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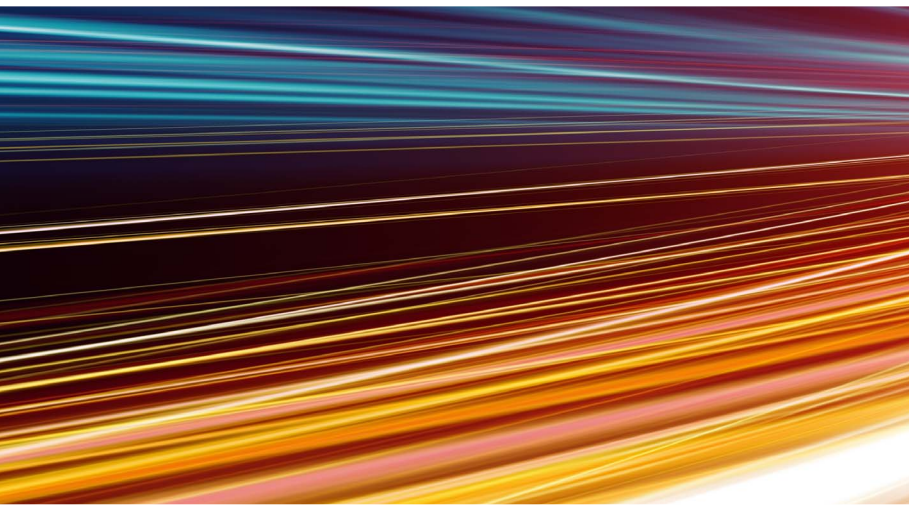

PTR3 CI-TOF 10k - Trace VOC-ELVOC Analyzer

Sensitivity > 15000 cps/ppbv LoD < 0.2 pptv Resolution > 10000 m/Δm

The PTR3 CI-TOF 10k is an **ultimate performance CI-TOF system** optimized for the detection of a broad range of volatile to extremely low volatile organic compounds like **highly-oxygenated organic molecules and RO2 radicals**.

The instrument comprises a **novel high-resolution TOF**, a **triple ion source** and an **advanced inlet system** for virtually **contact free sample introduction** in order to minimize sampling losses of reactive organic molecules.

Expect advanced technologies such as 3 electrically switchable ion sources which allow for e.g. H_3O^+, NO^+, NH_4^+ ionization and the novel **3D tripole reactor**, complemented by the IONICON ION-BOOSTER funnel and hexapole ION-GUIDE.

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

- > Detection of highly-oxygenated molecules
- > Virtually loss-less dual-stage core sampling
- > Novel 3D tripole reactor
- > TRION triple ion source

Find out more:
www.ionicon.com/products

THE SOLUTION FOR REAL-TIME TRACE GAS ANALYSIS

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IONICON PTR3 CI-TOF 10k SPECIFICATIONS*

- Mass resolution:
  > 10000 m/Δm (FWHM) certified for m/z > 129
  up to 15000 m/Δm (FWHM) achievable for selected m/z

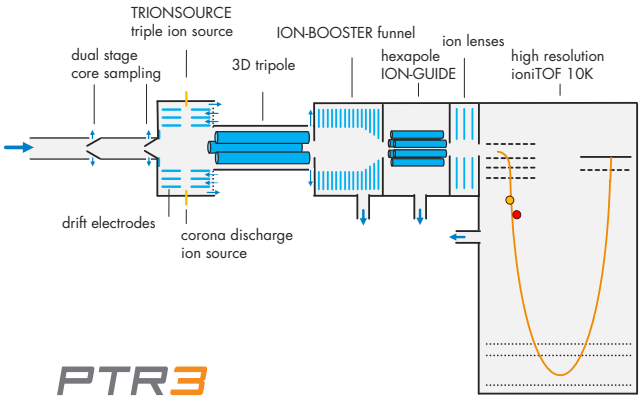
- Sensitivity:
  > 15000 cps/ppbv certified at m/z 129 (octanone) at 10000 m/Δm, at < 30% RH, room temp.
  up to 50000 cps/ppbv achievable for selected compounds

- Limit of Detection:
  at m/z 129: < 200 ppqv (octanone) averaged over 60s, at 10000 m/Δm, at < 30% RH, room temp., S/N=3.

- Power supply and max. consumption: 115/230 V, < 1500 W
- Dimensions (w x h x d): 70x140x60cm
- Weight: < 210 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.

ion GUIDE BOOSTER ioniTOF 10K



PTR3

PTR3 CI-TOF 10k BENEFITS

We present a revolution in analytical performance: the PTR3. This new generation CI-TOF (Chemical Ionization Time-Of-Flight) allows for a direct and quantitative detection of volatile organic compounds (VOC) and is optimized for their oxidation products.

With the dual-stage core sampling inlet system, which enables analyte transfer with virtually no wall interactions, and the novel 3D tripole reaction chamber, organics ranging from volatile to extremely low volatility (ELVOC) can be measured, even at ambient temperature. In addition, the PTR3 has the unique ability to detect and quantify RO_2 radicals.

The PTR3 is operated at an elevated reaction pressure of 50 to 80 mbar. Since no axial field is present in the reaction region, ions are transported solely by the sample gas flow. This significantly extends the reaction time and subsequently results in outstanding sensitivities.

Since the invention of the PTR3 at the University of Innsbruck, Austria, the Next-Gen CI-TOF was revised and complemented with latest IONICON technologies. Now outstanding sensitivities of up to 50000 cps/ppbv can be achieved.

ADVANCED IONICON TECHNOLOGIES

The PTR3 features the new TRION source, comprising three annularly arranged ion sources for fast electrical switching between a set of reagent ions including H_3O^+, NO^+ and NH_4^+.

The novel 3D tripole geometry was aerodynamically improved from its original design, to further reduce surface interactions and concurrently maximize ion transmission. Extraction of analyte ions from the PTR3 ionization chamber and subsequent transfer to the TOF mass analyzer is now also enhanced by an ION-BOOSTER funnel in series with a hexapole ION-GUIDE. This setup enables precise control of extraction energies to reduce unwanted collision induced fragmentation and at the same time efficiently transmits ions of a broad m/z range.

The product ions are analyzed with the novel high-resolution ioniTOF 10k, achieving mass resolving powers of typically 10000 to 15000 m/Δm.

IONICON Analytik GmbH • Eduard-Bodem-Gasse 3 • 6020 Innsbruck • Austria • Tel.: +43 512 214 800 • www.ionicon.com • info@ionicon.com