

VTK DataPack &
Cone System

Rugged, reliable, and easy-to-use DataPack and digital cones.

Vertek's VTK DataPack is a field portable Cone Penetrometer Test (CPT) data acquisition and analysis package combining the capabilities of our digital CPT cones, the FFD (Fuel Fluorescence Detector) probes, triaxial seismic geophone equipped cones, and other specialized Vertek probes.

Developed as a simple 'all-in one' solution for the geotechnical and environmental CPT service providers, this version incorporates USB for ease of connectivity.

A digital CPT probe is the heart of the system. The standard probe includes tip, sleeve fiction, pore pressure sensors, triple axis geophones, and inclination.

Vertek's Digital probe provide simple, easy-to-use CPT measurements in a compact system. Since analog-to-digital conversion is preformed downhole, the bulkiness of cabling and uphole electronics are reduced, and noise problems associated with cable length and low voltage signals of analog systems are eliminated.

Vertek's 10 conductor cable with LEMO type connectors ensures reliable data transmission with each penetration test.



DataPack Features

Field Portable

The DataPack is housed in a water-resistant instrument case and requires use of a COTS, Windows based laptop. Vertek recommends use of a ruggedized computer for CPT applications.

GPS Ready

The DataPack 2010 is equipped with a USB port to accept GPS input from most portable GPS units. This location information can be attached to each CPT test data file.

Expandable

The DataPack has an auxiliary channel which provides a 4 VDC excitation voltage with a 200 V/V gain. This allows the use of an optional tip, sleeve and pore pressure verification package or other optional devices.

Report Quality Field Plots

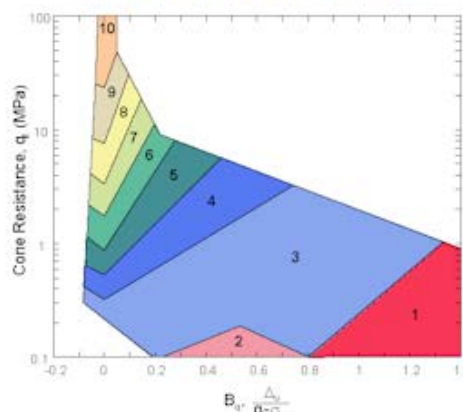
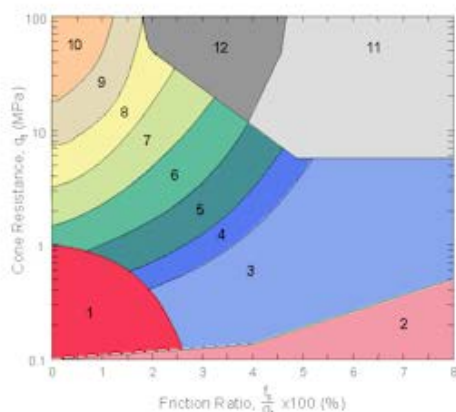
The DataPack comes with a complete software package for acquisition, processing, and plotting CPT data. The DataPack generates report quality plots in the field on any Windows supported printer (color or grayscale). Plot scales can be set automatically and a wide variety of engineering parameters can be selected. With current communication technology data is easily transmitted to project engineers anywhere.

High-Powered Data Analysis

Data analysis software is included with the DataPack, allowing the operator to display both the test data and derived parameters in formats appropriate to client requirements. Standard classification algorithms based on tip resistance, sleeve friction, and pore pressure readings are included for multiple classification of soil types.

CPT Soil Behavior Type Legend

Robertson et al. 1986



Zone	Soil Behavior Type
1	Sensitive, Fine Grained
2	Organic Material
3	Clay
4	Silty Clay to Clay
5	Clayey Silt to Silty Clay
6	Sandy Silt to Clayey Silt
7	Silty Sand to Sandy Silt
8	Sand to Silty Sand
9	Sand
10	Gravelly Sand to Sand
11	Very Stiff Fine Grained*
12	Sand to Clayey Sand*

*Overconsolidated or Cemented

VTK Series Cones Specifications

HT 10cm² Digital Cone

Max Tip Force	2.5 Ton	5 Ton	10 Ton
Tip			
Area (cm ²)	10	10	10
Range (kn)	22	44	88
Range (lb)	5,000	10,000	20,000
Range (MPa)	22	45	90
Overload Capacity	150%	150%	150%
Accuracy (FSO)	0.5%	0.5%	0.5%
Sleeve			
Area (cm ²)	150	150	150
Range (kn)	20	20	20
Range (lb)	4,400	4,400	4,400
Range (MPa)	1.3	1.3	1.3
Overload Capacity	150%	150%	150%
Accuracy (FSO)	0.5%	0.5%	0.5%
Pore Pressure Transducer			
Standard Range (kPa)	6,895	6,895	6,895
Standard Range (psi)	1,000	1,000	1,000
Burst Pressure	200%	200%	200%
Accuracy (FSO)	1%	1%	1%
Inclinometer (Dual Axis)			
Range (degrees)	±15	±15	±15
Resolution (degree)	0.1	0.1	0.1
Seismic			
Tri-axial geophone (G)	±2	±2	±2

Seismic signal is gained downhole by 1, 10, 100, or 1,000 and digitized in the DataPack. No extra wires or analog measurement required.

HT 15cm² Digital Cone

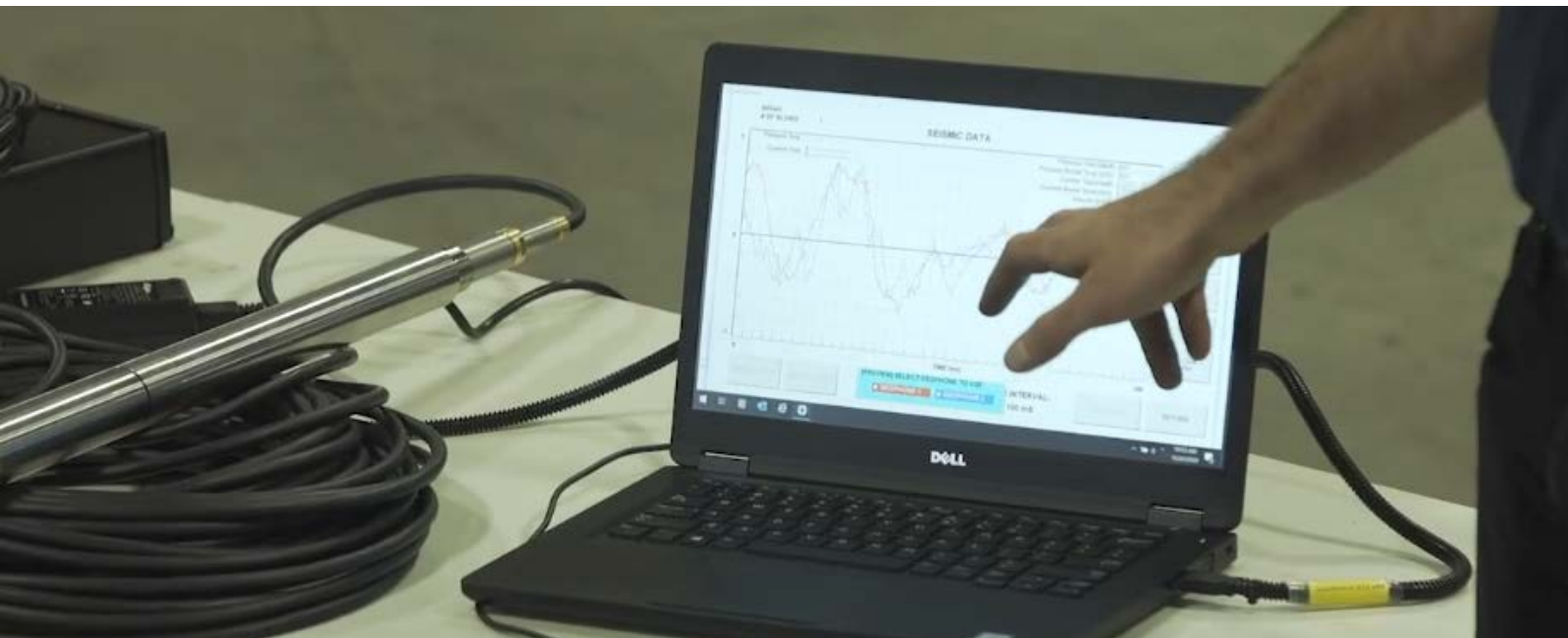
Max Tip Force	2.5 Ton	5 Ton	25 Ton
Tip			
Area (cm ²)	15	15	15
Range (kn)	22	44	222
Range (lb)	5,000	10,000	50,000
Range (MPa)	15	30	150
Overload Capacity	150%	150%	150%
Accuracy (FSO)	0.5%	0.5%	0.5%
Sleeve			
Area (cm ²)	225	225	225
Range (kn)	44	44	44
Range (lb)	10,000	10,000	10,000
Range (MPa)	2	2	2
Overload Capacity	150%	150%	150%
Accuracy	1%	1%	1%
Pore Pressure Transducer			
Standard Range (kPa)	6,895	6,895	6,895
Standard Range (psi)	1,000	1,000	1,000
Burst Pressure	200%	200%	200%
Accuracy (FSO)	1%	1%	1%
Inclinometer (Dual Axis)			
Range (degrees)	±15	±15	±15
Resolution (degree)	0.1	0.1	0.1
Seismic			
Tri-axial geophone (G)	±2	±2	±2

Seismic signal is gained downhole by 1, 10, 100, or 1,000 and digitized in the DataPack. No extra wires or analog measurement required.



Our Commitment

When you purchase a piece of Vertek CPT equipment, you become part of Team Vertek. We provide every customer with unparalleled customer service and unlimited technical support. From helping you choose the best solution for your business to training and field support, we will be by your side and always just a phone call away.



Contact us today.

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