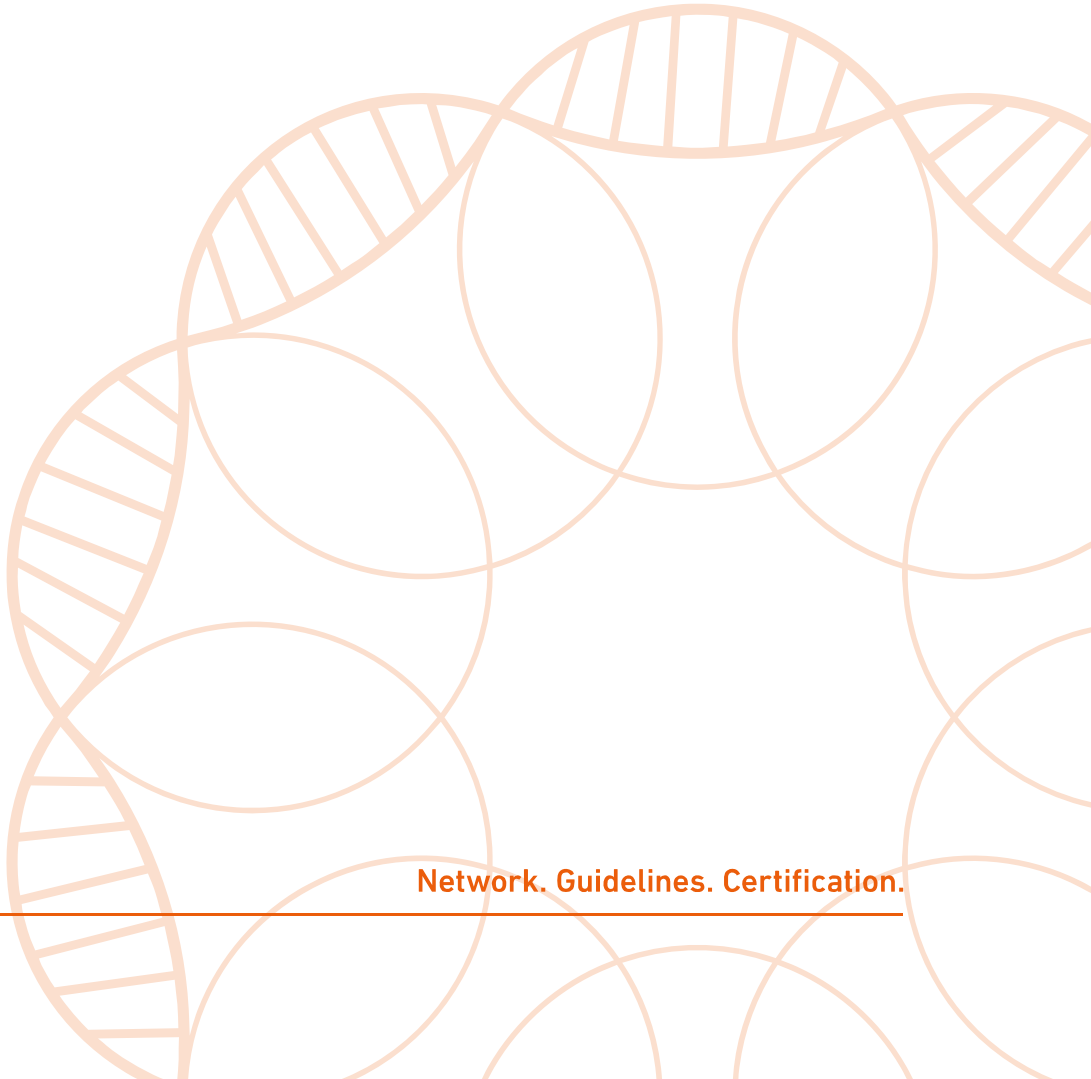
THE GLOBAL STANDARD
FOR LIVESTOCK DATA

ICAR Guidelines for Routine Checking Manual of the Milk Meters

SpeedSampler Milk Meter

Version June 2018



Network. Guidelines. Certification.

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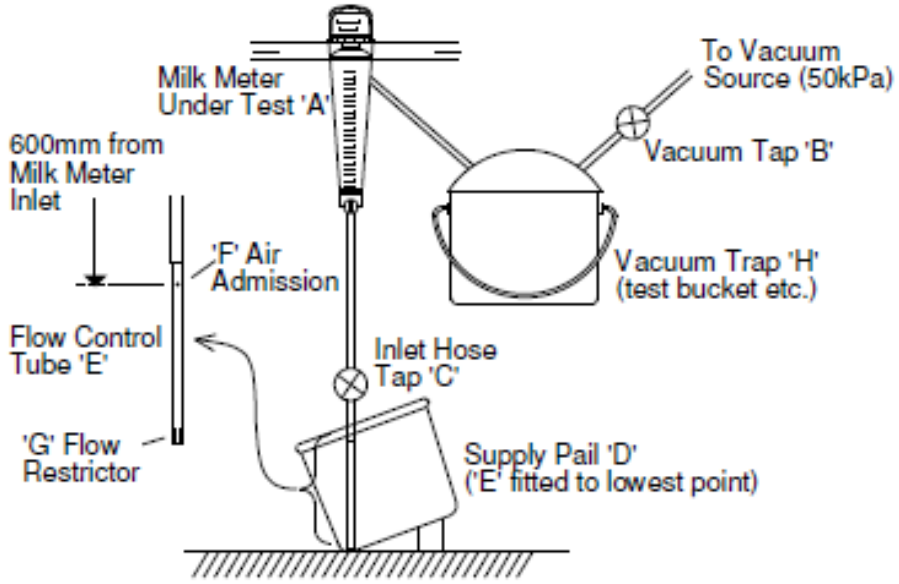
1 Test rig set up



Mount the ***SPEEDSAMPLER*** ensuring that the base of the metering head is horizontal.

Place the ***SPEEDSAMPLER*** inlet hose into an open 18 litre (40lb) pail (D) directly below the meter. The inlet hose must contain a restrictor (G) to ensure a flow of 3.5 to 4.0 litres per minute at the available vacuum level, and a 1 mm diameter (No.60 drill) air admission hole (F) located 600mm (24 inches) from the metering head inlet to admit 15 l/min (0.5 cfm) free air.

Fall the ***SPEEDSAMPLER*** outlet hose directly into the inlet of a vacuum trap (H), (for example test bucket, pail milker, or weigh jar). Connect the vacuum trap outlet to a stable 50 kPa (15" Hg) vacuum source.

Include vacuum taps in the inlet hose (C) and the vacuum source hose (B).

Volumetric flasks or accurate scales will be required.

2 Test procedure

Using water as the working fluid fill the supply pail (D) with 16 litres (16 kg or 35.26 lb).

With the inlet tap (C) closed, open the source vacuum tap (B).

Ensure that the internal surfaces of the ***SPEEDSAMPLER*** are damp so that valves seal properly, and that the flask tap is in the **MILK** position.

Open the inlet hose vacuum tap (C).

Draw all of the water from the supply pail (D) through tube (E) past the air admission hole (F) through the metering head (A) and into the vacuum trap (H).

Record the flask reading. (Read the bottom of the meniscus).

Purge the flask by simultaneously blocking the **ACTIVATOR HOLE** and pressing the **AGITATOR BUTTON**.

When flask is empty close the source vacuum tap (B).

When vacuum trap (H) has returned to atmospheric pressure close the inlet hose tap (C).

Refill the supply pail with exactly 16 litres of water and repeat the procedure, to obtain two results per meter.

3 Result analysis

Calculate the `p-values' for each reading as follows:

$$p = \frac{\text{meter reading in kg}}{16.48} \times 100\%$$

If both 'p-values' are in the range 97% to 103% the meter is acceptable.

If only one of the 'p-values' is outside the range 97% to 103%, perform the test a third time. The meter is then considered acceptable if no single 'p-value' is outside the range 95% to 105% and the mean of all three values is within the range 97% to 103%.

Withdraw from service any meter that fails this test, and submit it to a certified service agent for repair and recalibration.