



Voluvessel, 1/20 cu. ft. (1600ml) capacity— H-4166

Voluvessel, 1/20 cu. ft. (1600ml) capacity— H-4116

Voluvessel, 1/13 cu. ft. (2230ml) capacity— H-4167

Voluvessels determine the in-place density of compacted or firmly-bonded soils using a rubber balloon apparatus viewed through a graduated, direct-reading clear plastic cylinder. Humboldt offers two distinctly different models; one, where the plastic cylinder screws into the density plate with the pump assembly mounted on top; and, the other, which has a metal casing protecting the plastic cylinder and the pump assembly mounted to the base. Both designs come with a pressure-vacuum pump assembly, pressure gauge, quick coupler valve, double-graduated cylinder, 10 balloons and a density plate. Both designs meet ASTM D2167; AASHTO T205.

Voluvessels are not suitable for soft soils that will deform under slight pressure or in which the volume of the hole cannot be maintained at a constant value.

Models H-4166 and H-4167 are individually calibrated before leaving the factory to ensure readings on the scale are accurate without the need for calculations.

Voluvessel Saddleweights— H-4166S

Weights used to ensure uniform and repeatable weight is applied during testing for accurate readings. Can be used with any Voluvessel model.

Replacement Balloons, 10 pk— H-4168

Replacement Pump Assembly— H-4166.10

Clegg Impact Soil Tester

The Clegg Impact Soil Tester can test a full range of soils and soft rocks as encountered in the construction of flexible pavement and earthworks, as well as athletic fields and surfaces. It is useful for quickly checking variations during construction and monitoring changes over time due to seasonal environmental changes or road traffic, as well as testing natural and "as constructed" conditions. The Clegg can test a full range of natural and synthetic athletic surfaces where hardness/impact characteristics need to be controlled for safety or playability. The Clegg offers the convenience of rapidly scanning compaction variations over large areas. The Clegg may be transported and operated by one person, allowing for low cost, rapid field and laboratory testing and direct readout of the test results. In addition, site location can be conveyed via the GPS option; and moisture measurements can be recorded using the optional H-4191A Moisture Probe with 20cm rods. Meets ASTM standards D5874, F1702.0.

All units include the H-4198A Control Unit. To order the GPS-capable model, use the .GPS suffix.



H-4116

H-4166
H-4167

H-4166S
shown w/
H-4166



H-4168



H-4196A
H-4190A



H-4198A, H-4198A.GPS
Control Units Close-up



H-4193A
H-4194A

Clegg Impact Soil Tester Models

50mm, 2.25 kg	Natural or synthetic soft turf, sand and golf greens turf (football, baseball, soccer fields, playgrounds,	H-4196A H-4196A.GPS
50mm, 4.5 kg	Natural or synthetic turf (football, baseball, soccer fields, playgrounds, horse tracks, golf greens)	H-4190A H-4190A.GPS
50mm, 10 kg	Pre-constructed soils, trench reinstatement, bell	H-4193A H-4193A.GPS
130mm, 20 kg	Flexible pavement, aggregate road beds, trench reinstatement, bell holes, foundations	H-4194A H-4194A.GPS