quadbeam
NEXT LEVEL EFFICIENCY

Application: Solids recovery

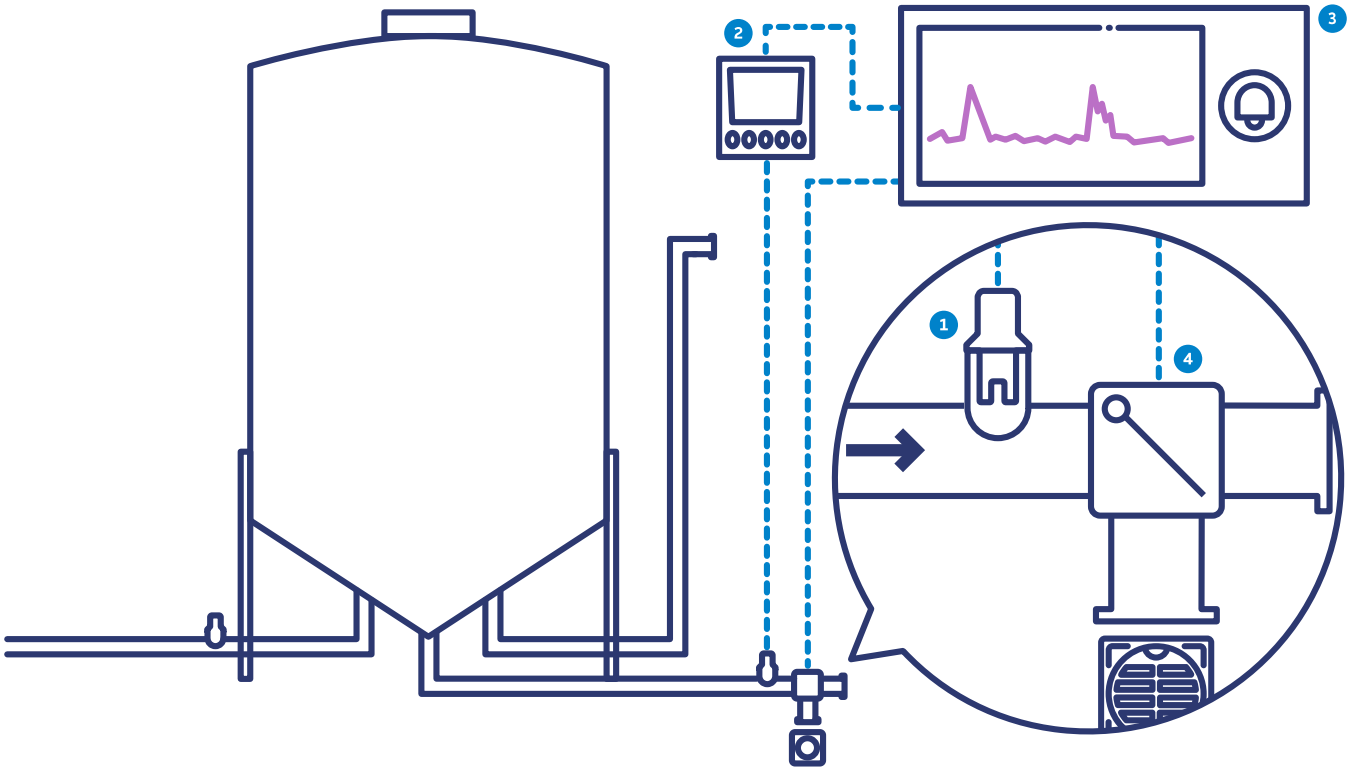
Recover and reuse the valuable solids in the rinse water of large pieces of equipment. This opportunity arises during the first part of CIP or product transition; for example, some customers have suggested up to 200L of milk equivalent solids can remain in a large silo.

Quadbeam sensors can help you recover these valuable solids, reduce water usage, and save money. By monitoring your product's concentration, you can identify when it is economic to capture the pre-rinse and recover those solids for reconcentration, and when it is more efficient to send the water-product solution to your wastewater treatment plant. Quadbeam's multi-beam suspended solids sensors deliver precision control for efficient management of this process.

This application is best-suited to larger plants for processes like milk powder and cheese, and we know of customers that have seen returns of over $150,000 per year from this installation.

How to use the Quadbeam sensor

1. Install the sensors directly into the product line using a 3-inch tri-clamp fitting.
2. Connect the sensor to the MXD73 or MXD75 transmitter and simply calibrate against the solids to be measured.
3. The transmitter provides a 4-20mA output for each sensor for connection into the plant control system.
4. Recovered solids can be fed back into process evaporator or filtration of reconcentration.



A sensor to suit you

The range of Quadbeam sensors suits different applications, conditions, concentrations, and products.
Solids recovery typically uses the S20-3HY sensor.

T20-3HY Sensor

Milk fat

0 to 20%

(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.

Results

Quadbeam's multi-beam sensors offer opportunities to save money:

1. Recover valuable solids from the first part of the rinse. Most companies send all their rinse down the drain, but the first part of the rinse contains a lot of valuable product. Quadbeam sensors tell you the suspended solids content of that rinse, so you can divert it for recovery for as long as it contains enough solids to be worthwhile. Quadbeam's accuracy means you know exactly when that is, and when you've crossed the threshold where it's more economic to send the rest of the rinse to wastewater.

2. Reduce water treatment costs. Diverting and recovering solids instead of sending them to the water treatment plant lowers the volume of solids that need treatment, cutting down expenses.

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.

Quadbeam Technologies Ltd – Contact us

info@quadbeam.com

quadbeam.com

US – (303) 923 5273
International – +64 9 238 4609
NZ – 09 238 4609