

FEATURES

- Borehole package
- Submersible to 30 m
- Velocity transducer

The seismometer is a short-period vertical instrument designed to operate in shallow and deep (300m) boreholes with a minimum inside diameter of four inches. The instrument contains a five kilogram mass with a fixed magnet, moving coil transducer. An external mass lock is provided to facilitate shipping and handling prior to installation. Additional features include an electromagnetic calibrator, adjustable natural period and mass position, stable mass position versus temperature, and period versus mass position. Various generator constants from about 100 to about 2,000 V/(m/s) are available. The instrument is housed in an electroless nickel plated steel case with a waterproof connector suitable for submersion to a depth of 300 m.

GS-21A has a stronger magnet for a lower self noise, being the lowest self noise short period borehole seismometer in the world.

BOREHOLE SHORT-PERIOD SEISMOMETER

MODEL 20171 and GS-21A



SHORT-PERIOD SEISMOMETER MODEL 20171 and GS-21A SPECIFICATIONS

OPERATING CHARACTERISTICS

Mode of Operation	Vertical, adjustable for tilts up to 10 degrees from vertical
Natural frequency	Adjustable from 0.75 to 1.05 Hz
Inertial mass	5 kg (11.0 lbs.) $\pm 1\%$
Mass position vs temperature	± 1.5 mm over operating temperature range
Transducer	
Type	Moving coil (velocity)
Damping	Electromagnetic
Generator constant	650 V/(m/s)
GS-21A	2000 V/(m/s)
Coil Resistance 20171	7084 ohm $\pm 10\%$ (standard) CDR = 8400 ohm
GS-21A	6720 ohm $\pm 10\%$ (standard) CDR = 64251 ohm
Maximum mass travel	6.4 mm (0.25 in.) pp
Calibration coil	
Motor constant	0.1975 ± 0.002 N/A
Resistance	24 ± 3 ohm @25°C
Allowable current	
ntantaneous/Sustained	100 mA / 10 mA
Temperature range	
Operating	-2 to 49°C (30 to 120°F)

PHYSICAL CHARACTERISTICS

Dimensions (nominal)	
Diameter	95 mm (3.75 in.)
Length	1.185 m (46.69 in.)
Net weight	30.8 kg (68 lb.)
Shipping weight	45.3 kg (100 lb.)
Shipping volume	0.226 m ³ (8 ft. ³)
Seismometer bulk	4.2
Connectors	
	Receptable PT07A-10-6P
	Mating plug PT06W-10-6S
Diameter	95 mm (3.75 in.)
Length	1.185 m (46.69 in.)
Net weight	30.8 kg (68 lb.)
Shipping weight	45.3 kg (100 lb.)

*Alternate transducer coils for 20171 are available on special order. Please consult factory for details.