# Quadrupole Mass Spectrometer Coupling for High Gas Detection Sensitivity – All Controlled via a Single Software Application

### **The Fleshed-Out Design of the QMS 403 *Aëolos Quadro* for Coupling to TGA, STA, DSC and DIL Systems**

The 403 *Aëolos Quadro* quadrupole mass spectrometer is a new compact mass spectrometer with a heated capillary inlet system for routine analysis of gases and, in particular, volatile decomposition products of thermal analysis. This system is optimized for coupling to differential scanning calorimeters (DSCs), thermogravimetric analyzers (TGAs) and dilatometers (DILs). The software is unique: fully integrated MS software for measurement and analysis.

### **Capillary Coupling for Optimized Gas Flow Conditions**

* Single-step pressure reduction
* Minimization of cold spots in the entire transfer path of the gases due to an even temperature of 300°C (optionally 350°C)
* Heated chamber for easy handling and precise adjustment of the quartz glass capillary inlet to the QMS
* Flexible, allowing standard thermoanalytical measurements and also simultaneous TGA, MS (GC-MS) and MS-FT-IR measurements
* Very robust and service-friendly while still maintaining high sensitivity (detectable mass loss in the μg-range)
* TGA-MS measurements under humid atmospheres possible
* Hyperbolic quadrupole system with pre-filter for improved transmission in the high mass range and improved sensitivity in the low mass range (e.g., H2, He)
* SEM with discrete dynodes and integrated Faraday cup for high dynamic range and long lifetime
* 3-D presentation of MS and thermal analysis data
* Operation and data evaluation with *Proteus*® software