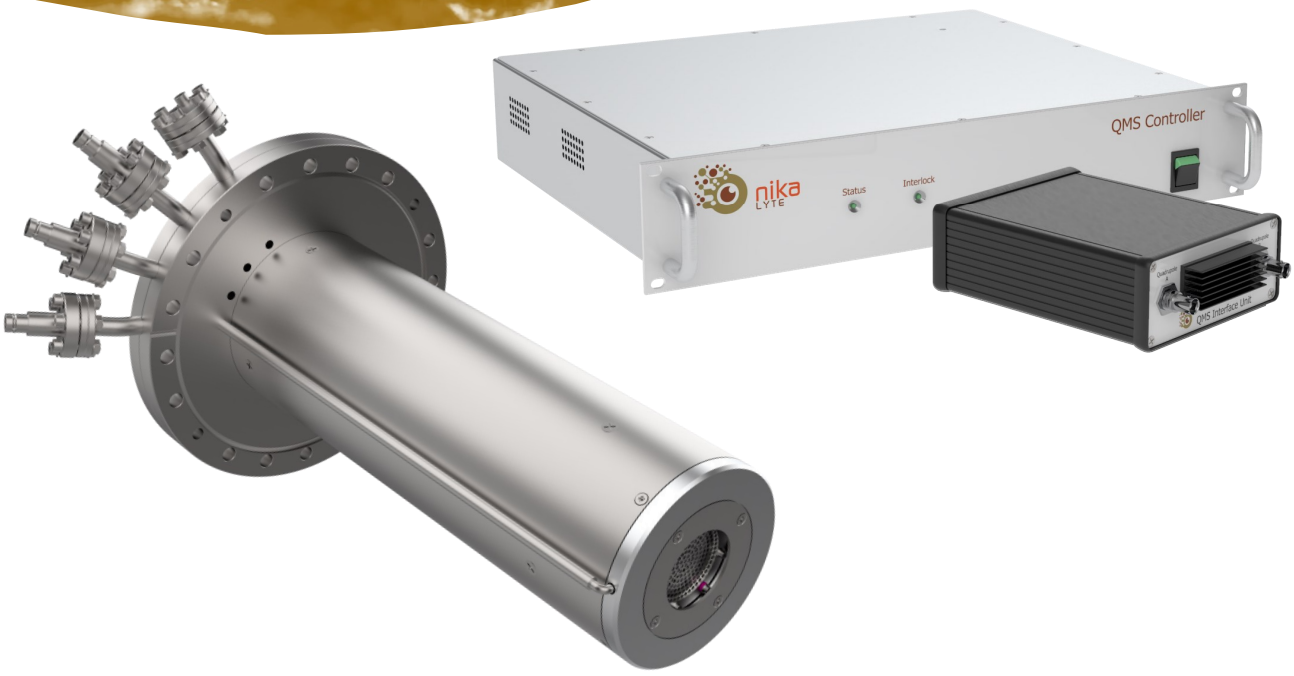
NL-QMS

QUADRUPOLE MASS FILTER



Measure and Filter nanoparticle size in flight

when placed inline with NL-UHV

- **Deposit size selected nanoparticles onto your substrate**
- **Selective mass scanning and filtering**
- **100—10^6 amu mass filtering range**

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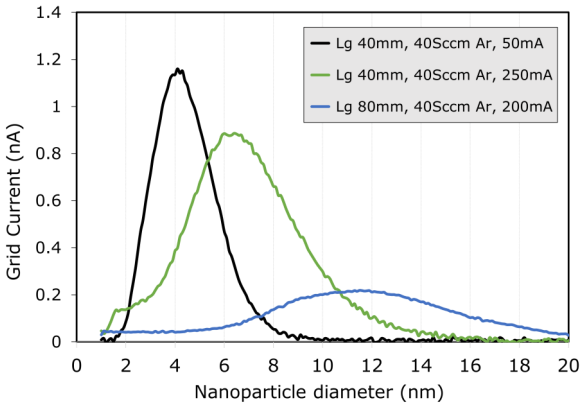
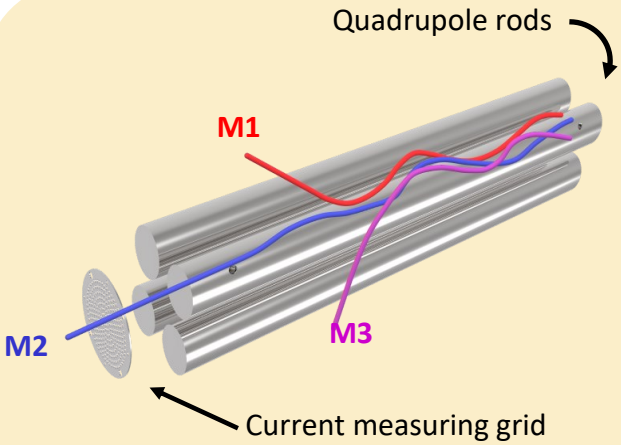
Quadrupole Mass Spectrometer

NL-QMS allows the user to measure or filter the mass spectrum of nanoparticles in flight when placed in line with the NL-UHV and hence deposit nano coatings with the desired nanoparticle size. The NL-QMS reduces the size distribution of nanoparticles generated in the NL-UHV from ±20% to ±2%. Nanoparticles as small as a few atoms can be filtered.



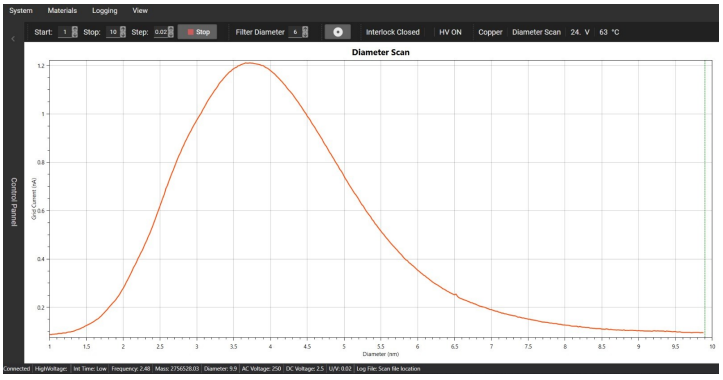


Principles of operation

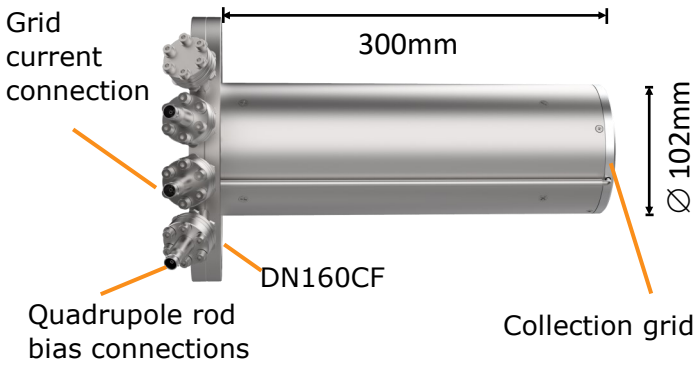
The operation of the NL-QMS is based on the application of AC and DC voltages to 4 rods that passing through the rods are forced into an oscillatory path. For a given AC frequency and amplitude only one mass (within the resolution of the instrument) will continue on a stable path. Particles with masses outside this range will be rejected. The ion flux of particles that successfully pass through the QMS is measured by the grid at the exit of the QMS. The grid current measured is a measure of the number of nanoparticles produced being produced by the NL-UHV.

Windows™ software control

- Intuitive software control
- **Scan mode -** measure full size distribution
- **Filter mode** - select size to deposit
- Real time graphical display



NL-QMS SPECIFICATIONS



Mounting Flange	DN160CF
In-vacuum length	300mm
In-vacuum diameter	102mm
Software control	Yes
Bakeable	Yes
Size resolution	±2%
Filtering by mass	Yes
Filtering by size	Yes
Power supply	Single Phase, 100-240V 50/60Hz

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