



# USER MANUAL

**Knapsack Hand-operating Sprayer 16L**

**55626**



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**Please read the "Operation Instructions" attentively before use. Operate it as per the "Instructions"**

### 1. Main Function

The 16 is a quality sprayer, suitable for a wide range of agriculture and horticulture uses. It is our recent product, saving chemical, preventing leakage, and concentrating merit of the same kind sprayers with rich design. All kinds of chemicals, leaf fertilizer, growing agents etc. can be sprayed freely. It is suitable for using in protection of the earth's surface and controlling pests in crop fields where goods, cotton, vegetables, fruit trees etc. are planted and can also be used for cleaning circumstances, health epidemic prevention of hotel, bus-stop and so on.

### 2. TECHNICAL SPECIFICATION

①Capacity of tank (L): 16 liter ②Working pressure (Mpa):0.2~0.4③Travel of piston (mm):60~70  
④Diameter of rubber bowl (mm):46 ⑤Gross weight (kg):3.1 ⑥Package dimension :38.5cm x 18.5cm x 54.5cm

### 3. Structure, Working Principle

Structure: the machine is composed of

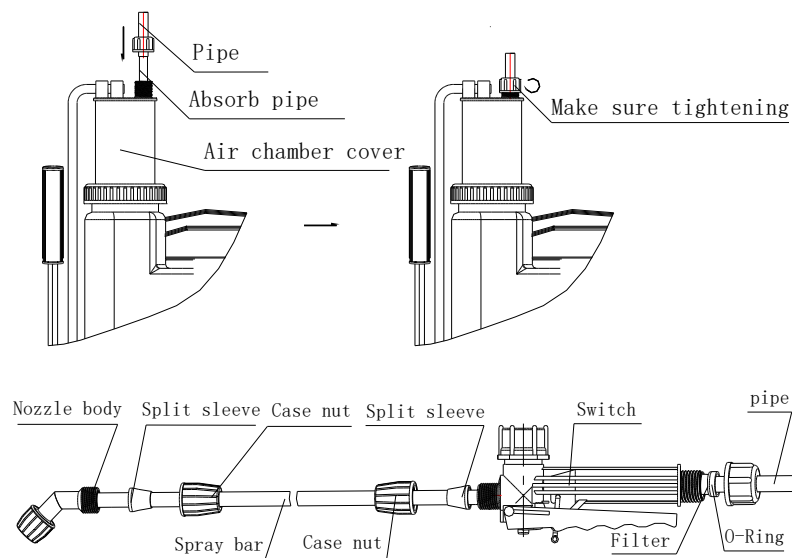
- (a)container of liquid.
- (b)pump and air chamber.
- (c)spraying system (including rubber hose and components, switch, sprayer spindle and head).
- (d)operation arm and components

(e) backpack belt system.

**Working Principle:** By swinging the operation arm and components, the pump bowl rises up and down which allows the sealing ball and diaphragm to turn on and off. This in turn makes the pressure in the air chamber rise up and down which then forces the medicinal liquid into the chamber, the liquid can then go through the spraying system and spurt out as spray.

#### 4.ASSEMBLY, USAGE & MAINTENANCE

##### Assembly:



##### Usage:

- 1) Check whether any conjunction has been tightened before usage.
- 2) Open the cover on the tank, and feed the chemical liquid into it (Don't take out the tank-filter)
- 3) Carry the sprayer onto your back and begin to operate.
- 4) Press the rocking lever seven or nine times to absorb the chemical liquid and pressure it. Open the switch bar and keep a certain distance between nozzle and ground.
- 5) Change the con-spray nozzle or fan-spray nozzle according to the variety of demands.

##### Maintenance

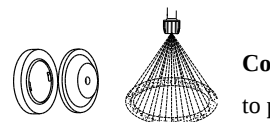
- 1) Clean the tank with clear water after usage each time. If necessary, clean it with washing powder or baking soda.
- 2) Add a few of lubricating oil into the oil-ring in the air chamber to run well and prevent the liquid from seeping.
- 3) Take down the filter and wash them in regular time, even get rid of them by brush.
- 4) Store machine in shady and cool place avoiding age of plastics caused by hard sunlight.

#### 5.Operation Method

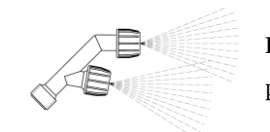
After the packing box of new machine is opened please check all the parts. Then assemble the machine as per the structure sketch. Before use please wrench the cap off the container. Pour the compounded medicinal liquid through the filter into the container slowly, then close the cap tightly and put the machine on your back. After the pressure in the air chamber is boosted swing the operation arm and then press the switch component to begin spray operation. It can be point-spray or it can be continuous spray. At the same time adjust the nut according to the requirement of the crops in order to improve the quality of spraying. Choose the different spray-head for spraying correctly:



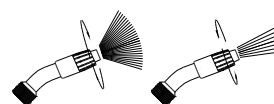
**Fan style spray:** This sprays evenly and is suitable for spraying on low and short stalked crops and for the spraying of weedkiller. Keep the spray head stable and spray in the same direction as the wind.



**Conical spray head:** This can be used for spraying pesticide and insecticide, to prevent diseases and kill insects. Spray in the same direction as the wind.



**F spray head:** This can be used for spraying pesticide and insecticide, to prevent diseases and kill insects. Spray in the same direction as the wind.



**Adjustable cone Nozzle:** This can be used for spraying pesticide and insecticide, through adjust the nozzle cap you can get different flowrate and form. Spray in the same direction as the wind.

Fit the nozzle through the nozzle cap and tighten. Make sure that the seals are in good condition. If they are damaged they should be changed otherwise the nozzle may leak.

#### 6. CALIBRATION

Before using the sprayer should be calibrated using water. The process of calibration involves measuring the three inter-related factors which determine the volume of spray applied by the sprayer; flow rate, band width and walking speed.

- 1) Measure Flow Rate in ml per minute (ml/min) by measuring sprayer output while pumping over one minute.
- 2) Measure Band Width in cm by spraying on dry ground or concrete, and measuring the width of spray pattern produced. It is important that nozzle height from ground is the same during spraying. If spraying one row at a time, this will be the distance between the rows.

- 3) Measure your Walking Speed in meters per minute (m/min) by measuring how many meters you walk in one minute. As a general rule one large pace is approximately one meter.
- 4) From the **Total Spray Volume** it is possible to calculate how many times you will need to fill the Stoner to spray one hectare.

**7. MIXING & FILLING**

- 1) Always read the label to ensure that you know the correct dose
- 2) Always wear gloves and proper protective clothing.
- 3) Always use the correct equipment when mixing and measuring.
- 4) Always wash off any skin contamination.
- 5) Always clean all equipment after use.

**8. SPRAYING & AFTER SPRAYING**

**Spraying**

When spraying, make sure that you always wear the best protective equipment available. Consult the label to find out what is advised for the product you are using.

- 1) Wear long trousers, 2)Long sleeved shirt,3)Long boots,4)Gloves &
- 5)Eye protection are worn;6)Spraying should always be along with the direction of air

**After Spraying**

After spraying ensure that you clean out the sprayer. Half fill with clean water and pump out, spraying for several minutes onto crop area. Empty the sprayer and repeat with more clean water. Never leave the sprayer with chemical in it, as this will damage seals and washers.

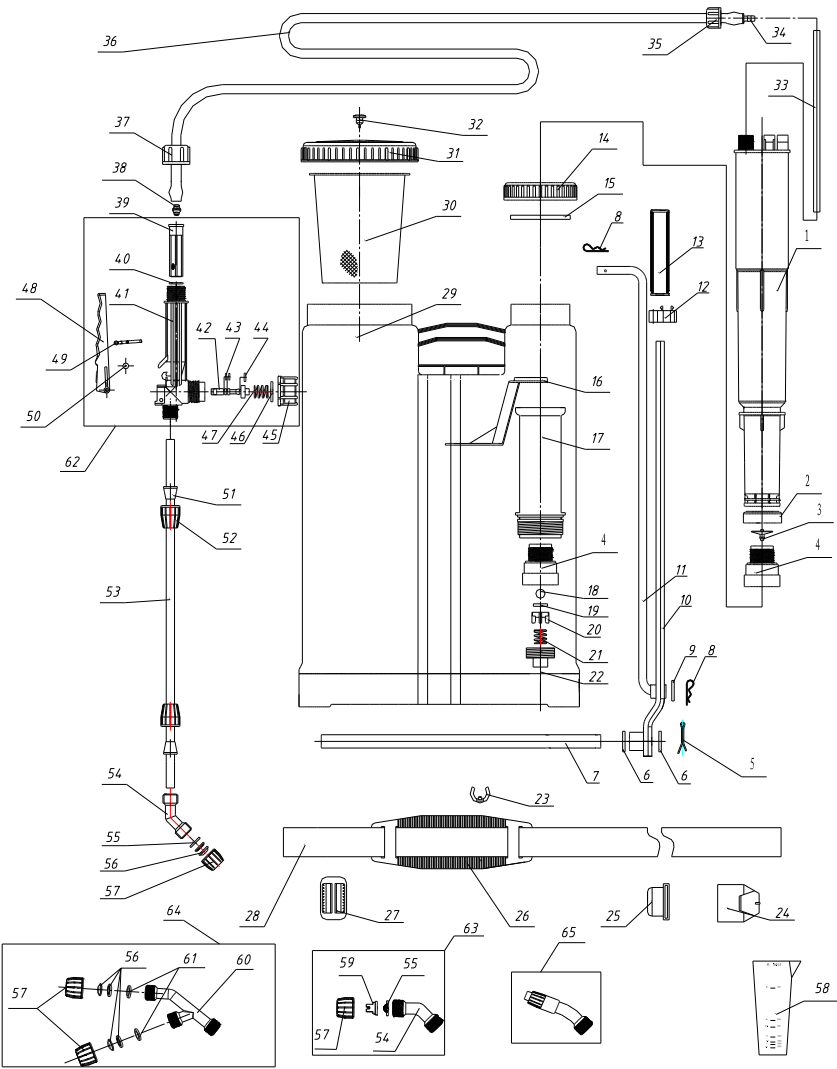
Store the sprayer in a safe place out of direct sunlight and away from children and animals.

After spraying wash your hands、face and clothes especially prior to eating, drinking or smoking.

**9. Overhaul for breakdown.**

| Breakdown                                                  | Cause                                         | Settlement                                                           |
|------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------------------------|
| Leakage and not Spraying well                              | Sealing Plate is Damaged or Not Wrenched Firm | Exchange the Sealing Plate or Wrench Firm                            |
| When Vibration The Operation Arm Feeling Too Much Pressure | Spray Head or Filter Block up                 | Clean the Filter and Spray Head.Add Vaseline to the Activating Parts |
| Low Pressure                                               | Abrasion of the Bowl or the Sealing Ball      | Change the Bowl or Sealing Ball                                      |
| When Shaking The Operation Arm Feeling No Pressure         | Sealing Ball is Miming or Removed             | Fix the Sealing Ball Properly                                        |

**10. Structure sketch**



**PS:** Products will be improved step by step, the machine may be some difference with the above picture, please understand that will not be noted again

## Parts List

| No | Part No        | Name                 | Qty | No | Part No        | Name                   | Qty |
|----|----------------|----------------------|-----|----|----------------|------------------------|-----|
| 1  | WS16PA.3.1     | Air Chamber          | 1   | 36 | WS16-13-08-03E | Hose                   | 1   |
| 2  | WS16PA.3-1     | Rubber Bowl          | 1   | 37 | WS16-13-08-01  | Hose Nut M22           | 1   |
| 3  | WS16PA.3-2     | Diaphragm            | 1   | 38 | WS16-13-08-02  | Pin                    | 1   |
| 4  | WS16PA.4.1-1   | Rubber Bowl fastener | 2   | 39 | WS16-13-07B    | Switch Filter          | 1   |
| 5  | GB/T91         | Split Pin 3.2X30     | 1   | 40 | WS16-13-09     | O-Ring 14X15           | 1   |
| 6  | WS15-4         | Washer               | 2   | 41 | WS16PA.6.1-1   | Switch Body            | 1   |
| 7  | WS16PA.5-1     | Lever Shaft          | 1   | 42 | WS16PA.6.1-5   | Pressure shaft         | 1   |
| 8  | WSS-76.5-2     | Pin                  | 2   | 43 | WS16PA.6.1-10  | O-Ring                 | 2   |
| 9  | GB/T97.1       | Washer               | 1   | 44 | WS16PA.6.1-2   | Sealing Pad            | 1   |
| 10 | WS16PA.5.1     | Rocking Lever        | 1   | 45 | WS16PA.6.1-3   | Pressure Cover         | 1   |
| 11 | WS16PA.5-3     | Rod                  | 1   | 46 | WS16PA.6.1-4   | Cover washer           | 1   |
| 12 | WS16PA.5-4     | Clamp                | 1   | 47 | WS16PA.6.1-6   | Spring                 | 1   |
| 13 | WS16PA.5-5     | Lever Case           | 1   | 48 | WS16PA.6.1-9   | Press Plate            | 1   |
| 14 | WS16PA-3       | Air Chamber Cover    | 1   | 49 | WS16PA.6.1-8   | Pin                    | 1   |
| 15 | WS20-05        | Felt Washer          | 1   | 50 | WS16PA.6.1-7   | Switch Pin             | 1   |
| 16 | WS16PA-5       | Puddler              | 1   | 51 | WS16-13-05-02B | Split Sleeve           | 2   |
| 17 | WS16PA.4-1     | Chamber              | 1   | 52 | WS16-13-05-01  | Case nut               | 2   |
| 18 | WS16PA.4.1-2   | Sealing Ball         | 1   | 53 | WS16-13-05-03B | Spray bar              | 1   |
| 19 | WS16PA.4.1-3   | Seal                 | 1   | 54 | WS16-13-01-04B | Nozzle body            | 2   |
| 20 | WS16PA.4.1-4   | Seal seat            | 1   | 55 | WS16-13-01-05  | Filter                 | 2   |
| 21 | WS16PA.4.1-5   | Compression Spring   | 1   | 56 | WS16P-13-01-01 | Conical Spray Plate    | 3   |
| 22 | WS16PA.4.1-6   | Spring Seat          | 1   | 57 | WS16-13-01-03  | Spray Head Nut         | 4   |
| 23 | WS16-09-02     | Fixed Buckle         | 1   | 58 | WS16-14-04     | Measuring cup          | 1   |
| 24 | WS20-12-03     | Belt Hook            | 1   | 59 | WS18D.11-2     | Sealing washer         | 2   |
| 25 | WS20-12-02     | Belt Buckle          | 2   | 60 | WS16-13-01-02  | Fan Style Spray Head   | 1   |
| 26 | WS20-12-04     | Shoulder Cushion     | 2   | 61 | WS-18D.11-1    | F Spray head           | 1   |
| 27 | WS20-12-05     | Belt Clamp           | 2   | 62 | WS16PA.6.1     | Switch Assem           | 1   |
| 28 | WS16-12-01     | Belt                 | 2   | 63 | WS16-13-01B    | Fan Spray Nozzle Assem | 1   |
| 29 | WS16PA.1       | Container            | 1   | 64 | WS-18D.11      | F Spray Nozzle Assem   | 1   |
| 30 | WS16PA-2       | Felter               | 1   | 65 | WS16-13-01C    | Adjustable cone Nozzle | 1   |
| 31 | WS16PA.2-1     | Container Cap        | 1   |    |                |                        |     |
| 32 | WS16-02-02     | Air Intake Plug      | 1   |    |                |                        |     |
| 33 | WS16-13-10     | Absorb Pipe          | 1   |    |                |                        |     |
| 34 | WS16-13-08-02B | Seal embedded parts  | 1   |    |                |                        |     |
| 35 | WS16-13-08-01B | Hose Nut M18         | 1   |    |                |                        |     |