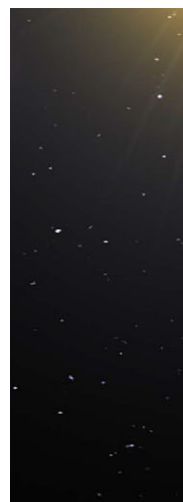


# PTR-TOFMS SERIES



THE WORLD'S  
LEADING  
PTR-MS  
COMPANY PRESENTS



## PTR-TOF 8000

**LoD < 5 pptv Resolution up to 8000 m/Δm (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 **single-digit pptv-range** covering a **linearity range of six 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 even allows **separation of isobaric compounds** are remarkable features of the IONICON 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
- > Separation of isobaric substances
- > Full mass range acquisition in a split-second

Find out more:

[www.ionicon.com/products](http://www.ionicon.com/products)

# PTR-TOF 8000



## IONICON PTR-TOF 8000 SPECIFICATIONS\*

- Mass range: 1-50.000 amu
- Resolution\*\*:  
  - > 5.000 m/Δm (FWHM), up to 8000 m/Δm (FWHM)
- Response time: 100 ms
- Sensitivity\*\*
  - Benzene: > 150 cps/ppbv @ 60 kHz, > 100 cps/ppbv @ 40 kHz
  - m/z 181: > 240 cps/ppbv @ 40 kHz
- Detection limits\*\*:  
  - Averaged over 1 minute: Benzene < 5 pptv, m/z 181 < 5 pptv
  - Averaged over 1 second: Benzene < 50 pptv, m/z 181 < 30 pptv
- Linearity range\*\*:  
  - 5 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.

## PTR-TOF 8000 FEATURES AND BENEFITS

Ultimate performance: more sensitivity, a lower detection limit and a higher mass resolution than any other commercial PTR-TOFMS instrument: experience the IONICON PTR-TOF 8000!

Using a specially designed high-end orthogonal acceleration reflectron time of flight mass spectrometer in combination with the unique IONICON PTR technology and our ULTRA-PURE ion source, the PTR-TOF 8000 achieves a mass resolution of more than 5000 up to 8000 m/Δm (FWHM). Nevertheless a limit of detection well below 5 pptv and sensitivity of more than 150 cps/ppbv for e.g. Benzene are typical specifications. The whole mass spectrum can be recorded in a split second and isobaric species can be resolved and identified. You can expect virtually no instrumental mass range limitation and a linearity range over six orders of magnitude.

## TECHNOLOGY

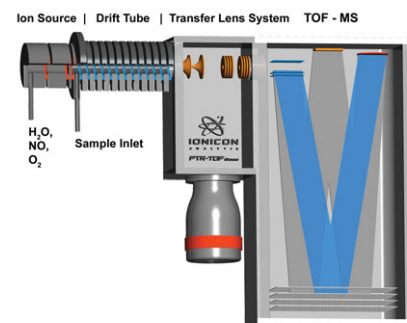
The innovative technology all IONICON Analytik products are based on is Proton Transfer Reaction - Mass Spectrometry (PTR-MS). This unique soft ionization is realized by proton transfer from  $H_3O^+$  ions to all compounds with a higher proton affinity than water. Common constituents of air such as  $N_2$ ,  $O_2$ , 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.

## PTR+SRI-MS

SWITCHABLE REAGENT IONS

The IONICON PTR-TOF 8000 is now also available as PTR-TOF 8000<sup>+SRI</sup> (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 but also substances with a smaller proton affinity than the PA of  $H_2O$  can now be detected with the PTR-TOF 8000<sup>+SRI</sup>



## ROBUST & EASY TO USE

The PTR-TOF 8000 is completely software controlled featuring a touch screen display for parameter optimization and status checks. Installed in a space-saving rack and mounted on wheels it allows for easy transportability and variable location measurements. We deliver the PTR-TOF 8000 in a re-usable eco-friendly flightcase container.