

# H-4200 & H-4200M

## Humboldt Pocket Penetrometer (Tire Gauge Design)



### Description:

The Humboldt pocket penetrometer is an 8" penetrometer, which uses an enclosed, spring-operated mechanism for fast estimates of unconfined compressive strength of cohesive soils. While the pocket penetrometer is used widely for checking consistency and providing quick indications of compressive strengths in the field, it should not be used to replace laboratory testing or extensive field analysis, nor should it be used to product foundation design data. It can also be used to accurately indicate consistency and approximate unconfined compressive strength of undisturbed Shelby tube cohesive soil samples.

The pocket penetrometer is specified for use by OSHA for field personnel to verify soil strength estimates when evaluating stability and the safety of trench excavations. It verifies whether excavation side walls require shoring, based on OSHA cohesive soils classifications, and indicates consistency, shear strength, and approximate unconfined shear strength. A pocket penetrometer is required by OSHA on all excavation jobs, and it can help protect you from costly lawsuits and construction delays.

The Humboldt pocket penetrometer is available in two models: **H-4200** provides a direct-reading scale in tons/ft<sup>2</sup>, or kg/cm<sup>2</sup>, which corresponds to equivalent unconfined compressive strengths. It has a range of 0 to 4.5 tons/ft<sup>2</sup>.

The new **H-4200M** reads in tonnes per square meter (ton/m<sup>2</sup>) in increments of 10 with a max of 45 tonnes per square meter.

It shows numbers for the following: 0, 10, 20, 30, 40. In between the numbers it has tick marks, the last tick mark indicates 45 tonnes per square meter but does not show a number since the layout is in increments of 10.



### Models:

#### H-4200

Humboldt Pocket Penetrometer (Tire Gauge Design) – Range: 0 to 4.5 t/ft<sup>2</sup>

#### H-4200M

Humboldt Pocket Penetrometer, Metric (Tire Gauge Design) – Range: 0 to 45 t/m<sup>2</sup>

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## Technical Specifications:

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- The penetrometer features high-quality construction with an anodized aluminium body and a stainless-steel plunger.
- Range: 0 to 4.5 ton/ft.2 (H-4200) - 0-45ton/m2 (H-4200M).
- Direct reading scale in tons/ft2 and kg/cm2 or ton/m2
- Preferred tire-gauge design
- Enclosed spring mechanism eliminates problems with soil and dust affecting operation
- Easy scale reset with thumb
- Uses precise spring tension for accurate results
- Includes belt-loop style carrying case and operating instructions.

## Accessories

Part Number & Name	
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H-4200F

Penetrometer, Low-Strength Soil Adapter Foot (Tire Gauge Design)

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### H-4200F Low-Strength Soil Adapter Foot for pocket penetrometer.

The Adaptor foot is recommended when testing extremely low strength cohesive soils. 1" (25mm) dia. foot, compared to the 1/4" (6.35mm) penetrometer piston, increases the effective area measured by 16 times. Divide by 16 to obtain correct unconfined compressive strength when reading in tons per square foot or kilograms per square centimeter is on the low-load side.