



Herbidome600



Instruction Manual

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Revision: 1

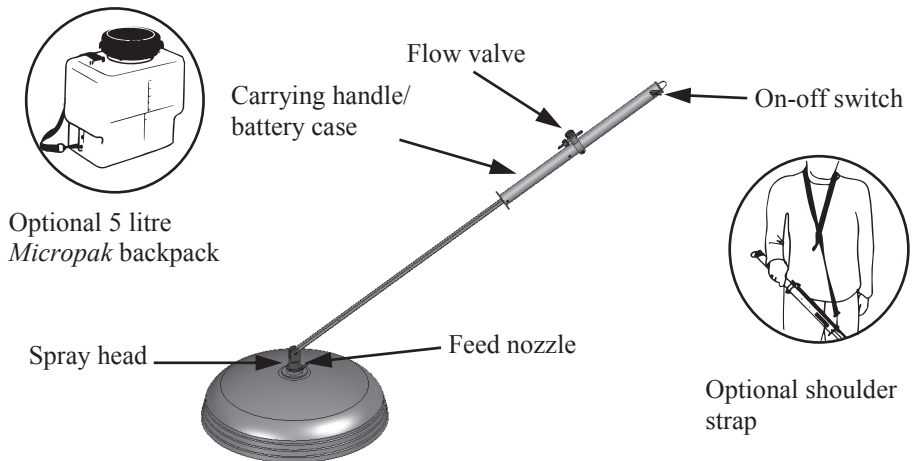
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DESCRIPTION

The HERBIDOME 600 is a simple robust hand-held spinning disc Controlled Droplet Application (CDA) sprayer powered by 4 torch (D-cell/R20) batteries, with one set of good quality batteries giving over forty hours spraying time. It is designed to apply herbicides in a .6m wide band at low volumes (10 to 30 litres/hectare). An electric motor spins the atomiser disc at a nominal 1,400 rpm to produce uniform spray droplets of around 200-300 micron; large enough to minimise any risk of spray drift. Liquid is fed by gravity through colour coded feed nozzles. The HERBIDOME 600 can apply herbicides to borders, pathways, ditches and larger areas by making a series of consecutive spray passes. The weight of the machine ready to spray, with the *Micropak* 5 litre backpack, is 7kgs.



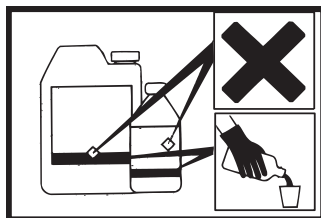
Specially designed Micron *Micropak* backpacks and a shoulder strap are available for use with the HERBIDOME 600. Safety

Using agrochemicals is a hazardous process. Operators should comply with all relevant legislation and/or regulations governing the use of agrochemicals and should use appropriate personal protective equipment (see ‘OPERATOR PROTECTION’). **Never** use the HERBIDOME 600 in potentially explosive atmospheres or spray flammable liquid through it.

The HERBIDOME 600 can be used with most conventional herbicides, as well as specific CDA formulations (only available in some countries) to provide a closed transfer system to improve operator safety.

Always read the product label carefully to discover:-

- ◆ approved applications
- ◆ maximum dose rates
- ◆ maximum number of treatments
- ◆ operator protection required
- ◆ necessary environmental protection measures



N.B. ‘Dose rate’ refers to the amount of chemical applied per hectare.

Never eat, drink, or smoke when working with agrochemicals. After using agrochemicals or handling equipment wash your hands thoroughly. Keep people (especially children) and animals out of areas being sprayed.

Always store agrochemicals safely to protect people and animals, and to safeguard the environment (take special care to avoid water pollution). See ‘SPRAYING’ sections for guidelines on safe use of the HERBIDOME 600 in operation.

OPERATOR PROTECTION

Always wear the protective clothing items listed on the product label for mixing and filling. The **minimum** protective clothing required for **spraying** with the HERBIDOME 600 is:

- ◆ rubber gloves
- ◆ boots/shoes and long trousers
- ◆ eye protection
- ◆ long sleeved shirt

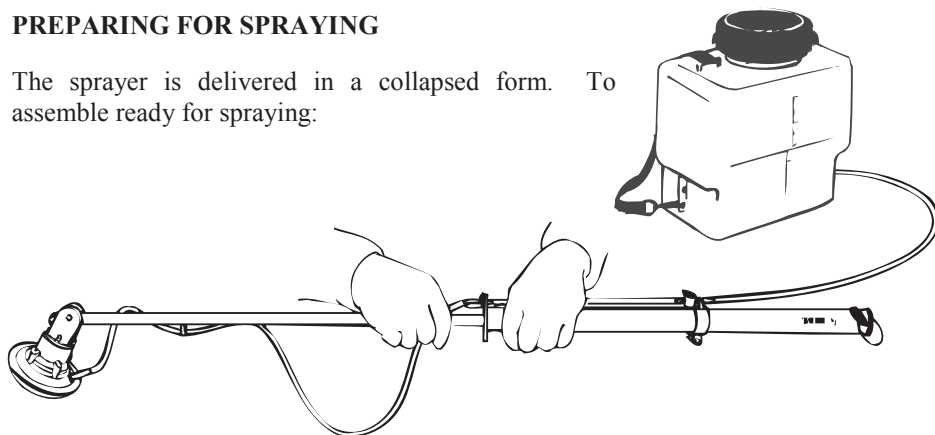


Note:

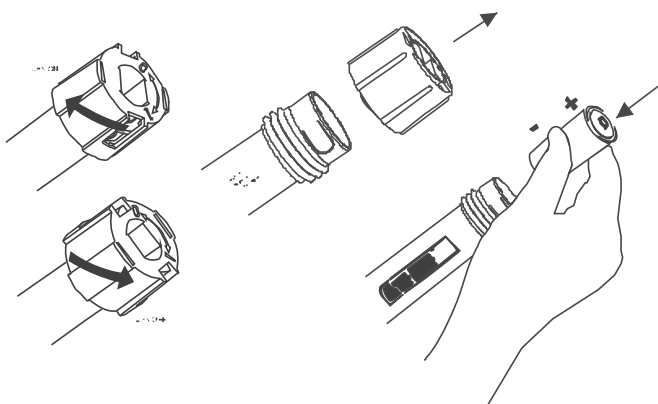
- a) Acoustic information: the sound pressure level at the operator's ear should not exceed 70 dB(A).
- b) Vibration: the weighted RMS acceleration value at the hands when using this machine should not exceed 2.5 m/sec².

PREPARING FOR SPRAYING

The sprayer is delivered in a collapsed form. To assemble ready for spraying:



- 1) Extend the sprayer and securely connect the feed tube to the flow valve. Instructions on assembling Micron *Micropak* backpacks are contained in the tank. The shoulder strap (if supplied) should be connected to the battery case end cap. Check by hand that the atomiser disc spins freely.

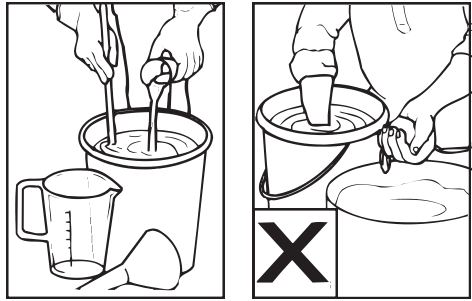
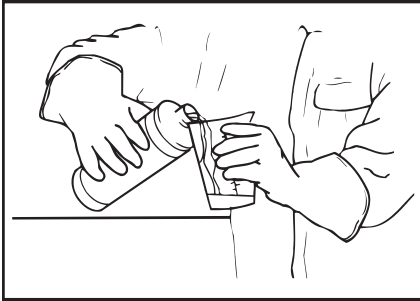


- 2) Remove the switch end piece as
- 3) Insert four batteries (D-cell/R20) negative,

N.B. Before spraying for the first time with the HERBIDOME 600, the spray pattern produced should be checked using only water (see 'BEFORE SPRAYING').

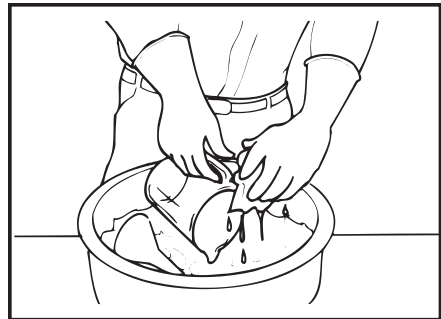
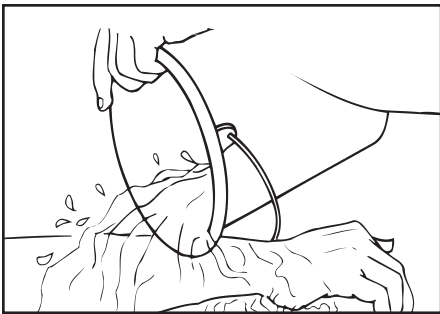
MIXING, FILLING AND CALIBRATION

Mixing and filling is generally the most hazardous process in the spraying operation. **Always** follow the label instructions. **Always** use a filter (fitted in the Micron *Miropak* backpacks) and use a funnel if filling a container with a small neck. **Only** mix enough spray for the area to be treated thereby avoiding the need for disposal of unused spray mix.



Always wear gloves when handling agrochemicals and equipment.

Always use the correct equipment when mixing and measuring.



Always wash off any skin contamination

Always clean all equipment after use.

With the HERBI-600 herbicides are usually applied in around 20 litres total spray volume per hectare, except for glyphosate which can be applied at volumes as low as 10 litres per hectare. These are lower volumes than recommended for high volume application with knapsack sprayers.

Do not use herbicide concentrations greater than the maximum recommended on the label (unless specific training or recommendations have been given) if the label:

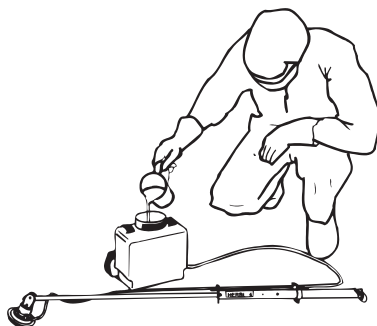
- a) specifically prohibits use of 'Reduced Volumes' i.e. increased concentrations;
- b) has a statutory requirement for use of personal protective equipment when using the diluted product at high volumes (N.B. this will appear in the statutory box on the label);
or
- c) carries one of the following hazard ratings: 'very toxic', 'toxic' or 'corrosive' or carries the warning 'risk of serious damage to the eyes' e.g. paraquat (Gramoxone) which is classified as toxic should not therefore be used through the HERBIDOME 600 at concentrations greater than recommended on the label.

Micron do not generally recommend using spray mixes of more than ten times the maximum concentration recommended for high volume application with knapsack sprayers. The safest product and lowest dose rate appropriate for the treatment should be used at all times.

To prepare the spray mix first read the product label to determine the quantity of product to be applied per hectare e.g. 2 litres of glyphosate per hectare. Then determine the total spray volume to be applied per hectare with the Herbi-4 i.e. 10 or 20 litres per hectare. Calculate the ratio of product in water e.g. 2 litres glyphosate + 8 litres water = 10 litre mix = 1: 4. Use this ratio to prepare the correct dose for the spray tank or bottle e.g. with a 5 litre backpack mix 1 litre glyphosate with 4 litre of water.



Measure out the exact amount of product.



Half fill the tank with clean water.
Check for leaks. Add the measured product.

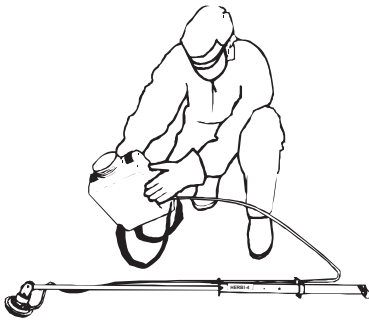
Never use leaking equipment. Take care to avoid spillage when filling or lifting the tank.



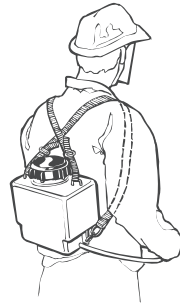
Fill the tank.



Wipe the tank with a dry cloth



Mix well by gently shaking the tank.



Place the tank on the operator's back.

Examples of mixing spray – for 1 hectare

a) glyphosate (360 g/l)	2 litres
add water:	<u>+8 litres</u>

Total volume: 10 litres
 i.e. 1 part glyphosate : 4 parts water

b) 2,4-D (500 g/l)	3 litres
add water:	<u>+17 litres</u>

Total volume: 20 litres
 i.e. 3 parts 2,4-D : 17 parts water

The table below indicates the relationship between total spray volume, flow rate and walking speed for the HERBIDOME 600 as per the following formula:

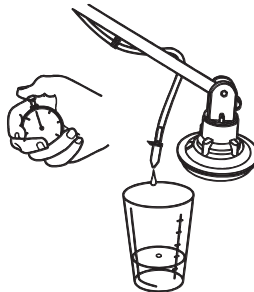
Flow rate (ml/min) = 6 x total spray volume (l/ha) x walking speed (m/s) x band width (m)

Total spray volume (l/ha)	Band width (m)	Feed nozzle	Flow rate (ml/min)	Walking speed (m/s)
10 (i.e. glyphosate)	1.2	Blue	72	1
20 (i.e. other herbicides)	1.2	Blue	72	0.5

Note: The flow rates in this table were measured with the spray head 65cm below the level of the liquid in the tank, using water only. The flow rate will vary with differences in this height and the viscosity of the spray mix.

CALIBRATION

The actual flow rate should be checked holding the HERBIDOME 600 in the spraying position. Remove the feed nozzle from the spray head by twisting and pulling out, then, once liquid has reached the feed nozzle, allow the liquid to flow into a suitable container for one minute and measure the volume dispensed. If the flow rate is **not** in the recommended flow rate range, it is preferable to walk more slowly or more quickly to achieve the required spray volume than to use higher flow rates.



Example: Required spray volume rate = 20 l/ha; Flow rate measured = 100 ml/min

$$\text{Walking speed (m/s)} = \frac{\text{Flow rate (ml/min)}}{6 \times 1.2 \times \text{total spray volume (l/ha)}} = \frac{100}{7.2 \times 20} = 0.7$$

i.e. 0.7 m/s or 42 metres in one minute (0.7m x 60s)

Mark out a distance of 42 metres and practice walking it in one minute.

BEFORE SPRAYING

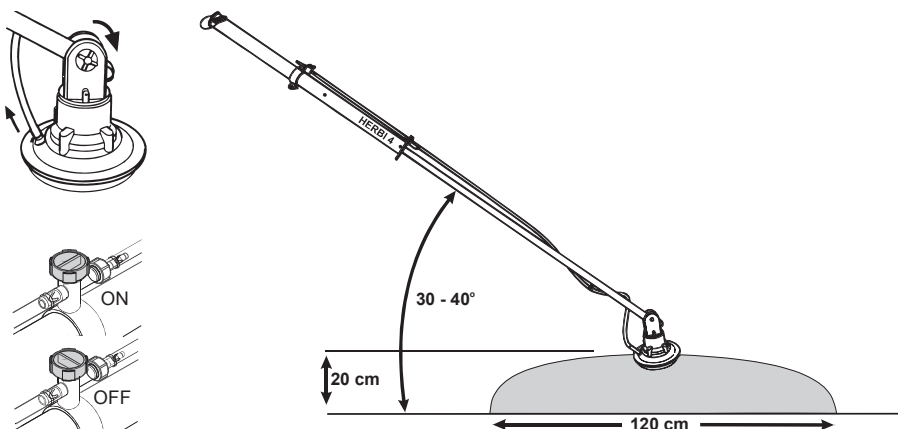
Check the wind speed and direction (below 5 kph) is safest. Take special care to avoid drift by keeping the spray head as low as possible. **Never** spray into the wind and avoid walking into the spray. **Always** keep the spray head at least 60cm from any part of the body to avoid direct contamination by the spray.

Before spraying for the first time use water **only** to check the spray pattern produced. Put some clean water in the tank and add a small amount of detergent. Check for leaks. Switch on the sprayer and then open the flow valve. Spray on one spot, preferably on clean dry concrete, for around 30 seconds with the spray head held about 20cm above the ground; a wet ring .6m wide should appear on the ground. Practice using the sprayer by walking along a few metres and then stopping spraying (see 'TO STOP SPRAYING').

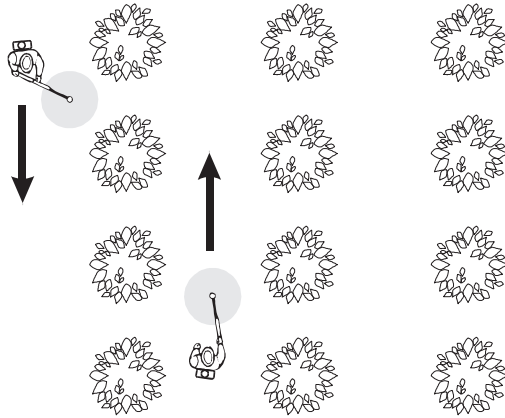
TO START SPRAYING

Hold the spray head about 20cm above the ground or weed foliage. Switch on the sprayer, check the atomiser disc starts spinning (**never** touch the atomiser disc when spinning or hold the spray head too close to the operator) and then open the flow valve. Start walking immediately the spray liquid reaches the feed nozzle.

The HERBI-600 is normally held at an angle of around 35° to 40° to the ground with the head inclined slightly away from the operator. **Do not** spray with the HERBI-600 held on the shoulder, since spray may contaminate the operator. N.B. the machine will not spray with the spray head above the level of liquid in the tank.

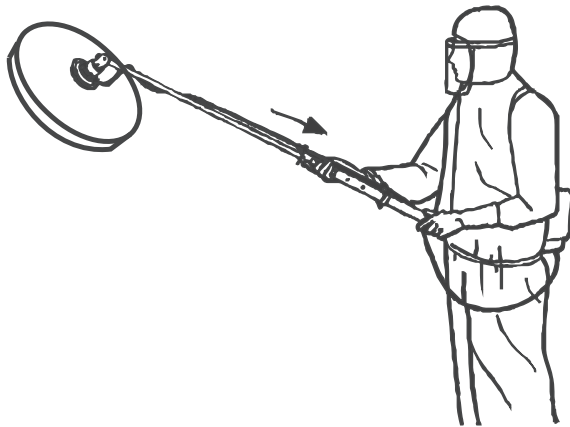


It is best to hold the HERBIDOME 600 to the side or the rear so that the operator does not have to walk over the treated area.



TO STOP SPRAYING

Close the flow valve and then switch off the sprayer. When the atomiser disc has stopped spinning raise the sprayer to an angle of 45° (see below). **Never** raise the spray head until the atomiser disc has stopped spinning. Then open the flow valve and drain any remaining liquid in the feed tube back into the tank (by raising the feed tube above the level of liquid in the tank). Then close the flow valve.



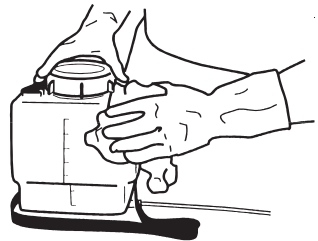
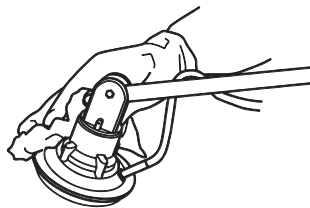
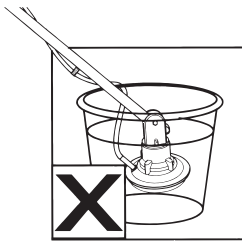
For ease of transport the tank can be disconnected (use the flow valve to isolate any liquid left in a backpack) and the sprayer collapsed (by removing the batteries).

AFTER SPRAYING

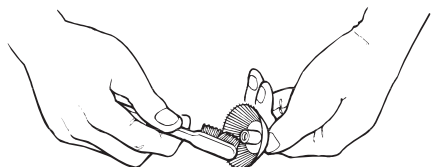
1. Dispose of any surplus spray mix according to the product approval. Store products safely, locked up and out of the reach of children.



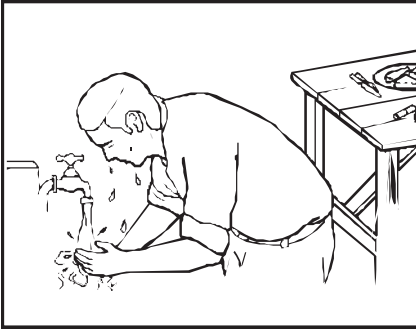
2. It is **essential** to clean the sprayer and tank thoroughly using water and detergent after use. **Never** immerse the spray head in water or under a tap, since this will destroy the electric motor. A water and detergent mix should be put in the tank, swilled around, and then sprayed out onto the treated area of waste ground. The sprayer and tank should be wiped down externally using a cloth. .



Periodically remove the atomiser disc with a pair of pliers and clean with a soft brush



- After working with agrochemicals, or handling spraying equipment, **always** thoroughly wash hands and exposed skin. All protective clothing should be washed separately from other clothing and stored. Contaminated gloves should be washed inside and out.

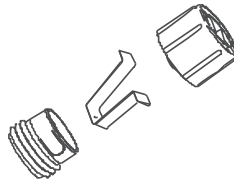


STORAGE

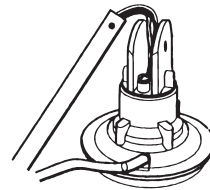
Before storing the HERBIDOME 600 for long periods disassemble the sprayer by removing the four screws in the battery case and clean all electrical contacts with a wire brush or similar. Reassemble and with the sprayer in the collapsed position i.e. batteries removed, store in a dry place away from direct sunlight. Batteries should be stored in a dry cool place.



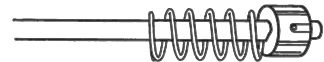
remove batteries



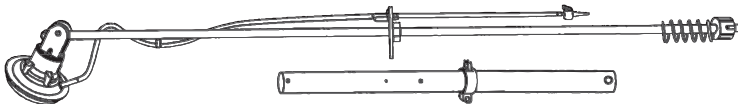
clean switch contacts



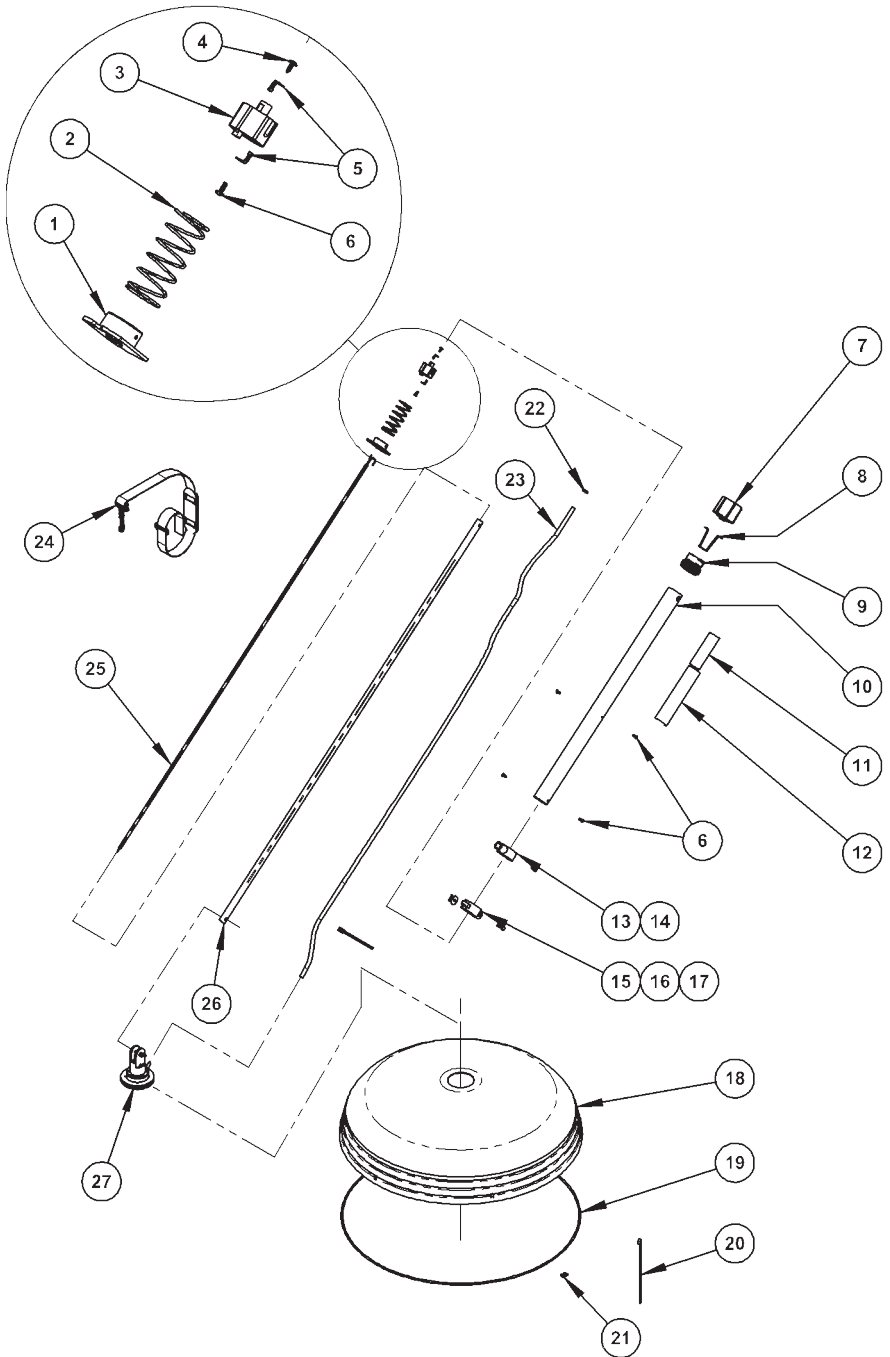
clean terminals



check spring



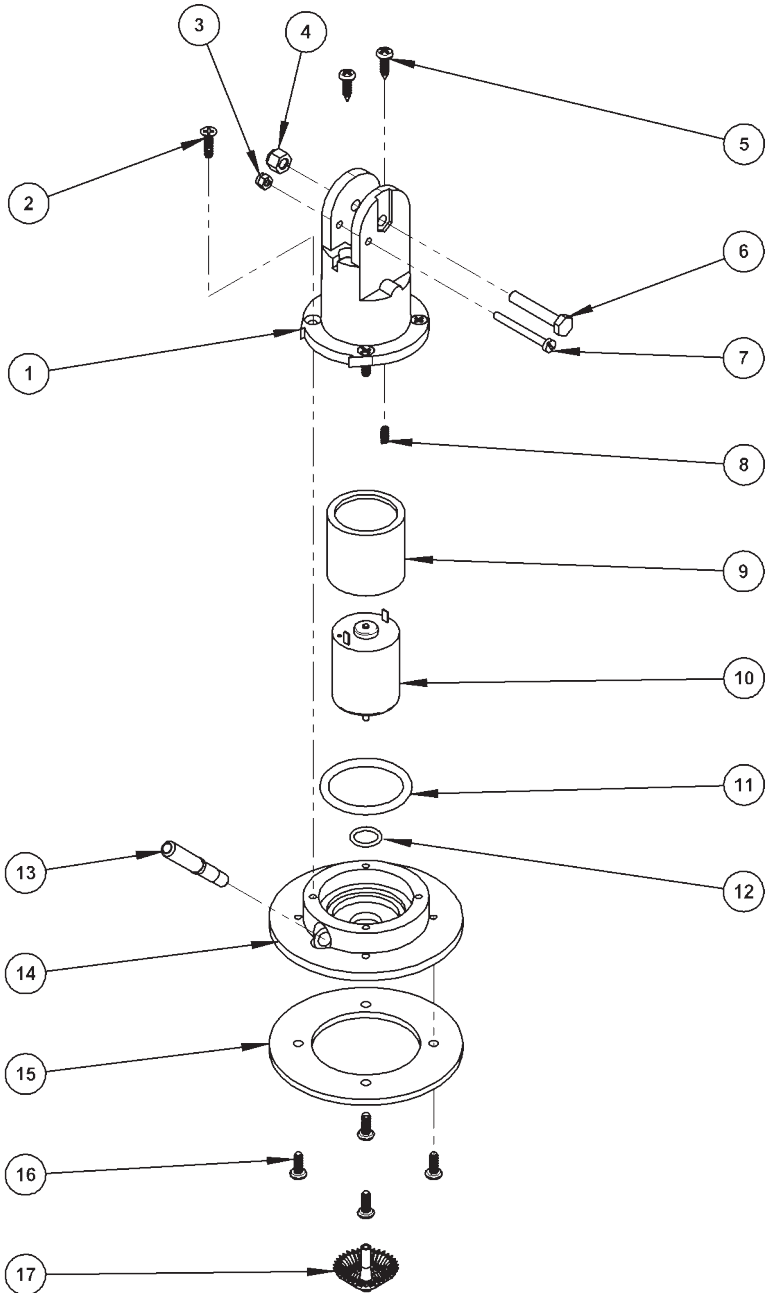
HERBIDOME 600 PARTS DRAWING



HERBIDOME 600 PARTS LIST

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	5376	BATTERY CASE END CAP	1
2	5363	BATTERY SPRING	1
3	5375	CENTRE CONNECTOR	1
4	4646	SCREW, S/T NO.6X3/8" PZ. FL.HD. AB	1
5	5575	RING TERMINAL	2
6	5399	SCREW, S/T NO.6X3/8" PZ PAN HD. B	5
7	7464	SCREW SWITCH PLUG	1
8	7495	CONNECTOR, SCREW SWITCH	1
9	7465	SCREW SWITCH SLEEVE	1
10	5447	BATTERY CASE	1
11	8621	LABEL BATTERY HANDY	1
12	8684	LABEL HERBI-4	1
13	5780	VALVE CLAMP	1
14	5956	SCREW, M5X12 PT	1
15	5466	STRAP RETAINING CLAMP	1
16	4907	WING NUT	1
17	4915	SCREW M5 X 16	1
18	6973	COVER	1
19	7483	BAR 4MM	1
20	AJ6418	CABLE TIE SMALL	6
21	5942_1	ELECTRIC CONNECTOR BLOCK	1
22	6028	CLIP HOSE 9.1 WIRE	1
23	4993_120.5-2	TUBE 6MM ID X 9MM OD	1
24	5107C	STRAP, COMPETE	1
25	4629	WIRE, FLAT TWIN .05MM-0.42M	1
26	5446	EXTENSION TUBE	1
27	HBD_100	HERBIDOME 600 ATOMISER SEE PAGES 16 AND 17	1
28	7831	CABLE TIE	1

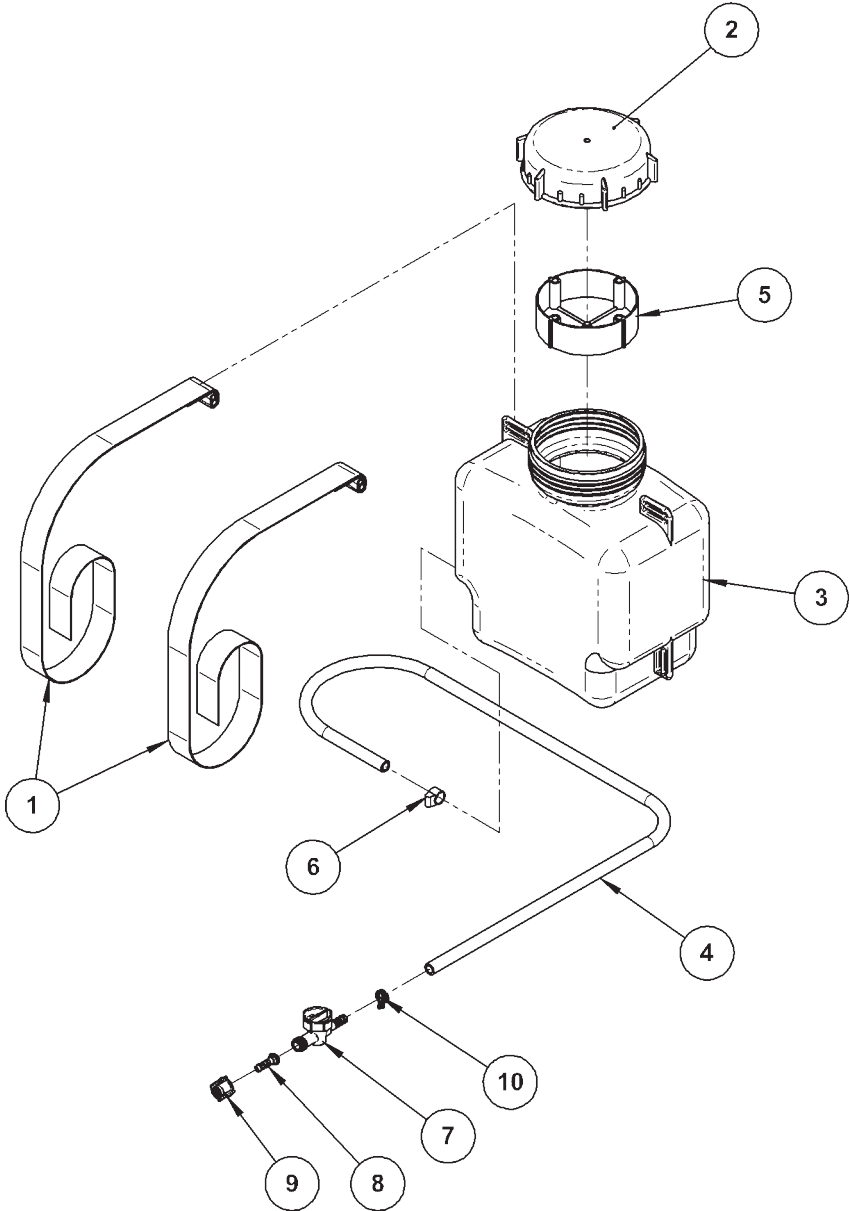
HERBIDOME 600 ATOMISER PARTS DRAWING



HERBIDOME 600 ATOMISER PARTS LIST

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	4449-G	MOTOR HOUSING	1
2	4647	SCREW NO.6 x 3/8 SELF TAPPING F/H	4
3	5976	NUT M3 NYLOC	1
4	4516	NUT 3/16" WHIT NYLOC	1
5	7201	SCREW, S/T No.6x1/2" PZ PAN HD. AB	2
6	4817	SCREW 3/16" X 1-18	1
7	5978	SCREW M3 X 30 CH/HD	1
8	4457	SPRING	2
9	7122	SLEEVE	1
10	7125	MOTOR, 24V	1
11	4344	O RING, BS 012 VITON	1
12	5398	O RING, BS 012 VITON	1
13	7123	NOZZLE BLUE	1
14	7120	FRONT PLATE	1
15	7121	RETAINING PLUG	1
16	5399	SCREW, S/T No.6x3/8" PZ PAN HD. B	4
17	7124	ATOMISER DISC	1

5 LITRE BACK-PACK PARTS DRAWING

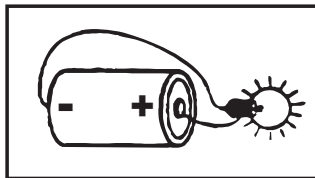


5 LITRE BACK-PACK PARTS LIST

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	5107_125	STRAP	2
2	5208A	CAP ASSEMBLY	1
3	5404	BACKPACK, 5 LITRE	1
4	5414_90	HOSE 8.0 I.D X 12.0MM O.D	1
5	5449	FILTER BOWL	1
6	5464	CLIP NO. 12	1
7	5776A	TAP ASSEMBLY	1
8	5778	HOSE CONNECTOR 6MM	1
9	5779	UNION NUT	1
10	6029	CLIP 11.9MM HOSE SELF TIGHTENING	1

TROUBLESHOOTING

- A) Atomiser disc spins but does not spray or sprays irregularly. Check:
- The feed nozzle. If the feed nozzle is blocked remove and soak in soapy water. **Never** blow through the nozzle with your mouth. Check that the feed nozzle gives a flow rate within the operating range.
 - The atomiser is clean and undamaged. Clean or replace.
 - The flow valve for blockage. Rinse through with soapy water.
- B) Atomiser disc fails to spin or spins unevenly. Check:
- That the batteries are fitted correctly.
 - The condition of the batteries. Replace if necessary.
 - That electrical terminals and contact points are clean and that electrical wires are not broken or corroded.
 - If the atomiser disc is rubbing on the motor base plate or the motor shaft is bent. Replace the disc or motor if necessary.
 - The motor for corrosion or obvious signs of wear. Replace if necessary.
- N.B. Battery condition can be checked with a torch (or a torch light bulb and electrical wire).



DECLARATION OF CONFORMITY

Name of manufacturer or supplier: Micron Sprayers Ltd.

Full postal address: Bromyard Industrial Estate,
BROMYARD, Herefordshire

Country of origin: England

Post code: HR7 4HS

Description of Product: Battery powered, hand-held
agricultural spraying
machine.

Name and model number of machine: HERBIDOME 600

Place of Issue: Bromyard, England


Name of authorised representative: G. S. Povey

Position of authorised Representative: Joint Managing Director

DECLARATION:

I declare as the authorised Representative, that the above information in relation to the supply/manufacture of this product is in conformity with the requirements of the 2006/42/EC Machinery Directive, the EMC Directive 2004/108/EC and complies with the relevant essential health and safety requirements.

Signature of authorised Representative:



NOTES

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