

## 5 BOUNCE ZINC SELENIDE ATR ACCESSORY FOR THE AGILENT CARY 630 FTIR

The Measure of Confidence

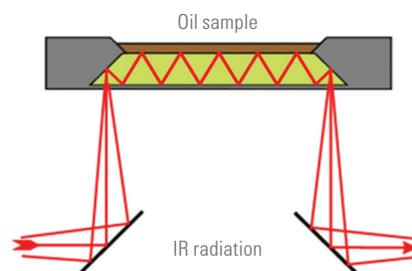


For fast data collection, lower noise and superior quality

Attenuated Total Reflectance (ATR) is the most common sampling technique used in infrared spectroscopy. It is easy-to-use and provides high quality spectra without requiring sample preparation. ATR can be used to measure solids, liquids or gels, and comes in a variety of configurations, based on different crystal types. The unique design of the Agilent Cary 630 FTIR and the Agilent 5 Bounce ZnSe ATR increases energy throughput compared to other routine FTIR systems, providing better sensitivity for lower limits of detection and faster data collection for higher sample throughput.

### How does it work?

The Agilent Cary 5 Bounce Zinc Selenide ATR accessory (5 Bounce ZnSe ATR) for the Cary 630 FTIR is a multi-bounce ATR that provides enhanced quantitative and qualitative information for liquid samples. The 5 Bounce ZnSe ATR uses a larger ZnSe crystal to allow for more contact with the sample, thus providing a longer effective pathlength. This longer pathlength improves the limits of detection needed for many challenging applications. The Agilent 5 Bounce ZnSe ATR has been specifically designed for the Cary 630 FTIR to optimize the energy throughput, ensuring the highest quality spectra.



Optical diagram of the Agilent 5 bounce ZnSe ATR accessory

For more information:  
[www.agilent.com/chem](http://www.agilent.com/chem)



Agilent Technologies

## Features

**Innovative** — the 5 Bounce ZnSe ATR accessory for the Cary 630 FTIR provides more energy throughput than any other ATR in its class. The accessory snaps in and out in seconds, with no alignment required, and is simple to use and clean.

- **Crystal type**

- 5 bounce ZnSe crystal

- **Effective pathlength\***

- 5.5  $\mu\text{m}$  at 4,000  $\text{cm}^{-1}$
- 13.0  $\mu\text{m}$  at 1,700  $\text{cm}^{-1}$
- 36.5  $\mu\text{m}$  at 600  $\text{cm}^{-1}$

- **Wavelength range:** Mid IR region 5,100–600  $\text{cm}^{-1}$

**Intuitive software** — multi-language software guides users through every step of operation, while color coding alerts make it easy to see whether samples meet specification. The software also provides a feedback mechanism to advise when the accessory requires cleaning, ensuring you get the right answers everytime.

**Reliable** — designed originally for out-of-lab use in Agilent mobile FTIR products, the Cary 630 FTIR is the most rugged FTIR on the market today. Available with ZnSe windows that are optimized for superior energy throughput, the 5 Bounce ZnSe ATR can be used in the most humid and tropical of environments, providing answers you can trust, day-in/day-out.

**Flexible** — switch between using the 5 Bounce ZnSe ATR and DialPath/TumbIIR for all your liquid measurements. No alignment is required, and accessory changeover is complete within seconds. The Cary 630 FTIR allows you to measure any liquids of any concentration with any pathlength in seconds.

**Compact** — the 5 Bounce ZnSe ATR takes up only 9.2 x 8.9 cm of bench space, and weighs just 0.9 kg (2 lb).

\* Values based on a typical polymer of refractive index of  $n=1.5$

## Which applications are best suited to the 5 Bounce ZnSe ATR?

Although easy to use, single bounce ATR does have the limitation of low sensitivity compared to other FTIR techniques. Many methods now require multi-bounce ATRs because of the greater sensitivity they provide. The 5 Bounce ZnSe ATR improves levels of detection while still providing the ease-of-use of a single bounce ATR. In addition, the accessory complies with the ASTM D-7371 Biodiesel method, making it ideal for this application.

## When do I use a DialPath/TumbIIR instead of an ATR?

The 5 Bounce ZnSe ATR is suitable for any liquid that needs a longer pathlength for lower detection levels. Similarly, the DialPath or TumbIIR are equally suitable, and provide the flexibility of variable pathlengths. However, some regulatory methods require the use of a multi-bounce ATR and this is where the 5 Bounce ZnSe ATR is preferred over the DialPath or TumbIIR. These accessories need not be mutually exclusive — consider the 5 Bounce ZnSe ATR as a solution to provide a pathlength of ~5–36  $\mu\text{m}$ , whereas the DialPath/TumbIIR can provide pathlengths from 30  $\mu\text{m}$  and upwards. Include the single bounce diamond ATR, and you have the complete solution ranging from 1–1000  $\mu\text{m}$ . Only Agilent can provide this flexibility in a simple-to-use solution.

For more information:  
[www.agilent.com/chem](http://www.agilent.com/chem)

Agilent Products are for Research Use Only.  
Not for use in diagnostic procedures.  
Information, descriptions and specifications in this publication are subject to change without notice.

© Agilent Technologies, Inc. 2013  
Published in USA, April 1, 2013  
5991-2100EN

