

## PERIODIC CHECKING OF TRU-TEST ELECTRONIC MILK METERS (EMM) FAST FLOW WATER TEST (FFTR) - LEVEL 1 SERVICING

Tru-Test recommends that all Milk Meters are checked at least once every 12 months. An official manufacturer's "Tru-Test approved Milk Meter" test label is available for the verification of the annual test (Tru-Test Part Number MBL00006). This label is colour coded for a specific year and is placed on the milk meter body so that the number of the month of test (e.g. March is number 3, November is number 11) is in the 12 o'clock position.



### General

Check the cleanliness, the quality of rubber parts, and the function of the clamping/bracket mechanism (hanging straight). Then measure the accuracy using the method described below.

The inside of the Meter is cleaned by the in-place wash procedure. This occurs during the dairy plant wash at the end of each milking session. Clean the outside of the Meter using warm water and commonly used dairy detergent at the manufacturer's recommended strength. Finish the cleaning operation with a warm water rinse.

Tru-Test recommends that all rubber components on Milk Meters be replaced annually to avoid air leaks and possible inaccuracies. Regular replacement of rubberware also minimises the possibility of bacterial contamination. Just prior to annual water testing is an appropriate time to do this.

With Tru-Test Electronic Milk Meter disassemble, wash and lubricate the sample valve, wash valve and flask gasket with a food grade silicone lubricant. Method for disassembly is described in the Operating Instructions.

### Required Test Equipment

A Tru-Test 16.0 kg (35.3lbs), Fast Flow Test Rig with air admission modification is shown in Figure 1. Main components of FFTR water test rig:

- Test tank
- Inlet tube with castellated orifice
- Tru-Test electronic scale and weighing platform (accurate to  $\pm 0.03$  kg)
- Receiving tank
- Vacuum pump (50 kPa)
- Data Handler (DH) specifically programmed for the test rig
- Potassium iodide

At all times when commencing water testing, the rig should be checked to ensure it meets the three operating criteria of: **16.0 kg (35.3lbs)** of water being lifted **1.60 Meters** by **50 kPa**. This will ensure that testing is to the required standard to guarantee EMM accuracy. The fast flow in-test time will be around 67 seconds for each EMM. Total time to run in-test, wait for result to be displayed on the DH and drain EMM of water will be around 90 seconds.

### Test liquid

Normal tap water with potassium iodide (KI) added. For 20 kg of water add 110 g of KI; ensure that this is well dissolved. For hygiene purposes, refresh this daily.

### The method of testing for the Tru-Test Electronic Milk Meter

- Ensure that the EMM Meter and FFTR DH software is up to date.
- Ensure that the FFTR DH has been configured with the FFTR RC file, using LinkTTEMM and the supplied FFTR RC file.
- Turn on the FFTR Data Handler. The DH will display “TRU-TEST HERD MANAGEMENT”, and then “Herd: fftr”.
- Install the EMM in the rig. Ensure it is vertical (within +/-0.5 degrees).
- Turn the Meter on by pressing Select on the EMM. Push the wash valve up into the milk position. Wait for the sample rotor to come to a stop in the milk position.
- Key a unique animal number (for this testing session) into the Data Handler and press Select on the milk meter.
- If the EMM is not within the vertical limits the DH will warn the user if the EMM is not vertical.
- Draw 16.0 kg of water through the EMM.
- Wait three seconds and close the inlet tube valve.
- Wait 10 seconds for the fluid to settle.
- Press Select on the EMM so that the Data Handler displays the yield. Note the displayed number. The result should be 35.5lbs to 37.5lbs. The Data Handler will indicate whether the result is a pass or fail.
- Press the Finished Milking/Release Sample button.
- Once the EMM is empty, close the vacuum valve, remove the EMM from the rig, and open the inlet tube valve.
- Turn off the EMM using the DH. This procedure is the same one as used on the farm:
  - Use the Menu keys on the DH to scroll down to Menu: 5 Control Meter Mode.
  - Press Enter and then scroll down to Menu 1: Finish
  - Press “Select” on the EMM.
  - Press Enter and then scroll down to Menu 2: Wash
  - Press “Select” on the EMM.
  - Press Enter and then scroll down to Menu 3: Turn off
  - Press “Select” on the EMM.
- If testing more than one EMM, repeat the above steps for each EMM.
- Turn off the DH.
- Connect the DH to a PC, turn it on, and download the Data Handler using LinkTTEMM.

If the reading for a particular EMM is outside these limits (i.e. 35.5lbs to 37.5lbs):

- a) Check the EMM for air leaks around the cover o-ring, flask gasket, air admission valve and the sampling valve at the base of the milk meter.
- b) Check the EMM cover and sampling nozzle for damage and obstructions (e.g. hair, grit). Replace these components if necessary, or remove any obstructions.
- c) Repeat the test.

### Deviating meters

If after doing the above, a particular EMM measurement still does not fall within the range of 35.5lbs to 37.5lbs, recheck and retest the EMM. If necessary dismantle the EMM to check it. If the EMM reading still does not fall into this range, the EMM should be sent to a Tru-Test Level 2 or 3 Service Centre for repair.

### Replacement or repair of meters

All EMM's on which the measuring nozzle is replaced will need to be checked again on the fast flow test rig for accuracy.

