

Metering Accuracy Test



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Instructions for M, M+, Precision, and Precision XL Milk Meters

Instructional Content, Purpose & Responsibilities

The information within this instruction packet is intended to aid the dealer in testing and ensuring the metering accuracy of the models M, M+, Precision, and Precision XL milk meters. These instructions replace literature 9P-341D.

Procedural Guidelines

Instructions in this packet have been written in the order in which they should be read and procedures should be carried out. Special hazard (safety) messages—Danger, Warning, Caution—and notes have been provided, where necessary, to aid individuals in following instructions and making decisions. Read these special messages, notes, and all instructions carefully before performing procedures to ensure proper results.

Preparation

A list of dealer-supplied parts is shown below:

Description	Quantity
^{1,2} Flask, Erlenmeyer, 4000ml (3552279—glass)	1
Hose, Milk, 2-Foot Long	2
Bucket, 5-Gallon	1
¹ Orifice, Test (3552277)	1
Thermometer	1
¹ Lubricant, M/M Water Test (3552613—tube)	as reqd
Level (spirit level)	1
Gauge, Vacuum	1

Note:

- Item available from Bou-Matic. (Refer to the Bou-Matic Equipment Catalog for ordering details.)
- The flask used in this test must be glass, since a plastic flask may not be accurate. If a 4-liter (4000 ml) flask other than the Erlenmeyer (specified above) will be used, also required is a 1-liter Class "A" (TD) volumetric flask to perform the flask calibration. Calibration is not required for the Erlenmeyer flask.

Other literature referenced in this packet include:
appropriate Detacher Installation & Operation Instructions

Flask Calibration for NonBou-Matic Flask

— Note —

Review the instructions in the first paragraph on this page and perform only those steps in this section that you are responsible for performing.

For results of the metering accuracy test to be accurate, an accurately calibrated four-liter glass flask (such as the Erlenmeyer flask, available from Bou-Matic) must be used. If a flask of any other type will be used, recalibrate it according to the procedure below (as it may not be calibrated accurately enough for the test):

- Fill a one-liter Class "A" (TD) volumetric flask four times with 70°F ± 3°F (21°C ± 2°C) water and empty the water into the four-liter flask.
- Indelibly mark the four-liter flask at the water line.

Metering Accuracy Test Procedure

— Note —

Review the instructions in the first paragraph on this page and perform only those steps in this section that you are responsible for performing.

To test the meter for accuracy:

- Rinse the meter with water and remove all foreign material from its inside surfaces.
- Ensure that the vent hole in the meter is not plugged, that the drain is seated properly, that the meter is level, and that the float moves freely on the shaft.
- Remove the rotor from inside the meter. Use your finger to apply and evenly coat water test lubricant to all exposed surfaces of the rubber on the rotor. Then, reinstall the rotor.

— Note —

Do not apply O-ring lubricant to the sealing surface of the rubber on the rotor, as it is too thick and sticky and may prevent the rotor from turning properly.

- Attach a two-foot-long hose to each end of the test orifice, leaving the bleed hole open. Then, attach the loose end of one hose to the meter inlet, and allow the loose end of the other hose to hang temporarily. (See Figure 1.)

5. Position the bucket so that its bottom is not more than 12 inches above or below the meter inlet.
(The view shown in Figure 1 is best.)
6. Measure and pour 16 liters of 70°F ±3°F (21°C ±2°C) water into the bucket using the four-liter flask.

— Note —

Water in the bucket must be maintained at the temperature noted in step 6 throughout the entire test.

7. Turn on the vacuum supply, and ensure that it is set to 12-14" Hg (40-47 kPa) of vacuum.
8. Reset the detacher display to read 3.5 lb (1.5 kg) and ensure that the detacher is set to the Attach mode.
9. Place the loose end of the hanging hose in a 5-gallon bucket, and allow the water to be drawn into the meter. As soon as the meter begins to count production, place your thumb over the air bleed hole in the test orifice to increase the flow rate from 3 pounds/minute (1.3 kg/min) to 13 pounds/minute (5.9 kg/min).
10. When the display reads 33 pounds (15 kg), remove your thumb to reduce the flow rate.
11. When all water is drawn from the bucket, the display should read 36.7 ±.6 lb (16.6 ±.3 kg). If the display does not read in the proper range, rinse out the meter and repeat the test until two readings are within 0.2 lb (.1 kg) of each other. The average of these must be 36.7 ±.6 lb. (16.6 ±.3 kg). If a proper reading is not made, replace the rotor and repeat the test procedure.

