

PRODUCT DATASHEET

Diamond MX™

Rugged, Reliable, Benchtop or Rack Mount
FTIR/FT-NIR Process Analyzer



Accurate and Fast

Versatile

Reliable

- Real-time monitoring of physical properties and chemical composition of liquids and solids all from one instrument
- Benchtop or rack mount option
- Versatile on-line and in-situ process monitoring and final product inspection

Diamond MX

All New Data Acquisition Electronics Platform & Lab Software

The Diamond MX™ process analyzer is configured for rack mount or benchtop applications. It provides rapid, accurate and stable real-time monitoring of physical properties and chemical composition of liquids and solids all from one instrument.

- Eight different sampling devices can be used with the same Diamond MX process analyzer system.
- Unique to the Diamond MX system, the entire beam is switched from channel to channel, enhancing energy throughput and channel-to-channel precision.
- Fiber-optic sampling also allows the Diamond MX system to be placed remotely in any general purpose area.
- The heart of the analyzer is the rugged Diamond 20 Transept Interferometer featuring superior analytical stability and accuracy.
- The Diamond MX uses the same powerful SpectraRTS™ process software found in the series of on-line and process development FTIR and FT-NIR analyzers.
- Full chemometric modeling capability which includes SpectraQuant™, Unscrambler®, MATLAB® as well as Pirouette® software packages.
- Seamless transfer of calibration between all analyzers.



PCM Sampling Flexibility

A range of applications for raw material QC, on-line and in-situ process monitoring & final product inspection in these industries:

- Hydrocarbon Processing
- Polymers
- Specialty Chemical
- Materials Processing
- Pharmaceuticals



Diamond MX

Customer Benefits

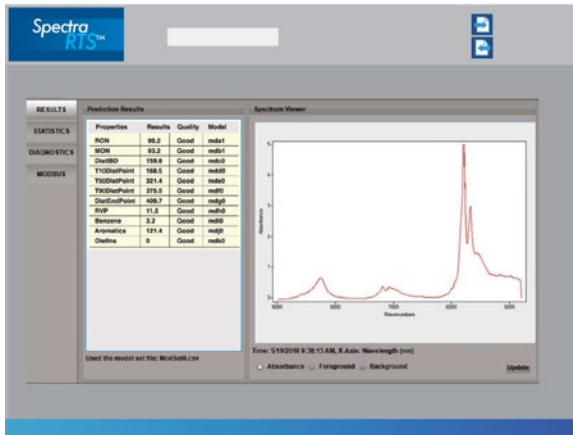
- Improved plant efficiency
- Enhanced user-friendly operator interface
- Increased production and reliability

Experience and Support Makes a Difference

Our staff of applications experts provide feasibility and calibration services that set the worldwide standard. We also provide system integration and post-installation support to ensure your success. We also offer annual hardware maintenance and calibration modeling service support agreements.

SpectraRTS Powers Your Process Development

SpectraRTS™ delivers flexible set-up and control of your system, extensive diagnostics, easy-to-use scripting and robust DCS communications. Interactive communications allow model sets to be switched automatically when changing blend types thereby maximizing blended measurement efficiency.



Specifications

Analyzer Performance

- Interferometer Transept IV hermetically-sealed module with refractively scanned design. Precision cross-roller bearings with fixed Corner-Cube mirrors.
- **Spectral range:** Extended Mid-IR 7,400 to 450 cm^{-1} ; Near-IR 12,000 to 1,200 cm^{-1} .
- **Resolution:** Keyboard-selectable to 1.5 cm^{-1} (unapodized); 2 cm^{-1} (apodized).
- **Scanning Speed:** Automatically optimized for detector type or softwareselectable for specific applications. Adaptive digital servo drive uses laser quadrature for positive position reference.
- **Apodization Functions:** Choice of 14 keyboard-selectable. Standard functions.
- **Infrared Source:** Internal, air-cooled, high efficiency Reflex Sphere.
- **Signal Conversion:** Computer-selectable gain, high-and low-pass filters, and delay compensation. High-accuracy, 24-bit Sigma Delta ADC.
- **Sampling Optics:** Internal focused beam, external collimated beams.
- **Cursor Readouts:** Continuous, in cm^{-1} or nanometers for abscissa, %T or absorbance units.
- **Detector:** Standard DTGS pyroelectric.

9-channel Fiber Optical Multiplexer

- Allows fiber optic connection to sampling accessories
- Achieves high throughput
- 200 - 500 μ fiber optics



Liquid Sampling

Interface a variety of probes and cells for liquid phase analysis



Solid Sampling ReflectIR Process Sampler

ReflectIR Process Sampler

- Diffuse reflectance measures solids and polymers
- Mountable over a conveyor
- Hazardous area rated



Optional air handling unit for ReflectIR air knife

GAIN REAL-TIME INSIGHT INTO YOUR PROCESS

Process Insights manufactures and delivers premium sensors, monitors, detectors, analyzers, instrumentation, and software that are mission-critical to keep your operations, personnel, and the environment safe – every day across the globe.

Get the most reliable, precision analytical technologies available on the market today. We will work to match your needs and budget, and provide the optimal, and most stable process analysis solution for your application.

CENTERS OF EXCELLENCE | PROVIDING PROVEN SOLUTIONS

Process Insights is committed to solving our customers' most complex analytical, process, and measurement challenges everyday.

Process Insights – The Americas

4140 World Houston Parkway Suite 180, Houston, TX 77032, USA +1 713 947 9591

Process Insights – EMEA

ATRICOM, Lyoner Strasse 15, 60528 Frankfurt, Germany +49 69 20436910


Process Insights – APAC

Wujiang Economic and Technology, Development Zone, No. 258 Yi He Road, 215200 Suzhou, Jiangsu Province, China +86 400 086 0106

For a complete range of products, applications, systems, and service options, please contact us at: info@process-insights.com

For a complete list of sales & manufacturing sites, please visit: <https://www.process-insights.com/about-us/locations/>

COSA Xentaur, Tiger Optics, Extrel, Alpha Omega Instruments, ATOM Instrument, MBW Calibration, MGA, Guided Wave, ANALECT and LAR TOC Leader are trademarks of Process Insights, Inc.



REVOLUTIONIZING MEASUREMENT

EVERYWHERE