

Application: Product phase or interface transition

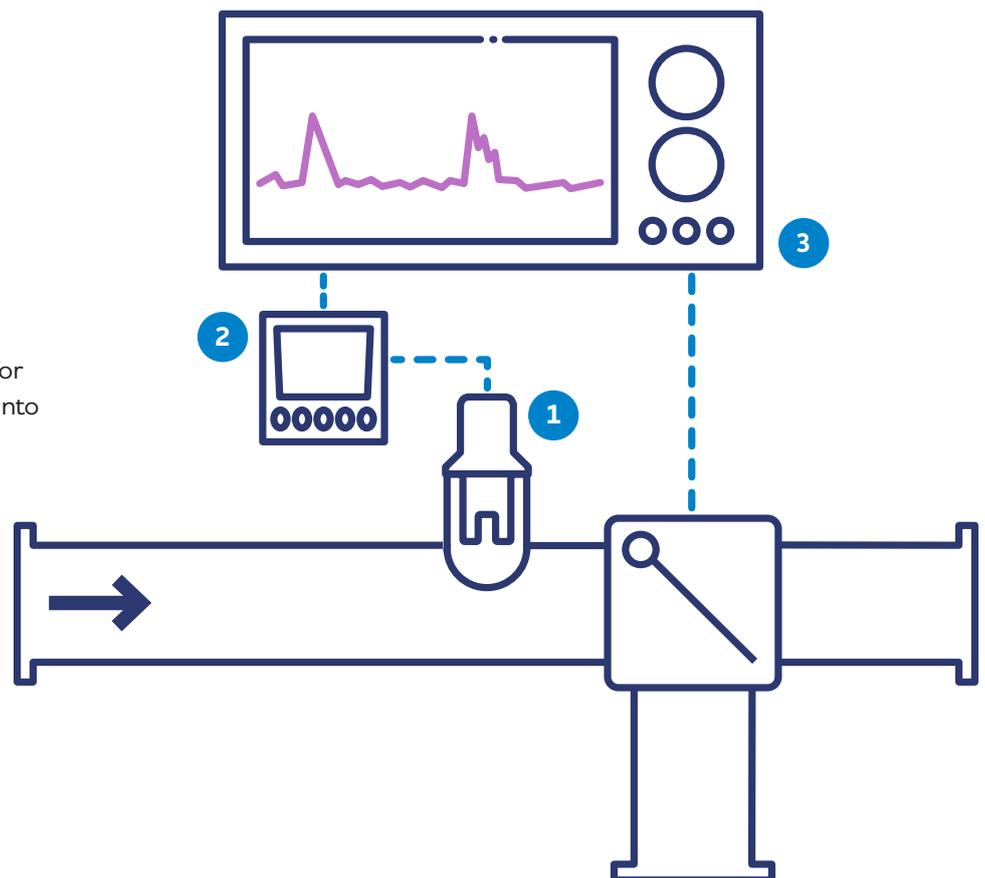
Prevent product wastage and save money by controlling phase or interface transition. With precise measurement of suspended solids, you can set an exact cut-point and optimise the transition between phases, giving you highly repeatable process control. Quadbeam's multi-beam suspended solids sensors identify this transition with unrivalled accuracy.

Other methods, while common, simply don't provide precision interface control. Time and flow measurements are used frequently but conservatively, which can waste valuable solids or water. Single-beam sensors are also used in many plants but, while better than time and flow measurements, they suffer from limitations that reduce their accuracy and reliability.

Quadbeam sensors offer a better way. They can be used to measure the exact concentration of suspended solids like milk fat, pulp, juice, or sauce. This provides fast, accurate, repeatable data for automatic transitions and diversion of different phases of a product. We know of companies that have made annual savings of \$150,000 or more using our sensors this way, which is a substantial return on the costs of installation. Savings increase where Quadbeam sensors can also be used for recovery of valuable solids.

How to use the Quadbeam sensor

- 1 Install the sensor directly into the product line using a 3-inch tri-clamp fitting.
- 2 Connect the sensor to the MXD75 transmitter and simply calibrate against the solids to be measured.
- 3 The MXD75 transmitter provides a 4-20mA output for each sensor for connection into the plant control system.



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.



S10-3HY Sensor

Milk fat

0 to 40%



S20-3HY Sensor

Milk fat

0 to 20%



S40-3HY Sensors

Milk fat

0 to 1.5%

(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

Achieving accurate, automated transitions saves money by:

- maximising the amount of product that goes into the packaging;
- speeding up change times and reducing plant downtime;
- reducing waste treatment costs by reducing the amount of product diverted;
- reducing water consumption;
- creating opportunities for solids recovery.

Exact transitions equal better returns

Time and flow measurements are inaccurate and, to guarantee a complete transition, most plants take a conservative approach and either run a lot of product or a lot of water to the drain.

Realising that transitions based on time and flow are inefficient and wasteful, some plants use single-beam or conductivity sensors instead. Unfortunately, neither are as good as Quadbeam's multi-beam sensor. Single-beam sensors drift over time and give inaccurate readings, and their glass lenses are vulnerable to leakage and breaking. Conductivity sensors are slow and need re-calibration.

Quadbeam sensors are simply more accurate than alternatives because they self-compensate. That means they stay true to their initial calibration so you can transition exactly when you want to, and maximise your production.

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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