

PRODUCT DATASHEET

# RovIR™



## Superior Reliability

## High Performance

## Cost-Effective

- Portability avoids costly permanent installations
- Calibration models transferable to all other FTIR systems
- One instrument for batch reaction development in the lab and scale-up
- Proven performance of the Transept IV interferometer in harsh conditions

The **RovIR™** transportable process FTIR analyzer is specifically designed for real-time dynamic monitoring of pilot scale reaction chemistries and continuous process streams.

- Allows measurements at multiple probe tap locations utilizing just one analyzer.
  - Utilizes process-proven Diamond 20 Transept IV optical head.
  - Interchangeable sampling options to meet a wide range of operating conditions:
    - Choice of Diamond, Zinc Selenide, and Silicon probes
    - Flow-through ATR and transmission accessories
    - High throughput light pipes and fiber-optic configurations
  - With sealed NEMA 4 enclosure and vortex cooling, the RovIR analyzer can be installed in general purpose and hazardous areas.
  - FX 90™ software—qualitative, semi-quantitative, and full chemometric tools and PC 80™ process software for batch and continuous stream monitoring.
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## Applications

- End Point determinations
  - Grignard formations
  - Fermentation
  - Reaction kinetics
  - Organic synthesis
  - Polymer reactions - Urethanes, Isocyanates & Acrylates
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## Benefits of Optimizing Your Process with The RovIR

- Portability avoids costly permanent installations
  - Calibration models transferable to all other FTIR systems
  - One instrument for batch reaction development in the lab and scale-up
  - Proven performance of the Transept IV interferometer in harsh conditions
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## PC 80 & FX 90 Software to Drive Your Applications

**PC 80 automates many aspects of your process**

- Control I/O to switch valves and monitor a variety of sample system conditions
- Transmit product properties, instrument QC data, and alarms via versatile communications protocols
- Collect spectra and apply quantitative analysis routines
- Implement calibration tools and programming flexibility
  - Apply a wide variety of quantitative analysis routines including: CPSA™ – Constrained Principal Component Spectral Analysis, Matlab® and Pirouette®
  - Utilize ASL-Basic Language to achieve total programming flexibility
  - Operate the system remotely by using pcANYWHERE™ or Timbuktu software
  - Multi-level password access
- Validate and diagnose your system with **PC 80**
  - Implement on-line validation methods, such as ASTM D6122
  - Automatically monitor and trend the system's "health" with RemoteRX™ software for preventive maintenance scheduling
  - Access the on-line help system for quick reference

**FX 90 advanced spectroscopy platform**

- FX 90 features exceptional workstation graphics flexibility
- Customized for reaction monitoring
- Provides the user advanced capabilities to quantitatively and qualitatively characterize the reaction
- Built-in wizard for autopilot guidance of setups and reaction run
- Built-in "simulator mode" allows you to replay your previously acquired data "off line"
- Built-in chemometric tools – PLS, MLR
- Up to 50 different windows on your process reaction
- **FTIR Data Station included**

Specifications:	
Spectrometer	
<b>Interferometer:</b>	Transept IV hermetically-sealed module with refractive scanned design
<b>Spectral Range:</b>	Extended Mid-IR 7,400 to 450 $\text{cm}^{-1}$ ; Near-IR 12,000 to 1,200 $\text{cm}^{-1}$
<b>Resolution:</b>	1.5 $\text{cm}^{-1}$ (unapodized)
<b>Detector:</b>	DTGS pyroelectric (standard) and full line of external Optibus detectors, including DTGS, liquid nitrogen cooled MCT (12 and 24 hour dewars), thermoelectrically controlled DTGS, MCT, InAs, and InGaAs.
Ambient Environmental Conditions	
<b>Temperature Range:</b>	0-95 °F
<b>Relative Humidity Range (RH):</b>	95% non-condensing
<b>Area Classification:</b>	General purpose & hazardous area
<b>Electrical Safety Purge:</b>	NFPA 496 Z-purge system
Utility Information	
<b>Rated Voltage:</b>	115 Vac $\pm$ 10%
<b>Rated Load:</b>	6A @ 115Vac
<b>Rated Frequency:</b>	60Hz
<b>Nitrogen (<math>\text{N}_2</math>):</b>	Optical purge 3-5 psi, 0.25-1 SCFM
<b>Instrument Air or <math>\text{N}_2</math>:</b>	Z-purge/enclosure vortex cooler 60-100 psi, 5-25 SCFM
Physical Dimensions	
<b>Dimensions (Cart Lowered):</b>	37"H x 33"D x 29"W
<b>Dimensions (Cart Raised):</b>	56"H x 33"D x 29"W
<b>Probe height (Cart Lowered):</b>	29.9"H
<b>Probe height (Cart Raised):</b>	48.9"H
<b>Weight (With Cart):</b>	330 lb.
Sample Probes	
<b>Sample Probe:</b>	Standard: Diamond ATR probe, optional: ATR probes with other IR crystals including ZnSe, ZnS, Ge, AMTIR, and Si
<b>Probe Operation Condition:</b>	250°C and 500 psi (280°C and 1450 psi optional)

## Lab to On-Line

The ChemEye is a benchtop FTIR system for real-time dynamic monitoring of reaction chemistries. Calibrations can be seamlessly transferred from the ChemEye to the RovIR and the PCM Analyzer Series of on-line FTIR systems.



## 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.

## GAIN REAL-TIME INSIGHT INTO YOUR PROCESS

Process Insights delivers premium analytical sensors, analyzers, instrumentation, software and solutions that are mission-critical to keep your operations, personnel, and the environment safe. Our commitment to customer satisfaction is evident through our diverse range of products, programs, and services, designed to accommodate various budgets and application needs.

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## CENTERS OF EXCELLENCE | PROVIDING PROVEN SOLUTIONS

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For a complete range of products, applications, systems, and service options, please contact us at:  
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