High Performance and Small Foot Print Time of Flight Mass Spectrometer by using the Multi-turn Technology





The "infiTOF" is a high resolution and compact time-of-flight (TOF) mass spectrometer which introduced the "multi-turn TOF (MULTUM) technology" developed by Osaka University. The mass resolution of a TOF mass spectrometer is directly proportional to its total flight path length. In the multi-turn TOF mass spectrometers, ions are stored in a fixed orbit within electrostatic sectors and allowed to propagate the said orbit numerous times. With each successive orbit the flight path is correspondingly increasing and mass resolution increases according to the number of ion cycles.



Inside of "infiTOF"





At the injection point, each ion has varying behavior. Flight path of each ion is different, but the key point is, all ions return to exactly the same initial starting condition "perfect focussing"). Theoretically the optics will never lose any ions during flight when this is the case.

This is actual data acquired in segment mode at 10,000 resolution. Mass range of each segment is narrow but this is a perfect application for monitoring known peaks. In addition file size is kept very small.