

NMR Water Detector

The NMR water detector employs nuclear magnetic resonance to directly detect subsurface water. By analyzing amplitude variations, this system identifies the occurrence of aquifers at varying depths.



Overview

Advanced Subsurface Water Detection

This NMR Water Detector is a sophisticated instrument designed for precise subsurface water exploration using Nuclear Magnetic Resonance (MRS) technology. It offers direct detection capabilities for underground water at depths up to 150 meters, while also distinguishing between freshwater and saltwater based on resistivity. The system is ideal for hydrogeological surveys, environmental monitoring, and geological engineering, providing critical data on water outflow, range, and quality.

Key Applications

Primary Use Cases

- Direct underground water detection (0-150m)
- Distinguishing free water in geological structures
- Well location and water quality assessment
- Hydrocarbon pollution monitoring
- Geological engineering and dike evaluation
- Archaeological and mineral exploration

Technical Performance

Output Resonance Voltage

4000 V

Output Resonance Voltage

Max Output Current

450 A

Max Output Current

Technical Specifications

Technical Comparison

Parameter	This Unit	Benchmark Unit
Resonance Voltage (V)	4000	3000
Max Current (A)	450	300
Transmitting Freq (KHz)	0.7-3.7	1-3
Impulse Matrix (A*ms)	100-20000	100-9000
Power Capacitance (μ F)	0.132	0.1
Filter Band Width	10-122 programmable Hz	
Amplifier Gain	$10^3 - 10^7$	