

## Trouble Shooting

**Symptom:** The light flashes down the scale and off the bottom.

**Answer:** This is usually indicative of milk having a very low conductivity (or infection) level, and should be regarded as normal and healthy. However, if a suspicious number of quarters show this result, the instrument should be checked on known high-cell-count cows.

**Symptom:** Instrument gives suspiciously high and/or erratic readings.

**Answer:** Open the device and inspect for internal dampness. Dry out open, and check again. If problem re-occurs check seals for leaks, grease lightly and test again after drying out. If problems persists, device should be returned to Shoof for checking and service.

**Symptom:** No visible reading (or lights just flashing).

**Answer:** Air bubbles in the milk tube can cause this. Sometimes these are visible through the back of the Mas-D-Tec. Enter a new sample, being careful not to squirt directly down the funnel hole. Do not enter more milk than is required to replace the previous sample.

**Symptom:** Erratic readings occurring occasionally.

**Answer:** It is sometimes possible for foreign matter to enter the funnel or milk tubes. Easiest solution is simply to flush water backwards through the bottom milk outlet to ensure the tubes are clean.

## Tips for Use

1. Squirt milk on side of funnel, not in centre hole.
2. Do not use excessive amounts of milk. Only half a teaspoon is required.
3. Do not get Mas-D-Tec damp inside (only open in a dry place). If instrument shows signs of moisture inside, leave open to dry, then try and find the source of dampness.
4. Lightly lubricate seals occasionally to keep moisture out. Do not lubricate excessively.
5. Do not stand Mas-D-Tec in manure or dirt (drain holes may block).
6. In extreme cold conditions, run some milk or warm water through Mas-D-Tec before using.
7. Colostrum quarters in new cows may read lower than non-colostrum quarters.
8. Comparison between quarters is more important than absolute levels of conductivity.
9. Clinically mastitic quarters may give 'normal' readings. This is not an instrument fault.
10. Treat your Mas-D-Tec with respect. Although it is very robust, it is still an expensive instrument which should be handled and maintained with care.



PO Box 522, Cambridge 3450, New Zealand  
Phone: 07 827 3902 • Fax: 07 827 7596 • Email: sales@shoof.co.nz

# Mas-D-Tec

## Electronic Mastitis Detector



## Cost of Mastitis

Mastitis costs the dairy farmer in two ways. First is clinical mastitis where the expense is obvious by way of antibiotics, grades and wasted milk. Less obvious but far more costly is the **loss of production** due to sub-clinical mastitis. As infection builds in the cow's udder, production declines. This decline is invisible and also very hard to measure. A USA study estimated a production loss of 20kg of milk solids if a cow's cell count increased from 50,000 to 300,000. Conversely, an increase in production would be expected as herd cell counts are reduced.

## Electronic Mastitis Detection

Researchers around the world now generally agree that milk conductivity is a highly accurate indicator of mastitis, and can give earlier and more accurate warning of problems than indicators such as Somatic Cell Counts (SCC).

The Mas-D-Tec is an instrument which measures milk conductivity and interprets the data to light a graphic display scale. Readings are in a simple 0-9 format, with “normal” milk being under 5. This instrument is probably the only mastitis test fast and accurate enough to consider for whole-of-herd testing. Some practice using the device is essential before embarking on a large scale detection program. Always discuss your intention with your veterinarian before beginning any treatment.

## When to use Mas-D-Tec

- After receiving individual cow herd test SCC results, identify cows with high readings and test with the Mas-D-Tec to identify the infected quarters.
- After receiving notices of rising bulk-milk SCC use the Mas-D-Tec on the whole herd, recording quarters showing high conductivity.
- Use strategically whenever a cow or her milk show suspicious or abnormal signs. Often infection can be building before milk SCC is affected.
- Use to monitor treatment of an infected quarter to ensure a full recovery is made from the infection.
- Use to select cows for dry-cow therapy. It should be noted that although Mas-D-Tec is a highly accurate instrument, any programme of mastitis detection and treatment should be discussed with your veterinarian. One high conductivity reading does not always indicate mastitis. Serial readings of suspicious quarters are of more value.

## Instructions for Use

A squirt of foremilk is taken from each quarter in turn into the top of the instrument. (disregard USA printed booklet instructions regarding foremilk). Only a very small sample of milk is required; ie - just enough to fill the tube visible in the back of the Mas-D-Tec. As a new sample is added, the previous sample is automatically discharged. There is no need to rinse the instrument between quarters or cows. Each milk sample is retained in the instrument until the next sample is added. The reading will appear within three seconds of entering the milk. If the sample is left in the Mas-D-Tec for five seconds or more, it may shift to a lower reading as the sample cools.

In most cases an infection is present in one quarter only. Therefore **the most important indication of infection is one quarter showing a significantly higher reading than the other three quarters.** A difference of 2 graduations (ie 20%) between quarter readings should be regarded as a positive indication of mastitis in the high reading quarter. The line between “normal” and “abnormal” should not be taken as an absolute indication. It is a guide only.

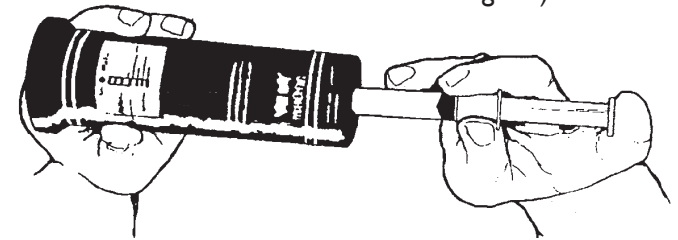
## Isolate Infected Milk

A high conductivity reading will almost always indicate an infected quarter. For the purpose of keeping milk quality to the highest level we recommend using a Quartermilker to isolate any milk showing high conductivity, regardless of whether the quarter is subsequently treated or not. In many cases conductivity may rise for a period, but then decline again as the cow's natural defence system combats the infection. By isolating the milk over this period bulk-milk quality can be maintained.

## Important Cleaning Instructions

Your Mas-D-Tec should be cleaned in accordance with normal milk-contact surface cleaning procedure:

1. Immediately after use: Flush with cold water, unless being reused at the same milking.
2. End of milking: Flush with hot (but not scalding water, preferably with some detergent).
3. Occasionally, or before storing: Flush the anti-syphon air inlet with warm water and detergent, using a syringe as shown below. (Check inside of instrument for moisture after doing this).



## Anti-syphon air-inlet

It is important that this tube is kept clear. Occasionally it can block either internally or externally, causing malfunction of the instrument. The air inlet tube is the larger of the two holes at the bottom of the Mas-D-Tec.

