Bently Nevada 330750-40

Official Technical Reference Excerpt

Its separated sensing head and electronics arrangement supports velocity measurement where the machine surface is hotter than standard sensor electronics can tolerate.

PRODUCT ROLE

Characteristic 1

Separates the sensing head from its electronic conditioning section.

Characteristic 2

Uses a four-metre integral high-temperature cable.

Characteristic 3

Produces a velocity-proportional output for casing vibration.

Characteristic 4

Supports long field-cable runs to compatible monitoring equipment.

MANUFACTURER DOCUMENT

Manufacturer document	Bently Nevada 330750 and 330752 High-Temperature Velomitor System Datasheet 141639
Application scope	The values below apply to the identified product and its documented system relationship.
Selection rule	Use the complete ordering string and confirm the installed interfaces before selection.

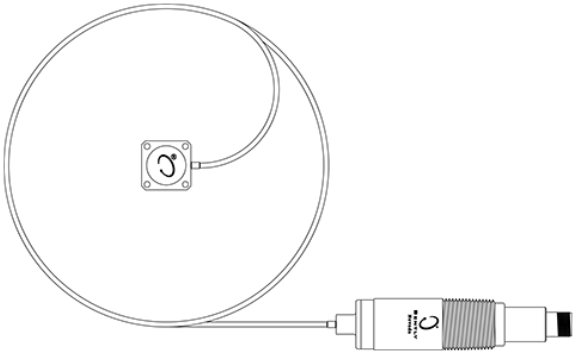
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330750 and 330752 High Temperature Velomitor System

Datasheet

Cordant™

141639 Rev. V



Description

The 330750 and 330752 High Temperature Velomitor System sensor head and integral cable are designed for high temperature environments. This enables you to mount the sensing head on surfaces with temperatures up to +400°C (+752°F).

Earlier versions of the 330750 and 330752 High Temperature Velomitor System were limited to environments with a maximum temperature of +300°C (+572°F). The serial number of current versions that measure up to +400°C (+752°F) are preceded by the letter "G".

To accomplish this, the transducer design segregates the sensing element from the signal conditioning electronics. The two are permanently connected using an integrated cable. The integrated cable eliminates connectors which are a significant source of transducer failures.

The cable enables you to position the signal conditioning electronics in a cooler location. The internal electronics withstands temperatures of 55°C to +121°C (-67°F to +250°F). The integrated design makes it possible to capture machinery performance data comparable to other Bently Nevada Velomitor transducers, but at significantly higher temperatures.

For lower temperature environments, use the standard 330500 Velomitor Piezo-velocity Sensor. You can install it in locations with a maximum operating temperature of +121°C (+250°F).

Baker Hughes

Specifications

Parameters are specified from +20°C to +30°C (+68°F to +86°F) and 100 Hz unless otherwise indicated.

> Operating the Velomitor transducer outside the specified limits may result in false readings, failure of the transducer or loss of machine monitoring.

Electrical

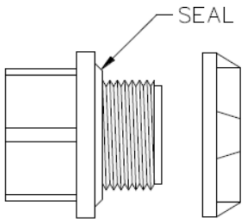
Sensitivity	5.7 mV/mm/s (145 mV/in/s) ±5%
Frequency Response	15 to 2000 Hz (900 to 120,000 cpm) ± 3.0 dB; 20 to 1000 Hz (1,200 to 60,000 cpm) ± 0.9 dB
Transient Temperature Sensitivity	0.0762 mm/s/°C (0.003 in/s/°C), typical, as defined in ISO 5347-18:1993(E)
Amplitude Range	635 mm/s (25 in/s) peak below 680 Hz. 2940 m/s2 (300 g) peak above 680 Hz. Vibration at frequencies above 2 kHz decreases this range.
Transverse Sensitivity	Less than 5% of Sensitivity
Amplitude Linearity	±2% to 152 mm/s (6 in/s) peak
Mounted Resonant Frequency	Greater than 5 kHz
Output Bias Voltage	-12 ±2.0 VDC
Broadband Noise Floor (15Hz to 2kHz)	0.127 mm/s (0.005 in/s) rms nominal
Grounding	Case Isolated
Maximum Cable Length	305 meters (1000 feet) with no degradation of signal.

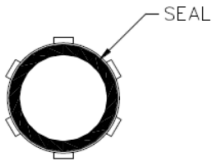
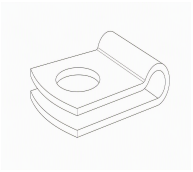
Environmental Limits

Operating and Storage Temperature Range	
Sensing Head	Maximum mounted surface temperature -55°C to +400°C (-67°F to +752°F)
Integral Hardline Cable	-55°C to +400°C (-67°F to +752°F)
Electronics	-55°C to +121°C (-67°F to +250°F)
Shock Survivability	24,535 m/s2 (2500 g) peak
Relative Humidity	To 100% non-submerged; case is hermetically sealed.
Maximum Use Altitude	2000 meters (6561 ft) above sea level
Outdoor Use	Standard installation for these sensors is in a protected enclosure with wiring protected in conduit. Splash boots can be added for additional protection if needed by customer's requirements.

Physical

Weight (typical)	
2 meters	635 grams (1.40 lb)
4 meters	794 grams (1.75 lb)
6 meters	953 grams (2.10 lb)
8 meters	1,111 grams (2.45 lb)

Part number	Description
101212-01	**Right angle connector** Right angle connector kit. Same connector as used on 89477-NN.
00531061	**Spare mating connector** Mating connector for 330750 and 330752 Velomitor System.
330535	**Standard temperature cable** 22 AWG, double-shielded cable
00530574	**Cable Mounting Clamp** Mating connector clamp to be used with 00531061
03818073	**Electronics Housing Strap** One-inch rigid conduit strap for securing the electronics housing. 
03818071	**Electronics Mounting Hub** One-inch weather tight hub used to mount the electronics housing in a weatherproof enclosure. 

Part number	Description
03818072	**Seal Ring** One-inch sealing lock ring used to mount the electronics housing. Two rings are required to mount the electronics. 
169546	**Cable Clamp** Stainless steel tie down clamp for the hardline cable. For temperatures greater than 260°C (500°F). 

Related models and selection control

Use these live ApterPower pages for comparison. Verify each complete ordering string independently.

RELATED PRODUCT REFERENCES

Bently Nevada 330400-01-05	Technical-reference companion. Review the complete ordering string before selection.
Bently Nevada 330505-02-02-02	Technical-reference companion. Compare the required interface and system position.
Bently Nevada 3300/03	Technical-reference companion. Confirm the execution independently for the intended task.

EXACT-SELECTION CONTROLS

Product identity	Confirm the complete 330750-40 marking.
System interface	330750 High-Temperature Velomitor
Technical boundary	Record the installed 330750-40 interfaces and configuration before removal, then prove the monitored value, status and alarm path after installation.
Source	Bently Nevada 330750 and 330752 High-Temperature Velomitor System Datasheet 141639

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