

Magnet portable mass spectrometer with membrane inlet system

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Presentation is devoted to calculation, development and testing of a portable magnetic sector mass spectrometer with membrane inlet. Mass analyser of the instrument, includes electrostatic cylindrical capacitor and permanent magnet system with small sector angle and supplies double-focusing of an ion beam. Special electron impact ion source and two Einzel lenses provide z-compression of the beam at the entrance of the linear segmented detector array. The ion-optic scheme of the detector allows carrying out simultaneous and independent scanning of the separate sub ranges of the whole mass range at the dynamic range of $\sim 10^7$. Mass spectrometer equipped with a membrane inlet system for VOC's and SVOC's detection. The construction details and testing results are discussed.