



a.p. van den berg  
The CPT factory

# ROSON 50

the compact and versatile seabed CPT system



## features

- very compact & proven wheel drive system with a pushing force of 50 kN
- option for second set of wheels to achieve 100 kN
- deployable from modest vessel, also available in a near-shore configuration
- 1,500 m water depth rating, CPT depth up to 50 m
- suitable for 5, 10 & 15 cm<sup>2</sup> Icones & click-on modules
- suitable for Seabed Sampler XL

creating tools that move your business

# ROSON 50, the compact and versatile seabed CPT system



## introduction

The ROSON is a proven seabed CPT system, deployed from a vessel with an A-frame or crane through a moon pool or over the side. The electrical wheel drive system pushes the pre-assembled CPT string into the seabed. Wheel friction is imposed by hydraulic force. A self-tensioning electric winch with heave

compensation feeds the umbilical for power supply and data communication.

## versatile design ROSON 50

The versatile ROSON 50 is capable of performing CPTs and taking soil samples at water depths up to 1,500 m. It can be used in projects where a pushing force of up to 5 tons is required. Yet, more compact soil and/or large depth requirements may demand a 10 tons pushing force. For these projects a second set of wheels can be stacked onto the first one, creating a "ROSON 2x50" with a pushing force of 100 kN. A CPT depth up to 50 m is achievable (of course depending on the soil conditions and reaction force). The compact design makes this ROSON also very suitable as near shore solution for water depths ranging from 30 to 250 m. To limit the required investment, the self-tensioning winch is not applied for this near shore ROSON and data communication runs over a direct cable to the Icontrol data logger on the vessel.

### Specifications drive unit

Water depth rating	1,500 m
Driving speed	20 mm/sec
Pushing/pulling force	50 kN
Electrical motors	2 x 1.1 kW
Wheel diameter	Ø 500 mm

### Specifications seabed frame

Footprint	2,000 x 2,000 mm <sup>2</sup>
Height	1,900 mm
Lifting point height	2,500 mm
Weight	4,000 kg in air (excl. ballast)
Guiding masts	included

## digital Icone data acquisition system

The ROSON works in conjunction with A.P. van den Berg's digital Icone data acquisition system, consisting of the Icontrol, Icones and the Ifield software for realtime data presentation. It enables measurement of cone resistance ( $q_c$ ), local friction ( $f_s$ ), pore water pressure ( $u$ ) and inclination ( $lx/y$ ). The Icone is easily extendable with click-on modules to measure other than the four standard parameters. The modules Conductivity, Magneto, Vane and Seismic are available for the ROSON.

### Specifications CPT with the ROSON 50

Icone sizes / type	5, 10 & 15 cm <sup>2</sup> / CPT or CPTU
Icone modules	
- up to 1,500 m water depth	Vane
- up to 1,000 m water depth	Seismic, Conductivity & Magneto
CPT string diameter (OD)	Ø 25 or Ø 36 mm

## sampling with the Seabed Sampler XL

In combination with the Seabed Sampler XL it is possible to take high quality seabed samples with a diameter of 110 mm and a length up to 20 m. The recovery ratio is higher than 95%, which means that very little disturbance occurs to the sample. Sample tubes are pre-assembled in the ROSON. Then the total assembly is lowered to the seabed and the sample string is pushed into the soil by means of the ROSON drive wheels.

### Specifications Seabed Sampling with the ROSON 50

Sample diameter	110 mm
Sample length	up to 20 m
Water depth	max. 1,500 m
Recovery ratio	higher than 95%



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