



AMD Technological History in Mass Spectrometry of Molecule Analysis

- > 1982 - 1989
Development of add-on modules for mass spectrometric applications
- > 1990 - 2001
Introduction of high resolution Magnetic Sectorfield Mass Spectrometers in open classical design
- > 2002
A new, innovative und compact high performance Sectorfield MS System AMD QuAS³AR
- > 2006
A new high resolution instrument for process control and specific isotope ratio analyses: AMD 202-D
- > 2012
Miniaturized AMD QuAS³AR API-MS evaluation model

7



AMD Technologies and Methods

Ionization Techniques:

- EI, CI, DCI, FD/FI, ESI/APCI, FAB

Hyphenated Techniques:

- GC-MS
- LC-MS

Perspective Applications

- Process Gas Analysis
- Ambient Air Analysis
- Elemental Analysis

6



High Resolution Mass Spectrometer in classical design

AMD 402/403S Series

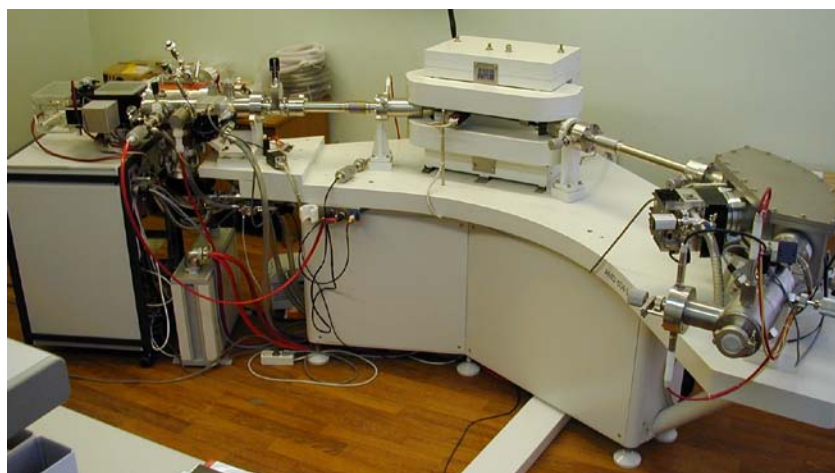


9



High Resolution Mass Spectrometer in classical design (high mass version)

AMD 604 S



10

System for Cluster Ion Deposition in Nano Technological Applications



15

System for fully automated DEI/DCI analyses



16



AMD M-40 GC-MS System

- **Floating** double-focusing analyzer system in bench top design

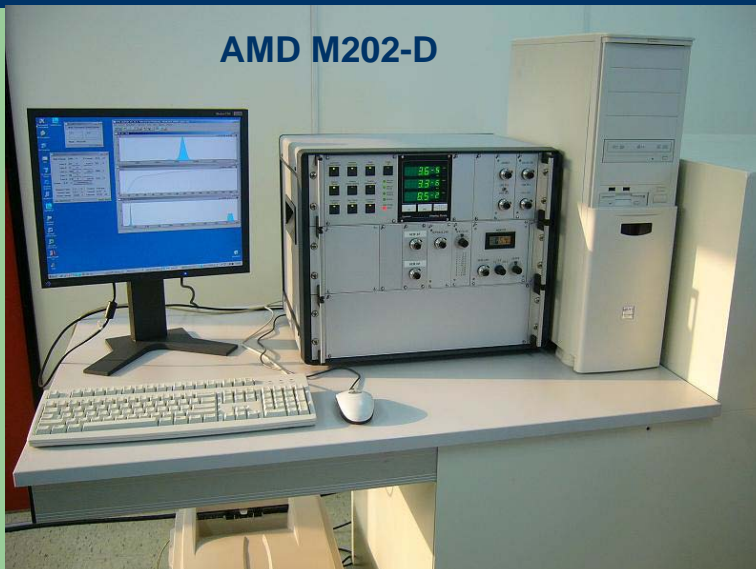


17



Compact High Resolution MS for demanding Process Analysis

AMD M202-D



- Determination of heavy water in light water cooling system of nuclear power stations
- Precise Determination of Isotope Ratios of H₂ and HD
- General Process-gas analyses

18



The innovative High Performance and Multi Application Mass Spectrometer in compact design

AMD QuAS³AR

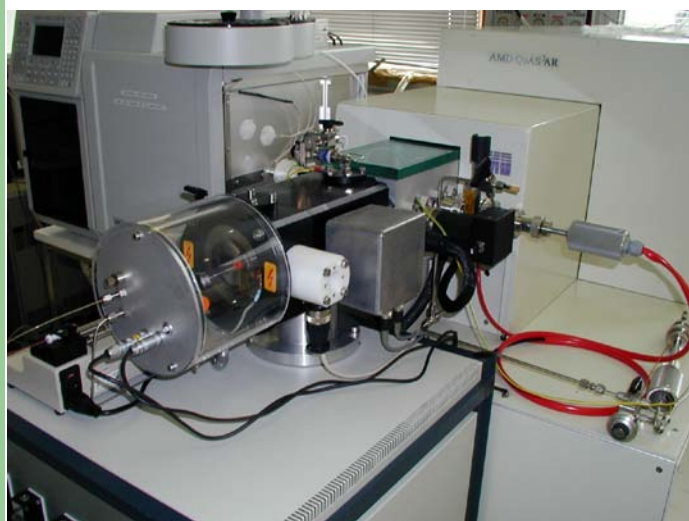


- Characterization,
 - Identification,
 - Quantification
- of substances at very low concentrations
- A wide range universal or specific analytical tool
- A unique system

27



AMD QuAS³AR with Combined Chromatography



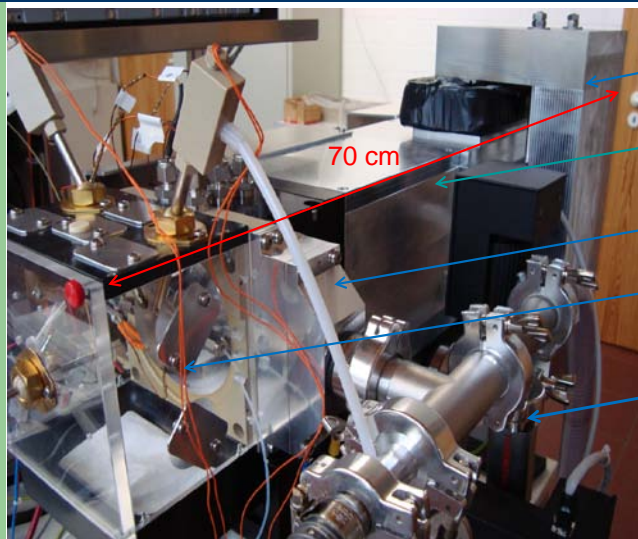
GC/LC/MS

- Switch between GC/MS und LC/MS Analytics **without any system modification**
- Wide application range at high efficiency
- Cost saving due to only one MS required for two chromatographic methods

33



AMD Mini QuAS³AR API-MS (Evaluation Model)



Magnetic Analyzer

Electric Sector Analyzer

API Interface

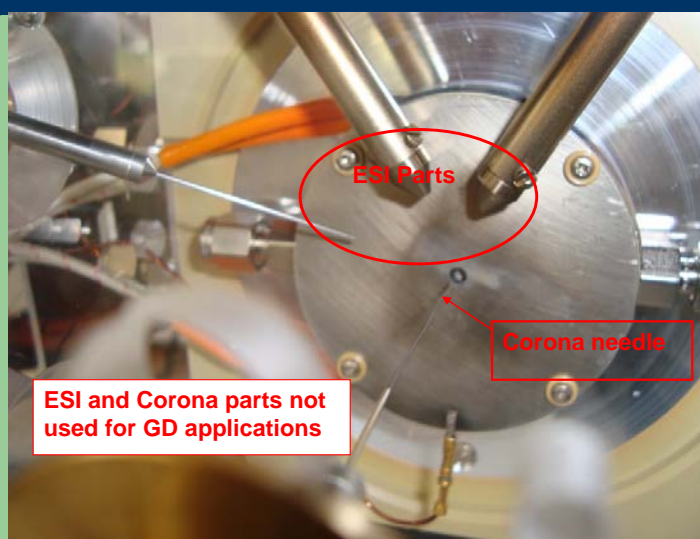
API Housing

Multi-Stage Turbo Pumping System

44



AMD Mini QuAS³AR API-MS



ESI/APCI/GD

Interface for multiple or dedicated applications

45