

- LAND
- ↓ DOWNHOLE
- ~ SEABED
- ≡ MARINE



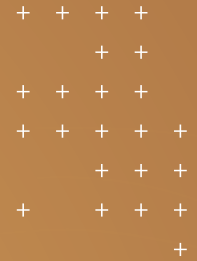
Geophones

Seismic Sensors



Ahead of the CurveSM

Geophones



HIGH-SENSITIVITY



SG-5 & SG-10HS

// A COMPLETE PRODUCT LINE

HIGH-PERFORMANCE



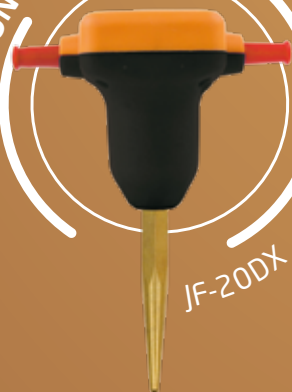
SG-10 & SGH-10

Sercel has a long history in being at the forefront of developing new cutting-edge technology. Setting new standards for sensors is no exception. Our advanced recording systems are capable of precision measurement for all of today's seismic requirements for the highest reliability, consistent quality and robust operational field efficiency.

In addition to design and manufacturing of seismic sensors, Sercel is committed to testing all products to maximize quality control. We ensure that every sensor is tested and qualified to meet the requirements for each specific project.

As the leading designer and manufacturer of precision sensors, Sercel provides a diversified sensor portfolio of field-proven sensor equipment for any environment and any project condition.

CONVENTIONAL



JF-20DX

// ANY SURVEY CONDITION



+ + + +
+ +
+ + + +
+ + + + +
+ + + +
+ + + +
+

// ANY ACQUISITION SYSTEM



High-sensitivity



SG-5, SG-10HS & SG-10HS 3C



// BETTER PERFORMANCE

High sensitivity
Low distortion

// IMPROVED OPERATIONAL EFFICIENCY

Lighter and easier to deploy than an array of geophones

// EXTREME WORKING CONDITIONS

Operating temperature : -40°C / +80°C

SG-5 & SG-10HS feature a high sensitivity comparable to a string of multiple geophones.

Especially designed for single sensor applications, they enables fast field deployment with lighter weight and full compatibility with 508^{XT} land acquisition systems.

A 3-C version, SG-10HS 3C, is also available.

At 22°C	SG-5	SG-10HS	SG-10HS 3C
Operating position	1-C vertical		3-C
Natural frequency	5Hz ± 7.5%	10 Hz (± 3.5%)	
Distortion	≤0.1%		
Sensitivity	80 V/m/s ± 5%	85.8 V/m/s (± 3.5%)	
Operating Temperature	-40°C to +80°C		

Specifications subject to change without notice



High-performance

SG-10 & SGH-10



SG-10

// CLEARER IMAGE

Very Low distortion: < 0.075%

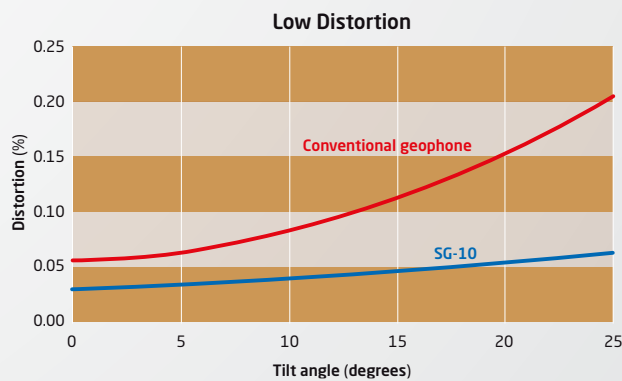
// HIGHEST RELIABILITY

Demanding Validation Process

// EXTREME WORKING CONDITIONS

Operating Temperature: -40°C / +70°C

The SG-10 was developed utilizing rare-earth magnet technology to achieve very low distortion and the highest tilt tolerance in the industry. This technology, coupled with a specific magnetic geometry, results in one of the most advanced geophones in the seismic industry.



	SG-10	SGH-10
Operating position	Vertical	Horizontal
Natural frequency	10 Hz ($\pm 2.5\%$)	
Distortion	< 0.075%	
Intrinsic sensitivity	22.8 V/m/sec ($\pm 2.5\%$)	
Operating temperature	-40°C / +70°C	



Conventional

JF-20DX



JF-20DX

// CUSTOMIZED SOLUTIONS

Bespoke manufacturing

// HIGHEST RELIABILITY

Demanding Validation Process

// EXTREME WORKING CONDITIONS

Operating Temperature: -40°C / +70°C

The JF-20DX Geophone, available in two different frequencies, is well-suited for a variety of applications including oil exploration, mining, engineering and scientific research.

Recognized for its high level of reliability, this geophone is capable of increasing the productivity and efficiency of seismic crews. The JF-20DX is built under strict quality control processes to ensure consistent performance in even the roughest environments, as well as a long operational life.

	JF-20DX-10	JF-20DX-14
Natural frequency (± 5%)	10 Hz	14 Hz
Distortion	< 0.2%	
Intrinsic sensitivity (± 5%)	28 V/m/s	28 V/m/s
Nominal sensitivity @ 70% (± 5%)	20.1 V/m/s	20.1 V/m/s
Operating temperature	-40°C / +70°C	



Omni-Tilt HT



SGHT-15



// EXTREME WORKING CONDITIONS

Temperature range up to 205°C

// HIGH PERFORMANCE

High sensitivity geophone : 52.0 V/m/s

// HIGH RELIABILITY

Strict validation process : 500h@205°C

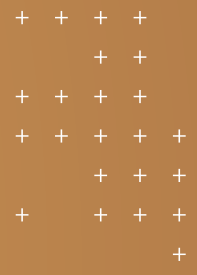
GeoWave® II

The SGHT-15 is a new high temperature omni-tilt geophone. Qualified up to 205°C, it is compatible with all vsp tools in the market.

Its high sensitivity specifications make it also well adapted to microseismic and hydraulic fracturing monitoring surveys.

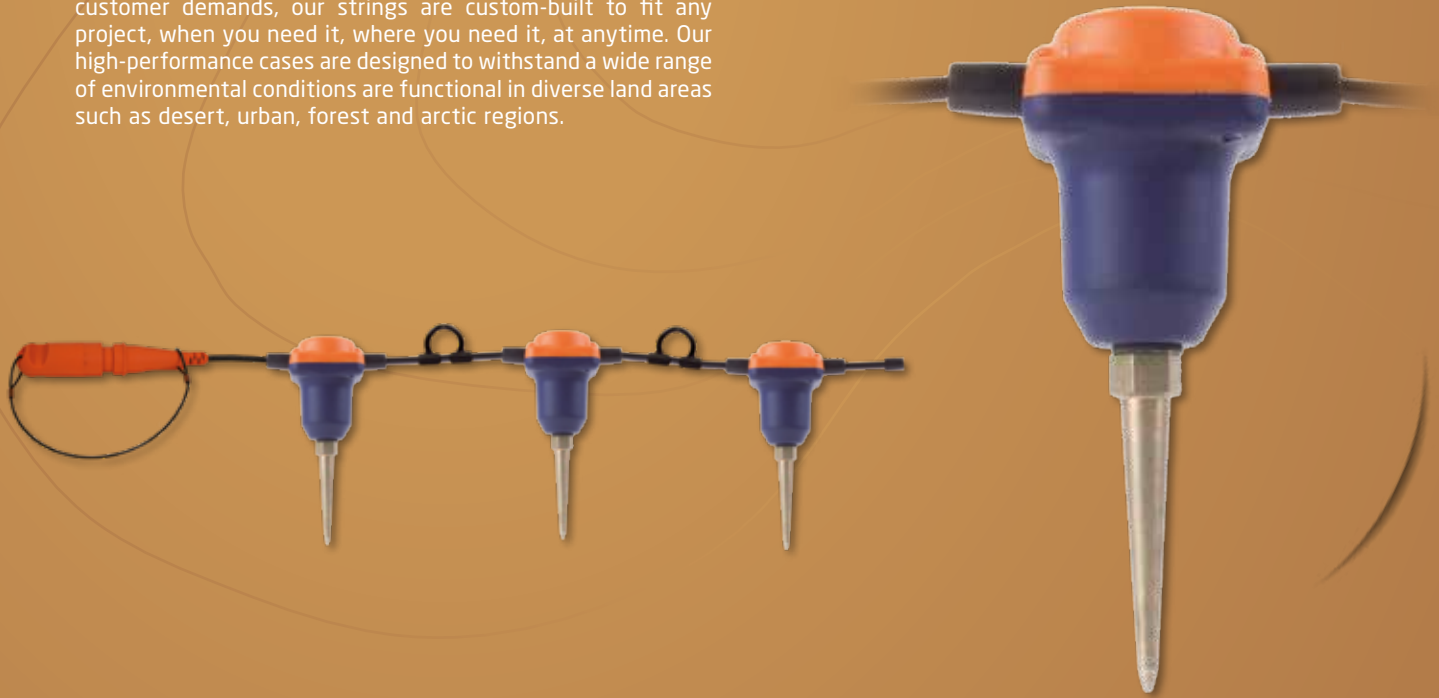
	Nominal	Horizontal	0° to 180°
Natural frequency	15 Hz	± 5%	-5% to +15%
Coil resistance	2350 Ω	± 5%	± 5%
Sensitivity	52.0 V/m/s (1.32 V/in/s)	-15% to +5%	-15% to +5%
Open circuit damping (without damping resistance)	0.50	-15% to +15%	-20% to +15%
Distortion (@ 15 hz & 1.8 cm/s pk-pk) (@ 15 hz & 0.7 in/s pk-pk)		≤ 0.2%	≤ 0.9%
Spurious frequency		≥ 365 Hz	≥ 280 Hz
Coil excursion pk-pk		<3.0 mm (<0.118 in)	<0.6 mm (<0.024 in)
Moving mass	7.4 g		

Note: Sercel reserves the right to change its specifications without prior notice.
All specifications are typical at 20°C



Land strings

Exceeding today's operational field requirements and meeting customer demands, our strings are custom-built to fit any project, when you need it, where you need it, at anytime. Our high-performance cases are designed to withstand a wide range of environmental conditions and are functional in diverse land areas such as desert, urban, forest and arctic regions.



STRING TYPES

Standard (male)		
Reversible (male/male)		The reversible string gives the ability to connect from any side providing more flexibility during deployment.
Extension (male/female)		The extension string enables to connect strings to each others to an unlimited number as to adapt for any configuration.

CONNECTOR TYPES

	Water-resistant	Waterproof (-15m) or Cold weather (<-10°C)
Single (male)	SPC 2AM 	WPC 2AM
Double (male/female)	SPC 2A 	WPC 2A

LINE CABLE TYPES



	Diameter	Breaking strength	Spec. weight
Dry	Ø 5.3 mm	90 daN	34 kg/km
Waterproof (-15m)	Ø 5.3 mm	90 daN	34 kg/km
Waterproof High protection (-15m)*	Ø 6.35 mm	90 daN	44 kg/km

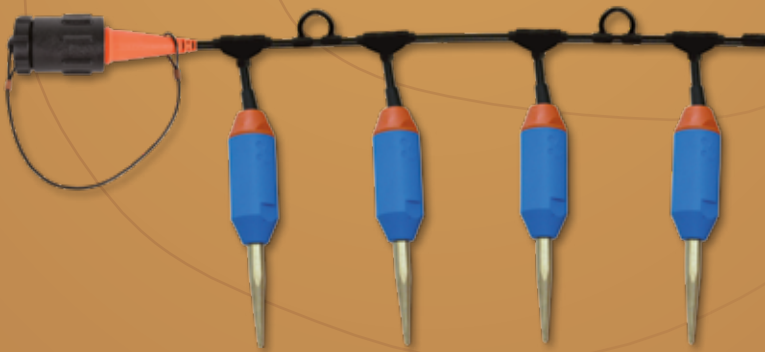
* with BG4 case type only

CASE TYPES




	Tripod	Steel spike	Brass spike	
BG3				Compatible with JF-20DX sensors and SG-10 sensors
BG4				Reinforced case type Specially designed for SG-10 sensors

Marsh strings

Our commitment to meet and surpass customer needs is answered by the development of a dedicated sensor string for marsh zones. It has been specially designed for easily burying the sensors in the ground and getting the best coupling. Designed to function in wet conditions, our marsh zone sensor strings include a specific metal casing for ice and snow conditions. Our custom-built strings are designed to fit any project, when you need it, where you need it, at anytime.


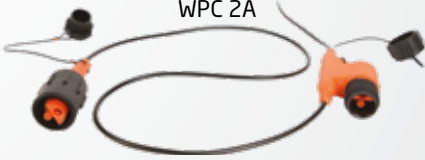


STRING TYPES

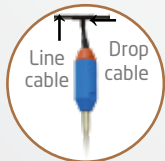
Standard (male)		
Reversible (male/male)		The reversible string gives the ability to connect from any side providing more flexibility during deployment.
Extension (male/female)		The extension string enables to connect strings to each others to an unlimited number as to adapt for any configuration.

CONNECTOR TYPES

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Single (male)	<p style="text-align: center;">Waterproof (-15 m)</p> <p style="text-align: center;">WPC 2AM</p> 
Double (male/female)	<p style="text-align: center;">WPC 2A</p> 

CABLE TYPES



	Diameter	Breaking strength*	Weight
LINE CABLE	Ø 5.3 mm	90 daN	34 kg/km
DROP CABLE	Ø 7.9 mm	110 daN	68 kg/km

* Bulk Only

JUNCTION TYPE



Molded

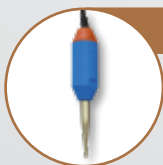
The T-junction is overmolded on the line and drop cable



Assembled

The T-junction is an assembly enabling easy repair of the line or the drop cable

CASE TYPES



Marsh conditions

Standard casing



Snow and ice conditions

Casing reinforced with a metal sleeve

Geophone tester SGT-II



// HIGH ACCURACY

Temperature correction factor

// IMPROVED ERGONOMICS

Sunlight & backlight LCD

PC connection capability

Simple user interface

// ERROR PROOFING

Green or Red LED status

Sound & LCD text results

Automatic upload/download

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SGT-II is the new portable and universal geophone string tester. Equipped with a temperature sensor, as to apply correction factors for the highest accuracy. Designed for in-field testing, this rugged generation integrates new error proofing features & improved ergonomics.



+ CAPABILITIES

- Natural frequency
- Coil resistance
- Damping
- Sensitivity
- Harmonic distortion
- Dynamic impedance
- Leakage

SGT-II	
Battery autonomy	14h @ 25°C
Storage capacity	20 000 + records
Operating temperature	-20°C / +50°C
Protection	IP67

Hydrophone tester SGT-H



// HIGH FLEXIBILITY

Multi-component sensors compatible
Easy transportable solution

// HIGH ACCURACY

Acoustic test chamber included

SGT-H is a transportable hydrophone tester.

Designed with a test chamber, SGT-H can manage acoustic and electrical measurements for single hydrophones or multi-component sensors.



+ CAPABILITIES

- Sensitivity
- Natural frequency
- Damping
- Resistance
- Leakage

SGT-H	
Humidity	10% / 90 %
Operating temperature	+15°C / +25°C

Seismometers

L-4 High-Sensitivity Seismometer



The L-4 is designed specifically for scientific studies, yet has the ruggedness required for small petroleum exploration work. L-4 is available with or without calibration coils and may be obtained as a single element or as a 3D package. It is also available either in vertical or horizontal version.

Natural frequency

L-4C	1 Hz
L-4C 3D	
L-4A	2 Hz
L-4A 3D	

L-10 Digital Grade Industrial Subminiature geophone



The L-10 geophone is a small rugged unit with a high output. It is packaged in a high strength Nylon case for the lowest weight specifications.

Natural frequency

L-10 AR	10 Hz
L-10 AR	14 Hz
L-10 B	4.5 Hz

L-22 Miniaturized Seismometer



The L-22 unit is a miniature, low frequency, land seismometer which is available in a 2.0 Hz model. It is a precise instrument, and maintains close frequency tolerance with tilt and temperature variation. L-22 is available as a single or 3D unit.

Natural frequency

L-22	2 Hz
L-22 3D	

L-28 Low distortion, Long-Travel geophone



The L-28 geophone features the highest fidelity available in low-frequency velocity type transducers. The high quality long travel geophone is available either in vertical or horizontal version.

Natural frequency

L-28 LB	4.5 Hz
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Geophones

Seismic Sensors

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Ahead of the CurveSM