

PARTICULATE MONITORING

AIR XS SILICA MONITOR MORE THAN JUST AN OPTICAL PARTICLE COUNTER

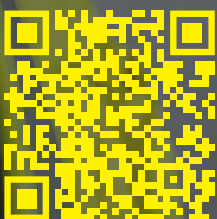
If you've been in the Health and Safety space, it's likely you'll know about **Optical Particle Counter (OPC's)**, which use "light-scattering" to count each particle.

The technology has been around for quite a while.

We launched AIR XS Silica Monitor in 2022; but, our patented design isn't just another OPC.

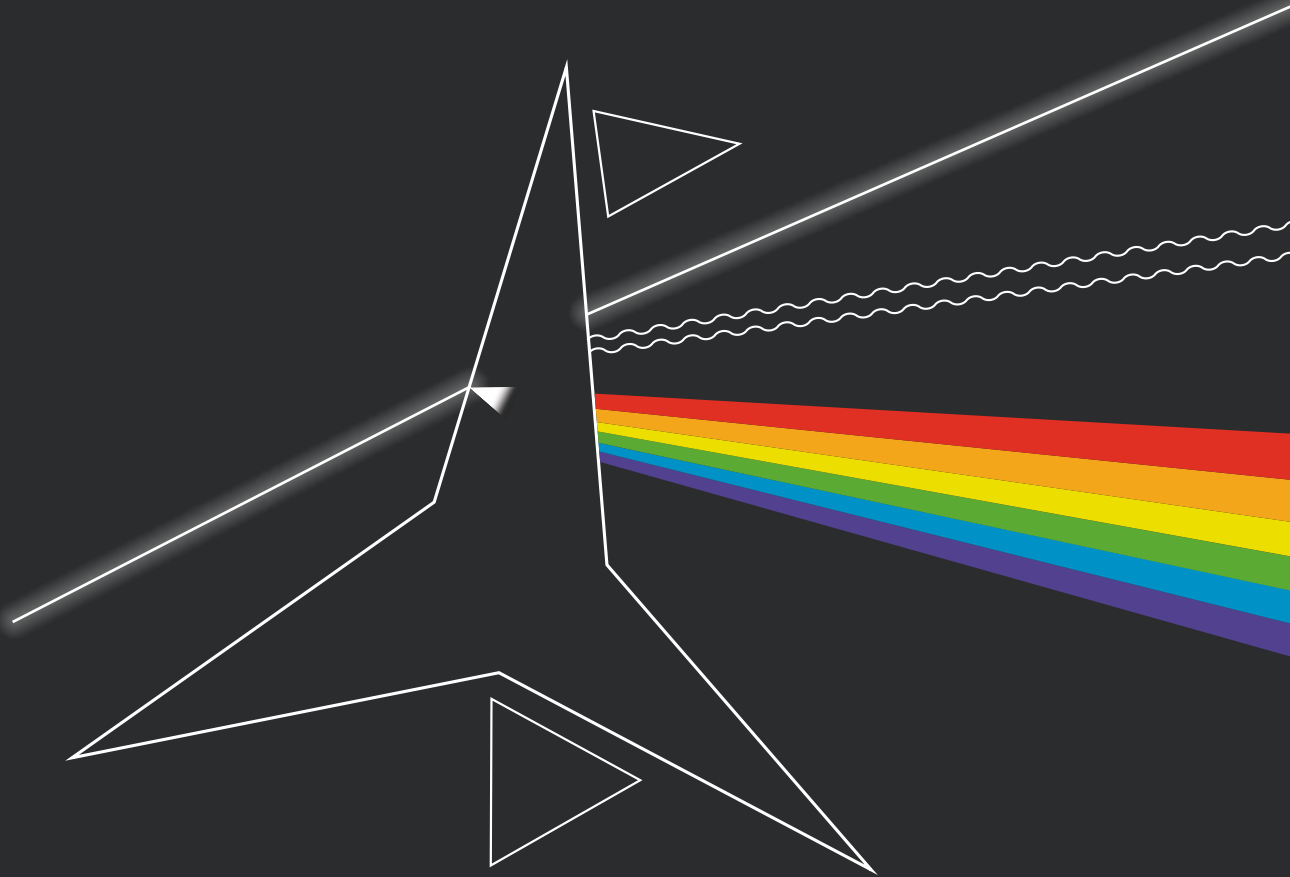
AIR XS uses **ORT** (that's **Optical Refraction Technology**), so if you think it's just another "clever guess", then think again.

To understand the simple difference between OPC's (or light-scattering) and ORT: an OPC shines a laser and counts the interruptions in the beam, from this it can deduce size and quantity.



See AIR X in action





PATENTED TECHNOLOGY

Our patented design that uses **ORT**, however, shines a laser through each particle causing a refraction of the light. This refraction is captured on several sensors.

Using the principle of birefringence, the refraction pattern is collected to differentiate an asymmetric, crystalline particle from normal particles. This is all qualified by a number of characteristics giving a reliable, real-time particle analysis.

We reference Pink Floyd's 1973 album *Dark Side of the Moon*; it's not exact by any means but the refraction of the light coming out of the prism shows an example of how light refracts, similar to a crystalline particle.

HOW DOES IT WORK?

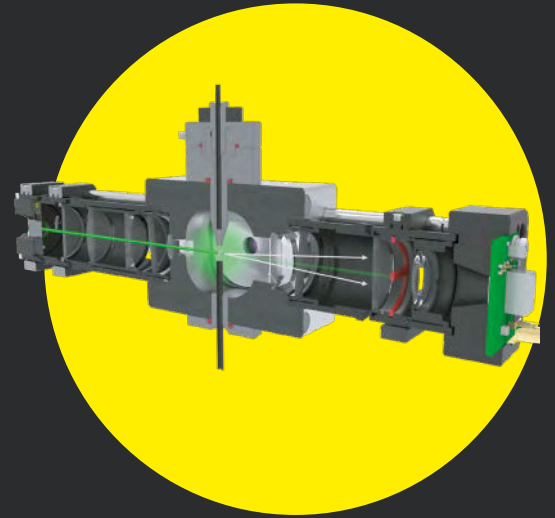
- » The intensity of reflected light indicates particle size
- » Unique differentiated light-scatter patterns demonstrate the asymmetrical nature of particles
- » Unique refractive light qualities indicate respirable crystalline silica (RCS) particles are present



Both ORT and OPC systems then apply calculations to convert the particle size to the current mass measurements, typically mg/m^3 , for the current expressed exposure limits.

This means unlike other particle monitors on the market, the Trolex AIR XS Silica Monitor doesn't just count particles in your workplace. In fact, AIR XS is able to detect and distinguish RCS particles accurately and reliably, and all in real time.

AIR XS captures all forms of RCS, whether alpha or beta quartz, cristobalite, tridymite, or any relevant sizes of particulate within the respiratory fraction – can be distinguished and differentiated.



For the first time in history, ORT promises the ability to allow users to detect and distinguish RCS in real-world settings continuously and reliably. ORT is an entirely new development in the particulates field; by reliably detecting and reporting on RCS exposure in real time, workers have the possibility to be further protected in the workplace.

Please see product user manual (TX8100-UM-EN · P5633.1601) for testing and product specificities which should be considered relevant to application.

REAL-TIME RCS MONITORING FROM TROLEX

Contact sales@trolex.com for more information on how you can enhance your workplace safety controls with real-time RCS monitoring technology today.

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