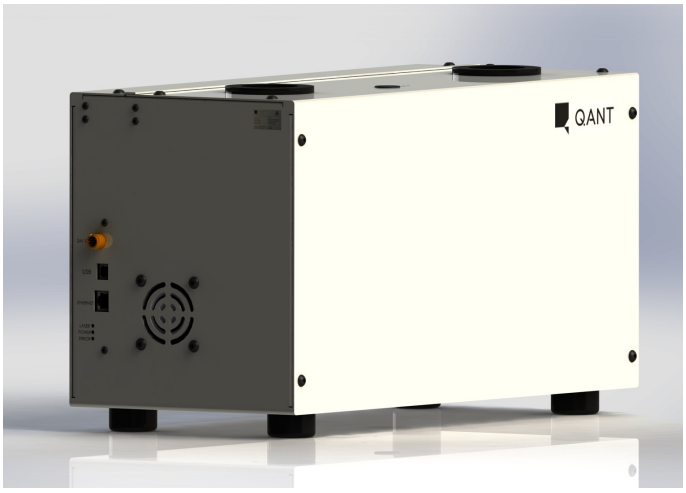
Q.ANT Q.P Particle Sensor Family

Particle Sensing

Bringing lab-quality particle analysis to your process – online, in real-time.

Welcome to the future of particle measurements: Q.ANT Particle Sensors enable particle sensing and analysis in real-time for direct control of your processes.



In a Nutshell

- Suitable for particles in liquids and gases
- Simultaneous measurement of multiple parameters (particle size, speed and direction of movement)
- Insensitive to harsh and polluted environments
- Real-time measurement for direct process control
- AI-based particle shape classification
- Customizable process interface for online integration
- Dedicated software APIs based on open standards (e. g. MQTT)

Profit from an unprecedented productivity of particle measurements: based on our Quantum Photonic Framework, our particle sensors generate vastly more valuable data about the measured particles. This enables us to offer additional AI-based particle information, like the particle shape, in addition to standardized particle size distribution graphs.

A treasure trove of data

Our customers immediately benefit from increased productivity by reducing the time between measurements, gaining real-time process control through online access, reducing waste with shortened control cycles and avoiding incorrectly adjusted production parameters.

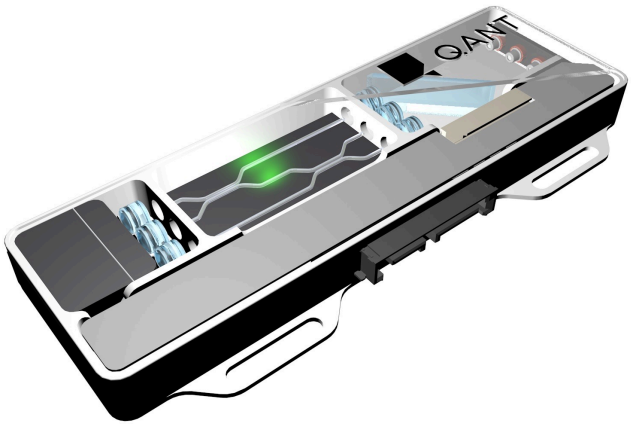
We provide continuous processes with the flexibility of batch production, because changes of parameters can immediately be tested in the product in real-time.

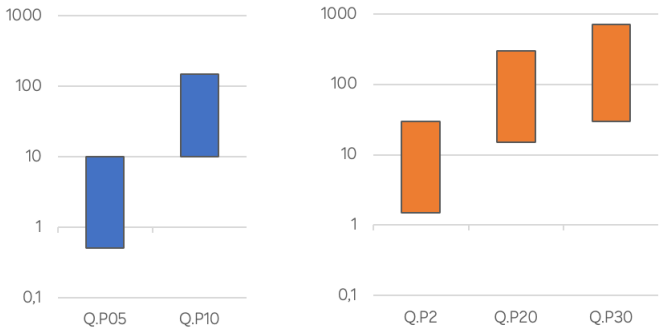
How does it work?

Our sensor works contactless on an optical basis: through the flowing medium (gas or liquid) we shine a very specifically shaped laser beam, to which we apply polarization in multiple directions in superposition. This allows us to generate far more data than conventional optical sensors.

Particles flying through the beam partially shadow the superpositions. Thereby the sensor can resolve the exact position of the particle within the beam. While the particle is moving through the beam, high frequency sampling enables creating a characteristic pattern that can be used to simultaneously analyze particle size, direction of motion and velocity.

The signals are also characteristic of the particle shape and are classified through further AI-based signal evaluation, tailored to our customer's needs.





Q.ANT Q.P Particle Sensor configurations. Measurement ranges in µm, y-axis.

Q.ANTum Photonic Framework

Like all Q.ANT products, the Particle Sensors are derived from our Quantum Photonic Framework, highlighting three distinct areas of our expertise and core IP:
First, we create photons from electrons, using solid state laser diodes and low-noise current drivers.
In a second step, the photons interact with the environment, we provide tailored optical elements.
Finally, photons are converted back into electrons, using photo-detectors and our extremely low-noise amplifiers, superfast signal processing and analog-to-digital conversion.

Quantum technology is the key to the future. It is our expertise... It is our passion. With inspired photonics solutions, we are revolutionizing the Quality how machines Analyze their environment, how people Notice information and the way humans Think.

We thus ensure a decisive Q.ANTum competitive edge for our customers. Take advantage of our technological superiority today and secure yourself a leading position in the world of tomorrow.

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