



## ***Instruction Manual***

MANFOAM-2 REV F 05/05/20

**14L FOAM MARKER  
042M**



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## Silvan Warranty

**Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.**

We warrant our goods to be free from defects in materials and workmanship for the warranty period of 12 months from the date the product is delivered to the consumer.

Silvan warrants its authorised Dealer, who in turn warrants the original purchaser (consumer) of each new Silvan product that it will repair or replace the product, or, pay the cost of repair or replacement, as determined by Silvan without charge for labour or any defective or malfunctioning parts in accordance with the warranty limitations below.

This Warranty is in addition to any other rights and remedies available to consumers under the law

### **This Warranty Covers**

Only conditions resulting directly from defects in workmanship or material under normal use and service.

### **Warranty Exclusions**

The Warranty does not cover:

- Conditions resulting from misuse, use of incompatible chemicals, exceeding machine specifications including overloading, impact damage, negligence, accidental damage or failure to perform recommended maintenance services as specified in the Owner/Operator Manual applicable to the product.
- Damage caused by continued use of a product after initial failure
- Any product which has been repaired by other than an authorised Silvan service outlet in a way which, in the sole and absolute judgment of Silvan, adversely affect its performance or reliability.
- The replacement of maintenance items such as diaphragms, batteries, V belts and ground engaging components, etc.

#### **HOW TO CLAIM WARRANTY**

Return the goods to the place of purchase at your cost and within the warranty period along with evidence of the purchase date. If the original supplier cannot be contacted, then contact Silvan as below and we can direct you on how to proceed with your warranty claim.

#### **HOW YOUR CLAIM WILL BE MANAGED**

The repair of a defective product qualifying under this warranty will be performed by any authorised Silvan service outlet within a reasonable time following the delivery of the product, at the cost of the owner, to the service outlet's place of business. The product will be repaired or replaced depending on the extent of the problem at the discretion of Silvan and the Silvan dealer.

# Safety Instructions



Before attempting to operate foam marker carefully read and take note of the following safety warnings.

Failure to comply with these warnings may result in serious injury or death.

Whilst each type of Silvan foam marker incorporates all the necessary safety features it is essential that any person operating them is aware of the safety precautions that should be exercised.

- ▲ Silvan foam markers are designed and manufactured solely for the purpose of dropping foam to define the area sprayed when agricultural chemicals are being applied to crops. Under no circumstances should they be used for any other purpose.
- ▲ Before using the foam marker carefully read and ensure you understand the contents of this manual and any other manual relevant to the safe operation of any associated tractor and spraying machinery.
- ▲ Before operating the foam marker read the safety warnings carried on the unit and any associated equipment.
- ▲ Never allow an inadequately trained person to operate the foam marker.
- ▲ **Before use of any chemicals including foam concentrate** refer to the chemical manufacturer's label and safety instructions for safe handling procedures and the correct method of use. Always use the recommended personal protective clothing and equipment.
- ▲ Ensure that all operators and associated personnel are familiar with the legal regulations and codes of practice that apply to the safe use and storage of spray chemicals including foam concentrate.



Part Number DEC 48



# Specifications



## **Bubbler Standard Foam Marker:**

### **Foam Tank:**

Capacity 14L -Impact resistant polyethylene tank.

### **Air Supply:**

12-volt DC diaphragm compressor with in-line non-return valve and adjustable airflow bleed off valve. Max 8psi pressure.

### **Operating Time:**

25 to 60 minutes (fitted to 6m boom)

### **Controls:**

Electric control box with single on/off switch.

### **Foam Delivery:**

19 mm diameter reinforced PVC hose, 10metres. Flexible foam dropper (single side only) with mounting clamps.

## Installation

1. Mount the 14L tank to the front or rear of the vehicle using the 2 tie-down straps supplied with the unit. Alternatively, it may be supplied fitted to your new Silvan TPL unit.
2. Attach the electrical leads from the air compressor to the control box supplied with the marker using the pin connector supplied. Attach the electrical leads from the control box to the vehicles 12-volt battery. Connect the red lead to the positive terminal of the vehicle battery and the black lead to the negative terminal. Position the control on/off switch box in a convenient location for the operator and attach using the Velcro tape supplied
3. Cut a length of 19 mm wire reinforced hose to reach from the foam tank to the end of the boom. Fit one end of the hose to the elbow on top of the foam tank and secure with a hose clamp. Route the hose along the vehicle frame, attaching at convenient points with plastic ties. Ensure that the hose is not positioned where it can be accidentally squashed or kinked.
4. Fit the foam dropper to the outer end of wire reinforced hose and secure with a hose clamp.
5. Attach the rigid tubing section of the foam dropper to the outer end of the boom with two saddle clamps. Ensure the dropper is located so that it does not interfere with the spray pattern of the end nozzle.

## Operation

### **General Considerations**

#### **Foam Concentrates**

Refer to mixing instructions supplied with foam concentrate.

Under normal operating conditions it is used in diluted form at a rate of 1 part of concentrate per 100 parts of water i.e. 140 ml of concentrate to 14 litres of water. If this concentration is too thick or slow a rate of 1 part per 200 parts of water may be necessary.

#### **Water Quality**

Foam quality and durability will deteriorate if the concentrate is diluted with "hard" water. "Soft" water will give the best foaming result and it is recommended that rainwater or "soft" town water is used in preference to bore or dam water.

A reduction in foam volume and durability becomes noticeable when the calcium carbonate ( $\text{CaCO}_3$ ) content of the water exceeds 300 parts per million

(ppm) and quality can be reduced by up to 40% when  $\text{CaCO}_3$  reaches 1500 ppm.



**WARNING** Avoid foam concentrate contact with skin and eyes and avoid inhaling vapour. Wear overalls, PVC gloves and face shield or goggles. If product is on skin immediately wash area with soap and water. If poisoning occurs, do not induce vomiting. Give plenty of water or milk to drink and seek medical assistance. If in eyes, hold eyes open and flood with water for at least 15 minutes and see a doctor.

#### **Water Temperature**

Foam volume decreases with colder water temperature. Up to 40% of foam volume can be lost at 5°C compared to 25°C. The solution temperature can be kept above 10°C by using hot water if necessary.

# Operation (cont.)



## **Weather Conditions:**

Radiant energy from the sun has a far greater impact on foam life than air temperature. In the absence of clouds, the surface temperature of bare ground rises rapidly under direct sunlight, particularly on dark soils where soil temperature can approach 55°C on a sunny day of 25°C air temperature. Foam blobs falling on bare ground under these conditions may last less than 20 minutes. Under cloudy conditions the soil temperature will be like that of the air and foam blobs will generally last 30 minutes or longer, depending on the actual temperature. Foam falling on green vegetation will also last appreciably longer. Under high temperatures the life of foam blobs can be extended by increasing the amount of concentrate added to the tank by approximately 50%.

If the air temperature rapidly falls towards 5°C, as can happen at winter sunset, the volume and quality of foam may deteriorate noticeably. Under such conditions it is recommended that the temperature in the foam tank is raised by adding concentrate which has been diluted with warm water.

Dry, windy conditions may require an increased strength of concentrate to keep the foam on the ground. The amount of concentrate added can be increased up to double the normal rate if necessary.

When using increased strength solutions, if the discharge of foam is slower than required because it is too thick then dilute the mix by adding water.

## **Storage of Diluted Solution and Concentrate**

Diluted foam solutions tend to deteriorate considerably if stored in the marker tank for more than two days, resulting in reduced foam volume and quality. If the solution has been in the tank for more than 24 hours, it is recommended that it be drained and replaced with a fresh mix.

Store concentrate in its original container with the lid securely closed in a well ventilated, cool area. Concentrate can tend to age when stored for longer than 6 months and it is advisable to thoroughly stir and agitate older concentrate before use.

## **Principal of Operation**

Air is pumped from the electric diaphragm compressor through a hose fitted with a non-return valve to the bottom of the foam tank.

As the air bubbles through the mixture of water and foam concentrate it produces foam. The pressure produced by the entering air forces the foam out

the top of the tank and along the hose to the foam dropper at the end of the spray boom.

## **Operation:**

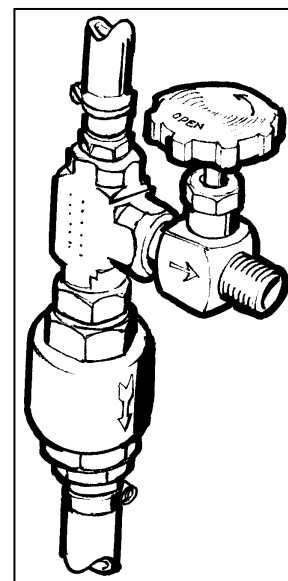
Unscrew the foam hose from the top of the tank. Take care that any built-up pressure in the tank is released slowly first. Fill to approximately 3/4 capacity with clean water then add foam concentrate at the recommended rate. Completely fill the tank with water and refit the foam hose. To thoroughly mix the solution and avoid creating excess foam in the tank whilst adding water, insert the filling hose below the water surface and use a gentle flow.

Refer to the General Considerations section for advice on water quality and foam concentrate dilution rates.

To start foam generation, turn the compressor on from the control switch and allow enough time for foam to reach the boom dropper before commencing spraying. Once the system has been primed, foam generation can be stopped and started by operating the control switch.

An adjustable bleed off tap is fitted and can be used to reduce the rate of foam production. Operating the tap reduces airflow to the tank and consequent foam production.

Sometimes a foam marker may "blow out" due to excess air escaping through the foam. To correct this problem, reduce the concentration of foam concentrate in the mixture by adding more water.



**ADJUSTABLE BLEED VALVE**



# Maintenance



## Flushing the System:

For efficient performance it is important to remove unused foam and foam solution from the system after each day's use.

Remove the top and bottom hose connections from the foam tank and drain any unused foam solution, then flush the tank with water.

## Electrical Fuses:

If the electrical system fails to operate remove the fuse and check whether it has blown. If so, first locate and rectify the fault, then replace the fuse with a new 15 Amp fuse. A blown fuse may indicate that an electrical lead has rubbed through on a sharp surface.

# Troubleshoot

Problem	Solution
Inconsistent Foam quality Thin Sloppy or Thick Chunky foam	<ul style="list-style-type: none"> <li>• Incorrect quantity of Foam marker concentrates for conditions                             <ul style="list-style-type: none"> <li>- If sloppy add more Concentrate or bleed off more air (less air in tank)</li> <li>- If chunky, add more water or bleed off less air (more air to tank)</li> </ul> </li> <li>• Poor water quality – using 'Hard' water reduces foam performance</li> <li>• Low water temperature – low temp decreases foam volume</li> </ul>
Foam coming out too quickly	<ul style="list-style-type: none"> <li>• Too much air going thru system – Bleed off more air to reduce flow</li> <li>• Adjustments to air flow or concentration can take 5 to 10 min to show at the dropper.</li> </ul>
Moisture appears to be entering the motor. Dye residue is showing on motor / fan	<ul style="list-style-type: none"> <li>• Ensure bleed valve is always slightly open to eliminate possible reverse flow of air back into the compressor after unit is turned off.</li> <li>• Ensure fluid does not enter motor while filling tank.</li> </ul>
Motor is loading up Motor is running slow	<ul style="list-style-type: none"> <li>• Bypass more air to lower compressor pressure</li> <li>• Check for loose or corroded connections</li> <li>• Check for moisture damage to moving parts of compressor &amp; motor</li> </ul>