Control Seat

MACHINE HEALTH CAPABILITIES

What Control Seat monitors for.

Wireless vibration, ultrasound, temperature, speed, and runtime become clear, reviewable evidence beside the process data you already trust.

Signals we use

3-axis vibration

Acceleration, velocity, displacement, and full-spectrum waveform data.

Ultrasound

High-frequency energy associated with friction, impacting, and lubrication change.

Temperature

Absolute temperature, rise above ambient, and long-term thermal trend.

Speed and runtime

RPM, run state, and operating hours tie findings to asset operation.

How a finding becomes useful

01 **Establish normal**
A known-good operating window becomes the machine-specific baseline.

02 **Add operating context**
PLC state, load, speed, alarms, and process variables explain why a signal changed.

03 **Confirm persistence**
Repeated evidence is separated from one-off bumps, missing data, and stopped equipment.

04 **Recommend the next check**
Control Seat ranks likely causes and suggests inspection. It does not change machine control.

Measured severity and diagnostic confidence stay separate.

Missing data never becomes healthy. Cause-specific findings stay review-first until the evidence supports action.

Control Seat

29 monitored conditions

Grouped by the evidence Control Seat uses to surface them.

Overall condition

Standards and machine-specific trend

- Overall vibration severity (ISO zone)
- Vendor condition grade
- Overall vibration trend
- Overall acceleration deviation
- Unexplained non-synchronous peak

Rotor and shaft

Running-speed harmonics and directional vibration

- Rotor unbalance
- Angular misalignment
- Parallel or offset misalignment
- Rotating looseness
- Structural looseness or soft foot

Bearings and lubrication

Bearing frequencies, impacts, ultrasound, and trend

- Bearing defect frequency
- Early bearing wear
- Late-stage bearing failure
- Impacting
- Lubrication degradation
- Ultrasound above configured limit
- Lubrication interval by running hours

Drivetrain and process

Component frequencies, sidebands, and broadband energy

- Gear mesh wear
- Gear tooth defect
- Belt defect
- Blade or vane pass
- Pump cavitation

Electrical and thermal

Electrical frequency patterns and temperature context

- Twice line frequency
- Rotor bar defect
- Temperature above limit
- Temperature rise above ambient
- Temperature trend

Monitoring health

Checks that protect interpretation

- Sensor and data quality
- Operating speed change

What this means

Availability depends on the installed signals, correct sensor mounting, machine details, and an accepted healthy baseline. Control Seat reports ranked evidence and recommended checks - not certainty, remaining useful life, or autonomous machine control.