

Glacier® T

High Resolution TE-Cooled CCD Spectrometer for Raman Spectroscopy

Spectrometer



The **Glacier® T (BTC162E)** series is a high resolution double pass transmission based TE-Cooled CCD array spectrometer designed for Raman spectroscopy. The **Glacier® T** comes preconfigured for 532 nm or 785 nm 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.

You can combine the **Glacier® T** spectrometer to its corresponding excitation laser system and Raman Probe to build your very own DIY Raman Building Block to your required specifications. System development and application support are available for OEM applications.

Features:

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

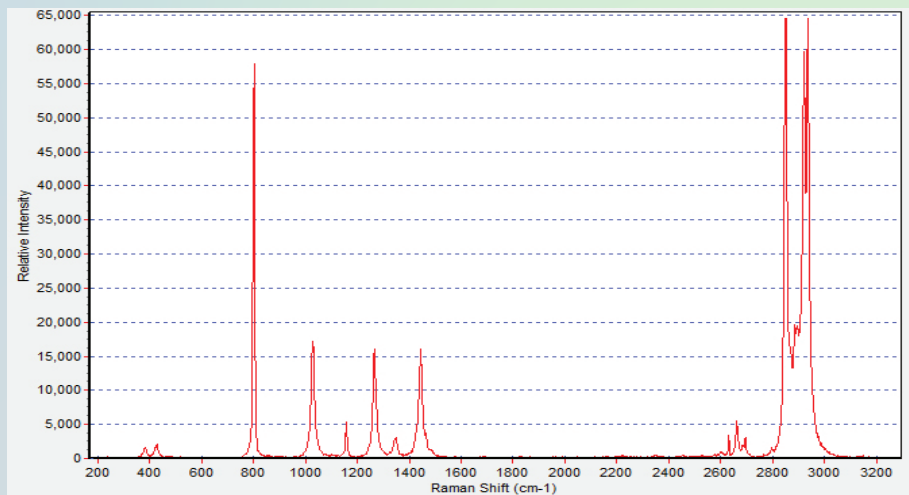
* Depends on the Configuration
 ** Depends on the selected probe



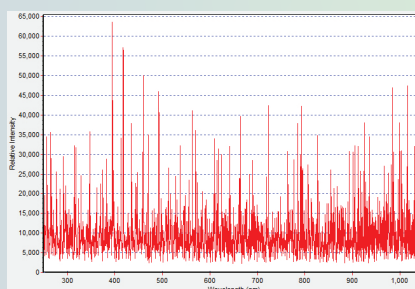
Accessories:

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

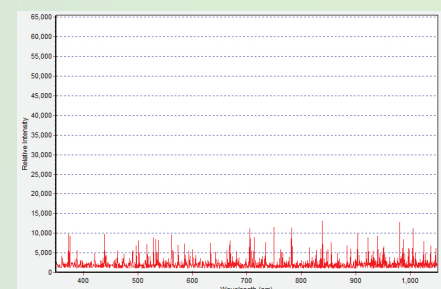
Raman Spectrum: Cyclohexane



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



Room Temperature



Cooled to 14°C

More about our Glacier® T

Specifications:

| | |
|-------------------------------|---|
| Model No. | BTC162E |
| DC Power Input | 5V DC @ < 1.5 Amps |
| AC Adapter Input | 100 - 240 VAC 50/60 Hz, 0.5A @ 120 VAC |
| Detector Type | Response Enhanced Linear CCD Array |
| Pixels | 2048 x 1 elements @ 14 µm x 200 µm per element |
| Spectrograph F# | 2.0 |
| Dynamic Range | 300 : 1 |
| Spectrograph Optical Layout | Dual-Pass Transmission |
| 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 ~ 65,535 ms 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 | 191 mm x 94 mm x 90 mm (7.5 in x 3.7 in x 3.5 in) |
| Computer Interface | USB 2.0 / 1.1 |
| Operating Systems | Windows: 7, 8, 10, 11 |

Entrance Slit:

| Slit Option | Dimensions | Wavelength Range |
|-------------|------------------------|------------------|
| 10 µm | 10 µm wide X 1 mm high | 532 nm |
| 20 µm | 20 µm wide X 1 mm high | 785 nm |

* Note: Custom slit widths available

Available Models:

| Model # (Part Number) | Spectral Range | Spectral Resolution |
|-----------------------------|----------------|---------------------|
| BTC162E-532S (810000407) | 532 - 676 nm | ~ 0.15 nm |
| BTC162E-532H (810000408) | 532 - 645 nm | ~ 0.11nm |
| BTC162E-785S (810000248) | 785 - 1050 nm | ~ 0.37 nm |
| BTC162E-785H (810000406) | 785 - 996 nm | ~ 0.29 nm |

Accessories:

Raman Probes:

| Model # | Grade | For Excitation |
|-------------|---------------|----------------|
| BAC100B-532 | Lab | 532 nm |
| BAC100B-785 | Lab | 785 nm |
| BAC102-532 | Lab (Trigger) | 532 nm |
| BAC102-785 | Lab (Trigger) | 785 nm |
| BAC101-532 | Industrial | 532 nm |
| BAC101-785 | Industrial | 785 nm |

* Note: The start range of the Raman shift depends on the selected probe

Lasers:

| Model # | Wavelength | Power |
|---------|----------------|-------------|
| BWG-532 | 532 +/- 1 nm | Up to 100mW |
| BRM-785 | 785 +/- 0.5 nm | Up to 475mW |

Recommended Sampling Accessories:

| Model # | Description |
|---------|----------------------------------|
| BAC151C | Raman Video Microsampling system |
| BAC150 | Raman Probe Holder |
| BCR100A | Raman Cuvette Holder |

