



THE GLOBAL STANDARD
FOR LIVESTOCK DATA

ICAR Guidelines for periodic checking of the milk meters

Boumatic Perfection 3000

Version June 2018

Network. Guidelines. Certification.

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Recommended frequency of periodic checking is once in 12 months

1 General

The testing procedure with water should only be carried out with milk meters that have been properly cleaned.

The water test must be done without the sampler connected.

The system vacuum level must be 42 to 46 kPa.

2 System Adjustment factor

The "System Adjustment Factor" of the "PERFECTION 3000" milk meter is the value of the parameter stored in the register number 1*82 of the meter control. This is a value from 1 to 9. To recall this value enter the command 1 * 82 # at the keyboard of the meter control. The factory setting is 5. This value is used to increase or decrease the calculated milk value by approximately 0.5 percent per step. Thus, if the sum of all meters is 1 % below the bulk tank value, all meters should be adjusted up from 5 to 7.

The System Adjustment Factor should not be changed unless a supervised milking has been performed and the computerized totals are compared to a recently certified bulk tank value.

In most cases, all meters will have the same value. The only exception to this is if milk from each meter is collected and weighed on an accurate scale. In this case the values may be different for each meter.

3 Required equipment

A BOU-MATIC Perfection 3000 water sucking set consisting of:

1. A flow restrictor with a sucking opening of 4.4 mm, with an integral air inlet of 1.2 mm.
2. Two pieces of 15.8 mm milk hose approximately 60 cm in length.
3. A cow platform or bench positioned so that the bottom of the water is within + or - 25 cm of the meter inlet nipple. Raising the water beyond that value may affect the readings.
4. Electronic weight-beam/bascula with an accuracy of 0.2% or better.
5. Buckets of sufficient capacity (15 liter).
6. Thermometer (accuracy +/- 1 degree).

4 Test liquid

Water; the temperature of which must be 19 degrees Centegrade, +/- 5 degrees. Potable water should be used. No salt or acid should be added to the water.

5 Principle of the test

1. A specified amount of water is drawn through the meter at a rate determined by the flow orifice (approx 5 liters/min). The display should read the amount specified herein.
2. Check and record the "System Adjustment Factor" value for each meter prior to testing.
3. Connect the two hoses and orifice to the meter inlet as shown in Fig.1. Also connect a bucket to collect the water for recycling.
4. Check and record the system vacuum level. Adjust if not within the range specified.
5. Measure out 12 liters of water at the specified temperature.

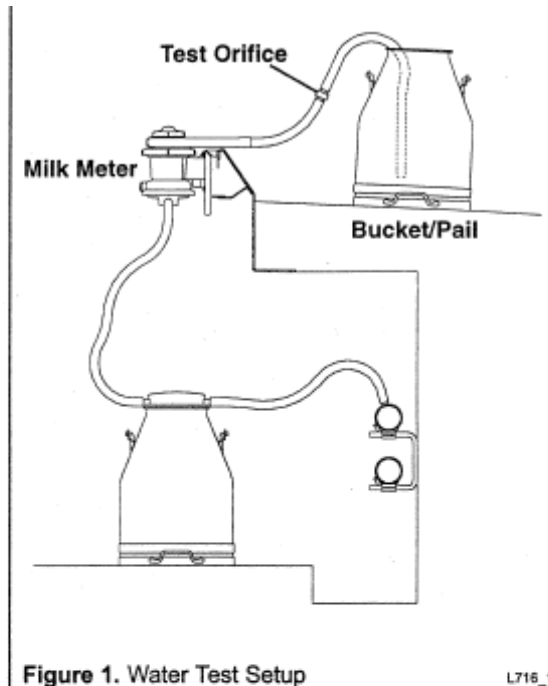


Figure 1. Water Test Setup

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6. Place the bucket of water on the cow platform. This height must be within the specified limits.
7. Place the end of the hose in the water. Press the ATTACH/DETACH button to start the test.
8. The display should read 0.0 at the start of the test.
9. Draw the 12 liters of water through the meter.
10. When no more water is in the bucket, press the ATTACH/DETACH button to end the test.
11. Record the display value.
12. The water may be collected for recycling, but the quantity should be checked each time.

6 Criteria for acceptance

Compare the readings to the values shown in Table 1. If the first reading deviates + or - 0.3 kg (0.5 pound) from the table value then the meter is correct.

If the first value deviates more than 0.3 kg (0.5 pound) from the table value, check the meter for improper assembly or leakage. If no fault is found, proceed with a second test.

If consecutive values average 0.3 kg (0.5 pound) or less from the table value then the meter is correct. When a meter does not come up to this standard during the periodic checking, the dealer should be contacted.

Table 1: Acceptance Criteria for 12 Liter Water Test

Expected reading on display / Acceptance tolerance at given System Adjustment Factor

| System Adjustment Factor | Readings in Kilograms/Tolerance | Readings in Pounds/Tolerance |
|--------------------------|---------------------------------|------------------------------|
| 1 | 11.8 / ± 0.3 | 26.0 / ± 0.6 |
| 2 | 11.8 / ± 0.3 | 26.1 / ± 0.6 |
| 3 | 11.9 / ± 0.3 | 26.2 / ± 0.6 |
| 4 | 11.9 / ± 0.3 | 26.4 / ± 0.6 |
| 5 | 12.0 / ± 0.3 | 26.5 / ± 0.6 |
| 6 | 12.1 / ± 0.3 | 26.6 / ± 0.6 |
| 7 | 12.1 / ± 0.3 | 26.8 / ± 0.6 |
| 8 | 12.2 / ± 0.3 | 26.9 / ± 0.6 |
| 9 | 12.2 / ± 0.3 | 27.0 / ± 0.6 |

7 Deviating meters

If the test values do not come up to this standard, the testing procedure with water should be repeated after checking and, if necessary, dismantling of the meter. If values are repeatable, the meter control may be adjusted by changing the value of the System Adjustment Factor (SAF). Adjusting this parameter will change the accuracy by about 0.5% for each step change. If after changing the SAF it is still impossible to come up to this standard, the dealer should be contacted.

8 Replacement or repair of the meters

When meters are replaced or repaired, the meters must be tested with water as described above.

9 Reporting the results

When the System Adjustment Factor value is changed, the new value is to be recorded on the measuring form and reported to the farmer, the main supplier and the milk recording organization.

10 Sampling Equipment

Check the sampling equipment to verify all parts have been properly cleaned and are in good condition.

Check that the sampling devices are properly assembled.

Check that the sampling equipment is stored in a clean, dry place, free from dirt and out of direct sunlight.

11 Hints for the sampler taker and the farmers for correcting sampling using Boumatic Perfection 3000

Before Sampling, Check that:

- The air inlet in the milk claw or teatcups is opened.
- The sampling devices are connected to the meters in the correct manner.
- That there are at least 2 reserve bottles (for good draining).
- The sample bottle hangs in a vertical position.
- The valve stem must be pulled out and locked in position by rotating.
- The sample bottles contain no water or milk residues.

Taking the Sample:

- The display reads 0.0 at the start of a cow milking.
- The valve stem is pulled out.
- Check that the milk from the first cycle enters the bottle.
- As soon as the cluster has retracted, the bottle can be changed by turning and pushing in the valve stem and releasing the bail.
- Pour the milk three times to mix or cap and shake vigorously for 5 seconds.
- If the cluster is kicked-off, push the Manual/Automatic button to prevent premature detach. When milk flow resumes, press the button again.

After Sampling:

- The cleaning of the sample device must be done manually. Remove the samplers from the meters and install the rubber plugs.
- Disassemble the sampler valve mechanisms and clean in a wash sink or vessel.
- The sampling equipment must be stored in a clean, dry place, free from dirt and out of direct sunlight.

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