

**Originalbetriebsanleitung,**  
vor der Benutzung gründlich lesen!

**Original instructions,**  
read carefully before use!

**Notice originale,**  
lire attentivement avant utilisation!

**Manual original**  
¡lea cuidadosamente antes de usar!

**Istruzioni originali,**  
leggere attentamente prima dell'uso!

**Oorspronkelijke gebruiksaanwijzing,**  
voor gebruik aandachtig lezen!

**Originální návod k obsluze,**  
před použitím si pozorně přečtěte!

**Originalna navodila za uporabo,**  
pred uporabo natančno preberite!

**Original bruksanvisning,**  
les nøye før bruk!

**Originalna uputa za uporabu,**  
pažljivo pročitajte prije upotrebe!

**Az eredeti üzemeltetési útmutató fordítása,**  
használat előtt figyelmesen olvassa el!  
**Перевод руководства по эксплуатации,** внимательно прочитайте перед использованием!  
**Tłumaczenie oryginalnej instrukcji eksploatacji,**  
przeczytaj uważnie przed użyciem!

**Akku-Rückenspritze**

**Battery backpack  
sprayer**

**Pulvérisateur à dos à  
batterie**

**Pulverizador de  
mochila con batería**

**Spruzzatore a zaino**

**Rugspuit**

**Zádový postřikovač**

**Nahrbtnje škropilnice**

**Batteri ryggspøyte**

**Leđna prskalica**

**Permetező**

**Ранцевый  
опрыскиватель**

**Opryskiwacz  
plecakowy**



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Fig. 1 Type 441

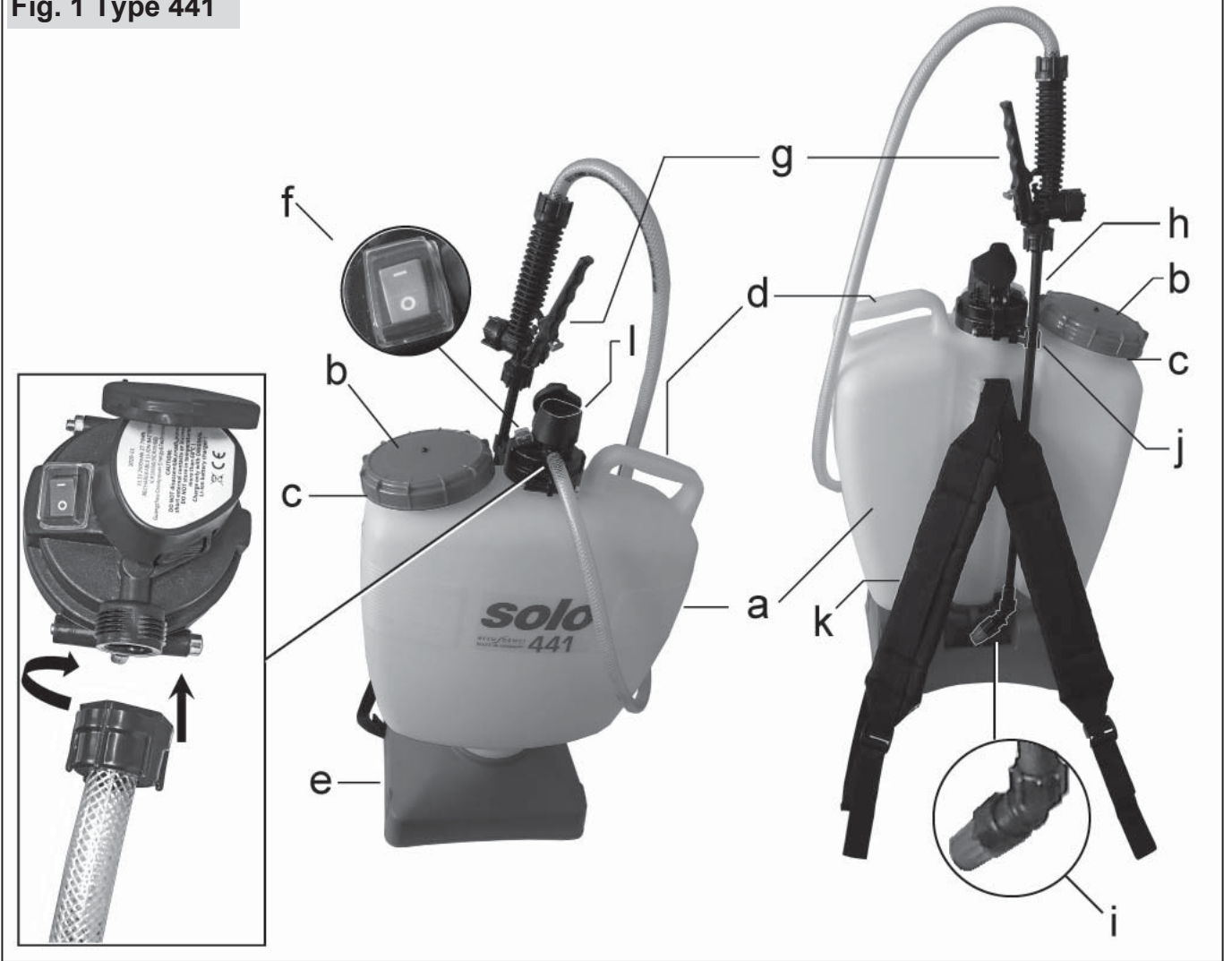
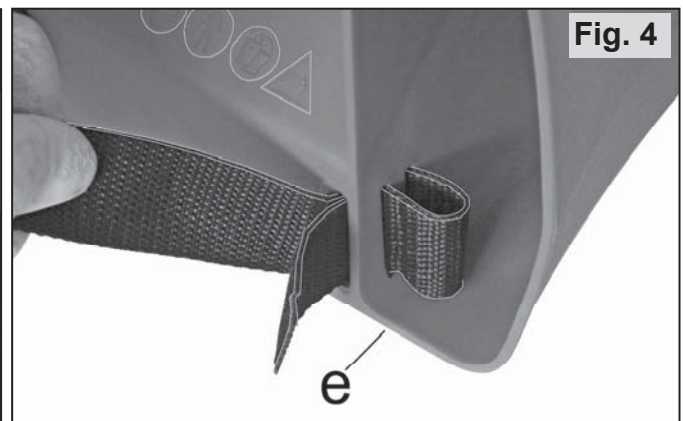
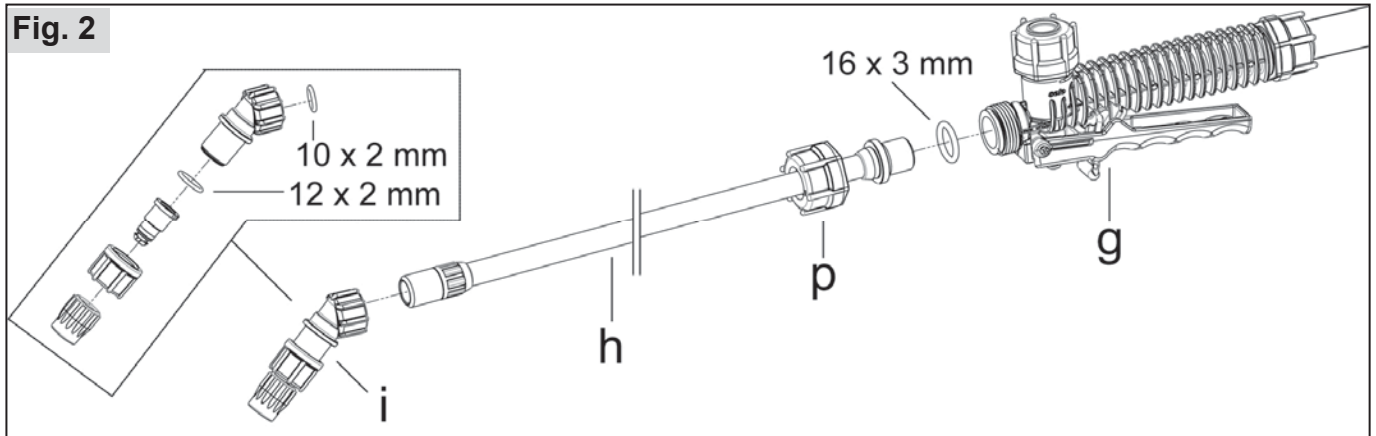


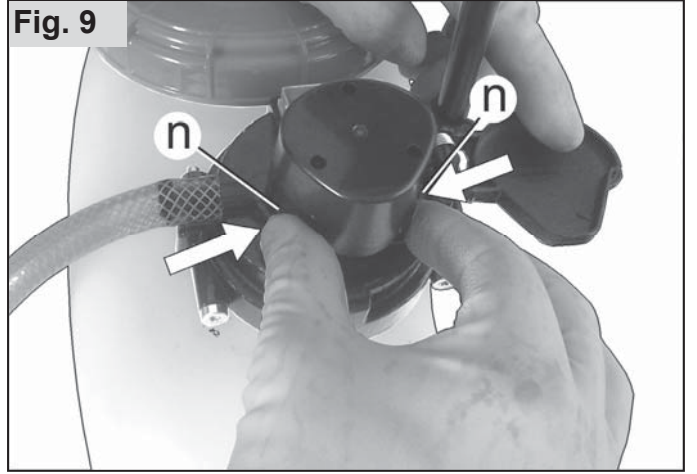
Fig. 2



**Fig. 5**



**Fig. 9**



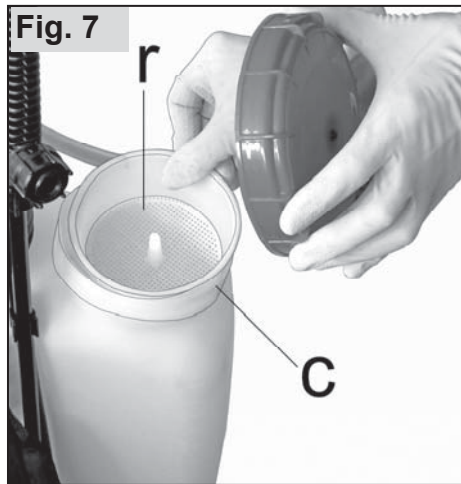
**Fig. 6**



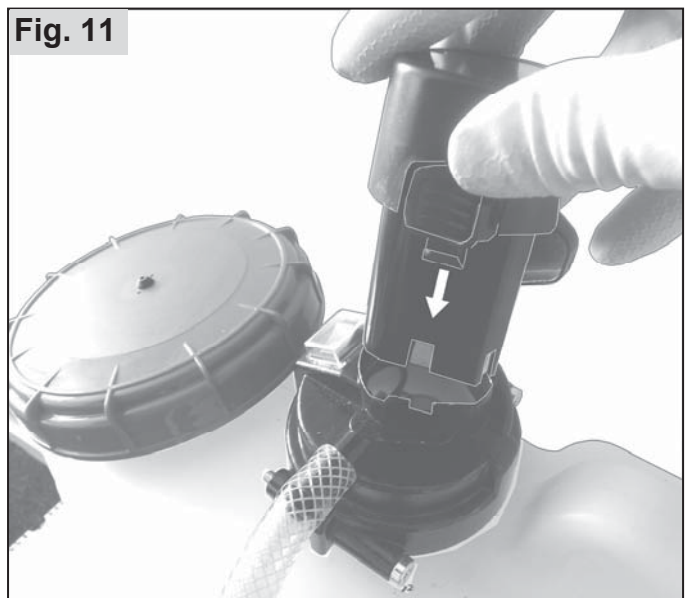
**Fig. 10**



**Fig. 7**



**Fig. 11**



**Fig. 8**

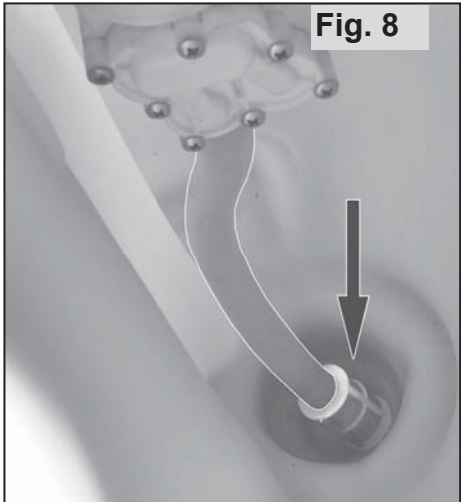


Fig. 12

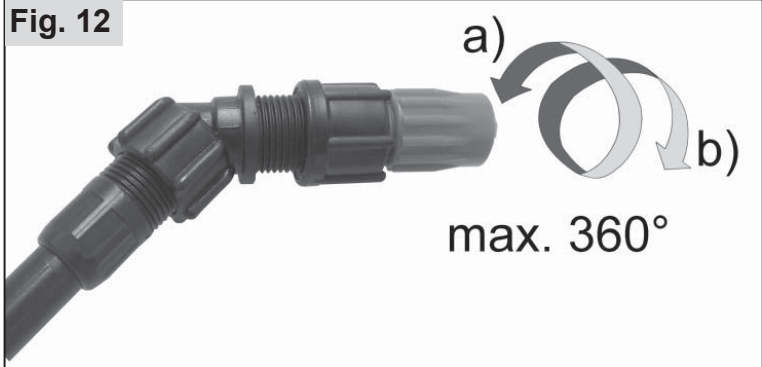


Fig. 13

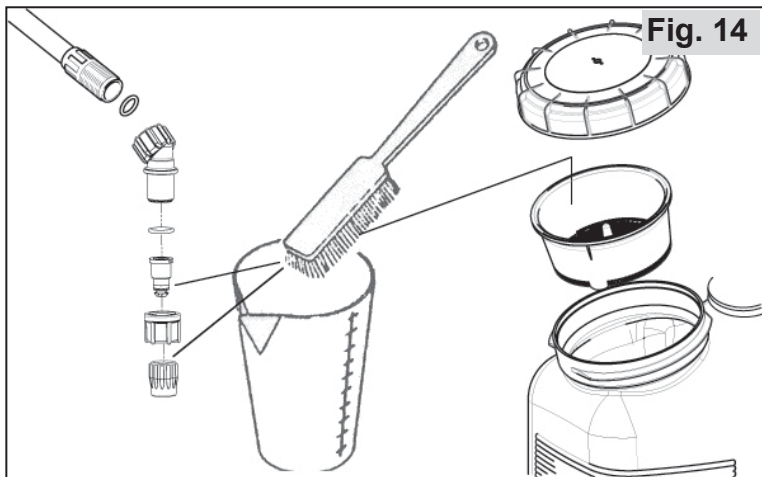
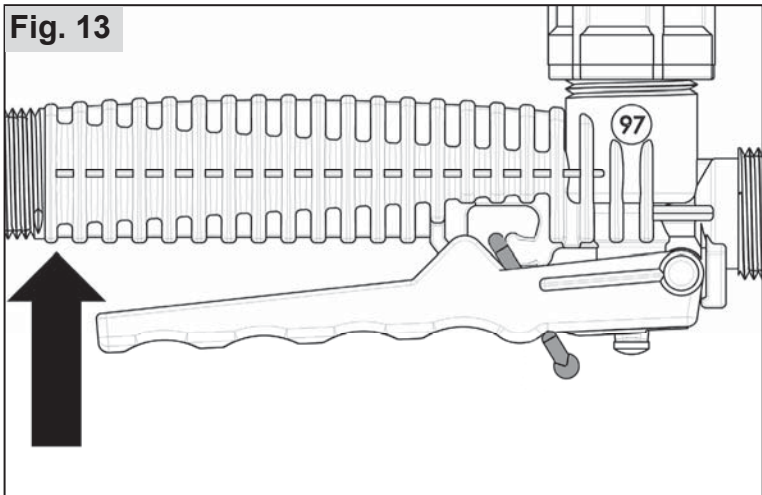


Fig. 15 Type 441

# LEINMOTOREN GmbH

Industriestr. 9, 71069 Sindelfingen, Germany

Akku Rückenspritze / Battery backpack sprayer

a — Typ: 441  
 model: 44101  
 b — SN: xxxxx

$m_{net.} = 3,7 \text{ kg}$   
 $V_{tank} = 16,0 \text{ l}$   
 11,1 V DC 2,5 Ah



c — Baujahr / date of production: mm/jjjj  
 MADE IN GERMANY



## Original instructions

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

Changes to the scope of supply in form, technology and equipment are reserved. No claims can be derived from any information and figures in these original instructions.

The original packaging and, at the end of its service life, the sprayer must be properly disposed of according to the local environmental regulations. The machine can be subject to national rulings for regular review by designated offices, as specified in directive 2009/128/EC.

Information about material ingredients (VO (EC) No.1907/2006 „REACH“) can be found on our homepage under: <https://shop.solo.global/Service/Support/Support/>

## 1 EC declaration of conformity

SOLO Kleinmotoren GmbH, Industriestraße 9, D-71069 Sindelfingen, GERMANY declares that the following machine, in the delivered version, corresponds to the provisions implementing the following directive: 2006/42/EG, 2009/127/EG, 2014/30/EU, 2011/65/EU.

Product designation: Battery backpack sprayer,  
Trade designation: SOLO 411, SOLO 441,  
Serial/type designation 41101, 44101, 44105

Storage location for the technical documents and documentation officer:  
SOLO Kleinmotoren GmbH, Industriestraße 9, D-71069 Sindelfingen, GERMANY



01 January 2022

Andreas Emmerich (managing director and documentation officer)

## 2 Scope of delivery

- Basic unit with hand valve and pressure hose
- Spray tube
- Pre-installed nozzle assembly incl. nozzle
- Assembly parts cap but, O-ring
- Carrying belt and attachment pin
- Rechargeable battery
- Charger

## 3 Wear parts

The following wear parts are not subject to the manufacturer's guarantee:

- \* All rubber parts that come into contact with spraying liquid, \* nozzles, \* filters, \* seals, \* rechargeable battery

## 4 Warranty

Please observe that specific warranty conditions are valid in some countries. In doubt, ask your vendor.

No guarantee can be granted for any damage caused by:

- Non-observation of the original instructions.
  - Omission of necessary maintenance and cleaning work.
  - Wear and tear from regular use
  - Use of unapproved working tools.  
Use of force, improper treatment, abuse or accident.
  - Manipulations by non-qualified persons or from improper repair attempts.
  - Unauthorized modifications to the device.
  - Use of unsuitable spare parts or non-genuine spare parts.
  - Use of unapproved chemicals or dilutions.
  - Damage caused by use in the rental business.
- Any warranty work must be performed by one of our authorised specialist vendors. Cleaning, care and standard adjustments are not accepted as warranty services.

## 5 Symbols



Read the original instructions thoroughly.



DANGER! Non-observation of the original operating manual may cause accidents with injuries.



Wear the prescribed protective clothing.



Wear protective gloves.



Wear facial protection (e.g. goggles).



Wear breathing protection.



No smoking.



No open fire.



Minimum distance from other persons: 15 m [approx. 16 yards]

Electrical equipment must not be disposed of as normal domestic waste.



Ensure that the device, the rechargeable battery and all electrical accessories are disposed of or recycled at an official disposal or recycling facility for electrical equipment.



The device and the battery must not be exposed to splashing water or precipitation.

## 6 Safety provisions

### 6.1 Intended use / applications

- Use the device only for application of liquid herbicides, pesticides and weed killers as well as liquid fertilisers that are available in authorised specialist trade and approved by local/national authorities for use with portable spraying devices and for application of clean water.
- Strictly observe the information on the spraying agent, in particular instructions on personal protective equipment.
- Application areas are in farming, tree nurseries, forest operations, orchards, vineyards, market gardens, as well as glasshouse cultures with sufficient ventilation and venting.
- The device must not be used for any other purposes, such as application of other agents from the above liquids! In particular, no acids, alkalis and solvent-containing liquids must be applied.
- Never use any liquids with temperatures above 40 °C [104 °F].
- Do not use any flammable agents.

### 6.2 General safety notes

Read the original instructions before first use and keep it in a safe place.

Non-observation of information provided in these original instructions may potentially be fatal; the user is liable for any damage, direct or consequential, caused by this.

The original instructions must be kept on hand at the site of use of the sprayer at all times.

It must be read by all who are charged with any work with and on the device (including for maintenance, care and repair).

- Have safe use shown and explained to you by a SOLO specialist vendor.
- Persons under the age of 18 must only work under supervision with this sprayer.
- Persons with medical implants must consult a doctor before using the device or request information from the implant's manufacturer.
- Keep persons and animals away from the working area. Never spray in the direction of any persons, animals or objects that could be hurt or damaged.
- This sprayer must only be passed on to persons who are familiar with this model, its operation and the original instructions.
- If you work with this sprayer, you should be physically fit, rested and healthy.
- Do not use the sprayer while under the influence of alcohol, drugs or medication.
- Never make any changes to existing safety provisions and operating parts.

- Only use the sprayer when it is operationally safe to do so. Check the sprayer before every use according to chap. 10.1.
- Replace damaged parts without delay. Only use SOLO genuine spare parts.
- Only use the genuine battery. Accessories and batteries must be approved for this device.
- Empty and clean the sprayer according to the information in chap. 10.3 for this. Prevent unauthorised access to the machine.

### 6.3 Safe handling of spraying liquids





- Follow suitable procedures and use collection containers to prevent any contamination of the environment, the public waterways and/or storm water systems from chemical agents and cleaners. This can happen while mixing, filling, using, emptying, cleaning or during transport.
- Always collect chemical spray liquids and cleaners (including residues) in suitable containers and return them to collection points specified by the municipal administration.
- In case of skin or eye contact, rinse or flush the affected body parts with plenty of clean water. Seek medical advice without delay.
- Contaminated clothing should be changed at once.
- Never eat or drink while handling spray liquids
- If you feel nauseous during work, or if you are excessively fatigued, stop working at once. If the condition persists, seek medical advice without delay.
- Never permit children or persons work with or handle spraying liquids if they are not familiar with these substances.
- Never fill different spray solutions into the spray tank.
- The description of the kind of spray solution used must be attached to the device and must be updated with every change of the spraying solution.
- When changing the spray solution, clean the spray tank and all parts that come in contact with the spray solution. Operate the sprayer with clear water first before filling the spray tank with the different spray solution.
- At the end of work, empty and clean the sprayer according to chap. 10.3, clean your face and hands thoroughly, take off work clothing and wash it regularly.

In case of serious disturbances such as smoke development or strong odours remove the unit from your body. If there aren't flames yet and the battery is not too hot, remove the battery from the device and place it on a fireproof surface. Keep a sufficient safety distance. In the event of a fire, call the fire brigade immediately. Have the equipment checked immediately by an authorized specialist workshop.

#### 6.4 Safe handling of the rechargeable battery and the charger

- The charger must only be used to charge the original battery of this battery backpack sprayer indoors.
- The mains must correspond to the information on the charger in value, type, and frequency of the operating voltage. The socket must match the mains plug of the charger precisely.
- Do not charge during long-term absences (holidays).
- After charging disconnect the charger from the power supply immediately.
- Always hold the body of the plug when plugging it in and disconnecting it. Never pull it out by the cable.
- Never connect the two terminals of the rechargeable battery (+ / -) with a conducting object (short circuit). Make sure there cannot be any short circuit of the contacts when charging the battery outside of the device.
- When cleaning the charger, the main plug must be disconnected from the mains. Keep the charger, the rechargeable battery and all of the electronics well away from splash water. These areas should only be cleaned with a dry or slightly damp cloth.
- The rechargeable battery contains dangerous substances. Never open the battery or the charger.
- Only use the genuine charger to recharge the battery.
- Never mail any defective/used-up batteries anywhere.

#### 6.5 Work clothing /personal protection equipment (PPE)

-  Suitable and approved protective clothing that protects all body parts from contact with the spray solution must be worn.
- Wear firm shoes with good gripping soles.
-  Wear protective gloves with a slip-proof palm.
-  Use facial protection (e.g. protective goggles).
-  Always wear a breathing mask. when working in dense, tall plants, greenhouses, troughs or trenches and when using dangerous spraying agents.

#### 6.6 Before and during work

- Before starting work, always check the entire device for operational safety according to chap. 10.1.
- The sprayer must only be operated by one person. There must be no other person within a radius of 15m [approx. 16 yards].
- Always ensure sufficient air exchange in dense plant growth, in greenhouses, troughs or trenches.
- Always stay within calling distance from other persons that may provide help in emergency.
- Take regular working breaks to prevent fatigue.
- Do not smoke at the workplace.
- In case of serious disturbances or accidents during operation of the device as smoke, strong odors from the device or if the device is in flames instantly remove the unit from your body and take a safe distance. In case of fire, you have to call the fire department immediately.
- When switching on the pump, ensure that the shut-off valve is closed. Point the spray tube towards a free area.

#### 6.7 When transporting the sprayer

- Always switch off the pump when transporting the device.
- Depressurise the device in accordance with chap. 9.2.
- The device must be securely strapped down when transported on vehicles.
- Prevent leakages of spraying agents. The liquid tank of the sprayer and all liquid carrying hoses must be inspected regularly for leaks.

#### 6.8 Maintenance, repair and storage

- Only perform maintenance and repair work yourself that is described in these original instructions. All other work must be carried out by an authorised specialist workshop.
- Do not service, repair or store the sprayer near open fire.
  - Always turn off the pump before any maintenance and repair work.
  - The pressure hose, hand valve, spray wand and nozzle assembly must only be unscrewed when the sprayer is depressurised. For this, keep the spray tube in the spraying agent tank or a suitable collection container with the pump turned off for the spraying agent until liquid is no longer being transported.

## 7 Work preparation

Fig. 1 (Illustration depends on the model):

- a. Spray tank
- b. Tank lid screwed to the filling socket (c)
- d. Carry handle
- e. Standing foot
- f. On/off switch
- g. Hand valve
- h. Spray wand
- i. Nozzle attachment
- j. Spray tube holder
- k. Carrying belt
- l. Rechargeable battery

Outside of work, the spraying wand (h) is attached to the spraying wand holder (j).

Always remove the spray tube towards the open side of the spray-tube holder (vertical to the device), but never sideways!

### 7.1 Assembly

#### Fitting the hose to the pump

Fig. 1:

- Remove and discard the plug from the threaded connector of the pump. Screw the hose with the union nut to the threaded connector of the pump.

#### Assembly of the spraying wand (h):

Fig. 2:

- Start the cap nut (p) evenly and screw the spray tube with the O-ring (16x3 mm) onto the hand valve (g) hand-tight without tools.
- Screw the nozzle attachment (i) onto the spray tube hand-tight without tools.

#### Assembly carrying belt

Fig. 3:

- Thread the upper loop of the carrying belt (k), through one of the three attachment ribs from above depending on body size, so that the two clamping sliders (s) are on the outside.
- Secure the loop with the attachment pin (m) from below.

Fig. 4:

- Thread the ends of each carrying belt through the specified slits in the standing base (e).
- Tighten the belt.

### 7.2 Length adjustment of the carrying straps

Fig. 5:

Pulling down the two strap ends will tighten the carrying straps.

Fig. 6:

Pulling the two belt ends upwards will loosen the carrying strap.

### 7.3 Filling screen and intake screen

Fig. 7:

The basket in the filling neck (c) of the liquid tank contains a filter screen(r).

Fig. 8:

The intake screen is pushed on at the intake hose to the pump of the spraying agent tank.

The filling screen and intake screen are required when using the device.

### 7.4 Charging the battery

Before removing the rechargeable battery from the device, always switch the on/off switch to "0"!

Fig. 9

To remove the rechargeable battery from the device, compress the two latching levers (n) to unlatch the battery, and then take out the battery upwards.

The rechargeable battery needs to be charged before you can use the pressure sprayer for the first time.

Charging time:            Approx 2 hours

Place the charger on a stable support and connect it to a suitable mains.

Before replacing the battery, make sure that the battery and charger contacts are clean, dry, and free of foreign bodies.

Fig. 10

Push the battery into the charger in the proper position (according to the figure).

While the battery is charging, the LED on the charger lights up red. Once the battery is fully charged, the LED switches to green.

After charging, remove the battery from the charger upwards and disconnect the charger from the mains.

Fig. 11

Put the battery into the device in the correct position (according to the figure) from above until it latches noticeably. Check that the battery is seated securely.

### 7.5 Test run

Before its initial use, the sprayer should be tested according to chapter 10.2.



## 8 Preparing the spray liquid and filling the spray tank

Prepare the spray liquid according to the instructions of the chemical manufacturer.

Always prepare the spray liquid outdoors, never in living quarters, stables or storage rooms for food and animal feed.

To fill the spray tank, always remove the rechargeable battery from the unit and close the protective cover for the rechargeable battery compartment.

When filling the spray tank, always use the filler basket with the integrated filter screen (r).

Fill the tank no further than to the upper-most mark on the side of the spray tank.

Overfilling the tank or spills can contaminate public waterways, rain- and storm water channel and must be avoided.

Wipe off spilled spray liquid without delay.

When screwing on the tank cap, always position it straight, do not misjudge.

## 9 Use of the device

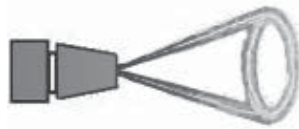
- Do not use the sprayer in wind or rain.
- Check the direction of the air movement before starting work and spray with the air movement, not against it.
- Do not spray towards persons, animals, open doors and windows, cars or other objects that may be hurt or damaged by the spray.
- Ensure that only the actual spray target will be wetted. Always aim to obtain even and homogenous distribution of the spray on the treated surfaces.

### Nozzle adjustment (Fig. 12):

a) Nozzle closed

→ hollow cone

Delivery rate at 2.5 bar:  
0.6 l/min [0.158 USgal/min]



b) Nozzle open

(1/2 turn 180° until  
max. 1 turn, 360°)

→ coarse and narrow jet

Delivery rate at 2.5 bar: 1.6 l/min [0.422 USgal/min]



### Spraying:

When the hand valve (g) is closed (hand valve not actuated), turn on the pump with the on/off switch (f).

Hold the spray wand with the hand valve.

Fig. 13:

To spray, depress the hand lever on the valve.

Release the hand valve lever to stop spraying.

To spray the underside of leaves, lightly loosen the spray wand cap nut and turn the wand hand tighten again.

An uneven spray picture or reduced spray output from the nozzle may require cleaning the nozzle (chap.10.3) or the replacement of it.

If the spray output is clearly reducing, end spraying and charge the battery. (chap. 7.4)

Always turn the pump off with the on/off switch during work interruptions in which the device is taken off the back.

### 9.1 Disposal of residual spray volume

Residual spray volumes of less than 200 ml [6.8 oz] are no longer pumped effectively. Either add more spray formula and continue spraying or, when finishing off, dilute the residual volume with 2 litres [68 oz] of clean water and apply to the already treated area.

At the end of work, turn off the pump with the on/off switch, empty and clean the device according to chap. 10.3, clean your face and hands thoroughly, take off work clothing and wash it regularly.

### 9.2 Ending spraying

At the end of work, turn off the pump with the on/off switch.

In order to depressurise the device, keep the spray tube in the spraying agent tank or a suitable collection container with the pump turned off for the spraying agent until no liquid escapes anymore.

Remove the battery and store it securely.

Empty and clean the device according to chap.

10.3, clean your face and hands thoroughly, take off work clothing and wash it regularly.

## 10 Maintenance, cleaning and storage

### 10.1 Maintenance plan

#### Before starting work:

- Check the entire sprayer is operationally safe by:
  - Visual inspection of the sprayer
  - Checking the tightness of all parts (at maximum admissible pressure with the hand valve opened and closed).
  - Checking the working of all functional parts (on/off switch, hand valve).
  - Checking the hoses and their screw connections.
  - Visual inspection of the filter screen in the filler basket.

#### After the end of work, when changing the spray formula, whenever required:

- Cleaning the spray tank chap. 10.3
- Cleaning the nozzle chap. 10.3
- Cleaning the filter screen in the filler basket chap. 10.3

## 10.2 Test run

When the spraying season starts and then every month, the following items must be checked in a test run with clean water:

- Tightness of all device parts in pump operation with the hand valve opened and closed
- Function of the hand valve; no spraying agent must escape with the hand valve closed (hand valve not actuated).
- Dosage and distribution accuracy

In case of irregularities, damage, leaks or limited function, do not use the sprayer but have it checked in a specialist workshop without delay.

## 10.3 Empty the spray tank and clean all the parts in the spray delivery system to the nozzle

Turn off the pump, depressurise the device, remove the battery, and store it securely.

Empty the spray tank, flush with clean water all parts in the delivery system to the nozzle and the filter screen in the filler basket.

Give special attention to the wear parts such as nozzles and seals.

Observe the cleaning notes in the original user manual for the chemical.

Never use any aggressive, acid- or solvent-containing cleaning agents (e.g. petrol).

After cleaning, let the spray tank dry in the open air.

Clean the spraying nozzle and filling screen:

Fig. 14:

- Flush the nozzle assembly with clean water.
- Unscrew the nozzle assembly.
- Clean the O-rings, spray nozzle and filling screen with clean water and a soft brush.  
Never blow out the spray nozzle with the mouth!  
Never clean nozzles with hard objects!
- Screw the parts of the nozzle assembly back together (Fig. 2).

## 10.4 Down periods and storage

Turn off the pump, depressurise the device, remove the battery, and store it securely.

Empty and clean the sprayer according to chap. 10.3.

Keep the sprayer protected from sunlight in a dry, frost-free and secure location at a temperature of max. 35 °C [95 °F].

Prevent unauthorised use – especially by children.

## 11 Type plate

Fig. 15 (Illustration depends on the model):

**a:** Type designation

**b:** Serial number

**c:** Manufacturing month/year

## 12 Technical data

Model	411	441	
Spray tank:	Total volume Max. fill volume	13 l [3.4 gal] 10.0 l [2.6 gal]	17.8 l [4.7 gal] 16.0 l [4.2 gal]
Residual volume, (remaining liquid in tank that cannot be used)		< 200 ml [6.8 oz]	
Pump system		SOLO Diaphragm pump	
Operating pressure		2.5 bar [36 psi]	
Permissible operating temperature		0–40 °C [32–104 °F]	
Pressure hose:	Length	1,300 mm [51.2"]	
Application volume (with standard spraying nozzle)		0.6 l – 1.6 l [0.158–0.422 USgal]	
Filling screen:	Mesh gauge	1.8 mm [0.071"]	
Intake screen (stainless steel)	Mesh gauge	0.35 mm [0.014"]	
Weight:	Ready for operation, empty, w/o battery	3.5 kg [7.7 lbs]	3.7 kg [8.1 lbs]
	Ready for operation, with max. filling volume	13.6 kg [30.0 lbs]	19.8 kg [43.7 lbs]
Dimensions (without spray wand, and pressure hose):	height	547 mm [21.5"]	622 mm [24.5"]
	Width	390 mm [15.4"]	390 mm [15.4"]
	Depth	245 mm [9.6"]	245 mm [9.6"]
Rechargeable battery (Li-Ion)	Rated voltage	11,1 V	
	Capacity	2.5 Ah	
Battery charger	Input operating voltage	100–240 V	
	Frequency of operating voltage	AC 50/60 Hz	
	Rated output voltage	DC 12.6 V	
	Max. charging current	1.5 A	
	Protection type / protection class	IP 20 / II	
Charging time with minimum initial battery charge		Approx. 1.9 h	
Operating time with standard nozzle per charging cycle (0.6L/min@2.5bar [0.158 USgal @36 psi] )		Approx. 2.8 h	
Sound pressure level <sup>1</sup> L <sub>Peq</sub> according to EN ISO 3744		< 70 dB(A)	
Sound power level <sup>1</sup> L <sub>Weq</sub> according to EN ISO 3744		< 70 dB(A)	
Weighted effective acceleration <sup>1</sup> a <sub>hv,eq</sub> according to EN ISO 5349		< 2.0 m/s <sup>2</sup> [78.7 "/s <sup>2</sup> ]	

<sup>1</sup> In determining the above mentioned values regarding the acceleration of vibrations and sound, the different operating conditions were weighted in accordance with the current standards.

# **solo**<sup>®</sup>

Made in Germany



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