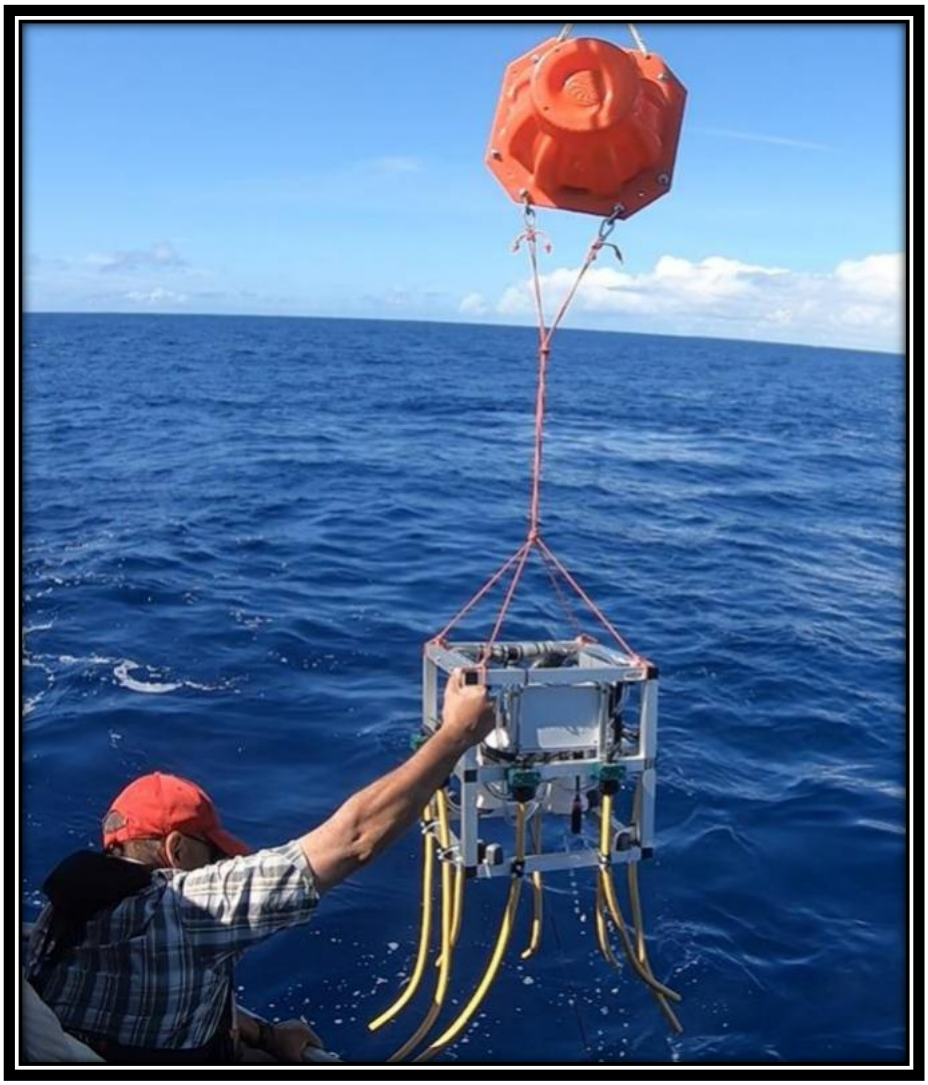
1.1 System Description

The primary objective of the JUMPER solution is to cost effectively sample large swaths of seafloor using relatively small vessels of opportunity and non specialist operators.



Jumper - Seafloor Sediment Sampler

1.2 Key attributes

- Small / light weight able to deploy from small vessel
- Stackable on deck
- Simple design for reliable operations
- Non specialist operators
- Quick deck turn around, multiple samples between battery charge
- 8 leg flexible sampling system
- Oil filled for greater depth capability (food grade mineral oil)
- Fail safe magnetic release
- Payload capability for camera / light
- Self priming
- Iridium / strobe locator

1.3 Technical Specifications

Table 1 – Physical characteristics

Weight Jumper only- Air	13.8kgs (not including drop weight ballast or buoyancy sphere) includes payload
Weight – water	4.9kgs (not including drop weight or buoyancy sphere)
Dimensions	450mm W x 450mm L x 500mm H
Buoyancy (VITROVEX sphere)	13” Diameter (13kg air) (10.9kg uplift water)
Drop weight ballast	Steel grit - Optimum 1.8ltrs (air 6.7kg) (water 5kg)
Payload	Attached lead weight (air 2.2kg) – (water 2kg)
Total deployment weight - air	39kgs – (includes jumper, optimal drop weight and buoyancy)
Sample tubes	750mm long x 8 (plastic lined aluminium)
Power	12v AGM battery
Pump	1100gpm
Pump run time	15sec, 30sec, 1min - adjustable in field
Magnetic release drive	8kgs max in air drop weight
Seafloor contact detection	Weight switch – 200g
Sample collection Sieve	150mm - min 25µm. Surface area (700cm²)
Locator	Iridium beacon (iBCN) / LED strobe (MMF-7500)
Failsafe release	If the system malfunctions the failsafe system will release the ballast after around 19hrs with a fully charged battery.
Ascent time / 3000m	Approximately 116mins
Descent time / 3000m	Approximately 73mins
Turn Around time	Approximately 189 mins (3.2hrs)

1.4 Environmental Specifications

Table 2 – Environmental specifications

Operating Depth	4,000msw
Operating Temp	2 ℃ – 35 ℃ (in water)
Fluids	ISO 15 Food Grade Mineral Oil

Photos

V3 Jumper pool testing

V3 Jumper

Sample – 25um sieve

Tonga Testing – May 2018