

## Stunningly Accurate Crystal Technology

In addition to stocking replacement quartz crystals for nearly every commercially available thickness monitor, Colnatec offers a unique collection of crystals that feature standard frequencies and electrode patterns.

Unlike standard AT-cut designs, Colnatec's RC™ and HT™ are impervious to thermal radiation, making them the most accurate quartz film thickness crystals ever created. So accurate are they, the RC™ and HT™ disregard the rate-spike that occurs when the deposition source shutter is opened, which usually causes a frequency shift up to 100Hz. The ability to compensate for this effect creates real advantages in the measurement of nanometer films used in thin film coating industries of optical coating, OLED, and CIGS.

For temperature-sensitive applications, Colnatec offers the HT™, capable of operating in temperatures up to 350° C, and the Super Quartz™, which can withstand temperatures above 500° C.

Sealed in clean-room compatible packaging, Colnatec's crystals come with a 100% money back, no-questions-asked guarantee. So when you purchase Colnatec quartz crystals, you can always be sure that you're getting the highest quality products at the best possible prices.



## QUARTZ CRYSTALS

SUPER QUARTZ™ (SQ), HIGH TEMPERATURE™ (HT), RC™, AND AT CRYSTALS

### Features

- Available in gold, silver, alloy, and nickel coating
- SuperQuartz™ - available in gold, aluminum, platinum, or nickel - can operate at temperatures up to 500° C
- Available in 5 MHz and 6 MHz
- Available in Inficon™, Balzers™, Ulvac™, and Colnatec™ type electrodes and diameters

### Applications

- Atomic Layer Deposition (ALD)
- Chemical Vapor Deposition (CVD)
- Molecular Beam Epitaxy (MBE)
- CIGS (thin film solar)
- OLED (display & lighting)
- Multi-Layer Optical Thin Film Deposition

## Specifications

Inficon type AT, RC, HT and SQ	
Frequency	5.975 - 5.993 MHz
Resistance	< 15 $\Omega$ (AT); < 40 $\Omega$ (RC, HT, and SQ)
Finish	7 microns RMS
Diameter	14mm
Contour	Plano-Convex
Cut	AT cut +/- 2'; RC cut +/- 1'; HT: +/- 5'
Balzers type AT, RC, and HT	
Frequency	4.960 - 4.975 MHz
Resistance	< 15 $\Omega$ (AT); < 40 $\Omega$ (RC, HT, and SQ)
Finish	7 microns RMS
Diameter	14mm
Contour	Plano-Convex
Cut	AT cut +/- 2'; RC cut +/- 1'; HT: +/- 5'
Sloan (ULVAC) type AT, RC, and HT	
Frequency	4.990 - 5.000 MHz
Resistance	< 15 $\Omega$ (AT); < 40 $\Omega$ (RC, HT, and SQ)
Finish	7 microns RMS
Diameter	12.5mm
Contour	Plano-Convex
Cut	AT cut +/- 2'; RC cut +/- 1'; HT: +/- 5'
Operating Temperatures	
AT crystal	20-100° C
RC™ crystal	20-200° C
HT™ crystal	100° C
Super Quartz™	300-600° C