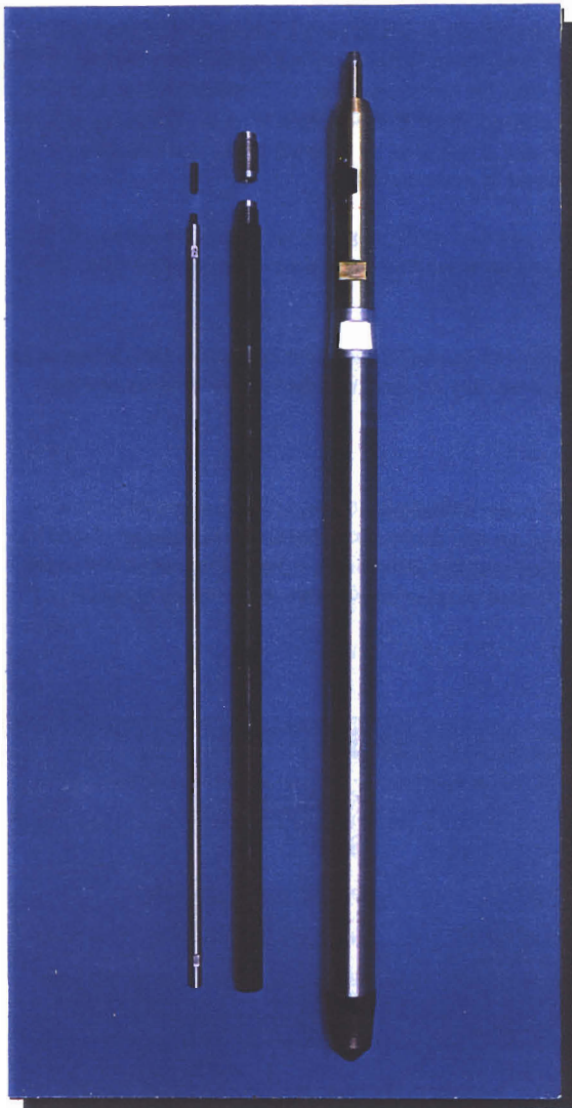


Geonor Thin Wall, Stationary Piston Samplers

(Ø 54, 75 and 100 mm)

models K-100 and K-200



FEATURES:

- For undisturbed samples in very soft to stiff clays
- Stationary piston to avoid disturbances in overpressured or very soft or loose soils
- Appropriate for sampling above and below ground water level, at 0 to 30 m depth
- Combination use: Extension rods and tubes of the Geonor vane instrument H-10
- Can be used with most pushers, penetrometers
- Designed by the Norwegian Geotechnical Institute (NGI)

Geonor Thin Wall, Stationary Piston Sampler, model K-200 complete, ID 54 mm (left) with extension tube, Ø36 mm, rod, Ø16 mm, and connection pieces (right)

GEONOR THIN WALL, STATIONARY PISTON SAMPLERS K-100 & K-200

DESIGN

The Geonor thin wall, stationary piston samplers are designed for taking undisturbed cores in very soft to stiff clays. Excellent undisturbed samples are also obtained in loose to medium-dense sands if the bore hole is filled with drilling mud. With a sampling cylinder in steel (model K-200), various sample diameters are available: 54, 75 and 100 mm. with lengths between 500 and 800 mm. With a composite sampling cylinder, protected by a steel cylinder (model K-100), the sample diameter is 54 mm and its length is 700 mm. The use of a stationary piston when sampling, eliminates the risk of disturbance of the sample by a non fixed piston head, in particular with overpressured or very soft soils. The sampler is adapted for quick operation with when using a drilling tower

BORING METHOD

With thin-walled, stationary piston type samplers, coring is generally carried out as displacement boring (or continuous sampling advance). The sampler is pressed by the extension tubes and rods, down to the sampling depth, using drilling mud only for sands. At the top of the soil to sample, the piston is unlocked from the sampling cylinder. Thereby the piston, piston head and extension rods remain fixed, while the sampling cylinder is pressed down by the extension tubes. When the cylinder is filled, both cylinder and piston are pulled up. Vacuum at the piston head is provided by a rubber packing which also prevents contamination of the sample. The cored sample is extracted once in a laboratory.

In order to avoid disturbances, the wall of the sampling cylinder is thin and the cutting edge is kept very sharp for clays. The piston sampler K-100 can be modified to core (disturbed) Ø 54 mm samples in sand by using a sand retaining ring and a tougher cutting edge.

The samplers can be delivered with a manually operated 5 ton rack jack with an anchoring frame but can be used with a large variety of pushers or CPT penetrometers. The extension rods and tubes can also be used with the Geonor field shear vane instrument H-10, see separate leaflet.

QUALITY OF SAMPLES

Experience from great number of samples has shown that for normally consolidated clays, unconfined compression tests on samples taken by the sampler give strength values which as an average, are 8% above the undrained shear strength found by vane tests. For quick clays the corresponding figure is 15%. Undisturbed samples and reliable values of the undrained shear strength have been obtained in clays with a wide range of plasticity. A more detailed description of the results obtained with the sampler is given by R.C. Vold in the NGI publication No. 17.

TECHNICAL SPECIFICATIONS

Model:	K-100	Model:	K-200
Sample cylinder:	Composite	Sample cylinder:	Steel
Cylinder ID:	54 mm	Cylinder ID:	54, 75 and 100 mm
Cylinder length:	768 mm	Cylinder length:	Max. 880, Min. 585 mm
Sample length:	700 mm	Sample lengths:	Max. 800, Min. 500 mm
Extension tubes:	Ø36 x 1000 mm	Extension rods:	Ø16 x 1000 mm

ORDER REFERENCE

Part No.	Equipment	Part No.	Equipment
32000	Sampler K-200, complete		Manual insertion/extraction
36000	Sampler K-100, complete	16000	Ball cone clamp 27-38 mm
65400	Extension tubes	19200	Anchoring frame
65500	Extension rods	14800	Rack jack, 5 tons capacity