

## Application: Loss Monitoring

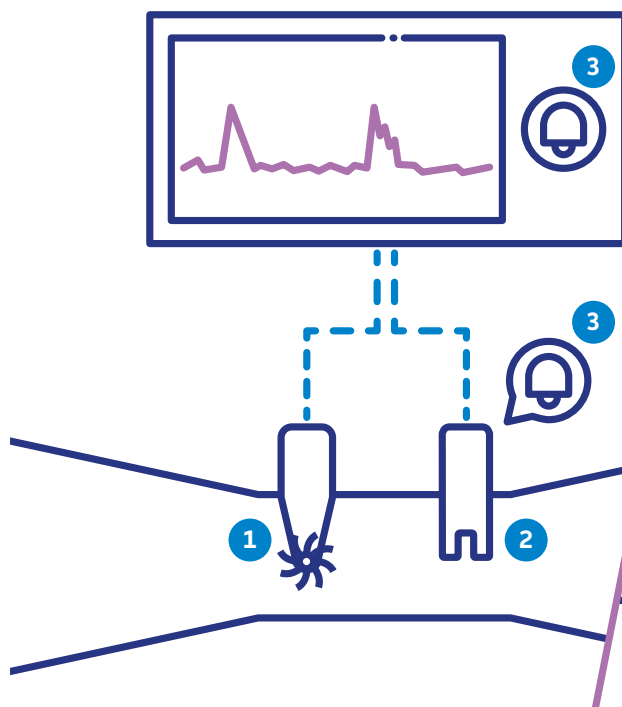
Loss monitoring can increase yields and grow profits. For example, there's anecdotal evidence that some dairy factories have product losses of up to 5%. Some of their hyper-efficient competitors tell us they have reduced losses to 0.1%. This substantial gain is possible with loss monitoring systems using Quadbeam's multi-beam suspended solids sensors.

Our sensors can be used to measure the concentration of suspended solids like milk fat. They transmit real-time data to a control room, and when combined with flow measurements, actual solids lost can be calculated. This allows immediate responses to losses to stop them getting worse, and it allows data tracking and analysis to detect trends and possible improvements in process control.

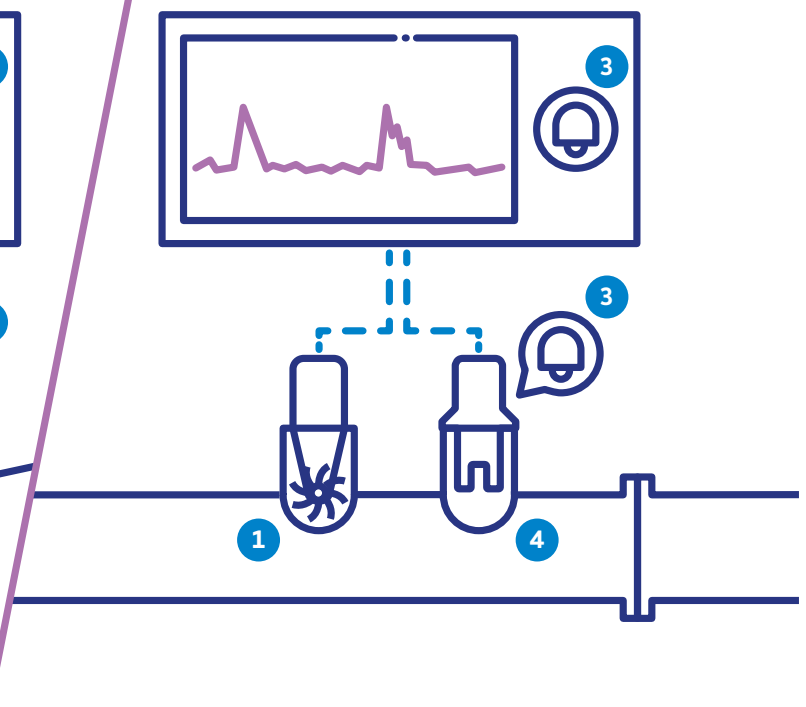
### How to use the Quadbeam sensor

- 1 Place in a drain or drain sampling manifold, preferably where flow is monitored as well.
- 2 If there are exposed flumes or weirs, the immersion-style sensor can be used.
- 3 Alarms for high concentration events can be set to alarm to the plant system or even divert if required.
- 4 For pipe installation, use the inline-style sensor with a Varinline® or tri-clamp connection.

#### Flume or Weir installation



#### Pipe installation



## A sensor to suit you

The range of Quadbeam sensors suits different applications, conditions, concentrations, and products. The most commonly used sensors for loss monitoring are the [S20](#) and [S40](#), in either the tri-clamp (hygienic) or immersion styles.



S20-IMM Sensor



S20-HY Sensor



S40 Sensors



(the measuring range will vary according to media and particle characteristics)

## Key features



### SELF-COMPENSATING

Quadbeam sensors are incredibly accurate because they're multi-beam, so they can eliminate measurement error that single-beam sensors can't cope with. Two LEDs fire near-infrared (NIR) light at two detectors to generate multiple light intensity measurements that represent the suspended solids concentration. These measurements are combined into a ratio-metric algorithm that self-compensates for common sources of measurement error like contamination or component ageing.



### ONE-PIECE BODY

Quadbeam sensors are also tough because they're made from a one-piece polymer body, with no glass lenses that could leak or break.



### SIMPLE TO USE

Quadbeam sensors are simple to calibrate on-site, so they give results that are directly relevant and meaningful to the site. There are easy calibration [instructions](#) on our website, or [contact us](#) for assistance.

They're also easy to use. They produce a 4-20 mA output for transmitters, and can be used with Quadbeam's MXD73 or MXD75 multi-channel transmitter.

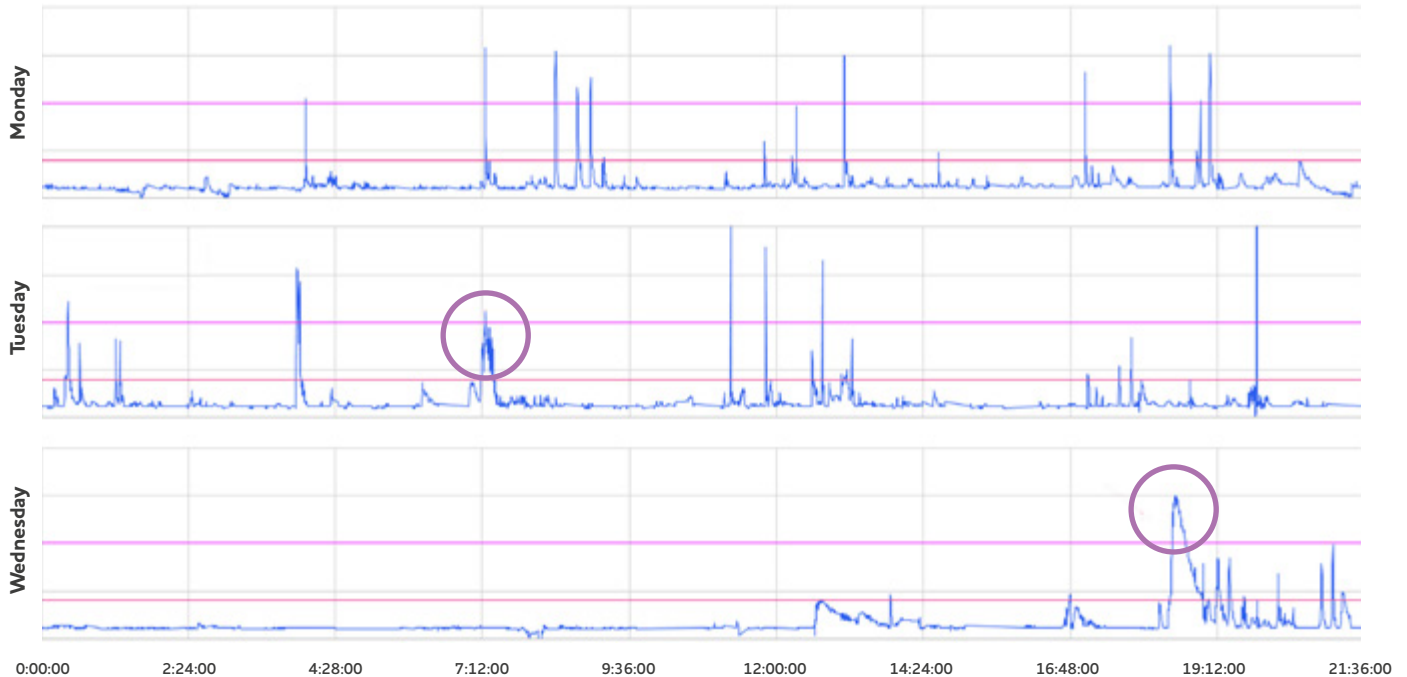
## Results

This type of monitoring is now standard in many advanced dairy processing plants, where product loss is often a key performance indicator.

Different plants set up their systems according to their standards and targets.

For best results, both solids and flow should be measured and shown in data analysis.

For example, the data from this sensor, seen in the early stages of a project, placed in a sump, already shows a number of events of interest and potential opportunities to improve process control systems.



## Increase efficiency to maximise returns



Using Quadbeam sensors can help increase profits through decreased losses, reduced need for operator intervention, improved process control, and increased production uptime.


These improvements can add up to millions of dollars of savings, and help get more product in the packaging.

## For help or to find out more

If you want to discuss your installation or have another question, or just want to find out more, [contact us](#). You can also see our full product range [online](#), and visit our [website](#) for data sheets, manuals, and technical information.

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