

Application Note

Calibration Guide for MSSD53 Product Loss Monitors

To obtain the best results and the most accurate measurement it will be necessary to program a linearization curve in to the MSSD53 Suspended Solids instrument. The MSSD53 instrument will need to be set for a range of 0 to 100% under the Parameters menu and the current output set up for 4 to 20 mA equal to 0 to 100 %. (Please refer to the MSSD53 operation guide for full details.)

For calibration you will require three small sample containers which are approximately 350 ml.

One of which will contain water which is our zero point and two milk samples of 1% fat and 2% fat.

1. Insert the sensor into each liquid holding it about 20 mm from the bottom of the container. Record the probe signals for each sample.

2. Using the page key go to the linearisation menu and enter the measurements you have for a three point lineariser. %. (Please refer to the MSSD53 operation guide for full details.)

* a. Point 1 (water=0%): enter the probe signal units, typically 1600

* b. Point 2 (1% milk=50%): enter the probe signals, typically 3700

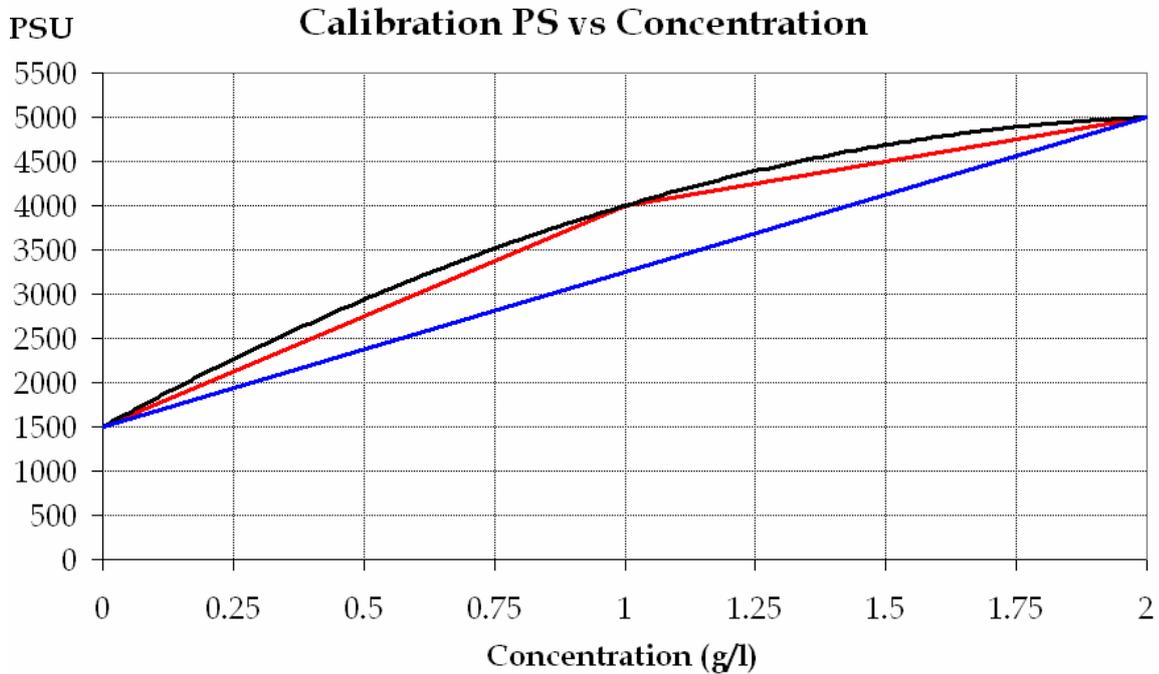
* c. Point 3 (2% milk=100%): enter the probe signals, typically 4400

3. Calibration is now complete and you can assemble the sensor in the guard and mount it in the drain.

* Typical values are shown. These will vary slightly depending on the water and milk sources.

The exact point at which you will want the alarm setting is best determined after you have identified what is the normal level of milk solids in the drain.

When you order your Product Loss Monitor specify that it is for milk service and we can supply the instrument precalibrated.



Note

It is important to use at least three points in the linearisation curve (Blue Trace), as this drastically reduces the error compared to a two point linearisation curve (Red Trace) as shown in the figure. The red trace has a maximum error of 700 PSU (at 1.00% Milk Fat), whereas the maximum error on the blue trace is a mere 170 PSU (at 0.50% and 1.50% Milk Fat) This error can be further reduced by using more linearisation points, the MSSD53S Transmitter can take up to five linearisation points.



These products comply with current European Directives

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