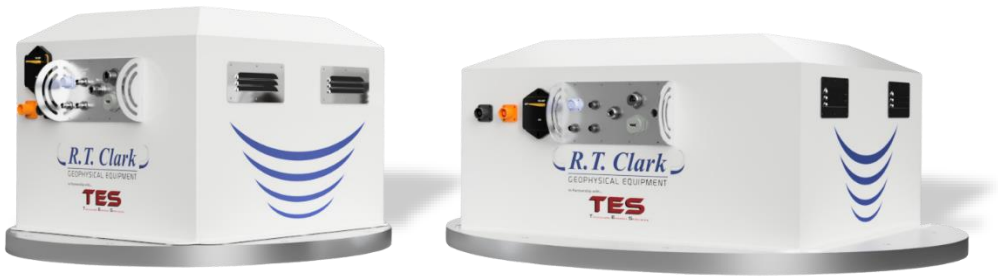
R.T. Clark
GEOPHYSICAL EQUIPMENT
OKC, OK USA

VPEG



Electromagnetic Seismic Vibrator

Battery-Powered Broadband Seismic Energy Sources for Near-Surface Imaging

The **Vibration Propelled Energy Generator (VPEG)** series is a compact electromagnetic seismic vibrator system designed to provide controlled broadband seismic energy without the complexity of traditional hydraulic vibrators.

Developed through a collaboration between **R.T. Clark**, **Telemark Energy Services**, and **Seismic Source**, the VPEG platform combines portable deployment with a wide bandwidth seismic source signal for modern near-surface geophysical investigations.

The system uses high-power electromagnetic transducers to generate frequency sweeps from **<8 Hz to 800 Hz**, allowing users to design source signals optimized for shallow imaging, engineering studies, and environmental surveys.

Unlike conventional vibroseis systems requiring large hydraulic vibrators, the VPEG operates entirely from **12-volt DC battery power**, enabling deployment in remote locations, urban environments, and sites inaccessible to heavy equipment.

Applications:

The VPEG system is designed for a range of geophysical and engineering investigations:

- Near-surface seismic imaging
- Environmental and engineering geophysics
- Mining exploration
- Hazard and infrastructure surveys
- Academic and Seismic Research
- Static Correction Surveys

Key System Capabilities:

Broadband Seismic Source:
Frequency sweep capability from **<8 Hz – 800 Hz**
Full-drive bandwidth **20 Hz – 800 Hz**

GPS Positioning:
20cm Accurate GPS Antenna
RTK Correction Subscription available through Seismic Source

Multiple Deployment Options:
Hand portable system options
Hitch-mounted Lift vehicle deployment
Mini Skid-steer mounted configuration
Permanent installation capability

Flexible Source Control:
The VPEG control system, developed with **Seismic Source**, supports:
Single or multi-sweep operation
Multi-unit synchronization
Wireless Wi-Fi or Ethernet control
3-pin Seismograph Triggering
Manual push-button operation

Low mechanical noise
The electromagnetic actuation system generates extremely low mechanical noise compared to impact sources, improving correlation performance and signal fidelity.

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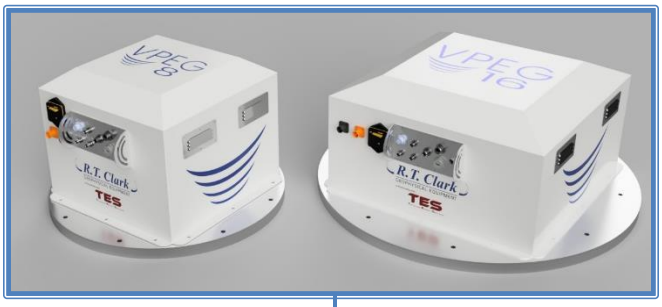
Model Comparison:

VPEG 8



VPEG 16

Portable Electromagnetic Vibrator

The **VPEG-8** is designed for lightweight deployment and can be transported and operated by a small field crew. The system can be hand carried or mounted to a vehicle hitch with a powered lift mechanism.

Typical uses include remote surveys, restricted access sites, and near surface seismic programs.

Deployment: Hand carry / hitch lift
Weight: ~140 lb (64 kg)
Dimensions: 26 × 26 × 18 in
Recommended Battery: 12 V 100 Ah
Typical VP Production: ~300 VP per battery
* Based on 8-128Hz @ 24sec

High-Power Electromagnetic Vibrator

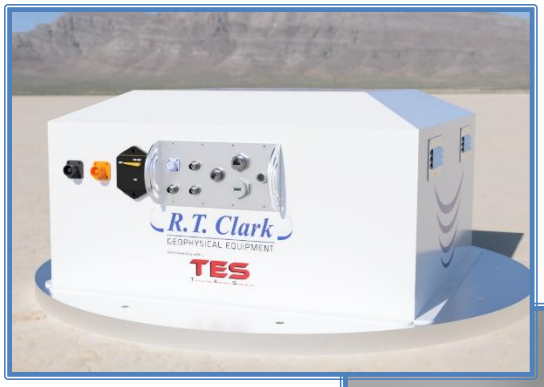
The **VPEG-16** provides increased force output through a higher number of electromagnetic transducers and power output. It is designed for mini skid-steer deployment with adaptors for other carrier types

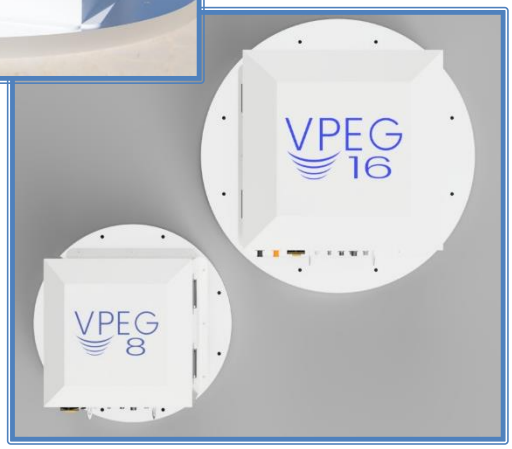
The system delivers greater energy output for production surveys and higher energy seismic acquisition programs.

Deployment: Mini Skid-steer Mount
Weight: ~350 lb (159 kg)
Dimensions: 36 × 36 × 15 in
Recommended Battery: 12 V 200 Ah
Typical VP Production: ~300 VP per battery
* Based on 8-128Hz @ 24sec

Technical Specification:

Operating Principle	Electromagnetic seismic vibrator
Power Supply	12 VDC battery
Frequency Range	<8 Hz – 800 Hz
Full Drive Frequency	20 Hz – 800 Hz
Control Interface	Wi-Fi / Ethernet / Manual start
Control Platform	Seismic Source Software Suite
Synchronization	Multi-unit capable
GPS	20cm Accuracy, RTK Correction Available





System Components:

Each VPEG system includes:

Power Cables, Wi-Fi antenna, High-accuracy GPS antenna, Manual push-button, Access to Software Suite

Required for operation, not included in purchase:

12-volt battery, Laptop or Android tablet for wireless control

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