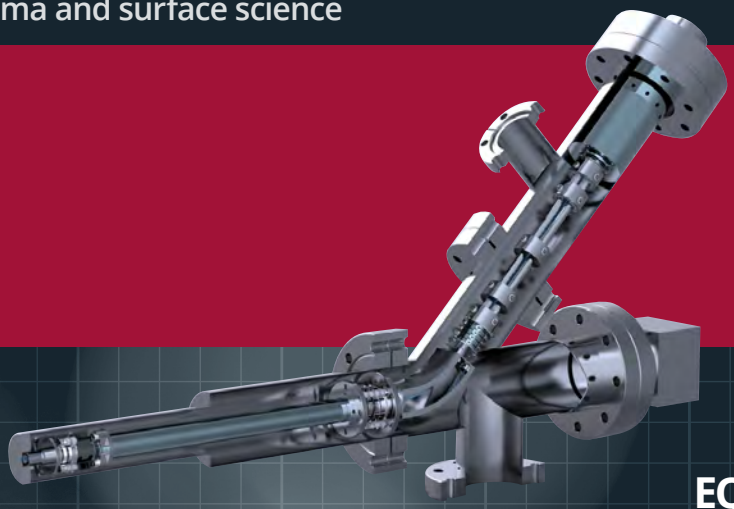
Mass spectrometers for vacuum, gas, plasma and surface science

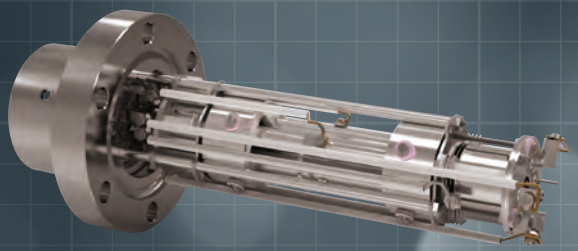
HIDEN ANALYTICAL



# ALD

## ATOMIC LAYER DEPOSITION – VACUUM PROCESSING OF THIN FILMS

**EQP**
Analysis of the reaction kinetics of plasma assisted ALD processes



**HMT**
Residual gas analysis at high pressure


**AutoSIMS**
ALD film analytics

**HPR-30$^{ALD}$**
Vacuum process gas analysis – wide sampling pressure range

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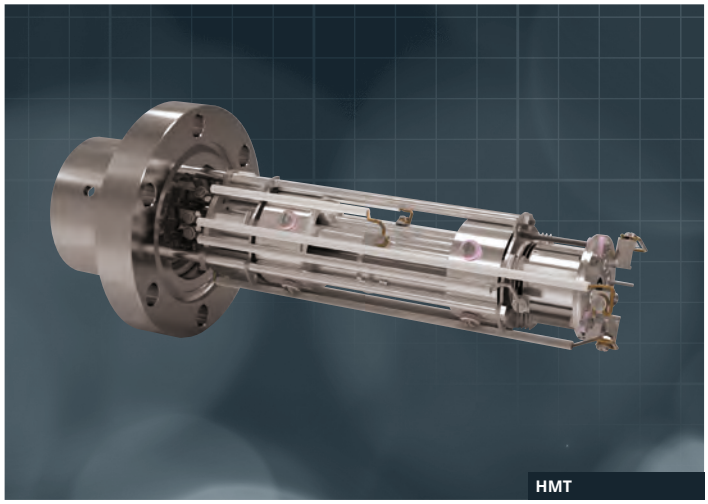

HMT

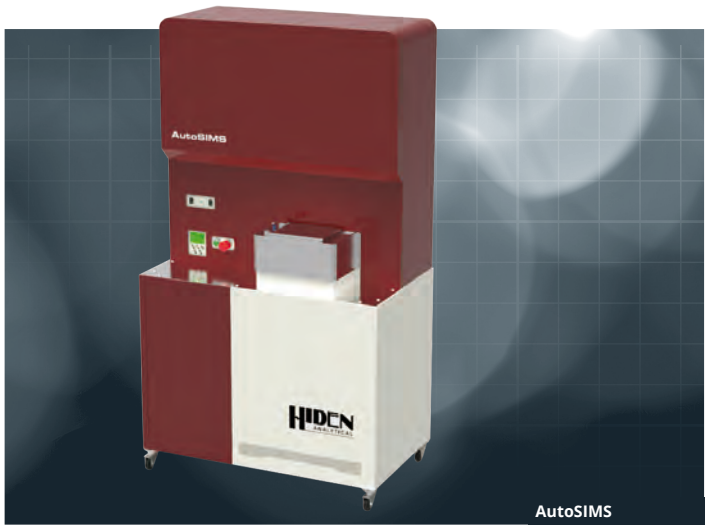
## Residual gas analysis at high pressure

- HMT mode for high pressure operation to $5x10^{-3}$ mbar
- RGA mode for high sensitivity operation to $10^{-13}$ mbar
- 100 amu mass range
- Stability better than +/- 1% over 24 hours
- Fast access mixed mode scanning
- Real-time background subtraction


EQP

## Analysis of the reaction kinetics of plasma assisted ALD processes

- +ve and –ve ion analysis
- Mass resolved ion energy analysis
- Neutrals and neutral radical analysis
- Energy resolved mass analysis
- Mass range options to 1000 amu
- Energy range options to 1000 eV



AutoSIMS

## ALD film analytics

- Composition, contamination, diffusion and interface analysis
- Nanometre depth resolution
- Tool for research and production
- TPD – Tool for temperature programmed desorption


HPR-30$^{ALD}$

## Vacuum process gas analysis – wide sampling pressure range

- Pump-down Profiles
- Vacuum Diagnostics
- Real-time Precursor Analysis
- Residuals
- Backfill
- Bakeout Endpoint Confirmation
- Leak Checking

TDS 198