



Maintenance free negative discharge sparker specially designed for freshwater environments.

Description

HOW DOES A SPARKER WORK IN FRESH WATER?

The electrode modules (100 tips each) are enclosed in flexible sleeves. Salt water is pumped through these sleeves to provide the saline environment which is needed to create a plasma bubble at the sparker tips. The circulating salt water also removes the gases generated at each discharge. The closed circuit comprises an onboard salt water reservoir and pump, supply and return hoses to and from the source, and a manifold system within the source frame.

SUSTAINABLE FRESHWATER SPARKERS WOULD NOT EXIST WITHOUT OUR PRESERVING ELECTRODE MODE

Since the tips of the freshwater sparker are enclosed in the flexible sleeves it would be very laborious to trim the tips every 2 hours, like you should do with an ordinary sparker.

Since the Preserving Electrode Mode reduces the wear of the electrode tips to practically zero, it becomes practically feasible to mount the tips in flexible sleeves filled with salt water.

Zero tip wear is also essential for the acoustic repeatability of the pulse, which depends largely on a constant, unaltered electrode surface.

Operational Features

→ The 200 tip version is specially designed for small vessel surveys, but there is also the 400 tip option or larger operations.

→ Can be handled by one person.

→ Water depths from 2 to 1500 m (with the 400 tip version).

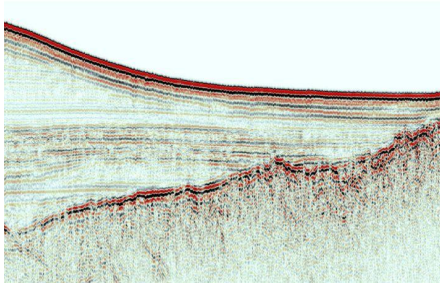
→ Penetration to 400 ms below seabed depending on geology.

→ Vertical resolution of 10 - 30 cm.

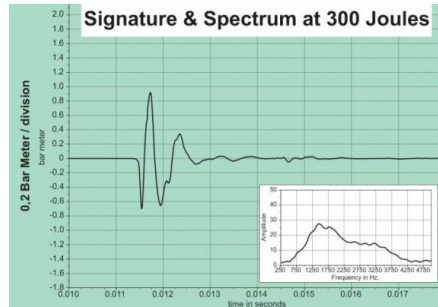
→ You don't need to trim tips during the survey - electrodes do NOT burn off.

→ Successfully employed in inland water engineering, port surveys, lake and river surveys and others.

→ The 400 tip version can be operated with energies up to 4,000 Joules.



Geo Spark 200 in a reservoir.



broad signal spectrum at suitable power.



400 tips version.

Additional Features

CONTROL OF ALL SPARKER PARAMETERS

The effective source depth is 15-20 cm. A constant source depth at 1/4 of the wavelength is essential in order to optimize the constructive interference between the primary pulse and surface ghost. But this can be easily customized by the user with the use of extensions, for instance, in situations where penetration should be a priority.

SOURCE GEOMETRY AND CONFIGURATION OF THE TIPS

The electrode modules are evenly spaced in a planar array of 0.50 m x 1.00 m. This geometry not only enhances the downward projection of the acoustic energy, it also reduces the primary pulse length, since all tips are perfectly in phase. Each tip has an exposed surface of 1.4 mm, suitable for maximum 10 Joules per tip and with this configuration gives an excellent pulse over the 100 - 1000 Joule power range.

FLEXIBLE AND FLOATING HV TOW CABLE

A flexible, floating power/tow cable with the standard length of 25 m is available by default. This dedicated coaxial HV cable contains 4 leads of 6 mm² plus outer braiding of 24 mm². It is designed to have a low self-inductance in order to preserve the high dl/dt pulse output of the power supply. The wet side of the cable is terminated with two special HV connectors to the electrode modules and a ground connector to the frame. Connecting or disconnecting the cable to the sparker takes less than ten minutes. The cable weights only 35 kg and is easy to handle by one person. For large vessels we recommend the use of the standard [50 m floating HV Power cable on reel](#).

Specification

Dimensions (cm) & Weight	200 tip:110 (L) x 100 (W) x 60 (H) for 35 kg 400 tip:110 (L) x 120 (W) x 60 (H) for 65 kg
Number of Tips	200 / 400
Operation Depth (m)	200 tips: 2 - 500 / 400 tips: 2 - 1500
Dominant Frequencies	1250 - 1750 Hz (200 tips at 400 J) 1000 - 1500 Hz (400 tips at 800 J)
Better if used with	Geo-Spark 1000 , Geo-Spark 2000 XF , 8E single-channel Streamer , 24 ch multi-channel streamer , Geo-POS
Recommended interface system	Mini-Trace II or Multi-Trace Server
Power Requirements	5kVA generator (for the Power Supply)

We are always pushing for improvements, so equipment specifications can change without notice. Please keep in contact with support to stay in tune with the developments.