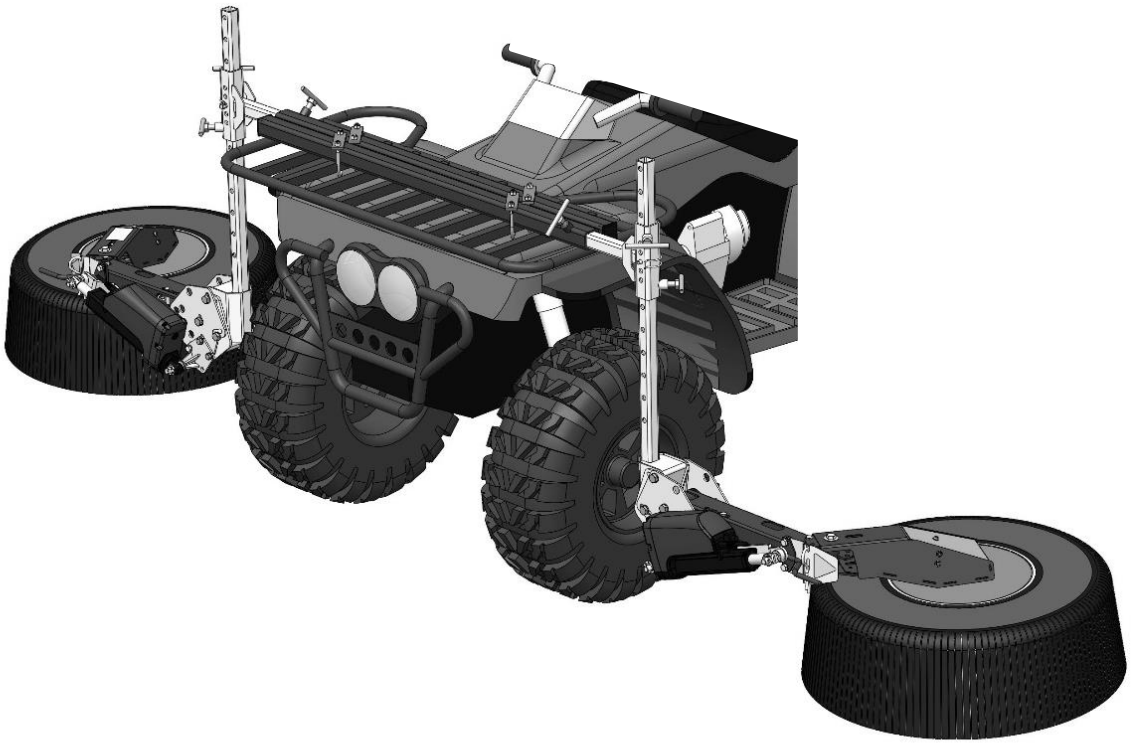
MICRON
Weed Management

# S-Dome, S-Flex & S-Guard

**CDA Option**



Instruction Manual

Publication Part No: **8M13A200** (Rev.1)

## EDITION NOTICE

Prepared and printed by or on behalf of:

This publication covers the following products:

**Micron Weed Management system incorporating**

**S-Dome**
**S-Flex**
**S-Guard**



Whilst every effort has been made to ensure the accuracy of this document, any errors or inaccuracies should be reported to Goizper S. Coop., their subsidiary Micron Sprayers Ltd. or their agents.

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# Preface

This document has been produced to provide guidance for the installation and use of the Micron Weed Management (MWM) spray equipment 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 spray equipment or its 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.



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

- Every care has been taken in the design of the equipments 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.

# Warranty

GOIZPER GROUP takes pride in producing a high quality, durable product. This MWM product carries a limited two (2) year warranty against defects in workmanship and materials from date of purchase under normal household use. Warranty does not apply to defects due to direct or indirect abuse, negligence, misuse, accidents, repairs or alterations and lack of maintenance. Please keep your receipt as proof of purchase.

# 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 spray equipment. If misused the MWM spray equipment has the potential to cause harm to personnel, 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.

# PROHIBITIONS IN USE

The Micron Weed Management (MWM) system is 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

## SYMBOLS USED ON THE EQUIPMENT AND IN THIS DOCUMENT

| | |
|---|---|
|  | Denotes a caution or warning – '**things to be aware of'** |
|  | Denotes a mandatory prohibition – '**things you must not do**'. |
|  | Denotes a mandatory instruction – '**things you must do**'. |
| Ignoring these warnings, prohibitions or instructions may result in injury to persons, damage to equipment or environmental contamination. | |

| | | | | | |
|---|---|---|---|---|---|
|  | **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 |

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# 1 INTRODUCTION

The Micron Weed Management (MWM) system is designed for the precision application of weed control products at low spray volumes with a reduced risk of drift. The spray is generally shielded, and each spray head incorporates either low volume rotary atomisers for Controlled Droplet Application (CDA) or pressure nozzles for higher spray volumes (Hi-Flo). The MWM system is designed primarily for the application of weed control products in bands in tree and bush crops. The MWM system can also be used to apply selective and non-selective herbicides in the crop inter-row at low dose rates and volumes as only a proportion of the area is treated.

The spray shields are mounted on a breakaway arm which allows the domes to rotate on a centre bearing and roll around tree or bush crops. With the S-Guard variant the dome is fixed because the spraying is made in a certain distance from the trunk.

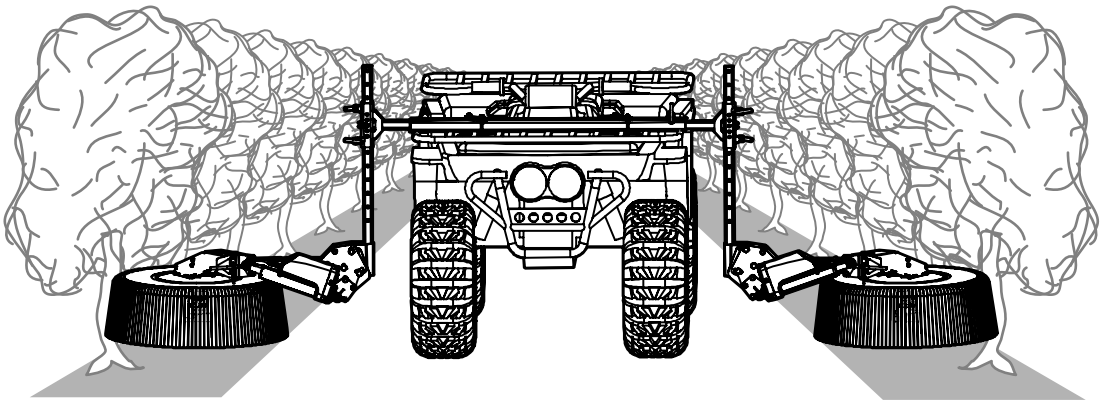
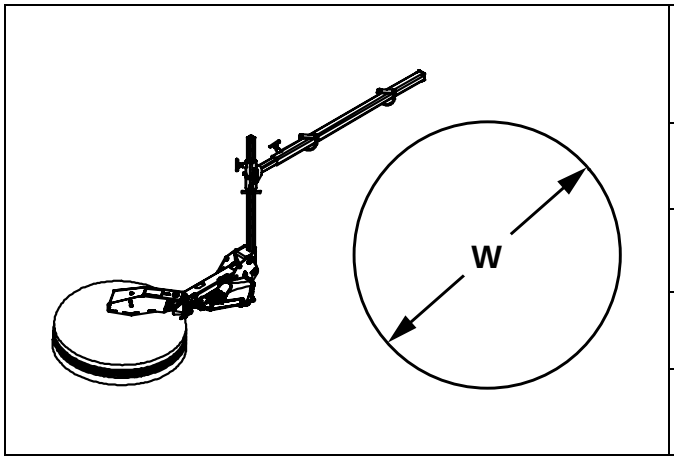


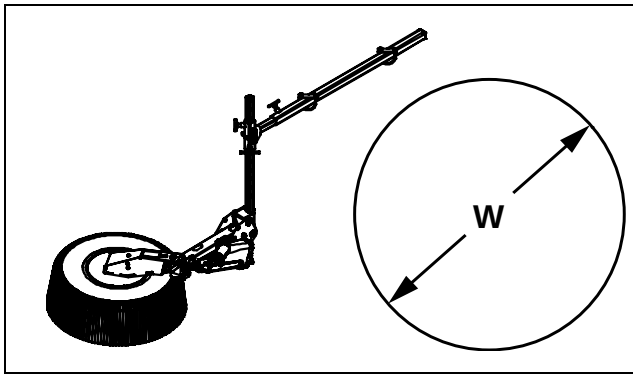
Figure 1- A typical configuration

**S-Dome Product Range**



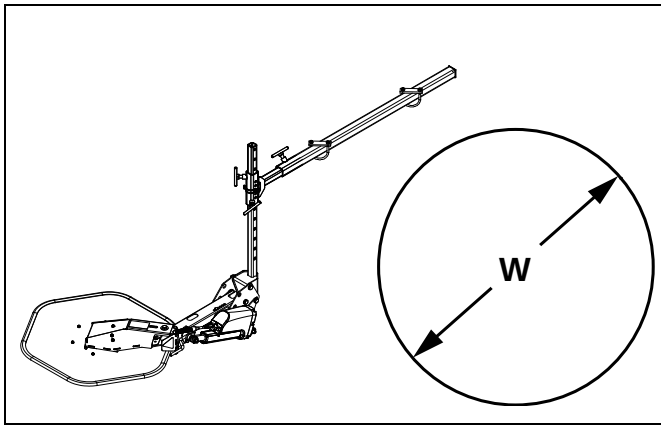

| Description | Spray Width 'W' |
|---|---|
| S-Dome 400 | 0.4 m / 15,7” |
| S-Dome 600 | 0.6 m / 23,6” |
| S-Dome 900 | 0.9 m / 35,4” |
| S-Dome 1200 | 1.2 m / 47,2” |

**S-Flex Product Range**



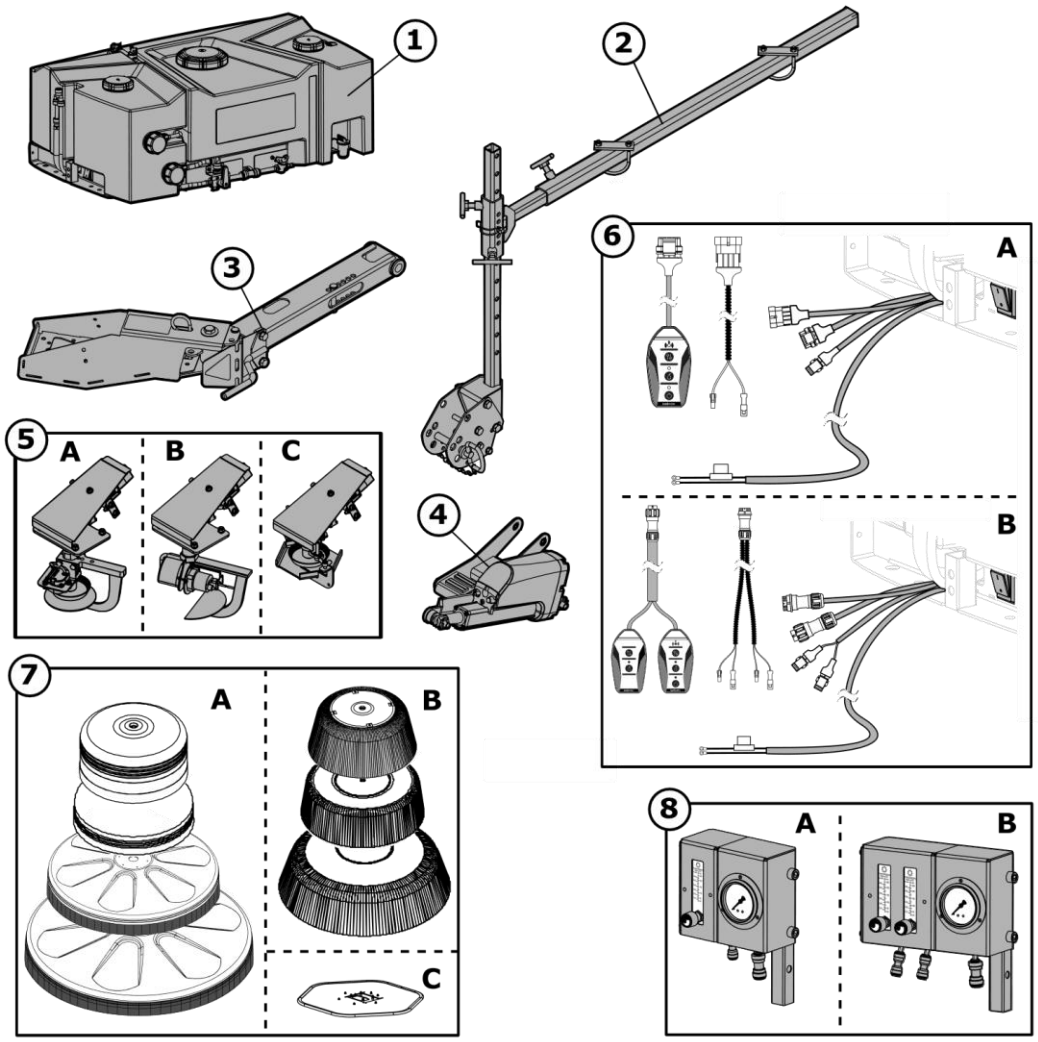

| Description | Spray Width 'W' |
|---|---|
| S-Flex 400 | 0.4 m / 15,7” |
| S-Flex 600 | 0.6 m / 23,6” |
| S-Flex 900 | 0.9 m / 35,4” |

**S-Guard Product Range**




| Description | Spray Width 'W' |
|---|---|
| S-Guard 1200 | 1.2 m / 47,2” |

## 1.1 Components




| ITEM | | DESCRIPTION | INSTALLATION INSTRUCTION MANUAL N° |
|---|---|---|---|
| **1** | | 60L Tank System | 8M13T200 |
| **2** | | ATV mount support structure | 8M13A200.2 |
| **3** | | Breakaway | 8M13A200.1 |
| **4** | | Actuator kit | |
| **5** | A | Head kit 600 | 8M13D200 |
| | B | Head kit 400 | 8M12D200 |
| | C | S-Guard head kit | 8M11D200 |
| **6** | A | Single arm electronics kit | 8M13E200.1 |
| | B | Twin arm electronics kit | 8M13E200.2 |
| **7** | A | S-Dome shields (ø400, ø600, ø900, ø1200) | 8M13D200 / 8M12D200 |
| | B | S-Flex shields (ø400, ø600, ø900) | |
| | C | S-Guard shield | 8M11D200 |
| **8** | A | Single flow control | 8M13F200 |
| | B | Twin flow control | |

**Figure 2 - Component recognition**

## 1.2 Technical Specification

| Specification | | |
|---|---|---|
| Model names: | S-Dome, S-Flex, S-Guard | |
| Description: | A reduced drift spray head with either CDA *(Controlled Droplet Application)* atomiser or HiFlo pressure nozzle. | |
| Models:<br>(available as CDA or Hi-Flo) | S-Dome: SD400, SD600, SD900, SD1200<br>S-Flex: SF250, SF400, SF600, SF900<br>S-Guard: SG1200 *(Hi-Flo not available)* | |
| Manufacturer: | Goizper Group, Spain | |
| Year of Manufacture: | Refer to serial number plate | |
| Finish: | Grey and stainless metal parts with yellow domes | |
| Weight[1] | | |
| S-Dome 400 | 28 kg | |
| S-Dome 600 | 29,5 kg | |
| S-Dome 900 | 33,5 kg | |
| S-Dome 1200 | 36,5 kg | |
| S-Flex 400 | 28,5 kg | |
| S-Flex 600 | 31 kg | |
| S-Flex 900 | 32 kg | |
| S-Guard | 29 kg | |
| | | |
| Minimum working temperature: | +5°C | |
| Working pressure: | 1-3 bar (15 – 45 psi) | Hydraulic pressure nozzles |
| | 0.1 - 1 bar (8 - 10 psi) | CDA atomisers |
| Flow range/nozzle: | 0.5 – 2.0 L/min | Hydraulic pressure nozzles |
| Flow range/atomiser: | 60 -300 mL/min | CDA atomisers |
| Max.Operating speed: | 12 kph (when spraying) | |
| Shield operating height: | 25 – 50 mm (above ground when spraying) | |
| Filter size[2]: | 50 Mesh (blue - ISO19732) | |
| Optional Accessories | Tank & pump systems. Various Mounting Chassis | |

[1] Weights include the breakaway and standard ATV mounting tubes with actuator.

[2] Not included with your S-Dome, S-Flex or S-Guard. If using tank systems NOT supplied by Goizper Group, then these MUST include an inline filter of 50 mesh size (blue – ISO19732).

## 2 SAFETY

| WARNINGS AND PROHIBITIONS | |
|---|---|
|  | Do not insert fingers or any foreign object into the equipment. This may cause a risk of harm and may damage the equipment.<br>Do not dismantle or modify the equipment. This may cause a risk of harm and may damage the equipment.<br>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. |
|  | Risk of crushing of the whole body or limbs.<br>Risk of crushing of hands or fingers.<br>Do not stand or position any limb or part of the body between the equipment and the vehicle to which it is mounted.<br>Do not stand, sit or lie beneath any part of the equipment unless the equipment is adequately supported on suitable floor standing supports.<br>Do not stand, or allow others to stand, within the reach of extended or lowered parts of the equipment (swivel range).<br>Do not stand, or allow others to stand, within the stroke area of the three-point linkage (tractor mounted equipment). |
|  | Danger from leaking substances. Substances may be harmful and/or under high pressure. |
|  | Risk of contact with toxic or hazardous substances.<br>Always read and retain the instructions on chemical used in this equipment.<br>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.<br>Do not drink fluids from any part of the equipment including the hand-wash and rinse tanks.<br>Do not use water from the hand wash facility for washing the face or eyes.<br>Do not eat, drink or smoke when operating the equipment.<br>Do not dispose of toxic or hazardous chemicals or fluids into drains or water courses.<br>After use remove and clean all protective clothing. Thoroughly wash hands and face. |
|  | Some surfaces and hoses may become hot during operation. Take care when handling and to avoid contact with, or close proximity to, flammable materials. |

| | |
|---|---|
|  | Use Caution and reduce speed when manoeuvring a vehicle with mounted equipment.<br>The equipment may reduce or obscure the operator's vision.<br>The equipment may obscure the visibility to others of vehicle mounted warning marks, beacons and lights.<br>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.<br>The additional weight of the equipment may affect the steering and stability of the vehicle.<br>Use extreme caution when turning on sloping ground as the equipment may alter the vehicles balance and centre of gravity.<br>Use extreme caution when turning as the equipment may alter the required turning circle of the vehicle.<br>Use extreme caution when passing obstacles and through gaps as the equipment may alter the width of the vehicle. |
|  | Ensure that the extremities of the equipment are always visible to the operator. Attach additional marking devices or visibility aids where required.<br>Use additional person(s) to assist with manoeuvring where operator vision is obscured.<br>During use of the equipment make regular assessment of weather condition, wind speed and direction adjust activity as appropriate.<br>Leave the vehicle in a safe condition before leaving the operators position to examine or adjust the equipment. |
|  | 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.<br>Ensure that all connection sockets are clean and free from contamination before and after use.<br>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.<br>Ensure the electrical power supply is adequate for the equipment. An inadequate power supply may cause the equipment to malfunction or fail.<br>Disconnect the unit from the power supply when not in use for an extended period.<br>Always lift the equipment by the lifting or mounting points where provided.<br>Always wear personal protective equipment when instructed to do so.<br>Ensure the equipment is securely mounted on floor standing mounts before attempting any maintenance or repair operations. |

## 2.1 Mechanical and Electrical Hazards



The main mechanical hazards when using MWM spray equipment are risk of entrapment to fingers and limbs from moving parts. Warning signs are located at points of potential injury. As sprayers operate on a low voltage 12V system that does NOT present a significant risk from electrical shock.

## 2.2 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 and follow advice regarding 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. Some products may also require the use of a respirator mask.

## 2.3 Working with Pesticides

Always read the product label and adhere to maximum dose rates and safety precautions.

Protect the environment by avoiding run off into ditches or waterways at all times.

## 2.4 Hand Wash Tank

A hand wash facility of 15 L should be available for use with the spray system. This should be filled with **clean water only.**

A hand wash 15 L tank is integrated in the MWM 60 L Tank System.

## 2.5 Drift Reduction Measures

The S-Dome and S-Flex units are fitted with shields low to the ground making them less susceptible to spray drift than unshielded spray nozzles. The S-Guard is fitted with a protective guard for the atomiser but uses an open spray pattern but with large controlled drop sizes to reduce drift. This allows the S-Guard to be used to spray close under established trees like olives without any part of the spray head contacting the trees.

Wind tunnel studies in the UK have indicated drift reductions in excess of 90% over conventional unshielded sprayers with the Micron Weed Management range and hence these are suitable as a Drift Reducing Technology (DRT)

Spray heads **must** always maintain close contact with the ground (25-50 mm above the ground). When operating on uneven or rough ground reduce speed to ensure the spray heads **do not** bounce.

The following measures may be used to further reduce any risk of spray drift:

- Schedule treatment for the early morning or the evening hours (there is generally less wind).
- Keep the working height of the spray heads as low as possible. The risk of drifting increases as the distance between the shield and ground increases.
- Avoid operating at excessive speeds and flow rates.

# 3 INSTALLATION

The tank system should be regulated to an output pressure of approximately 0,5 bar (7,5 psi). The tank system **must** include an inline filter of 50 mesh size (blue – ISO19732). The CDA spinning disc atomisers are used with a flow gauge with adjustable trimmer for each atomiser to regulate flow according to vehicle speed, application volume and band width.

## 3.1 Initial Assembly (S-Dome/S-Flex/ S-Guard)

The Micron Weed Management system is supplied as a series of modules, each with individual installation instructions.

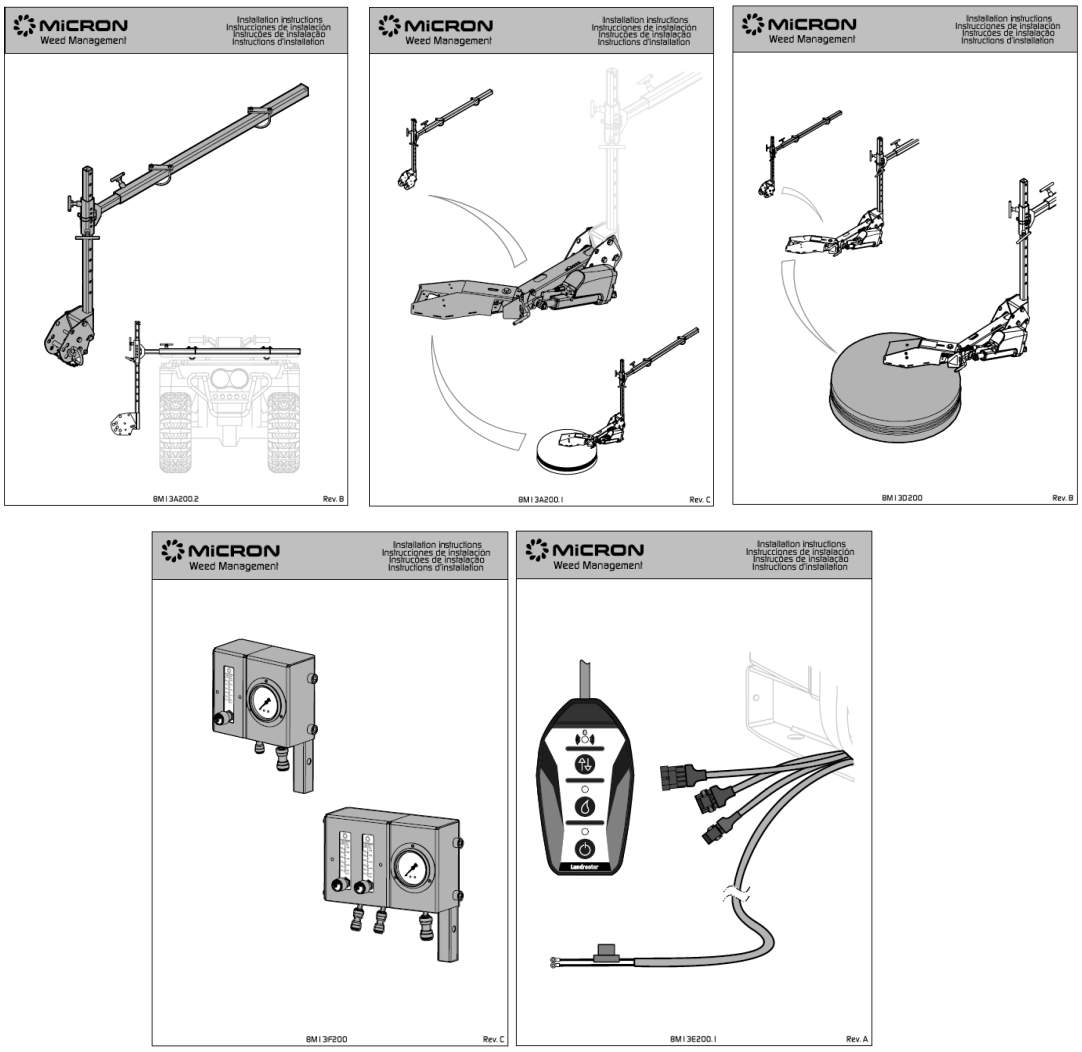



**Figure 3 Examples of installation instructions for each module**

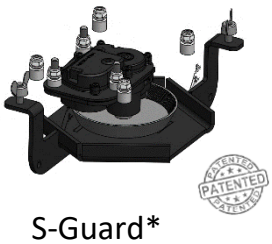
## 3.2 CDA Atomisers

There are three rotary atomiser versions, depending the shield and size:

1- S-Guard atomiser: Delivers a 1.2 m wide band (2000 rpm)

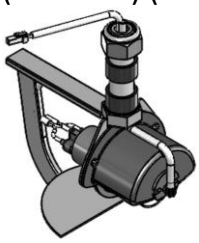
2- S-Flex and S-Dome 1200, 900 and 600: 0.6, 0.9 and 1.2m wide band (shielded) (3000 rpm)

3- S-Flex and S-Dome 400: 0.4m narrow band, sectorial atomiser (shielded) (4000 rpm)



S-Guard*

S-Flex/S-Dome 600/900/1200*



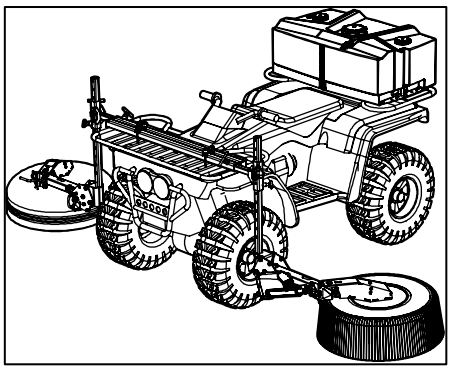
Sectorial atomiser

***PATENTED ROTARY ATOMISER***

## 3.3 Mounting to a vehicle

Ensure that the spray heads can be easily seen from the operator's position. It is recommended to mount the spray heads to the front size of the vehicle.

Ensure that there is sufficient space for the breakaway to operate fully and that the operator's access to the vehicle is not impaired. Check the weight limit the vehicle can support is not exceeded.

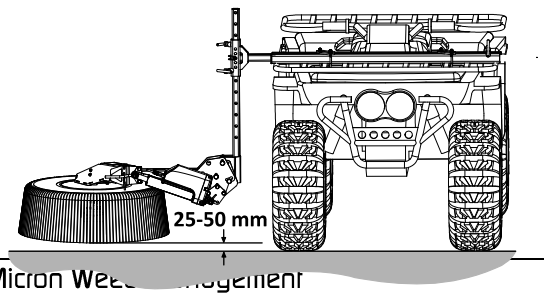


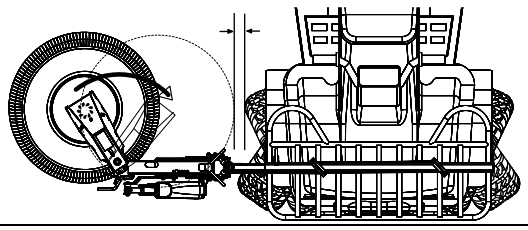
**Installation on an all-terrain vehicle (ATV) 'S' Frame style**

Some additional local fabrication may be necessary to fit some vehicles.—Modify the 'T'-bar support tube or fabricate a suitable alternative to fit your vehicle. For further advice on fitting the spray heads contact the Goizper distributor.

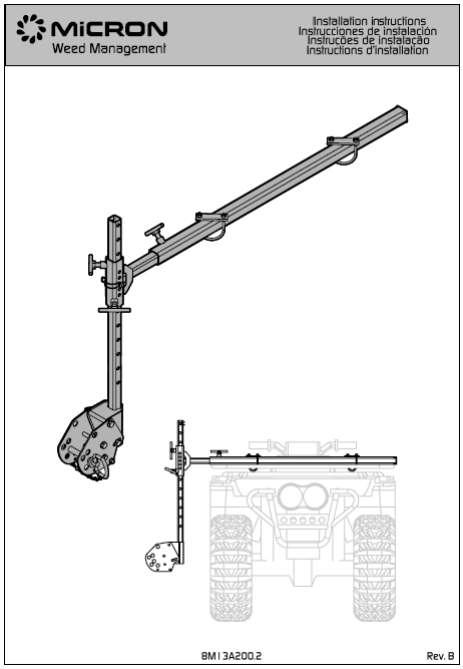
Select the correct height using the pin and index holes and clamp bolt to lock in position. The spray shield should be between 25 mm and 50 mm from the ground when spraying (The shield of S-Guard should be at approx. 450 mm).

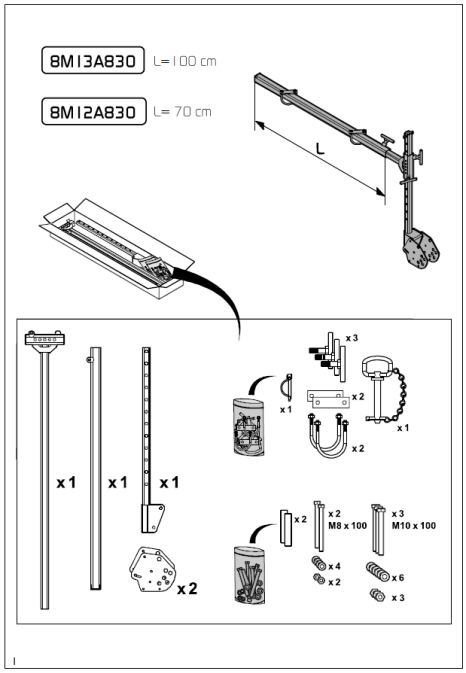
Ensure that the breakaway can operate freely without touching the vehicle.

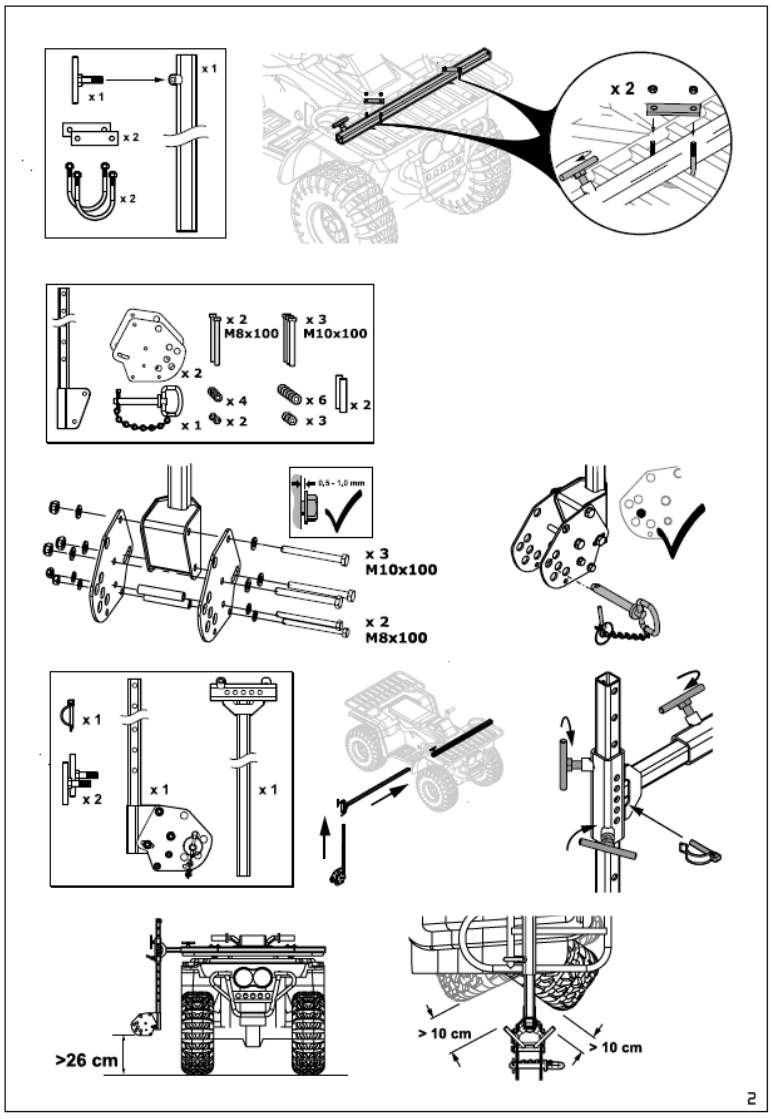


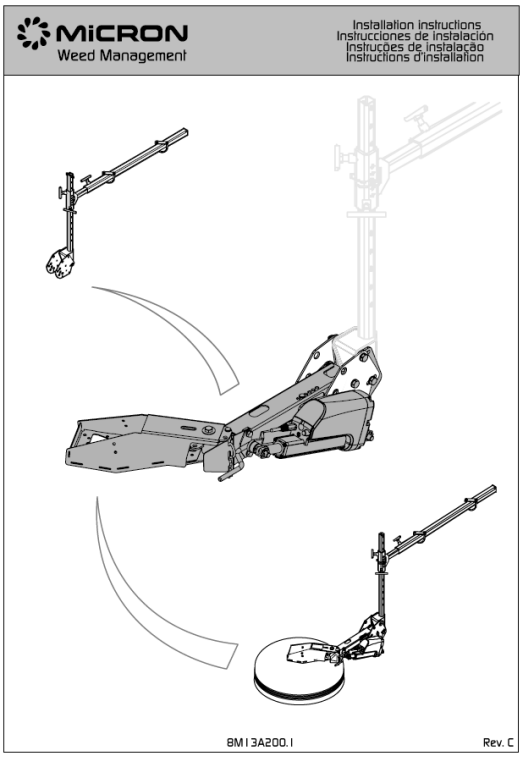
### 3.3.1 Support structure installation

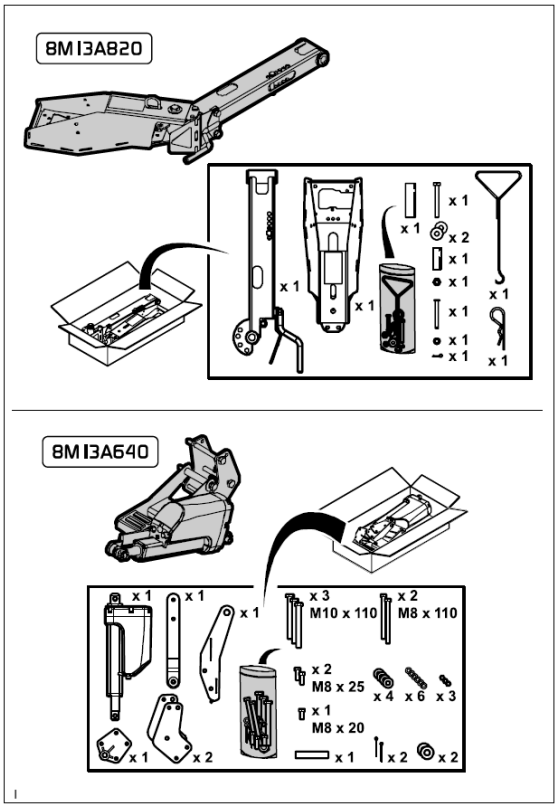


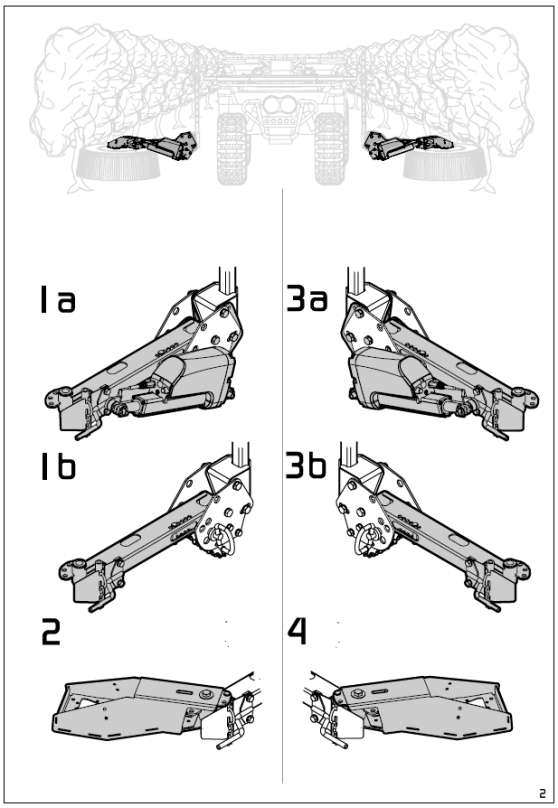



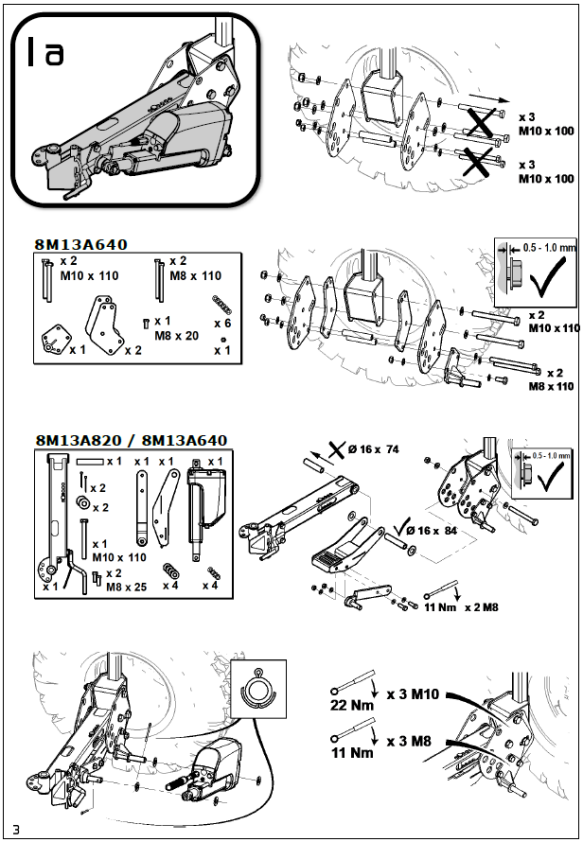



### 3.3.2 Breakaway installation




1a
x 3
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x 3
M10 x 100
8M13A640
x 2
M10 x 110
x 2
M8 x 110
x 1
M8 x 20
x 6
x 1
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0.5 - 1.0 mm
x 2
M10 x 110
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M8 x 110
8M13A820 / 8M13A640
x 1
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x 2
x 1
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11 Nm
x 2 M8
22 Nm
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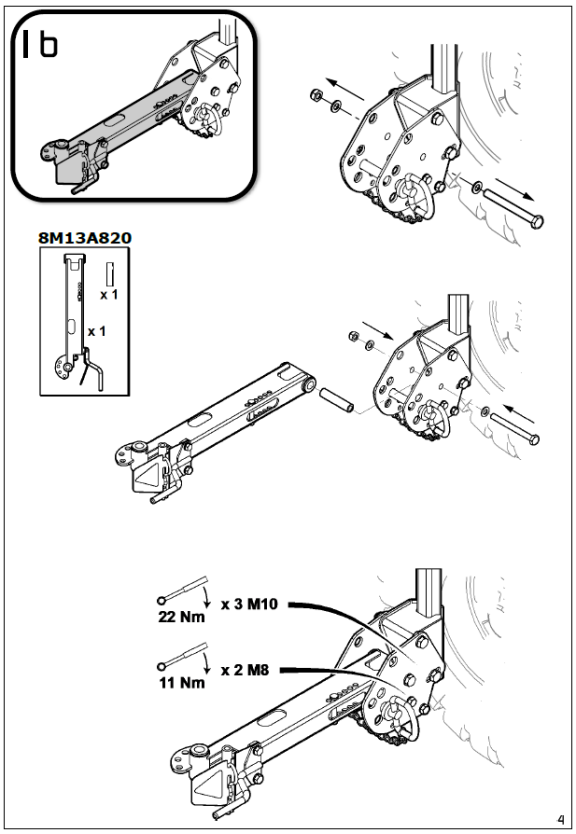
11 Nm
x 3 M8
3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11 Nm
x 2 M8
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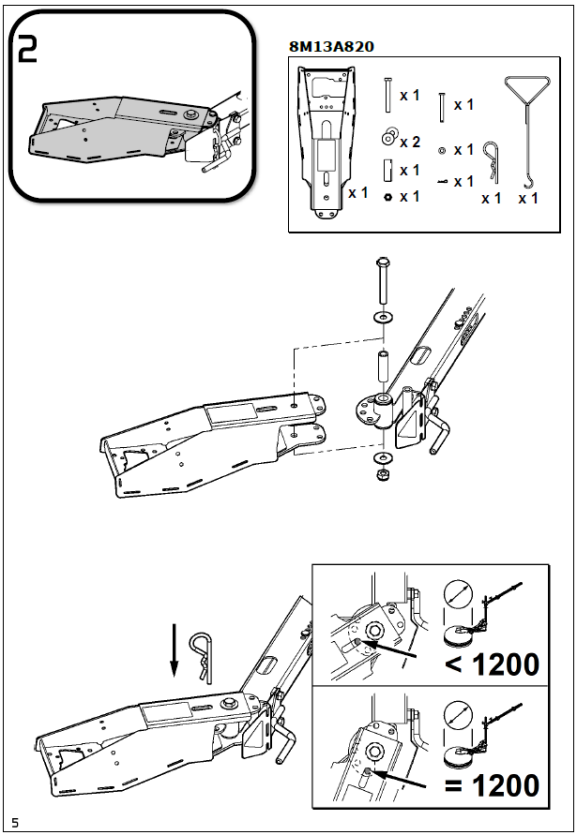
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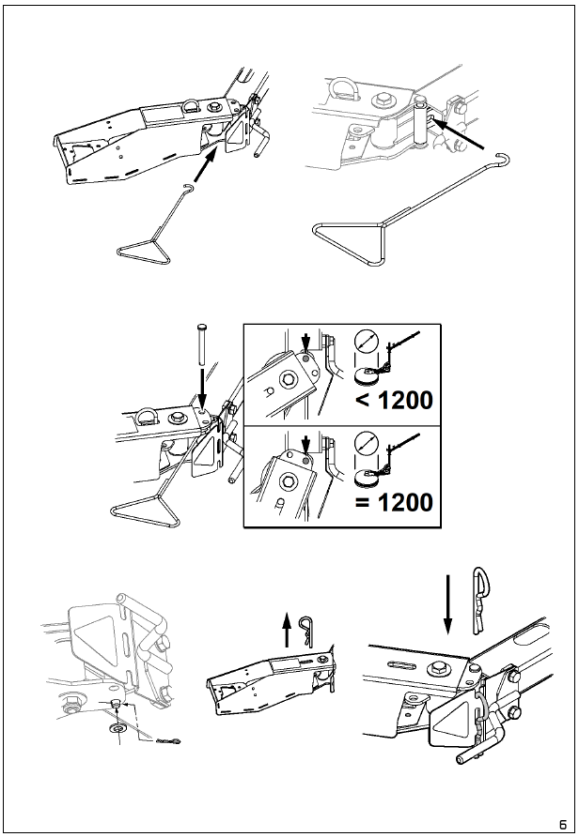
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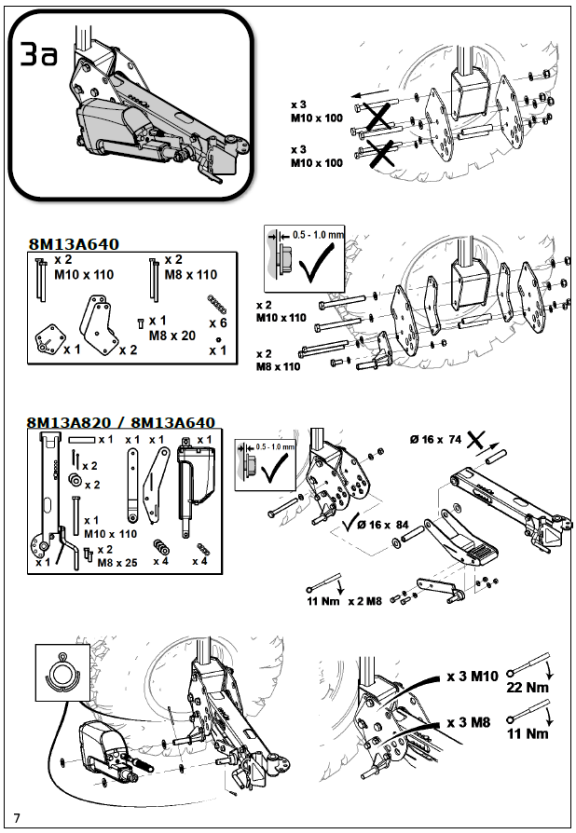
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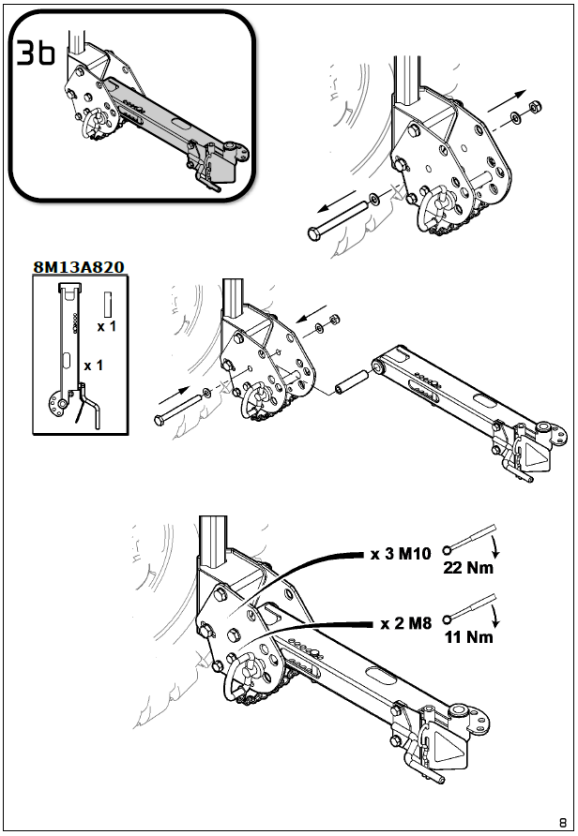
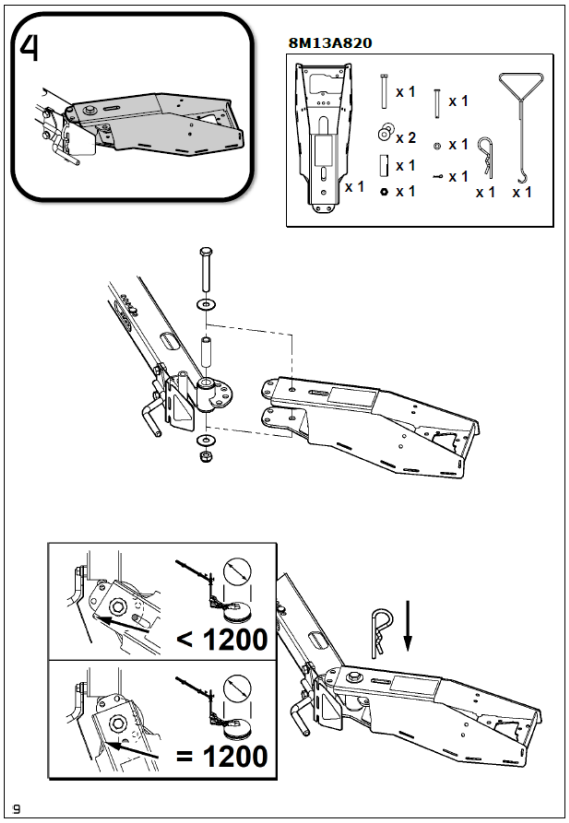
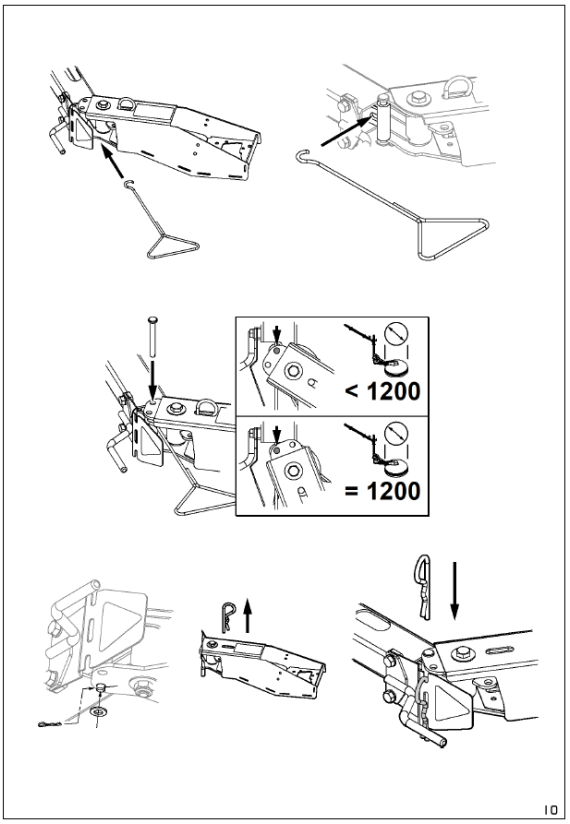
x 3
M10 x 100
x 3
M10 x 100
8M13A640
x 2
M10 x 110
x 2
M8 x 110
x 1
M8 x 20
x 6
x 1
x 1
x 2
0.5 - 1.0 mm
x 2
M10 x 110
x 2
M8 x 110
8M13A820 / 8M13A640
x 1
x 1
x 1
x 1
x 2
x 2
x 1
M10 x 110
x 1
x 2
M8 x 25
x 4
x 4
0.5 - 1.0 mm
Ø 16 x 74
Ø 16 x 84
11 Nm
x 2 M8
x 3 M10
22 Nm
x 3 M8
11 Nm
7

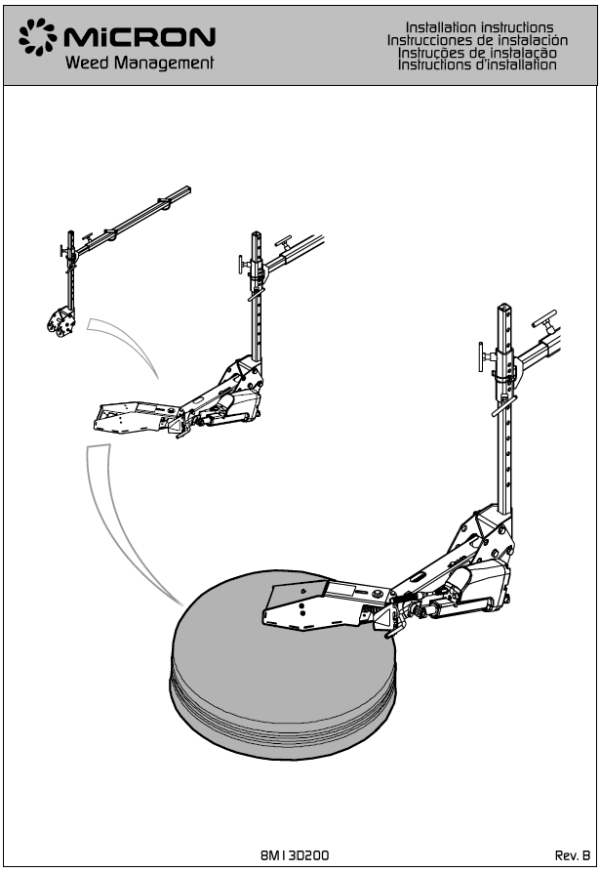

3b
8M13A820
x 1
x 1
x 3 M10
22 Nm
x 2 M8
11 Nm
8

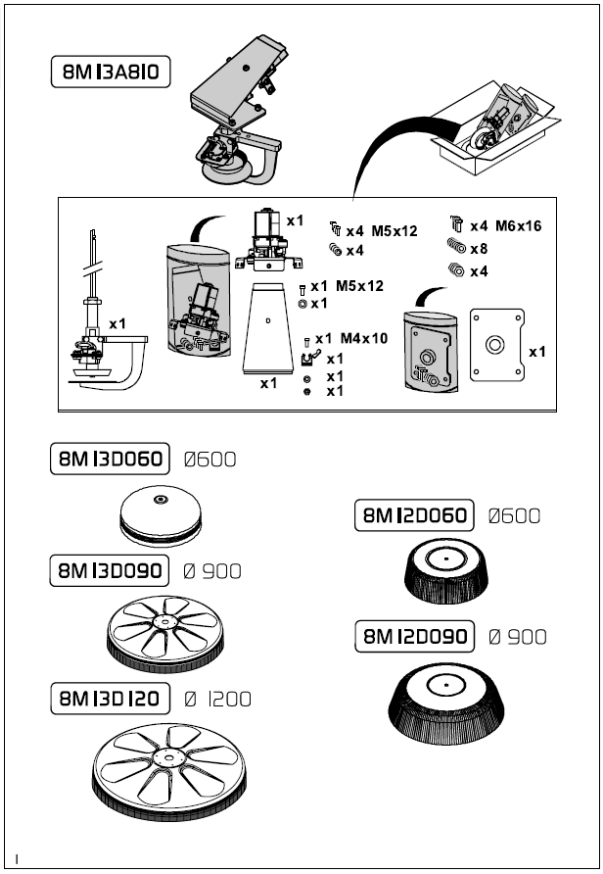

4
8M13A820
x 1
x 1
x 2
x 1
x 1
x 1
x 1
x 1
x 1
< 1200
= 1200
9

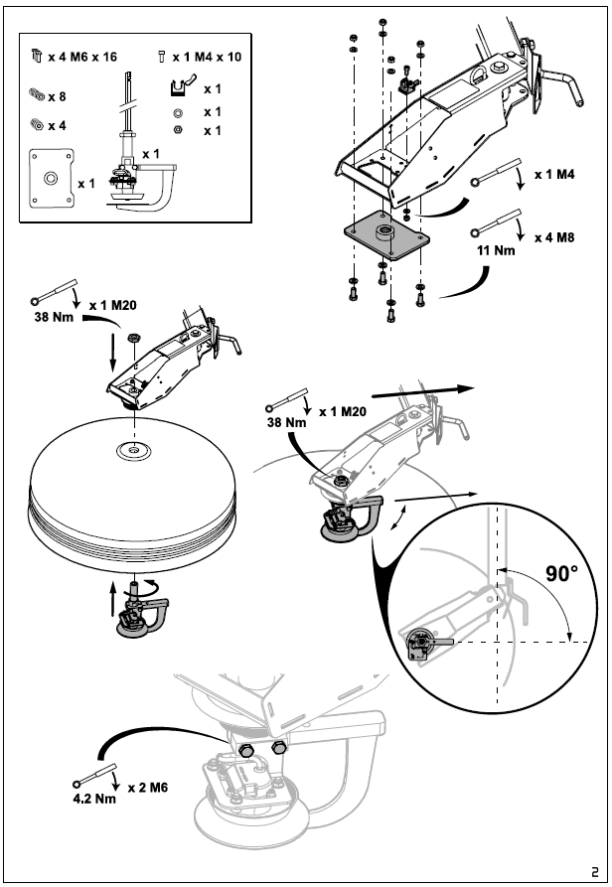

< 1200
= 1200
10

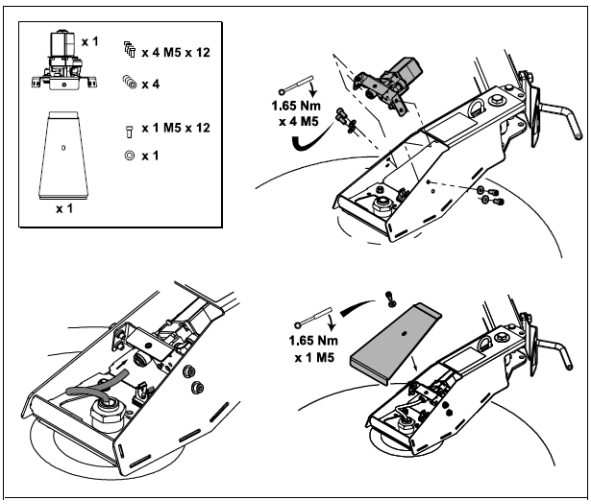
### 3.3.3 CDA Head, Ancillaries and Domes installation

S-FLEX AND S-DOME 600, 900 AND 1200:

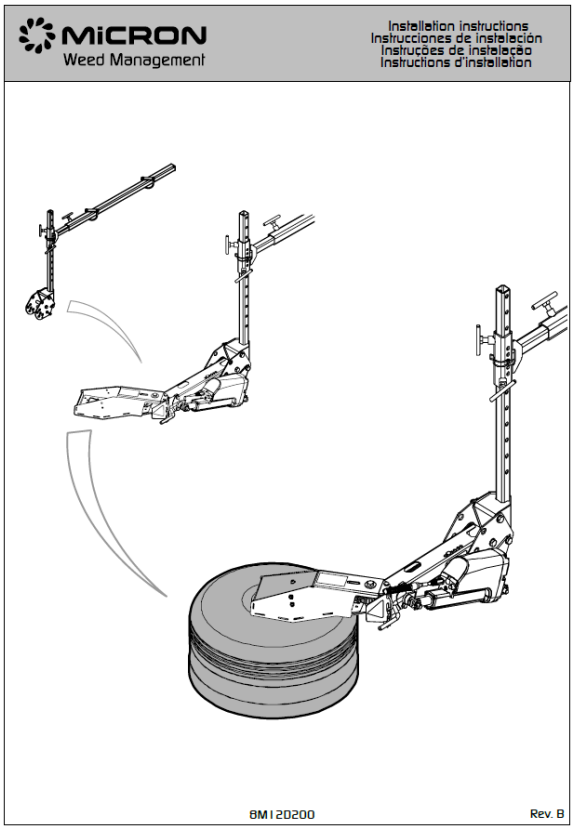


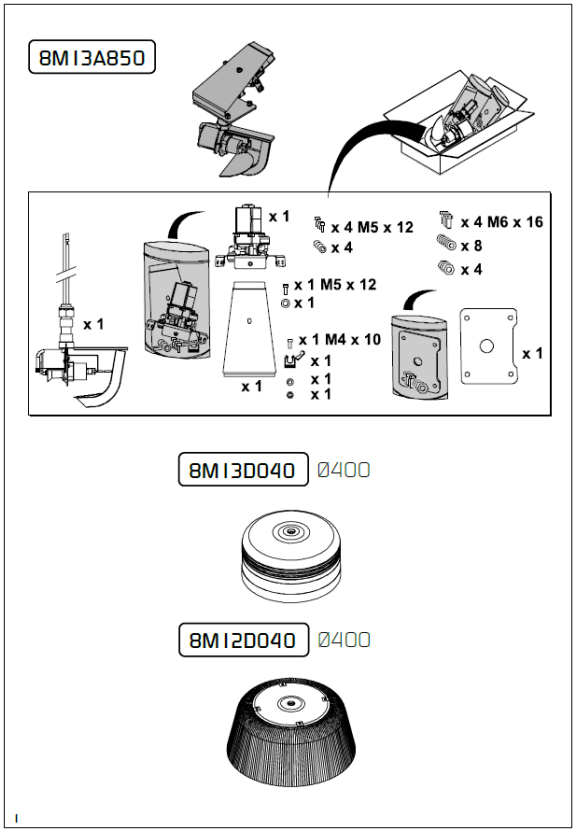



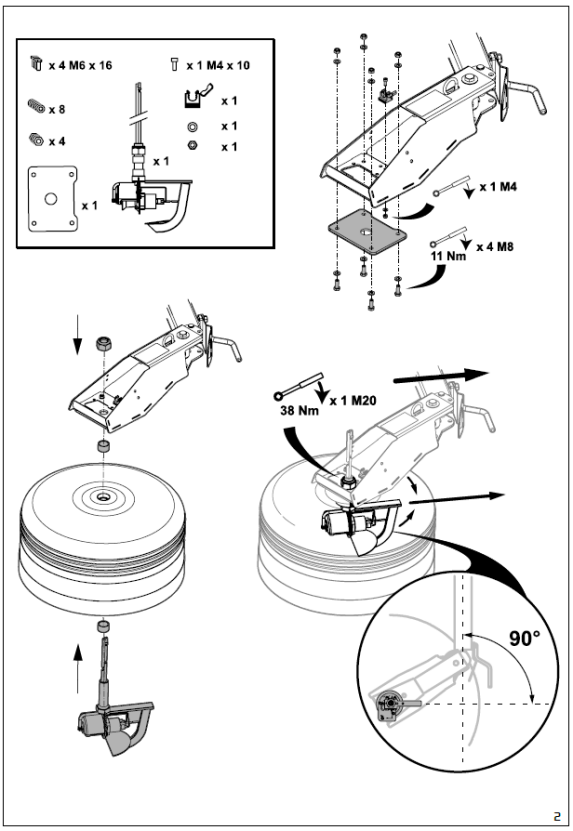



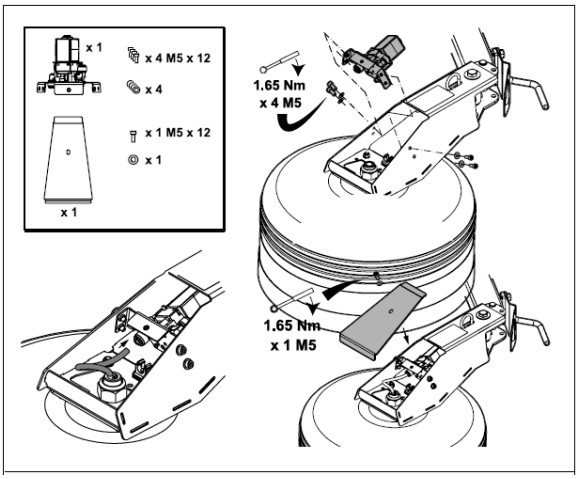



## S-FLEX AND S-DOME 400:

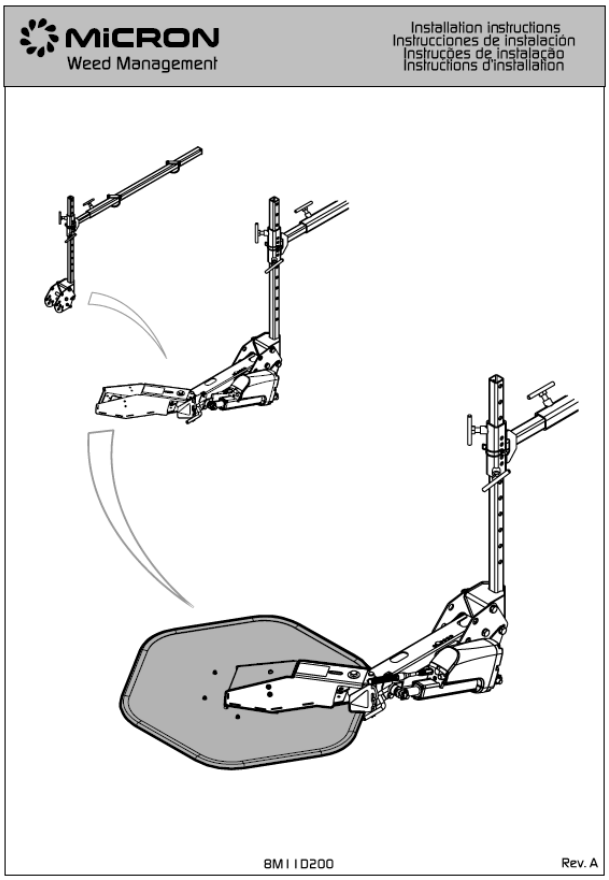


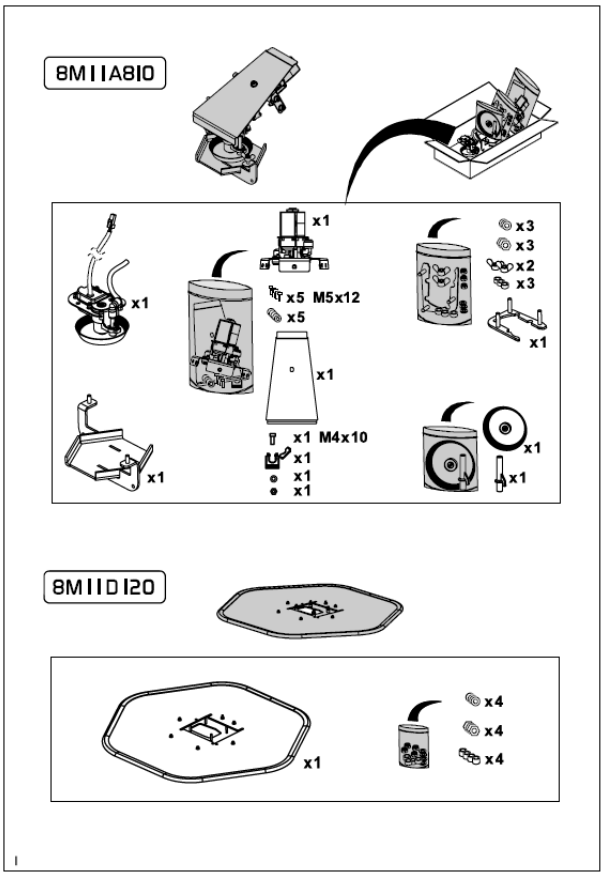



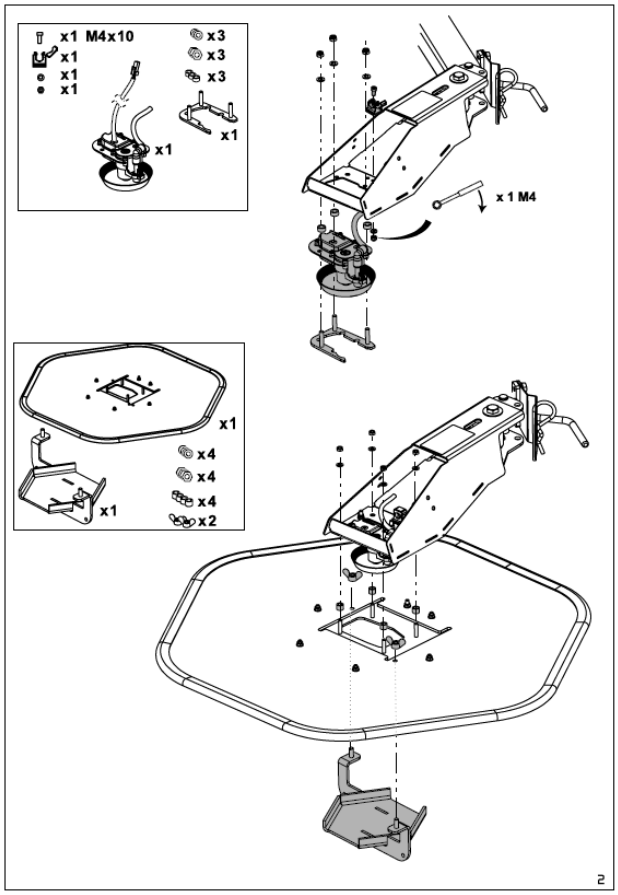



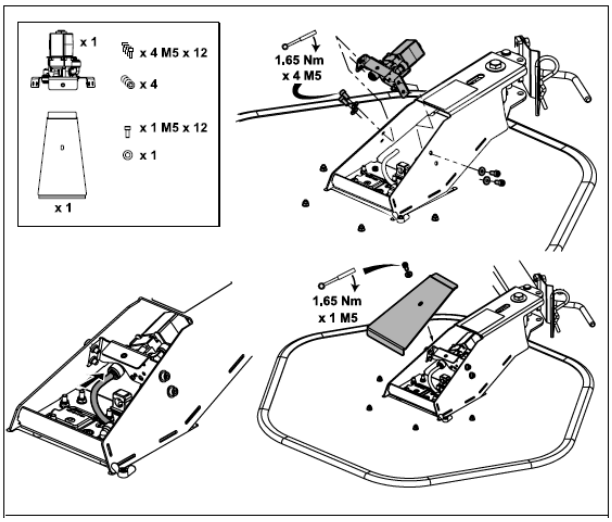



S-GUARD:

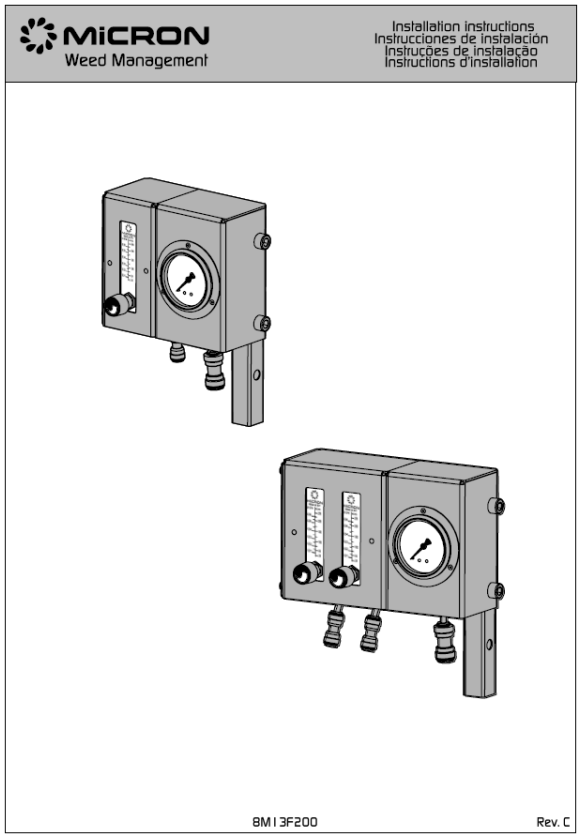

MiCRON
Weed Management
Installation instructions
Instrucciones de instalación
Instruções de instalação
Instructions d'installation
8M11D200
Rev. A

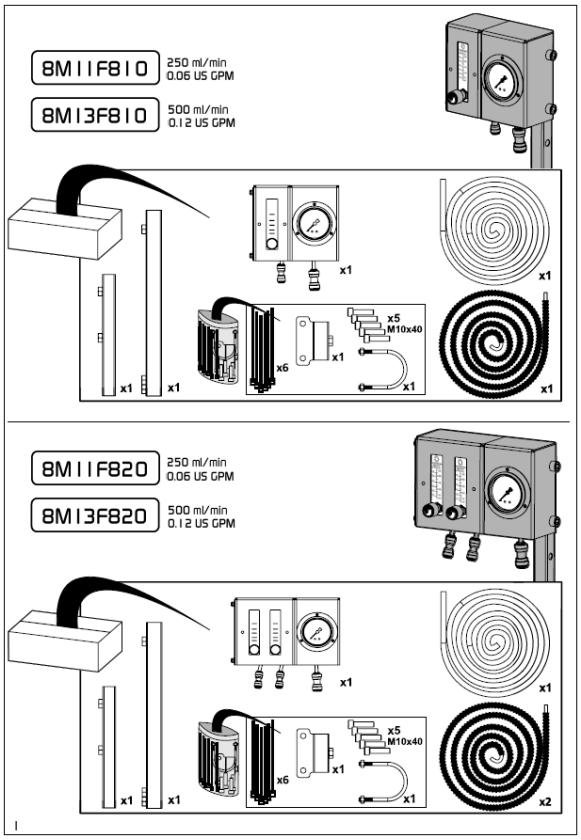

8M11A810
x1
x5 M5x12
x5
x3
x3
x2
x3
x1 M4x10
x1
8M11D120
x4
x4
x4
1

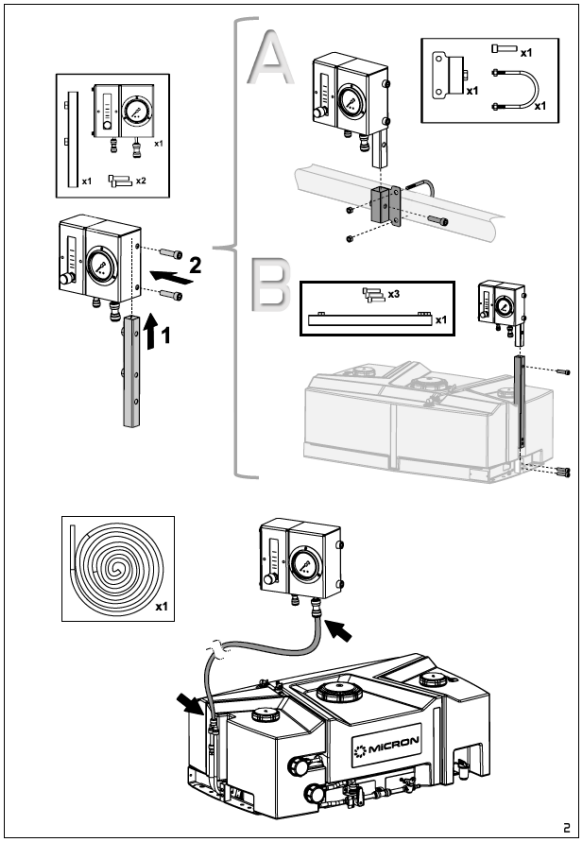

x1 M4x10
x1
x1
x1
x3
x3
x3
x1
x1 M4
x1
x4
x4
x4
x2
2

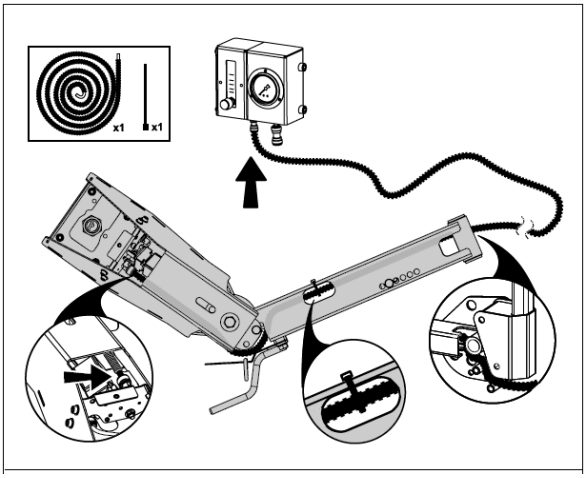

x 1
x 4 M5 x 12
x 4
x 1 M5 x 12
x 1
x 1
1,65 Nm
x 4 M5
1,65 Nm
x 1 M5

## 3.3.4 Flow control and hoses installation



### 3.3.5 Electronic and electric installation

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

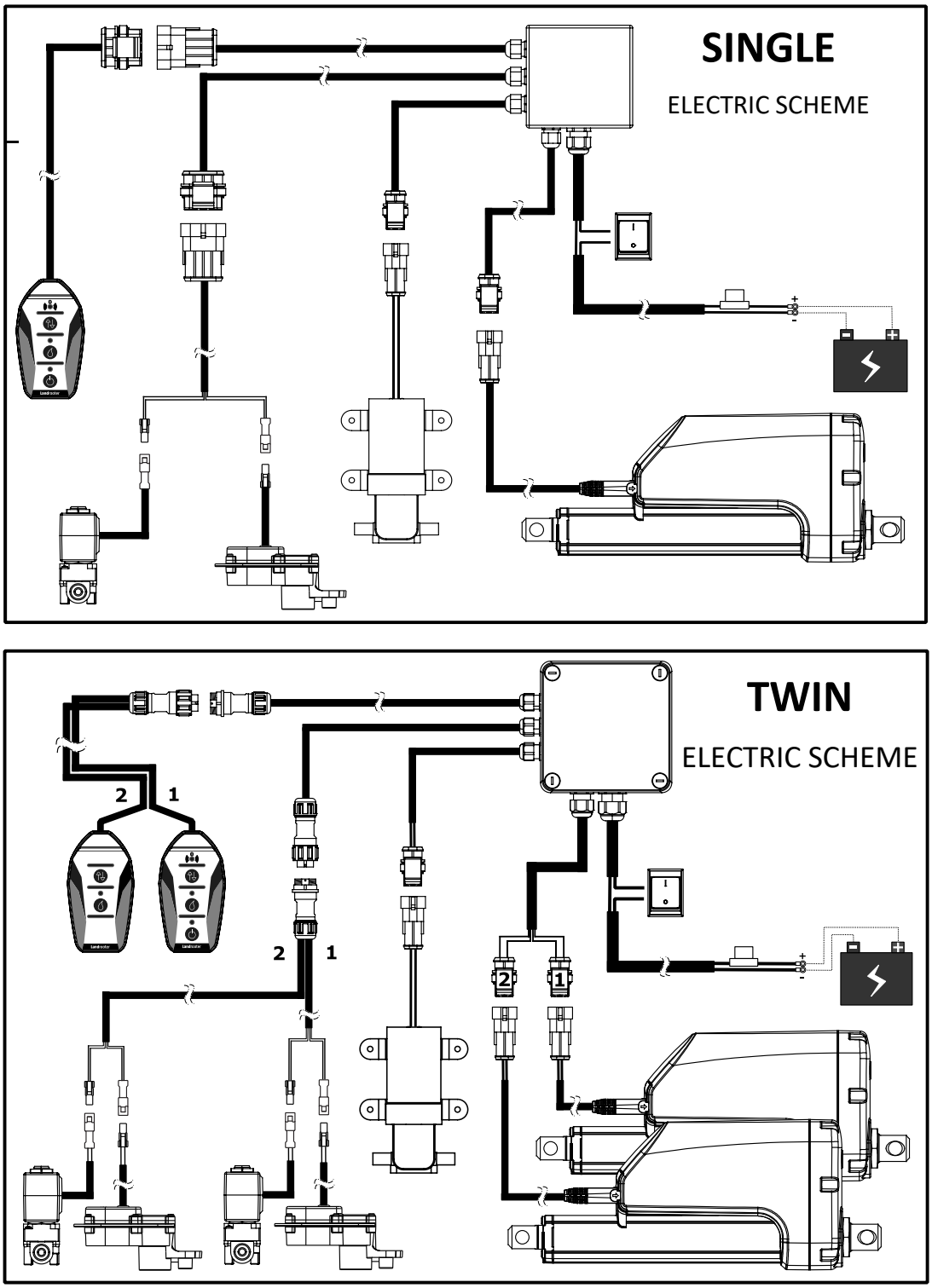
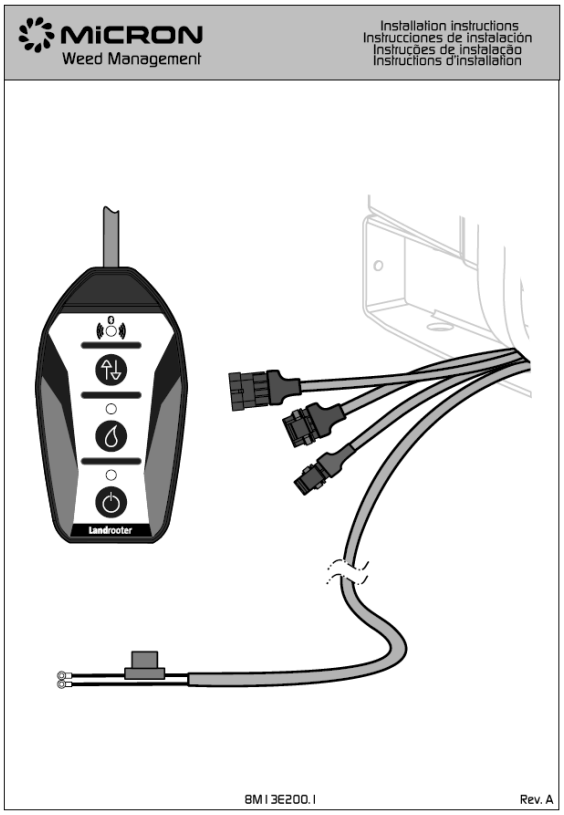
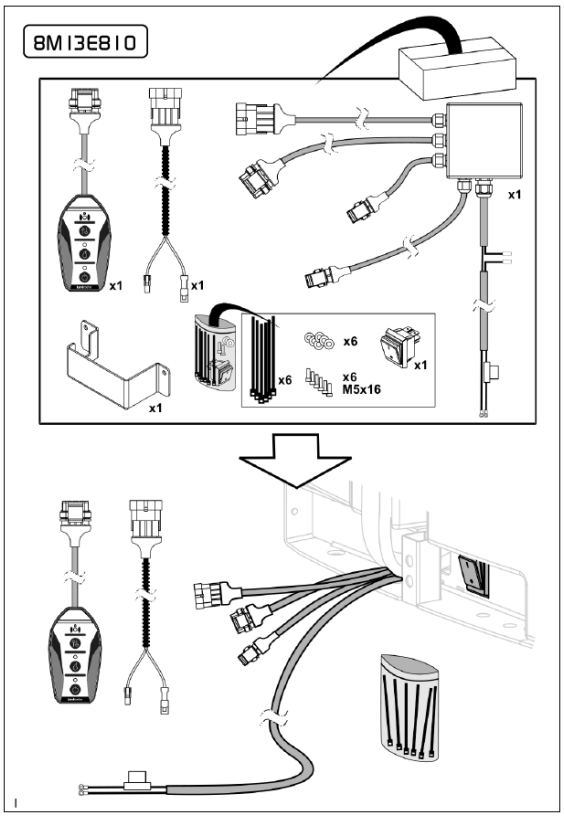
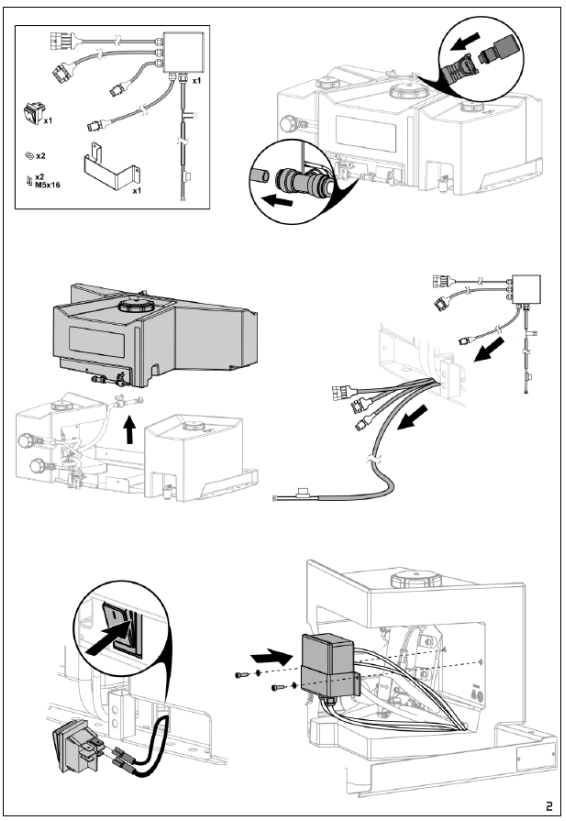


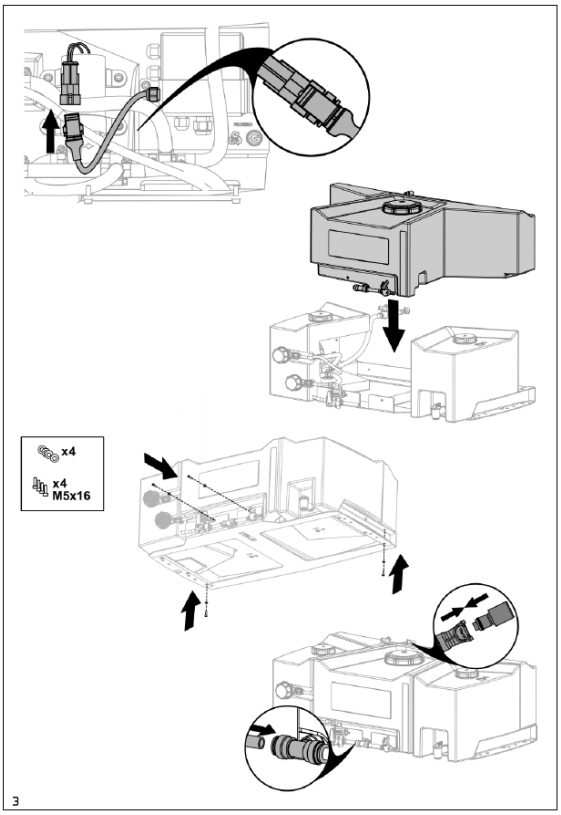

**Figure 5 – Electrical connections’ diagram**

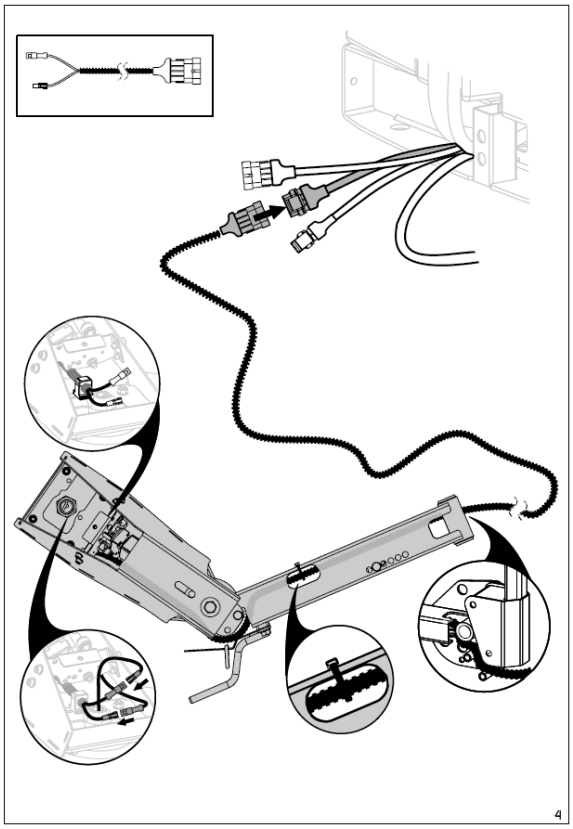
**Pump and actuator(s) only in case the MWM Tank is purchased also*


MICRON
Weed Management
Installation instructions
Instrucciones de instalación
Instruções de instalação
Instructions d'installation
Landrooter
8M13E200.1
Rev. A

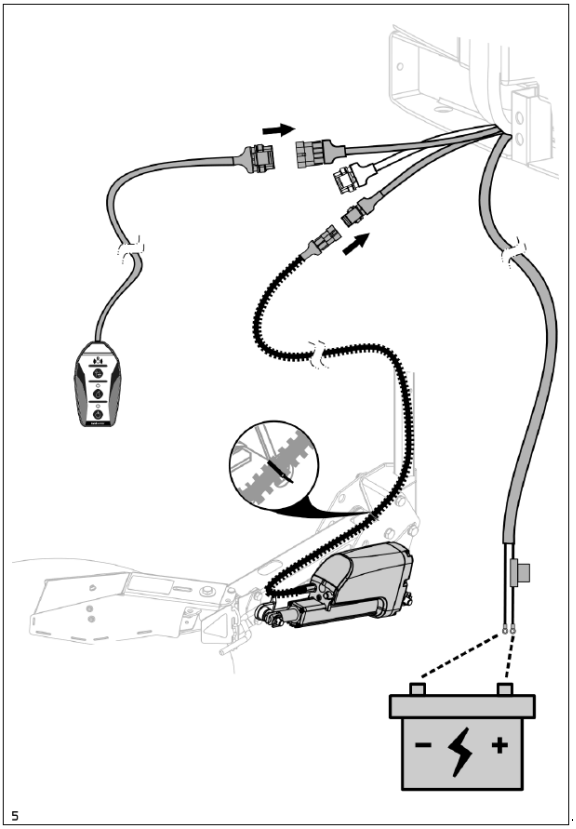

8M13E810
x1
x1
x1
x6
x6
x6
M5x16
x1
x1
1


x1
x1
x2
x2
M5x16
x1
2


x4
x4
M5x16
3



4



5

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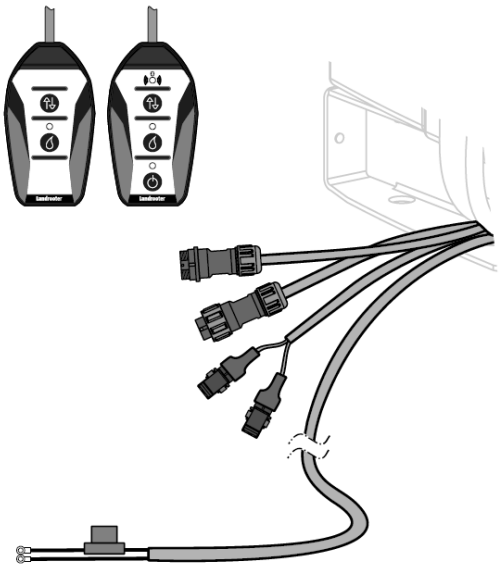
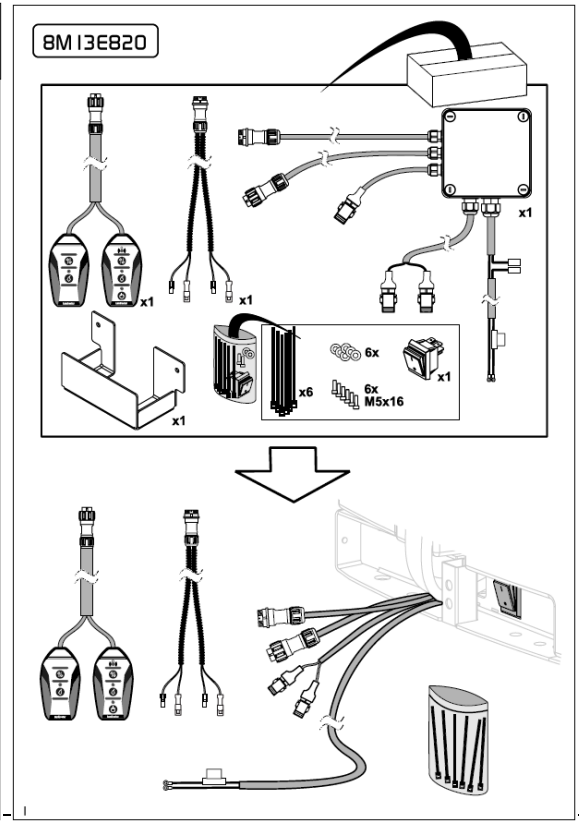
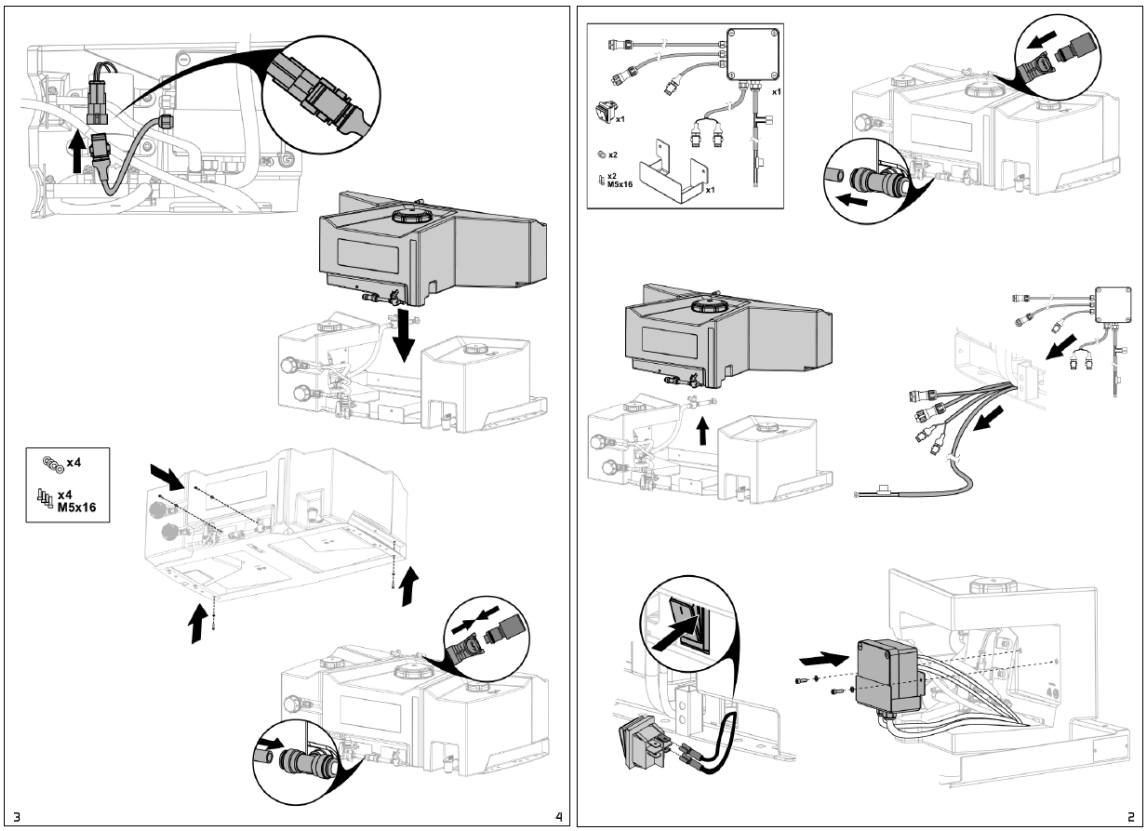
Installation instructions
Instrucciones de instalación
Instruções de instalação
Instructions d'installation

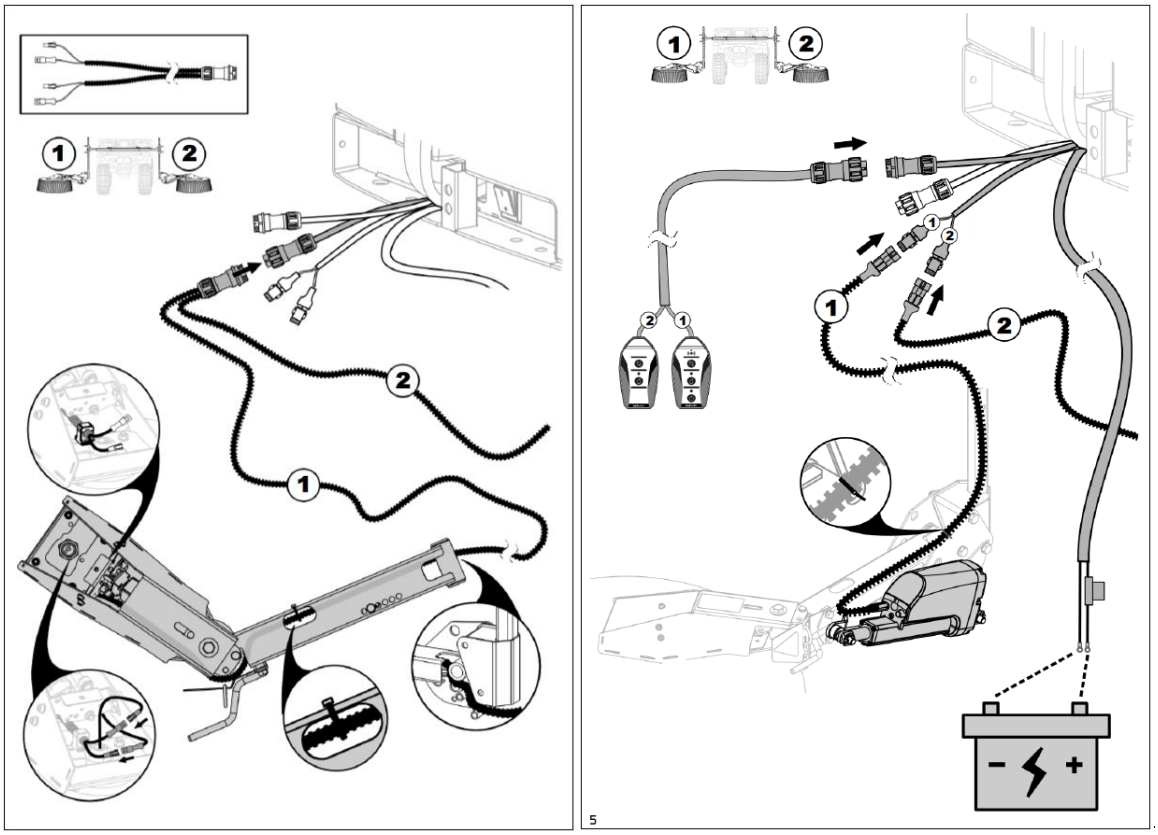


8M13E200.2 Rev. A

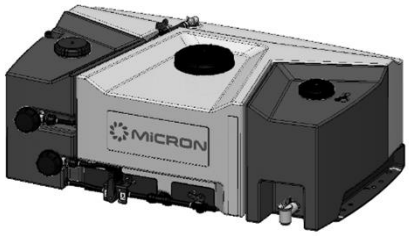



1


x4
x4
M5x16
x1
x1
x2
x2
M5x16
x1
3
4
2


1
2
1
2
1
2
2
1
1
2
5

## 3.4 Tank System




**60 L Tank System**

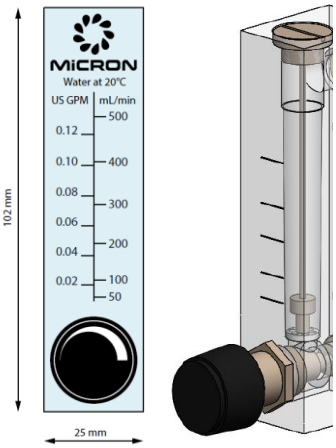
It is recommended to always use the Micron Weed Management tank systems. Refer to the instructions supplied with the tank system.

In case the equipment is working without MWM tank system, the remote control may show an error in the pump LED (the light will be flashing). This is because the electronics is not controlling the MWM tank pump.

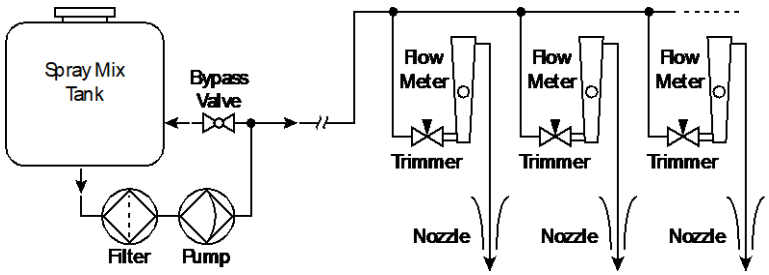
## 3.5 Flow Control information

Flow control for the rotary atomisers on the CDA units is achieved using a flowmeter with adjustable trimmer to regulate flow rate. The liquid flow lifts a ball on the gauge and indicates the flow on a graduated scale.

To the rear of each flowmeter is a 6 mm push fit fitting on the upper outlet to connect the feed hose to each individual atomiser – one flow gauge per CDA atomiser. There is also a 6mm push fit inlet at the base of each flowmeter connected via the manifold to the main inlet from the pump.

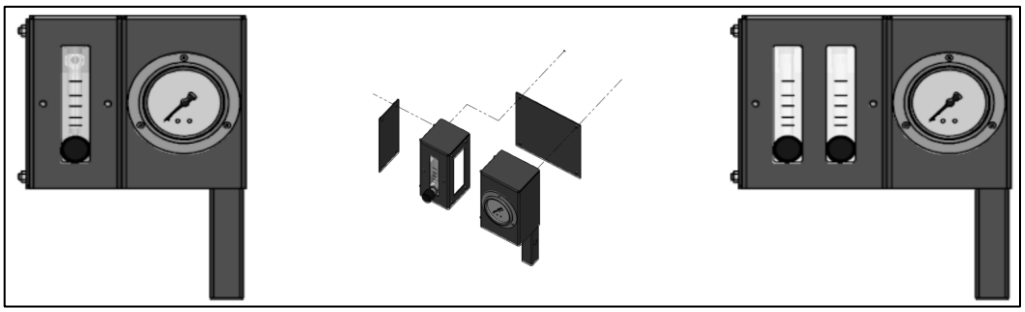



**Flowmeter with adjustment valve 'trimmer' and calibrated**




**Typical plumbing circuit arrangement**

The flow gauge is also supplied in modular form in single and twin versions that can be assembled together for multiple spray atomisers.



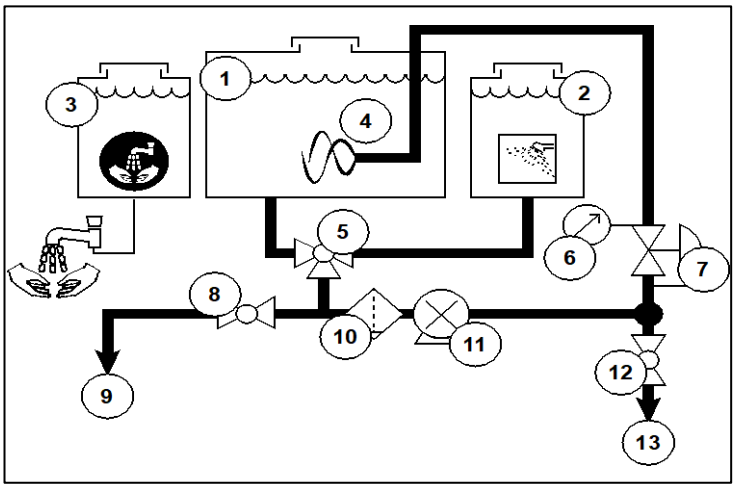
**CDA modular flow gauge system**

To set the flow rate to each atomiser, first open the individual flow adjustment trimmers to about three quarters open by turning anti-clockwise. Then adjust the return tank valve to obtain a flow rate some 20% higher than required on the gauges. Then use the individual trimmer on each valve to set the flow to each spray atomiser head as calculated according to band width, vehicle speed and application rate. The inlet pressure from the tank and pump unit should be reading around 0,5-0,7 bar on the pressure gauge. If lower or higher then adjust the main return to tank valve and reset the trimmers to desired flow rate.

Mount the Flow Control in a convenient position visible to the operator.

### 3.5.1 Flow system diagram

**300 L TANK**

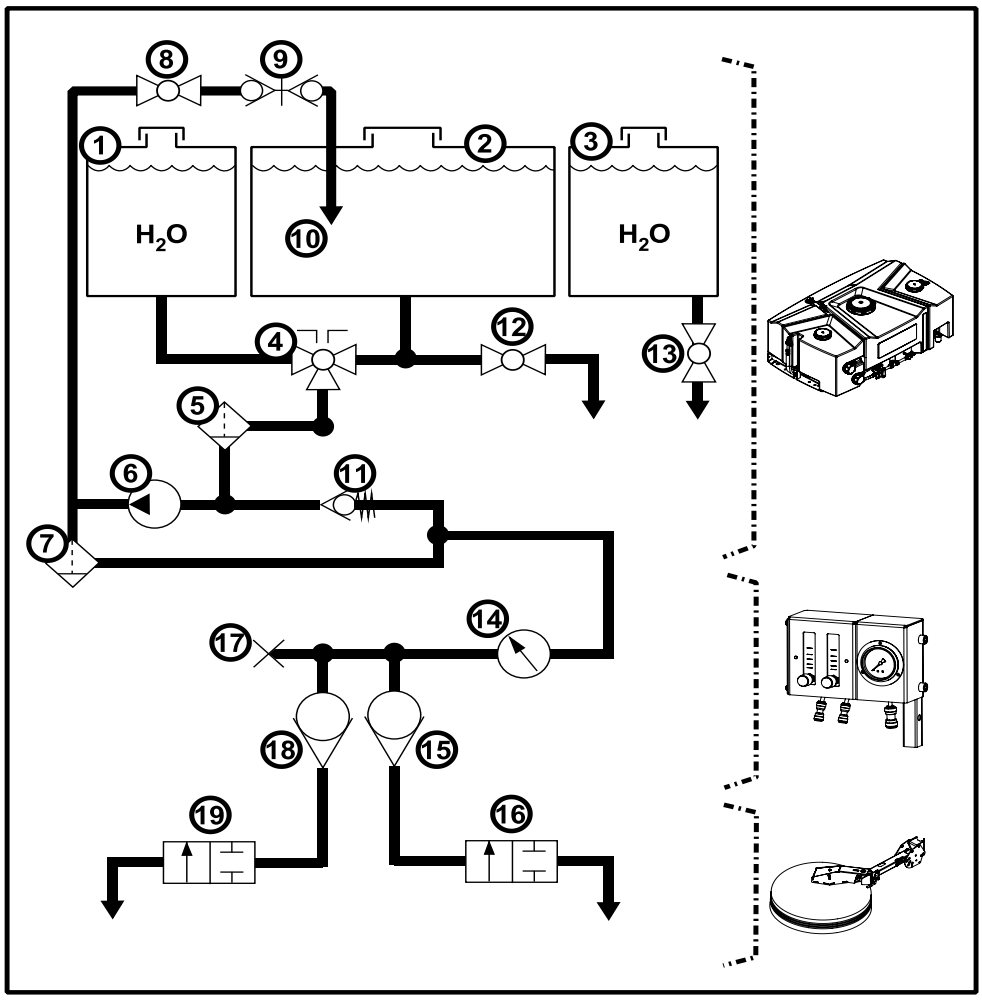



| | | | |
|---|---|---|---|
| 1 | Spray Tank | 7 | Pressure Regulating Valve |
| 2 | Rinse Tank (clean water only) | 8 | Drain Isolation Valve |
| 3 | Hand Wash Tank (may be fitted separately on ATV) | 9 | Drain Outlet |
| 4 | Spray Tank Agitation | 10 | Filter[1] |
| 5 | Tank Selection Valve (main tank or rinse tank) | 11 | Pump (Electric, Hydraulic or PTO driven) |
| 6 | Pressure Gauge (spray line) | 12 | Spray Boom/Line Isolation Valve |
| | | 13 | Outlet Stop Valve |

**300 Litre Tank system Features**

[1] Your tank system must include an inline filter of 50 mesh size (blue – ISO19732).

**60 L TANK**




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

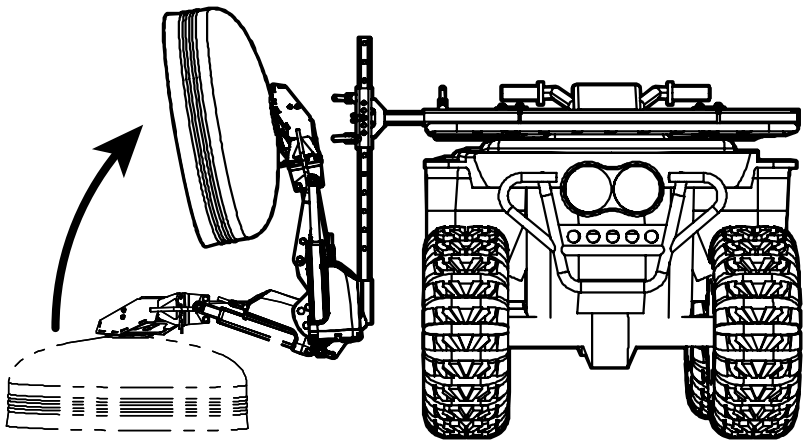
| | |
|---|---|
| 11 | Pressure release valve |
| 12 | Drain valve |
| 13 | Hand wash valve |
| 14 | Manometer |
| 15 | Flowmeter 1 |
| 16 | Solenoid valve 1 |
| 17 | Stopper |
| 18 | Flowmeter 2 |
| 19 | Solenoid valve 2 |

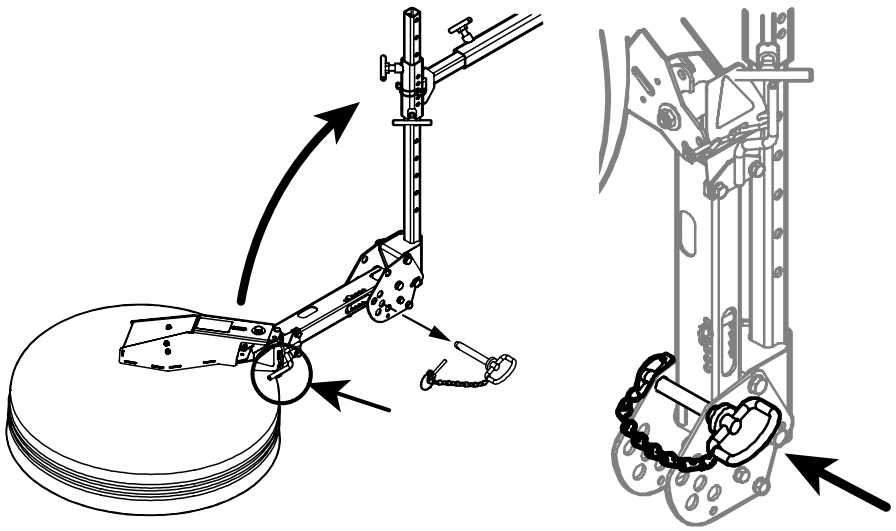
** Flow diagram is for double arm system. Single arm system is the same without items 18 and 19.*

## 3.6 Transport

When transporting the sprayer on public highways it is the responsibility of the operator to ensure the implement and tanking system can be safely moved and all road regulations complied with.

When transporting the sprayer, operators **must** lift all the breakaway assemblies into their raised positions and lock them using the clamp bolt assembly. Also check the driver's vision is not obscured. ATV units are usually transported with a flat bed trailer and pickup truck.





# 4 PREPARING FOR SPRAYING

## 4.1 Pre-spray inspection

The operator **must** ensure 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.**

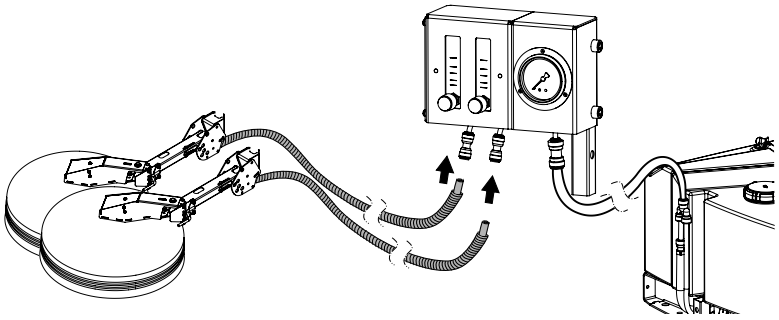
Follow the operating procedures in section 4.2. With a small quantity of water in the main tank, pressurise the system by running the pump with the outlet valve closed. When the system is pressurised visually check for leaking hoses or joints. Repair any defects immediately and retest the tank. When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

## 4.2 Sprayer Setup

When calibrating, it is important to note the number of atomisers. The CDA units have rotary atomisers with individual flow control to each.

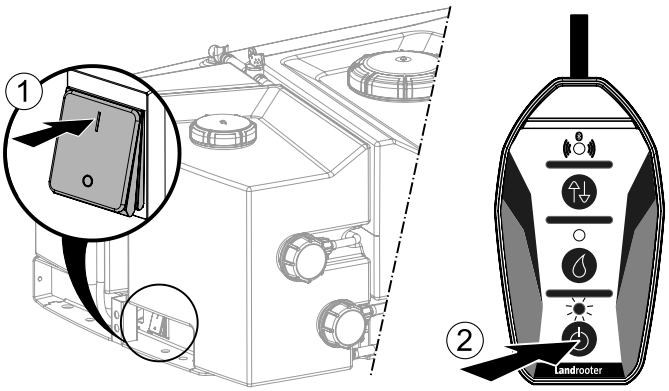
The following procedure is a guide to correct setup and operation of MWM equipment:

4- Connect your spraying equipment to the flow control.



5- Add approximately 5L of clean water to the spray mix tank.

6- 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.




*The remote control has magnets on the rear to help fix to a metal structure during use.

*7*- Adjust the regulation valve to achieve the correct measured output flow rate. For the purposes of testing, set the regulation valve obtaining 0,5 bar *(7.25 PSI).*

8- Press the spraying button on the remote control.

9- Visually check the equipment for leaks. Repair any defects immediately and repeat the above procedure.

# 5 CALIBRATION

## 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. The LANDROOTER™ WIZARD (section 5.3) has been developed to make these calculations.

**SPRAY MIX VOLUME (L) =**

**Volume Rate (L/ha) x Band Width (m) x Field Area (ha) / Row Width (m)**

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

**Band Width (m):** This is the width covered by the spray pattern, shield or combination of shields; see page 53 for further details.

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

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

Example: 30 l/ha application rate in trees planted at 2m 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 (L) | = | Volume Rate (L/ha) | x | Band Width (m) | x | Field Area (ha) | / | Row Width (m) | = | 60 L |
|---|---|---|---|---|---|---|---|---|---|---|
| | | 30 | | 0.8 | | 5 | | 2.0 | | |

## 5.2 Output Flow Rates

CDA atomisers require very low flow rates of between 60 and 300 millilitres per minute for each atomiser. Refer to spraying equipment instructions for further information on setting flow rates.

The flow rate per atomiser/nozzle is calculated using the following formula:

**FLOW RATE per atomiser/nozzle (L/min) =**

**Band width (m) x Vehicle speed (kph) x Application Volume (L/ha) / 600**

***Note:*** *Metric units must be used for this formula*

For example:

Two S-Flex CDA 400 spray heads (left and right) on an ATV travelling at 6 kph applying 30 L/ha of spray mix. First calculate the flow required for each S-Flex CDA 400 as follows:

Band width = 0.4m

Vehicle speed = 6 kph

Application volume = 30 L/ha

Flow rate per S-Flex CDA 400 (L/min) = **0.4 m x 6 kph x 30 L/ha / 600 = 0.12 L/min= 120 mL/min**

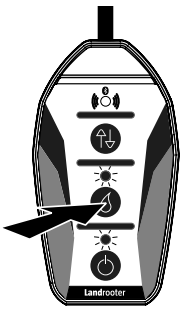
Set each head to 120mL/min**, so two heads would be total of 240mL/min output.**

The LANDROOTER ™ Wizard can also be used to calculate the correct flow rate for each nozzle.

### 5.2.3 Measuring the flow rate (CDA atomiser)

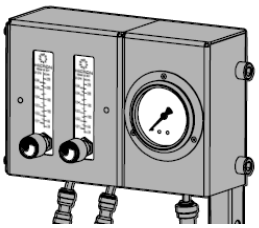
Once the equipment is inspected for any leaks the measuring of the flow rate must be done before starting spraying.

Follow the following steps:




1- With the equipment working, press the "spraying" button on the remote control

2- Set the regulation valve obtaining 0,5 bar (7.25 PSI).

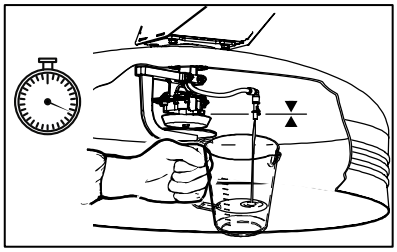


3- Adjust the flow control trimmers checking the flowmeter for each atomiser.

4- Measure the discharge from the nozzle over 1 minute, with the arm in horizontal position. Depending on the spray head model the nozzle and its positioning is different:

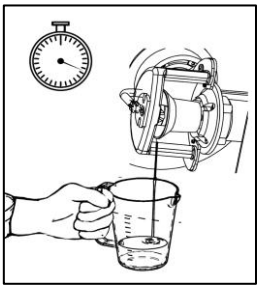
- 600, 900 and 1200 models:

  Simply remove the feed nozzle to the atomiser disc.



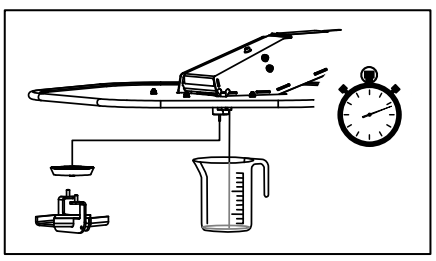
- 400 models:

  Remove the nozzle from the recirculating cup



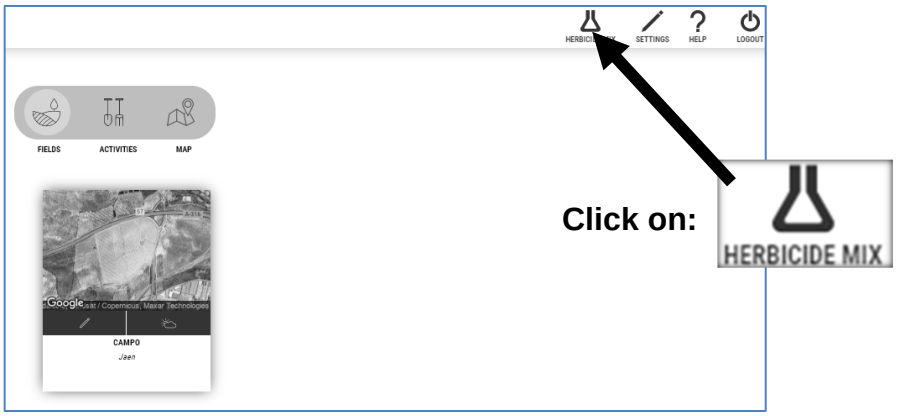
- S-Guard:

  Remove the disc protector and the disc

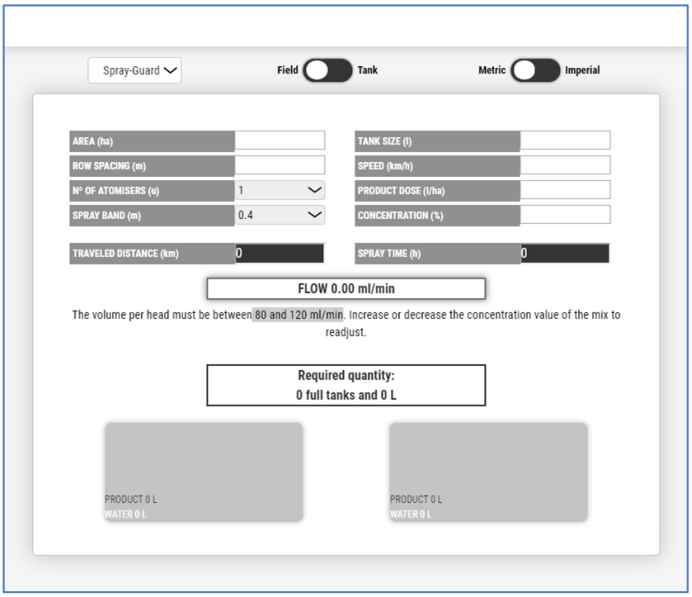


## 5.3 LANDROOTER™ wizard

The main function of the herbicide mix LANDROOTER WIZARD is to facilitate calculations and optimize the amount of prepared mixture, so you do not have to waste product. It is also necessary to use it, since it will give us information about the flow to use during the treatment. Click on the "herbicide mixture" icon and the wizard will open.




*(Direct address: [https://my.landrooter.com/laboratory](https://my.landrooter.com/laboratory))*




For further information, please, check Landrooter manual.

## 5.4 Preparing the Spray Mix

1- Only prepare sufficient spray mix for the required spray operation. Use LANDROOTER WIZARD (see section 5.3) as a help for calculating the needed spray mix.

Landrooter HERBICIDE MIX

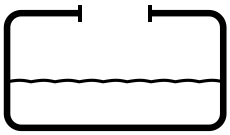
2- Check calibration and operating parameters against the instructions supplied with your spraying equipment.

3- Read the product label and abide by all safety requirements for PPE when mixing and filling.

4- Mix products in a secure area according to manufacturer's recommendations. Prevent any spillage or wash down from contaminating waterways or other areas.

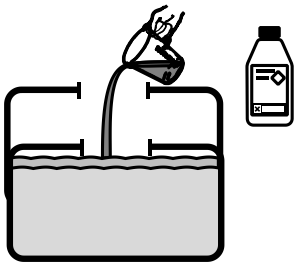
5- Check for leaks before mixing products into the spray mix tank.

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



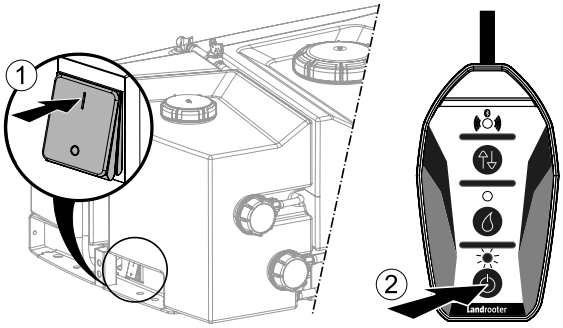
7- Add the required quantity of chemical to the spray mix tank.

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



9- The regulating valve should already be pre-set to the required spray line pressure.

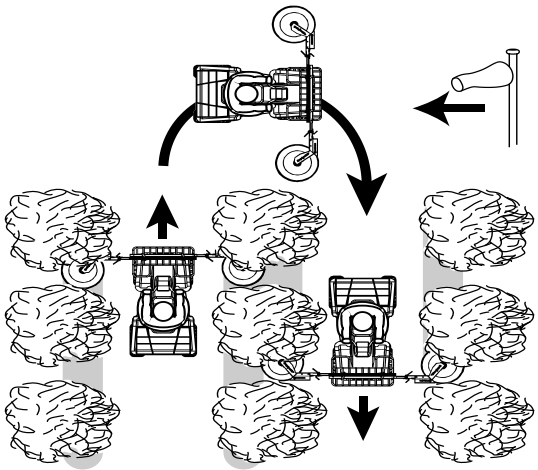
10- Switch on the pump and check that fluid is moving around the system.



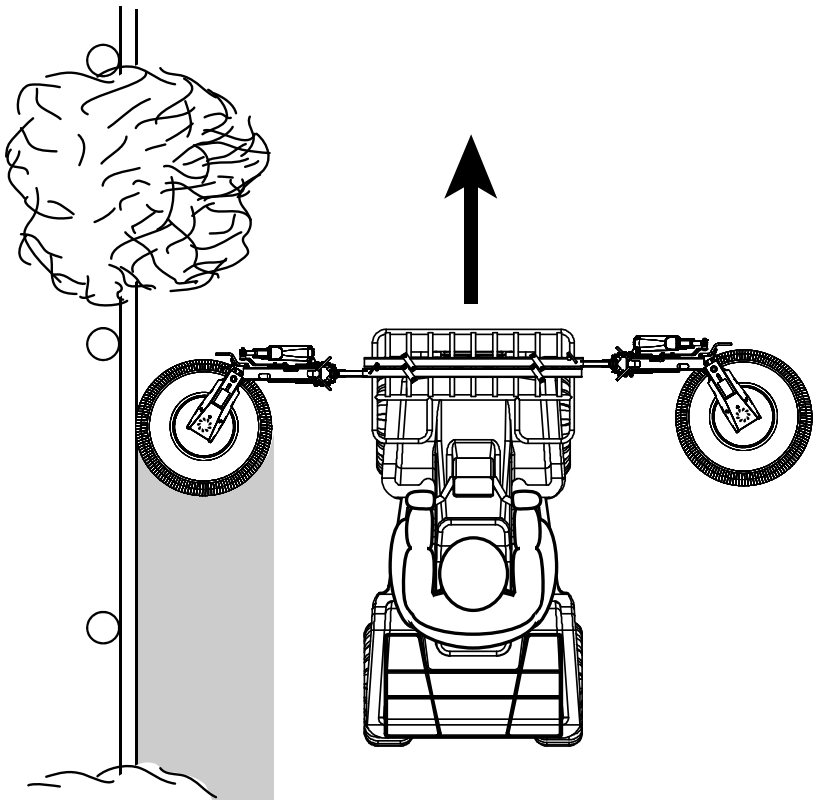
# 6 SPRAYING

## Application Method

Operators using vehicles without an enclosed cabin **must** wear the appropriate personal protective equipment (PPE) during spraying. Plan the spray route to avoid driving over sprayed areas. Switch off flow to spray atomisers / nozzles at the end of each row.



When spraying fence lines or the last tree row it will be necessary to operate only one spray head.



## 6.1 Spraying process

*Wear Gloves*

*Wear a Face Shield or Eye Protection*

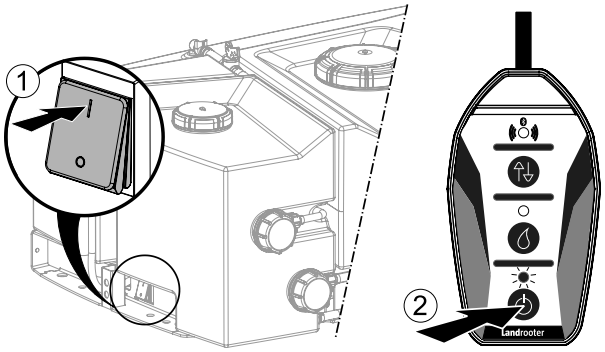
*Wear Protective Clothing*

*Wash Hands*

After “preparing for use” (section 4) and “calibration” (section 5). Continue with the following steps:

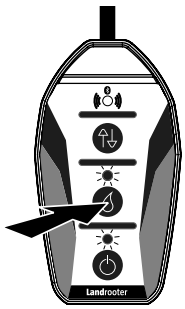
1- Switch on the Master switch (on the tank, ①) and the pump button (on the remote, ②) . The LED light should be ON to indicate pump is running and ready to spray.

Switch off ②to stop pump.



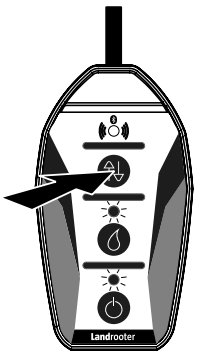

2- With the pump running, press the spray button on each remote control to start spraying. LED indicates unit is spraying.

Press again to stop spraying.



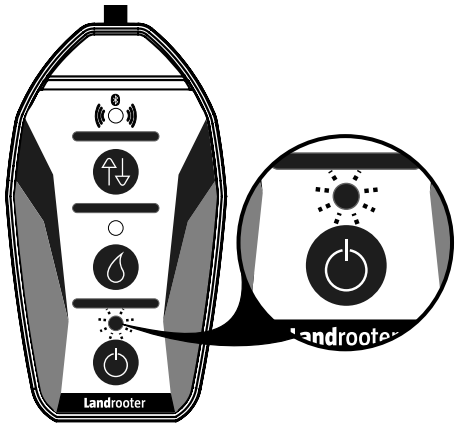

3- If the unit is equipped with actuators, use the actuator button to raise and lower the arm to adjust position to the ground. Pressing the button again the arm will stop and next time will reverse the direction of the actuator. The actuator will automatically stop at the end of its stroke. If actuators are not fitted the button is redundant.

***Note: Make sure to switch the spraying button off (LED light off) before raising the arm.***



## 6.2 Alarm indicator for system malfunction

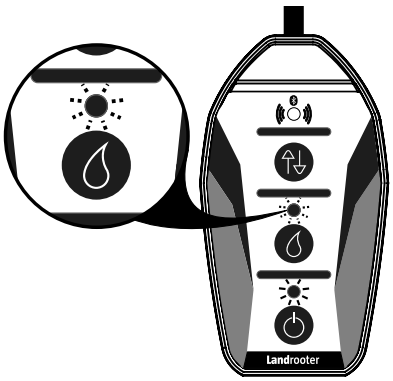
1- PUMP ALARM:




If the pump button LED flashes intermittently this indicates a blockage or failing pump as power consumption limit is exceeded.

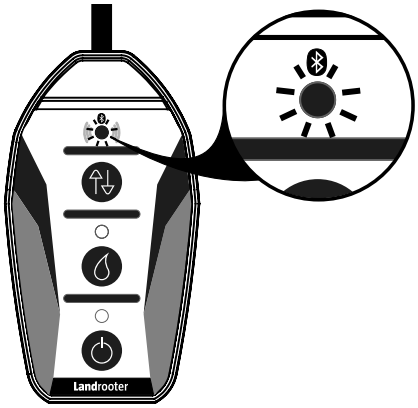
If this occurs check for blockages in the nozzle and hose lines.

2- ATOMISER ALARM:




If the LED spray indicator flashes intermittently, the atomiser has a fault as the current draw has been exceeded. If this occurs check that the atomiser disc is not obstructed and turns freely.

3- BLUETOOTH® ALARM:




With the Master switch ON the Bluetooth® LED will flash with blue light to indicate it is in pairing process.

If this led does not flash twice intermittently, then the sprayer is not paired with the mobile phone yet so no information can be transferred.

If so CHECK that the Bluetooth on the mobile phone is on, and you are inside the field.

* For more details, please check Landrooter manual.

# 7 CLEANING

Wear Gloves

Wear Eye Protection

Wear Protective Clothing

Wash Hands

When spray is complete rinse out the spray lines, pump and atomiser/nozzles with clean water and spray out any washings 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.

## 7.1 Disposal of Washings

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

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

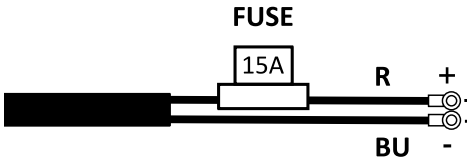
Avoid contamination of waterways or drainage ditches when disposing of washings and follow local regulations regarding the safe use and disposal of pesticides.

# 8 MAINTENANCE

Micron Weed Management (MWM) spraying equipment will require routine maintenance; the user 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. Always flush through pump, hoses and atomisers/nozzles with clean water after spraying to avoid nozzle blockages.

## 8.1 Fuse Replacement

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




1- Switch off all electrics including the vehicle engine.

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

## 8.2 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 1 - Lubrication**

## 8.3 Service and Inspection intervals

| Item | Action | Frequency |
|---|---|---|
| Nozzle | Remove and Clean.<br>Check flow rate. | Start of each season and during as required. |
| Atomiser disc or drum and recirculation cap | Remove and Clean. | Start of each season and during as required. |
| Atomiser Motor | Remove and clean contact. Ensure the motor is free from moisture before refitting. | As required should issues arise. |
| Flowmeter | Flush through with clean water. | After each use. |
| Spray lines and ancillary items | Check for leaks.<br>Check for correct operation of valves and regulators. | Start of each season. |
| Filters | Check and clean all filters. | Start of each season and as required during. |
| Shield brushes | Check for excessive wear or damage. | Start of each season. |
| Mechanical defects | Inspect operation of mechanical components. Grease moving parts as required. | Start of each season. |
| Joints, pivot pins and bearings | Check for excessive wear and adequate lubrication. | Annually. |
| Greased joints and grease nipples | Pack with grease. | Annually. |
| Moving Parts | Check for free and smooth operation and adequate lubrication. | Annually. |

## 8.4 Sprayer storage

1. Ensure the system is drained of all fluids including those in any rinse tank or hand-wash tank. Dispose of washings appropriately.
2. Where winter temperatures approach freezing it is necessary to add antifreeze into the main tank and circulate around pump and spray lines to prevent freezing of any water retained in the plumbing system. **Before using it again, drain anti-freeze from system. Rinse through with clean water before spraying.*
3. Store the equipment in a covered and well-ventilated area. Store away from direct sunlight.
4. Ensure brushes (if fitted) are suspended above ground to prevent damage during storage.

# 9 TROUBLESHOOTING

| Mechanical Faults | | |
|---|---|---|
| **Problem** | **Possible Cause** | **Action** |
| Breakaway arm stiff or does not move | Pivot seized. | Dismantle, clean and lubricate pivot. |
| Breakaway arm loose and does not return to stop | Return spring detached or broken. | Reattach or replace spring. |
| Dome/Shield does not rotate freely<br>**S-Guard model does not rotate* | Dome/shield bearing seized. | Replace bearing. |

## 9.1 CDA

| Problem | Possible Cause | Action |
|---|---|---|
| Pump and CDA atomiser not operating | Inline switch is off.<br>Blown fuse.<br>Loose connection at battery or electronic box.<br>Incorrect wiring at electronic box. | Switch on.<br>Replace fuse.<br>Check all connections; tighten as necessary.<br>Check wiring and re-wire as necessary. |
| Blows fuse with control unit switched off | Wiring on main lead or electronic box reversed. | Check wiring and re-wire as necessary. |
| Blows fuse when control unit is switched on | Short to earth. | Check all wiring for earth faults and repair. |
| CDA atomiser does not operate | Obstruction in atomiser disc.<br>Atomiser faulty. | Remove and clean atomiser disc.<br>Replace atomiser unit |
| Pump operates intermittently | Loose electrical connection. | Check all connections; tighten as necessary. |
| Pump will not operate | Loose electrical connection.<br>Faulty pump motor. | Check connections.<br>Check or replace pump motor. |
| Pump runs but no flow from outlet | Tank empty.<br>Blocked nozzle.<br>Blocked filter.<br>Blocked hose.<br>Kinked hose.<br>Float stuck in flow meter.<br>Solenoid not opening. | Refill tank.<br>Remove and clean.<br>Check and clean<br>Clean all hoses.<br>Straighten all hoses.<br>Clean with water.<br>Check wiring and operation |

# 10 SPRAYER DISPOSAL

Dispose of equipment in accordance with local regulations.

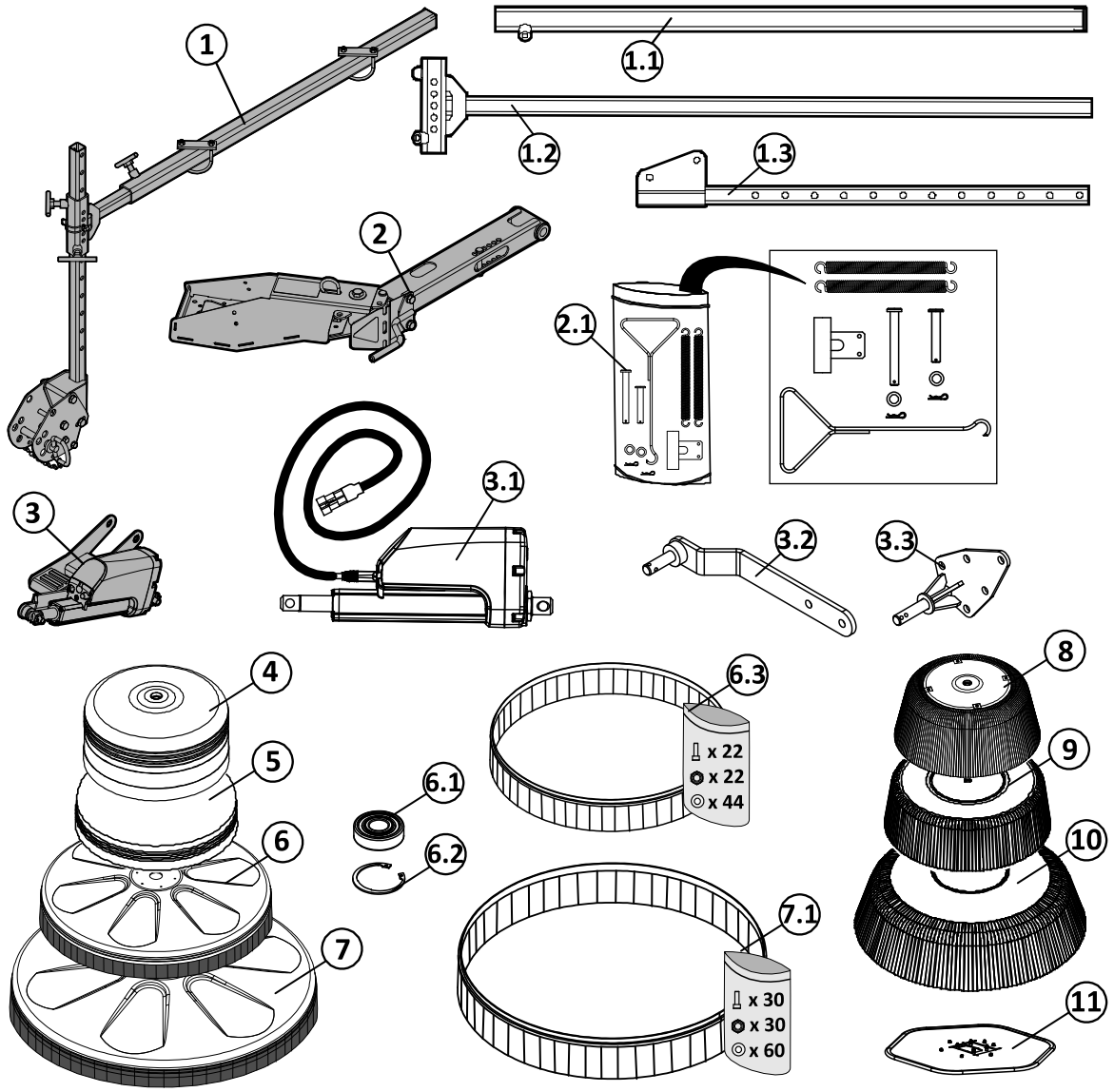
Clean to remove any chemical residues and dispose of accordingly.

Avoid contamination of the environment with any sprayer washings.

Dismantle equipment as far as practical and clean all parts.

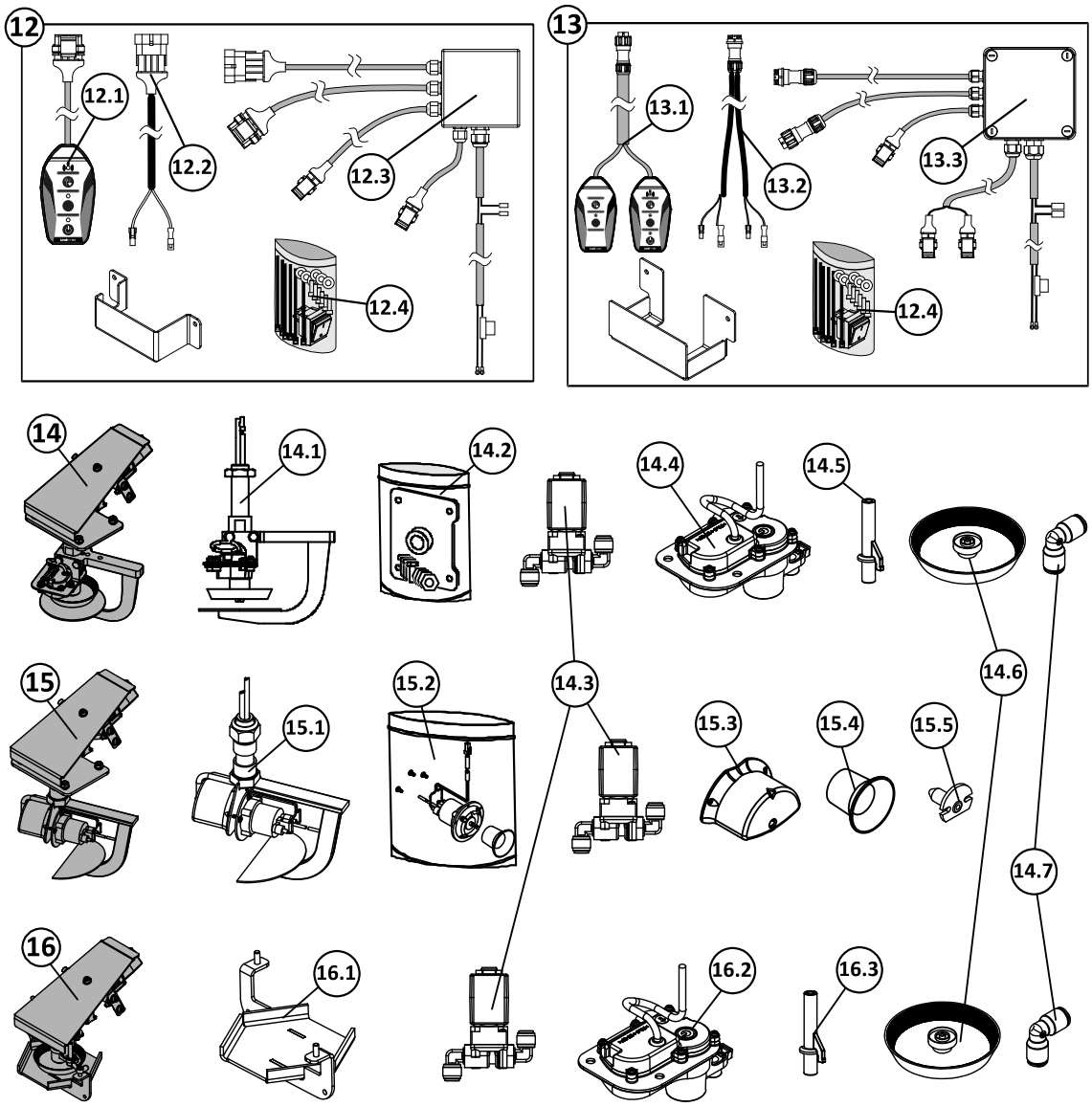
Dispose of the component parts by material type in accordance with local waste disposal regulations.

# 11 SPARE PARTS



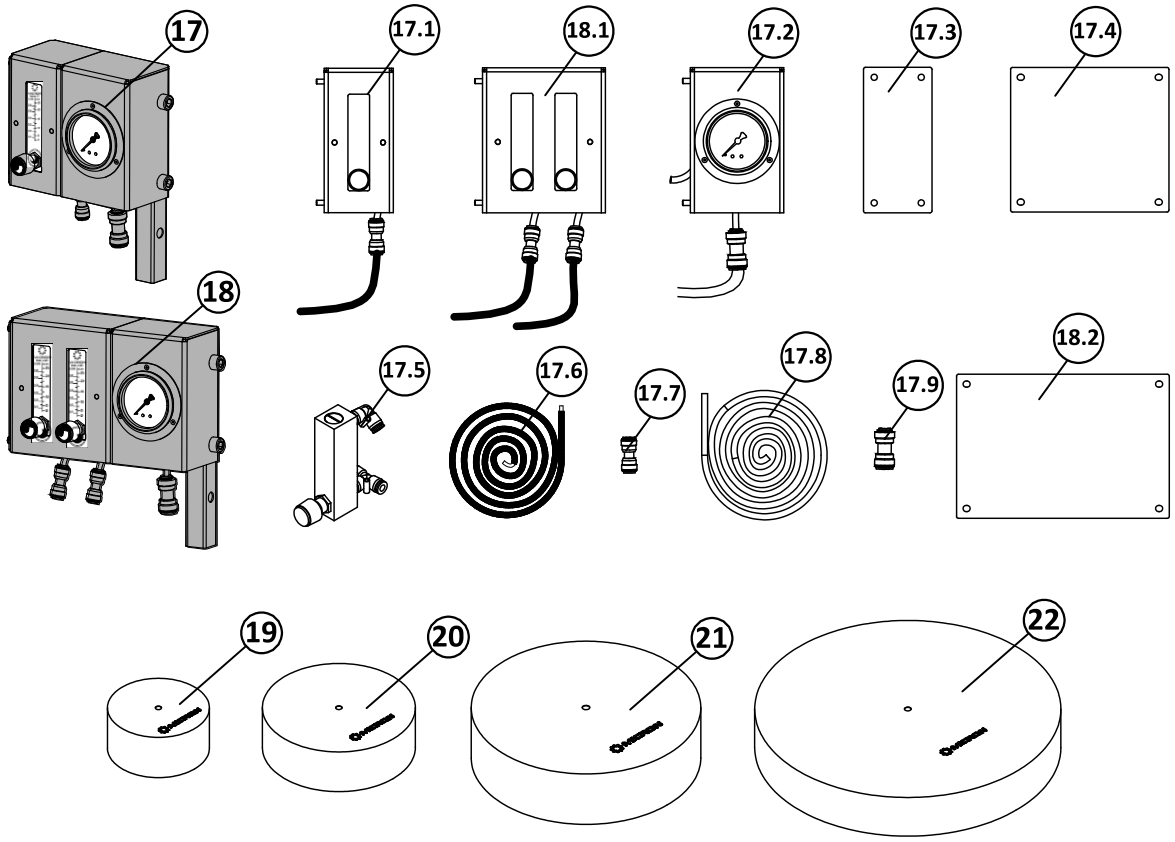

| Nº | REF. | DESCRIPTION |
|---|---|---|
| 1 | 8M12A830 | ATV Mount kit, SHORT |
| | 8M13A830 | ATV Mount kit |
| 1.1 | 8M12A530 | Outer slide tube, SHORT |
| | 8M13A530 | Outer slide tube |
| 1.2 | 8M12A533 | Inner slide tube, SHORT |
| | 8M13A533 | Inner slide tube |
| 1.3 | 8M13A534 | Bracket, vertical support |
| 2 | 8M13A820 | Breakaway kit |
| 2.1 | 8M13A811 | Spring kit for breakaway |
| 3 | 8M13A640 | Actuator kit |
| 3.1 | 8M13A433 | Breakaway actuator |
| 3.2 | 8M13A544 | Actuator link arm bracket |
| 3.3 | 8M13A547 | Actuator rear bracket |

| Nº | REF. | DESCRIPTION |
|---|---|---|
| 4 | 8M13D040 | S-Dome 400 dome assembly |
| 5 | 8M13D060 | S-Dome 600 dome assembly |
| 6 | 8M13D090 | S-Dome 900 dome assembly |
| 6.1 | 24206304 | Bearing |
| 6.2 | 21964502 | Circlip |
| 6.3 | 8M13D811 | S-Dome 900 brush kit |
| 7 | 8M13D120 | S-Dome 1200 dome assembly |
| 7.1 | 8M13D812 | S-Dome 1200 brush kit |
| 8 | 8M12D040 | S-Flex 400 dome assembly |
| 9 | 8M12D060 | S-Flex 600 dome assembly |
| 10 | 8M12D090 | S-Flex 900 dome assembly |
| 11 | 8M11D120 | S-Guard dome assembly |




| Nº | REF. | DESCRIPTION |
|---|---|---|
| 12 | 8M13E810 | Electronic 1 arm assembly |
| 12.1 | 8M13E412 | Single remote control |
| 12.2 | 8M13E313 | Single EV and disc motor wire assembly |
| 12.3 | 8M13E411 | 1 arm box assembly |
| 12.4 | 8M13T813 | Main switch zip-bag |
| 13 | 8M13E820 | Electronic 2 arm assembly |
| 13.1 | 8M13E422 | Twin remote control |
| 13.2 | 8M13E323 | Twin EV and disc motor wire assembly |
| 13.3 | 8M13E421 | 2 arm box assembly |
| 14 | 8M13A810 | Head kit, CDA 600 and larger |
| 14.1 | 8M13A601 | Assembly, motor and guard |
| 14.2 | 8M13A812 | Threaded plate kit |
| 14.3 | 8M13A301 | Electro valve |
| 14.4 | 8M13A603 | Motor reducer 3000 |

| Nº | REF. | DESCRIPTION |
|---|---|---|
| 14.5 | 83749303 | Red nozzle |
| 14.6 | 83749601 | CDA disc |
| 14.7 | 8M13A305 | Elbow push-fit |
| 15 | 8M13A850 | Head kit, CDA 400 |
| 15.1 | 8M13A604 | Head assembly, CDA, 400 |
| 15.2 | 8M13A851 | CDA 400 motor |
| 15.3 | 8M13A334 | Recirculating cap |
| 15.4 | 8M13A335 | Drum atomiser |
| 15.5 | 8M13A336 | Feed nozzle |
| 16 | 8M11A810 | Head kit, S-Guard |
| 16.1 | 8M11D503 | S-Guard disc protector |
| 16.2 | 8M11A602 | Motor reducer 2000 |
| 16.3 | 83749305 | Yellow nozzle |

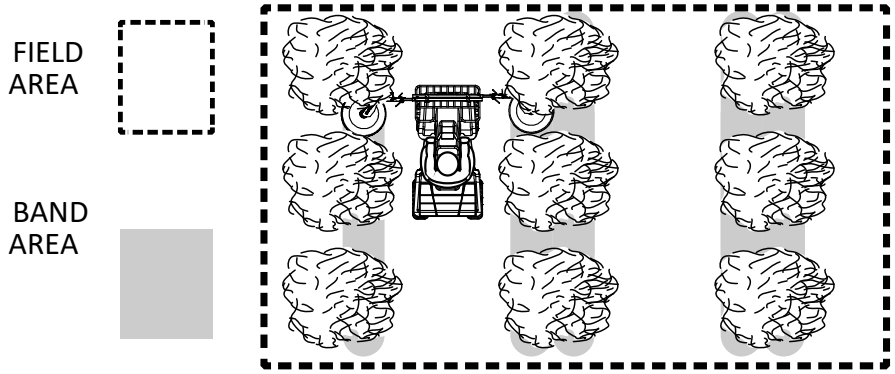



| Nº | REF. | DESCRIPTION |
|---|---|---|
| 17 | 8M11F810 | Single flow control 250 assembly |
| | 8M13F810 | Single flow control 500 assembly |
| 17.1 | 8M11F610 | Single flow control 250 |
| | 8M13F610 | Single flow control 500 |
| 17.2 | 8M13F600 | Manometer panel assembly |
| 17.3 | 8M13F512 | Flow control side cover |
| 17.4 | 8M13F513 | Flow control single cover |
| 17.5 | 8M11F301 | Flowmeter 250 ml/min (0.06 US GPM) |
| | 8M13F301 | Flowmeter 500 ml/min (0.12 US GPM) |
| 17.6 | 8M13F602 | Hose arm to flowmeter |
| 17.7 | 8M13F305 | Push-fit straight 0606 |

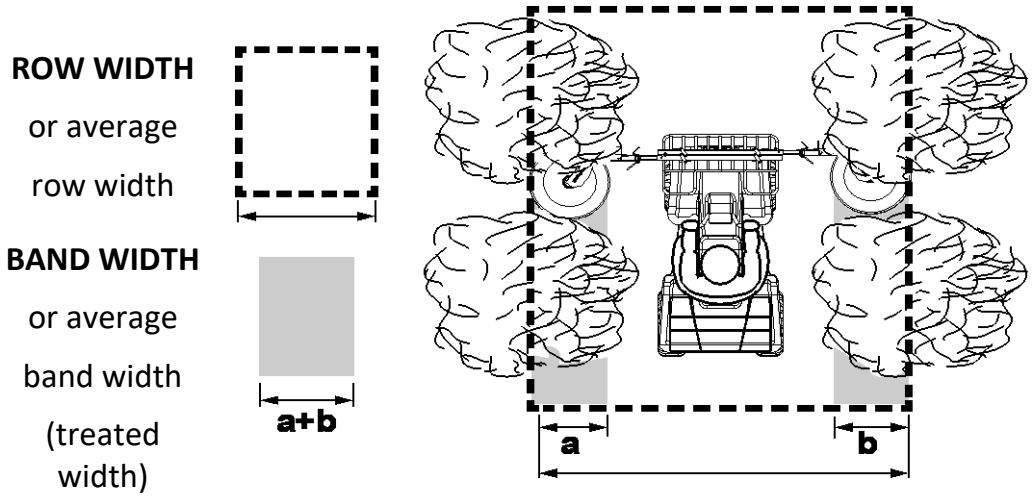
| Nº | REF. | DESCRIPTION |
|---|---|---|
| 17.8 | 8M13F404 | Hose tank to manometer |
| 17.9 | 8M13F304 | Push-fit straight 1006 |
| 18 | 8M11F810 | Twin flow control 250 assembly |
| | 8M13F810 | Twin flow control 500 assembly |
| 18.1 | 8M11F620 | Twin flow control 250 |
| | 8M13F620 | Twin flow control 500 |
| 18.2 | 8M13F523 | Flow control twin cover |
| 19 | 8M12D040800 | Slip-on cover 400 |
| 20 | 8M12D060800 | Slip-on cover 600 |
| 21 | 8M12D090800 | Slip-on cover 900 |
| 22 | 8M13D120800 | Slip-on cover 1200 |

## 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 S-Flex 400 units between trees planted at 2.0 m distance, then only 40% of the area is treated:

2 x 0.4 / 2.0 x 100 = 40%

Using the example above and spraying rate of 30 L per hectare. Reduce the application rate (30 L/ha) by the same ratio as the band width to row width (40%) to calculate the actual application rate per hectare:

**30 L / 0.4 (or 40%) = 12 L of spray mix per field ha**

## Calculating the Tree Length (Km) Sprayed Per Tank Fill

**Tree Length Sprayed (km) =**

**10 x Tank Contents (L) / (Application Rate l/ha x Band Width m)**

**Example:**

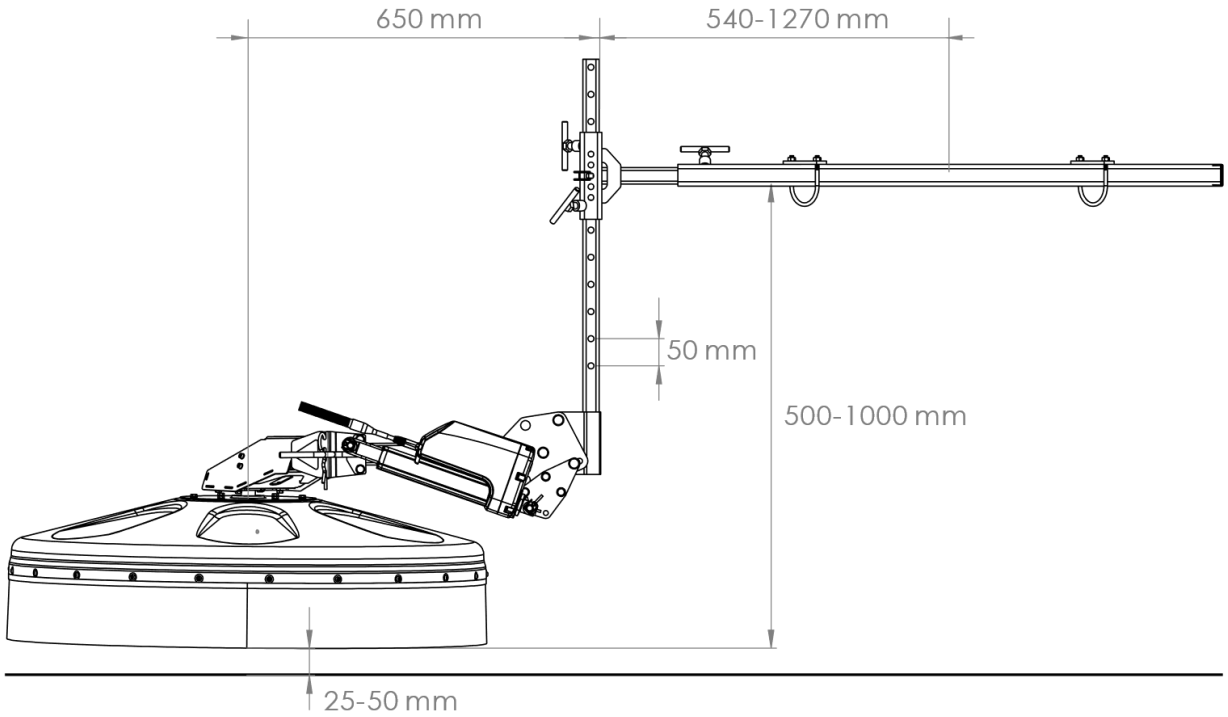
2 x S-Flex 400 = 0.8 m band

Tank contents = 60 L

Application rate = 30 L/ha

Tree length sprayed (km) = 10 x 60 L / (30 L/ha x 0.8 m) = 25 km

## Structure measurements for installation



## Vehicle Stability Calculations

The user should take appropriate steps to determine the correct centre of gravity of the equipment configuration and loads to be used. The following calculation is provided as a guide for agricultural tractor mounted installations. For other vehicle types refer to the vehicle manufacturer's instructions.

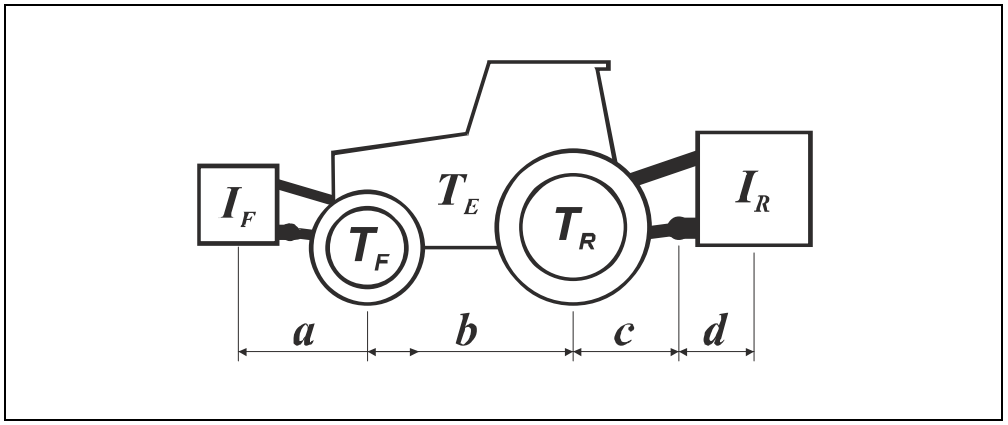



**Figure 3 - Stability of tractor machine combinations**

$$I_{F,\,min} = \frac{(I_R \times (c + d)) - (T_F \times b) + (0.2 \times T_E \times b)}{a + b}$$

| | | |
|---|---|---|
| $T_E$ | [kg] | Mass of unladen tractor [1] |
| $T_F$ | [kg] | Front axle load of unladen tractor 4 |
| $T_R$ | [kg] | Rear axle load of unladen tractor 4 |
| $I_R$ | [kg] | Combined mass of rear mounted implement and/or rear ballast [2] |
| $I_F$ | [kg] | Combined mass of front mounted implement and/or front ballast 5 |
| $a$ | [m] | Distance from centre of gravity for combined front mounted implement and/or front ballast to front axle centre [3] |
| $b$ | [m] | Tractor wheelbase 4 6 |
| $c$ | [m] | Distance from rear axle centre to centre of lower link balls 4 6 |
| $d$ | [m] | Distance from centre of lower link balls to centre of gravity for combined rear mounted implement and/or rear ballast 5 6 |

[1] refer to manufacturers information

[2] refer to section technical specification

[3] to be measured

## 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 |

## DECLARATION OF CONFORMITY

**COMPANY:** GOIZPER S.COOP.
**ADDRESS:** ANTIGUA 4, 20577 ANTZUOLA, GIPUZKOA (SPAIN)
**CIF:** F-20025441

STATES THAT THE FOLLOWING PRODUCT:

**60L SYSTEM TANK**
**BRAND:** MICRON WEED MANAGEMENT
**MODEL:** S-DOME, S-FLEX and S-GUARD

Compiles with the following directives and standards:

Directives:

- Machinery 2006/42/EC
- Machinery for pesticide application 2009/127/EC
- Sustainable use of pesticides 2009/128/EC
- Electromagnetic compatibility 2014/30/EU
- Radio equipment 2014/53/EU
- The restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHs) 2017/2102/EC

Standards:

- Agricultural machines and equipment UNE-EN ISO 4254:2013
- Environmental requirements for boom sprayers UNE-EN ISO 16119:2013

Antzuola, 2019-10-22

Oier Bartolome

*(MWM Business Manager)*

The remote controls include a **Bluetooth module** to connect with mobile phones and send data from the machine to the cloud.

## FCC Regulatory Information

Goizper S. Coop. has not approved any changes or modifications to this device by the user. Any changes or modifications could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

### RF exposure safety

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This device needs to be installed and used on distance greater than 5mm from human body.

### Class B device notice

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

—Reorient or relocate the receiving antenna.

—Increase the separation between the equipment and receiver.

—Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

—Consult the dealer or an experienced radio/TV technician for help.

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MICRON Weed Management