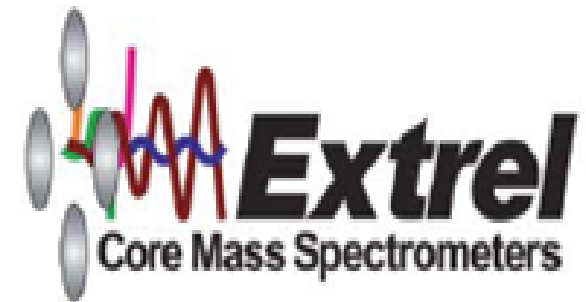


# High Resolution Quadrupole Analysis

Separating substances with the same relative atomic mass



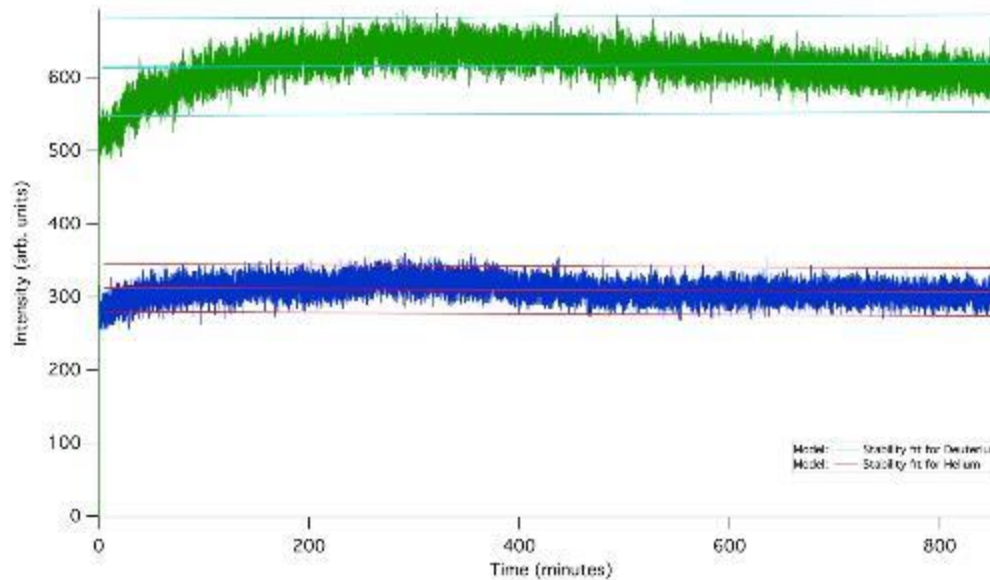
## Separating two molecules with a quadrupole

- High Stability Power Supplies
- Large Diameter Quadrupole Rods
- Fine Control Over Scanning Variables

Only the VeraSpec HRQ, powered by the MAX-50, has these capabilities

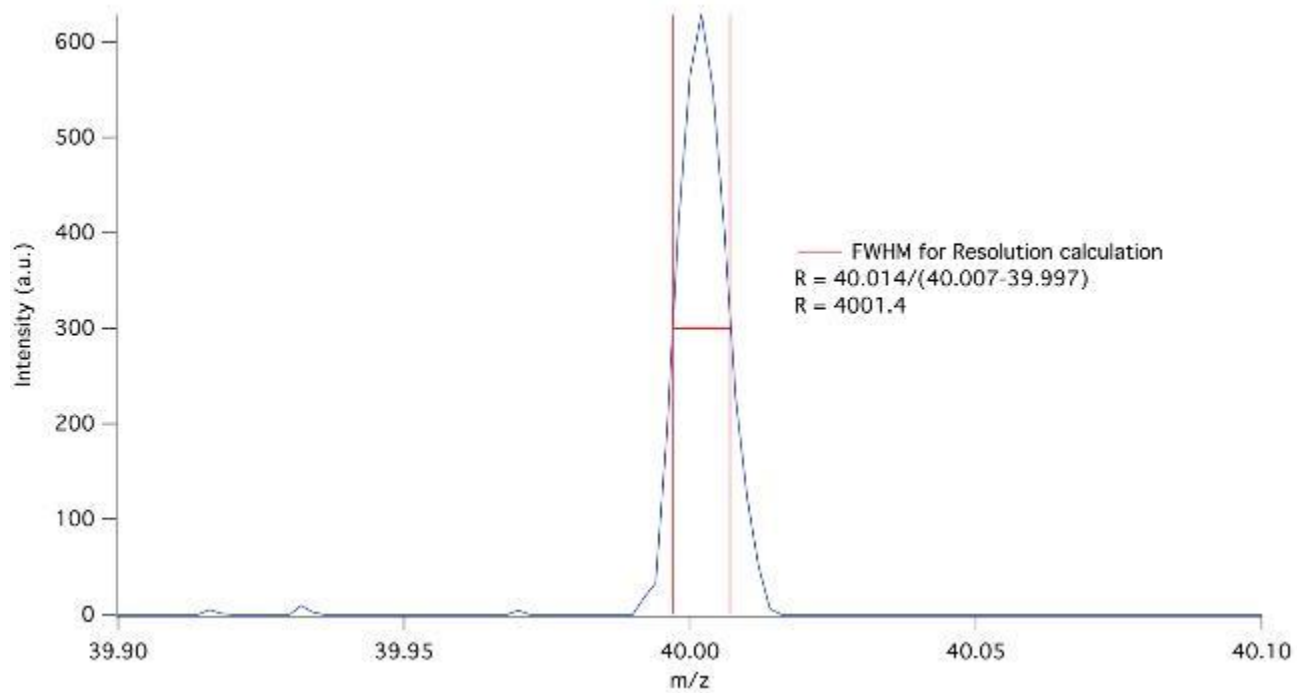


# Stability over Time



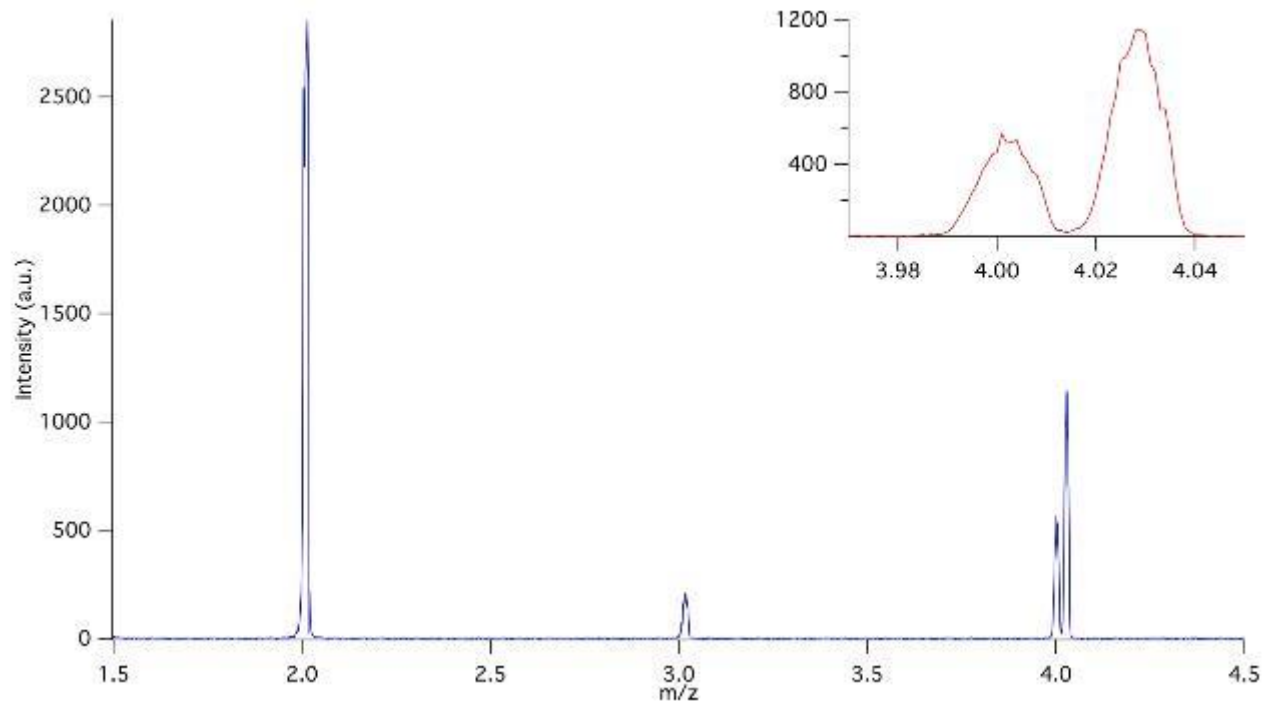
- VeraSpec HRQ's unparalleled stability
  - 10 hours at high resolution
  - Monitoring He and D<sub>2</sub>

# High Resolution



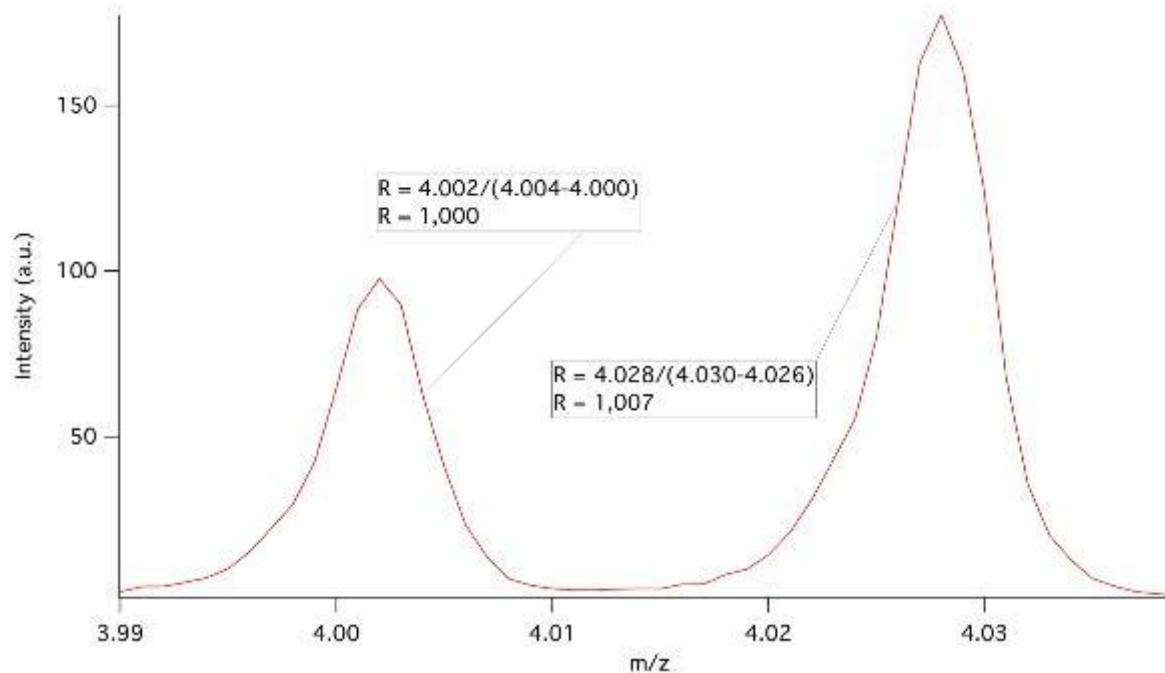
- Measuring system resolution at Argon at m/z 40
  - $M/\Delta M \geq 4000$

## Masses 1 – 4 in High Res Mode



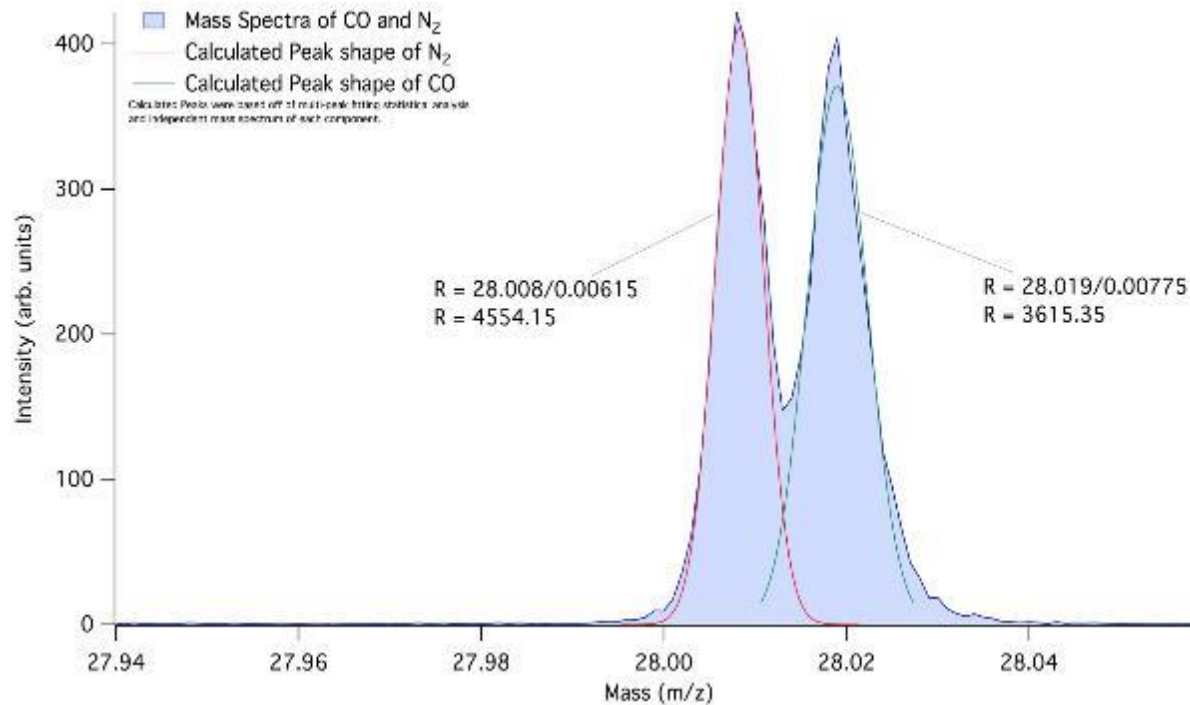
- Hydrogen, Helium, HD, and Deuterium separated at their primary masses
  - Helium and Deuterium shown separated at mass 4

## Helium and D<sub>2</sub>



- Helium and Deuterium are 0.026 amu apart and can be easily separated to baseline by the HRQ

# Carbon Monoxide and Nitrogen



- The power of the MAX-50 is able to separate even difficult molecules such as CO and N<sub>2</sub>
  - These are only 0.011 amu apart!
  - Not to baseline but enough for qualitative analysis

# VeraSpec HRQ

- Designed for precision mass analysis of low molecular weight species
  - Delivers exceptional transmission characteristics
  - Built on the foundation of the MAX 50 flange mounted quadrupole mass spectrometer
- The HRQ has a 50 amu mass range and resolution of better than 3,000 ( $m/\Delta m$ ) at  $m/z$  40





# Product Information

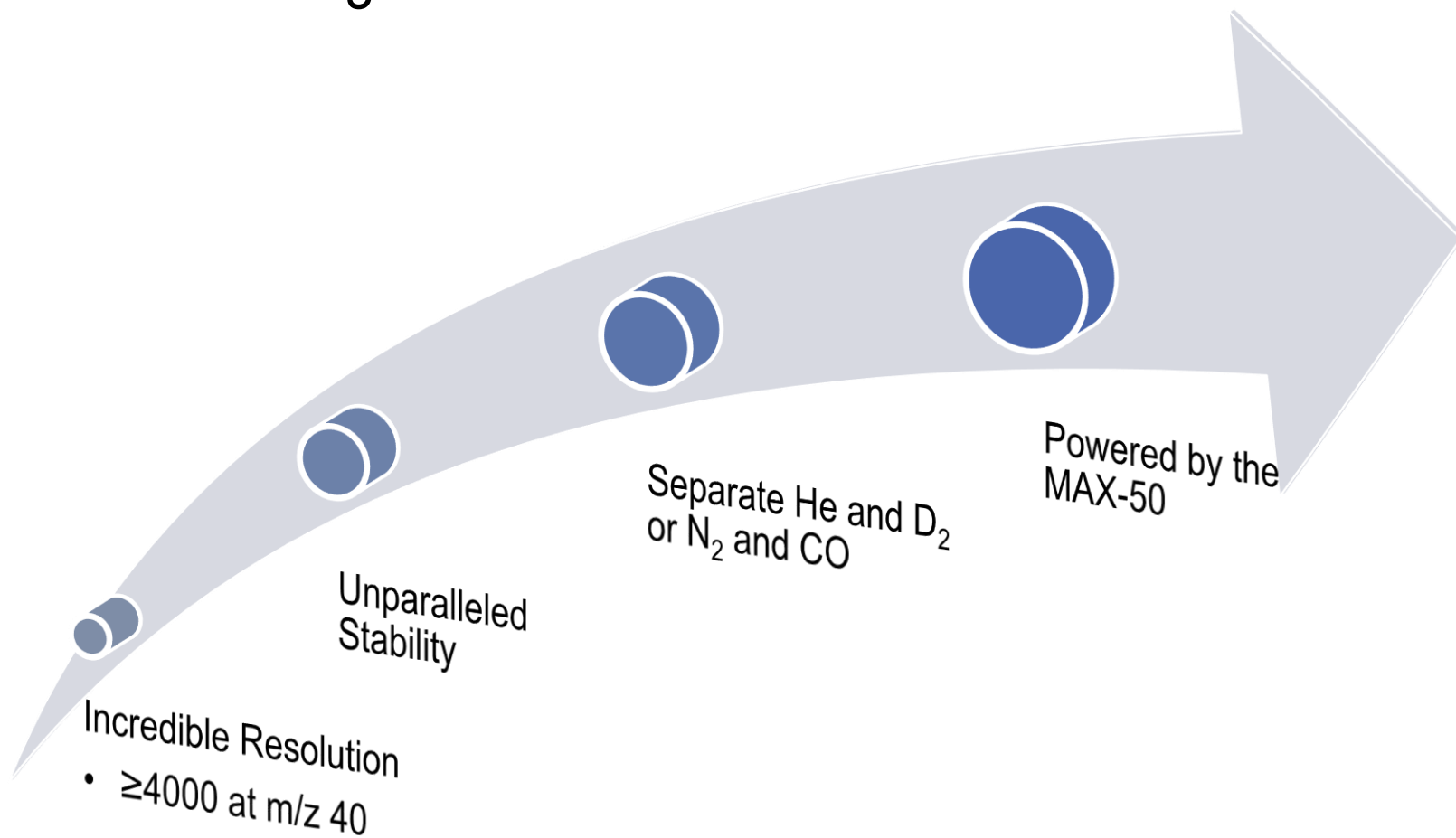
- Specifications

- Designed for precision mass analysis of low molecular weight species
  - Built on the foundation of the MAX 50 flange mounted quadrupole mass spectrometer
- Delivers exceptional transmission characteristics
- Resolution of better than 3,000 ( $m/\Delta m$ ) FWHM at  $m/z$  40
  - You can separate compounds 0.02 amu apart to baseline

- Options

- Inlet Customization
  - Model shown includes fully automated gate valve and gas handling
- Mass Range
  - 1-50 amu
  - 1-120 amu

# Review of Strengths of HRQ



# Review

- Why buy Extrel?
  - Ability to separate Helium and Deuterium to baseline, a separation of 0.026 amu
  - Extrel instrument is a better buy at a lower for a higher sensitivity and higher resolution system



## For More Information:

Contact the local Extrel distributor  
(for Germany, Austria, Benelux) :

Hositrad Vacuum Technology ,  
Phone +31 33 253 7210

Email: [info@hositrاد.com](mailto:info@hositrاد.com)

Internet : [www.hositrاد.com](http://www.hositrاد.com)

