



FUSION PTR-TOF 10k mass spectrometer - Trace VOC Analyzer

Sensitivity > 10000 cps/ppbv LoD < 0.1 pptv Resolution > 10000 m/ Δ m

The new FUSION PTR-TOF 10k sets the benchmark for the future of PTR-TOF instruments, combining all advantages only genuine IONICON PTR technology can offer.

The instrument comprises the new **TRION triple ion source**, the novel ultra-clean **FUSION reaction chamber** and an **advanced inlet design** enabling market-leading response times.

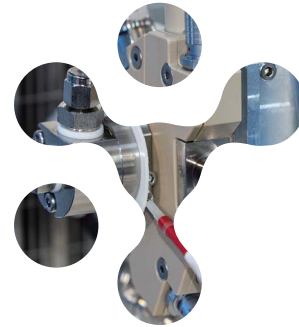
The FUSION PTR-TOF 10k offers a unique combination of sensitivities up to **30000 cps/ppbv**, LoDs down to **< 100 ppqv** and nearly instant reagent ion switching in 100-200 ms. The powerful ionTOF 10k high-resolution TOF features a mass resolving power of **10000-15000 m/ Δ m**.

Experience our **Next-Gen PTR-TOF instruments series**. Performance beyond any limits, highest mass resolving power and sensitivities, ppqv-level detection limits, TRION source technology and much more...the next generation of IONICON analyzers.

- > **Ultra-clean FUSION reaction chamber**
- > **TRION triple ion source**
- > **Advanced inlet design**
- > **TRU-E/N ion-chemistry quality**

Find out more:

www.ionicon.com/products

IONICON FUSION PTR-TOF 10k SPECIFICATIONS*

- Mass resolution:
 - > 10000 m/Δm (FWHM) certified for m/z > 121
 - up to 15000 m/Δm (FWHM) achievable for selected m/z
- Sensitivity:
 - > 10000 cps/ppbv certified at m/z 121 (trimethylbenzene) at 10000 m/Δm
 - up to 30000 cps/ppbv achievable for selected compounds
- Limit of Detection:
 - at m/z 147: < 100 ppqv (dichlorobenzene) averaged over 60s,
 - < 3 pptv averaged over 1s
- Power supply and max. consumption: 115/230 V, < 1500 W
- Dimensions (w x h x d): 60x135x80cm
- Weight: < 190 kg

*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.

FUSION PTR-TOF 10k BENEFITS

A new generation of PTR-TOF instruments with the novel TRION source and FUSION drift cell enters the stage.

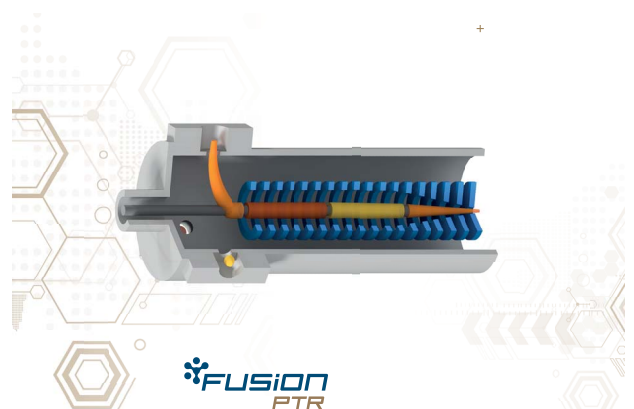
TRION depicts an ingenious setup where three reagent ion sources positioned around the direct and virtually contact free sample inlet are continuously producing e.g. H_3O^+ , NO^+ , NH_4^+ and O_2^+ reagent ions. This means that by simply changing electric potentials, extremely pure reagent ions can be selected within 100-200 ms, i.e. switching times so far only known from less advanced technologies employing mass filters.

The innovative reaction region of FUSION PTR-TOF stands out against conventional designs as well. The directly injected sample air flows through gastight RF ring electrodes and is subsequently pumped through ion funnel electrodes. This keeps the reaction region extremely clean and enables market-leading LoDs.

The new FUSION PTR-TOF provides a unique combination of sensitivities up to 30,000 cps/ppbv, limit of detection down to < 100 ppqv and nearly instant reagent ion switching, complementing IONICON's Next-Gen PTR-TOF instrument series.

EXPERIENCE A NEW DIMENSION OF SPEED,

PERFORMANCE & VERSATILITY



FUSION PTR AT A GLANCE

- sensitivity of up to 30,000 cps/ppbv
- LoD down to < 100 ppqv
- well-defined ion chemistry with TRU-E/N
- virtually contact free sample inlet
- TRION source for nearly instant reagent ion switching

A NEW WORLD OF POSSIBILITIES

Prior to FUSION PTR-TOF, scientists had to decide between technologies with high sensitivity / good LoD and those with rapid reagent ion switching times. Now, all these features are available for the first time within one single instrument. This means that researchers in the fields of atmospheric chemistry, environmental research, food and flavor analysis, etc. can triplicate the amount of ultra-sensitive high-resolution real-time data collected within one measurement campaign, with one single IONICON PTR-TOF instrument. New insights into the world's changing climate can be gained, trends in local urban and rural but also indoor air quality can be spotted and tracked.