

LEADING IN
PRODUCTION
EFFICIENCY



EcoGun 910

Manual Air Spray Gun Gravity-Feed

Operation manual

MSG00003EN, V07

N36200003V

Information about the document

This document describes the correct handling of the product.

- Read the document prior to every activity.
- Prepare the document for the application.
- Pass on the product only together with the complete documentation.
- Always follow safety instructions, handling instructions and specifications of every kind.
- Illustrations can deviate from the technical construction.

Validity range of the document

This document describes the following product:

N36200003V
EcoGun 910



Hotline and Contact

If you have queries or would like technical information, please contact your dealer or sales partner.

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1 Product overview

1.1 Overview

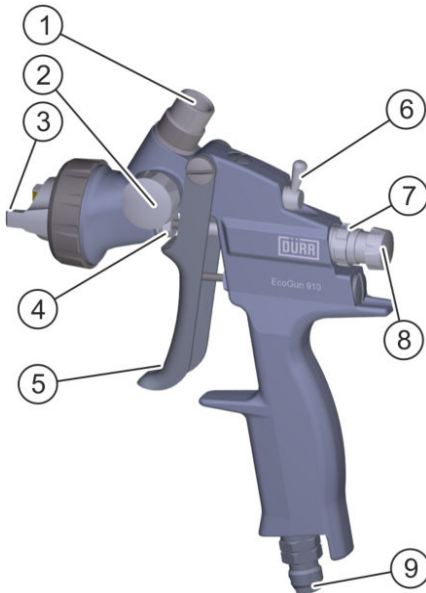


Fig. 1: Overview

- 1 Cup connection
- 2 Flat jet control
- 3 Air cap (conventional/CF or LVLPL/LF)
- 4 Self-adjusting needle package
- 5 Trigger
- 6 Total air control
- 7 Locknut
- 8 Stop screw quick-clip technology ↪ 8.2.1 "Replace needle and nozzle."
- 9 Air connection

1.2 Short description

The spray gun is using compressed air to coat surfaces. The spray gun is handheld. The following factors influence the spray jet and the result:

- Alignment of the air cap ↪ 6.5 "Alignment of the air cap"
- Material flow ↪ 5 "Commissioning"
- Air pressure ↪ 5 "Commissioning"
- Spray width ↪ 5 "Commissioning"

The spray gun uses a self-adjusting needle package. This self-adjusts for the material related wear of the sealing package.

2 Safety

2.1 Presentation of Notes

The following notes can appear in this instruction:



DANGER!

High risk situation that can lead to serious injuries or death.



WARNING!

Medium risk situation that can lead to serious injuries or death.



CAUTION!

Low risk situations that can lead to minor injuries.



NOTICE!

Situations that can lead to material damage.



ENVIRONMENT!

Situations that can lead to environmental damage.



Additional information and recommendations.

2.2 Intended Use

The **EcoGun 910** spray gun is used exclusively for spraying flammable and non-flammable, liquid coating materials. It is hand guided and uses compressed air.

The **EcoGun 910** spray gun may only be operated in EX zones 1 and 2 and within the approved technical data ↪ 10 "Technical data".

The **EcoGun 910** spray gun is only intended for industrial use.

Misuse

There is a risk of death if not used properly.

Examples of wrong use are:

- Aiming the spray gun at humans or animals
- Atomization of fluid nitrogen
- Combination of the spray gun with components that are not approved by Dürr Systems for operation.
- Use of unapproved materials, see safety data sheets
- Making conversions or changes on your own
- Use of the spray guns not conforming to the device category in Ex zones.

Ex labeling

Ⓔ II 2G T60 °C X

II - Device group II: all areas except mining

2G - Device category 2 for gas

T60 °C - Surface temperature, max. 60°C

X - Specific operating conditions for safe operation

The following conditions must be observed for safe operation:

- Ground the spray gun.
Check shunting resistor upon installation:
 - Resistance $\leq 1M\Omega$
- Only use conductive hoses.
- Ensure that static electricity can be discharged.
- Use exclusively compressed air quick couplings for water-based materials, where it is not necessary to discharge static electrical charges.

2.3 Residual risks

Explosion

Sparks, open flames and hot surfaces can cause explosions in explosive atmospheres. Serious injury and death could be the consequence.

- Before carrying out any work, make sure that there is no explosive atmosphere.
- Do not use sources of ignition and open light.
- Do not smoke.
- Ground the spray gun.
- Ground the work piece.
- Only use conductive lines.

Flammable coating materials and their detergents and cleaning agents can cause a fire or an explosion.

- Ensure that the flashpoint of the cleaning agent is at least 15K above the ambient temperature or clean Spray gun at the cleaning areas with active technical ventilation, in painting booths, according to EN 16985.
- Note explosion group of the fluid.
- Follow the safety data sheet.
- Ensure that forced ventilation and fire protection equipment are in operation.
- Do not use sources of ignition and open light.
- Do not smoke.
- Ground the spray gun.

Danger from harmful or irritant substances

Serious injuries or death can result if you come into contact with dangerous fluids or steam.

- Spray gun Check regularly for leakage. Observe local regulations and maintenance schedule.
- Ensure that the forced ventilation is operational.
- Follow the relevant safety data sheets.
- Wear specified protective equipment.

Escaping material

Material escaping under pressure can cause serious injuries.

Before working on the product:

- Disconnect the system, in which the product is installed, from compressed air and material supply.
- Secure system personalized from being switched on again.
- Depressurize the lines.

Noise

The sound pressure level during operation may cause severe hearing damage.

- Wear ear protection.
- Do not spend more time than necessary in the work area.

Hot surfaces

During operation, the surfaces of components can get extremely hot. Contact with it can cause burns.

- Do not touch hot surfaces.
- Before carrying out any work:
 - Let components cool down.
 - Wear protective hand gloves.

2.4 Staff qualification



WARNING!

Inadequate qualification

Wrong estimation of dangers can cause serious injury or death.

- Only sufficiently qualified persons may execute all work.
- Some work requires additional qualification. Additional qualifications of specialized personnel are marked with a “+”.

This document is intended for qualified personnel in industry and craftsmanship.

The following describes the different qualifications required for the work in this document. The required qualification is presented prior to the individual tasks in the appropriate chapters.

Operator

The operator is trained specifically for the field of work in which he works.

Furthermore, the operator possesses the following knowledge:

- Technical Measures for occupational safety and health

Transport, scope of supply and storage

The operator is responsible for the following work:

- Operate and monitor the system/ product.
- Introduce measures in the event of faults.
- Clean system/ product.

+ additional qualification explosion protection

In addition to the knowledge of the various specialist fields, the mechanic has knowledge of regulations and safety measures when working in potentially explosive areas.

Dürr Systems offers special product training for ↪ "Hotline and Contact".

2.5 Personal protective equipment

When working in explosive areas, the protective clothing, including gloves, must meet the requirements of EN 1149-5. Footwear must meet the requirements of ISO 20344 and IEC 61340-4-3. The volume resistivity must not exceed 100MΩ.

Wear the specified personal protective equipment when working. Provide the following personal protective equipment:



Anti-Static Safety Boots

Protect feet from crushing, falling items and slipping on slippery ground.

Moreover, anti-static safety boots reduce electrostatic charge by discharging the electrostatic charges.



Eye protection

Protects eyes from dust, paint drops and particles.



Protective gloves

Protect the hands from:

- mechanical forces
- Thermal forces
- Chemical effects



Protective workwear

Tight fitting workwear with low tear strength, tight sleeves and no hanging parts.



Respiratory protection device

The respiratory protection device protects from hazardous gases, vapors, dust and similar materials and media. The version of the respiratory protection device must be suitable for the media used as well as their usage.



Use ear protection

Protects from auditory damage due to noise.

3 Transport, scope of supply and storage

3.1 Scope of delivery

The scope of supply includes the following components:

- Spray gun
- Tool kit ↪ 11.2 "Tools"

Inspect delivery on receipt for completeness and integrity.

Report defects immediately ↪ "Hotline and Contact".

3.2 Handling of packaging material



ENVIRONMENT!

Incorrect disposal

Incorrectly disposed packaging material can damage environment.

- Dispose of material no longer required in an environment-friendly manner.
- Observe local disposal specifications.

3.3 Storage

Storage provisions:

- Do not store outdoors.
- Spray gun only store when in a clean and dry condition.
- Store in a dust-free place.
- Do not expose to aggressive media.
- Protect from solar radiation.
- Avoid mechanical vibrations.
- Temperature: 10°C to 40°C
- Relative humidity: 35% to 90%

4 Assembly

4.1 Requirements for the Installation point

- The compressed air supply to the spray gun must be interrupted and secured against reconnection.
- The compressed air supply must be adjustable.
- Lines, seals and screw connections must be designed to conform to the requirements of the spray gun ↗ 10 "Technical data".
- The workplace must have a mechanical ventilation.

Working environment and grounding

The flooring of the working area must be anti-static acc. to EN 50050-1, measurement after EN 1081. The antistatic flooring prevents electrostatic charges from building up. Dangerous flashovers are prevented.

4.2 Assembly


Personnel:

- Operator
- + additional qualification explosion protection

Protective equipment:

- Protective workwear

- Protective gloves
- Anti-Static Safety Boots

1.  **WARNING!**
Sources of ignition may cause explosions!
Ensure a non-explosive atmosphere.

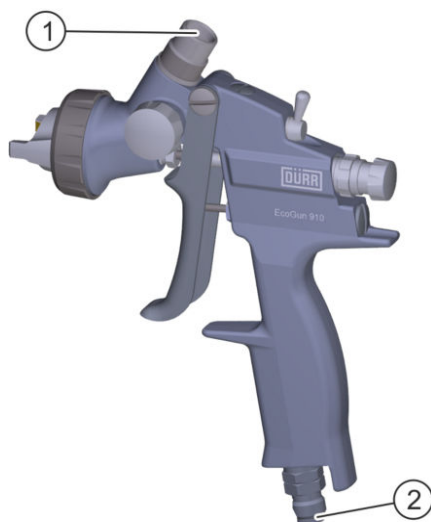


Fig. 2: Assembly

2. Screw the feed cup onto the thread of the cup connection (1).
3. Connect the air hose to the air supply (2).
4. Check the seat of the air hose.

5 Commissioning

Personnel:

- Operator
- + additional qualification explosion protection

Protective equipment:

- Protective gloves
- Protective workwear
- Anti-Static Safety Boots
- Eye protection
- Respiratory protection device
- Use ear protection

Requirements:

- Feed cup and air hose have been connected ↪ 4.2 “Assembly”.
1. Rinse the spray gun before filling it with paint ↪ 6.7 “Purging”:
 - use solvent for solvent-based paints
 - use water for water-based paints

Setting the spray pattern

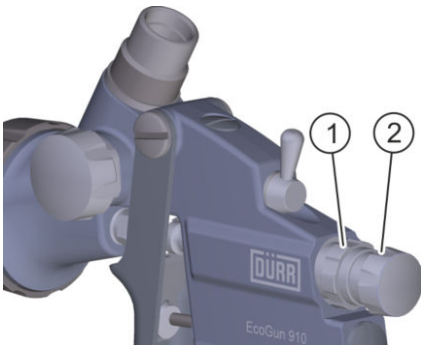


Fig. 3: Setting the material flow

1. Set the material quantity.
 - Loosen locknut (1).
 - Turn set screw (2) in required direction.
 - Right turn: less material
 - Left turn: more material
 - Tighten locknut (1).

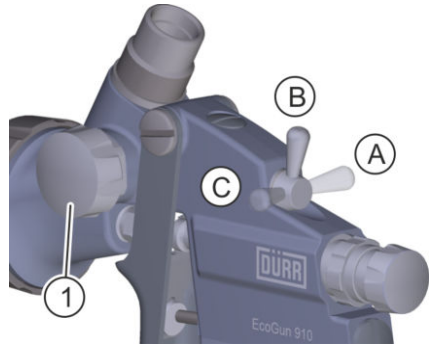


Fig. 4: Setting air flow.

2. Setting air flow.
 - Set air flow control lever (A) to “minimum”.
 - Increase flow slowly.

The air flow is adjustable continuously, from “minimum” (A) to “maximum” (C). The flow rate of air in position “A” amounts to 5 to 20% of the maximum flow rate in position “C”.

3. Set the spray width by turning the flat jet setting (1).
 - Right turn: Flat jet min.
 - Left turn: Flat jet max.

The flat jet control can be continuously rotated by 200°. The spray width can be adjusted from flat jet to round jet.

Characteristic curves

The characteristic curves show the air flow dependent on the air pressure.

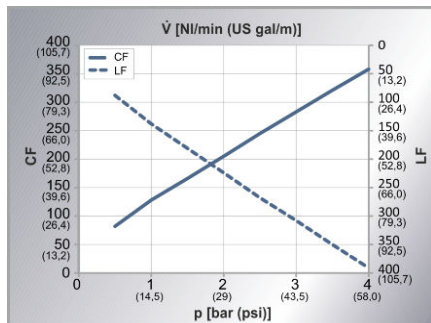


Fig. 5: Characteristic curve

CF Conventional air cap

LF Air cap LVLP

6 Operation

6.1 Safety recommendations



WARNING!

Danger of explosion due to chemical reactions

Material, halogenated hydrocarbon-based rinsing agent or cleaning agent can chemically react with aluminum components of the product. Chemical reactions can cause explosions. Serious injury and death could be the consequence.

- Only use purging agents and cleaning agents that do not contain any halogenated hydrocarbons.

! NOTICE!

Material damage due to dried material residues

If material residues dry in the product, that can harm components.

- Purge product immediately after each use.

6.2 General notes

- Perform the following checks during operation:
 - Check O-rings for correct seating and tightness.
 - Check air cap for cleanliness.
 - Check nozzle for cleanliness.

6.3 Selecting air cap

The spray gun can be converted from a conventional spray gun to an LVLP spray gun. Also assemble the corresponding air cap.

Conventional air cap/CF

The conventional air cap is used with decorative surfaces in which the focus lies on the atomizer.

Conventional air cap features:

- Mist arm
- Fine atomization
- Transfer rate > 65%
- Air consumption: see characteristic curve Fig. 5

Air cap LVLP/LF

The air cap LVLP is used for applications requiring a good transfer rate and spray pattern.

Properties of the air cap LVLP:

- Mist arm
- Transfer rate > 75%
- Air consumption: see characteristic curve Fig. 5

6.4 Changing the air cap

Personnel:

- Operator
- + additional qualification explosion protection

Protective equipment:

- Protective workwear
- Protective gloves

Removing the air cap

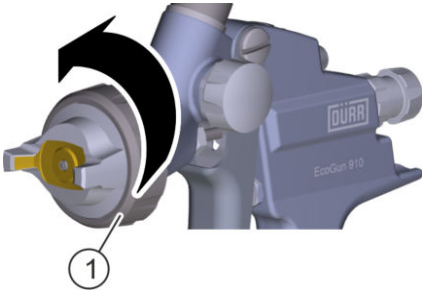


Fig. 6: Loosen cap nut.

1. Loosen the cap nut (1) by a $\frac{1}{4}$ turn counter-clockwise.

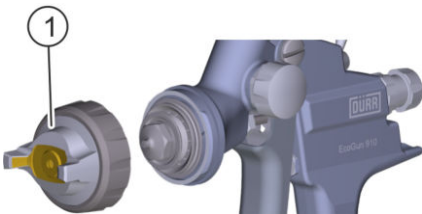


Fig. 7: Removing the air cap

2. Remove the air cap (1).

Assembling the air cap

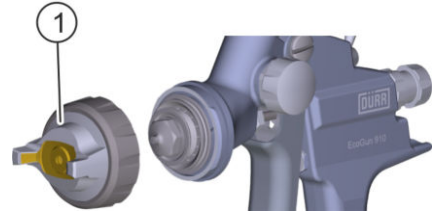


Fig. 8: Placing the air cap

3. Place the air cap (1).

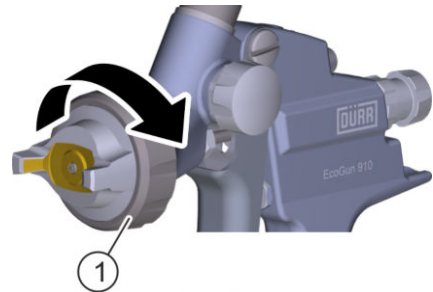


Fig. 9: Tightening the cap nut

4. Loosen the cap nut (1) by a $\frac{1}{4}$ turn clockwise.
5. Align the air cap as required ↪ 6.5 "Alignment of the air cap".

6.5 Alignment of the air cap

Personnel:

- Operator
- + additional qualification explosion protection

Protective equipment:

- Protective workwear
- Protective gloves

The position of the air cap determines the direction of the spray pattern.

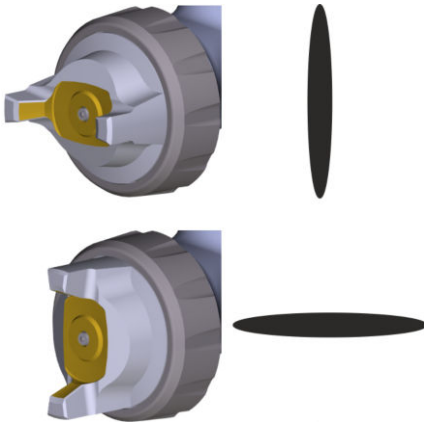


Fig. 10: Alignment of the air valve

1. Turn the air cap as required for the desired spray pattern.

6.6 Guiding the spray gun

Personnel:

- Operator
- + additional qualification explosion protection

Protective equipment:

- Protective gloves
- Protective workwear

- Anti-Static Safety Boots
- Eye protection
- Respiratory protection device
- Use ear protection

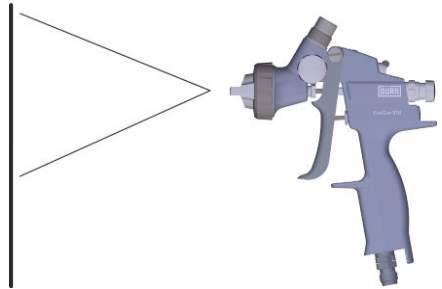


Fig. 11: Guide the spray gun

1. Guide spray gun as follows:
 - Hold the spray gun at an 90° angle to the surface to be painted.
 - Maintain a distance of 15 to max. 25cm to the surface to be painted.



The distance can vary for effect coatings.

6.7 Purging

6.7.1 Safety recommendations

! NOTICE!

Material damage due to unsuitable rinsing agent

If the rinsing agent reacts chemically with the components or the material, components get damaged.

- Use only the rinsing agents that are compatible with the components and the material.
- Refer to safety data sheet of material manufacturer.

6.7.2 General notes

When purging, use fluid to remove inner soiling from components.

6.7.3 Purging spray gun

NOTICE!

Material damage due to unsuitable rinsing agent

If the rinsing agent reacts chemically with the components or the material, components get damaged.

- Use only the rinsing agents that are compatible with the components and the material.
- Refer to safety data sheet of material manufacturer.

NOTICE!

Clogged air channels

If the material or rinsing agent reaches into the air channels, air channels can clog up. This can result in faulty painting results.

- Keep spray gun horizontal or directed downwards during the purging process.

Purge the spray gun in the following cases:

- After end of operation
- Before every change of material
- Prior to cleaning
- Prior to dismantling
- Before a long time of non-use
- Before placing in storage



Purging intervals depend on the material used.

Personnel:

- Operator
- + additional qualification explosion protection

Protective equipment:

- Protective workwear
 - Respiratory protection device
 - Eye protection
 - Use ear protection
 - Anti-Static Safety Boots
 - Protective gloves
1. Ensure proper disposal of the exiting material and purging agent.
 2. Purge the spray gun with an appropriate detergent until the detergent runs clean without any material residue.
 3. Shut off detergent supply.
 4. Pull trigger.
⇒ Air channels are blown free.

7 Cleaning and maintenance

7.1 Safety recommendations



WARNING!

Danger of fire and explosion

Flammable coating materials and their detergents and cleaning agents can cause a fire or an explosion.

- Ensure that the flashpoint of the cleaning agent is at least 15K above the ambient temperature or clean product at the cleaning areas with active technical ventilation, in painting booths, according to EN 16985.
- Note explosion group of the fluid.
- Observe the security data sheets of the media being used.
- Ensure that forced ventilation and fire protection equipment are in operation.
- Do not use sources of ignition and open light.
- Do not smoke.
- Check grounding.



WARNING!

Unsuitable spare parts in explosive areas

Spare parts not compliant with the specifications on explosion protection can cause explosions in an explosive atmosphere. Serious injury and death could be the consequence.

- Use exclusively original spare parts.



WARNING!

Danger from harmful or irritant substances

Serious injuries or death can result if you come into contact with dangerous fluids or steam.

- Spray gun Check regularly for leakage. Observe local regulations and maintenance schedule.
- Ensure that the forced ventilation is operational.
- Follow the relevant safety data sheets.
- Wear specified protective equipment.
- Avoid contact (e.g. with eyes, skin).



WARNING!

Escaping material and compressed air

Escaping material under pressure can cause serious injuries.

Before carrying out any work:

- Disconnect the system, in which the spray gun is installed, from compressed air and material supply.
- Secure system personalized from being switched on again.
- Depressurize the lines.



WARNING!

Danger of explosion due to chemical reactions

Material, halogenated hydrocarbon-based rinsing agent or cleaning agent can chemically react with aluminum components of the product. Chemical reactions can cause explosions. Serious injury and death could be the consequence.

- Only use purging agents and cleaning agents that do not contain any halogenated hydrocarbons.



NOTICE!

Unsuitable cleaning agents

Unsuitable cleaning agents can damage the spray gun.

- Only use cleaning agents approved by the material manufacturer.
- Observe the security data sheets of the media being used.
- Place heavily soiled components in a cleaning bath.
 - Only place those parts in the cleaning bath, which are suitable for the cleaning bath.
Never place the entire spray gun in the cleaning bath.
 - Use only electrically conductive containers.
 - Ground the container.
 - Do not use ultrasound baths.

- Use alcohols (isopropanol, butanol) for non-flammable coating materials.
- Remove dried non-flammable coating materials using a material manufacturer-approved organic thinner.
- When cleaning with flammable detergent, do not spray into a closed container. An explosive gas-air mixture can form inside closed containers.



NOTICE!

Damage due to unsuitable cleaning tools

Unsuitable cleaning tools can damage the product.

- Only use cloths, soft brushes and paintbrushes.
- Do not use abrasive cleaning tools.
- Do not poke blocked nozzles with metallic objects.
- Do not use compressed air for cleaning.
- Do not use any thinner spray guns.
- Do not use high pressure for cleaning agents.

7.2 Cleaning

Personnel:

- Operator
- + additional qualification explosion protection

Protective equipment:

- Protective gloves
- Protective workwear
- Anti-Static Safety Boots
- Eye protection

- Respiratory protection device
 - Use ear protection
1. Disconnect the air hose from the spray gun.
 2. Ensure the ambient temperature is at least 15K below the flashpoint of the cleaning agent.
 3. Remove material residue with cloth or soft brushes.
 4. Clean the spray gun carefully and dry it with a soft cloth.

7.3 Maintenance



7.3.1 Maintenance schedule




The maintenance intervals given below are based on experiential values. Adjust maintenance intervals individually if necessary.

Interval	Maintenance work
after each use	Clean ↪ 7.2 "Cleaning".
monthly	Lubricate lever bearing ↪ 10.8 "Operating and auxiliary materials".

8 Faults

8.1 Defects table

Visualizer of typical spray pattern problems	
Spray pattern	Fault identification
	Spray jet is not circular.
	Spray jet is bent or tapered.

Spray pattern	Fault identification
	Spray jet is too thick in the middle.
	Spray jet is split.
	Spray jet is uneven.

Fault description	Cause	Remedy
Round spray jet is not developing in spite of concluded flat jet control.	Air cap cap nut is not correctly tightened.	Tighten air cap cap nut.
	Seat of the air cap is soiled or damaged.	Clean and check nozzle and air cap. Replace defective parts ↪ 8.2.1 "Replace needle and nozzle."
Spray jet is bent or tapered.	Bores in the air cap are soiled or damaged.	Clean and check air cap. Replace air cap if defective ↪ 8.2.1 "Replace needle and nozzle."
	Dried material residue on the nozzle	Clean the nozzle.
	Nozzle is damaged.	Replace nozzle.
Spray jet is too thick in the middle.	Material too viscous	Change material consistency.
	Air pressure too low	Increase the air pressure via the air control.
Spray jet is split.	Material too thin	Change material consistency.
	Air pressure too high	Decrease the air pressure via the air control.

Fault description	Cause	Remedy
Spray jet is uneven. The spray pattern quality is bad.	There is not enough material in the cup.	Top up material.
	Air cap cap nut or nozzle is not correctly tightened.	Tighten air cap cap nut and nozzle.
	Self-adjusting needle packing is defective.	Replace needle packing ↳ 8.2.3 "Replace needle guide with sealing collar".
Leakage on the needle seal or in front on the nozzle	Self-adjusting needle packing is defective or worn out	Replace needle packing ↳ 8.2.3 "Replace needle guide with sealing collar".
	Nozzle is cracked.	Replace nozzle ↳ 8.2.1 "Replace needle and nozzle.".
Spray gun is losing air with non-actuated trigger.	Valve is defective.	Replace valve ↳ 8.2.2 "Replacing valve seal".
	Valve seal is worn out.	Replace valve seal ↳ 8.2.2 "Replacing valve seal".
	Valve gland tightened to fast	Slightly loosen the valve gland.
Air escapes on the flat jet control.	O-ring is worn out.	Replace O-ring ↳ 8.2.5 "Replace O-ring on the circular jet control .".
Air escapes at the air connection.	O-ring is worn out.	Replace air connection ↳ 8.2.6 "Replace air connection".
Quick Clip technology cannot be used as required.	Locknut and stop screw are not tightened together.	Tighten locknut and stop screw together.
	Material has leaked into Quick Clip closure and dried out.	Clean Quick Clip closure ↳ 7.2 "Cleaning".

8.2 Troubleshooting

8.2.1 Replace needle and nozzle.

! NOTICE!

Property damage due to improper replacement of needle and nozzle

Replacing only the needle or only the nozzle could damage spray gun components. This can compromise the tightness of the spray gun. The spray pattern deteriorates.

- Observe order of replacement steps (needle – nozzle).
- Observe order of assembly steps (nozzle – needle).
- Always replace nozzle and needle at the same time.

The integrated Quick Clip technology allows for removal and installation of the needle without changing the preset needle stop.

Personnel:

- Operator
- + additional qualification explosion protection

Protective equipment:

- Protective gloves
- Protective workwear
- Anti-Static Safety Boots

Remove needle

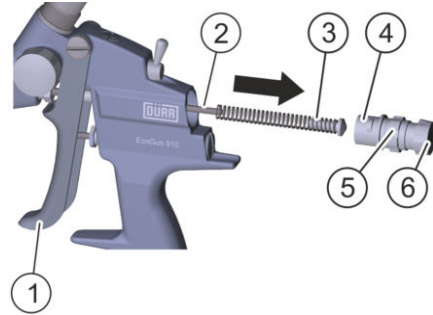


Fig. 12: Replace needle

1.

! NOTICE!

The stop screw is spring pretensioned. When you loosen the stop screw it might fall off.

Hold onto stop screw (6) while removing it.

2. Counter the locknut (5) on the clip (4).
3. Press stop screw (6) into the spray gun.
4. Turn stop screw (6) ¼ turn counter clockwise.
 - ⇒ The spring on the needle (2) pushes the stop screw (6) out.
5. Pull out the stop screw (6).
6. Remove compression spring (3).
7. Pull back the trigger (1).

- Pull out the needle (2) towards the back.

Remove nozzle

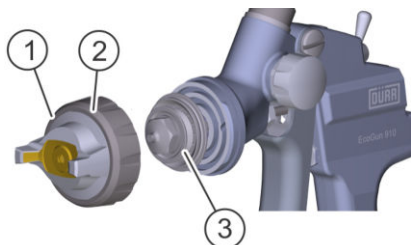


Fig. 13: Remove nozzle

- Loosen cap nut (2).
- Pull off air cap (1).
- Loosen nozzle (3) using a hexagonal box wrench (13mm) and remove it.

Install nozzle

- Screw in and tighten new nozzle (3).
 - Tightening torque: Observe tightening torque of 18 to 20Nm.
- Mount and align the air cap ↪ 6.4 "Changing the air cap".

Inserting the needle

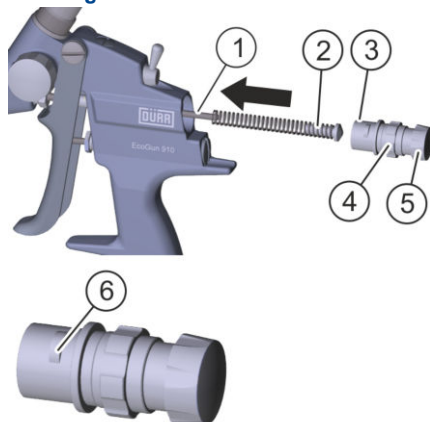


Fig. 14: Inserting the needle

- Insert needle (1).
- Fit compression spring (2).
- Press stop screw (5) against the compression spring back into the body of the spray gun. One of the nibs (6) of the clip (3) must be in the 11 o'clock position.
- Turn stop screw (5) clockwise until fastened.
 - ⇒ Stop screw (5) is pushed back into its initial position.
- Set the material quantity ↪ 5 "Commissioning".

8.2.2 Replacing valve seal

Personnel:

- Operator
- + additional qualification explosion protection

Protective equipment:

- Protective workwear
- Protective gloves
- Anti-Static Safety Boots

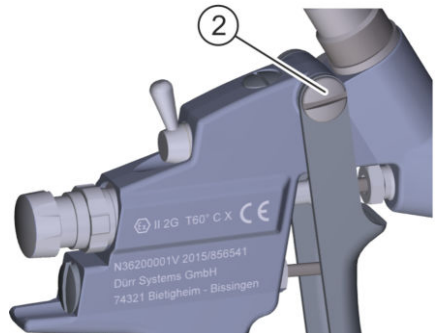
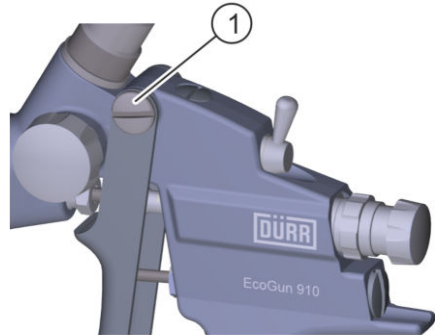


Fig. 15: Removing the lever screw and lever axle

1. Loosen and remove the lever screw (1).
2. Remove the lever axle (2).

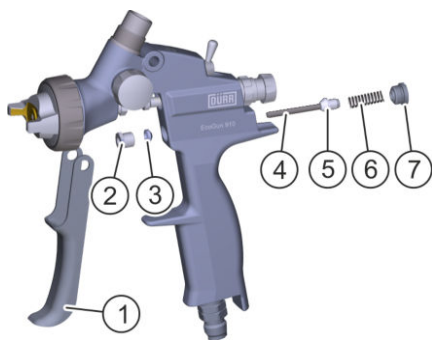


Fig. 16: Replacing the valve gland seal

3. Pull off the trigger (1).
4. Unscrew the valve gland (2) to the front.
5. Loosen the sealing screw (7).
6. Pull out the compression spring (6) towards the back.
7. Pull out valve pin (4) and seal (5) towards the back.
8. Pull out the valve gland (3) to the front.
9. Insert new valve pin (4) and seal (5).
10. Insert compression spring (6).
11. Wet locking screw (7) with thread sealant. Use LABS-free and low-grade thread sealant 10.8 "Operating and auxiliary materials".
12. Tighten locking screw (7).
13. Insert a new valve gland seal (3).
14. Screw-in the valve gland (2).
15. Push the trigger (1) over the spray gun.

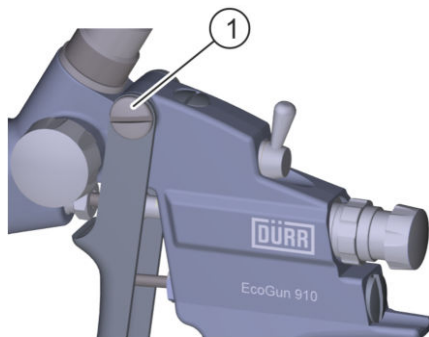
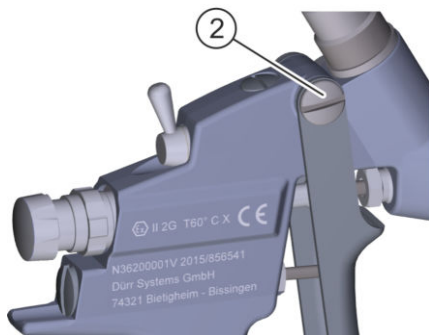


Fig. 17: Installing the lever screw and lever axle



16. Insert lever axle (2).
17. Tighten the lever screw (1).

8.2.3 Replace needle guide with sealing collar

Personnel:

- Operator
- + additional qualification explosion protection

Protective equipment:

- Protective workwear
- Protective gloves
- Anti-Static Safety Boots

1. Disassemble needle and nozzle ↪ 8.2.1 "Replace needle and nozzle."

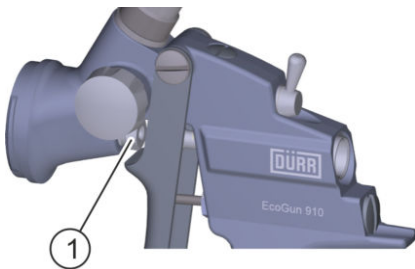
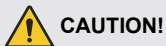


Fig. 18: Remove needle gland

2.



CAUTION!
The compression spring is pre-tensioned. Risk of injury!

Carefully unscrew needle gland (1). Carefully relax the compression spring.

3. Remove compression spring.
4. Remove pressure disc.

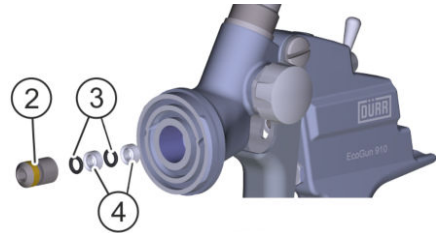


Fig. 19: Remove needle guide

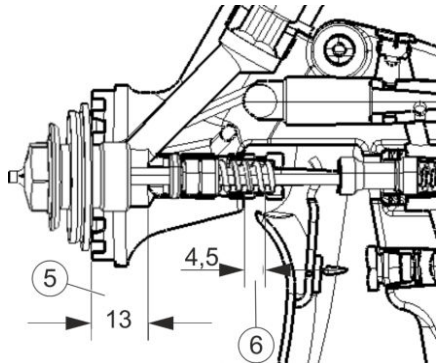


Fig. 20: Measurement specifications for needle gland

5. Unscrew needle guide (2) to the front.
6. Remove O-rings (3) and seals (4).
7. Insert needle gland (1) and screw it in as specified (6).
8. Insert compression spring from the front.
9. Insert pressure disc from the front.
10. Insert new O-rings (3) and seals (4).

- Screw in needle guide (2) as specified (5).

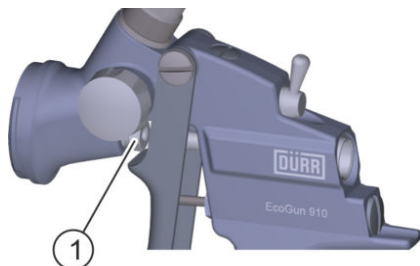


Fig. 21: Install needle gland

- Install nozzle and needle ↪ 8.2.1 “Replace needle and nozzle.”.

After filling in coating materials:

- When the spray gun is filled with coating material, check the spray gun for leaks in the area of the needle gland. If necessary, carefully retighten needle gland (1).

8.2.4 Replace O-ring on the air control

Personnel:

- Operator
- + additional qualification explosion protection

Protective equipment:

- Protective workwear
- Protective gloves
- Anti-Static Safety Boots

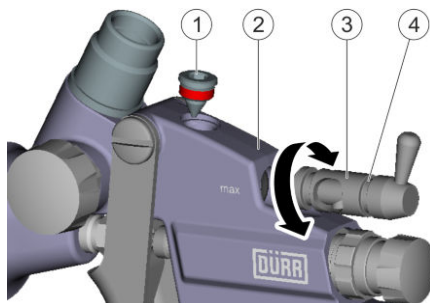


Fig. 22: Replace O-ring on the air control

- Unscrew sealing screw (1).
- Pull out the air control (3).
- Pull off O-ring (4).
- Pull up new O-ring (4).
- Wet new O-ring (4) with lubricant ↪ 10.8 “Operating and auxiliary materials”.
- Insert air control (3) into the housing (2).
- Clean sealing screw (1) ↪ 7.1 “Safety recommendations”.
- Moisten sealing screw (1) with thread sealant.
⇒ Use LABS-free and low-grade thread sealant ↪ 10.8 “Operating and auxiliary materials”.
- Screw in sealing screw (1).

8.2.5 Replace O-ring on the circular jet control .

Personnel:

- Operator
- + additional qualification explosion protection

Protective equipment:

- Protective workwear
- Protective gloves
- Anti-Static Safety Boots

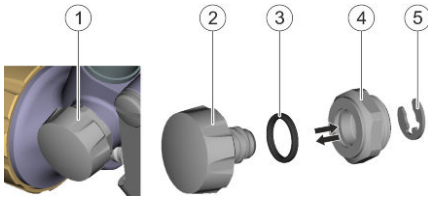


Fig. 23: Flat jet control

1. Unscrew flat jet control (1) with an open-end wrench.
2. Pull out safety washer (5).
3. Unscrew adjusting screw (2) from the regulator insert (4).
4. Remove O-ring (3) from the regulator insert (4).
5. Clean regulator insert (4).
6. Wet new O-ring (3) with lubricant ↪ 10.8 “Operating and auxiliary materials”.
7. Insert small O-ring (3) into the regulator insert (4).
8. Screw in adjusting screw (2) into the regulator insert (4).

9. Clip on safety washer (5).

! NOTICE!

Damage of sealing surface

When the flat jet control is screwed in, the adjusting screw can press against the sealing surface and damage the sealing surface.

- Always install flat jet control with opened adjusting screw.

10. Open adjusting screw (2).
⇒ Turn the adjusting screw counter-clockwise.
11. Moisten the flat jet control (1) on the thread with thread sealant.
⇒ Use LABS-free and low-grade thread sealant ↪ 10.8 “Operating and auxiliary materials”.
12. Screw in flat jet control (1).

8.2.6 Replace air connection

Personnel:

- Operator
- + additional qualification explosion protection

Protective equipment:

- Protective workwear
- Protective gloves
- Anti-Static Safety Boots

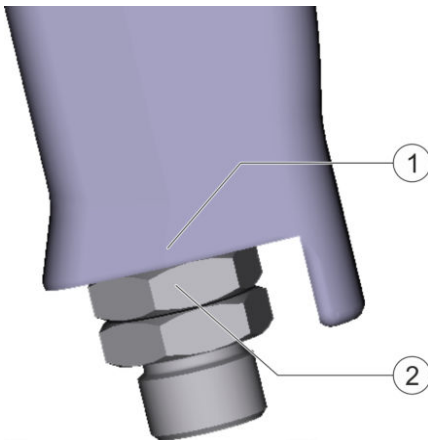


Fig. 24: Air connection on the housing

1. Unscrew flat jet control (2) with an open-end wrench.

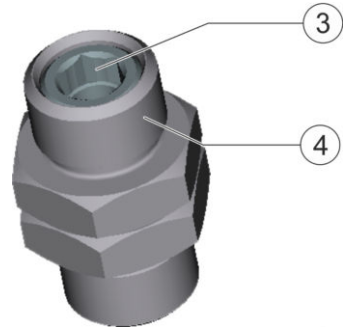


Fig. 25: Air connection details

2. Moisten the air connection (2) on the thread (4) with thread sealant.
 - ⇒ Use LABS-free and low-grade thread sealant ⚡ 10.8 “Operating and auxiliary materials”.

The side of the air connection with the hexagon socket (3) is screwed into the gun housing (1).

3. Screw in air connection (2).

9 Disassembly and Disposal

9.1 Safety recommendations



WARNING!

Escaping material and compressed air

Escaping material under pressure can cause serious injuries.

Before carrying out any work:

- Disconnect the system, in which the spray gun is installed, from compressed air and material supply.
- Secure system personalized from being switched on again.
- Depressurize the lines.

9.2 Disassembly

Personnel:

- Operator
- + additional qualification explosion protection

Protective equipment:

- Use ear protection
- Eye protection
- Respiratory protection device
- Protective workwear
- Protective gloves
- Anti-Static Safety Boots

1. Purge spray gun ↪ 6.7 “Purging”.
2. Avoid contact with material. Dispose of the exiting material professionally.
3. Disconnect compressed air supply.
4. Clean the spray gun.

9.3 Disposal



ENVIRONMENT!

Improper waste disposal

Improper waste disposal threatens the environment and prevents re-use and recycling.

- Clean components before their disposal.
- Always dispose of components in accordance with their characteristics.
↪ 10.7 “Materials used”
- Collect leaked out utilities and auxiliaries completely.
- Dispose of work equipment soaked in coating materials or operating substances according to the disposal provisions in force.
- Dispose of utilities and auxiliaries according to the disposal provisions in force.
- In case of doubt, refer to the local disposal authorities.

10 Technical data

10.1 Weight

Detail	Value
Weight, without cup	455g

10.2 Connections

- ↪ 11.1 “Spare parts list”

10.3 Operating conditions

Detail	Value
Maximum allowable material temperature when operating with protective gloves	40 °C
Maximum allowable material temperature when operating with heat-resistant protective gloves	60 °C

10.4 Emissions

Work environment sound pressure level

- Test: according to EN 14462
- Air cap: conventional
- Material: Water
- Air control: maximum
- Air pressure: 2.5 bar

Circular jet	
Detail	Value
A-weighted emission sound pressure level LpA	74 dB(A)
Uncertainty KpA	5 dB

Flat jet	
Detail	Value
A-weighted emission sound pressure level LpA	77 dB(A)
Uncertainty KpA	5 dB

10.5 Operating values

Detail	Value
Max. air pressure	8bar
Recommended air pressure	2.0 - 3.0bar

Quality of the compressed air

- Purity classes in accordance with ISO 8573-1: 1:4:2
- Limitations for purity class 4 (pressure dew point max.):
 - ≤ -3°C at 7bar absolute
 - ≤ +1°C at 9bar absolute
 - ≤ +3°C at 11bar absolute

10.6 Type plate

The type plate is placed on the housing and features the following details:

- Product designation
- Material number
- Year of manufacture
- Serial number
- EX labeling
- Manufacturer
- CE labeling

10.7 Materials used

Component	Material
Housing	Anodised aluminium
Compression springs	Stainless steel
Materials in contact with material	Stainless steel, anodized aluminum
Seals in contact with material	FEPM, PTFE
Seals without material contact	FEPM, PE, POM, EPDM, PTFE

10.8 Operating and auxiliary materials

Material	Material number
Grease tube Syntheso GLEP 1, 100g (for seals and threads)	W32020010
Loctite 577 (Thread sealant)	W31010005

10.9 Material specification

Suitable Material:

- Flammable and non-flammable paints



Do not use materials containing organochlorine compounds (e.g. tri-chloroethane, chloromethane).

11 Spare parts and accessories

11.1 Spare parts list

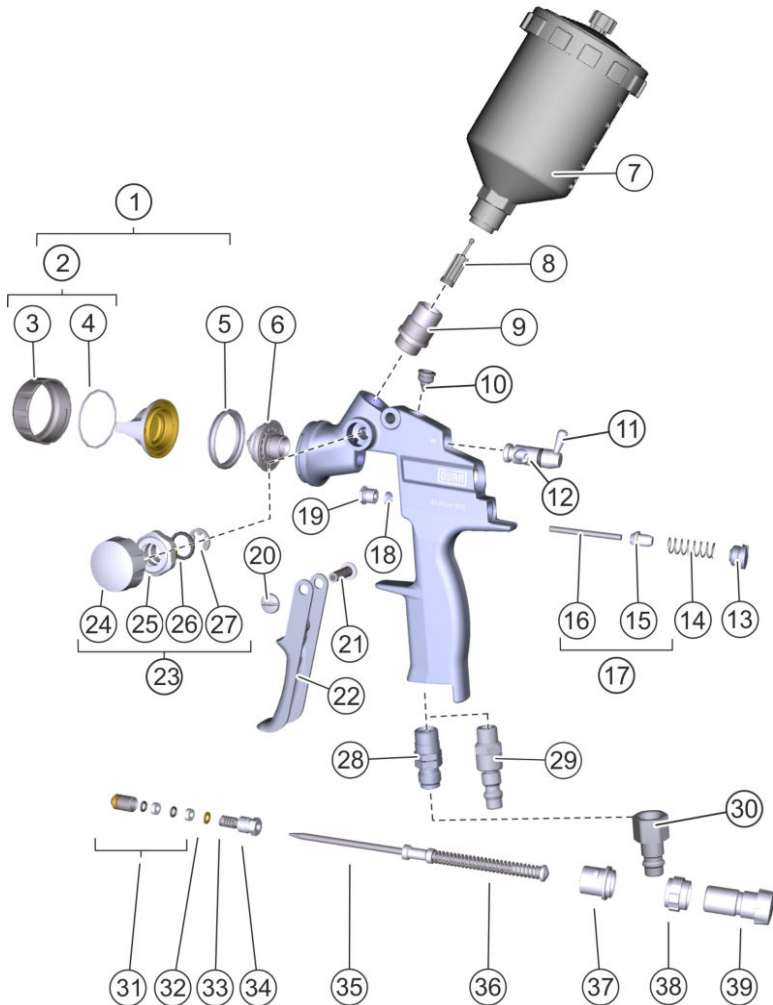


Fig. 26: Exploded view

Item	Denomination	Quantity	Material no.
01	Air cap ↻ "Overview - Air caps and nozzles"		
02	Cap nut with seal	1	M30010309
03	Cap nut	1	-
04	Seal	1	M08280030
05	Seal	1	M08280029
06	Nozzle ↻ "Overview - Air caps and nozzles"		
07	Feed cup aluminum G 3/8", 600mL	1	N08010106
	Feed cup aluminum G 3/8", 1000mL	1	N08010107
	Feed cup plastic G 3/8", 600mL	1	N08010075
	Feed cup plastic G 3/8", 125mL		N08010031
08	Filter	1	M13010029
09	Cup connection G 3/8"	1	M01210001
10	Locking screw	1	M41090173
11	Total air control	1	M21200001
12	O-Ring 7.0 x 1.5	1	M08030024
13	Locking screw	1	-
14	Compression spring	1	-
15	Seal of valve	1	-
16	Valve pin	1	-
17	Valve with pin	1	N32320001
18	Seal	1	M08280028
19	Valve gland	1	-
20	Lever screw	1	M41250001
21	Lever axle	1	M04290001
22	Trigger	1	M69040001
23	Flat jet control (24 - 27)	1	M21210001
24	Adjusting screw	1	-
25	Regulator insert	1	-
26	O-ring 9.5 x 1.5	1	M08030772
27	Safety washer	1	-

Item	Denomination	Quantity	Material no.
28	Air connection, rotatable G 1/4"	1	M01200001
29	Push-on nipple for quick-action coupling, rotatable and pivote D7,2 d10/12 (EU)	1	M01300001
30	Push-on nipple for quick-action coupling, fixed D7,2 d10/12 (EU) ↳ 11.3 "Accessories"	1	M01010185
31	Needle guide with packing seal	1	M12280002
32	Pressure disc	1	M39100072
33	Compression spring	1	M68010220
34	Needle gland	1	M08320001
35	Needle ↳ "Overview - Air caps and nozzles"		
36	Distance bolts with compression spring	1	M06070170
37	Clip	1	M62060001
38	Locknut	1	M30160001
39	Set screw	1	M41260001

Overview - Air caps and nozzles

Air cap CF (conventional)		Air cap LF (LVLP)	
0.5 - 1.2mm	M35030069	0.5 - 1.2mm	M35030073
1.3 - 1.6mm	M35030070	1.3 - 1.6mm	M35030074
1.8 - 2.5mm	M35030071	1.8 - 2.5mm	M35030075
3.0mm	M35030072	3.0mm	M35030076

Tested nozzle sets consisting of air cap (1), nozzle (6) and needle (35)

Nozzle	Nozzle set CF (conventional)	Nozzle set LF (LVLP)
0.5mm	M09800002	M09800014
0.8mm	M09800003	M09800015
1.0mm	M09800004	M09800016
1.2mm	M09800005	M09800017
1.3mm	M09800006	M09800018
1.4mm	M09800007	M09800019
1.6mm	M09800009	M09800021

Nozzle	Nozzle set CF (conventional)	Nozzle set LF (LVLP)
1.8 mm	M09800010	M09800022
2.0mm	M09800011	M09800023
2.5mm	M09800012	M09800024
3.0mm	M09800013	M09800025

Nozzle sets consisting of nozzle (6) and needle (35)

Nozzle	Material no.
0.5mm	M09800308
0.8mm	M09800309
1.0mm	M09800310
1.2mm	M09800311
1.3mm	M09800312
1.4mm	M09800313
1.6mm	M09800315
1.8 mm	M09800316
2.0mm	M09800317
2.5mm	M09800318
3.0mm	M09800319

Seal set N36960008

Designation	Item no.	Quantity
Seal	05	1
O-ring 7 x 1.5	12	1
Seal of valve	15	1
Seal	18	1
O-ring 9.5 x 1.5	26	1
Needle guide with packing seal	31	1

Repair kit N36960007 including seal set N36960008

Designation	Item no.	Quantity
Seal set N36960008	-	1
Compression spring	14	1
Valve pin	16	1
Valve gland	19	1
Lever screw	20	1
Lever axle	21	1
Pressure disc	32	1
Compression spring	33	1
Needle gland	34	1
Distance bolts with compression spring	36	1

Valve pin set N36960026

Designation	Item no.	Quantity
Valve pin set	13, 14, 17, 18, 19	1

11.2 Tools

Designation	Material number
Round brush for cleaning	Tool kit N36960014
Flat brush for cleaning	
Box wrench SW 13	
Tool for sealing ring assembly or disassembly	W02020226

11.3 Accessories



An overview of the accessory is available at Dürr webshop or upon request, ☎ "Hotline and Contact".

Designation	Material no.
Cleaning set 17 parts	N36960037
Cleaning set (21 parts)	N36960038

Designation	Material no.
Quick change coupling for air G1/4" - external threads	N40030046
Regulator, compressed air 0-7bar 1/4"out-1/4"in	N26050282
Connection air G1/4" 8x6 kink protection	M01010214
DIN bucket 2mm	N08010053
DIN bucket 4mm	N08010047
DIN bucket 6mm	N08010054

11.4 Order



WARNING!

Unsuitable spare parts in explosive areas

Spare parts not compliant with the specifications on explosion protection can cause explosions in an explosive atmosphere. Serious injury and death could be the consequence.

- Use exclusively original spare parts.



WARNING!

Unsuitable spare parts

Spare parts of third-party suppliers may possibly not be able to hold the loads. Serious injury and death could be the consequence.

- Use exclusively original spare parts.

Ordering spare parts, tools and accessories as well as information on products that are listed without order number, ☎ "Hotline and Contact".



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Translation of the original operation manual
MSG00003EN, V07

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