



THE GLOBAL STANDARD
FOR LIVESTOCK DATA

ICAR Guidelines for calibration of the milk meters

Afifree Milk Meter

Version March, 2018

Network. Guidelines. Certification.

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1 General

- a. Perform the periodic check at least once every 12 months.
- b. Clean milk meters thoroughly before performing the periodic check.

2 Reference Value

- a. The "reference value" is the difference in Kg between the reading of the milk meter and the weighed amount of water that has passed through the milk meter.
- b. The "reference value" of the "AFIFREE" milk meter is the average of the two water measurements found during the water test procedure of the installation test or a reference value determined later.
- c. During the first periodic check, save the reference values for use in future annual checks.

3 Required Equipment

The Afikim's sucking set:

- a. The Sucking Unit with a 3.5mm sucking opening, which provides 4 ± 1 LPM water flow.
- b. The Air Admission Unit with a 1mm air inlet, which provides 10 ± 3 LPM air flow. The Air Admission unit must be attached close to the Milk Meter Inlet with the air admission hole facing upward.
- c. A clip-tap located before the air admission unit.
- d. Bucket of sufficient capacity.
- e. The internal diameter of piping connecting the milk meter and bucket for nipples and rubber pipes must be at least 16mm.
- f. Electric scales.
- g. Level.
- h. Airtight container for collecting testing liquid.

4 Before the test

- a. Ensure that the sucking set is clean and all its holes are open.
- b. It is recommended to use the same sucking set for the same milk meters each year.
- c. Ensure that all pipes, fittings, buckets and clip-tap are in the good condition.
- d. Check that Milk Meter is leveled.

5 To Prepare Testing Liquid

The target is to achieve a normal solution of saltwater with a conductivity value of 10.1 ± 0.3 (in AfiFree conductivity units).

- a. Initially take 20 Kg of water at approximately ambient temperature.
- b. Add about 80 g of salt and mix thoroughly.
- c. Measure liquid's conductivity value:
 - When Milk Meter is in the cleaning mode, perform "double click" on Start/Stop button. Display will show conductivity (in AfiFree conductivity units).
 - Without pressing on Start/Stop button, pass all the liquid through the milk meter to measure the conductivity value.
- d. If the required conductivity value is not achieved:
 - if the measured value is less than the target value, add more salt
 - if the measured value is greater than the target value, add more water

5.1 For example

Start with 20Kg of water and add 80 grams of salt. Measure the conductivity and add water or salt to reach a conductivity value between 9.8 and 10.4 units.

The principle of the test

- a. Fill a bucket with at least 20 Kg of Testing Liquid.
- b. Press Start/Stop button to start measuring.
- c. Open clip-tap to suck in the Testing Liquid.
- d. Stop the water by closing of clip-tap when the display shows ~ 10.0 kg.
- e. Wait until all remaining water flows into the airtight container.
- f. Press Start/Stop button to finish measuring.
- g. Weigh and record the collected water in the airtight container and proceed as follows:
 - If the first measurement value deviates by 0.1 Kg or less from the reference value: the meter is correctly calibrated.
 - If the first measurement value deviates by more than 0.1Kg from the reference value, perform a second measurement.
 - If duplicate measurements have an average deviation of 0.2 Kg or less from the reference value: the meter is correctly calibrated.

5.2 Inaccurate Meters

If the measurements do not conform to this standard, check the equipment and repeat the water testing procedure. Equipment checks include the following:

Re-measure the conductivity of the testing liquid.

Ensure that the milk meter body is level.

If it is still impossible to conform to the standard, the meter should be calibrated/ adjusted or replaced.

6 Replacement or Repair of Meters

After replacing the meters, or when repairs affect the measurement, test the meters during milking.

After this perform the water test procedure twice. This water test will then serve as the new "reference value".

7 Reporting Results

The following results must be reported:

- a. Periodic checks of the milk meters.
- b. Interim changes to milk meters and parlor configuration.
- c. Checks carried out following these changes.

To those concerned, including:

- a. The farmer.
- b. The main supplier.
- c. The national milk recording organization.

Storage of the checking equipment

- a. Inspect the checking equipment for cleanness and parts.
- b. Store the checking equipment in a package in a dry and free from dust place