



# ***METERING SYSTEM OPERATING MANUAL***



**This manual has been written and structured for those purchasing  
Seed Spider Metering Systems with EMF Feedback Controllers**

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## 1 INTRODUCTION TO USING THIS MANUAL

Congratulations for choosing your Seed Spider Metering System. This manual will explain how to get the best out of your Seed Spider.

First, you should look at the section on Safety and then Setting Up For the First Time. After this you should look at the Warranty section and making sure to fill out your warranty form.

From there, you should read carefully through the manual, paying particular attention to the section on calibration. This section may seem somewhat daunting at first; however, once you have worked through the calibration procedures, they will make sense.

Finally, in all seeding situations, you should make use of the advice of your regular seed merchants and your Seed Spider dealer to ensure optimum seeding success.

## 2 SAFETY

- ✓ Study this operator's manual.
- ✓ Be familiar with controls and safety precautions before operation.
- ✓ Familiarise yourself with the location of all safety stickers and the associated risks being highlighted
- ✓ Keep hands, feet and clothing clear of moving parts at all times when the machine is in operation.
- ✓ Do not attempt to clear blockages while the machine is running.
- ✓ Stop the engine and wait for all movement to stop before making any adjustment to the machine.

### 3 THE SEED SPIDER METERING SYSTEM

Seed Spider is radically different and provides many special advantages for the commercial sowing operation. This simple, user friendly metering system is produced from high quality materials, utilising the latest manufacturing technologies such as laser profiling and computer controlled machining. High quality materials mean your Seed Spider will have a long, maintenance free life. ISO 9002 certification ensures that the components are manufactured to uncompromising standards.

This electronic metering system is extremely reliable, and is ideal for most seeding situations. Operating Seed Spider does not require high skill levels as compared with competing machines. Seeding rates can be changed with the turn of a knob.

#### 3.1 SEED METERING SYSTEM SPECIFICATIONS

Input voltage	12v DC
Output rpm	~0.7 – 30 rpm (A-max standard 12V power supply) ~0.7 – 40 rpm (A-max with optional 15V power booster)
Seed container capacity	a) 7 litre (1½ gallons) transparent b) 10.5 litre (2½ gallons) transparent <i>(with optional hopper extension)</i> c) 50 litre (13 gallons) translucent
Number of outlets	1 to 9
Weight – empty	5 kg (11 pounds)
Overall height	400mm (16 inch) with 7 litre hopper
Overall width	225mm (9 inch) with 7 litre hopper
Overall length	280mm (11 inch) with 7 litre hopper

#### **IMPORTANT**

**It is critical that the main power lead (both +ve and –ve) is “hard wired” through the ignition system of the towing vehicle, not simply clamped to the battery terminals (pay particular attention to having a reliable earth). Poor electrical connections can cause substantial variations in motor speeds, or motors to stall.**

## 4 SETTING UP FOR SEEDING

### 4.1 SETTING UP FOR THE FIRST TIME

1. Check that you have the following items and that they are undamaged.

- Seed Spider metering system.
- Set of two sponges numbered 1 and 3.
- Seed hopper and lid/calibration bowl.
- Electronic controller.
- GPS Speed Sensor (*optional*).
- Radar interface / seeding rate controller (*optional*).

If any parts are missing or damaged, immediately contact your Seed Spider dealer and request assistance.

2. *8 Outlet Controller Only:* Set-up the electronic controller for the correct number of metering units. Section 4.3 contains full details on how to set-up Seed Spider controllers. Note that the controllers will also have to be re-configured if the number of metering units being controlled is altered in the future.
3. Check supply voltage. The supply voltage to the power supply from the tractor must NOT be greater than 26V DC.
4. Connect the main power lead to 12V DC supply: Red +ve, Black -ve (*the unit is protected against reverse polarity*).

#### **IMPORTANT**

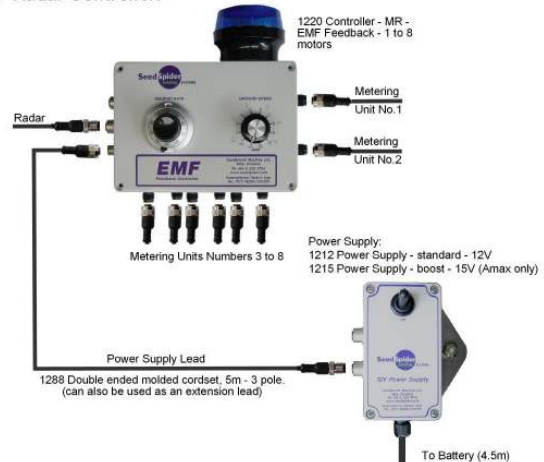
**It is critical that the main power lead (both +ve and -ve) is “hard wired” through the ignition system of the towing vehicle, not simply clamped to the battery terminals. Pay particular attention to having a reliable earth. Poor electrical connections can cause substantial variations in motor speeds, or motors to stall.**

5. The power supply to your electronic control unit is fitted with a replaceable fuse. The fuse holder is located inside the main On/Off switch enclosure. A 4 Amp fuse should be fitted to provide adequate protection. To replace, remove the power supply lid, remove the fuse holder cap and install fuse. Refit the fuse holder cap and controller lid.
6. Connect your Seed Spider Controller to the on/off switch, as illustrated below, using the leads supplied.

**EMF Standard Controller:**



**EMF Radar Controller:**



7. Fit the appropriate sponge to the metering unit, details on sponge selection are provided in Section 4.2. The sponges are fitted from the underside of the metering unit. The sponges have a mark on the underside which indicates the position of the locating hole for easy alignment when fitting. The colour of the mark also indicates the version of the sponges. All sponges fitted to multiple metering units on a single seeder should be of the same version (have the same colour marks) to ensure consistency between metering units.
8. Test run the metering system to ensure that the motor, electronic controller and On/Off switch are operating correctly. (If there is a problem test out the wiring of the towing vehicle before contacting your Seed Spider dealer).
9. Check the direction of the rotating sponge (clockwise when viewed from above the metering system).

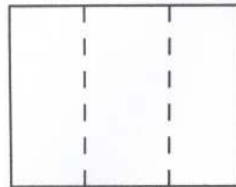
## 4.2 SELECTING THE APPROPRIATE SPONGE

Your Seed Spider metering system is supplied with two different sponges (*numbered 1 & 3*) to provide accurate metering over a wide range of different seed types.

When calibrating your metering system, if you are not sure which sponge best suits a particular seed, start off with the number 1 type. If you do not get the desired rate, or if seeds do not flow smoothly through the unit, change to the number 3 type. If you are still having difficulties achieving the desired rate then contact your nearest Seed Spider dealer to see if a number 2 or number 4 sponge would be more appropriate.

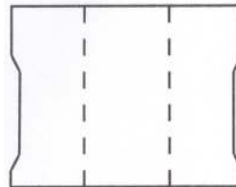
### NUMBER 1

*The one to start off with  
Suitable for most seed sizes and shapes  
Ideal for smaller seeds and lower rates*



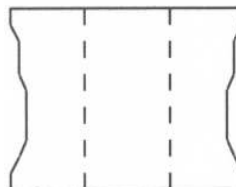
### NUMBER 2 (Optional)

*Ideal for medium sized seeds  
and higher rates of small seeds*



### NUMBER 3

*For larger seeds and higher rates*



### NUMBER 4 (Optional)

*For even larger seeds, used in conjunction  
with a maize metering plate.*



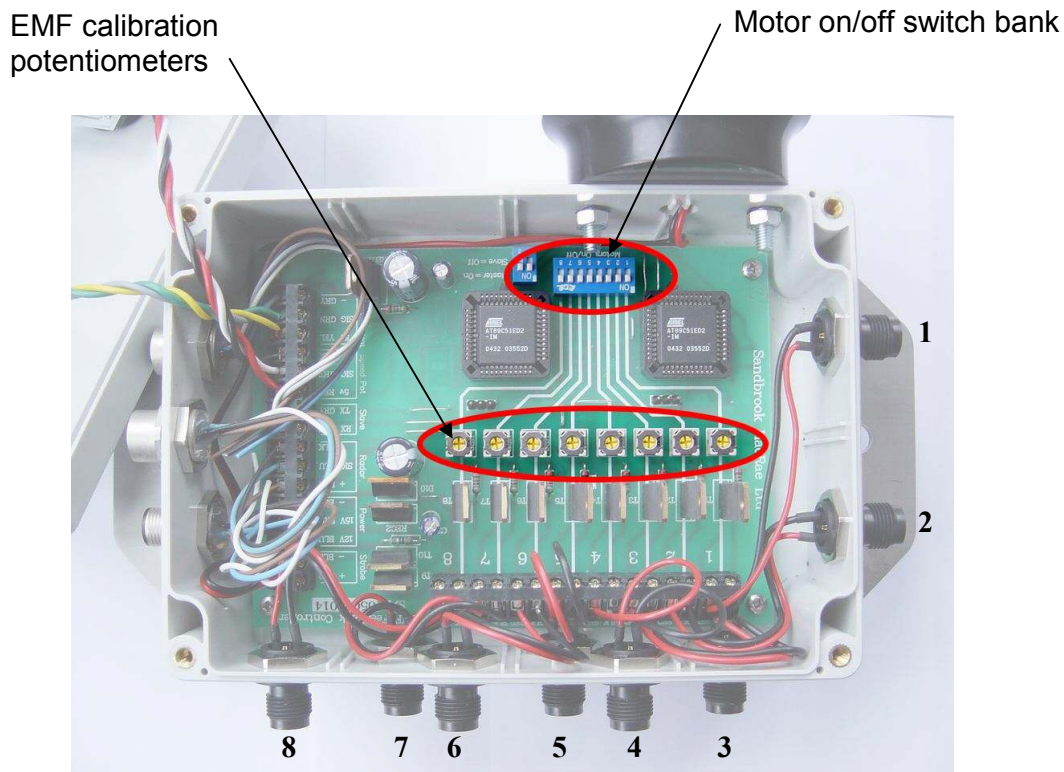
### 4.3 SETTING THE NUMBER OF METERING UNITS (8 OUTLET CONTROLLER)

When using the 8 outlet controller each outlet that has a metering system connected needs to be switched on, and unused outlets need to be switched off. Remove the face plate of the controller and locate the 8 switch bank on the circuit board. Turn on or off the switch for each outlet as appropriate. The outlets are numbered on the outside of the enclosure. Incorrect set-up may result in the continuous flashing of the strobe light.

### 4.4 CALIBRATING THE EMF CONTROLLER

To obtain the best consistency between metering units at low seeding rates, the EMF feedback controller needs to be calibrated. The calibration procedure is the same for both the 4 and 8 outlet controllers, when calibrating the 8 outlet controller ensure that the radar speed switch is in the 'off' position.

Connect all motors to an outlet and the controller to the on/off switch. With the towing vehicle running and sponges fitted, turn on the controller. Turn the seeding rate dial to 0. Using a small screwdriver, carefully adjust the small yellow potentiometers such that all motors are turning at the same rpm. The rpm is best measured with the metering unit upside down, simply note the amount of rotation in 1 minute. A good target for Amax motors is 2/3 rpm.



#### **IMPORTANT**

**Calibration is motor dependent. It is critical that each motor is plugged back into the same outlet if disconnected after calibrating. If in doubt - recalibrate!**



## 4.5 GROUND SPEED

Maintain a constant ground speed when seeding. As a guide you should travel between: 2 – 10 kph (1 – 6 mph).

If the towing vehicle has no speedometer, speed can be determined by measuring the distance travelled in one minute. The following table indicates distances travelled at various speeds.

<b>METRIC</b>	kph	1	2	3	4	5	6	7	8	9	10	11	12
	metres/min	17	33	50	67	83	100	117	133	150	167	183	200

<b>IMPERIAL</b>	mph	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
	feet/min	44	88	132	176	220	264	308	352	396	440	484	528

- Select gear and engine revs of the towing vehicle to allow this distance to be covered in one minute.
- Maintain a constant speed while seeding.

## 4.6 MOUNTING THE GPS SPEED SENSOR

The GPS Speed Sensor consists of a GPS receiver and an interface module which processes the GPS information into the format required by the controller. Follow the below steps to mount and set-up your GPS Speed Sensor

1. Mount the interface module inside the towing vehicle in a position where the operator can clearly see the green status LED. Beside the metering system on/off switch is recommended so the operator can check the status before turning on the metering system.
2. Connect the main power lead of the interface module to a 12V DC supply: Red +ve, Black –ve (*the unit is protected against reverse polarity*).

### **IMPORTANT**

**It is critical that the main power lead (both +ve and –ve) is “hard wired” through the ignition system of the towing vehicle, not simply clamped to the battery terminals (pay particular attention to having a reliable earth). Poor electrical connections can cause errors with the GPS speed sensor.**

3. Mount the GPS receiver on the roof or highest point of the towing vehicle.
  - The receiver must have an unobstructed view of the sky during operation.
  - The receiver has a magnetic base and is fully waterproof.
4. Connect the plug from the GPS receiver to the interface module connector labelled 'GPS Sensor'
5. Connect the Interface module 'controller' plug to the EMF controller 'radar' plug using the supplied lead (part 1288 double ended moulded cord set). Note the GPS speed sensor is only compatible with the EMF MR controller which is easily recognised by its speed input setting dial and 8 motor outlets.

The LED on the GPS Speed Sensor control box will flash when there is insufficient signal strength to generate a reliable output, if the metering system is on this will cause the strobe light to flash as a warning to the operator. Note that the GPS receiver will take approximately 30 seconds after starting the towing vehicle before the unit is operational.

## 5 CALIBRATION

Complete Sections 4.3 and 4.4 before calibrating. The general steps for calibrating are outlined below; these are then described in greater detail in their respective sections.

**STEP 1** – Establish the target weight that matches your desired seeding circumstances.

Establishing the weight can be done for seed spacing down rows or for rates for a given area.

**STEP 2** – Achieve the target weight.

**STEP 3** – Set the speed on the radar controller (if fitted).

**Note:** For correct calibration all motors must be connected with sponges fitted, and the tractor running (only one hopper has to be filled with seed).

### 5.1 ESTABLISH TARGET WEIGHT

**Important:** Ensure that you use the section that matches your needs. All instructions are given for using metric or imperial measures.

#### 5.1.1 Using Desired Spacing Down Rows...

##### **METRIC**

1. Decide on a seed spacing along each row. Find the number of **seed per metre** from the chart below:

Seed spacing along row - mm	5	7.5	10	15	20	30	40	50	60	80	100
Number of seeds per metre	200	133	100	67	50	33	25	20	17	13	10

2. Establish distance travelled in one minute at desired speed of travel, **metres per minute**. Use the chart below:

kph	1	2	3	4	5	6	7	8	9	10	11	12
metres/min	17	33	50	67	83	100	117	133	150	167	183	200

3. Ask your seed merchant for details on the number of **seeds per gram**, for the particular seed being sown.

If this information is not available:

- Count out a small number of seed (*a teaspoon full is normally enough*).
- Accurately weigh sample (*if necessary, a drug store will have accurate scales*).
- Divide the total number of seeds by the weight.
- Record the result for future reference.

4. Input the information gathered above, into the following formula:

seeds per metre (*each row*) x metres per minute (*ground speed*) x number of outlets (*from metering system*) ÷ seeds per gram = **grams per minute (*target weight*)**

***Now you have the target weight you can move on to section 5.2.***

## **IMPERIAL**

1. Decide on seed spacing along each row. Find the number of **seeds per foot** from the chart below:

Seed spacing along row - inch	0.25	0.5	0.75	1	1.25	1.5	1.75	2	2.5	3	4
Number of seeds per foot	48	24	16	12	10	8	7	6	5	4	3

2. Establish distance travelled in one minute at desired speed of travel, **feet per minute**. Use the chart below:

mph	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
feet/min	44	88	132	176	220	264	308	352	396	440	484	528

3. Ask your seed merchant for details on the number of **seeds per ounce**, for the particular seed being sown.

If this information is not available:

- Count out a small number of seed (*a teaspoon full is normally enough*).
- Accurately weigh sample (*if necessary, a drug store will have accurate scales*).
- Divide the total number of seeds by the weight.
- Record the result for future reference.

4. Input the information gathered above, into the following formula:

seeds per foot (*each row*) x feet per minute (*ground speed*) x number of outlets (*from metering system*) ÷ seeds per ounce = **ounces per minute (*target weight*)**

***Now you have the target weight you can move on to section 5.2.***

### 5.1.2 Using a Rate per Area when Planting Seed Beds (Row Crops)...

#### **METRIC**

To find **spacing** from **seeds per hectare**:

area of hectare (*square metre*) ÷ bed width (m) (*furrow to furrow*) x number of lines (*furrow to furrow*) ÷ seeds per hectare = **spacing (m)**

$$10,000 \quad \div \quad \quad \quad \times \quad \quad \quad \div \quad \quad \quad = \quad \quad \quad \text{m}$$

To find **seeds per hectare** from **spacing**

area of hectare (*square metre*) ÷ bed width (m) (*furrow to furrow*) x number of lines (*furrow to furrow*) ÷ spacing (m) = **seeds per hectare**

$$10,000 \quad \div \quad \quad \quad \times \quad \quad \quad \div \quad \quad \quad =$$

To find **seeds per gram** from **seeds per kilogram**

seeds per kilogram ÷ 1000 = **seeds per gram**

To find **seeds per minute** from **desired speed of planter/tractor**

metres per kilometre x desired speed (km/h) (*of planter/tractor*) ÷ 60 minutes ÷ spacing (m) (*each line*) = **seeds per minute (each line)**

$$1,000 \quad \times \quad \quad \quad \div \quad \quad \quad \div \quad \quad \quad =$$

To find target weight in **grams per minute** from **metering unit**

seeds per minute ÷ seeds per gram x number of outlets = **grams per minute**  
(*from metering unit*) (*from metering unit*)

**Now you have the target weight you can move on to section 5.2.**

**IMPERIAL**

To find **spacing** from **seeds per acre**:

area of acre  $\div$  bed width (inch) x number of lines  $\div$  seeds per acre = **spacing (inch)**  
*(square inch) (furrow to furrow) (furrow to furrow)*

$$6,272,640 \div \quad \times \quad \div \quad = \quad \text{inch}$$

To find **seeds per acre** from **spacing**

area of hectare  $\div$  bed width (inch) x number of lines  $\div$  spacing (inch) = **seeds per acre**  
*(square inch) (furrow to furrow) (furrow to furrow)*

$$6,272,640 \div \quad \times \quad \div \quad =$$

To find **seeds per ounce** from **seeds per pound**

seeds per pound  $\div$  16 = **seeds per ounce**

To find **seeds per minute** from **desired speed of planter/tractor**

inches per mile x desired speed (mph)  $\div$  60 minutes  $\div$  spacing (inch) = **seeds per minute**  
*(of planter/tractor) (each line) (each line)*

$$1,000 \quad \times \quad \div \quad \div \quad =$$

To find target weight in **ounces per minute** from **metering unit**

seeds per minute  $\div$  seeds per ounce x number of outlets = **ounces per minute**  
*(from metering unit) (from metering unit)*

**Now you have the target weight you can move on to section 5.2.**

## 5.2 ACHIEVE TARGET WEIGHT

**Note:** For correct calibration all motors must be connected with sponges fitted, and the tractor running (only one hopper has to be filled with seed).

1. If you haven't already done so, select and fit the appropriate sponge pad to each metering unit (see Section 4.2).
2. Fill one seed hopper.
3. On the Seeding Rate/Ground Speed Radar Controller fitted to your planter, turn the GROUND SPEED dial to the OFF position.
4. Select the desired setting on SEEDING RATE control dial (first time users or those with a new seed type to sow, will need to estimate an initial setting – *try half way*).
5. Turn on the main ON/OFF switch.
6. Run the seed metering system for 60 seconds, collecting all the seeds leaving the system in the plastic calibration bowl (*hopper lid*) provided.
7. Weigh the total collected seed.
8. Adjust the dial of the electronic control unit, and repeat steps 6 and 7 until the target weight is achieved.

**Note:** *If extremely high or low rates cannot be achieved, simply adjust the seeder travel speed to suit and redo the calculations detailed previously.*

## 5.3 SET THE SPEED ON THE GROUND SPEED RADAR CONTROLLER

This step is only necessary when using an optional GPS speed sensor in conjunction with the controller. If no GPS speed sensor is used, ensure that the speed dial switch is in the OFF position at all times. To set the speed:

1. Follow the normal calibration procedure by following the instruction above until the target weight is achieved (ensure that the calibration is carried out with the Ground Speed dial in the OFF position).
2. Set the ground speed dial to the ground speed setting used in calibration calculations (intended speed of travel of the vehicle/tractor).
3. Turn ON the main ON/OFF switch to start seeding.

No further steps are necessary. The controller instantly recognises the settings and adjusts the control rate to suit. Note that when calibrating, the LED status for the GPS can be either flashing or on, but while seeding the LED must be on.

### 5.3.1 Warning Strobe

The 8 outlet controller is fitted with a highly visible blue strobe light to warn the operator of two possible scenarios that will result in an error in planting rate:

- If the actual ground speed is outside of the controlled range at any time during the planter operation.
- If a motor is unplugged or has a fault in the motor lead.

#### **WARNING**

**If the planter is operated with the strobe light flashing error will occur in planting rate**

When using a GPS Speed Sensor, if the strobe light flashes when the planter is being operated, then it is possible that the GPS receiver has lost its signal due to atmospheric conditions or interfering obstacles. Check the LED on the GPS interface, if the LED is flashing then stop until the LED is on or move the speed input switch to the off position (note that when in the off position, adjustments to the seeding rate will not be made). If the LED is on and the strobe light is flashing then the planter speed must be increased or decreased (whichever is appropriate) until the strobe stops flashing.

If the strobe flashes constantly when the planter is being operated, it is possible that the calibration procedure needs to be repeated for a lower or higher (whichever the case may be) ground speed. It is also possible that a motor is unplugged, to test, simply move the radar speed input switch to the off position. If the warning strobe flashes with the speed switch in the off position, then a motor is unplugged or there is possibly a fault in one of the metering units wiring.

Note that the strobe will also flash if the outlet is 'turned on' inside the controller and there is no motor connected.

When using a controller expander i.e. using more than 8 metering systems, when there is a radar speed issue, both strobes will flash. If a motor is unplugged, then only the strobe on the corresponding controller will flash.

## 6 SEED SPIDER CARE

On completion of seeding:

- Empty seed from hopper.
- Remove the sponge from the seed metering system and place it in the plastic container provided.
- Store the sponge out of direct sunlight.
- Do not leave seeds trapped between the sponge and the metering plate when not in use. This may leave permanent indentations in the sponge, causing inaccurate seeding with subsequent use.
- The electronic control unit is shower proof only. Prolonged exposure to rain, or hosing may result in damage to the electronic components.
- Store your Seed Spider Metering System in a dry location.

Note that failure to adhere to the above care guidelines may dramatically shorten the effective life of your sponges.

## 7 ORDERING PARTS

Seed Spider Parts are available from your local Seed Spider dealer.

Or contact Seed Spider Parts Sales direct on

*Tel: +64 6 329 4794*

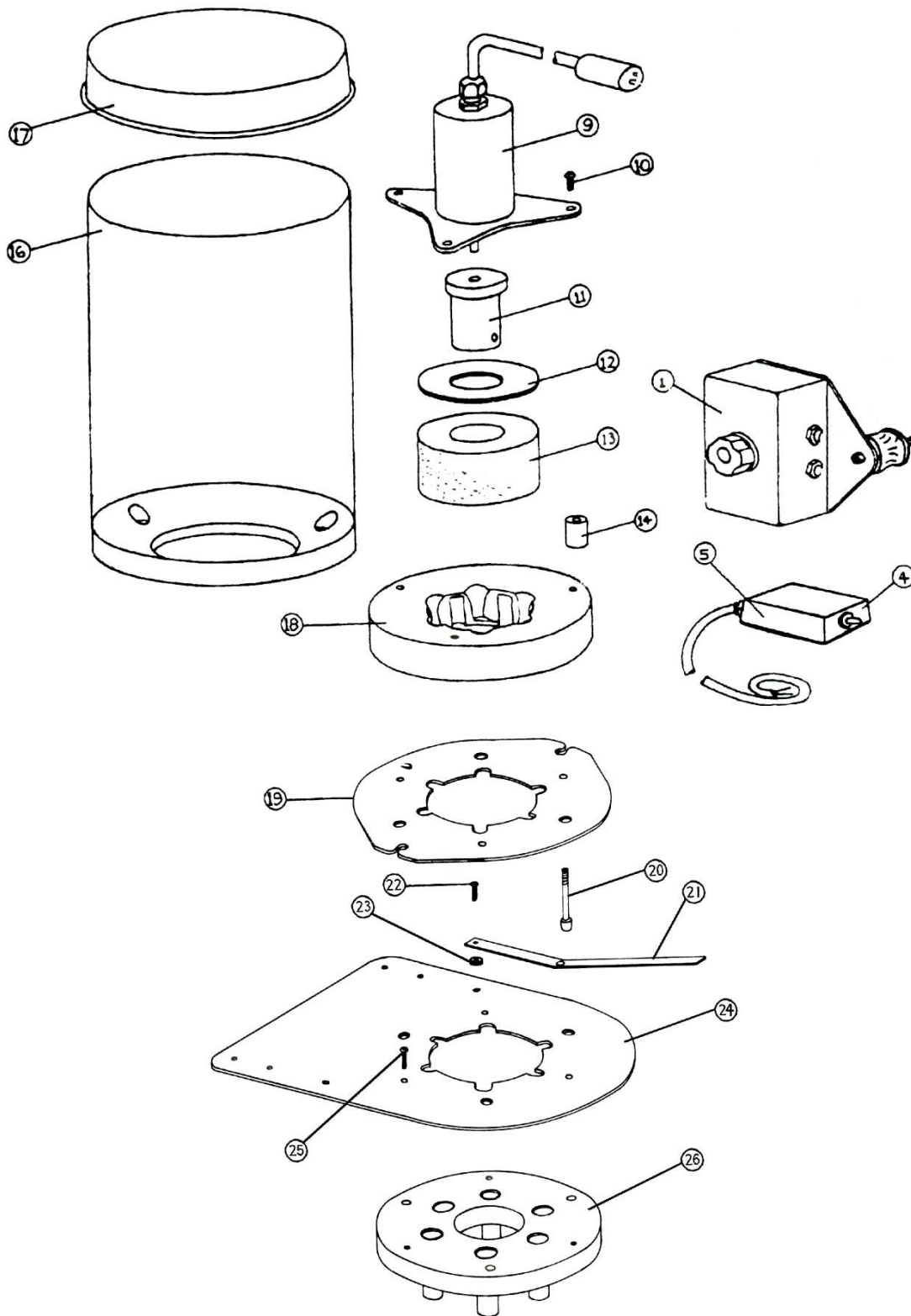
*Fax: +64 6 329 4784*

*Email: [parts@seedspider.com](mailto:parts@seedspider.com)*



## 8 METERING SYSTEM PARTS DETAILS

### 8.1 METERING SYSTEM PARTS DRAWING



**8.2 METERING SYSTEM PARTS LIST**

Drawing Reference	Number per Unit	Description	Part Number	
			1-6 Outlets	7-9 Outlets
1	1	EMF electronic controller OR:	1218	1218
1	1	EMF electronic controller – with radar and monitoring	1220	1220
4	1	Power supply – 12V, with on/off switch and 4.5m lead	1212	1212
(not shown)	1	Power supply lead	1288	1288
5	1	fuse set	1050.6	1050.6
9	1	complete motor assembly – A-max (200:1)	1100	1100
10	3	motor mounting bolt – M6x8, M6x40 (button head)	S68BH	S640BH
11	1	pad driving hub	1052	1052
12	1	pad shield washer	2154	2954
13	1	sponge – number 1 (with container)	1045.16	1045.19
	1	sponge – number 3 (with container)	1045.36	1045.39
14	3	star plate support bush	2137	2138
16	1	polycarbonate seed hopper (7 litre)	2141	2140
17	1	metering system lid (calibration bowl)	2145	2145
18	1	plastic metering plate (x = number of outlets)	1033.x	1033.x
19	1	metering system locating plate (lever type)	2131	2931
20	3	locating stud (G2)	2126	2124
21	2	Lever	2132	2132
22	2	lever pivot bolt – M6x20 (button head)	S625BH	S625BH
23	2	lever pivot washer	2134	2134
24	1	metering system base plate (lever type)	2130.1	2930
25	3	collector plate bolt – M6x30 (button head)	S630BH	S630BH
26	1	plastic collector plate (G2) – with 1” tubes	2127	2927
26	1	plastic collector plate (G2) – with 5/8” tubes	2129	2929
	5	M6 nyloc nuts	S6NN	S6NN
	1	Seed Spider operating manual	1001.3	1001.3
<b>Options</b>				
	1	Power supply – 15V boost	1215	1215
	1	seed hopper – 50 litres	2142	2142
	1	polycarbonate seed hopper extension (extra 3.5 litres)	2143	2143

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## 9 TROUBLESHOOTING

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**Problem:** Seeding rates vary between metering systems or motors stalling

**Check:**

- That the main power lead (both +ve and -ve) is “hard wired” through the ignition system of the towing vehicle, not simply clamped to the battery terminals. Poor electrical connections can cause substantial variations in motor speeds or motors to stall
  - That the main power supply has a reliable earth connection
  - All electrical connections
  - The clearance between the pad driving hub and the motor bush
  - That the motors have been calibrated correctly, if necessary adjust the motor to suit
- 

**Problem:** Metering system does not run

**Check:**

- Power supply. Your metering system requires a reliable power supply. 12volts when the vehicle is not running, and 12 to 14volts when the engine is running. Measure the voltage across the main power supply lead.
  - That the main power supply has a reliable earth connection
  - All electrical connections
  - Fuse. Replace if necessary (refer to section 4.1)
  - For 8 outlet EMF controllers check the motor is switched on (refer to section 4)
- 

**Problem:** Seeds are not flowing through the metering system

**Check:**

- Direction of rotation of the motor (should be clockwise if viewed from above)
  - That the correct sponge is fitted (refer to Section 4.2)
- 

**Problem:** Seeds are not exiting the ground opener tubes

**Check:**

- For blockages in opener tubes and seed hose
- 

**Problem:** Seeding rate is lower or higher than that calibrated for

**Check:**

- Calibration calculations. Recalibrate if necessary.
  - Power supply (see notes above).
  - That the radar sensor (if fitted) is mounted correctly (refer to Section 4.5) and free from obstruction.
  - The radar sensor is plugged into controller.
  - The sponge is dry, and in good condition. Look for indentations or signs of wear. Replace if necessary.
- 

If problem cannot be resolved, contact your Seed Spider dealer.

## 10 WARRANTY

Your Seed Spider is under warranty against defects in materials or workmanship for a period of one year from the date of retail sale.

Defective systems must be returned to the manufacturer's within the warranty period. Components will be replaced or repaired at factory discretion. This warranty applies only to those systems that have been installed and operated in accordance with published instructions.

This warranty is in lieu of all warranties, expressed or implied, and the manufacturer expressly disclaims all other warranties, including without limitations any implied warranties of merchantability and fitness for a particular purpose.

The manufacturer liability under this warranty shall not exceed the cost of the product. Under no circumstances shall the manufacturer be responsible for equipment on which its systems are installed, field service calls relating to this equipment, or for indirect, consequential or special damages.

For warranty service please retain the system to point of purchase.

### 10.1 WARRANTY FORM

#### Seed Spider Metering System Warranty Form

To be completed and faxed or posted within 30 days of purchase to:

Sandbrook MacRae Limited  
Pohangina Valley West  
RD 14  
Ashhurst  
NEW ZEALAND  
Tel: +64 6 329 4794  
Fax: +64 6 329 4784

DATE OF PURCHASE \_\_\_\_\_

SERIAL NUMBER \_\_\_\_\_

NAME OF PURCHASER \_\_\_\_\_

ADDRESS \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

TEL \_\_\_\_\_ FAX \_\_\_\_\_

NAME OF DEALER \_\_\_\_\_

DEALER ADDRESS \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_





## DECLARATION OF CONFORMITY

*89/392EEC, 91/368/EEC, 93/44/EEC and 93/68/EEC*

Sandbrook MacRae Limited  
Pohangina Valley West  
RD14  
Ashhurst  
New Zealand

Product Type: Seed Spider Seed Metering System

*Covered by Technical File Number:* CE 7000 (a, b & c)

*Standards & Regulations used:*

The Supply of Machinery (Safety) Regulations 1992, Statutory Instruments number 3073 of 1992

The Supply of Machinery (Safety) (Amendment) Regulations 1994, Statutory Instruments number 2063 of 1994

*Place of issue:* New Zealand

*Authorised Representative:* Michael Baas  
Engineering Manager

*Declaration:*

I declare that as an authorised representative, the above information in relation to the supply and manufacture of this product, is in conformity with the stated standards and other related documents following the provisions of 89/392EEC, 91/368/EEC, 93/44/EEC and 93/68/EEC directives.

Signature of Authorised Representative:

**Michael Baas**

Date: 15th August 2003