

Read the instructions in this Operator's Manual before using the equipment. Attention to the operating, maintenance and safety instructions.

# Operator's Manual

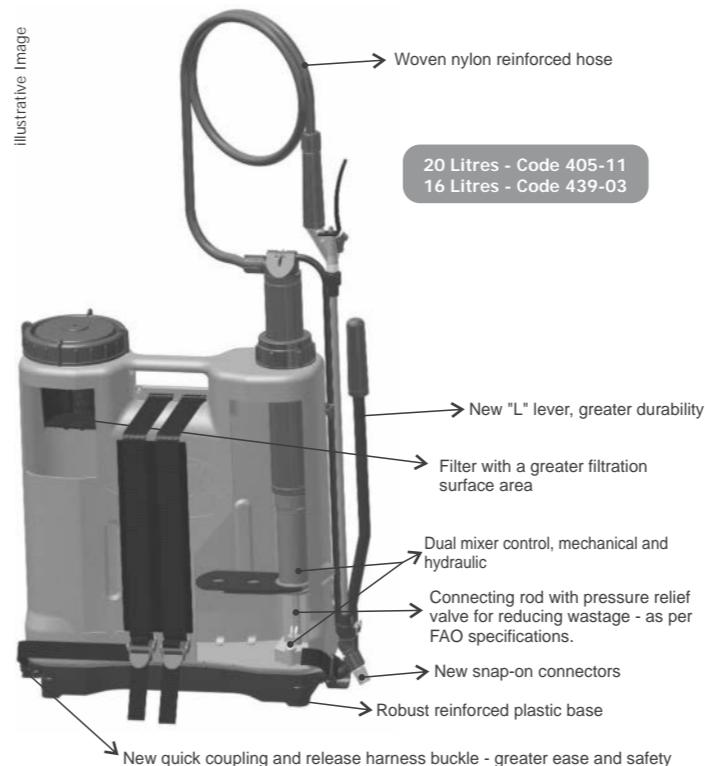
## Symmetrical Knapsack Sprayers SP



20 Litros cód./code: 405-11  
16 Litros cód./code: 439-03

### 1. TECHNICAL SPECIFICATIONS

illustrative image



### TECHNICAL SPECIFICATIONS

Tank capacity 20L .....	(5.3 gal.)
Tank capacity 16L .....	(4.2 gal.)
Weight empty 20L .....	4.4 Kg (9.70 libras)
Weight empty 16L .....	4.3 Kg (9.47 libras)
Pump .....	piston lever type
Maximum pressure .....	500 KPa (75 psi)
Working pressure (insecticide/fungicide) .....	300 KPa (45 psi)
Working pressure (herbicide) .....	100 KPa (15 psi)
Adj. nozzle flow 45psi .....	600 ml/min (0,15 gal./min)
Pump cylinder material .....	poly-acetate
Pressure chamber Material .....	copper
Packaging .....	490 x 175 x 555 mm (19.3" x 6.9" x 21.8")



Figure 1

Adjustable buckles  
Greater comfort  
Facilitates positioning equipment on the back.



Figure 2

Symmetrical structure allowing instant change of operating sides without use of tools.

### DISCHARGE SET

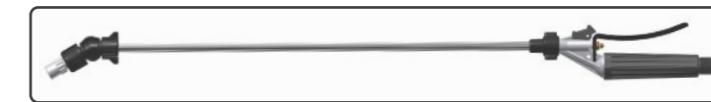


Figure 3A

Complete spray nozzle, lance and control assembly set (Item 45).  
Total length 744 mm

### UNIVERSAL NOZZLE

Enables the use of any spray nozzle, which follows the standards of the international ISO specifications. Comes with adjustable GUARANY conical tip.

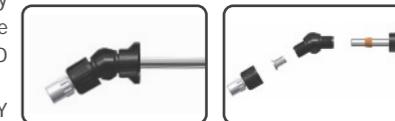


Figure 3B

### DISCHARGE TYPE SUPER 3



Figure 3C

Valve with fluoro-elastomer rings and filter built into the hand-held control. Trigger locking, allows for continuous spraying.

### EFFICIENT VALVE SYSTEM

Pressure relief valve, prevents the occurrence of excessive pressures causing product wastage.

Hemispherical valve (in elastomer) efficient system for product transference.

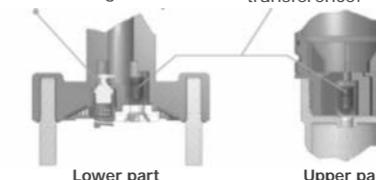


Figure 4

## 2. ASSEMBLY INSTRUCTIONS

### PUMPING ROD ASSEMBLY (Figure 5)

- 1 - Remove the metal pumping rod (A) from the equipment box and remove the 2 clips and 1 washer that come attached to the rod;
- 2 - Fit the extremity of the rod with the smallest angle into orifice (B) of the lever and insert washer and clip to keep the rod secured in place;
- 3 - Fit the other end of the rod into the head (C) of the pressure cylinder and insert the securing clip.

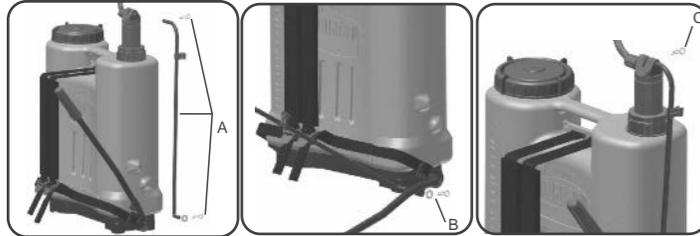


Figure 5

### 2.1 SPRAY LANCE ASSEMBLY (FIGURE 6)

Remove the set - spray nozzle and lance - from the packing, which is located inside the equipment tank and assemble according to the steps outlined below:

- 1° - Insert the filter tip (A) inside the body of the elbow joint (B) and then screw together the coupling nut holding the adjustable conical nozzle (C) into the body of the elbow joint;
- 2° - Insert the body of elbow joint (B) into the end of the spray lance, which comes with a rubber bush and attach by tightening up the threaded connector (D);
- 3° - Attach the other end of the spray lance, with an orange colored bush (E), into the super 3 valve outlet (F) and attach by tightening up the threaded connector (G);



Figure 6

## 3. INSTRUCTIONS FOR CORRECT AND SAFE USE



This equipment should only be utilized with agricultural chemicals approved by the regulatory authorities in your country for use with knapsack sprayers. For the possibility of using the equipment in the application of other substances, consult the manufacturer.

Guarany does not recommend the use of chemical products based on **flammable solvents and highly concentrated fertilizers**, such as ammonium nitrate and sulfate (ammonium salts) and **lime sulphur syrup in high concentrations**.

**During the handling and application of agrochemicals the use of Personal Protective Equipment (PPE) is mandatory.** Read the label and package instructions of the chemical to determine what PPE (Personal Protection Equipment) should be used and any other forms of protection needed during the handling of these products.

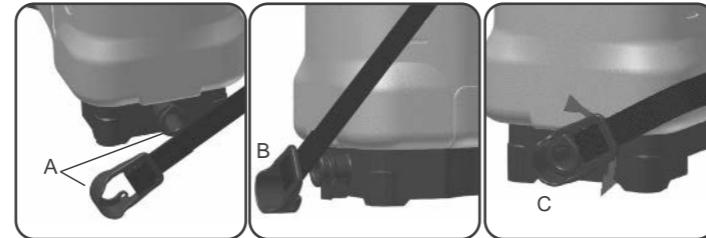


Figure 7

- 1° - After assembling the equipment, fill the tank with the prepared agrochemical by passing the liquid through the filter (Item 2);
- 2° - The harness straps for this sprayer come with a **new coupling and quick release system** (Figure 7A), which allows you to secure the strap with the equipment already placed on the back (Figure 7B), providing greater agility at work and the release of same just by turning the buckle in the direction indicated by the arrow in (Figure 7C). This provides greater safety when it is necessary to remove the knapsack sprayer quickly;
- 3° - Place the equipment on the back, by adjusting the straps through the adjustable harness buckles (Figure 1);
- 4° - Move the pump lever until the desired working pressure is reached; the equipment has a pressure relief valve (Figure 4) that will be activated when the pressure in the tank exceeds 500 KPA (75 PSI). Note that when activated it may make a slight noise, indicating the correct working pressure has been reached.
- 5° - To adjust the conical spray jet, simply turn the adjustable nozzle tip (Figure 3B).

## 4. SPRAY MAINTENANCE

Never leave the remains of agrochemicals in the spray tank; wash your sprayer with clean water at the end of every workday, fill the tank to about 25% of its volume with water and then spray for about 1 minute, into the an appropriate container, allowing for thorough cleaning of the equipment. Follow this with the lubrication procedure:

**Double bushing lubrication (Figure 8):** For lubrication of the dual bushing (item 16) you should first remove the clip and then remove the upper part of the lever pump rod (Figure 5 C), unscrew the pump-securing cap (item 7) and withdraw the mixer (item 29) fixed into the pressure cylinder (item 20) inside the chemical tank (for this you must use PPE (Personal Protection Equipment) and proper gloves to avoid contamination). Remove the pressure cylinder (item 25) and coat the inner wall with grease or Vaseline to allow lubrication of the dual bushing when in operation.

**Lubrication of Super 3 discharge valve (Figure 9):** Disengage the items (G) and (F) (Figure 6) and through one of the apertures add 3 drops of two-stroke engine oil into item (F) (Figure 6) allowing the lubrication of the entire needle valve assembly (item 44)



Figure 8

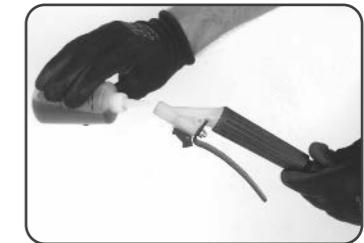
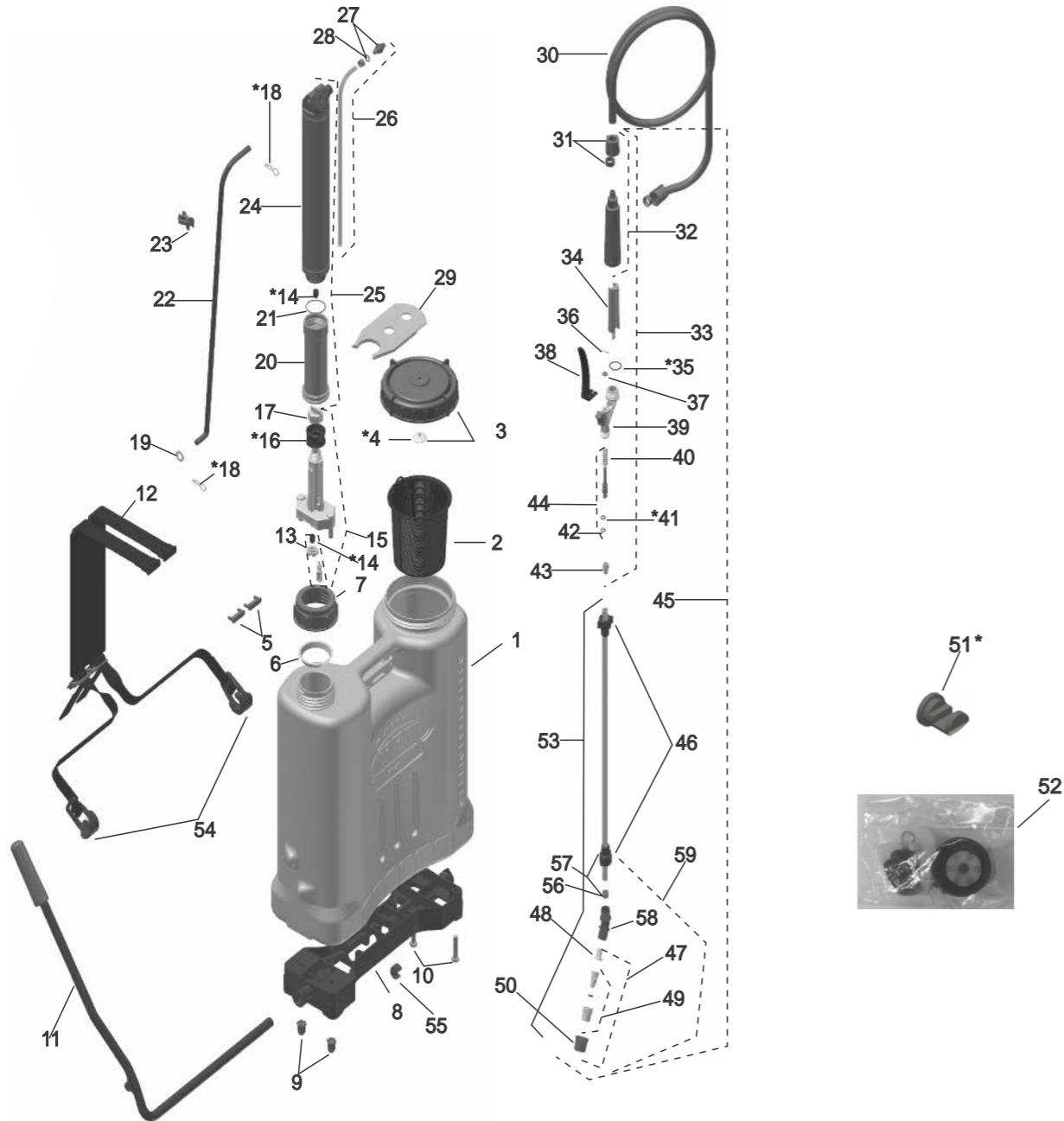


Figure 9

## 5. TROUBLE SHOOTING

TROUBLE	THE CAUSE	SOLUTION
Lack of pressure in the pump	Dirt in the lower valve (item 14) or wear of this component.	Cleaning/Replacing
	Dual bushing (item 16)	Change
Leakage of liquid from top of the equipment	Filling above the maximum level	Fill only up to the maximum level indicated
	Tank lid (item 3) - damaged/loose	Change/Tighten
	Pump-securing cap (item 7)/gasket (item 6) - Damaged/loose Cap valve (item 4)	Change/Tighten
Lever arm stiff	Suction tube (item 26) - damaged/Loose Note: Before mounting the suction tube, remove the product from the inside of the tank and pressure cylinder holder (item 24).	Change/Adjust
	Lower Valve (item 14) - Damaged/Dirty.	Change/Clean
Lever arm loose	lower valves (item 14) and dual bushing (item 16).	Change
Dripping from adjustment point	Lance seal (item 43) - Damaged	Change
	Air in the line	Spray upwards for a few seconds
	Discharge needle valve assembly (item 44) - jammed	Change/Grease

## 6. EQUIPAMENT SPARE PARTS



## 7. SPARE PARTS

Item	Description	Code	Pcs/ Packing
01	Chemical tank 20 Litres	7564	01
	Chemical tank 16 Litres	7569	01
02	Tank filter	7563	01
03	Tank lid with valve	8112	01
04	Cap valve	5613	06
05	Harness clips	6457	10
06	Plastic gasket	1649	04
07	Pump-Securing cap	1089	02
08	Frame	10608	01
09	Frame securing nut	5852	04
10	Hexagonal screw M8x40	5949	04
11	"L" lever with hand grip	10702	01
12	Complete harness assembly	10703	01
13	Cylinder valve assembly	4647	01
14	Lower valve	5066	10
15	Complete cylinder and valve assembly set	8110	01
16	Dual bushing	3707	10
17	Threaded sleeve coupling	3656	10
18	Clip	3000	06
19	Flat washer	1038	20
20	Plastic cylinder	5007	01
21	O-ring	6715	01
22	Pump Lever rod	10658	01
23	Rod locking clamp	6349	06
24	Pressure cylinder	4671	01
25	Pressure cylinder	4756	01
26	Suction tube assembly	4423	01
27	Suction tube connector and O-ring	8119	01
28	O-ring	6216	10
29	Mixer	2998	05
30	Hose 8x1300mm	4427	01
31	Hose coupling and washer	4428	02
32	Discharge valve grip	4426	01
33	Discharge valve S3	4320	01
34	Filter	6270	10

Item	Description	Code	Pcs/ Packing
35	O-ring	6316	06
36	Split pin	2805	10
37	Valve lever retainer	2804	05
38	S3 valve control	6118	05
39	S3 supply valve	9429	02
40	Spring	6452	02
41	O-ring	1455	10
42	O-ring	2739	10
43	Lance seal	9320	06
44	Complete needle valve assembly	8114	01
45	Complete spray/nozzle/lance assembly	4386	01
46	Lance tube w/threaded coupling	10704	01
47	Fully adjustable tip assembly	8118	01
48	Spray tip filter	1143	10
49	Adjustable spray nozzle	4525	06
50	End nut	3441	04
51	Deflector tip	5374	06
52	Service Kit*	10697	01
53	Lance w/spray assembly	8115	01
54	Quick release/coupling harness buckles	10609	02
55	Lever arm locking device	2812	10
56	Lance/elbow bush	6203	10
57	Lance/elbow threaded coupling and bush	4609	04
58	Elbow joint	10700	01
59	Complete elbow joint and spray nozzle assembly	10701	01
<b>* Service kit</b>			
	Deflector tip	5374	
	Valve Diaphragm	5613	
	Hemispherical valve	5066	
	Dual bushing	3707	
	Clip	3000	
	O-ring	6316	
	O-ring	1455	
	Spray tip filter	1143	
	Relief valve	6711	
	Seal valve	6117	

### 8. LIST OF ACCESSORIES



Horizontal Rear Boom  
U9888.00.00



Vertical Rear Boom  
4 Nozzles: U9898.00.00  
6 Nozzles: U4288.00.00



Universal S3 Discharge Set  
(with Hose Connection)  
U9537.00.00



Telescopic Discharge Lance  
with Valve (1 Nozzle)  
U9767.00.00



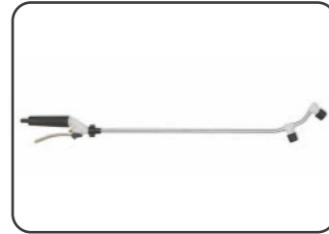
Universal Boom  
200 mm: K9798.00.00  
400 mm: K9895.00.00  
500 mm: K9960.00.00



Liquid Metering Device  
U4575.00.00



Rotary Nozzle Discharge Set  
U4750.00.00



2 Nozzle Discharge Set  
U4222.00.00



Dosimeter Valve  
With applicator pipe: U8018.00.00  
Without applicator pipe: U8096.00.00



Weed Control Shield  
U7860.00.00



Discharge Tube  
0,9m: K4281.00.00  
1,2m: K4280.00.00



Flowrate Regulator with Pressure Gauge  
U9634.00.00

### 09. WARRANTY CERTIFICATE

Guarany together with its accredited resale network and subject to the limits set by this Certificate provides for the initial purchaser and user of this product, a warranty against any defects caused in the manufacturing process. The Guarany technical assistance warranty covers the entire line of its products.

**GENERAL CONDITIONS OF WARRANTY:**

**1 -** Guarany provides the purchaser the following guarantees:

**Equipment Line:** 1 year.

**Consumer Line:** 90 days.

Further to the conditions established in item 5, any claim invoking this warranty must be accompanied by the original invoice to prove the purchase date of the product.

**2 -** For the full application of this warranty the buyer must return the product to an authorized Guarany retail outlet (dealer). All costs and risks for shipping the product back to our dealer and its subsequent return are the responsibility of the buyer. No claim for compensation or reimbursement of transportation expenses will be accepted by Guarany or their agents. Any such repair is considered to be an "over the counter" repair, i.e., the equipment is repaired by the dealer.

**3 -** Our dealers are authorized to replace the defective parts with original parts or Guarany alternatives, while maintaining and respecting the equivalent integrity of the equipment's quality and performance. Any equipment parts removed during the repairs performed under warranty become the property of Guarany.

**4 -** The following items are not covered by this warranty:

**4.A -** Incorrect assembly, installation or use.

**4.B -** Components that can wear out naturally through regular use of the equipment such as: O-rings, membranes, gaskets, valves, pistons, rings, bushings, drive-belts, hoses, pressure gauges, bearings, spark plug, parts supplied in the kit that came with the product as well as components in permanent contact with agrochemicals.

**5 -** The warranty will be automatically cancelled if or when:

**5.A -** The equipment is improperly installed, assembled or used;

**5.B -** The equipment contains any non-original parts or components;

**5.C -** The equipment was not used in accordance with the procedures described in our technical bulletin and instruction manual provided with all our products;

**5.D -** There has occurred any mistreatment such as: damage; impact; dropping; bumping or if there are holes found in the tank;

**5.E -** The equipment has been connected to a power supply with a voltage other than that specified on the equipment and/or in the instruction manual (110 or 220V);

**5.F -** Whenever the oil/fuel mix indicated in our manual is not respected.

**5.G -** Repairs have been made by any person or entity not authorized by Guarany;

**5.H -** There has been any violation of the internal or external original features;

**5.I -** Used by non-qualified persons;

**5.J -** There has been negligence in the corrective or preventive maintenance;

**5.K -** The equipment has undergone changes that affect its function, stability or safety;

**5.L -** Erasures or tampering of the serial number or invoice have occurred.

**6 -** This warranty is limited to the repair or replacement of defective parts; no other expressed or implied warranty is given to the buyer;

**7 -** Guarany is not responsible for any damage, loss, inconvenience, direct or indirect losses that may arise from misuse of its products, or from the use of harsh or inappropriate chemicals or products not compatible with the components in our equipment (any questions, doubts or concerns regarding these items must be referred to an authorized dealer or retailer or directly through our telephone customer service number +55 11 2118-8400)

**8 -** Claims for missing parts and accessories will be accepted only at the time of purchase and in the presence of a representative from a Guarany authorized retailer/dealer.

**9 -** Guarany will continue to provide spare parts for our products for a period of up to five (5) years from the date on which the factory discontinues the product.

**10 -** Guarany reserves the right to make technical changes to improve the product without prior notice.

**IMPORTANT:**

\* To keep your product original and with the same operational quality, use only our authorized network (see our site [www.guaranyind.com.br](http://www.guaranyind.com.br)) ensuring the use of original replacement parts and skilled labour.

\* For any questions about the use of our equipment and products please consult our local distributor or use our customer service e-mail [sac@guaranyind.com.br](mailto:sac@guaranyind.com.br).

\* For possible claims covered by this Warranty Certificate, the invoice should be retained during the warranty validity period.

\* By purchasing this product, the purchaser agrees that Guarany may review, modify, enhance, discontinue or change the equipment, parts or components at any time, as well as maintaining the expressed conditions in this certificate without incurring any liability or obligation relative to the client;

\* Our responsibility is limited to the terms of this warranty. The warranty is not transferrable and ceases automatically in case of equipment resale.

**HOW TO USE THE WARRANTY:**

To qualify for these guarantee terms, the customer must make a claim at one of our technical assistance points which are duly registered in the "national network" index; if the region does not have a service point, the claim must be made at the store or distributor where the equipment was purchased.

The defects should be thoroughly described in the defect claim form which can be obtained from our technical assistance points or sales offices. The completed claim form should be delivered to the technical assistance point together with the product requiring servicing and a copy of the original invoice.

\* Consult our product line in the website [www.guaranyind.com.br](http://www.guaranyind.com.br)

### CLAIM FORM

**CLAIM DETAILS**

PRODUCT	CLIENT/RETAILER	
Name of Equipment:	Retailer's Name:	
Equipment N°:	Phone:	Contact:
Invoice N°:	Client's Name:	Phone:
Date of Purchase:	e-mail:	
Quantity Claimed:	Site:	
<b>DESCRIPTION OF PROBLEM:</b>		

CLAIM N°:	
DATE OF CLAIM:	