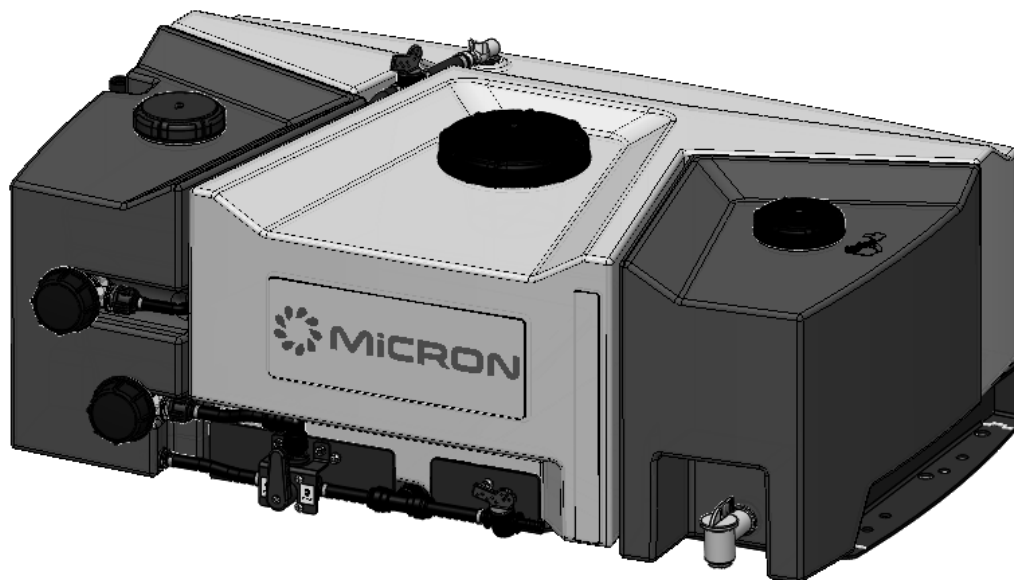


Tank System 60L



Instruction Manual

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Edition Notice

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60L Tank System

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Preface

This document has been produced to provide guidance for the installation and use of Micron Weed Management (MWM) tank systems and associated accessories.

Operators of the Micron Weed Management (MWM) system should read this document thoroughly and understand the correct use of this equipment and necessary safety precautions before attempting to install or operate the tank system or associated accessories.

Readers should pay attention to the '*Important Information*' section of this document.

Please contact Goizper Group or their agents if you require any assistance.

Micron is a registered trademark of Goizper Group. All other trademarks used in this Document are the property of their respective owners.

While reading this document please be aware of the following conventions:

Every care has been taken in the design of this equipment and the preparation of this document. However, Goizper Group cannot accept responsibility for errors or the consequences thereof.

The operator must satisfy themselves that the equipment is suited to the intended use, is functioning correctly and its use complies with local regulations controlling the application of pesticides.

All spray applications illustrated in this Document are provided for guidance only. When using pesticides operators should always refer to the product label and any local or national regulations for specific conditions of use.

IMPORTANT INFORMATION (PLEASE READ)

Instruction to Operators

The equipment referred to in this document is designed for use by suitably qualified and experienced personnel. The operator **must** ensure that they are fully compliant with any national or local regulations governing the use of pesticides and application equipment before attempting to use the MWM tank systems. If misused the MWM tank systems has the potential to cause harm to personnel, damage to the equipment, property or the environment. Please read the information in this document thoroughly before installing and/or operating the equipment.

It is the operator's responsibility to ensure the safe use of the equipment and the safety of others during use of the equipment.




It is the operator's responsibility to minimise environmental impact from the use of the equipment.






















It is the operator's responsibility to ensure that all warning labels on the equipment are legible. Any damaged labels must be replaced.

Working with this Document

This document has been written to provide the information to correctly install and use the equipment safely. Various symbols are used on the equipment and in this document to provide guidance to the operator; please take time to become familiar with these symbols.

SYMBOLS COMMONLY USED ON MICRON GROUP EQUIPMENT AND WITHIN THIS DOCUMENT

	<p>Denotes a caution or warning – 'things you should be aware of'. A specific warning is given in or close to this symbol.</p> <p>NEGLIGENCE OF THIS MAY CAUSE THE DEATH OR SERIOUS INJURY OF A PERSON. OR SERIOUS DAMAGE TO THE EQUIPMENT OR ENVIRONMENT.</p>
	<p>Denotes a mandatory prohibition – 'things you must not do'. A specific prohibition is given in or close to this symbol.</p>
	<p>Denotes a mandatory instruction – 'things you must do'. A specific instruction is given in or close to this symbol</p>
<p>NEGLIGENCE OF ANY STATED WARNING, PROHIBITION OR MANDATORY INSTRUCTION MAY CAUSE THE SERIOUS INJURY OF A PERSON. OR SERIOUS DAMAGE TO THE EQUIPMENT OR ENVIRONMENT.</p>	

	Mandatory Prohibition		Caution or Warning		Mandatory Instruction
	Do not insert fingers or foreign objects		Warning – risk of electric shock		Refer to Instructions
	STOP - Do not proceed with this action		Caution – Surface may be hot		Eye protection – must be worn
	Keep Clear – Keep all persons clear of this area		Warning – risk of crushing of hands or fingers		Gloves – must be worn
	Warning – danger from leaking substances		Warning – risk of crushing of whole body or limbs from side		Protective Clothing – must be worn
	Warning – risk of danger from escaping high pressure fluid		Warning – risk of crushing of whole body or limbs from above		Wash hands – hands must be washed after handling
	Toxic – risk of contact with toxic substances		Harmful – substance is harmful		Danger to the environment – risk of contamination

PROHIBITIONS IN USE

MWM tank systems and associated accessories are designed for use with agricultural spray products that are approved for use in the intended crop situation.

The use of non-approved products is strictly prohibited.

The equipment should **not** be used to spray the following materials

- Any form of petrochemical fuel or volatile oils
- Strong Acids
- Concentrate solvents

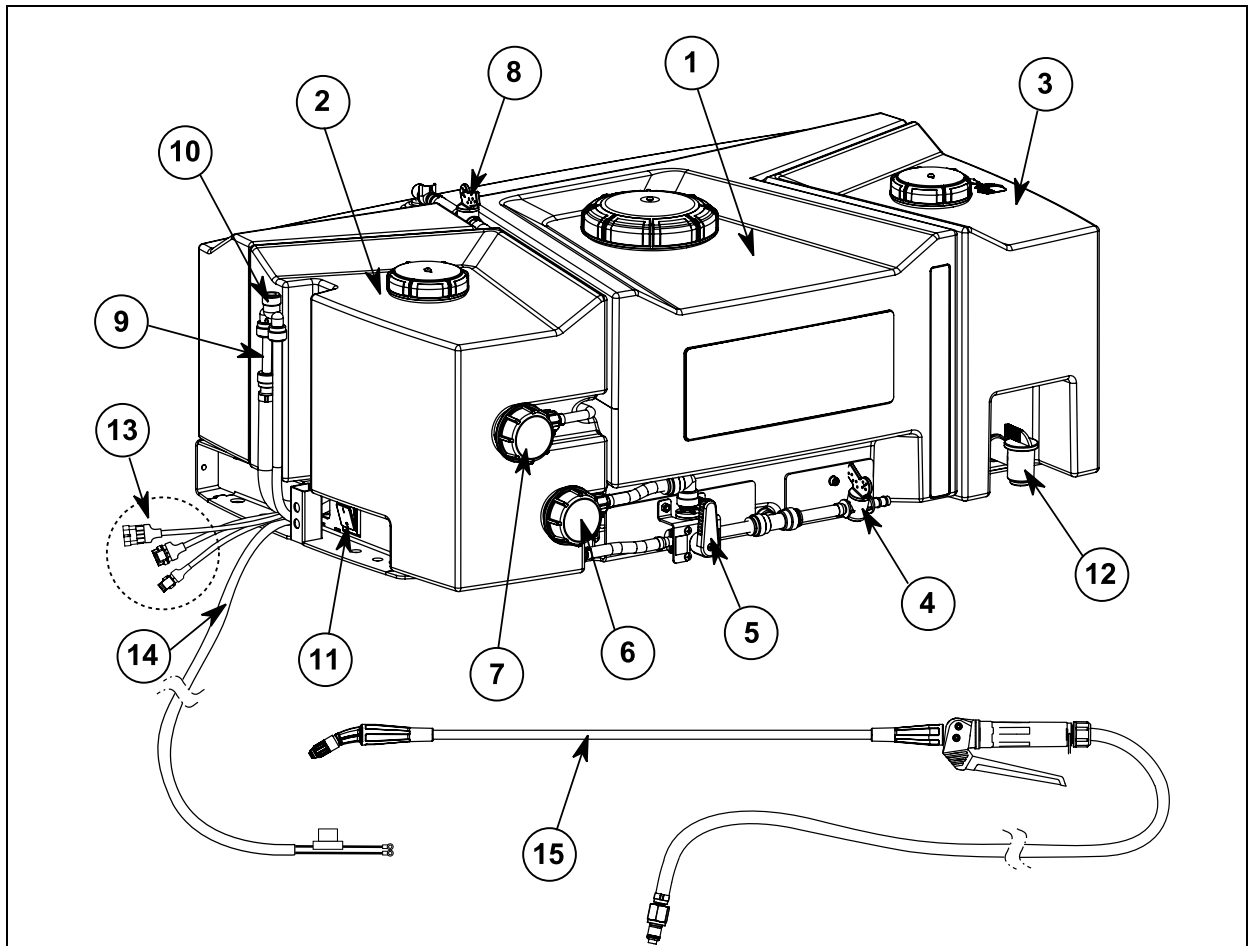
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1 INTRODUCTION

Micron Weed Management (MWM) tank systems are supplied with integral rinse tank and hand wash tank where required.

1.1 60L Tank System Features



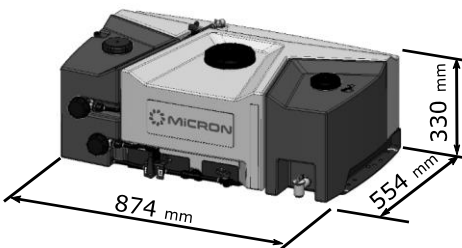
1	Main Tank
2	Rinse Tank
3	Hand-wash Tank
4	Drain valve
5	Tank Selection Valve
6	Filter before pump
7	Filter after pump
8	Return valve
9	Pressure release valve

10	Out-let coupling
11	General switch
12	Tap
13 ¹	Electrical connections for: - Solenoid valve and disc motor - Remote - Actuator
14	Cable for battery
15	Cleaning Lance










Figure 1 – 60L Tank system features




¹ Electrical connections showed are for a single arm. Double arm sprayer has other connectors.

1.2 Technical Specification

Tank System Specification				
Trade name:	Tank System 60L			
Description:	60 litre sprayer tank with integral rinse and hand wash tanks. For fitment onto all kind of vehicles (with a support needed)			
Model:	60 L TANK			
Manufacturer:	Goizper S. Coop.	Europe		
Year of Manufacture:	Refer to serial number plate			
Paint Colour:	Yellow and grey tanks. Black structure.			
Weights and Measures				
Net weight (dry):	18,97-19,37 kg			
Gross weight (maximum):	103,47-103,87 kg			
Residual Volume	75 ml			
Tank Capacities:	Rinse tank:	7 litre		
	Main tank:	60 litre		
	Hand wash tank:	17,5 litre		
Environmental Conditions				
Minimum working temperature:	+ 5 °C			
Restrictions in Use				
Maximum Road Speed	Refer to local legislation			
Working pressure:	0.1 - 1 bar 1.5 – 14,5 psi	CDA atomisers		
Working flow rate (per atomiser):	60 -300 ml/min	CDA atomisers		
Filter mesh size:	50 Mesh (blue - ISO19732)			

2 SAFETY

WARNINGS AND PROHIBITIONS	
 	<p>Do not insert fingers or any foreign object into the equipment. This may cause a risk of harm and may damage the equipment.</p> <p>Do not dismantle or modify the equipment. This may cause a risk of harm and may damage the equipment.</p> <p>Do not operate the equipment if there are visible symptoms of a problem, such as leaking fluids, abnormal noise or structural damage. Operating the equipment under such conditions may cause a risk of harm or may damage the equipment or the environment.</p>
  	<p>Risk of crushing of the whole body or limbs.</p> <p>Risk of crushing of hands or fingers.</p> <p>Do not stand or position any limb or part of the body between the equipment and the vehicle to which it is mounted.</p> <p>Do not stand, sit or lie beneath any part of the equipment unless the equipment is adequately supported on suitable floor standing supports.</p> <p>Do not stand, or allow others to stand, within the reach of extended or lowered parts of the equipment (swivel range).</p> <p>Do not stand, or allow others to stand, within the stroke area of the three point linkage (tractor mounted equipment).</p>
	<p>Danger from leaking substances. Substances may be harmful and/or under high pressure.</p>
 	<p>Risk of contact with toxic or hazardous substances.</p> <p>Always read and retain the instructions on chemical used in this equipment.</p> <p>Ensure that all instructions for the chemicals being used remain with the equipment until the equipment has been cleaned and is ready for storage or re-use. If practicable display the details of the chemicals, being used in the equipment, on the exterior of the equipment where they are easily visible.</p> <p>Do not drink fluids from any part of the equipment including the hand-wash and rinse tanks.</p> <p>Do not use water from the hand wash facility for washing the face or eyes.</p> <p>Do not eat, drink or smoke when operating the equipment.</p> <p>Do not dispose of toxic or hazardous chemicals or fluids into drains or water courses.</p> <p>After use remove and clean all protective clothing. Thoroughly wash hands and face.</p>
	<p>Some surfaces and hoses may become hot during operation. Take care when handling and to avoid contact with, or close proximity to, flammable materials.</p>

	<p>Use Caution and reduce speed when manoeuvring a vehicle with mounted equipment.</p> <p>The equipment may reduce or obscure the operator's vision.</p> <p>The equipment may obscure the visibility to others of vehicle mounted warning marks, beacons and lights.</p> <p>The equipment may obscure vehicle mounted lighting. Ensure that vehicle lights are visible when in transit. Ensure the working area has sufficient light for safe operation.</p> <p>The additional weight of the equipment may affect the steering and stability of the vehicle.</p> <p>Use extreme caution when turning on sloping ground as the equipment may alter the vehicles balance and centre of gravity.</p> <p>Use extreme caution when turning as the equipment may alter the required turning circle of the vehicle.</p> <p>Use extreme caution when passing obstacles and through gaps as the equipment may alter the width of the vehicle.</p>
	<p>Ensure that the extremities of the equipment are visible to the operator at all times. Attach additional marking devices or visibility aids where required.</p> <p>Use additional person(s) to assist with manoeuvring where operator vision is obscured.</p> <p>During use of the equipment make regular assessment of weather condition, wind speed and direction adjust activity as appropriate.</p> <p>Leave the vehicle in a safe condition before leaving the operators position to examine or adjust the equipment.</p>
	<p>Run the equipment only on the indicated supply voltage. Use of incorrect supply voltage may cause a risk of fire or other harm and may damage the equipment.</p> <p>Ensure that all connection sockets are clean and free from contamination before and after use.</p> <p>When connecting or disconnecting cables and hoses to the equipment; always grasp the connector directly, do not hold by or pull on the cable or hose as this may cause damage.</p> <p>Ensure the electrical power supply is adequate for the equipment. An inadequate power supply may cause the equipment to malfunction or fail.</p> <p>Disconnect the unit from the power supply when not in use for an extended period.</p> <p>Always lift the equipment by the lifting or mounting points where provided.</p> <p>Always wear personal protective equipment when instructed to do so.</p> <p>Ensure the equipment is securely mounted on floor standing mounts before attempting any maintenance or repair operations.</p>

2.1 Operator Protection



Wear Gloves



Wear a Face Shield
or Eye Protection



Wear Protective
Clothing



Wash hands

Operators **must** always read the product label **before** using pesticides. Operators **must** adhere to the required use of personal protective equipment (PPE). When handling concentrates operators should wear gloves, protective clothing, boots and eye protection or a face shield to protect eyes and skin from accidental splashes. Some products may also require the use of a respirator mask. Operators **must** be familiar with, and prepared for, all washing, and decontamination procedures as recommended in the chemical manufacturer's instructions.

2.2 Hand Wash Tank

Ensure that hand washing facilities are provided and are available for use at all times. The micron 100 Litre tank system includes an integral 20 litre hand wash tank. Where an integral hand wash tank is not fitted operators **must** carry a separate container for clean water of at least 15 litres. The hand wash tank should be filled with **clean water only**. **Do not** use water from the hand wash facility for washing the face or eyes.

2.3 Working with Pesticides



Wear Gloves



Wear a Face Shield
or Eye Protection



Wear Protective
Clothing



Wash hands



Always read the product label before preparing spray mixes. Always adhere to maximum dose rates and safety precautions.



All pesticides **must** be handled and stored in accordance with the manufacturer's instructions.

All pesticides must be stored in their original containers.

Always dispose of chemicals in accordance with the manufacturer's instructions.



It is the responsibility of the operator to ensure all possible measures are taken to protect the environment.

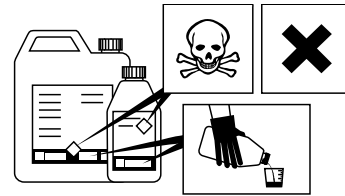
It is the responsibility of the operator to be familiar with, and adhere to, all relevant national and local restrictions, prohibitions and regulations concerning the use of pesticides.

2.3.1 Product Labels



Always read the product label BEFORE using pesticides.

Never exceed the maximum dose rate. **Always** adhere to precautions regarding protection of the operator and environment.



2.3.2 Storage of Pesticides



Always store pesticides away from heat and sunlight in a secure area.

Pesticides Should be stored in their original containers.



2.4 Protection of the Environment



Pesticides should always be disposed of according to the manufacturer's recommendation.



Tank washings and rinsate should always be sprayed out onto either the treated crop (do not exceed maximum dose rates) or onto a designated area.

Avoid run off into ditches or waterways at all times.

2.5 Mechanical and Electrical Hazards



The main mechanical hazards in using the Micron and Enviro tank systems are associated with the risk of entrapment to fingers and limbs during installation; and with vehicle stability when the tank system is mounted and filled.



The Micron and Enviro tank systems operate on a low voltage 12V system that does NOT present a significant risk from electrical shock

2.6 Hydraulics



Danger of high-pressure hydraulic fluid penetrating the skin! **Always** depressurise hydraulic equipment before handling, even with gloved hands. Visually check for leaking or damaged components. Replace any defective connections, hoses and other components immediately.

3 INSTALLATION

3.1 60L Tank Mounting

60L tank system is supplied with an integral support chassis design to be mounted to a suitable ATV luggage rack or load space floor. The tank can be mounted onto all kind of vehicles, with a support needed.

It is the responsibility of the operator to ensure the correct and secure mounting of the tank system. Operators **must** ensure the rack system of their ATV or other kind of support structure is approved to support the weight of the tank system, when all tanks are full, added to the weight of any other equipment mounted to the structure. If in doubt seek advice from a suitable competent person.

Chassis measurements

The following image shows the measures between the holes to fit the tank onto all kind of vehicle.

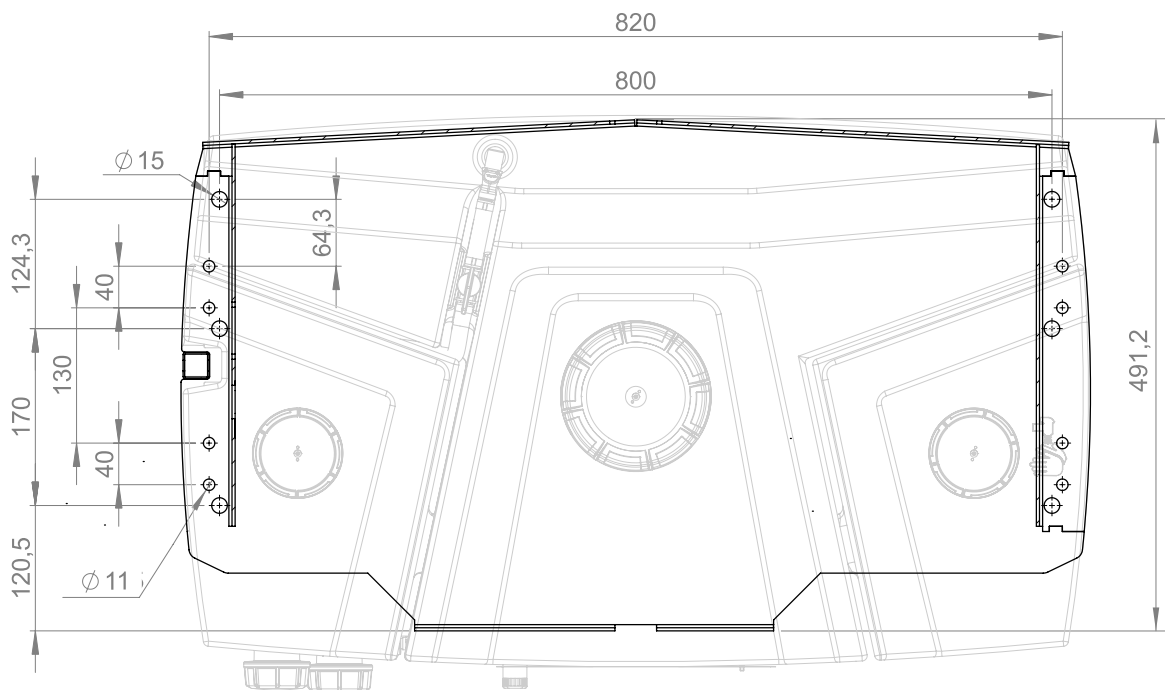


Figure 2 – 60L Tank system chassis measurements

3.2 Hydraulic Connections



Danger of high-pressure hydraulic fluid penetrating the skin! **Always** depressurise hydraulic equipment before handling, even with gloved hands. Visually check for leaking or damaged components. Replace any defective connections, hoses and other components immediately.



Always ensure the pump is switched off and the hydraulic system depressurised before attempting to connect or disconnect any hydraulic hoses. After connecting and pressurising any hydraulic components visually check all joints hoses and components for leaks. Where available, adjust the Hydraulic flow rates to provide smooth and steady operation of the equipment.

3.3 Controls and Hose Connections



Danger from contact with harmful substances! Always wear protective clothing, gloves and eye protection. Wash hands, exposed skin and protective clothing after handling the equipment. Clean up spilled or leaked fluids in accordance with the manufacturer's instructions.



Wear Gloves



Wear a Face Shield
or Eye Protection

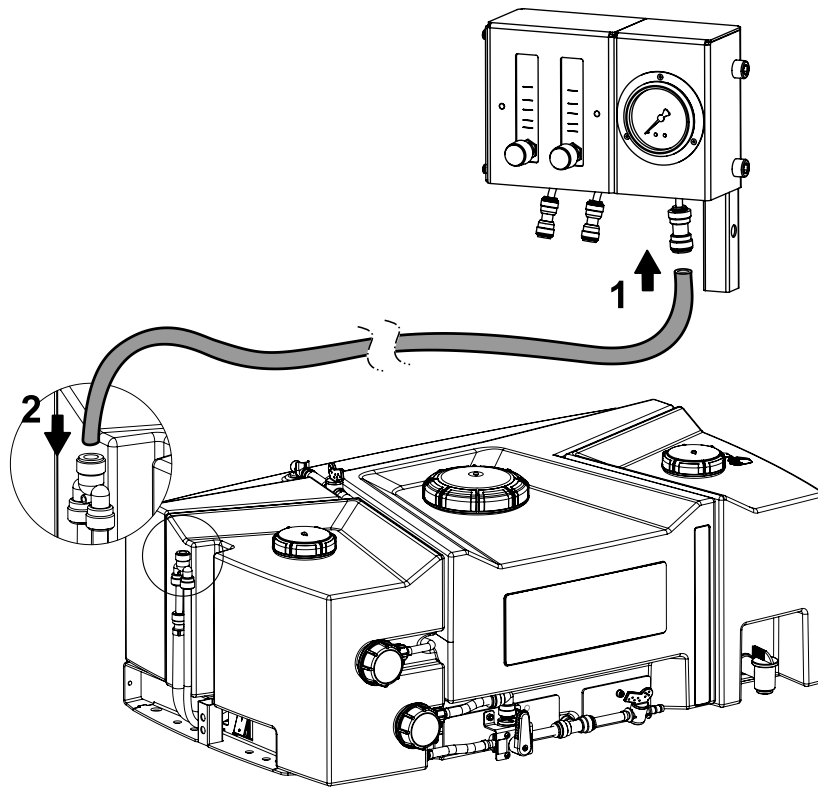


Wear Protective
Clothing



Wash hands

3.3.1 Tank Hose Connections

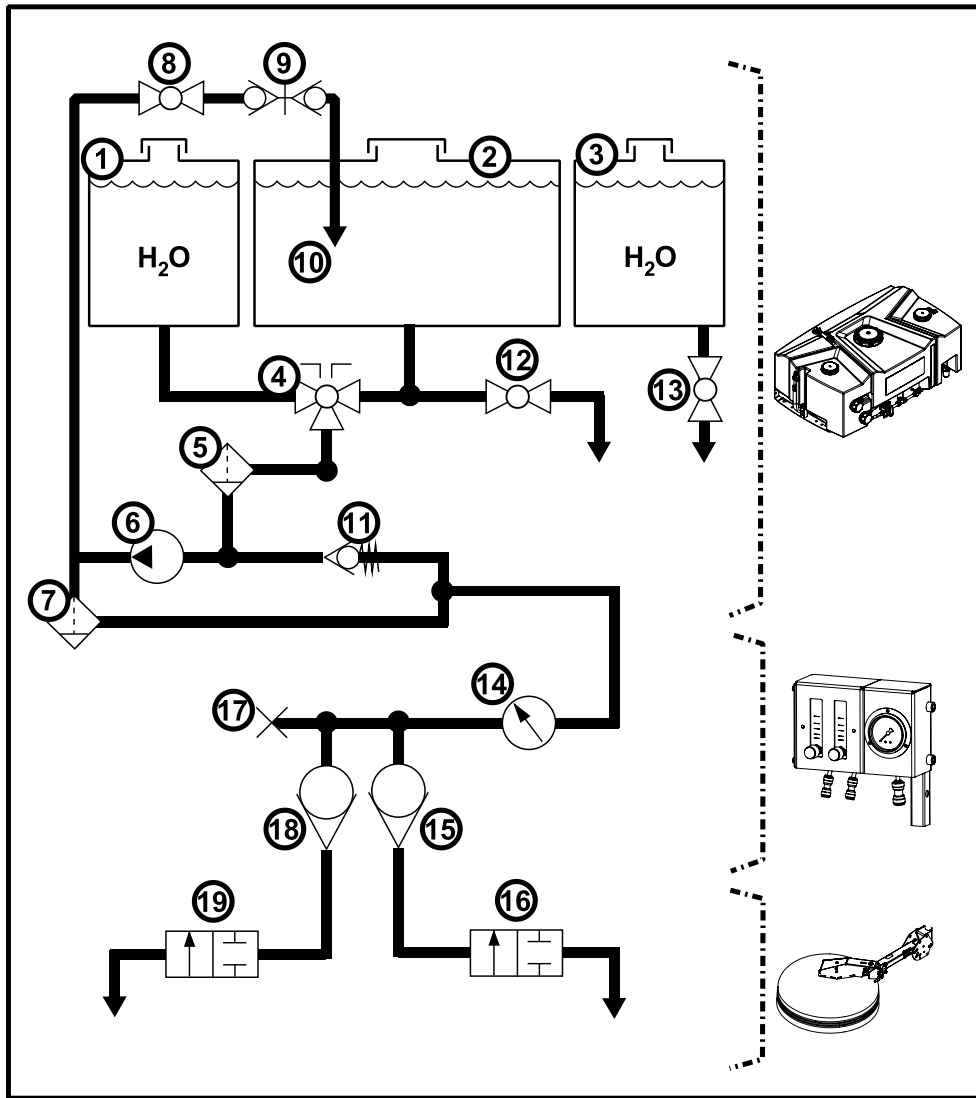


Connect the Flow Control feed tube (1) to the tank hose (2).

Figure 3 – Tank hose connection

- Start your spray pump and set your output pressure to 10 psi.
- Run the spray pump for one minute or until all the air is evacuated from the tank. Check that the output from the nozzles does not fluctuate.

3.3.2. Flow system diagram:



1	Rinse Tank
2	Main Tank
3	Hand wash Tank
4	Tank selector valve
5	50 mesh Filter
6	Pump
7	50 mesh Filter
8	Return valve
9	Quick connectors
10	Return flow

11	Pressure release valve
12	Drain valve
13	Hand wash valve
14	Manometer
15	Rotameter 1
16	Solenoid valve 1
17	Stopper
18	Rotameter 2
19	Solenoid valve 2

Figure 4 – Flow system diagram

* Flow diagram is for double arm system. Single arm system is the same without items 18 and 19.

3.4 Electrical Connections

Depending on the number of arms (1 or 2), the electrical diagram is different:

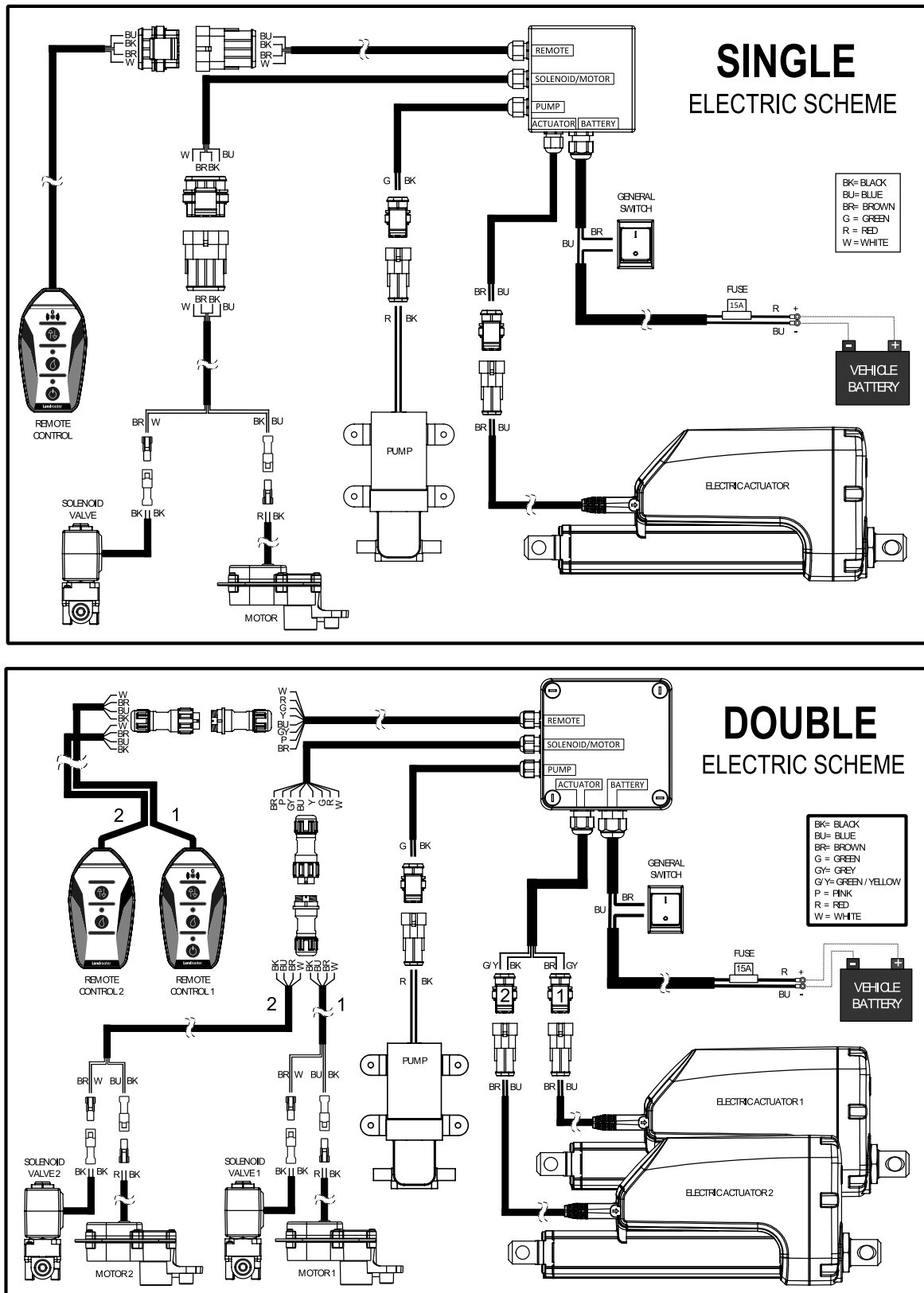


Figure 5 – Electrical connections' diagram

3.5 Transport



When transporting the tank system on public highways it is the responsibility of the operator to ensure the tanking system can be safely moved and all road regulations complied with. Operators should refer to specific national road transport laws governing the movement of agricultural vehicles and implements.

The presence of mounted equipment may impair the driver's ability to operate the vehicle safely on public roads.

4 PREPARING FOR USE

4.1 Tank System inspection

The operator **must** ensure that the tank system is in good working order before attempting any spraying operations. Operators must ensure they comply with any local or national requirements for the inspection of spraying equipment.

- Check for structural defects such as broken or cracked components
- Check for leaking joints or hoses
- Check for excessive wear in the three-point linkage pins and balls (where fitted)
- Check for loose bolts or fittings and tighten as appropriate
- For hydraulically driven pump units. With the hydraulic hoses connected and the hydraulic system pressurised. Check the spraying pumps operate without excessive noise.

4.1.1 Leak Test



Wear Gloves



Wear a Face Shield
or Eye Protection



Wear Protective
Clothing



Wash hands

Perform all necessary tests and inspections **before** mixing pesticides. If using the equipment for the first time or after a period of storage the system **must** be checked, with water only, to ensure it is operating correctly and there are no leaks. Work through the procedures listed in the following sections.

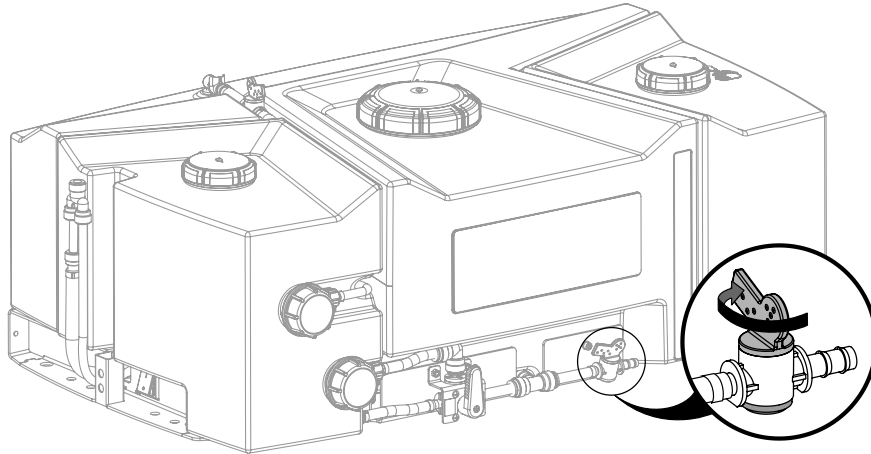
Pesticide should not be put into the spray mix tank until the system has been filled with water and the plumbing circuit checked for leaks. Perform all test procedures with clean water only.

Follow the operating procedures in section 4.2. With a small quantity of water in the Main tank pressurise the system by running the pump with the outlet valve closed. When the system is pressurised visually check for leaking hoses or joints. Repair any defects immediately and retest the tank. When you are satisfied that the tank system is not leaking and is functioning correctly open the outlet valve and test your spraying equipment. Refer to your spraying equipment instructions for further information regarding the testing and setup of your spraying equipment.

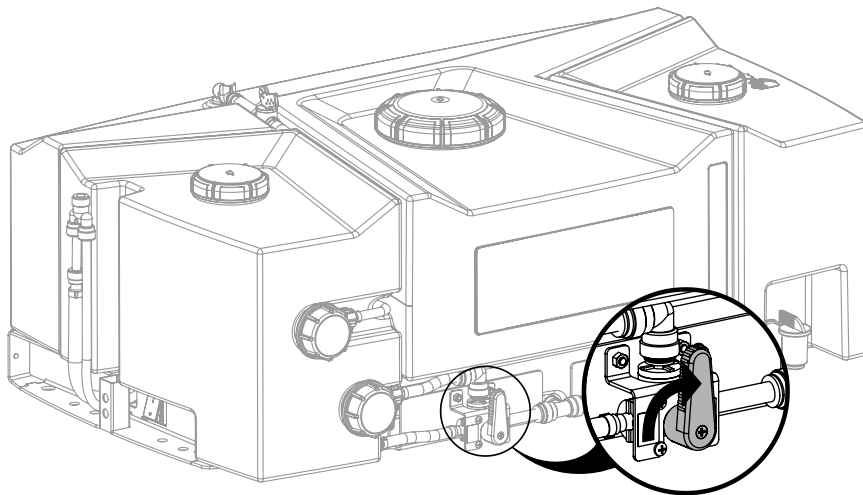
4.2 Setup and Operation

The following procedure is a guide to correct setup and operation of Micron

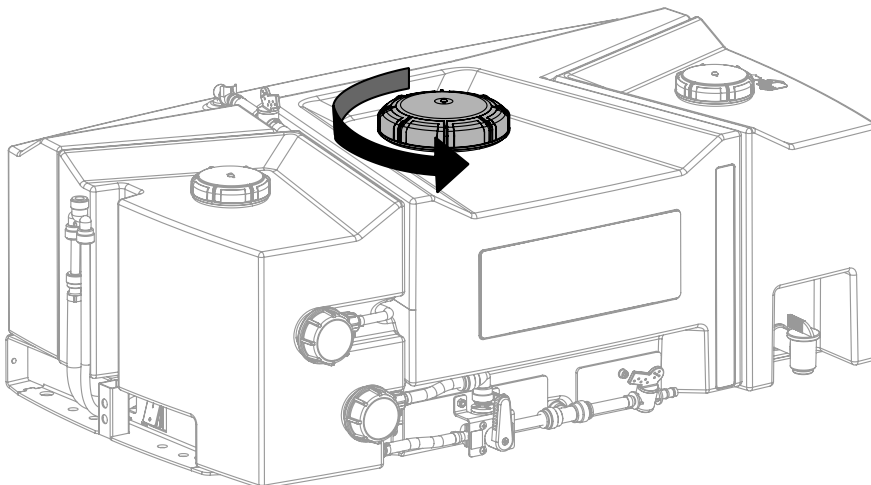
- 1- Ensure that the drain valve is closed.



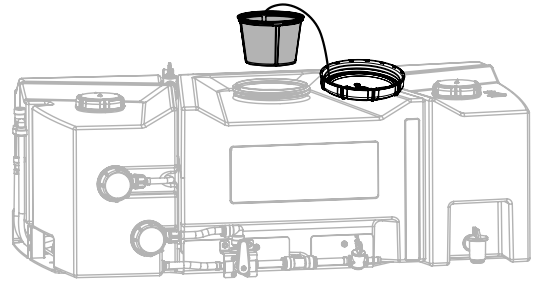
- 1- Ensure that the selector valve is turned to 'product'.



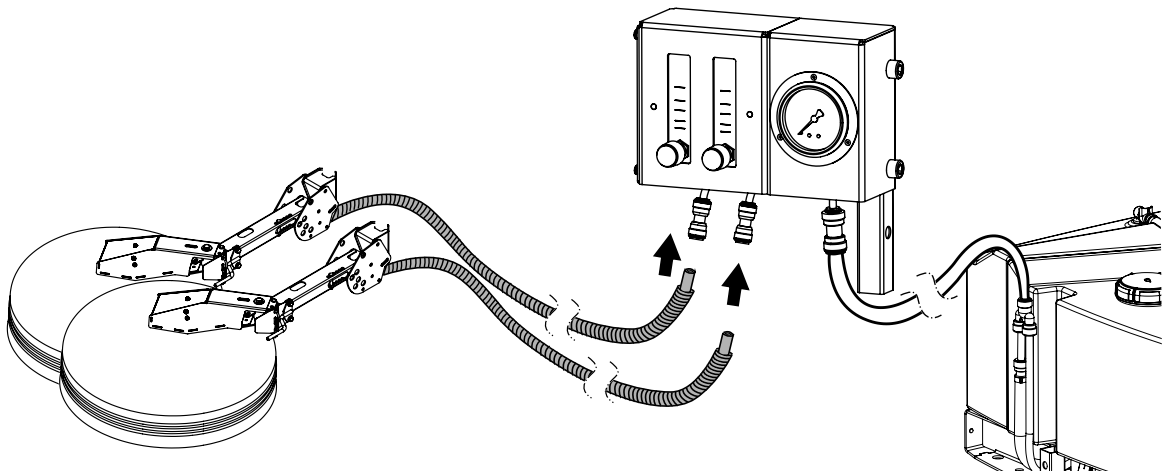
- 2- Unscrew the filling cap.



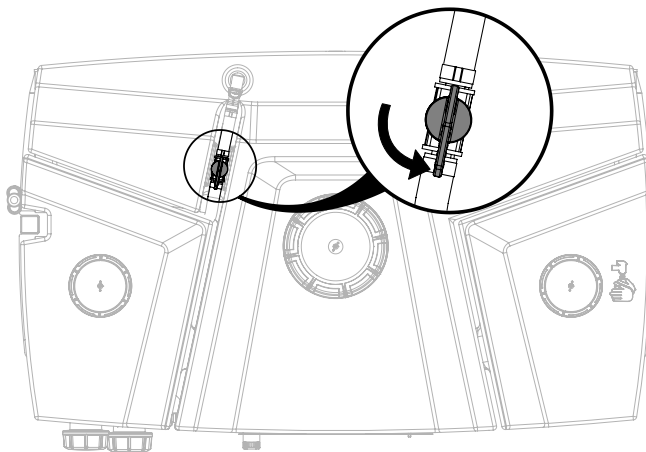
- 3- Visually inspect the mesh filter insert. Remove and clean the mesh filter insert if there is any sign of blockage or contamination. Replace the mesh filter insert if there is any sign of damage.



- 4- With the mesh filter insert in place add approximately 5 Litres of clean water to the spray mix tank.
- 5- Replace and close the filling cap and ensure it is secure.
- 6- Connect your spraying equipment to the flow control.

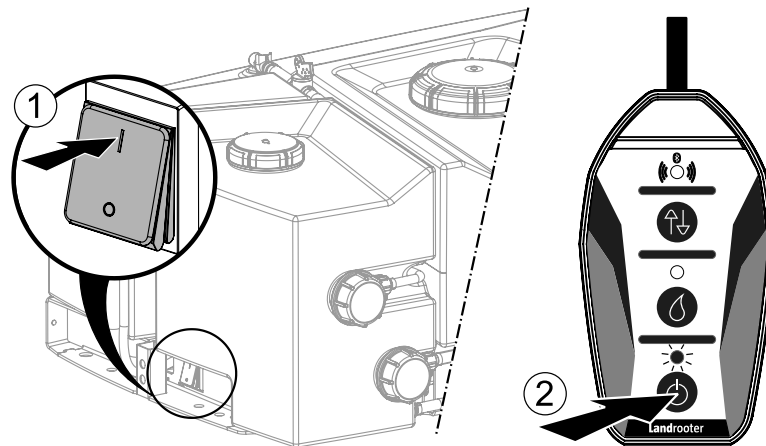


- 7- Open the regulating valve so that all the fluid from the pump is returned to the tank.

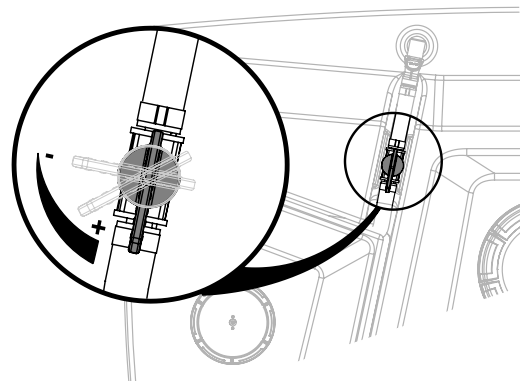


The fluid returned to the tank provides agitation of the spray mix. The agitation will vary depending upon the quantity of fluid being returned to tank. The agitation is normally sufficient for all applications including dissolved powders.

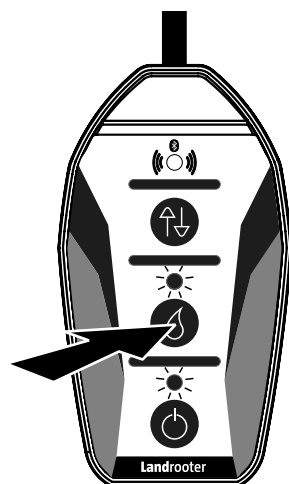
- 8- Start the pump (switch on the main switch and press the on button on the remote control) and check that fluid is moving around the system.



- 9- Adjust the regulation valve to achieve the correct measured output flow rate. For the purposes of testing set the regulation valve to approximately half way.



- 10- Visually check the tank system for leaks. Repair any defects immediately and repeat the above procedure.



- 11- Push the spraying button on the remote control.

- 12- Check your spraying equipment for leaks and correct operation. Repair any defects immediately and repeat the above procedure.

- 13- The tank system is now ready for filling refer to section 5

5 MIXING AND FILLING

5.1 Calculating Mixing Rates



Read the safety instruction at the beginning of this document before handling chemicals. Always carefully read and follow the handling instructions supplied by the chemical manufacturer.



Wear Gloves



Wear a Face Shield
or Eye Protection



Wear Protective
Clothing



Wash hands

ALWAYS read the product label to identify the maximum quantity of product to be applied per hectare e.g. 2 litres product per hectare.

Refer to your spraying equipment for instructions on setup and calibration

The following calculation is provided as a guide to calculating spray mix rates and includes calculations for spraying in bands. Calculate the total volume of spray mix required as follows

Spray Mix Volume (litres) =

Volume Rate (l/ha) x Band Width (metres) x Field Area (ha) / Row Width (metres)

Volume Rate (l/ha): This is the total amount of spray mix to be sprayed on the treated area.

Band Width (metres): This is the width covered by the spray pattern, shield or combination of shields; see 0 for further details.

Field Area (ha): This is the total area of field.

Row Width (metres): This is the distance between tree or crop rows. (Or the same value as the 'band width' above when not spraying in bands)

Example:

Using the above example of 40 l/ha application rate in trees planted at 2 m distance with two 400 mm shields (0.4 m) (0.8 m total) on an area of 5 ha.

The required tank contents will be:

Mix Volume (litres)	=	Volume Rate (l/ha)	x	Band Width (metres)	x	Field Area (ha)	/	Row Width (metres)	=	80 litres
		40		0.8		5		2.0		

¡Error! No se encuentra el origen de la referencia. contains a work record sheet which can be copied and filled in to assist in calculating and recording the spraying operations.

5.1.1 Output Flow Rates

CDA Atomisers

CDA atomisers require very low flow rates of between 50 and 300 millilitres per minute for each atomiser. Refer to your spraying equipment instructions for further information on setting flow rates.

5.2 Preparing the Spray Mix

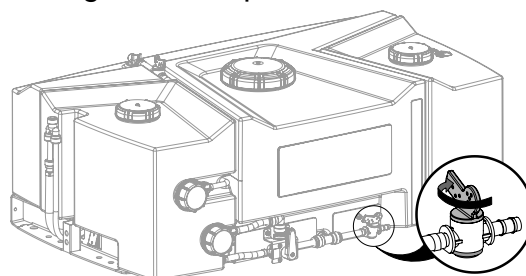
- 2- Only prepare sufficient spray mix for the required spray operation. Use LANDROOTER WIZARD as a help for calculating the needed spray mix.

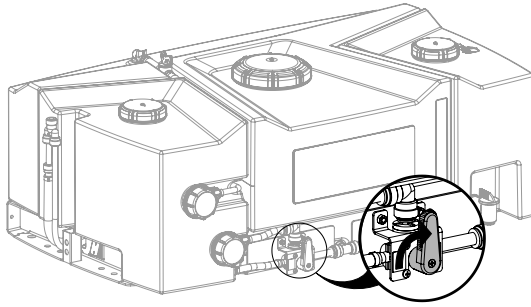


- 3- Check calibration and operating parameters against the instructions supplied with your spraying equipment.
- 4- Read the product label and abide by all safety requirements for PPE when mixing and filling.
- 5- Mix products in a secure area according to manufacturer's recommendations. Prevent any spillage or wash down from contaminating waterways or other areas.
- 6- Check for leaks before mixing products into the spray mix tank, refer to section 4.1.
- 7- Ensure rinse tanks and hand wash tanks are filled, with clean water only, before preparing the spray mix.

Fill the spray mix tank via the filling cap located on the top of the tank. The rinse tank and hand-wash tank are filled with water independently through their tank lids. Detailed instructions on each tank configuration are provided in section 1.1.

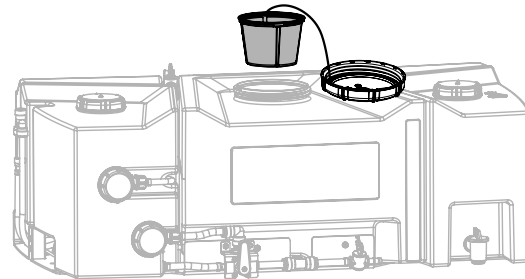
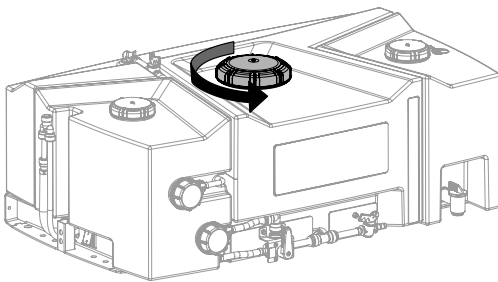
- 8- The tank should be placed as low to the ground as possible for ease of access.
- 9- Ensure the drain valve at the base of the spray mix tank is in the closed position.





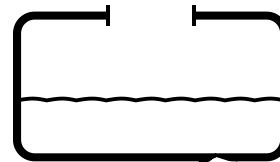
10-Ensure that the tank selector valve is turned to 'spray tank' open.

11- Unscrew the filling cap on the main tank.

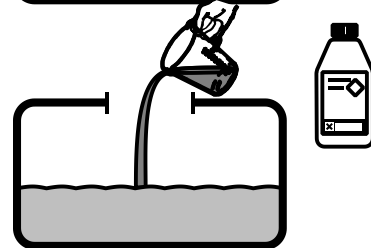


12- Visually inspect the mesh filter insert. Remove and clean the mesh filter insert if there is any sign of blockage or contamination. Replace the mesh filter insert if there is any sign of damage.

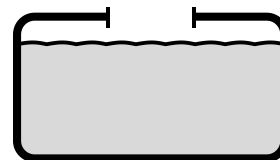
13- With the mesh filter insert in place add approximately 50% of the required quantity of clean water to the spray mix tank.



14- Add the required quantity of chemical to the spray mix tank.

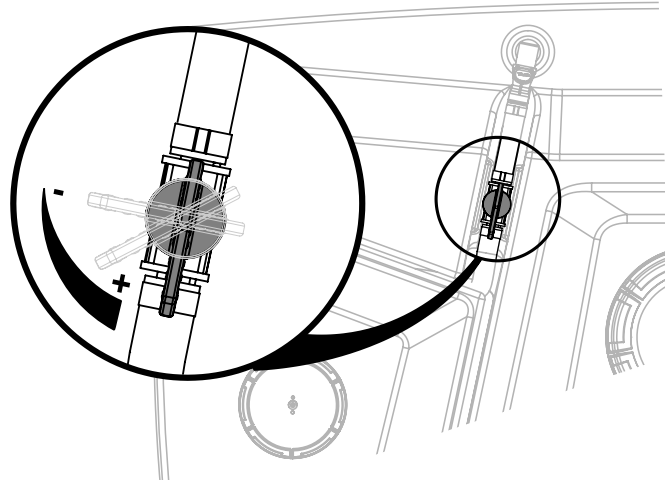


15- Add the remainder of the required quantity of clean water to the spray mix tank.

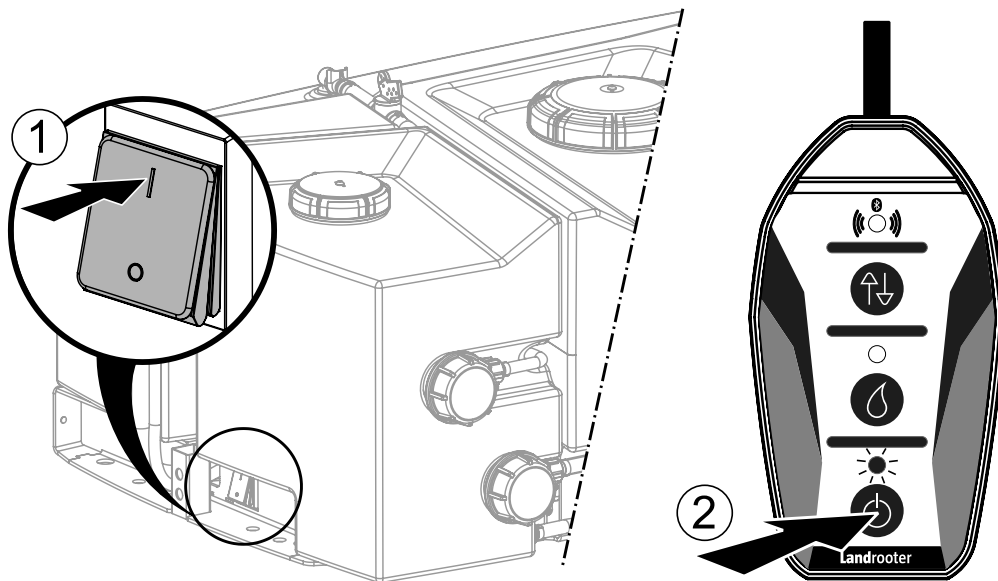


16- Replace the filling cap and check it is secure.

- 17- The regulating valve should already be pre-set to the required spray line pressure refer to section 4.2.



- 18- Switch on the pump and check that fluid is moving around the system.



- 19- The Micron tank is now ready for use.

The indicated pressure may drop when spraying. Adjust the pressure regulation valve to maintain the required pressure when spraying.

6 CLEANING



Wear Gloves



Wear a Face Shield
or Eye Protection



Wear Protective
Clothing



Wash hands

After each spray operation the tank system **must** be rinsed. The tank system includes a rinse tank which is capable of holding sufficient clean water to rinse the system through after use. The following procedure provides guidance on rinsing and cleaning the system. To avoid environmental contamination the system should be rinsed and cleaned before leaving the area being sprayed. **Always** spray out any remaining residue over the treated area or a suitable non crop area.

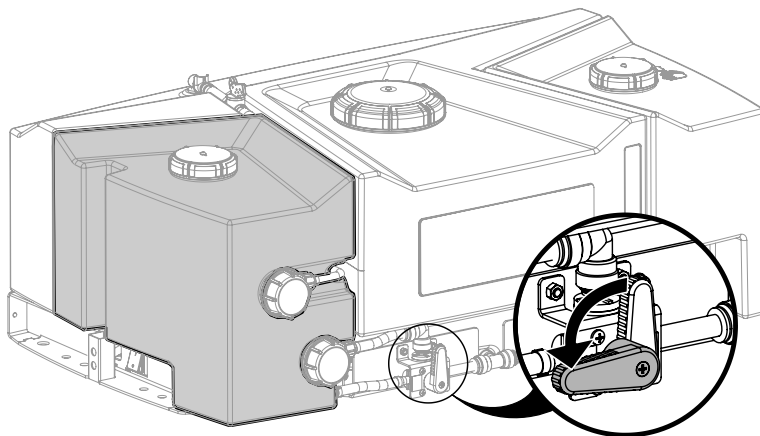
Rinse out the main tank, spray lines, pump and spraying heads with clean water and spray out any rinsate onto the treated area or a suitable non crop area. Do not exceed maximum dose rates.

Wash down any contaminated surfaces with clean water and detergent in a secure area or biobed where washings are retained and cannot enter waterways or drain into adjacent areas.

Rinsing the Spray Tank and conduits

Before rinsing and cleaning the equipment. Remove any excess liquid from the spray mix tank. This should be achieved by continuing the spraying operation until the tank is empty. If there is too much liquid in the tank to continue spraying after the spraying operation is complete the fluid should be drained and stored or disposed of in accordance with the instructions supplied with the chemicals being sprayed.

It will be necessary to operate the spraying equipment during the rinsing and cleaning process. This should be carried out on the crop being sprayed or on an area of ground set-aside for this purpose.

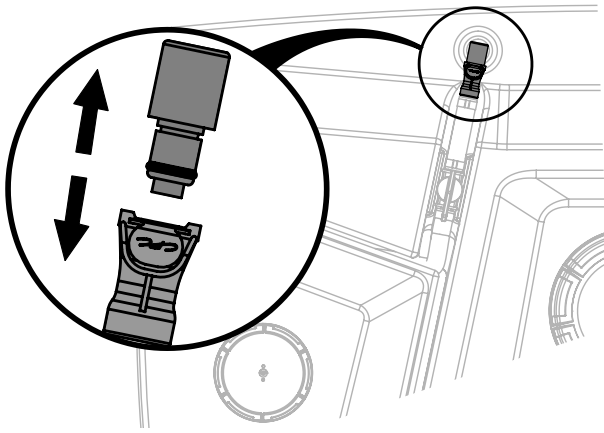


1- Ensure that the spray mix tank is empty of spray fluid (refer to the text above).

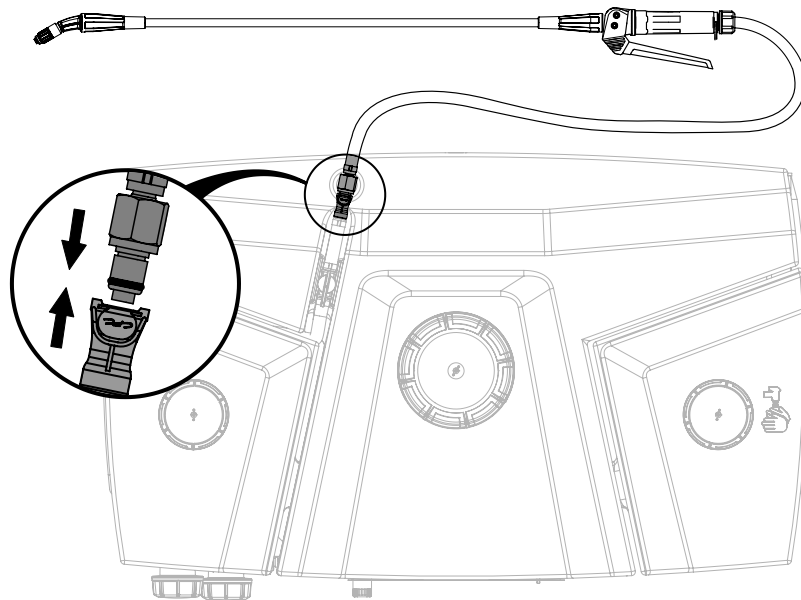
2- Ensure that the rinse tank is full of clean water.

3- Turn the selector valve to select the rinse tank, with the pump switched off.

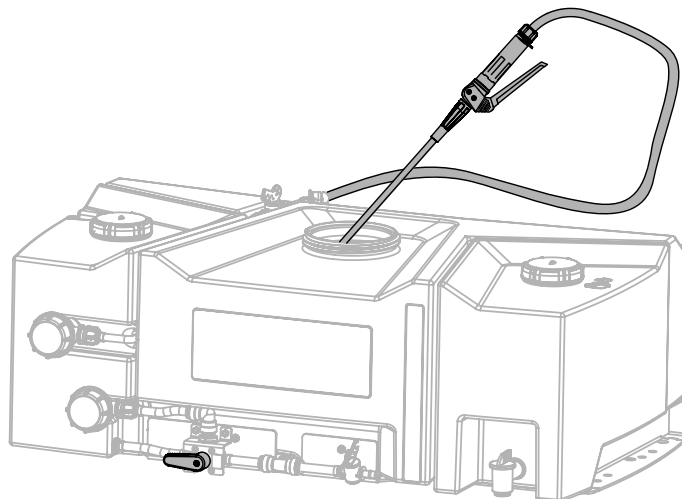
4- Disconnect quick connectors



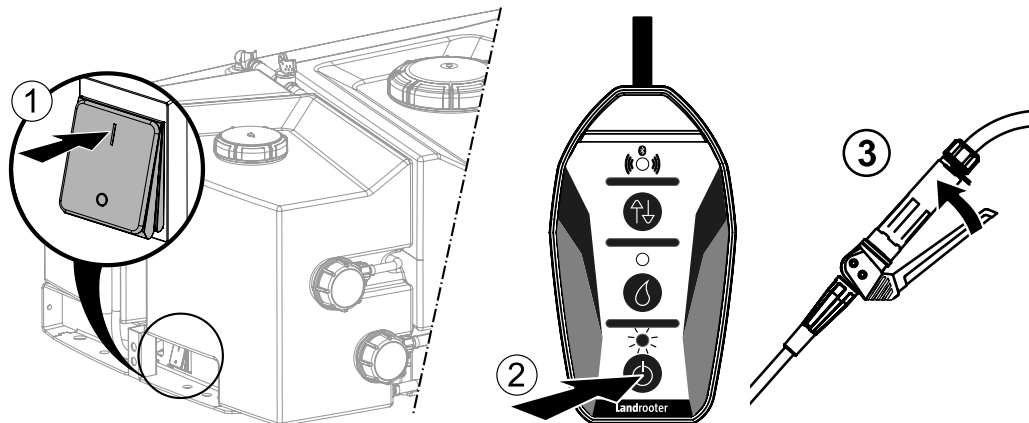
5- Connect cleaning lance



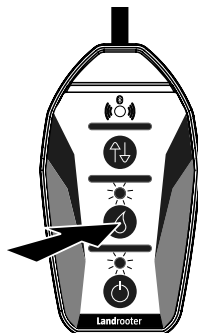
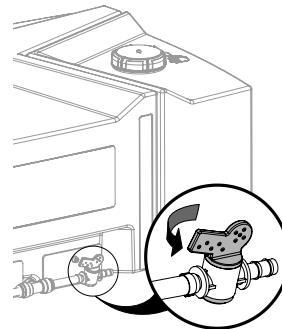
6- Open filling cap, remove the filter and enter the cleaning lance.



- 7- Switch on the pump. Water will be drawn from the rinse tank to the cleaning lance. Open the cleaning lance trigger and clean the inside of the main tank.



- 8- Open the drain valve to drain the cleaning water there is inside the main tank while cleaning process.



- 9- Switch on the spray push button on the remote and clean all the conduits spraying with water.

- 10- Continue cleaning the main tank and conduits until water is clear of chemical residue.

- 11- Before leaving the spray area clean off any external chemical residue in accordance with the chemical manufacturer's instructions.

- 12- Rinse off the exterior of the whole equipment using the cleaning lance.

6.1 Disposal of Rinsate



Always dispose of chemicals in accordance with the manufacturer's instructions.

Pesticides **must** always be handled and stored in accordance with the manufacturer's instructions.

Pesticides **must** be stored in their original containers.



It is the responsibility of the operator to ensure all possible measures are taken to protect the environment.

It is the responsibility of the operator to be familiar with, and adhere to, all relevant national and local restrictions, prohibitions and regulations regarding the use and disposal of pesticides.

If the sprayer should fail during operation drain any spray mix from the system. Collect all spray mix in suitable containers. Use the collected fluids at the earliest opportunity once the sprayer has been repaired. Store or dispose of the spray mix in accordance with the manufacturer's instruction.

7 MAINTENANCE

Micron spraying equipment will require routine maintenance; the operator should regularly inspect the equipment for damage or wear and replace any damaged or significantly worn items immediately. Any moving parts should be lubricated with a suitable good quality lubricant.

Illustrated parts catalogues are supplied with all Micron Group equipment. Illustrated parts catalogues are also available from Micron Group or their agents. Refer to the Micron Group parts Catalogue appropriate to your equipment for spare part information and assembly illustrations.

7.1 Filters



Wear Gloves



Wear a Face Shield
or Eye Protection



Wear Protective
Clothing

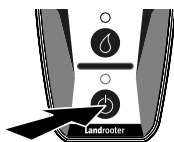


Wash hands

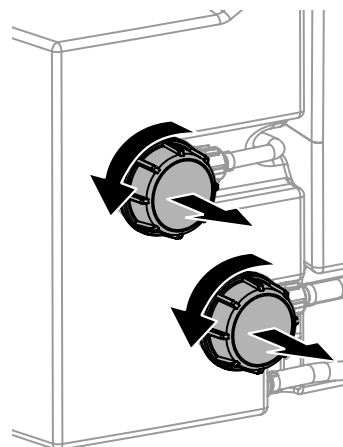
The Micron 60 Litre Tank is fitted with 2 in- line filters. The filter is attached to the input end and output of the pump. The following procedure describes the removal, cleaning and refitting of the filter.

- Depressurise the sprayer: spraying or opening the return valve.

- Switch off the pump



- Check the pressure gauge (where fitted) to ensure there is no pressure in the system.
- Unscrew filter lids. Note that the filter section will be full of spray fluid and the appropriate precautions and procedures should be followed. For further information on dealing with spray fluids refer to section 2.1.
- Remove the filter from the filter section.
- Rinse the filter with clean water; do not use high pressure water jets as this may damage the filter.



Replacing the filter is a reversal of the above procedure.

7.2 Hydraulic Components



Danger of high-pressure hydraulic fluid penetrating the skin! **Always** depressurise hydraulic equipment before handling, even with gloved hands. Visually check for leaking or damaged components. Replace any defective connections, hoses and other components immediately.

All hydraulic components should be inspected before and after the equipment is used. Any damaged components should be replaced immediately.

Hydraulic hoses should be inspected before, and after the equipment is used. If any of the following symptoms are seen replace the affected hoses immediately.

- Crushed hoses
- Abrasion - any exposed wire reinforcement
- Any significant damage to the outer cover beyond scuffs and small nicks
- Twisted hoses (may indicate a need for a swivel connection or different routing)
- Kinks (may indicate incorrect routing - bend radius below minimum specified by the manufacturer)
- Cracked or corroded fittings (red rust is cause for concern, white oxidation is normally acceptable)

7.3 Spraying Pump Replacement

The following procedure provides guidance on removing the spraying pump. For detailed parts information and assembly illustrations refer to the Micron Group parts catalogue for your equipment.

Before attempting to remove the pump ensure that the plumbing system is depressurised and all spray mix has been drained from the system.

13-Ensure that the equipment is turned off.

14-Disconnect the electrical connection or hydraulic feed and return hoses.

15-Disconnect the input and output spray fluid hoses.

16-Remove the pump unit from its mounting.

Where user serviceable pumps are fitted refer to the manufacturer's service and repair instructions in the document pack supplied with your equipment. For further advice on pump servicing and repair contact Micron group or their agents or contact the pump manufacturer.

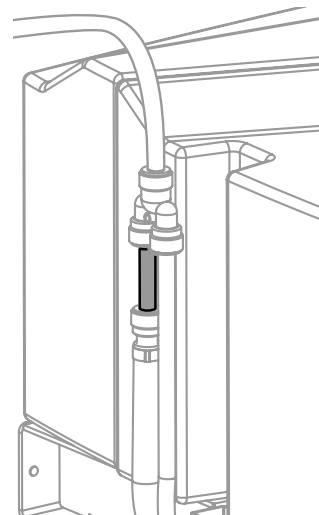
Refitting the pump is a reversal of the above procedure.

7.4 Pressure release valve, cleaning and replacement

The pressure release valve is located before the Y connector (see image).

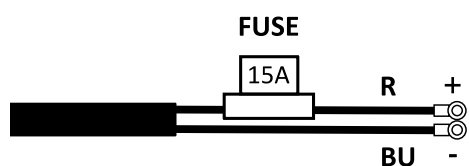
- Remove the hose where the pressure release valve is.
- Clean the pressure release valve with mild detergent and a soft brush.

Refitting the valve is a reversal of the above procedure.



7.5 Fuse Replacement

The standard power wire assembly has an inline fuse fitted to the positive (+) wire near to the positive (+) battery terminal.



17-Switch off all equipment including the vehicle engine.

18-Remove the cover of the fuse housing and replace the fuse.

7.6 Service and Inspection

The guidance provided in this manual should be sufficient to ensure continuing operation of the equipment. However, Micron Sprayers Ltd. and Goizper S.Coop. recommends that an annual inspection of the equipment be carried out by an independent and appropriately qualified and/or experienced person. For general service and inspection advice refer to the table below.

Service and Inspection Table		
Item	Action	Occasion
Spray lines and ancillary items	Check for leaks Check for free movement of connecting hoses Check for correct operation of valves and regulators	Each use of the equipment Each use of the equipment Each use of the equipment
Filters	Clean filters	Each use of the equipment

Structural defects	Check for broken or cracked components	Each use of the equipment
Nuts, Bolts and other fittings	Tighten any loose fittings Clean and lubricate exposed threads	Each use of the equipment After each use and before storage
Joints and pivot pins	Check for excessive wear Check for adequate lubrication	Each use of the equipment Each use of the equipment
Three point linkage points and pins	Check for damage or excessive wear	Each use of the equipment Repair or replace any damaged parts immediately.
Pump	Check for leaks Check operating pressure Check for excessive noise	Each use of the equipment Each use of the equipment Each use of the equipment

Table 1 - Service and inspection

For information on replacement parts refer to the Micron Weed Management (MWM) parts catalogue appropriate to your equipment.

7.7 Preparing for Storage

For storage of the equipment over longer periods or during cold weather follow the procedure below. Throughout this procedure take any and all appropriate measures to ensure minimal impact to the environment. Collect and dispose of any output or spillage from the equipment responsibly, refer to section 6 for information on cleaning and the disposal of rinsate.

- 1- Ensure the system is drained of all fluids including those in the rinse tank and hand-wash tank.
- 2- In climates where winter temperatures approach freezing it is necessary to add antifreeze to the pump and spray lines. Antifreeze will prevent freezing of any water retained in the plumbing system.
- 3- Add a quantity of good quality antifreeze fluid, diluted if required to the manufacturer's instructions, to the spray mix tank and rinse tank. **Do not** put antifreeze into a hand wash tank.
- 4- Run the spraying pumps and circulate the antifreeze throughout your tank and Spray system.

- 5- Ensure that all of the pipe lines and spray heads are clear of any fluids other than the antifreeze fluid.
- 6- Fully drain the hand wash tank.
- 7- Turn off any feed line stop valves and disconnect the feed lines.
- 8- Disconnect all electrical connections.
- 9- Ensure the equipment is stable.
- 10- Store the equipment in a covered, ventilated area. Store away from direct sunlight as some plastic parts may be deteriorated by ultra violet light.
- 11- **Do not** store the tank system directly on the ground. Stand the tank system on suitable blocks or a pallet.
- 12- To prepare the equipment for use after storage: Follow the instruction in this document to install the equipment onto your tractor/vehicle. Drain any antifreeze fluid from the tank and Spray system, taking care to collect and dispose of all output fluids responsibly. Thoroughly rinse the system in accordance with section 6 of this document before use.

7.8 Lubrication Table

Operators should ensure good lubrication of the moving parts of their equipment. The following table is provided as a guide.

Lubrication Table		
Item	Lubricant	Interval
Threaded metal parts	Brush or Spray exposed threads with grease or oil	Every month and before storage
Threaded plastic parts	Light coating of silicone spray or petroleum jelly	As required

Table 2 - Lubrication

8 60 L TANK SYSTEM TROUBLESHOOTING

Illustrated parts catalogues are available from Goizper Group or their agents. Refer to the Micron Weed Management (MWM) parts catalogue appropriate to your equipment for spar part information and assembly illustrations.

Problem	Possible Cause	Action	Section
Pump and CDA head not operating.	General switch is off.	Switch on the general switch	4.2
	Switch on the remote is off	Switch on the push button on the remote	4.2
	Blown fuse.	Check system and replace fuse.	7.5
	Loose connection at battery.	Check all connections; tighten as necessary.	3.4
	Incorrect connections	Check all wiring connections	
Pump operates intermittently.	Loose electrical connection.	Check all wiring connections	3.4 ¡Error! No se encuentra el origen de la referencia.
Pump will not operate.	Pump wire not connected	Connect to the box	3.4
	Loose electrical connection.	Check all wiring connections.	3.4
	Incorrect wiring.	Check wiring	3.4
	Faulty pump motor.	Replace pump	7.3
Pump runs but no flow from outlet.	Tank empty.	Refill tank.	5.2
	Blocked Pressure release valve	Remove and clean	7.4
	Blocked nozzle.	Remove and clean nozzle.	
	Blocked filter.	Check and clean all filters.	7.1
	Blocked hose.	Purge all hoses.	¡Error! No se encuentra el origen de la referencia.
	Kinked hose.	Straighten hoses.	

Table 3 – 60 L Tank System Troubleshooting

9 TANK SYSTEM DISPOSAL



It is the responsibility of the operator to ensure the disposal of the equipment is in accordance with any and all national or local restrictions, prohibitions and regulations.

Remove chemical residues in accordance with the chemical manufacturer's instructions.

Dispose of chemicals in accordance with the manufacturer's instructions.



Harmful chemicals and spray mix **must** always be handled and stored in accordance with the manufacturer's instructions.

Harmful chemicals **must** be stored in their original containers.

It is the responsibility of the operator to ensure all possible measures are taken to protect the environment.

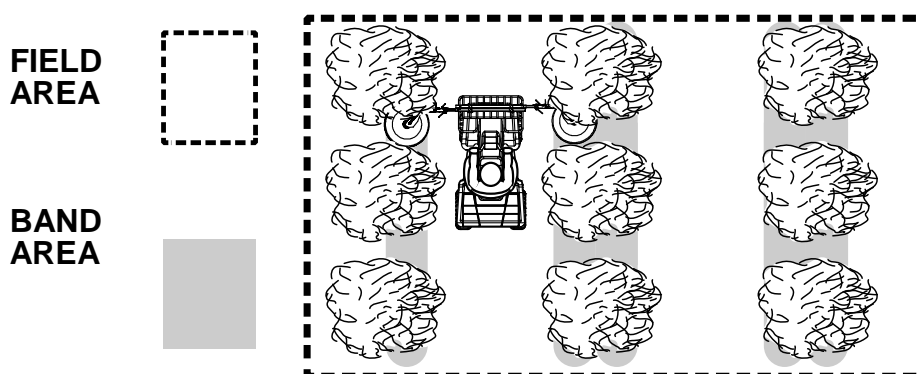
It is the responsibility of the operator to be familiar with, and adhere to, all relevant national and local restrictions, prohibitions and regulations.

To dispose of the equipment, reduce the equipment to its component parts. Thoroughly clean all components inside and out.

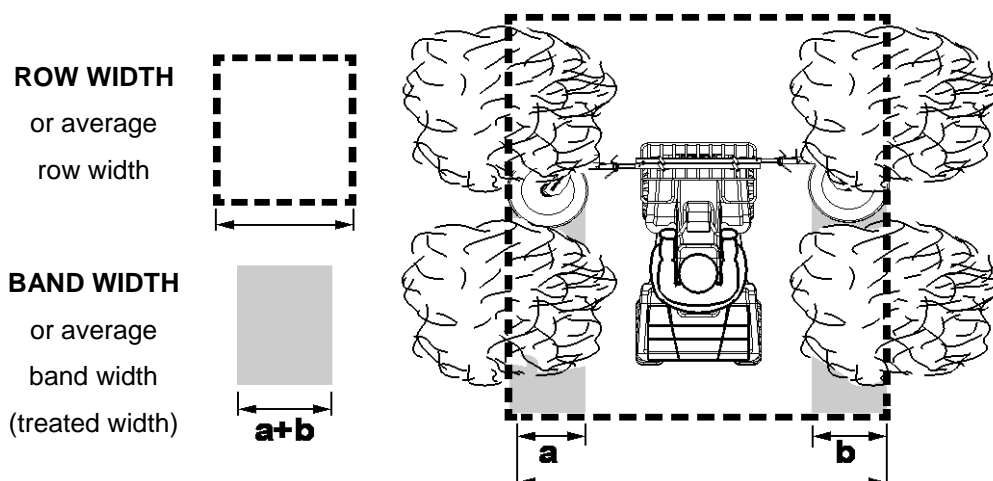
Dispose of the component parts by material and type in accordance with any and all national and local restrictions regarding waste disposal.

Calculating Band Area as Percentage of Field Area

With a band sprayer it is important to distinguish between the volume applied under the shield as 'band area' (treated area) and the area of the field 'Field Area' see below.



The 'band area' (treated area) can be considered as a percentage of the 'field area'. The percentage relationship is the same for a single band width to one row width where the rows are regularly spaced, or the average band width to the average row width where rows are irregular.



Example: If spraying two bands each 0.4 m wide using two Spray-Flex 400 units between trees planted at 2.0 m distance then only 40% of the area is treated

$$(2 \times 0.4 / 2.0 \times 100 = 40\%)$$

Using the example above and spraying rate of 40 litres per hectare. Reduce the application rate (40 l/ha) by the same ratio as the band width to row width (40%) to calculate the actual application rate per hectare.

$$40 \text{ l} / 0.4 \text{ (or 40\%)} = 16 \text{ litres of spray mix per field hectare.}$$

Calculating the Tree Length (Km) Sprayed Per Tank Fill

$$\text{TREE LENGTH SPRAYED (km) = } \\ \mathbf{10 \times \text{Tank Contents (L)} / (\text{Application Rate l/ha} \times \text{Band treated m})}$$

For Example:

2 x Spray-Flex 400 = 0.8 m band

Tank contents = 80 l

Application rate = 40 l/ha

Tree length sprayed (km) = **10 x 80 litre / (40 l/ha x 0.8 m) = 25 km**

Conversion Factors

1 yard	=	3 feet	=	0.91 metre
1 metre	=	39.37 inches	=	1.09 yards
1 statute mile	=	0.87 nautical mile	=	1.61 kilometres
1 nautical mile	=	1.15 statute mile	=	1.85 kilometres
1 kilometre	=	0.62 statute mile	=	0.54 nautical mile
1 statute mile	=	1760 yards	=	5280 feet
1 nautical mile	=	2027 yards	=	6081 feet
1 kilometre	=	1094 yards	=	3282 feet
1 metre/sec	=	2.237 miles per hr	=	196.9 ft/min
1 acre	=	43560 sq feet	=	4840 sq yards
1 acre	=	4047 sq metres	=	0.40 hectare
1 hectare	=	107600 sq feet	=	11955 sq yards
1 hectare	=	10000 sq metres	=	2.47 acres
1 sq mile	=	640 acres	=	259 hectares
1 sq kilometre	=	247 acres	=	100 hectares
1 US gal	=	0.83 Imp gal	=	3.78 litres
1 Imp gal	=	1.20 US gals	=	4.54 litres
1 litre	=	0.26 US gal	=	0.22 Imp gal
1 US pint	=	16 US fl ounces	=	0.47 litres
1 Imp pint	=	20 Imp fl ounces	=	0.57 litre
1 US gal/acre	=	8 US pint/acre	=	9.45 litres/hectare
1 Imp gal/acre	=	8 Imp pints/acre	=	11.35 litres/hectare
1 litre/hectare	=	0.11 US gal/acre	=	0.081 Imp gal/acre
1 pound	=	16 ounces	=	0.45 kilogram
1 kilogram	=	2.20 pounds	=	35.3 ounces
1 ounce	=	28.35 grams		
1 pound/sq inch	=	0.068 atmosphere	=	0.067 bar
1 atmosphere	=	14.70 pounds/sq in	=	1.01 bar
1 bar	=	14.50 pounds/sq in	=	0.98 atmosphere
1 kilopascal	=	0.01 bar	=	0.145 pounds/sq in

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