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Sliding Window software enables users to capture the maximum amplitude portrayed across the entire chatter "burst" in the 120° window

The Real Time Chatter Analysis - Sliding Window (RTCA-SW) software is a chatter analysis software that allows manufacturers to realize the power of angular window (or sliding window) analysis (in degrees) for camshaft and crankshaft quality control tasks. This boutique software option enables engineers to detect chatter that occurs in only a small angular window of the journal or lobe surface (burst chatter), without diluting the amplitude by analyzing over a larger angular window or over the entire 360°. Using this feature in concert with your Adcole gage, users can analyze specific degree segments across the lobe, moving in specific degree increments. The RTCA-SW software is available for individual lobe analysis and for average lobe FFT chatter analysis. The data gleaned from this option is saved based on a percentage of tolerance or on a strict value difference.

Adcole uses a sliding window approach to provide a more thorough data set than the traditional base circle measurement technique. For example, instead of providing 120° amplitude measurements over three distinct sections of a component, the Sliding Window software offers users the ability to capture the maximum amplitude captured across the entire chatter "burst" in the 120° window. The measured angle is in the center of the window, and engineers can move the window as gradually as they wish (Adcole recommends 30° of movement per each sliding window of data) to obtain a very detailed data set about chatter issues across as much of a camshaft or crankshaft as necessary.

Chatter is the undulating pattern of marks on a machined surface, usually caused from the vibration of the grinder. Adcole Chatter Analysis software detects high frequency vibrations in unfiltered lobe profile error, or journal roundness error, and determines the measured amplitude at each specific frequency or undulations per revolution (UPR). The report from this analysis is useful in troubleshooting and correcting manufacturing issues prior to parts being out of specification. This process monitoring tool helps to prevent out of specification components from getting into the supply chain. FFT Chatter Analysis Software provides highly accurate data and graphical output reports with the choice of outputs expressed as:

- Measured amplitude (μm or nm) to Undulations Per Revolution (UPR)

Features

- Provides separate chatter plots about each lobe, plus a plot of the average of all the lobes
- Data is displayed in a curved tolerance graph that clearly shows individual lobe data and the overall lobe trend
- Programmable "sweep" option enables users to measure a specific angular range, and specify the incremental angular window (sliding window) to obtain a 120° snapshot of a given part (Adcole recommends sliding windows of 30°)
- Offers means for metrology professions to see amplitude in its full impact, unmitigated by the scanning range of the component

Benefits

- Enables camshaft and crankshaft manufacturers to find chatter "bursts" on components
- The RTCA-SW option affords the data needed to find machining issues, and with deeper analysis over time, create a predictive analysis process that improves overall camshaft and crankshaft production
- Sliding window technology provides means for tracking chatter across the entire lobe surface in customizable detail
- Software reports the specific angle chatter is found, providing hyper-specific information about the grinding and machining process
- Offers a practical means for manufacturers to obtain a rich data set about pin journals on crankshafts

Real Time Camshaft Chatter Analysis - Sliding Window IT Specifications

Operating System	32-Bit versions of Windows 10
.NET Framework	4.5
Monitor Resolution	1280 x 1024 minimum
Adcole Gages Supported	911, 1100, 1200-SH, 1200-DH, 1100-GX, 1200-LX, 1302, 1304, 1310, 1310-S

Gage software prior to 2018 requires a software upgrade

Parameters Measured

Individual Lobes	Percent Difference
	Measure Amplitude
	Measure UPR
	Tolerance
	Start Angle
Maximum of All Lobes	Percent Difference
	Measure Amplitude
	Measure UPR
	Tolerance
	Start Angle
Maximum of Average Lobe Chatter	Percent Difference
	Measure Amplitude
	Measure UPR
	Tolerance
	Start Angle

Adcole Software Support

Adcole software support is provided by an expert software engineering team that is backed by 50 years of industry experience and ISO 9000:2015 annual certification. Software support, software upgrade services, custom software services and training are offered to our global customer base. Regular email and phone support is available 8 AM – 6 PM EST.