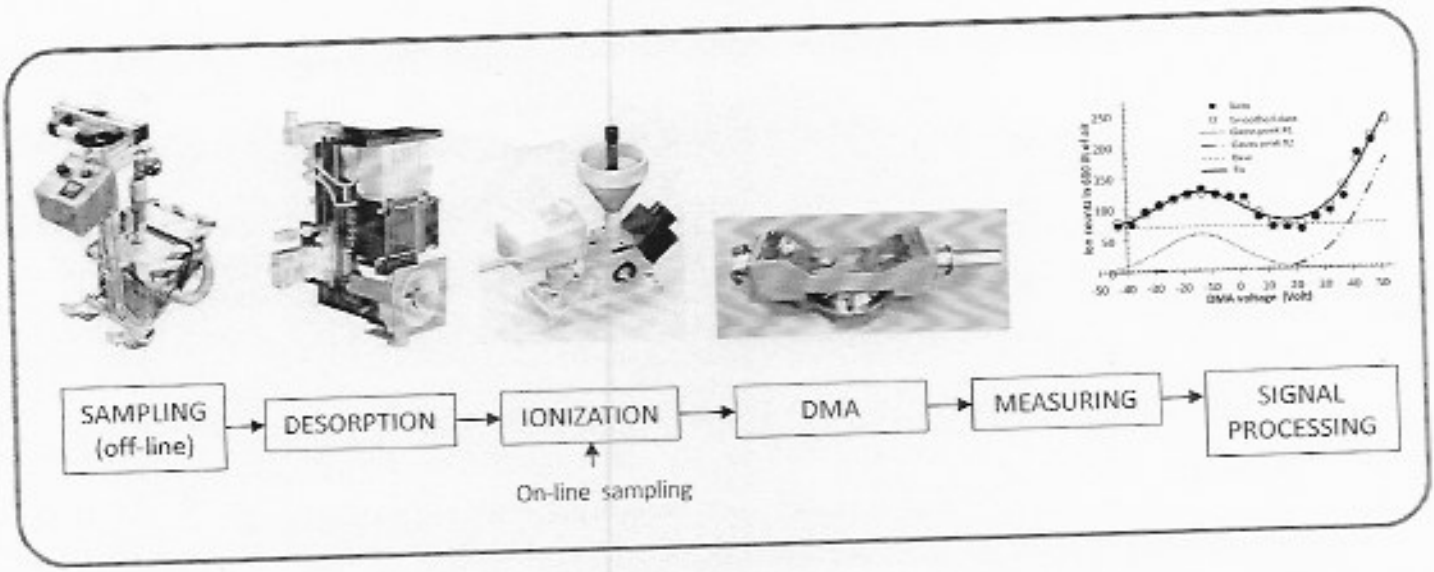


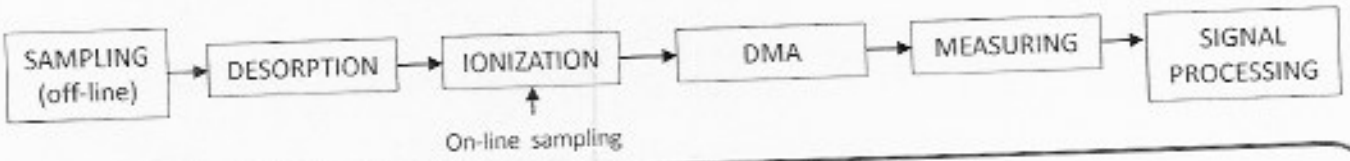
SEADM



MODULES

MODULES

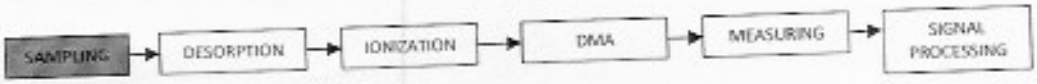
SEADM offers product developers a complete range of modules covering the different stages of nano-particles and vapors analysis, from sampling to signal processing, including its renowned Differential Mobility Analyzer, DMA.



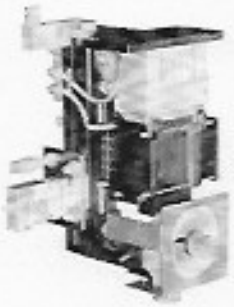
High Volume Sampler (HVS)



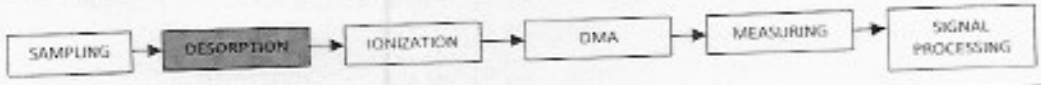
For atmospheric studies or off-line vapor collection, SEADM's High Volume Sampler (HVS) module is the right choice.
This portable device samples a high flow of gas (up to 250 liters/min) and lets it pass through an adsorbent material such as Tenax. It has been designed to be clean, manageable and configurable. The HVS can be configured to send sampling data directly to the SEADM's Vapor Analyzer via the data telephone network.



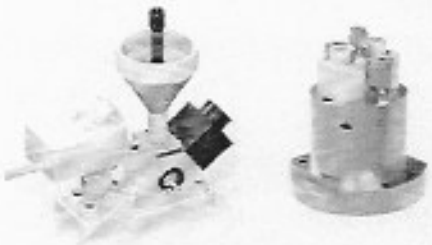
Variable temperature thermal desorber



The temperature controlled desorption is the perfect complement for the off-line sampler, since it allows a third dimension analysis: volatility. It includes a high conductivity cold block to cool down the sample in seconds, and a high power heater to make fast controlled temperature slopes.



Ionization options



For high sensitivity volatile analysis, an improved **LFSESI** (Low flow Secondary Electrospray Ionization) or a **full metal chamber** for APCI (Atmospheric Pressure Chemical Ionization) are available. Both include temperature control and can be used as nano ESI, SESI, or APCI. For the LFSESI, the ionization efficiency can reach values as high as 1%.

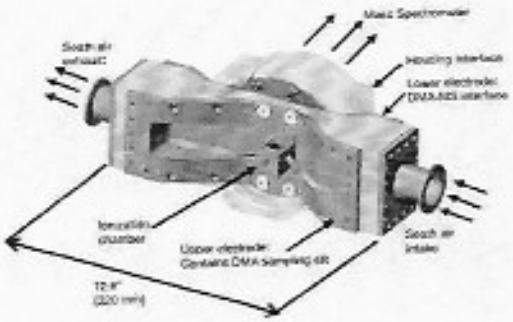


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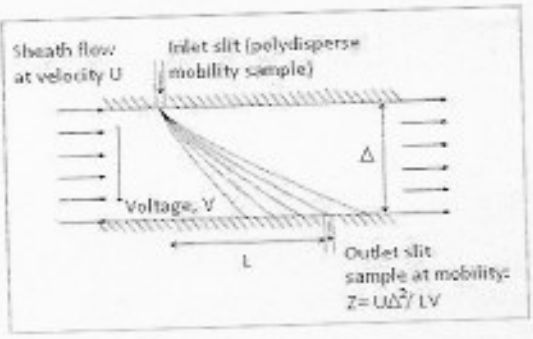
Planar DMA



General view



Solid model showing interfaces



Physical principle

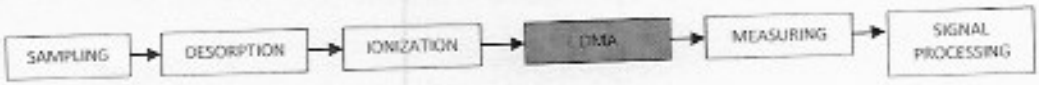
The SEADM's planar **D**ifferential **M**obility **A**nalyzer enables the separation of molecules or particles through their electrical mobility. When coupled with mass spectrometry (MS) it enables to introduce a new analysis dimension.

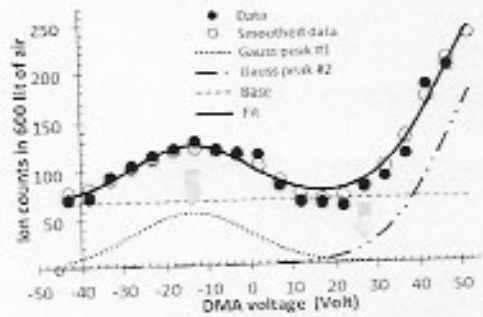
Its design has been carefully optimized to deliver laminar flow at Reynolds numbers up to 200,000. This supercritical feature enables the achievement of high resolving powers (>50), overcoming the drawbacks of traditional DMA's for molecular cross section studies or mobility pre-filtering for MS.

SEADM's planar DMA features a series of technological improvements achieved during years of research and development:

(i) robust architecture, tested under extreme conditions (including bumpy transportation journeys and high temperature).
(ii) Mirror polishing on its internal surfaces to delay transition to turbulence.
(iii) Micro-slots to maximize resolution

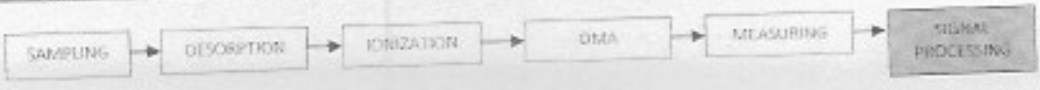
The stand alone DMA is capable of distinguishing quantities of around 1ppb of many molecules such as TNT. Combined with MS the limit of detection of TNT reaches 1ppq.





MSP – Mobility Spectra Processor

Strong interferents or close-isomers are no longer a problem due to SEADM's advanced Gaussian deconvolution software, delivering the constitutive peaks of complex spectra. The application of MSP allows an improvement of signal-to-noise ratio by a factor of 10.



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