

MS Nitrogen Information Sheet

This document lists a number of technical facts about MS Nitrogen.

Explanation of how it works

MS Nitrogen was developed to euthanise weak piglets in an ethical way. This is done by catching gas in an expansion foam. The foam generator only functions under the pressure of the gas bottle.

By placing the piglet in the foam and immediately closing the top layer, the bubbles around the animal pop and an oxygen shortage occurs. The animal loses consciousness within 30 seconds. During the first 30 seconds the piglet can still move, after which it starts with convulsions. This is a natural process. Because of the lack of oxygen the heart will eventually stop beating and the piglet will die a painless death. Normally this takes 3 minutes, but in piglets with a weakened metabolism this can take a little longer. Therefore it is advised to leave the piglet(s) in the bin for 10 minutes before removing them from the MS Nitrogen.

Nitrogen has been chosen above other gases, because extensive scientific research has shown that, unlike CO₂ for example, it does not stimulate the nervous system and therefore the piglet does not experience panic or extra stress. At a slaughterhouse level, even the first tests show that the meat quality is considerably better, which is also a good indicator of the stress level.

Number of pigs

The currently developed version is for euthanising rounds of up to 15 kg. This can include 1 x 15kg, but also 15 x 1kg or 2 x 7.5kg

Consumption

Based on the test, we now assume that 25 cycles can be completed with a 50L nitrogen bottle and consumption of 0.30 L to 0.5L of foam solution at a time. This applies to a fully foamed unit. However, it is not necessary to fill the unit completely when euthanizing (multiple) small piglets. In that case the consumption will be even more convenient.

Summary; 25x for each 50L bottle of nitrogen

Fill 60x with a 1L detergent solution with 20L. water (=21 L.)

Consumables

In the Netherlands, nitrogen can be bought through an advantageous contract with Air Liquide. The foam concentrate used to make the solution can be purchased from Schippers. The current usage of this product is 1 litre of detergent every 20 litres of water.

Consumption costs

Consumption costs are based on the following conditions:

- ***100 rounds per year***
- ***That's 4 x 50L bottles of nitrogen a year. So 1 bottle per quarter***
- ***In this case, the bin is fully foamed. Again, this is not necessary for smaller piglets.***
- ***Nitrogen costs include all processing costs and surcharges.***

Cost of nitrogen per year: €197.50* Cost of foam

solution per year: €100.00

Total costs per year: €297.50

So if you fill the tank completely with foam, this comes down to €2.98 per round.

****Nitrogen costs vary per country, this rate is based on the Netherlands.***

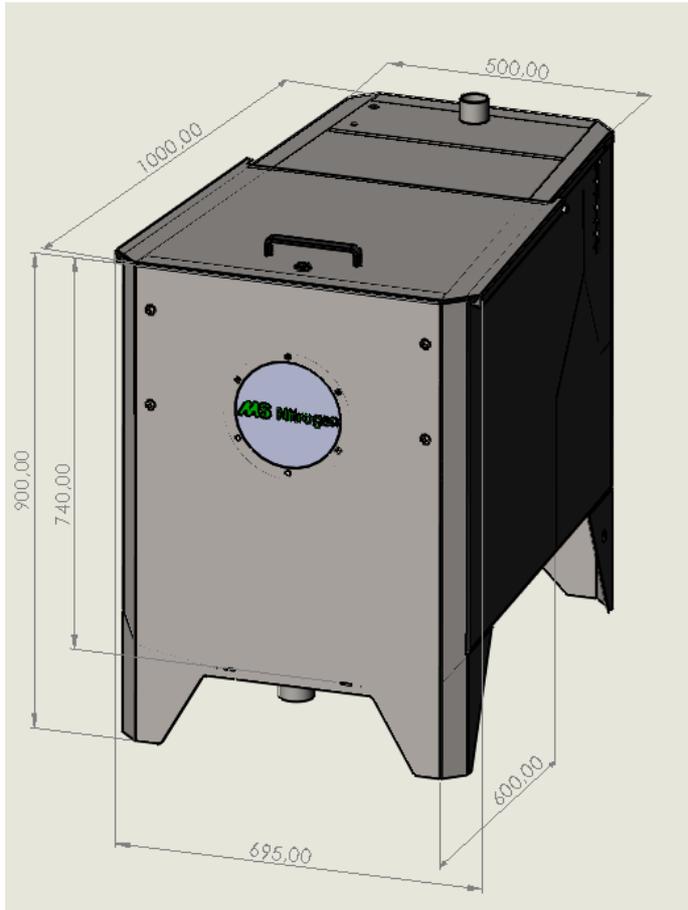
Mobile version

The current MS Nitrogen has been developed in such a way that later it can also be converted into a mobile version. The same unit will be completed with a mobility set consisting of a set of wheels, handles and bottle holder. The bottle holder set can be expanded with an extra set, so that two 10L bottles can be carried. The limitation is that only 5 full bins can be filled with foam from a 10L bottle.

Additionally

There is a cover plate that can be placed in front of the foam outlet. This allows to clean the inside even better without water getting into the foam generator.

Dimensions of stationary version



Dimensions of mobile version

