B&W TEK INC.
Your Photonics Partner

Spectrometer

Glacier™ *T*

High Resolution TE Cooled CCD Spectrometer for Raman Spectroscopy

The Glacier™ *T* series is a high resolution double pass transmission based Thermoelectric Cooled (TEC) linear CCD array spectrometer designed for Raman spectroscopy. The Glacier™ *T* comes preconfigured for 532nm or 785nm excitation with a wide spectral range or high resolution option.

Equipped with 2048 elements, built-in 16-bit digitizer, and high-speed USB 2.0 interface, this TE Cooled spectrometer will continuously deliver optimized high throughput results.

Combining a Glacier™ *T* spectrometer to its corresponding excitation laser system and Raman Probe provides a module level Raman system or OEM building block.

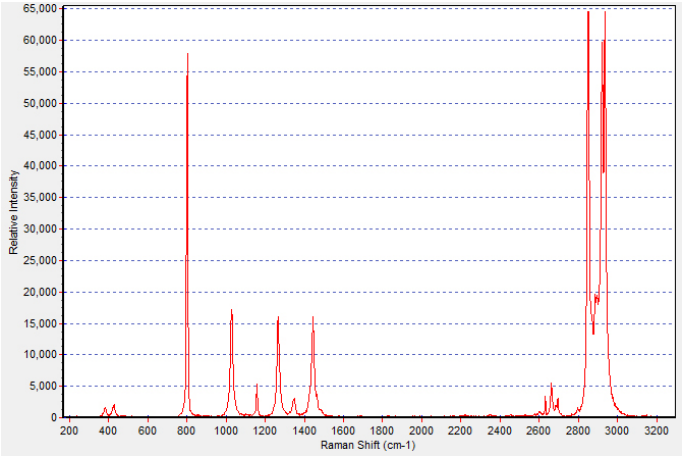
Features:

- 3.0cm^{-1} - 4.5cm^{-1} Resolution*
- 0cm^{-1} up to 4000cm^{-1} Raman Shift*
- Fast F/2 Spectrograph
- 14°C TE Cooled Detector
- 16-bit Digitizer
- OEM Building Block

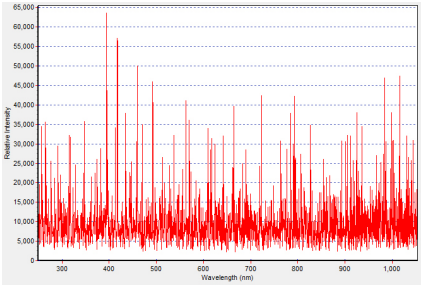
Accessories:

- Lab Grade Probe
- Industrial Grade Probe
- 532nm Laser
- 785nm Laser

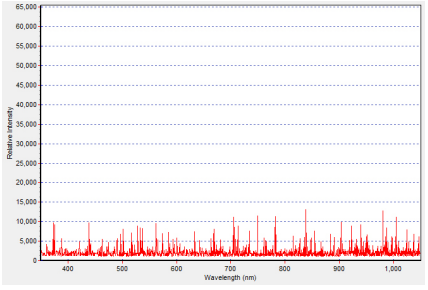
Raman Spectrum: Cyclohexane



Dark Current: Uncooled vs. Cooled CCD Detectors at 30 Seconds



Room Temperature



Cooled to 14°C

*Varies by Model

Over ➥

Specifications

DC Power Input	5V DC < 1.5 Amps
AC Adapter Input	100 - 240VAC 50/60 Hz, 0.5A @ 120VAC
Detector Type	Response Enhanced 2048 element linear silicon CCD array
Pixels	2048 x 1 elements @ 14µm x 200µm per element
Spectrograph F#	2.0
Slit	20µm (785nm), 10µm (532nm)
Spectrograph Optical Layout	Transmission
Dynamic Range	300 typical
Digitizer Resolution	16-bit or 65,535:1
Readout Speed	500 kHz
Data Transfer Speed	Up to 180 spectra per second via USB 2.0
Integration Time	5 ~ 65,535ms x multiplier
External Trigger	Aux Port
Operating Temperature	15°C - 35°C
Operational Relative Humidity	85% Noncondensing
TE Cooling	14°C
Weight	~1.8 kg (3.9 lbs)
Dimensions	191mm x 94mm x 90mm (7.5in x 3.7in x 3.5in)
Computer Interface	USB 2.0 / 1.1
Operating Systems	Windows: XP, Vista (32-bit), 7 (32-bit)

Available Models

Model #	Spectral Range	Spectral Resolution	Raman Shift	Resolution*
BTC162E-532S	532 - 676nm	~ 0.15nm	0cm^{-1} - 4000cm^{-1}	~ 4.0cm^{-1} @ 614nm
BTC162E-532H	532 - 645nm	~ 0.11nm	0cm^{-1} - 3300cm^{-1}	~ 3.0cm^{-1} @ 614nm
BTC162E-785S	785 - 1050nm	~ 0.37nm	0cm^{-1} - 3200cm^{-1}	~ 4.5cm^{-1} @ 912nm
BTC162E-785H	785 - 996nm	~ 0.29nm	0cm^{-1} - 2700cm^{-1}	~ 3.5cm^{-1} @ 912nm

** Typical Resolution Measured Using Pen Lamp Emission*

Accessories

Sampling Accessories:

Model #	Description
BAC151A	Video Microscope Sampling System
BAC150	Raman Probe Holder
BCR100A	Cuvette Holder
BAC160	Liquid Sample Flow Cells

Lasers:

Model #	Wavelength	Power
BWN-532-OEM	532 +/- 1nm	Up to 100mW
BRM-785	785 +/- 0.5nm	Up to 1W

Raman Probes:

Model #	Grade	For Excitation
BAC100-532	Lab	532nm
BAC100-785	Lab	785nm
BAC102-532	Lab (Trigger)	532nm
BAC102-785	Lab (Trigger)	785nm
BAC101-532	Industrial	532nm
BAC101-785	Industrial	785nm

B&W Tek, Inc. · 19 Shea Way, Newark, DE 19713 USA
Phone: 302-368-7824 · Web: www.bwtek.com