Bently Nevada 330500-07-00

01 Function and selected configuration

Product function

Bently Nevada 330500-07-00 measures vibration transmitted from the rotor through bearings and the machine casing. Its solid-state sensing design permits vertical, horizontal or angled installation without moving-coil wear.

Selected configuration

3/8-16 UNC mounting adaptor and no requested agency approval. The piezoelectric element and embedded electronics produce a velocity signal for a compatible monitor input. Select a mounting point that transmits the machine vibration of interest; a flexible cover or poor mechanical contact can distort the result.

Functional path

Rotor vibration	Bearing and casing	Velomitor sensor	Velocity monitor

Velocity sensitivity	3.94 mV/mm/s (100 mV/in/s) ±5%
Response bands	4.5 Hz to 5 kHz at ±3 dB; 6 Hz to 2.5 kHz at ±0.9 dB
Connection	Two-pin MIL-C-5015, case isolated

The sensor has a hermetically sealed 316L stainless-steel case and operates from -55 to +121 °C. Integrating the output to displacement can amplify electrical noise and reduce the usefulness of low-level displacement data.

330500-07-00 / Technical operating envelope

02 Technical operating envelope

Sensitivity	3.94 mV/mm/s (100 mV/in/s) ±5%
Frequency response, ±3 dB	4.5 Hz to 5 kHz
Frequency response, ±0.9 dB	6.0 Hz to 2.5 kHz
Velocity range	1270 mm/s peak
Amplitude linearity	±2% to 152 mm/s peak
Transverse sensitivity	<5%
Mounted resonant frequency	>12 kHz
Output bias voltage	-12 ±3 V DC referenced to Pin A
Dynamic output impedance	<2400 ohms
Noise floor	0.004 mm/s RMS nominal; 4.5 Hz to 5 kHz

Operating temperature	-55 to +121 °C
Temperature sensitivity	-14% to +7.5% typical over operating range
Shock survivability	5,000 g peak maximum
Humidity	To 100%, non-submerged
Case material	316L stainless steel
Grounding	Case isolated
Connector	Two-pin MIL-C-5015
Mounting adaptor	3/8-16 UNC
Polarity	Motion toward connector: Pin A positive relative to Pin B
Cable-specific length limit	305 m with cable 02173006

The 1270 mm/s peak velocity range and ±2% linearity to 152 mm/s peak are different specifications. Apply the accuracy and bandwidth conditions required by the measurement.

330500-07-00 / System integration and applications

03 System integration and applications

Rolling-element bearing housings

Trend absolute casing velocity where the bearing housing transmits the vibration of interest.

Machine casing vibration

Monitor unbalance or misalignment effects at a suitable rigid casing location, with the mechanical transfer path considered.

Structural velocity monitoring

Measure structural vibration within the qualified bandwidth and amplitude envelope.

Angled sensor installations

Maintain a chosen measurement direction on horizontal, vertical or inclined mounting surfaces.

System and supply context

The sensor operates with a compatible Velomitor monitor input and a two-conductor cable. The selected 07 adaptor is part of this configuration; additional cable assemblies are separate unless itemized.

Application boundary

A casing signal can support machine assessment only when the mounting point transmits the relevant vibration. It is not automatically a substitute for direct rotor measurement.

What is the difference between the two frequency bands of 330500-07-00?

The wider 4.5 Hz to 5 kHz band allows ±3 dB variation; the 6 Hz to 2.5 kHz band has the tighter ±0.9 dB response limit.

330500-07-00 / Engineering selection decisions

04 Engineering selection decisions

Does 330500-07-00 measure shaft-relative motion?

It measures absolute bearing-housing, casing or structural vibration velocity. It does not directly measure shaft motion relative to a nearby probe.

Which polarity should a motion toward the connector produce on 330500-07-00?

Pin A becomes positive with respect to Pin B when the sensor case moves toward the connector. Preserve the same pin convention through the cable and monitor input.

Is the maximum velocity range also the linearity test range of 330500-07-00?

No. The velocity range is 1270 mm/s peak, while ±2% amplitude linearity is specified to 152 mm/s peak.

How does the 07 adaptor affect replacement of 330500-07-00?

It supplies a 3/8-16 UNC mounting adaptor. Confirm the machine-side thread and contact surface before fitting a replacement; other adaptor options use different threads.

Review integration	Assess electrical noise before using integrated displacement readings.
Respect temperature limits	Keep the sensor within -55 to +121 °C and inspect cable suitability separately.

330500-07-00 / Configuration boundary and references

05 Configuration boundary and references

Lifecycle and support

The current manufacturing and OEM support stages for 330500-07-00 require confirmation from Bently Nevada. Apter Power availability is confirmed separately.

Replacement assessment

Match the Velomitor input type, 100 mV/in/s scaling, connector polarity and 3/8-16 UNC adaptor. A mechanically similar accelerometer is not a direct velocity-output substitute.

Document roles

Use the original manufacturer excerpt for its preserved technical tables and drawings. This product brief explains configuration and selection boundaries. The independent installation guide organizes preparation, connection, testing and handover. It does not replace the applicable manufacturer installation instructions.

Technical basis

Bently Nevada 330500 Velomitor Piezo-velocity Sensor, 141632 Rev. V.

Related product navigation

- Bently Nevada 330500-02-00
- Bently Nevada 330500-00-00
- Bently Nevada 330500-01-00

These are related references, not confirmed substitutes or an automatically approved assembly.

Product enquiries