

FORCE-BALANCED VERY BROAD BAND SEISMOMETER EP-300

The **EP-300** represents the new generation of low noise very broadband seismometers equally suitable for stationary, field and OBS (reduced power version) applications. The sensor's force-balancing feedback provides for an extended dynamic range, excellent stability and linearity across the entire passband.



The instrument uses three identical proprietary electrochemical transducers¹ mounted orthogonally along the N, E, and Z-axes. These transducers have many advantages over traditional electromechanical sensors. In particular, they have much larger ground motion-to-voltage conversion ratio that results in a uniquely shaped noise curve that is *essentially flat from several Hertz to the longest periods*.

Like our other seismometers, the **EP-300** is extremely rugged which makes it ideal for field use. This seismometer ***does not*** require a mass lock, mass centering, or special installation equipment or procedures.

It has low power consumption, operates over a wide temperature range; it is waterproof up to the one-meter depths, and stays operational within a wide range of installation tilts. It provides low cost of ownership, ***requiring no maintenance*** over the life of the instrument.

Options include a (5-inch diameter) borehole package, with internal inclinometers. Three and five-year extended warranties are available.

¹ U.S. Patent No.6,576,103

Specifications subject to change without notice

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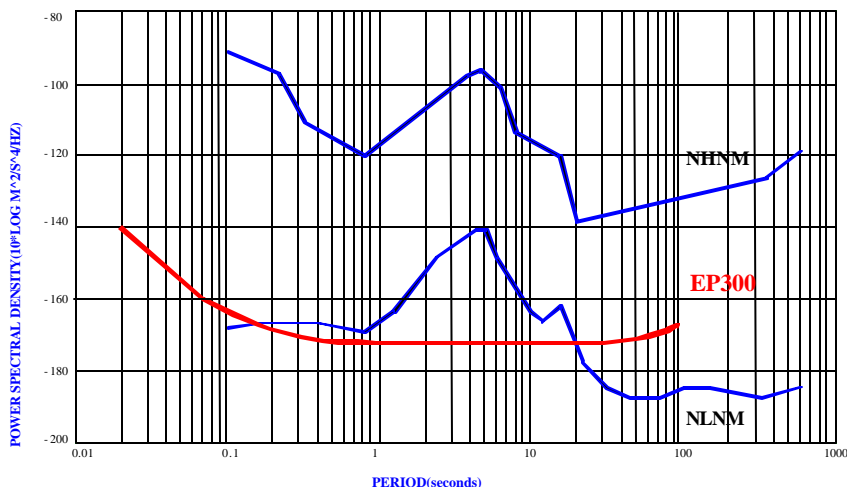
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EP-300 Specifications

Operating principle:	Electrochemical motion transducer with force-balancing feedback
Output signals	2 horizontal, 1 vertical; very broad passband, velocity flat response
Output signal swing	$\pm 10V$ ($\pm 20 V$ p-p)
Dynamic Range	150 dB @ 1Hz
Bandwidth	<i>Standard:</i> 0.0167 – 50 Hz; <i>Optional:</i> 0.0083 – 50 Hz
Self-noise	Below USGS NLNM in 0.05 – 5Hz range; -170dB @ 0.033Hz. (See noise curve below)
Generator constant	<i>Standard:</i> 2000 V/m/s; <i>Opt.:</i> 350 – 20,000 V/m/s
Calibration input	1k Ω ; 1V in – 1V out; individual for each channel
Mass Lock	NONE REQUIRED
Mass Centering	NONE REQUIRED
Maximum installation tilt ²	$\pm 10^\circ$
Mechanical resonances	>150 Hz
Environmental	Waterproof, submersible (1m)
Temperature range	Standard: -12 to + 55 °C
Case diameter	200 mm
Case height	220 mm
Weight (Al housing)	9 kg
Power – Standard	10 – 15 Vdc; 12 Vdc nominal
Supply current	Standard: 30 mA; LP version: 10 mA
Connector	14-pin circular

EP-300 SEISMOMETER NOISE CURVE



² All three sensors stay fully operational, however they sensitivity axes will rotate in accordance with the tilt.

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