

Dynamic Cone Penetrometers



In-Situ CBR in 10 Minutes with Dual-Mass DCPs

Standard DCP components, Upper Rod and Hammer (Mass), Scale and Lower Rod showing Disposable Cone



Dual-Mass Dynamic Cone Penetrometers

Dynamic Cone Penetrometers (DCPs) provide a low-cost, efficient test method for determining in-situ CBR values of pavement base, subbase and subgrades. DCPs can be used in both new construction or as a quality analysis tool for evaluating current conditions of existing highways, airfields and similar structures. DCPs can be used to quickly determine site conditions prior to, during and after construction. They are used to evaluate the uniformity of different layers and areas of construction without the need for removal of surface materials and can quickly pinpoint problems, such as soft or hard sublayers.



DCPs save time and money while providing accurate results to a depth of 37-1/2 inches, or up to 6 ft with an extension rod.

DCPs have been used by the Army Corps Of Engineers for years and continue to provide consistent and repeatable results. Humboldt provides several different models of DCPs, most of which feature design improvements over the original design for additional ease of use and improved durability.

One of these improvements has been the development of disposable cones. This has increased the ease-of-use of DCPs by eliminating the need for a jack to remove the unit from soil after a test.

Models H-4218A, H4218D and H-4219 comply with ASTM D6951 specifications and come with a chart to compute CBR values, as well as an Excel spreadsheet template, which automatically charts the test results.

Dual Mass DCP Benefits include:

- the ability to immediately determine the location and depth of layers;
- can be used in both hard and soft soils for pavements (CBR 100% to .05%);
- the ability to compute results manually on location, as well as produce data with charts rapidly using supplied Excel spreadsheet templates.

Single-Mass Dynamic Cone Penetrometers

Models H-4223 and H-4202 are typically used for foundations. These instruments correlate to the "N" value for the Standard Penetration Test (SPT) The H-4202 comes with an auger head, T-handle and multiple extensions are available for insertions up to 20 ft.

Humboldt provides several different models of Dynamic Cone Penetrometers; on the back are the most popular, give us a call to determine which is the right one for you.



Disposable Cone Adapter and Cone

Reusable Hardened Point



Dynamic Cone Penetrometers



Dual-Mass for Roads/Airfields

H-4218A — Dual 8 kg Mass

H-4218A Standard, Dual Mass, Dynamic Cone Penetrometer, Includes: 8kg stainless two-part hammer assembly, upper rod, anvil, lower rod with wrench flats, lower rod, reusable hardened point, cone adapter, 25 disposable cones, vertical scale, hand tools, manual, software template and deluxe carrying case with wheels. Optional extension rods and attachments are available to facilitate one-person operation.

H-4218D — Dual 8 kg Mass

H-4218D Deluxe, Dual Mass Dynamic Cone Penetrometer, Includes: 8kg stainless two-part hammer assembly, 2 upper rods, 2 lower rods with anvils, 6 hardened reusable points, 2 cone adapters, 125 disposable cones, vertical scale, go/no-go gauge for points, hand tools, manual, software template and deluxe carrying case with wheels. Optional extension rods and attachments are available to facilitate one-person operation.

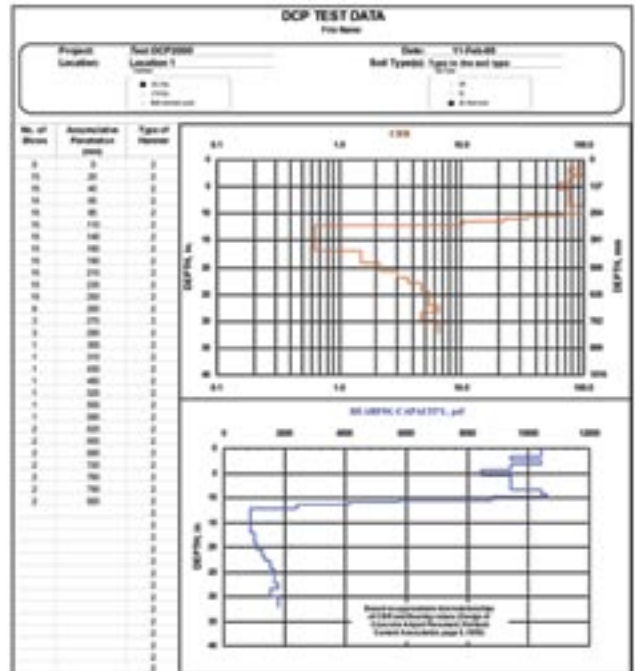
H-4219 — Dual 8 kg Mass

H-4219 Heavy-Duty, Dual Mass, Dynamic Cone Penetrometer, Designed in full compliance with the U.S. Army Corps of Engineers specifications with design improvements to improve assembly, performance and durability. Features machined taper and grooves on handle for easier lifting of the mass, as well as heavy-duty rod design. Includes: dual-mass slide hammer assembly, extension shaft with hardened tip, extension shaft with disposable cone tip adapter, 100 disposable tips, vertical scale, go/no-go gauge, all necessary wrenches, user manual with spreadsheet software template and carrying case.

Single-Mass for Foundations

H-4223 — Single 4.6 kg Mass

H-4223 Heavy-Duty, Dynamic Cone Penetrometer, Developed for users requiring a more rugged yet portable design. High-grade materials and design reduce shaft coupling and thread failures associated with low cost versions. Includes: 10-pound slide hammer assembly with a 24" drop, two 36" extension shafts with 6" increment markings, wrenches and a hardened-steel 60° cone tip. All components packed in a heavy-duty carrying case with wheels for easy transport to the job site.



Typical DCP Test Data generated with Excel spreadsheet templates.



Typical Dual Mass Penetrometer Kit

H-4202 — Single 6.8 kg Mass

H-4202 Dynamic Cone Penetrometer Test Set, Ten foot version for use in nearly all types of soils. Includes: one sliding drive hammer assembly with 15 lb. (6.8 kg) mass; one heat treated 60° cone penetrometer point with 1 ft. adapter rod; four 30" "E" drill rod extensions; one auger head; one auger T-handle; four 36" auger extensions, and operating instructions.

**Additional cones and spare parts for all DCPs
are available, please inquire.**

