

Lord RealTime™ Balancing Systems

For Turning Centers, High Speed Grinders, and Machining Centers

LORD RealTime™ Balancing System

The Lord Balancing System is comprised of sensors, a controller, and one or more balancers that make balance corrections to reduce vibration while the machine is running, at any operating speed. The system is able to compensate for variable balance conditions due to part variation, tooling, wheel wear and changing process conditions. Balance corrections are made automatically minimizing vibration caused by unbalance in seconds.



How The RealTime™ Fan Balancing System Works

- One or more balancers is permanently mounted and rotates with the chuck or spindle assembly. Each balancer is surrounded by a stationary coil used to transmit power into the balancer(s)
- Balance corrections are made based on "Sense, then Adjust":
 - Sensors monitor vibration levels and transmit information to the controller
 - When vibration exceeds a preset high limit or Alarm, the controller signals the coil(s) to pulse power to the balancer(s) to make a balance correction
 - The correction is made by the repositioning of two counterweighted rotors relative to each other, located inside the rotating balancer(s)
 - Vibration levels are reduced as the rotors are moved until the controller senses that vibration levels have dropped below a preset low limit
 - The rotors are repositioned in seconds to complete the balance correction while the machine continues to operate



System Benefits

- Improved dimensional accuracy, vibration caused run-out is eliminated
- Improved surface finish, vibration caused chatter is eliminated
- Increased tool life, vibration harmonics are eliminated
- Increased spindle speeds, reduced cycle times
- Increased productivity, reduced set-up time
- Results in a safer, more reliable operation

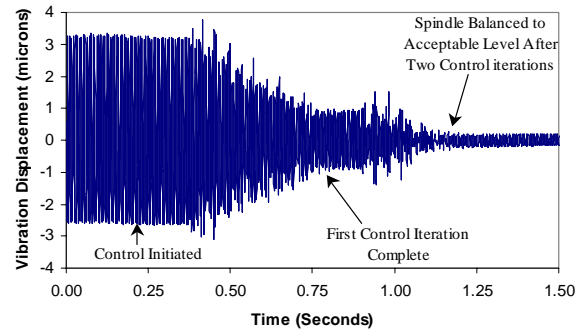
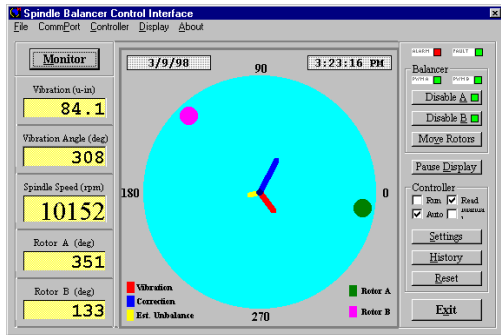
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Features of the Lord Real Time™ Balancing System

- Custom and retrofit design capability
- Allows machines to effectively operate at speeds in excess of 40,000 RPM
- Balances to levels of G1.0 or below at operating speed
- Operates in either Automatic or Manual modes
- Balances machine while it is running
- Easily interfaces to machine PLC Control
- Fail-safe system – even if power is lost the balancer maintains correction

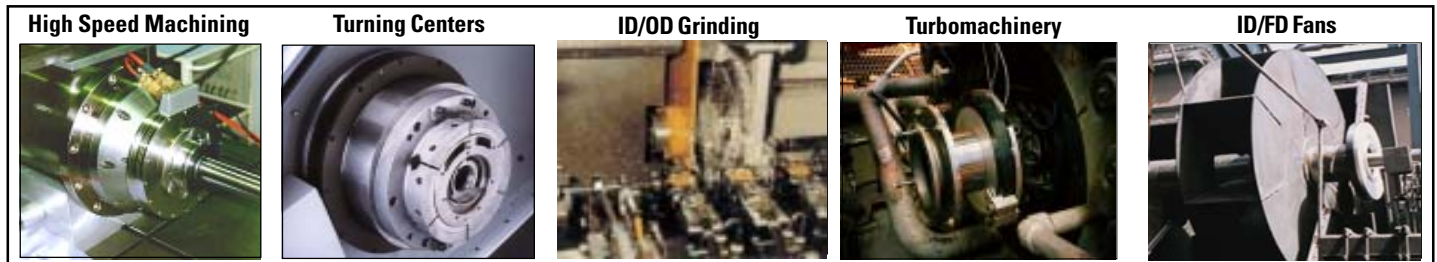
Windows Interface Software (not required for normal operation)

- Constantly displays equipment vibration levels
- Easy access to operating parameters
- Measures and indicates amount and location of correction capacity used
- Windows based software interface provides graphical interactive displays



Proven Solutions

LORD Corporation has developed real-world active balancing solutions for the toughest vibration-related problems in a variety of industrial applications.



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