

Bottling Line Flow Meter Calibration Example

1. Objective

Calibrate the flow meter on the bottling line to ensure accurate measurement of product volume during bottling operations.

2. Equipment and Materials

- Flow Meter (installed on bottling line)
- Certified Measuring Vessel (50 L)
- Stopwatch
- Calibration Record Form

3. Procedure

1. Ensure the bottling line is stopped and safe to work on.
2. Reset the flow meter reading to zero.
3. Place the certified measuring vessel to collect flow output.
4. Start product flow and stopwatch simultaneously.
5. Stop flow when measuring vessel reaches its calibrated volume mark (e.g., 50 L). Stop the stopwatch.
6. Record the flow meter reading.
7. Repeat steps for the required number of runs, e.g. 3 times.
8. Calculate average values and calibration factor.

4. Example Calibration Data

Trial	Measured Volume (L)	Flow Meter Reading (L)	Difference (L)
1	50.00	49.70	+0.30
2	50.00	49.80	+0.20
3	50.00	49.75	+0.25

5. Calculation

Average Flow Meter Reading:

$(49.70 + 49.80 + 49.75) / 3 = 49.75 \text{ L}$

Calibration Factor:

$\text{True Volume} / \text{Measured Volume} = 50.00 / 49.75 = 1.005$

6. Documentation

- Record calibration results on official form
- Attach form to equipment records