PTR 3c

Providing fully transportable analysis.

Mass resolution >4000 m/δm

Detection limit <10 ppt

Weight 150 kg

Fully computer controlled

Transportable

Affordable PTR-MS technology

The Kore PTR 3c is a new soft chemical ionisation tool for sensitive analysis of volatile organic compounds in ambient air. The PTR 3c has been developed to be transportable and can be taken on-site (mains power required), with full computer control of instrument parameters.

KORE TECHNOLOGY

Kore Technology designed the world's first time-of-flight mass spectrometer to couple to a proton transfer reactor back in 2002, and we have continued our innovation ever since. Our latest development is the PTR 3c, a compact, easily transportable PTR-TOF-MS instrument suited to field work and routine monitoring applications.

The ion source of the PTR continues to be based on our robust hollow cathode glow discharge source, with the ability to produce different reagent ions such as H_3O^+, $O2^+$ and NO^+. This allows the user great flexibility in their analysis protocols. Kore was the first PTR manufacturer to develop an RF ion funnel, to boost the ion signal and to permit new ion–molecule reactions, and the new compact instrument continues to harness this technology. The robust, well proven Kore reflectron continues to be at the heart of the mass analyser.

PTR 3C APPLICATION AREAS:

- Live VOC monitoring of ambient air while driving
- VOC analysis in product quality control and testing
- Clean room air quality monitoring
- Breath analysis
- Food analysis
- Homeland security

FULL SPECIFICATION

Concentration range	50ppm to ppt levels
Sensitivity	>200cps/ppbv VOCs (measured with benzene)
Detection limit	~10ppt
Response time to concentration changes	~100ms
Mass resolution at max sensitivity	>3000 m/δm (FWHM) at m/z 79
Mass resolution	~4000m/δm achievable
Mass range	Unlimited; in practice 1000m/z (limited by gas phase thermochemistry)
Glow discharge ion source	Reagent ions H_3O^+, O_2^+, NO^+
Dimensions	920 x 730 x 530mm
Weight	~150kg
Power requirement (normal operation)	<750W
Reactor oven heating	30–130°C (150°C transfer line available)
Fully computer-controlled operation, automatic analysis software function	
Option for computer-controlled reagent ion switching	
Option for mass calibration unit (injecting low levels of high mass compound)	

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