

PTR-TOFMS SERIES



THE WORLD'S
LEADING
PTR-MS
COMPANY PRESENTS



PTR-TOF 8000

LoD < 15 pptv

Resolution up to 8000 m/ Δ m (FWHM)

The IONICON PTR-TOF 8000 instrument is an **ultra-sensitive detector** for volatile organic compounds (VOCs) that allows for **continuous VOC quantification** with a very high mass resolution.

Our new time of flight based product combines very low online detection limits in the low pptv-range covering a linearity range of five orders of magnitude, with incredible mass resolution of up to 8000.

Quantitative analysis of the whole mass range within a **split-second** with a resolution that allows the **separation** of even **isobaric compounds** are remarkable features of the new PTR-TOFMS technology.

Direct injection of sample gases **without preparation** contributes to the **speed and simplicity** that is common to all our instruments.

Our unique **soft ionization (PTR) technology** together with our extensive experience in gas-phase ion chemistry and engineering of scientific instruments are the basis for the **reliability, ultra low detection limit, very low mass fragmentation, fast response time and robustness** of our PTR-MS systems.

- > High resolution time of flight
- > Low detection limit - high sensitivity
- > Mass range up to 50.000 amu
- > Full mass range acquisition in a split-second

Find out more:

www.ionicon.com/products

THE SOLUTION FOR REAL-TIME TRACE GAS ANALYSIS



IONICON
ANALYTIK

PTR-TOF 8000

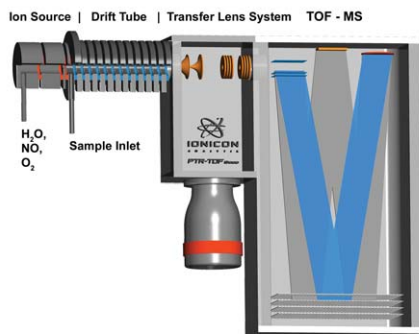


IONICON PTR-TOF 8000 SPECIFICATIONS*

- Mass range: 1-50.000 amu
- Resolution**:
 - > 4.000 m/Δm (FWHM)
 - > 5.000 m/Δm (FWHM) for m/z 79 (Benzene) or higher
- Response time: 100 ms
- Sensitivity**
 - Benzene: 20-40 cps/ppbv
 - Trichlorobenzene: 40-80 cps/ppbv
- Detection limits**:
 Averaged over 1 min, Chlorobenzene: < 15 pptv, Benzene: < 20 pptv
 Averaged over 1 sec, Chlorobenzene: < 150 pptv, Benzene: < 200 pptv
- Linearity range**: 15 pptv - 1 ppmv
- Pulse frequency: up to 80 kHz
- Adjustable flow: 50 - 1000 sccm
- Inlet system (Different inlet systems available on request):
 - 1.2 m long inlet hose - with internal inert (PEEK) capillary
 - Inlet system heating: up to 180°C (356°F)
- Reaction chamber heating range: 40 - 120°C (104 - 248°F)
- Power supply and max. consumption: 100-230 V, 1000 W
- Dimensions (w x h x d): 56x130x78 cm (22x51,2x30,7 in.)
- Weight (incl. SRI): 189 kg (417 lbs)
- Interfaces: 1x Touch screen display
 2x DO, 2x AI, 2x DI
 (digital/analog I/O package on request)

*Specifications are subject to change without prior notice.
 Product pictures and illustrations may differ from actual configuration.
 **Detection limit, linearity range and resolution are dependent on the substances measured, integration time and system set-up.

TECHNOLOGY



The innovative technology all IONICON Analytik products are based on is Proton Transfer Reaction - Mass Spectrometry (PTR-MS).

This unique soft ionization is realized by proton transfer from H_3O^+ ions to all compounds with a higher proton affinity than water. Common constituents of air such as N_2 , O_2 , Ar, CO_2 etc. have lower proton affinities than H_2O and are therefore not ionized. This is one of the main reasons for our market-leading low online detection limit for trace compounds in the range of a few pptv.

For the new IONICON PTR-TOF 8000 we use a specially designed orthogonal acceleration time of flight mass spectrometer delivering a typical resolution of 4000-8000 m/Δm in V-mode. The TOF combined with our unique proton transfer reaction-ion source, drift tube and inlet system allows instantaneous quantification of the full mass range. Even isobaric species can be distinguished with virtually no instrumental mass range limitation and a linearity range over five orders of magnitude.

ROBUST & EASY TO USE

The PTR-TOF 8000 is completely software controlled and connected to a data acquisition computer. The most important parameters can be checked and adjusted via a touch screen display directly at the instrument.

A space-saving rack mounted on wheels allows for easy transportability and variable location measurements.

PTR-TOF 8000^{+SRI}

The IONICON PTR-TOF 8000 is now also available as PTR-TOF 8000^{+SRI} (Switchable Reagent Ions) featuring NO^+ and O_2^+ as additional precursor ions.

The benefits are extraordinary as not only isomeric VOC compounds can be separated and instantaneously quantified (the separation of isobaric compounds is already possible by using the IONICON PTR-TOF 8000 with its single precursor ion H_3O^+) but also substances with a smaller proton affinity than the PA of H_2O can now be detected with the PTR-TOF 8000^{+SRI}.

PTR+SRI-MS
 SWITCHABLE REAGENT IONS