



2010

GEOPHONE & TESTER CATALOG



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Geophone Types		Spec Sheet
	<p>DT-HP-103</p> <p>High quality, reliable and cost effective. 3-years limited warranty 2-D & 3-D seismic application, Suitable for land, transition zone, marsh and shallow water environments with different cases. PP-103 is 100% compatible with the SM-24 and can be used as a drop-in replacement</p>	<u>DT-HP-103</u>
	<p>DT-HP-102</p> <p>High quality, reliable and cost effective. 3-years limited warranty 2-D & 3-D seismic application, Suitable for land, transition zone, marsh and shallow water environments with different cases. DT-HP-102 is 100% compatible with the GS-32CT and can be used as a drop-in replacement</p>	<u>DT-HP-102</u>
	<p>DT-20DX</p> <p>High quality, reliable and cost effective 3-years limited warranty 2-D & 3-D seismic application Suitable for land, transition zone, marsh and shallow water environments with different cases. Wide selection of frequencies - 8Hz, 10Hz, 14Hz, 28Hz & 40Hz. DT-20DX is 100% compatible with the GS-20DX and can be used as a drop-in replacement</p>	<u>DT-20DX</u>

Please click on your required geophone type for the relevant specification detail

Hydrophone		Spec Sheet
	<p>DT-25</p> <p>Pressure sensitive transducer for seismic exploration</p>	<u>DT-25</u>

Geophone Tester		Spec Sheet
	<p>Infinity CheckMate</p> <p>State of the art handheld geophone tester, supplied with full library of all globally known geophones, in English, French, Russian, Spanish and Chinese languages</p>	<u>CheckMate</u>

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HIGH PRECISION LOW DISTORTION GEOPHONE ELEMENT

TYPE: DT-HP103 (Drop-in replacement for SM-24)



SPECIFICATIONS (all parameters specified at 20°C)

Frequency

Natural frequency (F_n)	10Hz
Tolerance	$\pm 2.5\%$
Maximum tilt angle for specified F_n	10°
Typical spurious frequency	$>240\text{Hz}$

Distortion

Distortion with 0.7 in/s p.p. coil to case velocity	$<0.10\%$
Distortion measurement frequency	12Hz
Maximum tilt angle for distortion specification	10°
Typical distortion (string of 12 geophones in series damped 0.7, measured at 12 Hz)	$\leq 0.03\%$

Damping

Typical open circuit damping	0.25
Damping with calibration shunt (1339 Ω)	0.60
Damping with calibration shunt (1000 Ω)	0.69
Tolerance with calibration shunt	0 to $+5\%$

Coil Resistance

Standard	375 Ω
Tolerance	$\pm 2.5\%$

Sensitivity

Sensitivity	28.8V/m/s (0.73 V/in/s)
Sensitivity with shunt resistance (1339 Ω)	22.5 V/m/s
Sensitivity with shunt resistance (1000 Ω)	20.95 V/m/s
Tolerance	$\pm 2.5\%$

Physical Characteristics

Moving mass	11g (0.38 oz)
Maximum coil excursion p.p.	2mm (0.08 in)
Diameter	25.4mm (1 in)
Height	32.0mm (1.26 in)
Weight	85g (3 oz)
Operating temperature range	-40°C to $+100^\circ\text{C}$

Limited Warranty Period

3 years

Note:

- 1) Low distortion and close tolerance geophone
- 2) High quality, reliable and cost effective
- 3) 3 year limited warranty specifically excludes damage caused by high voltage and physical damage to the element case.
- 4) 2-D & 3-D seismic application, suitable for land, transition zone, marsh and shallow water environments with different cases.
- 5) Specifications, descriptions and part number may change without prior notice.

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HIGH PRECISION LOW DISTORTION GEOPHONE ELEMENT

TYPE: DT-HP102 (Drop-in replacement for GS-32CT)



SPECIFICATIONS (all parameters specified at 25°C)

Frequency

Natural frequency (F_n)	10Hz
Tolerance	±2.5%
Maximum tilt angle for specified F_n	20°
Typical spurious frequency	≥250Hz

Distortion

Distortion with 0.7 in/s p.p. coil to case velocity	<0.10%
Distortion measurement frequency	12Hz
Maximum tilt angle for distortion specification	10°
Typical distortion (string of 12 geophones in series damped 0.7, measured at 12 Hz)	≤0.03%

Damping

Typical open circuit damping	0.316
Damping with calibration shunt (1000 Ω)	0.7
Tolerance with calibration shunt	±2.5%

Coil Resistance

Standard	395Ω
Tolerance	±2.5%

Sensitivity

Sensitivity	27.5 V/m/s (0.698 V/in/s)
Sensitivity with shunt resistance (1000 Ω)	19.7 V/m/s (0.500 V/in/s)
Tolerance	±2.5%

Physical Characteristics

Moving mass	11.2g (0.395 oz)
Maximum coil excursion p.p.	1.52mm (0.060 in)
Diameter	25.4mm (1 in)
Height	33.0mm (1.3 in)
Weight	89g (3.14 oz)
Operating temperature range	-40°C to +100°C

Limited Warranty Period

3 years

Note:

- 1) Low distortion and close tolerance geophone
- 2) High quality, reliable and cost effective
- 3) 3 year limited warranty specifically excludes damage caused by high voltage and physical damage to the element case.
- 4) 2-D & 3-D seismic application, suitable for land, transition zone, marsh and shallow water environments with different cases.
- 5) Specifications, descriptions and part number may change without prior notice.

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HIGH PRECISION LOW DISTORTION GEOPHONE ELEMENT

TYPE: DT-20DX (Drop-in replacement for GS-20DX)



SPECIFICATIONS (all parameters specified at 22°C)

Type	810100-001	810100-002	810100-003	810100-004	810100-005	810100-006
	20DX-8Hz	20DX-10Hz	20DX-14Hz	20DX-28Hz	20DX-35Hz	20DX-40Hz
Natural Frequency (Hz)	8±5%	10±5%	14±5%	28±5%	35±5%	40±5%
Open Circuit Damping	0.38	0.30	0.22	0.27	0.39	0.37
Damping with 1k Ω shunt resistor	0.71±5%	0.70±5%	0.51±5%	0.552±5%	0.612±5%	0.576±5%
Open Circuit Intrinsic Voltage Sensitivity (V/m/s)	28	28	28	39	41	42
Sensitivity with shunt resistor (V/m/s)	23±5%	20±5%	20±5%	28±5%	29.6±5%	30.4±5%
Coil Resistance (Ω)	395±5%	395±5%	395±5%	395±5%	575±5%	575±5%
Harmonic Distortion (%)	≤0.20					
Typical Spurious Frequency (Hz)	≥180	≥200	≥250	≥350	≥350	≥380
Moving Mass (g)	11				8.2	
Typical Cast to Coil Motion (p-p) (mm)	1.5 (p-p)					
Allowable Tilt	20°					
Unit Diameter (mm)	25.4			27		
Unit Height (mm)	33					
Unit Mass (g)	89			95		
Operating Temperature	-40°C to +100°C					
Limited Warranty Period	3 years					

Note:

- 1) Low distortion and close tolerance geophone
- 2) High quality, reliable and cost effective
- 3) 3 year limited warranty specifically excludes damage caused by high voltage and physical damage to the element case.
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HYDROPHONE

Pressure Sensitive Detector For Geophysical Exploration



SPECIFICATIONS (all parameters specified at 25°C)

Type	DT-25-11A		DT-25-14A
Natural frequency ($F_n - \pm 15\%$)		10 HZ	
Voltage Sensitivity (± 1.5 dB)	11.2 v/bar		14 v/bar
DC Resistance ($\pm 10\%$)		160 Ω	
Operating Temperature		0 - 35°C	
Operational Depth		1m – 76m	
Standard Cable Sizes		0.310 in (0.79 cm)	
Polarity		SEG Standard	
Dimensions (without outer case)			
Length		12.4 cm	
Diameter		5.3 cm	
Weight		400g (with 1m cable)	
Limited Warranty Period			180 days

Note:

- 1) Voltage Sensitivity can be adjusted as required.
- 2) Limited warranty specifically excludes damage caused by high voltage and physical damage to the element case.
- 3) Specifications, descriptions and part number may change without prior notice.

INFINITY SEISMIC CHECKMATE™

Geophone Tester



SPECIFICATIONS (all parameters specified at 20°C)

Natural Frequency

Range	1 to 100Hz
Accuracy	1 to 8Hz $\pm 2\%$, 8 to 14Hz $\pm 0.5\%$, 14 to 100Hz $\pm 2\%$
Resolution	0.01Hz

Coil Resistance

Range	1 to 100,000ohm
Accuracy	$\pm 1\%$ or $\pm 1\text{ohm}$ whichever is greater
Resolution	0.1ohm

Damping

Range	0.100 to 0.850
Accuracy	$\pm 1\%$
Resolution	0.001

Sensitivity

Range	0 to 1,000V/m/s
Accuracy	$\pm 2\%$
Resolution	0.1V/m/s

Harmonic Distortion

Range	0 to 20 %
Accuracy	$\pm 10\%$ of the measured value or $\pm 0.01\%$ distortion whichever is greater
Resolution	0.001%

Impedance

Range	10 to 100,000ohm
Accuracy	N/A
Resolution	1ohm

Leakage Test

Range	0.1 to 1,000Mohm
Accuracy	$\pm 5\%$
Resolution	0.1Mohm

Physical Characteristics

Dimensions	234 mm x 97 mm x 50 mm (9.2 in x 3.8 in x 1.9 in)
Weight	665 g (1.46 lb)
Display	320 x 240 Color transfective sunlight readable TFT LCD, 262,144 colors
Charging	Input voltage 9 – 36 Vdc

Environmental Specifications

Shock/Drop	40 g, 11 ms, any axis / 1.5 m onto concrete
Ingress protection	Nema-4, IP56
Operating temperature range	-20°C to +60°C (-4°F to +140°F)
Storage temperature range	-30°C to +70°C (-22°F to +158°F)
User Interface	English, Spanish, Russian, Chinese, French
Limited Warranty Period	180 Days