

Nutridose Installation Guide.

Procedure to Setup a Water Medicator on a Turkeys Nest or Water Tank.

This is a step by step guide to the installation of the Nutridose Water Medicator.

Step 1. - Water Meter.

The water meter needs to be located at the outlet of the turkey's nest or in the main water line to the troughs. The Nutridose water medicator should be in the turkey's nest enclosure or have a fence built around it to protect it from being damaged.

The water meter needs to be the same size as the pipeline eg- 40mm, 50mm or 80mm. The 50mm and 80mm need galvanised flanges and rubber gaskets fitted. The 40mm has screwed ends and poly end connectors are required to be fitted onto the water meter before installing it to the pipeline.

The water meter needs to be located in the pipeline with 10 times the diameter of the water meter clear flow, before and after. If the water meter is 50mm, the water meter needs to have 500mm of straight pipe on either side of it. This is necessary to reduce turbulent flow at the meter.

Ensure the water meter does not go under water in the wet season as the register mechanism is not flood proof.

Step. 2 – Locate the inline water filter.

An inline filter is required in the main line coming from the turkey's nest or main line. This filter must be located in the main water line before the section of straight pipe at the water meter eg. about 1 meter before the water meter. This filter prevents any Algae or grit clogging the water meter.

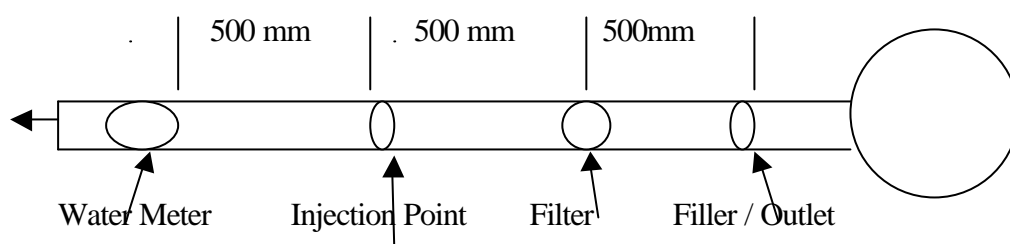
Step. 3 – locate an outlet pipe to fill nutrient tank.

An outlet is needed to refill your nutrient tank, fit a tee connector into the main line about 1.5 – 2.0 meters before your water meter. You can also fit a ball valve and 1 inch hose and nozzle or camlock fitting to connect a fire fighter onto to the main line to fill your Nutridose tank.

Step. 4 – locate injection point.

The nutrient from the medicator needs to be injected into the main line going to the troughs. The injection saddle should be located before the water meter, approximately 600 mm on the inlet side of the water meter. This location ensures that the injected fluid does not drive the meter backwards if the trough valves are closed. A non return valve is fitted onto the injection saddle and the bleed off valve is screwed onto the top of the non return valve. The hose is connected from the medicator to the injection point.

The following diagram shows the relationship of the components.



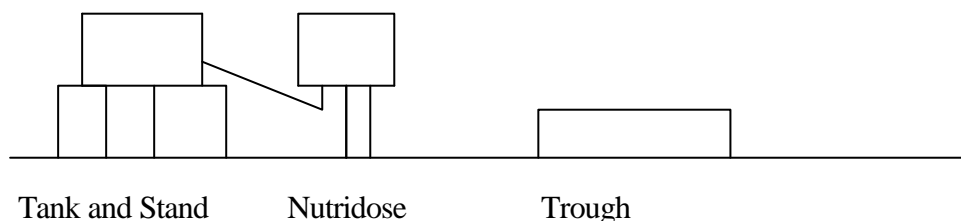
Step. 5 – Location and Setup of the Nutrient Tank.

In most cases a 4500 litre poly tank is used but you can calculate the size you need. Normally you work on a 10 – 15 day cycle, (eg. 1000 head x 40 litres / per head/ day = 40,000 litres a day at 1 % dose rate.

You will use 400 litres a day of nutrient x 10 days = 4000 litre / tank).

Squat tanks are preferred to taller tanks as they are easier to fill. The manhole needs to be close to the edge of the tank for easy access and have a chemical screen fitted to hose the nutrient through. The tank needs to have 2 outlets one for a drain and one for nutrient outlet.

On the outlet of the tank you need to fit a ball valve then the $\frac{3}{4}$ filter then the hose from the tank to the medicator. The nutrient tank needs to be as close to the medicator as possible. The nutrient tank outlet is to be no more than 300mm lower than the bottom of the medicator. In most applications you have to lift up the tank or place the tank on the ground and mount the medicator 300mm off the ground as the next section explains.



You can also put the Tank on the ground and drive 2 fence stakes in the ground, no wider than the medicator and bend the two stakes over at approx 45 % and mount the box no more than 300 mm from the ground.

The inlet is on the left side of the box as you face it and the outlet is on the right side. Super Clamps are supplied and need to be used on the inlet side of the unit. Air locks on the inlet side will cause the unit to malfunction.

Step. 6 – Locate Solar Panel.

The Solar Panel should be mounted on a bracket and placed either on the top of the tank or on the medicator stand or by itself . The panel should be at an angle representing your latitude degree and facing north.

For added protection put hose over ALL the wires to stop the birds and dingos chewing on them.

To connect the solar panel to the controller the BLACK wire connects to pin 1 and the RED wire connects to pin 2.

Step.- 7 Setting up Battery.

Place the Battery next to the unit cover lead with hose to protect it.

Connect Battery Leads RED/ positive and BLACK / negative.

DO NOT GET THESE CONNECTIONS MIXED UP OR DAMAGE WILL OCCUR TO THE CONTROLLER .

Step. 8 – Connecting Water Meter.

Cover Wires with hose feed wire through hole in the bottom of the unit.
Connect the wires to PIN 16 and PIN 17 any order.

Step. 9 – Fill Nutrient Tank

Fill the Tank $\frac{1}{2}$ to $\frac{3}{4}$ full and add nutrients. It is best to start off with $\frac{1}{2}$ dose rate. This rate can be increased to full rate when the first tank is empty.

Once you mix in the nutrient fill up the tank to the top with water then stir it up with a fire fighter unit to ensure the nutrient is mixed properly. It is a good idea to run the fire fighter again next morning. This will ensure full mixing. Flush out the fire fighter with fresh water after finished.

Nutrient is supplied in 25 kg bags. Always read labels for mixing instructions.

Step. 10 – Enclosure .

It is essential that the Medicator is positioned in an area where the cattle can not access the equipment and damage any components. A shed or roof and a fence will supply protection for the unit and its components.

Equipment Supplied.

1 Nutridose Medicator
1 Water Meter
1 Solar Panel
1 non return valve for injection saddle
Hose Clamps

- The Following items can be supplied by PFSA at additional Cost.
- 12 v Solar Battery
- Filters for Nutrient Tank and Main Line
- Tapping Saddle
- Air Bleed Off Valve
- $\frac{3}{4}$ Hose (for inlet line)
- $\frac{1}{2}$ Hose (for outlet line)
- End Connectors for Water Meter and Filter.
- Reducing Bush $\frac{3}{4}$ to 2 inch for nutrient tank .
- Galvanised Flanges 50 mm or 80 mm for Water Meter.

Items Needed To Be Supplied By Client.

- Poly Tank / Stand etc.
- Stand for Nutridose Medicator.
- Mounting Bracket for Solar Panel.
- End Connectors if Not Supplied By PFSA.

Helpful Hints.

To keep the equipment functional, follow these instructions when you recharge your tank.

- Clean solar panel to remove dirt or bird droppings etc.
- Check battery condition and connections.
- When finished for the season flush unit with clean water

- Replace pump diaphragm every 12 months (recommended)
- Maintain flow sensor as directed

Trouble Shooting Guide.

Unit will not start or run.

- Check battery terminals or battery flat. (minimum 10.5 volts)
- Check connector plugs on controller are pushed up properly.
- Check wires are not loose or broken.
- Check water meter is rotating.
- Check nutrient light is flashing on and off on front controller panel.
- Check reed switch is connected properly.
- Check unit is auto mode.
- Check if water meter light is flashing on and off on the front controller panel.
- Water meter not pulsing properly
 - (Bare a piece of wire at both ends and touch pin 16 and pin 17 if unit pulses the water meter is not sending a pulse, replace lead)
- Check water meter filter.
- Check if pump light is flashing on and off on front controller panel.
- Blocked nutrient filter. Clean
- Gate valve not open properly.
- Gate valve motor will not turn.
 - (Can hear valve open and close when press auto then manual mode).
- Check ball valve is turned on.
- Nutrient tank to low for medicator to suck up nutrient (lift tank)

Unit will not prime.

- Nutrient level in tank to low.
- Did not press reset before prime button.
- Wires come loose on controller - push back up.
- Open bleed valve to bleed air out of system.
- Air lock - bleed system.
- Air Leaks – check joints, do not overtighten.
- Blocked flow sensor.
- Pump diaphragm split or broken.
- Non return valve leaking back to tank and not holding
- Prime on inlet side (if fitted)
- Too much back pressure in main line.
- Pump diaphragm broken.

Unit will not pump.

- Pump too small (low pressure pump- on high pressure line).
- Blocked non return valve.
- Controller not working properly. Check if nutrient light is flashing on and off on front controller panel.
- Airlock in system / bleed air out of system.
- Nutrient filter blocked.