

Description

The TUBEWAVE-100 is a lightweight borehole UWB VHF GPR antenna with a small cross section diameter. This dimension allows usage in standard boreholes. It can be successfully used in tomographic mode and is fully compatible with GSSI radar systems².

Applications

Areas where ground based antennas are unsuitable

- Monitoring of voids and obstacles in front of Tunnel Boring Machines
- Sub-bottom profiling of rivers and lakes
- Location of fractures and cavities in bedrock
- Cross hole tomography between boreholes



Technical Data

Electrical	
Type of antenna	Resistively loaded butterfly folded dipole
Peak frequency ³	445 MHz
Impedance at the peak frequency ³	82 Ohms
Distance between the TX/RX terminals	300 mm
Center frequency (BW _{10dB})	492 MHz
10 dB bandwidth ³	60 %
DC resistance at antenna terminals	970 Ohms
Maximum applied power ⁴	1 kW
Front to back ratio ³	0 dB
Gain ³	2 dB
Connector type	Custom made (MDS/Radarteam Sweden AB)
Environmental	
Operating temperature	-30°C to 70°C (-22F to 158F)
Operating humidity (non condensing)	96% RH
Ingress protection	IP68 (up to 4 hours)
Mechanical	
Dimension (L x D)	1240 x 38 mm (48.81 x 1.49 inch.)
Weight	1.70 kg (3.85 pounds)
Material	Fiber glass and stainless steel

Notes: ¹When used with a second antenna. ²With cable lengths up to 50 meters with the exception of the SIR-3000. ³ Dielectric constant = 1. ⁴Duty cycle below 1 %. ⁵With the cable attached.

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