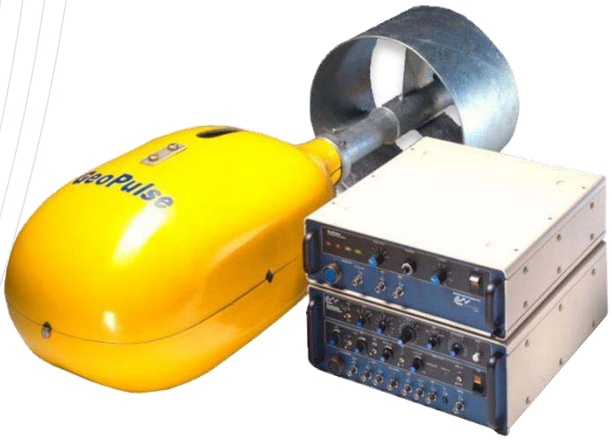
GeoPulse Pipeliner

Pinger Sub-Bottom Profiler for Pipeline Detection

GeoAcoustics



Overview

The GeoPulse Pipeliner offers a solution to the problem of detecting buried pipelines. Based upon the successful GeoPulse Sub-Bottom Profiler it has a specific transducer array designed to maximize the footprint size and detection capabilities, together with an additional high frequency transducer for higher resolution imaging and burial depth determination.

The system includes the GeoPulse Transmitter (5430P), GeoPulse Receiver (5210A) and the Towfish (136P).

The Transmitter (Model 5430P) allows control of the output power, frequency and pulse length of the outgoing pulse. The Pipeliner variant of the GeoPulse transmitter contains an additional 14 kHz transducer which is activated from the front panel, allowing higher resolution data to be collected and pipeline burial to be accurately determined. Seabed returns can be conditioned by analogue means using the GeoPulse Receiver (Model 5210A).

The Model 136P Towfish houses 3 transducers (2 x T135, 1 x T14) and provides a stable sub-tow survey platform, which may be towed down to 600 m using a standard 2000 m armoured tow cable. An alternative deployment option for the profiling transducers is our Over-the-side Transducer Mount (Model 132P), which makes it possible to use the system in smaller vessels for river, harbour or shallow lake surveys.

Key Features

- Towed or over-the-side versions available
- Frequency range 2-12 kHz and 14 kHz
- Output power up to 5 kW
- Operates down to 500 m
- Penetration 50 m + (normal mode), 20 metres (14 kHz mode)
- Third party software integration

Applications

- Enhanced pipeline detection
- Geological surveys
- Dredging surveys
- Environmental surveys
- Buried object detection

Technical Specifications

Transmitter Model 5430P

Output	Output: 5 kW with 0.75 % duty cycle, continuously adjustable 2 to 12 kHz, continuously adjustable and switchable 14 kHz. Short circuit-proof Impedance matched
Pulse Cycles	1, 2, 4, 8, 16 or 32 cycles of the frequency selected. The transmitted output pulse will be phase coherent within 22.5°
Beam Width (Transmit)	55° across track, 120° along track using 3.5 kHz (normal mode, 2 transducers) 25° across track, 60° along track using 3.5 kHz (T14 mode)
Source Level	214 dB ±3 dB re 1 µPa @ 1 m (normal mode) 218 dB ±3 dB re 1 µPa @ 1 m (T14 mode)
Power	115/230 V_{AC} ± 10 %, 47 to 63 Hz, 220 W maximum
Environmental	10 % - 95 % RH, non-condensing -5 °C to 50 °C (operation), -15 °C to 85 °C (storage)
Dimensions	457 mm (L) x 430 mm (W) x 130 mm (H)
Weight	18 kg

Receiver Model 5210A

Amplifier	100 dB at 60 Hz. Sensitivity 30 µV RMS in, produces 1 V RMS out at 90 dB total gain with TVG
Signal to Noise	20 dB at 100 dB gain 1 kHz centre frequency and 1 kHz bandwidth
Coarse Gain	40 dB maximum
Fine Gain	0 – 30 dB in 3 dB increments
TVG	Dynamic range: 30 dB
AGC	Attack adjustable from 330 µs to 330 ms
Power	115/230 V_{AC} ± 10 % (internal switch selectable), 47 to 63 Hz, 45 W maximum
Environmental	10 % - 95 % RH, non-condensing -5 °C to 50 °C (operation), -15 °C to 85 °C (storage)
Dimensions	457 mm (L), x 430 mm (W), x 178 mm (H)
Weight	12 kg

Over-the-side Mount Assembly (Model 132P)

Dimensions	700 mm (L) x 520 mm (W) x 460 mm (H)
Mounting Pole	One section: 1830 mm Two sections: 3600 mm Three sections: 5370 mm
Weight	125 kg

Specifications subject to change without notice. E&OE

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