



THE GLOBAL STANDARD  
FOR LIVESTOCK DATA

# ICAR Guidelines for calibration of the milk meters

**Afikim Milk Meter**

Version March, 2018

Network. Guidelines. Certification.

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Afikim Milk Meter is also called:

- Fullflow
- Manuflow
- Sureflow
- Afikim/Combina

Frequency of periodic checking at least once in 12 months.

## 1 General

The testing procedure with water should be carried out with milk meters that are cleaned properly.

## 2 Reference value

- a. The “reference value” of the “Afikim/Fullflow” milk meter is the average of the two measuring with water, found during the testing procedure with water of the installation test or a reference value determined later.
- b. When proceeding to periodic checking, the reference values are handed over for support.

## 3 Required equipment

- a. A Fullwood sucking set.
- b. Sucking pipe with a rubber cap and with a sucking opening of 3.5 mm.
- c. Air inlet of 1 mm.
- d. Electronic weigh-beam/Basle.
- e. Some buckets of sufficient capacity.
- f. Some receivers for the collecting of testing liquid.
- g. Thermometer.

### 3.1 Testing liquid

- a. Water with a temperature of 20 C +/- 5 C.
- b. Addition of 60 grams of salt per 20 kg of water.

The principle of the test

- a. Fill a bucket with at least 15 kg of testing liquid.
- b. Suck a quantity of testing liquid till 12 kg is shown at the display.
- c. The flowed - and collected quantity of water will be weighed.

### 3.2 Quality of the observations/measurements

- a. If the first measuring value deviates 0.1 kg from the reference value: meter = correct.

- b. If the first measuring value deviates more than 0.1 kg from the reference value, proceed to a second measuring.
- c. If duplicate measuring have an average deviation of 0.2 kg or less from the reference value: meter = correct.
- d. The difference between duplicate measuring should not be bigger than 0.1 kg.

#### 4 Deviating meters

- a. When the measuring do not come up to this standard, the testing procedure with water should be repeated after checking the equipment, which may include, among other things, straightening up, and if necessary, dismantling of the meter.
- b. If it is still impossible to come up to this standard, the meter should be recalibrated/adjusted or replaced.

#### 5 Replacement or repair of meters

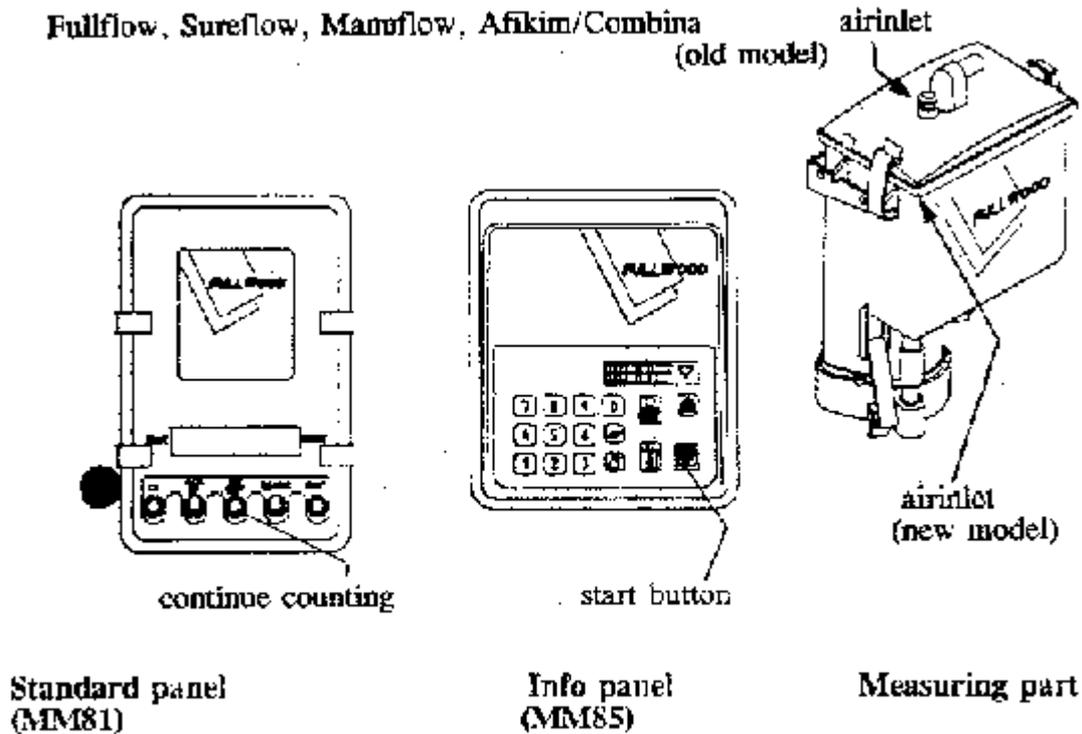
- a. When meters are replaced or when repairs influence the measuring, the meters are to be tested during the milking, after which the testing procedure with water should be carried out twice.
- b. This water test will then serve as “reference value”.

#### 6 Reporting the results

The results of the periodic checking of the milk meters, as well as interim changes and the checks that go with these changes will be reported to those concerned, among others to the farmer, to the main supplier and to the national milk recording organization.

#### 7 Sampling equipment

- a. Check the sampling equipment for cleanness and parts.
- b. See to it that the sampling equipment is stored in a dry place, free from dust.



## 8 Hints for the sample taker and the farmer for correct sampling by means of Afikim:

### 8.1 Before sampling

See to it that:

- The air inlet in the milk claw is opened.
- The air inlet of the meter is cleaned and opened (blockage causes a delayed operation of the valve, extra foam formation and deviations in measuring quantities and contents). The air inlet of the meter is on the cover (older types of milk meters) or in the housing of the milk meter in the top of the bypass canal (new type).
- The meter and the sampling equipment are suspended upright.
- The sampling equipment is placed in such a manner, that the arrows on the sampling equipment point in the direction of the milk flow.
- All equipment for sampling contains no water residues. (Uncarefulness in this matter leads to a too low indication of percentages, especially where the first range of cows is concerned).

### 8.2 Taking the sample

- The display of the meter should always be at zero before starting to milk another cow.
- After the cow is off, the sample taker must observe a waiting time before reading off the display and before removing the sample bottles.

- c. This waiting time ( $\pm 30$  seconds) is necessary because of the presence of foam in the meter - foam changes into milk.
- d. When removing the filled sample bottles, a well-emptied sample bottle should be put in simultaneously.
- e. Then turn over the sample bottle several times, transfuse the milk in the mixture bowl and take a sample by means of the sample spoon.
- f. It is recommended to use a draining rack for good emptying of bowls and bottles.
- g. It is desirable, that there are some sample bottles extra on the farm during the milk recording. It is strongly advised not to use bottles with colored glass.

### 8.3 The operation panel

- a. Two types of the meter are available, i.e. with a standard panel or with an information panel (see above).
- b. On the standard panel, the middle switch "Continue Counting" is a switch to continue the same counting and is used when a milking set is kicked off. In such a case, the measured quantity of milk remains on the display and will be added to the measured quantity after replacement of the teat cups.
- c. At farms where milk meters with information panels are installed, one should press the "start button" twice, shortly one after the other, when the milking set is kicked off, in order to retain the milk quantity that is already measured.
- d. After taking the meter reading, the meter should be set at zero again. In case of a standard panel the two outer switches "CR" and "Start" must be pressed simultaneously. In case of the information panel, the "start" and "take off" keys (above the start key) should be pressed simultaneously.

### 8.4 After sampling

- a. The farmer removes the bottles and the sample equipment for a careful cleaning by hand.
- b. Store the sample equipment and bottles on a dry place, free from dust.

**Farmer, do rinse your equipment with acids on a regular basis!**