed air shut-off valve enables immediate shutting down of the unit.

Principle of function:

- Open
⇒ set in the direction of flow
- Close
⇒ across the direction of flow



Fig. 3 Compressed air shut-off valve
OPEN

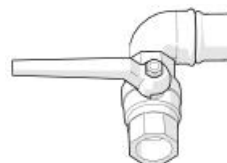


Fig. 4 Compressed air shut-off valve
CLOSE



After shutting off the air, the unit is still pressurized. This means that before carrying out maintenance and repair work, you must always carry out a complete pressure release!

2.4.3 Ground cable

The ground cable prevents the electrostatic charge of the unit.

The ground cable is already connected to the unit when it is delivered (e.g. on the high pressure filter, the ground bar, etc.).

Replace the ground cable immediately if it is lost or damaged!



Fig. 5: Ground cable

2.5 Operating and maintenance personnel

2.5.1 Unit owner's duties

The unit owner:

- is responsible for the training of the operating and maintenance staff,
- must instruct the operating and maintenance staff in correct handling of the unit as well as in wearing the correct work clothing and personal protective equipment,
- must provide tools to the operating and maintenance personnel such as e.g. lifting equipment for transporting the unit or containers,
- must make the user manual available to the operating and maintenance staff and ensure that it always remains available,
- must ensure that the operating and maintenance staff have read and understood the user manual.

Only then may the unit be brought into service.

2.5.2 Personnel qualification

A differentiation is made between two groups of people depending on their qualifications:

- Instructed operators have been verifiably instructed by the unit owner in the activities they are tasked with and the potential risks connected with them in the case of incorrect behaviour.
- Trained personnel have been instructed by the unit builder so that they are capable of carrying out maintenance and repair work on the system and recognising potential risks on their own initiative and of avoiding these risks.

2.5.3 Authorized operating personnel

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



Young persons under the age of 16 are not allowed to operate this unit.

2.5.4 Personal Protective Equipment (PPE)



Wear protective clothing Always wear the protective clothing specified for your work environment (e.g. antistatic protective clothing in areas subject to explosion hazards) and also follow the recommendations in the safety data sheet issued by the material manufacturer.



Use eye protection

Wear protective goggles to protect against eye injuries caused by material splatter, gases, fumes or dust.



Wear ear defenders

Operating personnel should be provided with suitable noise protection equipment. The unit operator is responsible for adhering to the accident prevention regulation "Noise" (BGV B3). For this reason, pay special attention to the conditions at the installation location – the noise burden, for example, will increase if the unit is installed in or on hollow bodies.



Wear a respiratory protection mask

We strongly recommend that you wear a respiratory protection mask, even though the paint mist has been minimized in the airless spraying method given a correct pressure setting and correct working methods.



Wear protective gloves

Wear antistatic protective gloves. When processing heated materials, you must wear lower arm protection in addition to protective gloves to prevent burns.



Wear protective footwear

Wear antistatic protective footwear to prevent injuries to the feet due to objects that may fall, drop or roll around and to prevent slipping on a slippery floor.

2.6 Notes on warranty



Please note our Terms and Conditions at www.wiwa.de.

2.6.1 Conversions and alterations

- Unauthorized conversions or alterations should not be undertaken on safety grounds.
- Protective equipment should not be dismantled, converted or bypassed.
- The unit must only be operated within the specified limiting values and unit parameters.

2.6.2 Spare parts

- When carrying out maintenance and repair work, you must only use **WIWA** original spare parts.
- Use of components which have not been manufactured or delivered by **WIWA** renders any warranty null and void.

2.6.3 Accessories

- Using original **WIWA** accessories guarantees that they are usable in our units.
- If you use third-party accessories, they must be suitable for the unit – particularly with regard to the operating pressure, the electrical connection data and the connection sizes. **WIWA** accepts no liability for damage or injuries resulting from the use of these parts.
- You must observe the safety regulations of the accessories. These safety regulations are found in the separate operation manual for the accessories.

2.7 Emergency procedures

2.7.1 Stop the unit and release the pressure

In an emergency, immediately shut down the unit and release the pressure.

1. Close the compressed air shut-off valve.
2. Operate the spray gun again briefly to relieve any residual material pressure, ensuring full pressure release for the unit.



This procedure is not suitable for decommissioning. The unit has not been flushed.

- For controlled decommissioning please see Chapter 5.7 Decommissioning on page 36.
- After remedying the emergency, the unit has to be flushed (see Chapter 5.3 Flushing on page 34).
Pay attention to the potlife of the material used.

2.7.2 Leakages



WARNING

In case of leakages material can escape under very high pressure and cause serious bodily injuries and material damage.

- Stop the unit immediately and release the pressure.
- Re-tighten any screw fittings and replace defective components (only by trained personnel).
- Do not try to seal leaks on the connections and high pressure hoses by hand or by wrapping material around them.
- Do not repair material hoses!
- Before recommissioning the unit, check the hoses and screw fittings for leaks.

2.7.3 Injuries

If injured by processing materials or cleaning agents, always have the safety data sheet (address, phone number, material designation and material number of the supplier or manufacturer) ready for the attending physician.

3 Unit Description

The WIWA AirCombi systems are divided into two series which basically differ in the size of the high pressure pumps.

➤ **PROFIT**

➤ **PHOENIX**

Using this method, the spraying material is transferred to the AirCombi spray gun under moderate pressure and pre-atomized. The very fine spray distribution is achieved by applying regulated compressed air as the paint is discharged. A soft, controllable spray jet is produced with minimum paint mist and rebound.

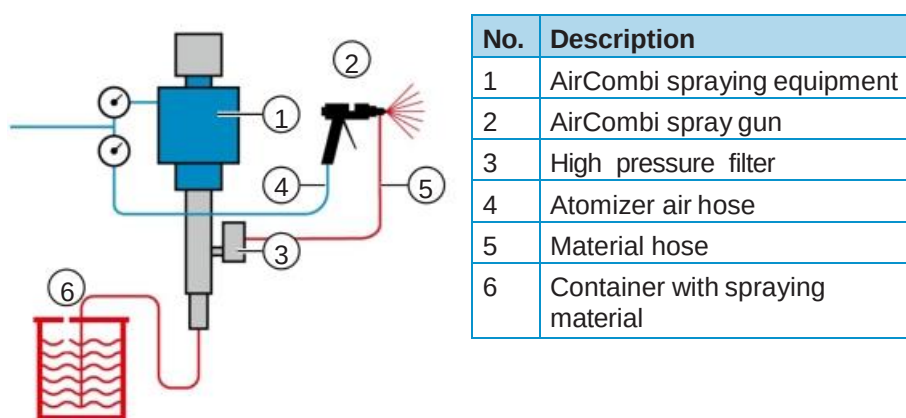


Fig. 6: Flow chart for AirCombi operation

The technical data of your unit can be found on the attached unit card or on the type plate.

3.1 Intended use

The WIWA AirCombi devices are only suitable for spraying of coating and ancillary materials for surface treatment.

The AirCombi spraying process is ideal for very fine painting tasks covering large areas and for shaped or small workpieces.

The devices are primarily used in trade workshops such as carpenter's workshops for coating wood, but also in the industry for very delicate surfaces. They are suitable for virtually all sprayable paints and varnishes.

Water-based paints and media that can be thinned with water can only be processed in devices with rust-proof and acid-resistant finishes.



Any other use is considered to be unintended. If you intend to use the unit for other purposes or with other materials and thus not for the purpose for which it is intended, you must ask **WIWA** for permission – otherwise the warranty will be invalidated.



Intended use also includes compliance with the technical documentation and adherence to the prescribed operating, servicing and maintenance guidelines.

3.2 Unit design

The machines can be mounted on different frames, e.g. on

- 20 l container
- Frame with hopper and feed drum
- Cart
- Tripod
- Wall Brackets

The frame makes no difference to the function of the unit.

3.2.1 PROFIT series

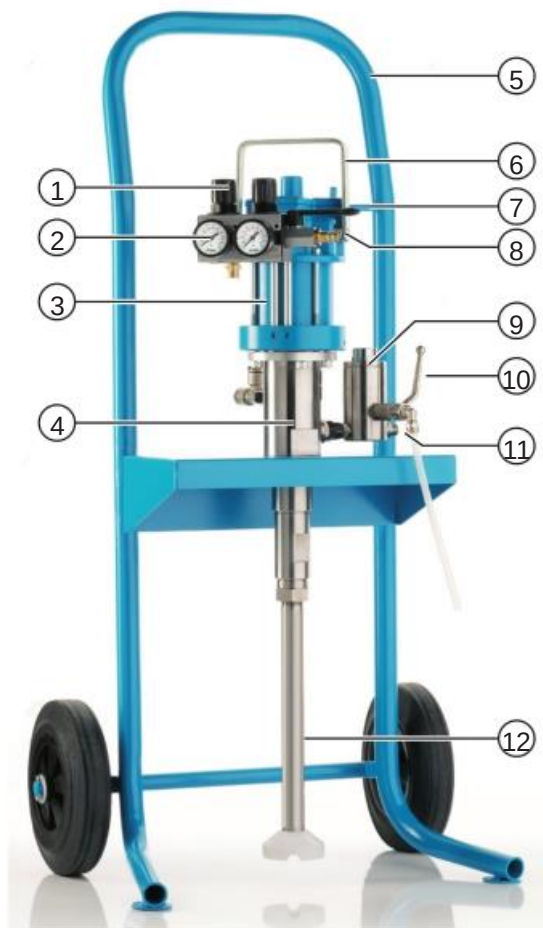


Fig. 7 AirCombi PROFIT on cart

No.	Description
1	Dual air regulator (see chap. 3.3)
2	Pressure gauge for displaying the air inlet pressure and the atomizer air pressure
3	Air motor
4	Material pump
5	Cart
6	Carrying handle
7	Compressed air shut-off valve
8	Compressed air connection
9	High pressure filter (for more information see Chapter 6.5 High pressure filter on page 41)
10	Drain valve for pressure release
11	Connection for spray gun and spray hose
12	Material inlet/suction (here: suction pipe with suction strainer)

Design variants:



Fig. 9 PROFIT on tripod



Fig. 10 PROFIT on 20 l container with AirCombi gun



Fig. 11 PROFIT on wall bracket



Fig. 8 PROFIT with feed drum (here as Airless device)

3.2.2 PHOENIX series



No.	Description
1	Dual air pressure regulator (see chap. 3.3)
2	Cart
3	Material pump
4	Muffler
5	Air motor
6	Overflow
7	High pressure filter
8	Drain valve for pressure release
9	Material hose connection
10	Material inlet/suction

13 Phoenix - Airless on cart

Design variants:



Fig. 12 AirCombi Phoenix on wall bracket

3.3 Dual air regulator

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

The models 11032 from the Phoenix series are equipped with a complete maintenance unit instead of the dual air pressure regulator (see chapter 3.4).

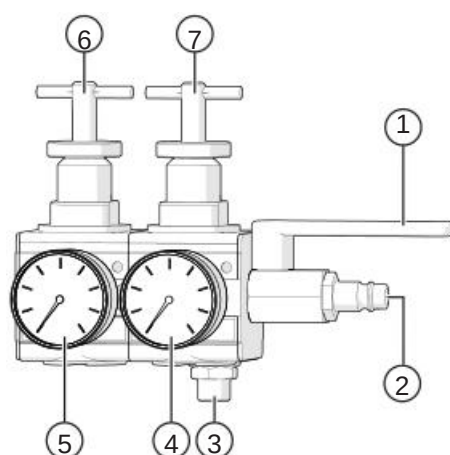


Fig. 14 Dual air regulator

No.	Designation
1	Compressed air shut-off valve
2	Compressed air connection
3	Atomizer air hose connection
4	Pressure gauge for displaying the atomizer air pressure
5	Pressure gauge for displaying the air inlet pressure
6	Air regulator for air inlet pressure to the high pressure pump
7	Air pressure regulator for atomizer air pressure

How to operate the air regulator:

- Turn clockwise to increase the pressure,
- turn counter clockwise to reduce the pressure.

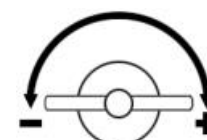


Fig. 15 Function air regulator

3.4 Air maintenance unit

The air maintenance unit prevents condensate and dirt particles from entering the machine and supplies the compressed air with pneumatic oil for lubricating moving parts.

The maintenance unit is only used for the models 11032 from the Phoenix series. All other devices are equipped with dual air pressure regulators without maintenance unit (see chapter 3.3).

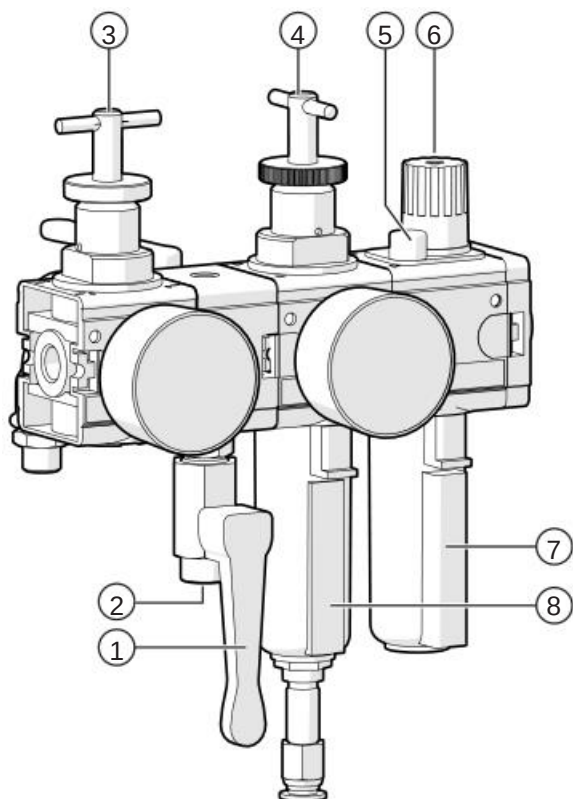


Fig. 17 Maintenance unit (from the front)

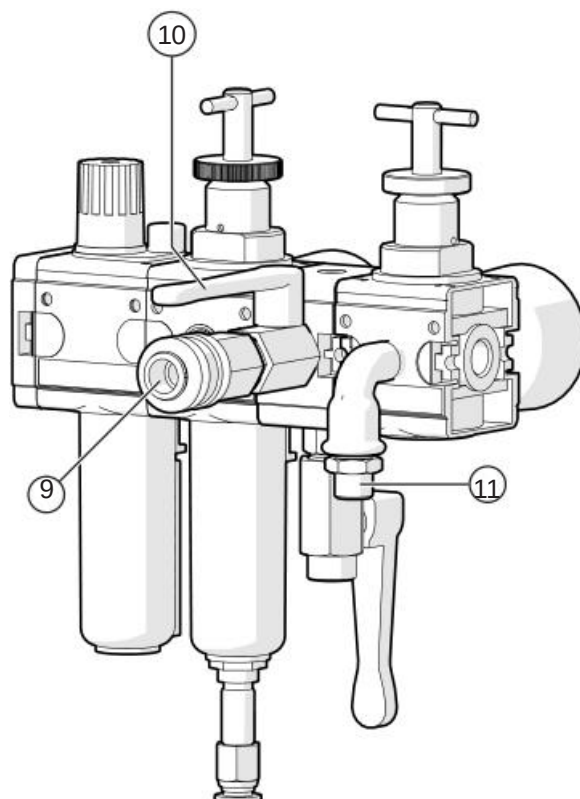


Fig. 16 Maintenance unit (from the back)

No.	Description
1	Compressed air shut-off valve
2	Compressed air connection
3	Air regulator for air inlet pressure to the high pressure pump
4	Air regulator for atomizer air pressure
5	Filler hole for pneumatic oil
6	Setting screw for metering the oil addition
7	Oil tank
8	Water separator
9	Pneumatic connection (optional) for optional devices (e.g. agitator)
10	Compressed air shut-off valves for optional devices
11	Compressed air to the AirCombi spray gun

3.5 Optional expansion parts and accessories

The following section lists only some of the most common accessories and expansion parts.

The detailed accessory catalogue can be found at www.wiwa.de. More information and order numbers can also be obtained from an authorized WIWA dealer or the WIWA service department.

3.5.1 AirCombi spray gun

The AirCombi spray gun is not part of the standard scope of delivery. The material and air hoses (7.5 m each) are included in the scope of delivery.



Observe and follow the separate operation manual for the spray gun.



Fig. 18 WIWA AirCombi spray gun Optima 2100

3.5.2 Material fluid heater

Material fluid heaters can optionally be used as:

- Heaters for the spraying material (only for Airless devices; see separate operation manual)
- Auxiliary heaters for long hoses
- Heating spraying air for the AirCombi spraying process



Observe and follow the separate operation manual of the material fluid heater.

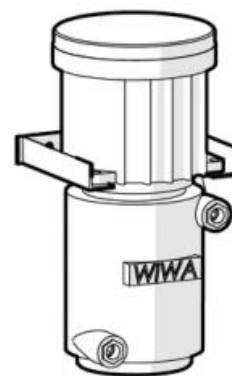


Fig. 19 Material fluid heater

3.5.3 Agitator

As many coating materials contain solids, it can be practical to use an agitator to create as much homogeneity as possible in the supplied container.

The agitators are as varied and diverse as the actual coating materials.



Observe and follow the separate operation manual of the agitator.

4 Transport, installation and assembly

The unit left the factory in flawless condition and was appropriately packed for transportation.



Check the unit for any damage in transit and for completeness on receipt.

4.1 Transportation

Please follow these notes when transporting the unit:

- Ensure sufficient load bearing capacity of lifting gear and lifting tackle when loading the unit. The dimensions and weight of the unit can be found on the unit card or on the type plate.
- The unit may only be lifted by the carrying handle (Fig. 7, no. 6) or by the special eyebolt. The lifting eyes are only designed for the weight of the high pressure pump. Do not use them to lift the entire machine (including accessories, hoses or frame)!
- Secure the unit (high pressure pump including frame and/or other accessories) properly for lifting and loading the unit.
- Do not transport any unsecured objects (e.g. material containers, tools) with the unit.
- Never stand under suspended loads or inside the loading area. There is a risk of death!
- Secure the load on the transport vehicle against slipping and falling off.

If the unit had already been in operation, please observe the following:

- Disconnect the entire unit power supply – even for short transportation distances.
- Empty the unit before transportation – fluid residues may escape during transportation despite this measure.
- Remove all loose components (e.g. tools) from the unit.
- Assemble the parts or fittings dismantled for transport purposes before start up and in compliance with the intended use of the system.

4.2 Installation location

The unit can be installed inside and outside spray booths. However, outdoor installation should be preferred in order to avoid contamination.



WARNING

If the unit is used outside during a thunderstorm, a lightning strike can cause a life-threatening situation for the operating personnel.

- Do not operate a unit outdoors during a thunderstorm!
- The unit owner must ensure that the unit is equipped with suitable lightning protection equipment..



Set the unit up horizontally on a foundation that is flat, firm and vibration-free. The unit must not be tipped or tilted. Ensure that all operating elements and safety features are easy to reach.

Safety measures at the place of installation:

- This unit requires a solid base and sufficient free space for safe operation.
- Always keep the working area, especially all walkways and standing areas, clean and tidy. Immediately remove any spilled material and cleaning agent.
- Always ensure adequate ventilation at the work place to avoid damage to health and material objects. Always ensure an air change rate of at least 5.
- Always observe the processing instructions issued by the material manufacturers.
- Even though there are no legal directives for low-mist Airless spraying methods, all hazardous solvent vapours and paint particles should be extracted.
- Protect objects adjacent to the spraying object against possible damage caused by the material mist.

4.3 Assembly



WARNING

If assembly work is carried out by people who have not been trained for this work, they endanger themselves and other people and impair the safety and reliability of the unit.

- Electrical components must only be mounted by trained qualified electricians – with all the other components, e.g. the spray hose and the spray gun being assembled by trained personnel only.



WARNING

Sources of ignition may result from assembly work (e.g. through mechanical sparks, electrostatic charge, etc.).

- Carry out all installation and maintenance work outside of areas with explosive atmospheres.
- Assemble the parts or fittings dismantled for transport purposes before start up and in compliance with the intended use of the system.
- Ensure that the compressed air shut-off valves are closed and all air pressure regulators have been fully turned down before carrying out any installation work.

4.3.1 Mounting the wall bracket (optional)

The unit can optionally be mounted on a wall bracket.

5 holes with a diameter of 8.5 mm are provided for fixing the wall bracket. Observe the weight of the unit (see Technical data) and select suitable fastening materials, taking into account the wall structure.

Ensure a sufficient distance between suction elbow and floor of at least 10 cm.



Fig. 20 Mounting the wall bracket

4.3.2 Assembling spray hose and atomizer air hose



WARNING

If the hose couplings are subjected to tensile load, these assemblies may shear off. Material escaping under high pressure can cause injuries and material damage.

- Do not use the hoses for lifting or pulling the device.



WARNING

Components that do not comply with the maximum permitted operating pressure of the unit can burst and cause serious injury.

- Check the maximum permitted operating pressure of the material hose and the spray gun before assembly. It must be greater than or equal to the maximum operating pressure of the unit as specified on the type plate.



Only use conductive material hoses.
All original material hoses from **WIWA** are conductive and perfectly adapted to our equipment.

1. Connect the atomizer air hose (blue):
 - to the connection for atomizer air on the dual air pressure regulator
 - to the air inlet of the secured spray gun
2. Connect the spray hose (black):
 - to the material outlet of the high pressure filter
 - to the material inlet of the secured spray gun

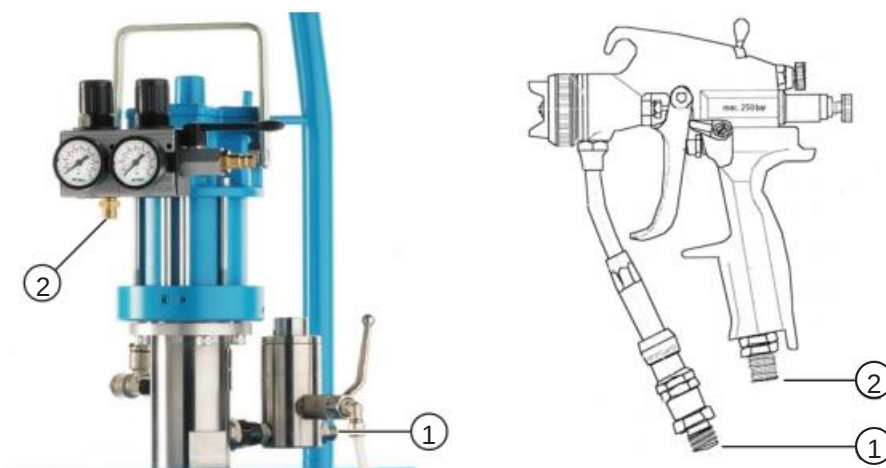


Fig. 21 Mounting spray hose and atomizer air hose

No.	Designation
1	Connection for the spray hose (1/4 NPSM)
2	Connection for atomizer air hose (G 1/4)



Observe the operation manual for the spray gun.

4.3.3 Grounding the unit



WARNING

The high flow velocities associated with the Airless spraying method may cause electrostatic charging. Static discharges can cause fire and explosion.

- Ensure that the unit has been properly grounded outside of explosive atmosphere areas!
- Also ground the object to be coated.

1. Connect the ground cable of the unit to an electrically conductive object outside explosive atmosphere areas.
2. Ensure proper grounding of the object to be coated.

4.3.4 Connect compressed air



The compressor capacity must match the air requirements of the unit and the diameters of the air supply hoses must match the connections so that an adequate air supply is ensured.



Operation with contaminated or moist compressed air will damage the pneumatic system of the unit and result in unclean surfaces through the atomizer air.

- Use only dry dust-free and oil-free air!

1. Ensure that
 - the compressed air shut-off valve is closed,
 - the air regulator has been turned down fully.
2. Connect the air hose to the air inlet of the pressure regulator (see Fig. 22) or to the maintenance unit (see Fig. 23), depending on the version.

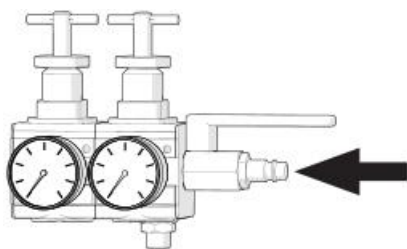


Fig. 22 Connecting compressed air to the dual air pressure regulator

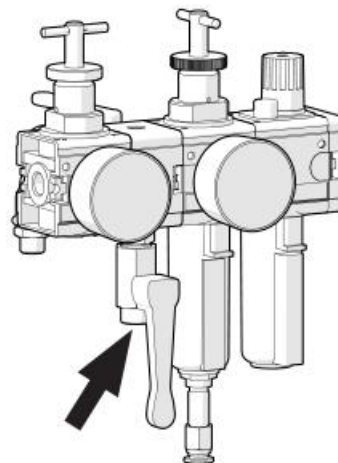


Fig. 23 Connecting compressed air to the maintenance unit

5 Operation

- The unit must have been set up correctly and completely assembled.
- Do not start commissioning the unit unless you have the specified protective equipment. For details, refer to chapter 2.5.4 on page 16.
- A sufficient quantity of the spraying material has to be available.



Observe the information from the respective material manufacturer.

- You will need:
2 collecting vessels for excess material. These containers are not included in the scope of delivery.



WARNING

If material pumps run dry, the generated friction heat can cause fire or an explosion.

- Always make sure that the material drums do not run dry during operation. Never leave the unit running unattended.
- However, should this happen, stop the corresponding pump immediately and feed material.

5.1 Commissioning the unit

- Ensure proper grounding of the unit and the object to be coated (see chapter 2.4.3 on page 15).
- Check whether all safety features are installed and fully operational.
- Before initial commissioning, remove the adhesive label "Remove before use" or the vent plug from the overflow.
- Check the level of lubricant in the oil container of the air maintenance unit (if fitted) and top up if required (see Chapter 6.3.1 Checking the lubricant level in the fog oiler on page 39).
- Check the level of release agent on the pump and top up if necessary (see chapter 6.4.1 on page 40). On devices on wall brackets, release agent has to be added during first commissioning.
- Flush the unit (see chapter 5.3 on page 34) to remove the factory test medium (for initial commissioning) or any residue of previous spraying material.
- During commissioning (flushing), check whether all unit parts are tight and re-tighten the connections if required.

5.2 Spraying

The following steps for commissioning have to be completed before spraying (see Chapter 5.1 Commissioning the unit on page 31).

1. Place the suction pipe into the spraying material.
2. Regulate the air inlet pressure so low that the pump runs slowly.
3. Unlock the spray gun and operate it until clean spraying material runs out.
4. Adjust the air regulator on the metering pump to the optimum spraying pressure (see 5.2.1 Adjusting the spraying pressure).

5.2.1 Adjusting the spraying pressure

- Initially, set the spraying pressure without atomizer air (atomizer air OFF).
- The air inlet pressure controls the spraying pressure.
The operating pressure should be between 30 - 100 bar (depending on the pump).

Spray/operating pressure = air inlet pressure x pressure ratio

- Optimum spraying pressure is indicated by a uniform application of material with fading out peripheral zones.
- Operate the unit only with an air pressure high enough to achieve good atomisation at the recommended spraying distance of approx. 30 - 40 cm.
- Excessive spraying pressure causes increased material consumption and paint mist.
- Insufficient spraying pressure results in the appearance of streaks and differences in the coating thickness.

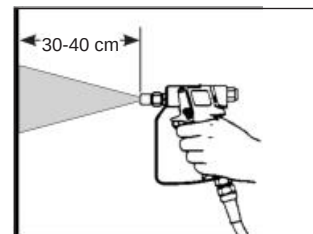


Fig. 24: Spraying distance

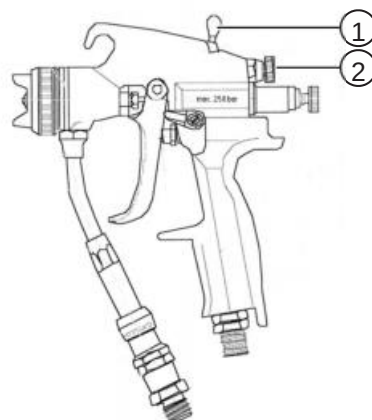


Fig. 25 Regulating the atomizer air

No.	Designation
1	Flat jet control left = atomizer air ON ⇒ large volume of air, high level of atomizing; right = atomizer air OFF ⇒ small volume of air, low level of atomizing
2	Round jet control (= lateral addition of atomizer air)

- Start with low atomizer air pressure and increase it gradually until all plumes are atomized and incorporated into the spray pattern with the flat spray control fully open (round spray control CLOSED).
The atomizer pressure should be in the range of approx. 1.5 - 4.5 bar (depending on material viscosity).

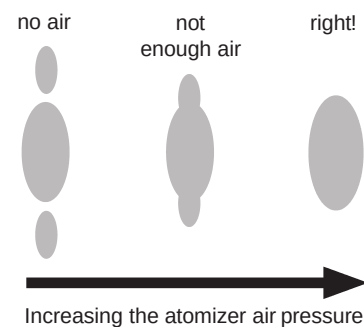


Fig. 26 Optimising the spray pattern



Observe the operation manual for your spray gun. It contains more useful information for optimising the spraying result.

5.2.2 Hints for achieving good coating results

- Hold the spray gun at a right angle (90°) to the area to be coated. If the spray gun is held at a different angle, the coating becomes irregular and blotchy (Fig. 27).
- Ensure even speed and move the spray gun parallel to the area to be coated. Waving the spray gun causes irregular coating (Fig. 28).
- Move the spray gun with your arm and not with your wrist.
- Start moving the spray gun before pulling the trigger. That way, you will achieve perfect, soft and smooth overlapping of the spray jet and avoid excessively thick application of material at the beginning of the spraying process.

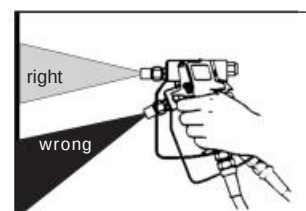


Fig. 27: Spray angle

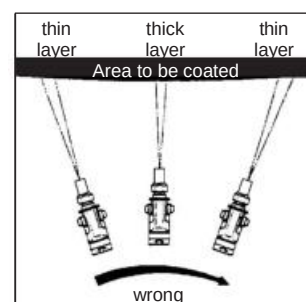


Fig. 28: Do not wave!

- Release the trigger before stopping the movement.
- Replace the spray nozzle before it is worn.



Worn nozzles cause higher material consumption and have a negative effect on the quality of coating.

5.3 Flushing

Flushing the unit is necessary:

- At initial and re-commissioning the unit has to be flushed with a cleaning agent to ensure that the spraying material is not negatively affected by the test medium that was used at the factory to test correct functioning.
- When changing materials
- For terminating work and at decommissioning in the case of an interruption in spraying to flush spraying material out of the unit before it sets.



Take note of the potlife of the materials used, particularly when using multi-component materials.



CAUTION!

Fine atomizing of solvents can be a hazard to health.

- Interrupt the atomizer air supply during the flushing process.
- You will need:
 - at least 5 l of cleaning agent suitable for the processed material and recommended by the material manufacturer, in an open container
 - an additional collecting vessel for the cleaning agent that is flushed out.These containers are not supplied.

1. Close and secure the spray gun.
2. Switch off the atomizer air supply on the gun (see Fig. 25).
3. Set both compressed air regulators (air inlet pressure and atomizer air) to zero. The pressure gauges have to show 0 bar.
4. Relieve the pressure (see chapter 5.5 on page 35).
5. Remove the nozzle from the spray gun and place it in cleaning agent.



Never place the spray gun in cleaning agent!
Cleaning agents corrode the seals and damage them.

Observe and follow the notes in the user manuals for the spray gun.

6. Remove the filter element from the high pressure filter (see Chapter 6.5.1 Removing the filter element on page 41) and clean it if necessary (see Chapter 6.5.2 Cleaning the filter element on page 43).
7. Remove the suction pipe from the material container. Scrape off any paint residue.
8. Place the suction pipe into the container with the cleaning agent.
9. Open the compressed air shut-off valve.

10. Regulate the air inlet pressure low enough so that the pump runs slowly.
11. Open the drain valve on the high pressure filter until pure cleaning agent is emitted, directing the hose into a collecting vessel.
12. Close the drain valve.
13. Hold the spray gun laterally against the inner wall of the collecting vessel.
14. Open the spray gun until pure cleaning agent is emitted.
15. Close and secure the spray gun.

5.4 Material change

1. Flush the unit as described (see chapter 5.3 on page 34).
2. Drain the unit by removing the suction pipe from the cleaning agent and opening the spray gun until air is emitted.
3. Close and secure the spray gun.
4. Fully reduce the air inlet pressure (0 bar).
5. Release the pressure in the device (see chapter 5.5 on page 35).
6. Check the filter element in the high pressure filter (see chapter 6.5 on page 41).
7. After finishing the task you can start spraying a new material (see chapter 5.2 on page 32).

5.5 Releasing pressure

1. Close the compressed air shut-off valve.
2. To release the pressure:
 - open the relief valve on the high pressure filter
 - remove the spray gun



WARNING

If parts of the unit (e.g. spray nozzle, material filter on the spray gun, material hose, high pressure filter, suction strainer, etc.) are clogged the pressure cannot be fully released. Material may escape under high pressure and cause injuries.

- Cover the screw fitting with a rag during releasing to protect yourself against sudden release of material.
 - Release the screw fittings very carefully and release the pressure slowly.
 - Remove the obstructions.
- Note the fault table (Chapter 7 Rectification of faults on page 45).

5.6 Interruptions to work

Always secure the spray gun, even for shortest work breaks. Secure the spray gun for short work breaks.



Take note of the potlife of the materials used, particularly when using multi-component materials.

The system has to be flushed and cleaned completely with the stipulated cleaning agent within the potlife indicated by the manufacturer. Please note:

- Curing time is reduced at higher temperatures.
- Allow the cleaning agent to circulate for a while.
- No paint residue may remain in the pump or in the filter.

5.7 Decommissioning

If you want to decommission the system for a longer period of time, proceed as follows:

1. Flush the unit as described (see chapter 5.3 on page 34).
2. Do not drain the pump fully.
Turn down the air inlet pressure fully (0 bar) as soon as clean solvent is emitted from the spray gun or the high pressure filter.
3. Hold the spray gun laterally against the inner wall of the collecting vessel and open it again.
4. Hold the drain hose into the collecting vessel and open the drain valve briefly to release the pressure.

The cleaning agent which is still in the unit remains in the unit until recommissioning to prevent the unit parts from sticking.

For longer idle times the unit has to be filled with a release oil as the cleaning agent will evaporate over time.

5.8 Disposal

- Rests of spraying material, cleaning agent, oils, greases and other chemical substances must be collected in accordance with statutory provisions concerning recycling and waste disposal. The official local waste water laws apply.

At the end of use, you must shut down and dismantle the unit and dispose of it in accordance with legal regulations.

- Clean the unit thoroughly of all material residues.
- Dismantle the unit and separate all materials – dispose of metal together with scrap metal; plastic parts can be disposed of as domestic waste.
- Rests of spraying material, cleaning agent, oils, greases and other chemical substances must be collected in accordance with statutory provisions concerning recycling and waste disposal. The official local waste water laws apply.

6 Maintenance



WARNING

If maintenance and repair work is carried out by persons who have not been trained for this work, they endanger themselves and other people and impair the safety and reliability of the unit.

- Maintenance and repair work on electrical components must only be carried out by trained electricians – any other maintenance and repair work must be performed by **WIWA** customer service or by specially trained personnel.



WARNING

Sources of ignition may result from maintenance work (e.g. through mechanical sparks, electrostatic charge, etc.).

Carry out all maintenance work outside of areas with explosive atmospheres.



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

Before maintenance and repair work:

1. Cut off the compressed air supply.
2. Disconnect the power supply (if present).
3. Completely depressurize the unit.



WARNING

If parts of the unit (e.g. spray nozzle, material filter on the spray gun, material hose, high pressure filter, suction strainer, etc.) are clogged the pressure cannot be fully released. Residual pressure could be released during disassembly work and cause severe injuries.

- Cover the screw fitting with a rag during releasing to protect yourself against sudden release of material.
- Release the screw fittings very carefully and release the pressure slowly.
- Remove the obstructions (see fault table in Chapter 7 Rectification of faults on page 45).

After completing the maintenance and repair work, check the function of all safety features and the correct functioning of the unit.

6.1 Regular inspections

The unit has to be examined and serviced by an expert regularly:

- before initial commissioning,
- after the modification or repair of parts of the system, which could affect safety,
- after work breaks longer than 6 months,
- but at least every 12 months.

For decommissioned units, the inspection can be postponed until the next commissioning.

The inspection results must be recorded in writing and kept until the next inspection. The inspection report or a copy of it must be available at the place of use of the unit.

6.2 Maintenance plan



The information in the maintenance plan is a recommendation. The intervals may vary depending on the condition of materials used and the outside influences.

Interval	Activity	Reference
before each start-up	Check the lubricant level in the fog oiler	Chapter 6.3.1 Checking the lubricant level in the fog oiler on page 39
before each start-up	Check the release agent level in the high pressure pump	Chapter 6.4.1 Topping up release agent on page 40
1 x per week	Checking and adjusting the fog oiler	Chapter 6.3.2 Checking and adjusting the fog oiler on page 40
1 x per week	Checking and cleaning the water separator	Chapter 6.3.3 Checking and cleaning the water separator on page 40
1 x per week	Visual inspection of the compressed air and material hoses	
every 50 operating hours	check release agent of the high pressure pump for material residue	Chapter 6.4.2 Checking the release agent for material residue on page 40
every three years	inspection of the compressed air and material hoses by an expert and replacement if necessary	

6.3 Maintenance unit

Devices without a maintenance unit are equipped with a dual air pressure regulator (see Fig. 14 on page 23) which requires no maintenance.

The maintenance unit is equipped with the following maintenance elements:

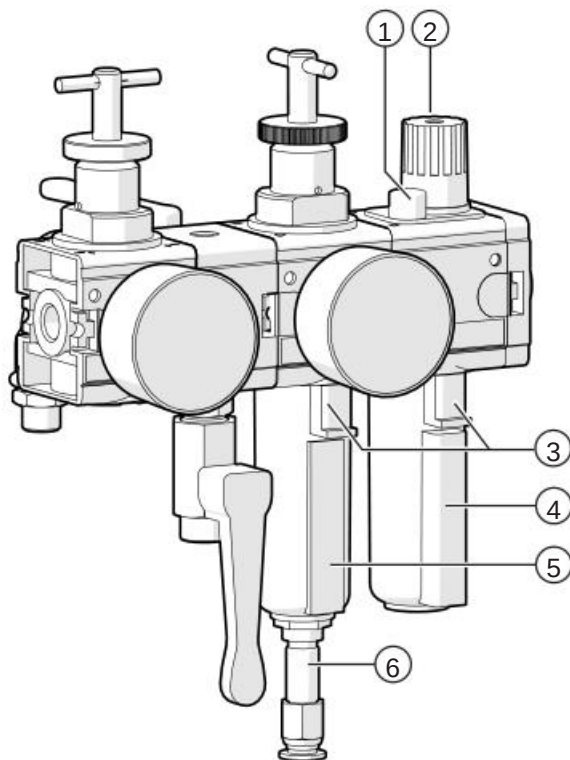


Fig. 29 Maintenance elements (same on all maintenance units)

No.	Designation
1	Filler hole for pneumatic oil
2	Setting screw for metering the oil addition
3	Slider for opening the containers
4	Oil tank
5	Water separator
6	Automatic condensate drain valve

6.3.1 Checking the lubricant level in the fog oiler



The unit must only be commissioned if the oil reservoir of the fog oiler contains enough oil. In case of high humidity, use antifreeze for lubrication to avoid icing of the unit.

Check the lubricant level every day as follows:

1. Press up the locking slide on the oil reservoir and unscrew the oil reservoir by turning it anti-clockwise.



Take care of the O-ring that seals the oil reservoir. It may be displaced or even fall out at dismantling.

2. Check whether the O-ring fits correctly – if necessary, fit it correctly.
3. Check whether there is enough lubricant – at maximum level the lubricant reaches to a point approx. 2 cm below the upper edge of the oil reservoir.
4. Top up lubricant, if necessary.
We recommend using pneumatic oil (order number 0632579) or anti-freeze (order number 0631387) from **WIWA**.
5. Reattach the oil reservoir to the air maintenance unit.

6.3.2 Checking and adjusting the fog oiler

1. Let the unit run slowly under load.
2. Check in the fog oiler inspection glass whether 1 drop of lubricant is fed after each 10 to 15 double strokes of the air motor.
3. If this is not the case, adjust the metering by turning the regulating screw on the fog oiler with a screwdriver.

6.3.3 Checking and cleaning the water separator

The accumulated condensation water is automatically drained off through the drain valve. For this purpose hold the hose into an empty collecting vessel.

Check the bowl regularly for dirt residues and clean it as required.

6.4 High pressure pump

6.4.1 Topping up release agent

Before each start-up check the release agent level as far as possible. Top up release agent if required (see item 1 on Fig. 30 f.).

The total filling capacity is approx. 50 ml (**PROFIT** and **PHOENIX**).

6.4.2 Checking the release agent for material residue

Regularly check the release agent for discolouration caused by spraying material.

Drain a small amount of release agent through the drain screw (2).

If the release agent is found to be contaminated with material residues, you must assume that the packing of the material pump in question is worn.

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



Fig. 30 Filling in (1) and draining (2) release agent for **PROFIT**



Fig. 31 Filling in (1) and draining (2) release agent for **PHOENIX**



CAUTION

The pump packing may only be replaced by trained personnel or by the WIWA service.

After the examination, top up the amount of fresh release agent through the filler opening (1). We recommend using release agent from **WIWA** (order number 0163333).

6.5 High pressure filter



WARNING

If the unit was not depressurized when opening the high pressure filter, material may escape under very high pressure and cause serious injuries.

► Depressurize the unit fully before opening the high pressure filter (see 5.5 on page 35)!

6.5.1 Removing the filter element

Different high pressure filters are used for the different AirCombi devices. The unit card indicates which high pressure filter is used in your device.

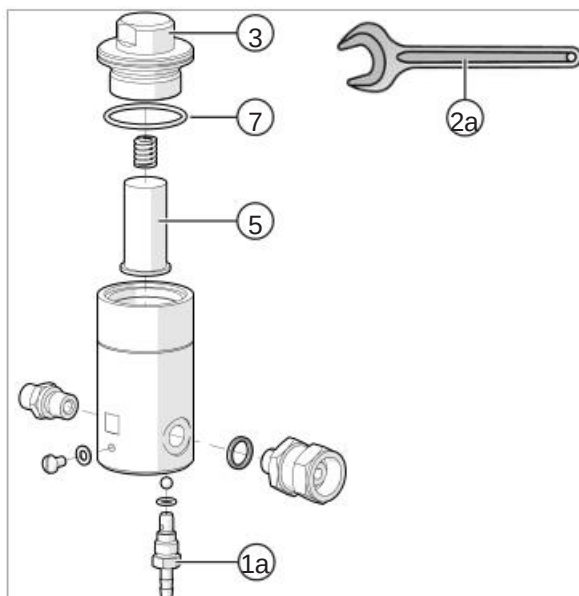


Fig. 32 Removing the filter element for high pressure filter type 01

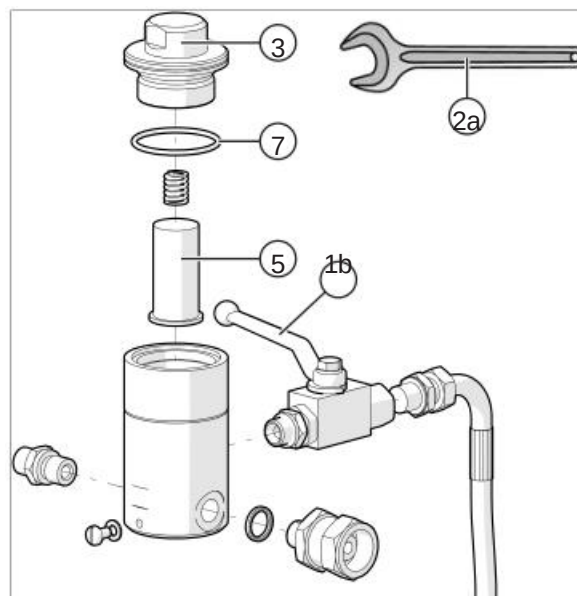


Fig. 33 Removing the filter element for high pressure filter type 05

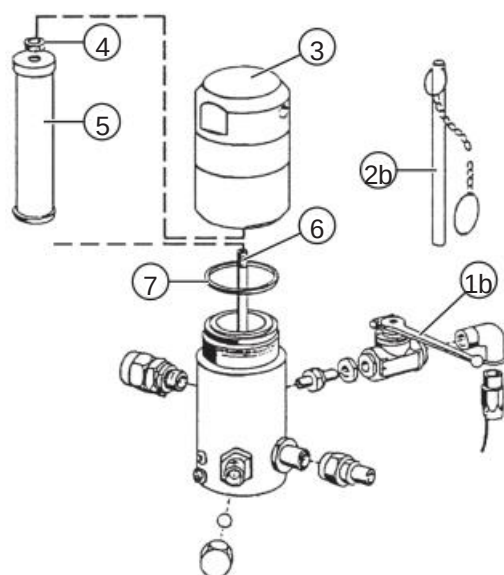


Fig. 34 Removing the filter element for high pressure filter type 11

No.	Designation	
1	a	Drain screw
	b	Discharge ball valve
2	Supplied tools	
	a	Open-end wrench
	b	Pin spanner
3	Cap	
4	Nut	
5	Filter element	
6	Threaded bolt	
7	O-ring	

1. Open the drain screw (1a) or the drain shut-off valve (1b) to ensure that the unit is fully depressurized.
2. for types 01 and 05: Use the open-end wrench (2a) to unscrew the cap (3) from the high pressure filter.

for types 11 and 13: Use the pin spanner (2b) to remove the cap (3) of the high pressure filter and remove it.
3. Loosen the nut (4) and remove the filter element (5).

6.5.2 Cleaning the filter element

The cleaning interval for the filter elements in the high pressure filters depends on the type and cleanliness of the material. Clean the filter elements at least once a week and after each material change.

1. Remove the filter elements according to Chapter 6.5.1 Removing the filter element on page 41.
2. Clean the filter element. Use only cleaning agents for this purpose that match the material to be applied. Replace the filter element if it shows any damage.
3. Place the filter element back on the threaded bolt (6) – if fitted – and retighten the nut (4).
4. Check the O-ring (7) – replace if damaged.
5. Screw the cap (3) on the high pressure filter and tighten it with the pin spanner (2b) or the open-end wrench (2a).

6.5.3 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.	
			High pressure filter type 11	High pressure filter type 01 + type 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 should 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 Recommended operating materials

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

Operating materials	WIWA order number
Release agent, yellow (0.5 l) ¹ (standard)	0163333
Release agent, red (0.5 l) ¹ (e.g. for isocyanate)	0640651
Pneumatic oil (0.5 l) ² for fog oiler	0632579

¹ Plasticizer to fill into the release agent cups of the main pump and the feed pumps

² for air maintenance unit

Materials required for cleaning and repair work (see information in spare parts lists)

The release agent and the pneumatic oil are available in large containers on request.

6.7 Special tools

The following special tools for maintenance and repair work are included with delivery:

- ▶ pin spanner for opening the high pressure filter



Fig. 35 Pin spanner for high pressure filter

7 Rectification of faults

Fault	Possible cause	Remedy
The pump does not start, despite operation of spray gun (without nozzle) or opened relieve valve on high pressure filter	– Compressed air shut-off valve closed.	– Open the compressed air shut-off valve.
	– High pressure filter clogged.	– Clean or renew the filter element.
	– Air motor defective.	– Repair air motor by following the spare parts list – if necessary call the customer service for assistance.
The pump runs, but no spraying material is transported to the nozzle.	– Suction strainer clogged.	– Clean the screen.
	– Suction hose clogged.	– Replace the hose.
	– Ball of bottom valve does not lift off (stuck).	– Open the spray gun without nozzle. – Open the relief ball valve on the high pressure filter. – Slightly knock the bottom valve from the side (hammer). – Unscrew the suction system and loosen the ball of the bottom valve from below with a pin or a screwdriver.
	– The bottom valve does not close.	– Unscrew the bottom valve, thoroughly clean ball and seat.
The pump delivers material, but does not stop when the spray gun is closed.	– Packing or valve worn.	– Replace parts.
The pump runs uniformly, but the required spraying pressure is not reached.	– The air pressure is too low or there is not enough air.	– Increase the air pressure on the pneumatic regulator or check the air line for correct cross-section.
	– Spraying nozzle (new) too big.	– Install a smaller nozzle or use a bigger pump.
	– Spraying nozzle (worn) too big.	– Install a new nozzle.
	– Air motor iced (runs too slowly).	– If possible reduce the air inlet pressure. – Install a maintenance unit with oiler if one is not yet present. Fill the oiler with anti-freeze agent (ethylene glycol) and adjust as instructed in the operation manual: reference value 1 drop per approx. 10 double strokes.
The pump runs irregularly (can be noticed by differences in up and down stroke speeds) and does not reach the required pressure.	– The viscosity of the spraying material is too high (suction losses).	– Dilute the spraying material. – Use a bigger pump.
	– Suction system leaking (fluctuations in spray jet).	– Check the packings on all screw fittings of the suction pipe or the suction hose, replace if necessary (see spare parts list for suction system or direct suction).
	– Bottom valve leaking (pump only stops in upward stroke when the spray gun is closed).	– Unscrew the bottom valve, thoroughly clean ball and seat, if necessary replace ball or valve seat.
	– Piston valve leaking (pump only stops in downward stroke when the spray gun is closed).	– Clean ball and valve in the dual piston, replace ball and valve seat as necessary.
	– Bottom or top packing leaking (wear)	– Replace the packing.

Fault	Possible cause	Remedy
Material escapes from the overflow on the air motor.	– Packing worn.	– Replace the packing. Note: Do not close off the overflow!
Fluctuations in the spray jet	– Water in the atomizer air hose	– Retrofit water separator on the compressor
	– Compressor too weak	– Choose stronger compressor to ensure enough air for pump and atomizer
	– Gun filter blocked, selected incorrectly, defective or missing	– Check gun filter ⇒ Observe operation instructions for spray gun
Contaminated surface	– moist or contaminated atomizer air	– Retrofit water separator on the compressor

8 Technical data

8.1 PROFIT series

Model	3010	3022	3033	4210	4222	4233
Max. free-flow output (l/min)	3.0	3.0	3.0	4.2	4.2	4.2
Pressure ratio	10 : 1	22 : 1	33 : 1	10 : 1	22 : 1	33 : 1
Pump capacity per double stroke (cm ³)	14	14	14	27	27	27
Max. air inlet pressure (bar)	8	8	8	8	8	8
Max. permissible operating pressure (bar)	80	176	264	80	176	264
Piston diameter of the air motor (mm)	50	70	85	50	70	85
Piston stroke of the air motor (mm)	42	42	42	75	75	75
Air inlet						
Material outlet						
Air consumption (l/min) (per doubles stroke at 1 bar air inlet pressure) ₁	0.21	0.41	0.60	0.34	0.66	0.98
Emitted sound pressure level at the work place was determined in accordance with the DIN EN ISO 3744, DIN EN 31200, DIN EN 31201 and DIN 45635-20 standards						
Sound pressure level at 15 DH with 8 bar L _P	84 dB(A)					
Sound power level L _w	95 dB(A)					

8.2 PHOENIX series

Model	6530	11018	11032
Max. free-flow output (l/min)	6.5	11	11
Pressure ratio	30 : 1	18 : 1	32 : 1
Pump capacity per double stroke (cm ³)	40	72	72
Max. air inlet pressure (bar)	8	8	8
Max. permissible operating pressure (bar)	240	144	256
Piston diameter of the air motor (mm)	105	105	140
Piston stroke of the air motor (mm)	75	75	75
Air inlet	G1/4"	G1/4"	G 3/8"
Material outlet	1/4 NPSM	1/4 NPT	1/4 NPT
Air consumption (l/min) (per doubles stroke at 1 bar air inlet pressure) ₁			
Emitted sound pressure level at the work place was determined in accordance with the DIN EN ISO 3744, DIN EN 31200, DIN EN 31201 and DIN 45635-20 standards			
Sound pressure level at 15 DH with 8 bar L _P	84 dB(A)		
Sound power level L _w	95 dB(A)		

8.3 Unit card

The unit card contains all important and safety relevant data and information about the unit.

- Exact designation and manufacturer data,
- Technical data and limit values,
- Equipment and test certificate,
- Purchasing data,
- Unit identification (machine components and supplied accessories with item numbers and spare part numbers).

8.4 Type plate

The type plate is located on the cylinder of the material pump. It contains the most important technical data for the high pressure pump.



Fig. 36: Example of a type plate



Please check that the data on the type plate is identical to the specifications on the unit card. Please notify us immediately in case of discrepancies or if the type plate is missing.

Additionally, attachment devices (if fitted) have a separate type plate, such as:

- Agitator
- Material heater

These type plates contain the technical data and serial numbers of the corresponding devices.

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