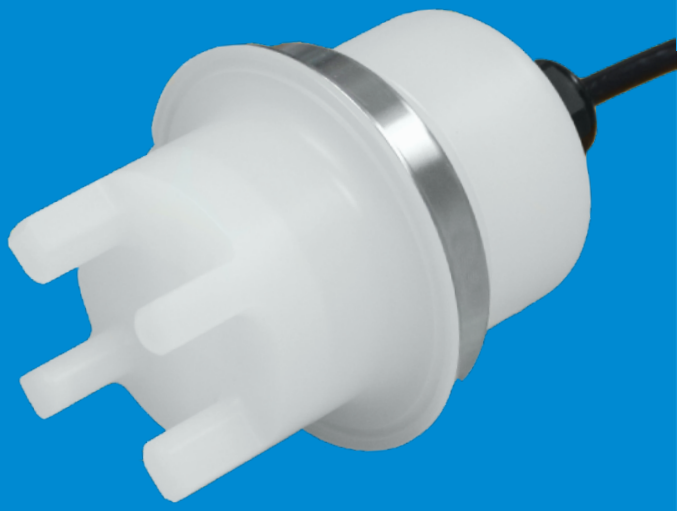
QUADBEAM TECHNOLOGIES

NEXT LEVEL EFFICIENCY

Understanding Multi-Beam Suspended Solids and Turbidity Sensors

To get better control of the solids in your fluids process, Multi-beam Suspended Solids and Turbidity Sensors offer the best solution.



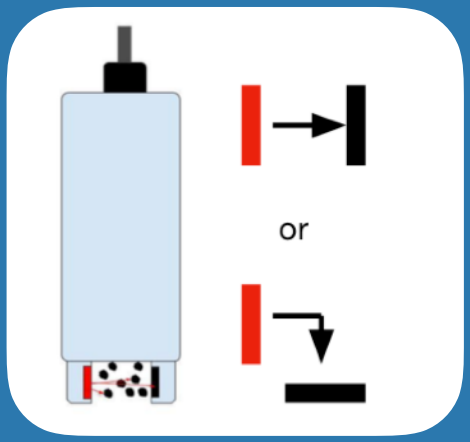
Turbidity and Suspended Solids Sensors work by measuring the change in light intensity be that reflected, attenuated or scattered.

Broadly, there are two types of in-line Turbidity and Suspended Solids Sensor technologies, *Single Beam* and *Multi-beam.*

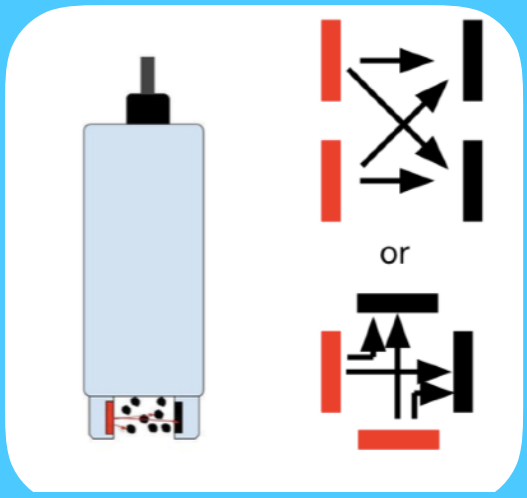
Single Beam Sensors

Single beam sensors are the most common. Unfortunately, they are not only influenced by the solids being measured, but also influenced by anything stuck to the sensor surface and ageing of electronics, making tight process control challenging.

Very simple measurement of light intensity.



Multi-beam Sensors



Multi-beam sensors use ratio-metric calculations that automatically compensate for contamination and ageing of electronics giving excellent information of solids concentration in fluid process control.

Advanced measurement system gives improved accuracy for better process control.

Light is emitted from one point and measured in two, it is then alternated to another point and measured in two.

$$Ra = \frac{Ix_1}{Ix_2} = \frac{60\mu A}{40\mu A} = 1.5$$

$$Rb = \frac{Ix_3}{Ix_4} = \frac{22.5\mu A}{60\mu A} = 0.375$$

$$\frac{Ra}{Rb} = \frac{1.5}{0.375} = 4$$

The ratio of received light is independent of the light intensity
The ratio of the 2 ratios compensates for the receivers.

Quadbeam sensors *are* **Multi-beam sensors** providing outstanding repeatable output to give you next level efficiency of your process.