

solo[®]

461 / 462 / 463

*Instruction manual
Translation of the original
instructions*

Pressure sprayer





Important!

Read this instruction manual carefully before first operation and strictly observe the safety regulations!



Instruction manual

Translation of the original instructions

  **Caution!** Prior to operating the unit, please read this instruction manual carefully, and most importantly, observe all safety rules.

To ensure that your device will continue to work properly and deliver optimum performance for many years to come, ensure that you follow all operating and maintenance instructions.

Your authorised SOLO dealer will be glad to assist you with any questions.

EC declaration of conformity

The EC declaration of conformity on a separate piece of paper forms part of these operating instructions.

National requirements

The pressure sprayer may be subject to national requirements for regular inspection by designated bodies, as provided for in Directive 2009/128/EC¹.

Packaging and disposal

Please keep the original packaging in order to protect the equipment against transport damage in case you ever need to ship it or transport it.

If the packaging materials are no longer required then they must be disposed of properly in accordance with applicable local regulations. Cardboard packaging materials are raw materials which can be recycled or reused.

At the end of the equipment's service life, please make sure that you dispose of it properly in accordance with the official directives and regulations that apply in your area.

In the best interest of continued technological progress we reserve the right to change the design and configuration of any product without prior notice.

For that reason, no claims can be accepted with reference to text and illustrations in this manual.

¹ Directive 2009/128/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for Community action to achieve the sustainable use of pesticides

Symbols

The following symbols are used in this instruction manual and on the device itself:



Read the manual carefully.



DANGER! Failure to comply with the instructions could cause accidents with potentially life-threatening injuries.



Wear the prescribed protective clothing.



Wear protective gloves.



Wear face protection (e.g., safety goggles).



Wear breathing mask.



Smoking prohibited.



No naked flames.



Minimum distance to bystanders: 15 m (approx. 16 yards)



Recycling code for the material of the spraying agent tank (PE-HD).



The pressure sprayer may also be used for applications in home and garden.

Table of contents



1 Safety regulations	4
1.1 <i>Correct use / areas of application</i>	4
1.2 <i>General safety instructions</i>	4
1.3 <i>Safe handling of spraying agents</i>	5
1.4 <i>Work clothing / personal protection equipment (PPE)</i>	5
1.5 <i>Transportation of the device</i>	6
1.6 <i>Before and during work</i>	6
1.7 <i>Maintenance and repairs</i>	6
2 Preparing the device for use	7
2.1 <i>Assembly</i>	7
2.2 <i>Spray nozzle and filter element</i>	7
2.3 <i>Carrying strap</i>	7
2.4 <i>Trial run</i>	7
3 Mixing spraying agents and filling the spraying agent tank	7
4 Using the pressure sprayer	8
4.1 <i>Spraying</i>	8
4.2 <i>Transport of the pressure sprayer</i>	9
4.3 <i>Residual spraying agents / finishing spraying</i>	9
5 Maintenance, cleaning and storage	9
5.1 <i>Trial run</i>	9
5.2 <i>Checking the spray nozzles and the filter element by measuring the spraying agent delivery rate</i>	9
5.3 <i>Changing the spray nozzle and the filter element</i>	10
5.4 <i>Greasing the sealing rings</i>	10
5.5 <i>Draining the spraying agent tank and cleaning the spraying agent carrying parts</i>	10
5.6 <i>Taking the sprayer out of service and putting it into storage</i>	11
5.7 <i>Maintenance plan</i>	11
6 Specification and special accessories	12
7 Wearing parts	12
8 Warranty	12
9 Standard delivery	13
10 Specification of spray nozzles	13

1 Safety regulations

1.1 Correct use / areas of application

- This pressure sprayer must only be used for the purpose of applying approved liquid plant protection agents, pesticides, insecticides, weed killer (herbicides) and liquid fertilizers available from authorised specialist dealers as well as for the purpose of applying clean water.
- Observe all instructions provided by the spraying agent manufacturer.
- We recommend using only spraying agents that have been approved for use as spraying agent for the above mentioned areas of application by the relevant authorities in your country.
- The pressure sprayer must only be used for applications in agriculture, tree nurseries, forestry, fruit and vegetable growing, vineyards, home and garden and greenhouse cultivation with adequate ventilation.
- The pressure sprayer must not be used for any other purposes, e.g., for the spraying of liquid paint or applying any other media than the above mentioned liquids!
Particularly, aggressive, acid- or solvent-containing liquids, disinfectants or impregnating agents must not be sprayed with this device!
- Never use fluids with a temperature in excess of 40 °C [104 °F].
- To enable the operator in connection with the spraying agent manufacturer to check the material resistance to certain chemicals, we will provide details of the type of materials used for the pressure sprayer.

1.2 General safety instructions

  Please take the time to carefully read through these operating instructions before using the device for the first time and keep them in a safe place thereafter. Always take great care when using the device.

You can put your life at risk by failing to follow the safety instructions.

It is also important to follow any relevant health and safety regulations that apply to your place of work.

Anyone who fails to follow the safety instructions, operating instructions or maintenance instructions will make themselves liable for any damage and consequential damage caused as a result.

The operating instructions must be kept available at all times wherever the device is used or stored. They must be read by anyone instructed to use the equipment or perform work with or on the device (including servicing, maintenance and repairs).

- A first time operator should obtain practical instruction by an authorised SOLO dealer before using the equipment.
- Persons under the age of 18 are only permitted to use this plant protection device under supervision.
- Keep persons and animals away from areas in which you are working. Never spray in the direction of other persons, animals or objects that could be damaged as a result. Bear in mind that the liquid emerges at high speed from the spray nozzle. Objects could be kicked up as a result, and this could in some cases represent a risk. The user is responsible for any hazards or accidents involving other persons and/or their property.
- This equipment must only be hired out, lent or passed on to persons who are familiar with this type of equipment and its operation and who have read the operating instructions. Always ensure that you hand over the operating instructions together with the device.
- Ensure that you are in good shape, well rested and healthy when using this device. Do not use this device, if you are tired or sick.
- Never use this device under the influence of alcohol, drugs or medication that could impair your reaction speed.
- Never alter, change or modify any safety equipment or operating controls.
- The upper red flange housing must not be removed from the container.
- Never use the device if any part of it is unsafe or if it is not in an overall condition that makes it safe to use. Before using the device always check whether it is safe to use according to section 5.7.
- Immediately replace damaged parts. Only use genuine SOLO replacement parts.
- Only use accessories and add-on parts that have been supplied and specifically approved for installation on the device by us.
- The quality of any spare parts used is also an important factor in ensuring that your device is reliable and safe to use. Always use genuine SOLO replacement parts, as these are the only parts that have been manufactured with the same equipment and under the same conditions as the parts originally fitted to the device. This ensures the highest possible level of quality and accuracy of fit – vital factors in ensuring the safety, reliability and proper functioning of your device. Genuine SOLO replacement parts and accessories are available from your authorised SOLO dealer.

He also has access to the necessary spare parts lists, from which the required part numbers can be taken, and he will also be kept up to date about any minor improvements and changes to the range of parts on offer. Please note that the use of non-genuine replacement parts will invalidate your warranty.





- When the device is not being used it should be safely stored in a place where it will not endanger the health and safety of others. Prepare the device for storage according to section 5.5. Ensure that the device is stored in a safe place where unauthorised persons cannot access it.

1.3 Safe handling of spraying agents

- Avoid contaminating the environment, the mains water supply and/or public sewer systems with spraying agent or cleaner!
Ensure to avoid contamination when mixing, filling, using, draining, cleaning, servicing and transporting by using adequate procedures and suitable containers.
- Spraying agents and cleaners must never be allowed to enter the mains water supply – not even by back-suction when filling, public sewer systems, sprayed onto wastelands, allowed to drain into natural bodies of water or disposed of together with normal domestic waste. This also means that appropriate care must be taken during filling to ensure that none of the spraying agent is drawn back into water pipes. Spraying agents and cleaners and any unused leftovers of spraying agents and cleaners must always be collected in a suitable container and disposed of via approved facilities for household chemical waste. Please contact your local authorities for information about your nearest disposal facilities.
- Avoid any direct contact with spraying agents. In case of contact with health hazardous spraying agents, immediately rinse the affected body parts with plenty of clean water, immediately change the clothing soaked with spraying agents and immediately seek medical advice.
- Never eat or drink when handling spraying agents.
- Stop working immediately if you start to feel unwell while working, or if you become unusually tired. Seek medical advice if the condition persists.
- Never allow children or anybody who is not familiar with handling this type of spraying agent to handle the spraying agent.

- Clean the spraying agent tank and all other spraying agent carrying parts whenever the spraying agent is changed. To flush out any residue from the pump and the hose, run the pressure sprayer with clean water after cleaning the spraying agent tank and before the next spraying agent is filled in. This will prevent the risk of any chemical reactions taking place between the different substances.
- Never spray in narrow or enclosed spaces – spraying agents are toxic and there is a risk of poisoning. Spraying equipment must for example only be used in greenhouses if adequate ventilation is provided. Signs must be put up in greenhouses that have been treated. Nobody should enter the greenhouse again until it has been thoroughly ventilated.
- When you have finished spraying, prepare the device for storage according to section 5.5, thoroughly wash your face and hands with soap, take off your work clothing and ensure that it is washed regularly.
Any unused spraying agent that is left over in the device could cause corrosion and hence damage the device. Special attention must be paid to wearing parts like spray nozzles, filters and seals.

1.4 Work clothing / personal protection equipment (PPE)

-  Always wear suitable protective clothing in accordance with the relevant regulations. The clothing must protect all parts of your body against contact with spraying agents and against objects that are kicked up – i.e., protective gloves, face protection (e.g., protective goggles), protective footwear, body protection (e.g., rubber apron), if required breathing protection.
- Clothing should be appropriate – i.e., tight-fitting, but not obstructive.
- Wear protective shoes with good grip, preferably safety shoes.
-  Wear protective gloves with non-slip palms.
-  Wear face protection (e.g., safety goggles) against the spraying agents.
-  Always wear a breathing mask when working in dense and tall plants, in greenhouses, in dips in the ground or in trenches and when using dangerous spraying agents.
- Immediately change any clothing that becomes soaked with the spraying agent.
- Wash the work clothing regularly.
- Never wear a scarf, tie, loose jewellery or other items of clothing that could be caught in a bush or on a branch.

1.5 Transportation of the device

- To prevent damage and to eliminate potential hazards for other road users, use secure lashing equipment to secure the device and prevent it from tipping over and falling when transporting it on a vehicle.
- Take appropriate measures to ensure that the spraying agent cannot leak or spill. Check the spraying agent tank and all hoses and pipes that carry the spraying agent for leaks. Before transporting the device you should ideally prepare the device for transportation according to section 5.5.

1.6 Before and during work

- Every time before you start using the device, check the entire device to ensure it is safe to use according to section 5.7.
- Check the spraying agent tank and all hoses and pipes that carry the spraying agent for leaks.
- Prior to every use, ensure the proper functioning for the pressure relief valve (4).
- Never start working if there are any irregularities or leaks, if you can see any damage to the equipment or if the equipment is not working properly in any way. In this event, immediately depressurise the device by pulling on the pressure relief valve (Fig. 3) and have it checked by a specialist workshop. Before pulling on the pressure relief valve (4), the device must always be in an upright position. Attention: Keep the device away from your face!



- The device must only be operated by one person at a time. Nobody else must be within a radius of 15 metres [approx. 16 yards] at the same time.
- When starting to pump, ensure that the shut-off valve is closed. Point the spray tube towards a free area.
- Always ensure that there is an adequate air change when working in restricted conditions, in tight, tall plant growth, in greenhouses, in dips in the ground or in trenches.
- Always remain within calling distance of other persons who could help in the event of an emergency.
- Take breaks at regular intervals.
- Never eat or drink when using spraying agents.
- Never smoke in areas where you are working.
- When removing the spray tube, do not point to yourself or other persons with the end of the tube.
- The upper red flange housing must not be removed from the container.

1.7 Maintenance, repairs and storage

Only perform maintenance work and repairs by yourself if they are covered in these operating instructions. All other work must be carried out by an authorised workshop.

The repair of modern devices and their safety-relevant assemblies, requires qualified, specialized training and a workshop equipped with special tools and test devices. The specialist has the required training, experience, and equipment at his disposal to provide you with the most cost-effective solution and can help you in many ways with advice and service.



- The device must not be serviced, repaired or kept in the vicinity of naked flames.
- Before doing any maintenance work or repairs and before opening the spraying agent tank, depressurise the device by pulling on the pressure relief valve (Fig. 3). Before pulling on the pressure relief valve (4), the device must always be in an upright position. Attention: Keep the device away from your face!
- Always depressurise the device by pulling on the pressure relief valve before unscrewing the high-pressure hose, the shut-off valve (5), the pressure gauge (depending on the model), the spray tube (6) and the nozzle attachment (7).
- All repairs must only be performed using genuine SOLO replacement parts.
- The device must not be altered in any way, as this could adversely affect the safety of the device and potentially cause an accident or injury.

2 Preparing the device for use

2.1 Assembly

The pressure sprayer is dismantled before it is dispatched. It must be fully reassembled again before it is used.

Installation of the nozzle attachment (only for models 461 and 462):

- Firmly screw the nozzle attachment (Fig. 2, Pos. 1) with the O-Ring (10x2 mm) hand-tight onto the spray tube. Do not use any tools!

Installation of the high-pressure hose:

- Push the threaded collar (Fig. 2, Pos. 2) onto the high-pressure hose (Fig. 2, Pos. 3).
- Push the hose completely onto the provided connector of the red-flanged housing, by using strong pressure and turning the hose.
- Secure the hose by screwing on the threaded collar (hand-tight, do not use any tools!).

Installation of the spray tube:

- Fasten the threaded collar (Fig. 2, Pos. 4) on straight and firmly screw the spray tube (6) with O-ring (16x3 mm) hand-tight onto the shut-off valve. Do not use any tools!

When your work is completed, the spray tube should be fitted into the holding clamp at the pump handle (3).

Please put the nozzle completely up (Fig. 1).

Installation of the pressure gauge (depending on the model):

- Unscrew the black threaded collar from the shut-off valve.
- Screw the black threaded collar of the pressure gauge accessory kit onto the shut-off valve.
- Insert the O-ring into the threaded collar and screw the pressure gauge hand-tight into the threaded collar. Do not use any tools!

2.2 Spray nozzle and filter element

At the factory, a red flat jet nozzle 04-F110 is assembled as the standard spray nozzle. Delivery rate: See section 10

A filter element is fitted in the elbow piece upstream of the spray nozzle (Fig. 2, within Pos. 1).

Only the spray nozzles listed in section 10 and the genuine filter element (part no.: 40 74 922 25, mesh aperture: 0.8 mm [0.031"]) must be used in this pressure sprayer.

Changing spray nozzles and filter element:
See section 5.3

2.3 Carrying strap

Thread both ends of the carrying strap through the slits provided on the red flanged housing (Fig. 4). Use the sliding clip to adjust the carrying strap to the required length.

2.4 Trial run

At first start-up, at the start of the spraying season and in frequent use at least once a month, perform a trial run according to section 5.1 to check the entire device.

3 Mixing spraying agents and filling the spraying agent tank



When handling the spraying agents, always follow the safety instructions of these operating instructions (pay special attention to section 1.3) and the information provided by the manufacturer of the particular spraying agent.

Before opening the spraying agent tank, depressurise the device by pulling on the pressure relief valve (Fig. 3).

Before pulling on the pressure relief valve (4), the device must always be in an upright position. Attention: Keep the device away from your face!

Spraying agent volume:

Mix the spraying agents according to the instructions provided by the manufacturer of the spraying agent. Choose the appropriate volume according to requirements.

Mixing spraying agents:

Only mix spraying agents out in the open. Never do this inside living spaces, stables or in storage spaces that are used for food or animal feed. Never mix the spraying agent directly in the spraying agent tank.

Spraying agents in powder form:

- Mix the spraying agent in a separate container, not in the spraying agent tank.
- Ensure that the mixture is thoroughly mixed before pouring it into the spraying agent tank.
- Use the spray tube to thoroughly mix the spraying agent in the tank.


Liquid spraying agents:

- Fill 1/4 of the spraying agent tank with clean water.
- Then pre-mix the spraying agent with clean water in a separate container according to the instructions provided by the manufacturer of the spraying agent.
- Pour the pre-mixed spraying agent into the spraying agent tank.

- Top up with the required amount of clean water according to the manufacturer's instructions.
- Use the spray tube to thoroughly mix the spraying agent in the tank.

When using spraying agents that have been mixed from herbal preparations, the liquid needs to be pre-filtered.

Filling the spraying agent tank:

 The upper red flange housing must not be removed from the container.

To fill the tank with spraying agent, the pump must be unscrewed (Fig. 5). Push the pump handle (3) down and turn it to the left (counterclockwise) until the handle clicks into position.

Unscrew the pump by turning it counterclockwise. Do not use any tools!

Avoid any direct contact of the filling hose and the contents of the spraying agent tank.

Fill level markings are applied to the side of the spraying agent tank (1).

When filling up the tank, ensure that you do not fill above the top marking (maximum fill volume).

Maximum fill volume: Model 461: 5.0 l [1.32 gal]
Model 462: 7.0 l [1.85 gal]
Model 463: 10.0 l [2.64 gal]

Never allow the spraying agent tank to overflow or public bodies of water, rainwater drains or sewage drains to become contaminated.

Immediately wipe up any spilled spraying agent.


After filling, insert the pump again and refasten firmly by turning the pump handle (3) clockwise to prevent the spraying agent from escaping. Refasten firmly until the pump handle clicks into position.



Identification of the tank contents:

Attach the relevant sticker to the spraying agent tank to indicate the contents of the tank (i.e., herbicide, fungicide or insecticide).


The designation of the spraying agent used has to be attached to the device and has to be updated every time when the spraying agent is changed.

 **CAUTION:** Never fill different spraying agents into the spraying agent tank without first thoroughly cleaning the tank and all parts that come into contact with the spraying agent and flushing the system with plenty of clean water.

Recommendation: Use the special SOLO cleaner for plant protection sprayers (dosing bottle of 500 ml [approx. 16.9 oz], part no.: 49 00 600).

Never use aggressive, acid- or solvent-containing cleaning agents (gasoline for example).

4 Using the pressure sprayer

 Ensure that you follow all of the safety instructions when using the pressure sprayer.

Every time you use the pressure sprayer, first check it all over to ensure it is safe to use according to section 5.7.

4.1 Spraying

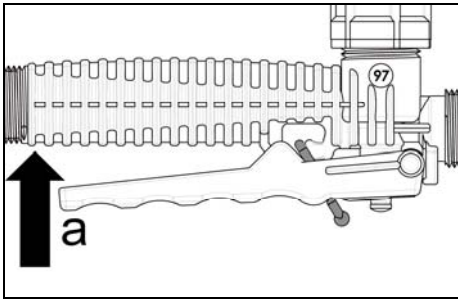
- When applying spraying agent, ensure by using appropriate measures and procedures that the unintended release of agent to other areas is minimized and the drift to the surrounding areas is prevented.
- Always proceed with the greatest care when spraying.
- Never use the device under windy conditions or if it is raining, as this would risk widespread drifting of the spraying agent.
- Check the wind direction before starting work and select the spraying direction downwind of the user.
- It is best to perform spraying work in the morning or evening, as it tends to be less windy then.
- Ensure that you only wet what is in fact intended to be covered with spraying agents.
- Never spray the agent towards persons, animals, open windows or doors, cars or anything else that could be damaged by the spraying agent.
- Use the spray nozzle suitable for your application. Applicable nozzles: See section 10
- When spraying, ensure that the spraying agent is applied evenly and homogeneously to the treated area.

Pumping and spraying:

To pump, loosen the pump handle (3) by turning out of the stop position. Pump the unit until the operating pressure is reached in the spraying agent tank. Excessive pressure escapes automatically through the pressure relief valve (4).

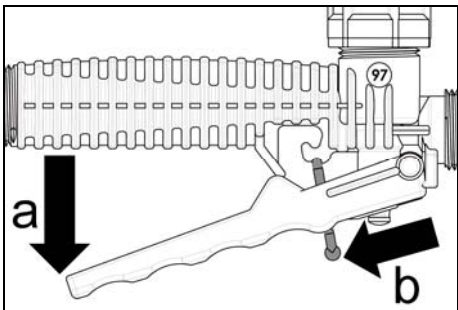
Hold the spray tube at the shut-off valve in your hand.

Start the spraying process by pressing the shut-off valve (5).



Releasing the shut-off valve stops the spray process.

The red clip can be used to secure the shut-off valve in its rest position to prevent accidental spraying. For this, pull the lever slightly away (a) from the handle and lock the clip (b).



The spray tube (6) can be rotated in the shut-off valve (5) – after loosening the threaded collar (Fig. 2, Pos. 4) – this is useful for spraying under leaves.

If the spraying agent is not applied properly, spray nozzle or filter element could be blocked or damaged. If necessary, clean or replace the nozzle and the filter element.

Cleaning: See section 5.5

Replacing the spray nozzle and the filter element: See section 5.3

4.2 Transport of the pressure sprayer

The pressure sprayer can also be carried by the pump handle (3), if the pump handle is pressed down completely, and it is turned to the right and clicked into position.

4.3 Residual spraying agents / finishing spraying

Switch off the pump immediately when any air is sucked in and sprayed out through the spray nozzle. This is indicated by a mist being sprayed from the nozzle. At this point the spraying agent tank will still contain a residual amount of less than 200 ml [6.8 oz]. If you do not want to add more spraying agent and wish to stop spraying instead,

dilute this leftover amount with two litres [68 oz] of clean water and spray it on the treated area.

When you finish working, prepare the device for storage according to section 5.5, thoroughly wash your face and hands with soap, take off your work clothing and ensure that it is washed regularly.

5 Maintenance, cleaning and storage

5.1 Trial run

At least at the start of every spraying season and in frequent use at least once a month, perform a trial run with clean water to check the following:

- Tightness of all equipment components at maximum permissible pressure with open and closed shut-off valve
- Function of all active components (pressure relief valve, shut-off valve, pump handle, pressure gauge (depending on the model))
- Dosing and distribution accuracy of all the nozzles used by measuring the spraying agent delivery rate according to section 5.2

Never start working if there are any irregularities or leaks, if you can see any damage to the equipment or if the equipment is not working properly in any way. In this event, immediately depressurise the device by pulling on the pressure relief valve (Fig. 3) and have it checked by a specialist workshop.

Before pulling on the pressure relief valve (4), the device must always be in an upright position.

Attention: Keep the device away from your face!

5.2 Checking the spray nozzles and the filter element by measuring the spraying agent delivery rate

Fill up the tank with clean water to the maximum marking, start it up and spray for exactly one minute at an operating pressure of 1 bar. Then measure the quantity of water required to refill the tank to its maximum level. The value measured corresponds to the delivery rate of the device in l/min for the selected operating pressure. This value must not deviate by more than 10 % from the value indicated in section 10.

If the actual value is too low, this may be caused by deposits in the spray nozzle and/or in the filter element. Clean the parts and repeat the check. If the actual value is too high, this may be due to wear or damage to the spray nozzle.

When checking the nozzles, also check whether the spray nozzle is producing an even, fan-shaped spray pattern.

If the delivery rate is still too low after cleaning the nozzle and the filter element, or if the nozzle and/or the filter element are worn or damaged, replace the nozzle and/or the filter element by genuine SOLO replacement parts.

Changing the spray nozzle and the filter element:
See section 5.3

5.3 Changing the spray nozzle and the filter element

Only the spray nozzles listed in section 10 and the genuine filter element (part no.: 40 74 922 25, mesh aperture: 0.8 mm [0.031"]) must be used in this pressure sprayer.

Spray nozzle and filter element must only be changed if the device is depressurised. Depressurise the device by pulling on the pressure relief valve (Fig. 3).

Before pulling on the pressure relief valve (4), the device must always be in an upright position. Attention: Keep the device away from your face!

Changing the spray nozzle or the filter element:

- Rinse the nozzle attachment with clean water.
- Disassemble the nozzle attachment (Fig. 2).
- Clean the O-rings, the filter element and the spray nozzle with clean water and a soft brush. Never use your mouth to blow through the spray nozzle! Never use hard objects to clean the nozzles!
- Replace the previous nozzle by the new nozzle or the previous filter element by the new filter element.
- Reassemble the components of the nozzle attachment (Fig. 2).

5.4 Greasing the sealing rings

If the pump or the pressure relief valve (4) is hard to operate, the respective sealing rings are to be greased with silicone grease or replaced if necessary.

Clean/grease/replace the sealing ring of the pressure relief valve:

- Place the empty and depressurized device securely on level ground.
- Unscrew the pressure relief valve (4) counterclockwise.
- The sealing ring of the pressure relief valve can now be cleaned, greased or replaced by a new one if damaged.
Part no. of the sealing ring: 00 62 116
- Put the pressure relief valve straight to the connector and fasten it hand-tight by turning clockwise. Do not use any tools!

Clean/grease/replace the sealing rings of the pump:

- Place the empty and depressurized device securely on level ground.
- Unscrew the pump counterclockwise from the spraying agent tank (Fig. 5).
- The sealing ring on the upper pump end (Fig. 6.3) can now be cleaned, greased or replaced by a new one if damaged.
Part no. of the sealing ring: 00 62 341
- Pull-out the pump piston (Fig. 6.1) completely and unscrew it counter-clockwise out of the pump cylinder (Fig. 6.5).
Do not use force, and do not use any tools!
- The sealing ring on the pump piston (Fig. 6.4) can now be cleaned, greased or replaced by a new one if damaged.
Part no. of the sealing ring: 00 62 135
- Push the pump piston back into the pump cylinder. Insert the piston socket (Fig. 6.2) into the pump cylinder and hold it tight.
- Hold the piston socket and carefully pull out again the pump piston completely.
- Turn the piston clockwise until the piston socket clicks into place in the pump cylinder.
Do not use force, and do not use any tools!

5.5 Draining the spraying agent tank and cleaning the spraying agent carrying parts

Before opening the spraying agent tank and before disassembling the nozzle attachment, depressurise the device by pulling on the pressure relief valve (Fig. 3).

Before pulling on the pressure relief valve (4), the device must always be in an upright position. Attention: Keep the device away from your face!

Drain the spraying agent tank and all other spraying agent carrying parts daily after use and particularly at the end of the spraying season and thoroughly flush them with clean water.

Any unused spraying agent that is left over in the device could cause corrosion and hence damage the device. Special attention must be paid to wearing parts like spray nozzles, filters and seals.

Please read and observe the cleaning instructions supplied with the spraying agent.

Recommendation: Use the special SOLO cleaner for plant protection sprayers (dosing bottle of 500 ml [approx. 16.9 oz], part no.: 49 00 600).

Never use aggressive, acid- or solvent-containing cleaning agents (gasoline for example).

After cleaning, leave the spraying agent tank open to dry.

Cleaning the spray nozzle and the filter element:

- Rinse the nozzle attachment with clean water.
- Disassemble the nozzle attachment (Fig. 2).
- Clean the O-rings, the filter element and the spray nozzle with clean water and a soft brush. Never use your mouth to blow through the spray nozzle! Never use hard objects to clean the nozzles!
- Reassemble the components of the nozzle attachment (Fig. 2).

5.6 Taking the sprayer out of service and putting it into storage

Prepare the device for storage according to section 5.5.

Store the device protected from sunlight in a secure, dry and frost-free location under a maximum ambient temperature of 35 °C [95 °F].



There must not be any open fires or similar nearby.

Ensure that the unit cannot be used by unauthorised persons, in particular children.

5.7 Maintenance plan

		Before you start working	After work	When changing the spraying agent	On demand	Monthly	Annually or at the start of the season
Entire pressure sprayer	Check whether the device is safe to use: <ul style="list-style-type: none"> • Visual inspection of the device • Check the tightness of all equipment components (at maximum permissible pressure with open and closed shut-off valve) • Check the function of all active components (pressure relief valve, shut-off valve, pump handle, pressure gauge (depending on the model)) 	X					
Hoses and their screw connectors	Visual inspection	X					
Spraying agent tank	Visual inspection	X					
	Clean (section 5.5)		X	X			
Nozzles and filter element	Clean (section 5.5)		X	X	X		
	Trial run to check the spray nozzles and the filter element by measuring the delivery rate (section 5.2) X*: A monthly trial run is required only if the device is used frequently.				X	X*	X
Sealing rings	Grease (section 5.4)				X		

Never start working if there are any irregularities or leaks, if you can see any damage to the equipment or if the equipment is not working properly in any way. In this event, immediately depressurise the device by pulling on the pressure relief valve (Fig. 3) and have it checked by a specialist workshop.

Before pulling on the pressure relief valve (4), the device must always be in an upright position.

Attention: Keep the device away from your face!

If you have any questions please refer to your authorised SOLO dealer.

6 Specification and special accessories

Model	461	462	463
Spraying agent tank: Nominal volume ("Total Vol." ¹), approx. Max. fill volume ("max. Vol." ¹), approx.	8.3 l [2.19 gal] 5.0 l [1.32 gal]	9.5 l [2.51 gal] 7.0 l [1.85 gal]	12.5 l [3.30 gal] 10.0 l [2.64 gal]
Residual volume not properly discharged by the device	< 200 ml [6.8 oz]		
Max. permissible operating pressure ("P max." ¹)	3.0 bar [44 psi]		
Permissible operating temperature ("T max." ¹)	0–40 °C [32–104 °F]		
Spray tube (material: PVC): Length	500 mm [19.7"]		
Pressure hose: Length	1,500 mm [59"]		
Standard spray nozzle: Part no.	Flat spray tip 04-F110, red 40 74 263		
Accessories: Nozzle kit Part no.	49 00 574		
Maximum delivery ("max." ¹) (with standard spray nozzle at 3 bar)	1.6 l/min [0.423 USgal/min]		
Filter element: Mesh aperture Part no.	0.8 mm [0.031"] 40 74 922 25		
Weight (ready for operation): Spraying agent tank empty Spraying agent tank filled to max.	1.5 kg [3.3 lbs] 6.5 kg [14.3 lbs]	1.7 kg [3.8 lbs] 8.7 kg [19.2 lbs]	1.9 kg [4.2 lbs] 11.9 kg [26.2 lbs]
Dimensions: (without spray tube and pressure hose)	Height 200 mm [7.9"] Width 200 mm [7.9"] Depth 200 mm [7.9"]	Height 520 mm [20.5"] Width 200 mm [7.9"] Depth 200 mm [7.9"]	Height 605 mm [23.8"] Width 200 mm [7.9"] Depth 200 mm [7.9"]

¹ Inscription on the spraying agent tank

7 Wearing parts

Various parts are subject to application-specific wear or to normal wear and must be replaced in good time if necessary.

The following parts are subject to normal wear and are not covered by the manufacturers guarantee:

- All rubber parts that come into contact with the spraying agent
- Spray nozzle
- Filters
- Seals

8 Warranty

We warrant problem free quality and will cover the cost of replacing parts which are found to be faulty in material or show manufacturing defects within the prescribed guarantee period after the date of purchase.

Please note that specific guarantee conditions may differ from country to country. When in doubt, please ask the vendor of the goods. The vendor of the product is responsible for guarantee applications.

We hope you will understand that we cannot be liable for damage resulting from these causes:






- Non-compliance with operating instructions.
- Neglecting required maintenance and repair jobs.
- Wear from normal use (particularly: gasket seals, membranes, collars, spray nozzles and filters).
- Using non-approved tools.
- Use of force, improper treatment, misuse and accidents.
- Attempted adjustments and repairs by non-qualified persons.
- Unauthorized modification or changes made to the device.
- Use of unsuitable spare parts or non-original parts if such parts are the cause of the damage.
- Use of non-approved media in the spraying agent tank.
- Damage caused by using the product in the hire or rental industry.

Normal cleaning, adjustments or maintenance jobs cannot be claimed as part of the guarantee. All guarantee work must be carried out by one of our authorised service centres.

9 Standard delivery

- Standard device
- Handle with shut-off valve assembled on the high-pressure hose
- Threaded collar
- Spray tube with assembled nozzle attachment (only for model 463)
- Spray tube and nozzle attachment including O-ring (10x2 mm) (only for models 461 and 462)
- Carrying strap
- Alternative nozzle with associated seal ring
- Sticker for the spraying agent tank: herbicide, fungicide and insecticide
- These operating instructions, the EC declaration of conformity on a separate piece of paper

10 Specification of spray nozzles

Specification	Part no.	Delivery l/min [USgal/min]	Spraying pressure bar [psi]	Spraying angle	Applications
Hollow cone jet 1 mm [0.039"] orifice, grey *	40 74 758 + 40 74 756	0.40 [0.106] 0.55 [0.145]	1,0 [15] 2,0 [29]	50–70°	For treatment of shrubs, bushes and trees 
Hollow cone jet 1.4 mm [0.055"] orifice, black **	40 74 755 + 40 74 756	0.64 [0.169] 0.91 [0.240] 1.11 [0.293]	1.0 [15] 2.0 [29] 3.0 [44]	50–70°	
Hollow cone jet 1.8 mm [0.071"] orifice, blue **	40 74 726 + 40 74 756	0.88 [0.232] 1.25 [0.330] 1.53 [0.404]	1.0 [15] 2.0 [29] 3.0 [44]	50–70°	
No-drift DT 1.0 yellow **	40 74 385	0.46 [0.122] 0.65 [0.172] 0.80 [0.211]	1.0 [15] 2.0 [29] 3.0 [44]	105°	
No-drift DT 2.0 red **	40 74 386	0.91 [0.240] 1.29 [0.341] 1.60 [0.423]	1.0 [15] 2.0 [29] 3.0 [44]	105°	
No-drift DT 2.5 brown **	40 74 514	1.14 [0.301] 1.61 [0.425] 2.01 [0.531]	1.0 [15] 2.0 [29] 3.0 [44]	110°	
Adjustable spray nozzle **	49 00 206 (brass) 49 00 525 (plastic)	0.44–1.10 [0.116–0.291] 0.55–1.45 [0.145–0.383] 0.66–1.75 [0.174–0.462]	1.0 [15] 2.0 [29] 3.0 [44]		
Flat spray tip 015-F80, green **	40 74 504	0.35 [0.092] 0.49 [0.129] 0.60 [0.159]	1.0 [15] 2.0 [29] 3.0 [44]	80°	Areal and row treatment 
Flat spray tip 02-F80, yellow **	40 74 501	0.46 [0.122] 0.65 [0.172] 0.80 [0.211]	1.0 [15] 2.0 [29] 3.0 [44]	80°	
Flat spray tip 03-F80, blue **	40 74 506	0.69 [0.182] 0.98 [0.259] 1.20 [0.317]	1.0 [15] 2.0 [29] 3.0 [44]	80°	
Flat spray tip 04-F110, red *	40 74 263	0.92 [0.243] 1.31 [0.346] 1.60 [0.423]	1.0 [15] 2.0 [29] 3.0 [44]	110°	

* Standard equipment / ** Accessories

solo[®]

Made in Germany



SOLO Kleinmotoren GmbH
Postfach 60 01 52
71050 Sindelfingen
DEUTSCHLAND
Tel.: +49 7031 301-0
Fax: +49 7031 301-130
info@solo-germany.com

SOLO Kleinmotoren GmbH
PO Box 60 01 52
71050 Sindelfingen
GERMANY
Tel.: +49 7031 301-0
Fax: +49 7031 301-149
export@solo-germany.com