

## Piston Corer

The increased penetration depth of the Piston Corer has made it one of the basic tools used in the study of marine sediments. Piston core samples are usually longer, less disturbed and more complete than those from gravity corers. The main advantage of a Piston Corer over the gravity corer is the greater length of core obtained. The action of the piston reduces internal friction and prevents plugging. Cores of over 18m are possible in soft sediment and muds.



### Applications

- Geological studies
- Marine chemistry
- Sedimentology
- Exploration
- Ocean floor processes

### Features

- Up to 18m cores
- Messenger operation
- Minimal 'down' time
- Varying core lengths
- Robust and easy to use

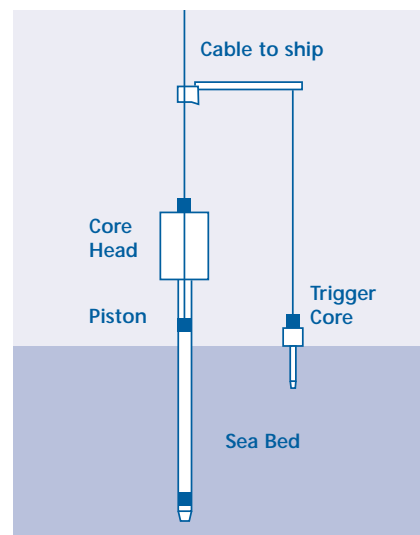
### Technical Specifications

Maximum core length:  
18m (6 x 3m core barrels)

Internal core diameter:  
72 mm

Trigger core length:  
2m (internal diameter, 72 mm)

Total weight:  
1500 kg



*Piston corer triggered*

## Rock Chipper

The SOC Rock Chipper is a tool designed for rapid and precise sampling of volcanic rocks. The Rock Chipper is primarily designed to collect glassy lava surfaces and any related thin surface sediment. The head of the chipper is constructed of 4 wax filled individual inverted cup holders of 1.25 inches in diameter. The unit is lowered by cable and allowed to 'free fall' into the seabed, splintering the rock. The splinters are collected and retained within the wax filling.

### Applications

- Sampling Glassy Formations
- Hydrothermal Activity
- Subsea Geology

### Features

- Quick Turnaround
- Variable Weights
- Sturdy Construction

### Technical Specifications

Construction:  
Galvanised steel

Maximum laden weight:  
150 kg basic unit, including  
86 kg weights

Overall dimensions:  
1.25m long x 0.3m diameter



Multiple Corers

Box Corer

Mini Box Corer

Piston Corer

Rock Chipper



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## Multiple Corers

The Bowers and Connelly range of multiple corers are simple reliable corers for collecting virtually undisturbed sediment samples. A range of models is available to sample up to 12 cores in a single deployment. The corers as designed by Bowers and Connelly are now manufactured under licence by Ocean Scientific International.



Multiple corers are widely used for sampling in chemical, geochemical and biological applications. The undisturbed sediment sample with overlying supernatant water provides a unique insight into the sediment water interface.

Corer deployment rates are in the region of 1 metre per second on the descent, and at any speed on retrieval as the samples are positively sealed.

The sampling mechanism includes some supernatant water in the core, preserving sediment/water interface, and producing samples of a high quality.

### Applications

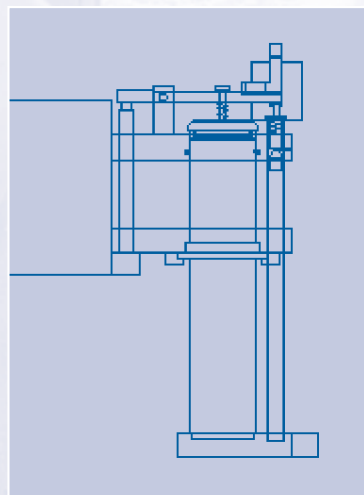
- Environmental Impact Assessments
- Geochemical analysis
- Interstitial waters
- Oil field cuttings piles
- Biological survey

### Features

- Virtually undisturbed sampling of the sediment/water interface
- Unique hydrostatic sealing mechanism
- Detachable core holders
- Simple deployment and operation
- Hydraulically damped sampling
- Rugged construction

### Technical Specifications

CORE TUBES	Mega Corer	Maxi Corer	Midi Corer	Mini Corer
Number	12	8	4	4
External diameter (mm)	110 or 65	110 or 65	110 or 65	65
Length (mm)	600	600	600	300
CORE (mm)				
Maximum length	400	400	400	150
WEIGHT (Kg)				
Unladen	300	250	185	88
Lead weight capacity	400	300	150	82
FRAME (m)				
Extended height	2.28	2.28	2.28	1.3
Assembled width	1.5	1.5	1.5	0.9



## Box Corer

The SOC Box Corers are simple and reliable corers for sampling an area of 0.1m<sup>2</sup> (Box Corer) and 0.05m<sup>2</sup> (Mini Box Corer) of sediment with minimal disturbance and sample contamination. Its unique double shovel design allows easy access to the sediment for sub-sampling for subsequent scientific investigation.

Box corers are widely used for sampling in biological, chemical and geochemical applications as the relatively large block of sediment provides a large well preserved sample.

The corers are easily deployed from a deck stand and lowered on a standard lifeboat no-load release, which activates after sediment penetration. The box is closed, top and bottom, by two closely fitting shovels, mounted on pivot arms. Removable weights allow the corers to be used successfully in a range of sediment types.



### Applications

- Deep sea sediments
- Biological studies
- Geochemical analysis
- Environmental monitoring
- Interstitial waters
- Environmental Impact Assessment

### Features

- Large box sample
- Minimal contamination
- Easy to use
- Reliable operation
- Rugged construction
- Well proven design

### Technical specifications

#### Weight:

600 kg (200 kg adjustable)

#### Box:

30 x 30 x 120 cm

#### Lower rate:

0.5 - 1.0 m/sec

#### Recovery rate:

0.1 - 0.2 m/sec

#### Operating depths:

100 m - full ocean depth

#### Total wire load:

1.0 - 2.5 tonnes

## Mini Box Corer

The Mini Box Corer is a quarter scale version of the standard SOC Box Corer. This 'mini' version is constructed of aluminum and stainless steel to reduce its weight, thereby allowing deployment from smaller boats in the inshore environment.

### Technical Specifications

#### Unladen weight:

30 kg

#### Maximum laden weight:

50 kg

#### Maximum core size:

20.3 x 20.3 x 40.6 cm long

#### Overall dimensions:

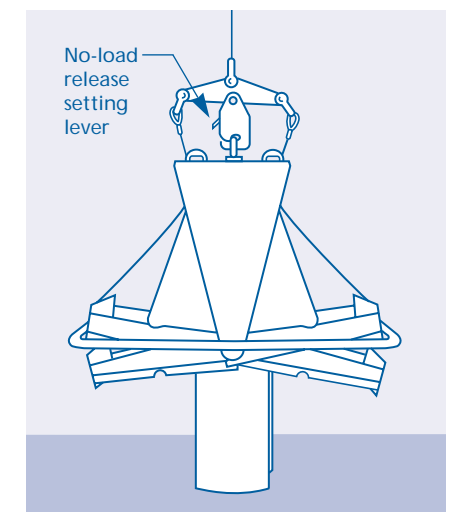
40.5 cm wide x 114 cm high

#### Overall dimensions (at launch):

90 cm wide x 144 cm high

#### Options/accessories:

Deck stand



*Descent mode with arms open & no-load release set*