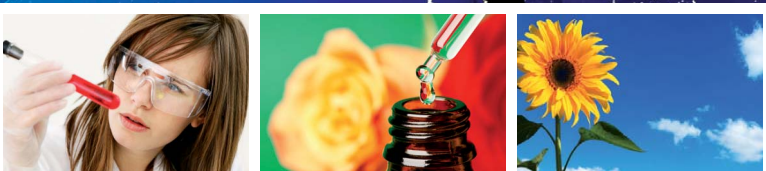


ULTRA-SENSITIVE SOLUTIONS  
FOR REAL-TIME TRACE GAS ANALYSIS

**PTR-MS**



## PRODUCT PORTFOLIO



THE WORLD'S  
LEADING  
PTR-MS  
COMPANY

PROTON TRANSFER REACTION - MASS SPECTROMETRY

## PTR-TOFMS SERIES



# PTR-QiTOF

LoD < 1 pptv

Resolution > 6,000 m/ $\Delta$ m (FWHM)

The IONICON PTR-QiTOF is a fast and ultra-sensitive instrument for trace analysis of volatile organic compounds (VOCs) at a very high time-resolution and mass resolving power.

The PTR-QiTOF featuring a Quadrupole ion guide (Qi) is the most powerful PTR-TOFMS series instrument on the market: 25x more sensitive, one order of magnitude lower detection limit and at least 20% higher mass resolution than the world's current bestselling PTR-TOFMS instrument - the IONICON PTR-TOF 8000.

Quantitative analysis of the entire mass range within split-seconds and highest ever recorded mass resolution for separation and unambiguous identification of complex samples are key benefits of the new PTR-QiTOF.

Paired with lightning speed and extreme sensitivity, the PTR-QiTOF sets a new standard for applications such as flux measurements.

Our unique soft ionization (PTR) technology and extensive know-how in engineering of scientific instruments are the basis for the reliability, ultra-low detection limit, fast response time and robustness of our PTR-MS systems.

- > **Qi** Quadrupole ion guide
- > Flagship PTR-TOFMS series instrument
- > Most sensitive and lowest detection limit
- > Highest mass resolving power

Find out more:

[www.ionicon.com/PTR-QiTOF](http://www.ionicon.com/PTR-QiTOF)

# PTR-QiTOF



## IONICON PTR-QiTOF SPECIFICATIONS\*

- Mass resolution:  $> 6,000$  (up to 10,000)  $m/\Delta m$  (FWHM)
- Sensitivity
  - $m/z$  79  $> 1,000$  (up to 2,500) cps/ppbv; LoD  $< 10$  pptv (60 sec)
  - $m/z$  181  $> 2,000$  (up to 4,500) cps/ppbv; LoD  $< 1$  pptv (60 sec)
- Response time:  $< 100$  ms
- Pulse frequency: up to 200 kHz
- Mass range: 1-10,000 amu
- Linearity range: 1 pptv - 0.5 ppmv
- Adjustable flow: 50 - 1,000 sccm
- Inlet system (Different/Multiplexing inlet systems available on request):
  - 1.2 m long inlet hose - with inert (PEEK) capillary
  - Inlet system heating: 40-180°C (104-356°F)
- Reaction chamber heating range: 40 - 120°C (104 - 248°F)
- Power requirements: 100-115/200-230 V, max. 1,500 W
- Dimensions (w x h x d): 60x110x80 cm (23.7x43.4x31.5 in.)
- Weight (incl. SRI):  $< 175$  kg (386 lbs)
- Interfaces:
  - 1x Touch screen
  - 8x DI/O, 2x AI, 2x AO
  - (additional I/Os 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-QiTOF - FEATURES AND BENEFITS

Welcome to the future of ultimate performance!

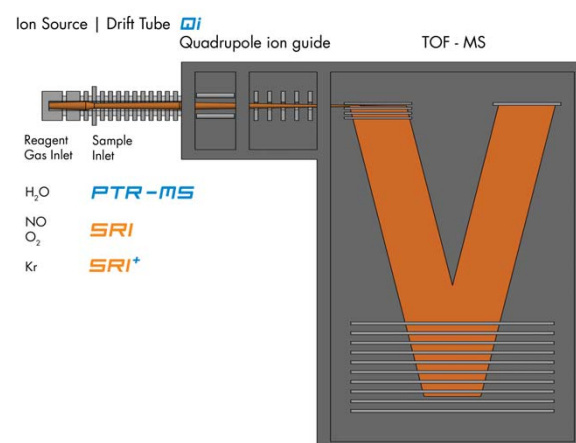
Using a specially crafted high-resolution time of flight (TOF) mass spectrometer including the new Quadrupole ion guide (Qi) in combination with the refined IONICON PTR technology, the PTR-QiTOF achieves a mass resolution of more than 6,000 (up to 10,000)  $m/\Delta m$  FWHM, a limit of detection well below 1 pptv (in 60 sec), and an unmatched sensitivity of more than 2,000 (up to 4,500) cps/ppbv.

This boost in sensitivity is especially beneficial for cutting edge applications like eddy-covariance flux measurements, where ultra-low VOC concentrations have to be quantified with more than 10 Hz.

No sample preparation and the direct injection of analytes means no waiting time and no loss in capturing of relevant process parameters. This, together with a known simplicity, reliability and robustness is common to all our instruments.

## TECHNOLOGY

We proudly rely on the unique IONICON PTR-MS soft ionization technology where by proton transfer from  $H_3O^+$ , all compounds with a higher proton affinity (PA) than water are ionized. Common constituents of air, such as  $N_2$ ,  $O_2$ , Ar,  $CO_2$  etc. have lower PAs than  $H_2O$  and are therefore not detected. This is one of the main reasons for our market-leading low, real-time detection limit for trace compounds. Due to precisely controlled ion source and drift tube parameters, absolute quantification of VOC concentrations is possible.



## SRI-MS

The IONICON PTR-QiTOF is optionally available with our proprietary Selective Reagent Ionization - Mass Spectrometry (SRI/SRI+) technology featuring  $NO^+$  and  $O_2^+$  (SRI) or  $Kr^+$  (SRI+) alternatively to  $H_3O^+$  as precursor ions created in the new ULTRA-PURE ion source (patent pending).

$O_2^+$ , but especially  $Kr^+$ , have a higher ionization potential than  $H_3O^+$  and therefore many important (inorganic) substances such as  $CH_4$ ,  $CO$ ,  $CO_2$ ,  $NO_2$ ,  $SO_2$ , etc. can be detected and quantified using a single IONICON instrument.  $NO^+$  as reagent ions help separating several isomeric VOCs that can subsequently be quantified in real-time.

■ Article in press:  
P. Sulzer, et al., Int. J. Mass Spectrom. (2014), DOI: 10.1016/j.ijms.2014.05.004



## PTR-TOFMS SERIES



# PTR-TOF 8000

LoD < 10 pptv

Resolution > 5000 m/ $\Delta$ 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 **bestselling 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 high mass resolving power.

**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\*

- Resolution: > 5.000 m/ $\Delta$ m (FWHM)
- Response time: < 100 ms
- Sensitivity:
  - Benzene: > 120 cps/ppbv @ 60 kHz, > 80 cps/ppbv @ 40 kHz
  - m/z 181: > 190 cps/ppbv @ 40 kHz
- Detection limits:
  - Averaged over 1 minute: Benzene < 15 pptv, m/z 181 < 10 pptv
  - Averaged over 1 second: Benzene < 100 pptv, m/z 181 < 80 pptv

Response time: 100 ms  
 Linearity range: 10 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

Discover the world's bestselling PTR-TOFMS system: expect a high mass resolution in combination with high sensitivity and low detection limit that helped many scientists to gain new insights. More than once results have been published in prestigious journals such as SCIENCE and NATURE.

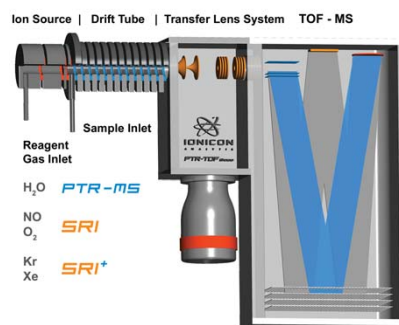
Using a specially designed high-end orthogonal acceleration reflectron time of flight mass spectrometer in combination with the unique IONICON PTR technology and our ULTRA-PURE ion source, the PTR-TOF 8000 achieves a mass resolution of more than 5000 m/ $\Delta$ m (FWHM) and a limit of detection well below 10 pptv.

The whole mass spectrum can be recorded in a split second with isobaric species being resolved and identified. Virtually no instrumental mass range limitation and a linearity range over six orders of magnitude complete our bestselling PTR-TOFMS.



## TECHNOLOGY

We proudly rely on the unique IONICON PTR-MS soft ionization technology where by proton transfer from  $\text{H}_3\text{O}^+$ , all compounds with a higher proton affinity (PA) than water are ionized. Common constituents of air, such as  $\text{N}_2$ ,  $\text{O}_2$ , Ar,  $\text{CO}_2$  etc. have lower PAs than  $\text{H}_2\text{O}$  and are therefore not detected. This is one of the main reasons for our market-leading low, real-time detection limit for trace compounds. Due to precisely controlled ion source and drift tube parameters, absolute quantification of VOC concentrations is possible.



## SRI-MS

The IONICON PTR-TOF 8000 is optionally available with our proprietary Selective Reagent Ionization - Mass Spectrometry (SRI/SRI\*) technology featuring  $\text{NO}^+$  and  $\text{O}_2^+$  (SRI) or  $\text{Kr}^+$  (SRI\*) alternatively to  $\text{H}_3\text{O}^+$  as precursor ions created in the new ULTRA-PURE ion source (patent pending).

$\text{O}_2^+$ , but especially  $\text{Kr}^+$ , have a higher ionization potential than  $\text{H}_3\text{O}^+$  and therefore many important (inorganic) substances such as  $\text{CH}_4$ ,  $\text{CO}$ ,  $\text{CO}_2$ ,  $\text{NO}_2$ ,  $\text{SO}_2$ , etc. can be detected and quantified using a single IONICON instrument.  $\text{NO}^+$  as reagent ions help separating several isomeric VOCs that can subsequently be quantified in real-time.

## ROBUST, RELIABLE & 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, easily transportable for variable location measurements, we deliver the PTR-TOF 8000 in a re-usable eco-friendly flightcase container.

## PTR-TOFMS SERIES



# PTR-TOF 1000

LoD < 10 pptv

Resolution > 1500 m/ $\Delta$ m (FWHM)

The IONICON PTR-TOF 1000 is a fast and sensitive instrument for trace volatile organic compounds (VOCs) quantification at a very high time resolution.

This PTR-TOFMS system has been extensively tested by leading scientists in field measurement and flight campaigns. It is the smallest, lightest and most affordable time of flight based PTR-MS we ever constructed.

Quantitative analysis of the entire mass range within split-seconds and higher resolution for better separation and identification are now available in an instrument with the size, weight and price usually restricted to quadrupole PTR-MS.

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, fast response time and robustness of our PTR-MS systems.

- > Ultra-fast, sensitive and affordable
- > Proven in field and flight campaigns
- > Smallest and lightest PTR-TOFMS
- > Entire mass range in split-seconds

Find out more:

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



# PTR-TOF 1000



## IONICON PTR-TOF 1000 SPECIFICATIONS\*

- Mass resolution:  $> 1500 \text{ m}/\Delta m$  (FWHM) for  $m/z > 60$
- Response time:  $< 100 \text{ ms}$
- Pulse frequency: up to  $150 \text{ kHz}$
- Sensitivity:
 

$m/z \ 79$	$> 40 \text{ cps/ppbv}$ ;	$\text{LoD} < 20 \text{ pptv (1min)}$
$m/z \ 181$	$> 100 \text{ cps/ppbv}$ ;	$\text{LoD} < 10 \text{ pptv (1min)}$
- Mass range: 1-10,000 amu
- Linearity range: 10 pptv - 1 ppmv
- Adjustable flow: 50 - 800 sccm
- Inlet system (Different/Multiplexing inlet systems available on request):
  - 1.2 m long inlet hose - with inert (PEEK) capillary
  - Inlet system heating:  $40\text{-}180^\circ\text{C}$  ( $104\text{-}356^\circ\text{F}$ )
- Reaction chamber heating range:  $40 - 120^\circ\text{C}$  ( $104 - 248^\circ\text{F}$ )
- Power supply and max. consumption: 100-230 V, 1500 W
- Dimensions (w x h x d): 60x91x80 cm (23,7x35,9x31,5 in.)
- Weight (incl. SRI):  $< 150 \text{ kg}$  (330,7 lbs)
- Interfaces:
  - 1x Touch screen display
  - 8x DI/O, 2x AI, 2x AO
  - (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 1000 FEATURES AND BENEFITS

The PTR-TOF 1000 is an IONICON PTR-TOFMS instrument with dimensions, weight and price usually restricted to quadrupole PTR-MS, but having all the advantages of the more powerful time of flight based solutions: acquisition of the entire mass range in split-seconds and higher resolution for better separation and identification.

The instrument demonstrated its reliability and robustness but also its remarkable technical abilities and speed during various international campaigns and is ideally suited for analysis of VOCs at a very high time resolution. It comes with a fully integrated IONICON data acquisition and data treatment software suite.

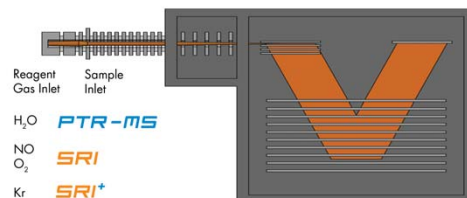
Enter into the world of PTR-TOFMS with IONICON's new PTR-TOF 1000: it is the smallest, lightest and most affordable time of flight based PTR-MS we have ever constructed.

## TECHNOLOGY

The innovative technology IONICON trace gas analyzers are based on is Proton Transfer Reaction - Mass Spectrometry (PTR-MS).

This unique, soft ionization is realized by proton transfer from  $\text{H}_3\text{O}^+$  ions to all compounds with a higher proton affinity (PA) than water. Common constituents of air such as  $\text{N}_2$ ,  $\text{O}_2$ , Ar,  $\text{CO}_2$  etc. have lower PAs than  $\text{H}_2\text{O}$  and are therefore not ionized. This is one of the main reasons for our market-leading low real-time detection limit for trace compounds and due to precisely controlled ion source and drift tube parameters, absolute quantification of VOC concentrations is possible.

Ion Source | Drift Tube | Lenses | TOF - MS



## SRI-MS

The IONICON PTR-TOF 1000 is also available with Selective Reagent Ionization - Mass Spectrometry (SRI/SRI<sup>+</sup>) featuring  $\text{NO}^+$  and  $\text{O}_2^+$  (SRI) or  $\text{Kr}^+$  (SRI<sup>+</sup>) alternatively to  $\text{H}_3\text{O}^+$  as precursor ions created in the new ULTRA-PURE ion source (patent pending).

The benefits are extraordinary as  $\text{O}_2^+$ , but especially  $\text{Kr}^+$ , have a higher ionization potential than  $\text{H}_3\text{O}^+$  and therefore many important (inorganic) substances such as  $\text{CH}_4$ ,  $\text{CO}$ ,  $\text{CO}_2$ ,  $\text{NO}_2$ ,  $\text{SO}_2$ , etc. can be detected and quantified using a single IONICON instrument.  $\text{NO}^+$  as reagent ions help separating several isomeric VOCs that can subsequently be quantified in real-time.

## ROBUST, RELIABLE & EASY TO USE

The PTR-TOF 1000 is completely software controlled featuring a touch screen interface. Installed in a space-saving rack and mounted on wheels, it allows for easy transportability and variable location measurements. We deliver the PTR-TOF 1000 in a re-usable eco-friendly flightcase container.

# PTR-QMS SERIES



THE WORLD'S  
LEADING  
PTR-MS  
COMPANY PRESENTS



## HIGH SENSITIVITY PTR-QMS 500

LoD < 1 pptv

The IONICON High-Sensitivity PTR-QMS 500 instrument is an **ultra-sensitive detector** for volatile organic compounds (VOCs) that allows for **continuous VOC quantification**.

Our **premium PTR-QMS series** product, based on quadrupole mass spectrometry, combines market-leading **low online detection limits** reaching even **ppqv-levels**, with high selectivity and a very fast response time.

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

**Selective qualitative and quantitative analysis** of trace compounds in remarkably short measurement times combined with a system **linearity range** covering over **seven orders of magnitude** satisfy the highest claims of the world's best scientists.

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

Mass Range 1-512 amu

- > Low detection limit < 1 pptv
- > Real-time VOC quantification
- > Soft & efficient ionization technology
- > Fast and easy direct sample injection

Find out more:

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

THE SOLUTION FOR REAL-TIME TRACE GAS ANALYSIS





# HIGH SENSITIVITY PTR-QMS 500



## IONICON HS PTR-QMS 500 SPECIFICATIONS\*

- Mass range: 1-512 amu
- Resolution\*\*: < 1 amu
- Response time: 100 ms
- Sensitivity (Benzene): > 300 cps/ppbv
- Detection limit\*\*: < 1 pptv
- Linearity range\*\*: 1 pptv - 10 ppmv
- Adjustable flow: 80 - 800 sccm (at 60°C)
- 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: 45 - 120°C (104 - 248°F)
- Power supply and max. consumption: 115/230 V, 1500 W
- Dimensions (w x h x d): 60x91x60 cm (23.7x35.9x23.7 in.)
- Weight (incl. SRI): 132 kg (291 lbs)
- Main interfaces:
  - 1x Touch screen display
  - 1x Ethernet 10/100 Mbit RJ45 (TCP/IP)
  - 8x DO, 4x DI, 4x AI, 4x AO

\*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 IONICON PTR-MS 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 (PA) than water. Common constituents of air such as  $N_2$ ,  $O_2$ , Ar,  $CO_2$  etc. have lower PAs 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 and due to precisely controlled ion source and drift tube parameters, absolute quantification of VOC concentrations is possible.

**PTR+SRI-MS**  
SWITCHABLE REAGENT IONS

IONICON invented the Switchable Reagent Ions (SRI) technology featuring  $NO^+$  and  $O_2^+$  as additional precursor ions created in the new IONICON ULTRA-PURE ion source.

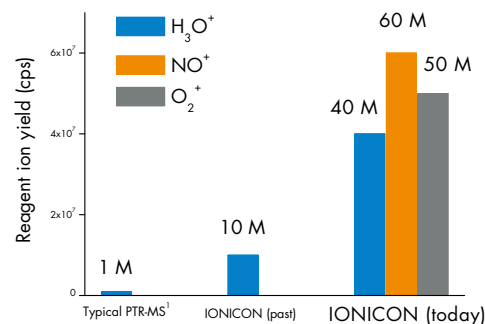
The benefits are extraordinary as not only isomeric VOCs can be separated and instantaneously quantified but also substances with a smaller PA than the PA of  $H_2O$  can now be detected with PTR-MS instruments.

## OUTSTANDING SENSITIVITY

The High-Sensitivity PTR-QMS 500, our PTR-QMS series' flagship product is incarnating the technological evolution of more than a decade's experience in PTR-MS we have at IONICON.

With the 4<sup>th</sup> generation of IONICON PTR-MS instruments, featuring technology such as the new ULTRA-PURE ion source and many other refinements, the new High-Sensitivity PTR-QMS 500 is the benchmark for extraordinary sensitivity and detection limit in the market.

Up to 60.000.000 precursor ions are responsible for a break-through in real-time mass spectrometry: for the first time an IONICON PTR-MS instrument is capable of quantifying concentrations in the ppqv-range.



<sup>1</sup> R.S. Blake, P.S. Monks and A.M. Ellis, Chem. Rev., 109 (2009) 861.

## 4<sup>th</sup> GENERATION PTR-MS

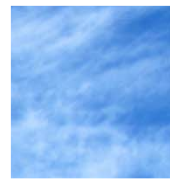
The High-Sensitivity PTR-QMS 500 is the most sensitive commercial PTR-MS instrument available in the market and represents the 4<sup>th</sup> and most advanced generation of the IONICON PTR-MS evolution. It is the successor of the world's bestselling PTR-MS system: the IONICON High-Sensitivity PTR-MS, of which various versions and generations are in use all over the world in more than 100 places.

We provide flexible inlet solutions such as the integrated multi-position capability, calibration solutions and the possibility to optionally upgrade the PTR-QMS 500 series with multiplexing and data interface units thus bringing down the costs per sampling point and simplifying the integration in existing monitoring network infrastructure.

# PTR-QMS SERIES



THE WORLD'S  
LEADING  
PTR-MS  
COMPANY PRESENTS



## PTR-QMS 300

**LoD < 300 pptv**

The IONICON PTR-QMS 300 instrument is a **real-time monitoring system** for volatile organic compounds (VOCs) that allows for **continuous VOC quantification** at very low concentrations.

The PTR-QMS series is based on quadrupole mass spectrometry and combines market-leading **low online detection limits** with high selectivity and a **very fast response time**.

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

A **modular software** can be tailored to different industrial applications and individual, **touchscreen operated monitoring solutions**. The PTR-QMS 300 can optionally be equipped with multiplexing units.

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

**Mass Range 1-300 amu**

- > Low detection limit < 300 pptv
- > Real-time VOC quantification
- > One-button touchscreen operation
- > Process monitoring and multiplexing ready

Find out more:

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

# PTR-QMS 300

## IONICON PTR-QMS 300 SPECIFICATIONS\*

- Mass range: 1-300 amu
- Resolution\*\*: < 1 amu
- Response time: 100 ms
- Detection limit\*\*: 300 pptv
- Linearity range\*\*: 300 pptv - 10 ppmv
- Adjustable flow: 50 - 500 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 - 130°C (104 - 266°F)
- Power supply and max. consumption: 100-230 V, 1200 W
- Dimensions (w x h x d): 56x61x53 cm (22.1x24.1x20.9 in.)
- Weight (incl. SRI): 80 kg (177 lbs)
- Main interfaces:
  - 1x Touch screen display
  - 1x Ethernet 10/100 Mbit RJ45 (TCP/IP)
  - 8x DO, 4x DI, 4x AI, 4x AO

\*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 IONICON PTR-MS 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 and due to precisely controlled ion source and drift tube parameters, absolute quantification of VOC concentrations is possible.

## FEATURES

The new IONICON PTR-QMS 300 is a milestone for time critical process monitoring applications that require outstanding sensitivity, speed and the selectivity of a quadrupole mass spectrometer.

The PTR-QMS 300 is engineered as a very affordable, user- and maintenance-friendly, lean and innovative bench top set-up that focuses on industrial applications. It features a



touchscreen display allowing for one-button control of the system and even preconfigured analysis tasks in combination with an optional embedded industrial computer and individualized software packages (see Fig. 1).

We provide flexible inlet solutions such as the integrated multi-position capability and the possibility to optionally upgrade the PTR-QMS 300 with multiplexing and data interface units thus bringing down the costs per sampling point and simplifying the integration in existing monitoring network infrastructure.

For research or laboratory use the PTR-QMS 300 is available as a fully functional entry-level PTR-MS instrument, being operated using the comprehensive IONICON PTR-QMS series software suite, available on an external notebook computer (the touchscreen display then being used as status indicator).

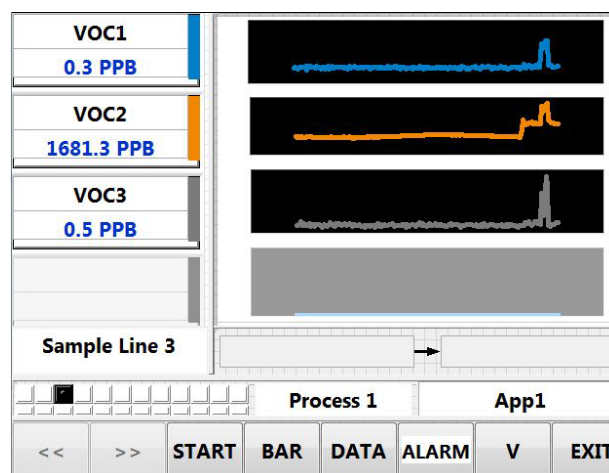


Fig. 1: Illustration of an automated monitoring software for different preset compounds and/or multiple sampling points.

## PTR+SRI-MS

SWITCHABLE REAGENT IONS

Optionally available for all IONICON PTR-MS instruments: SRI (Switchable Reagent Ions) featuring  $NO^+$  and  $O_2^+$  as additional precursor ions.

Find out more about PTR+SRI-MS:  
[www.ionicon.com/technology](http://www.ionicon.com/technology)