



**VORTEX**  
**SUBSEA SOLUTIONS**

# **SEABED SAMPLE GRAB TOOL**

**DREDGE EQUIPMENT OPERATIONS MANUAL**

PATENT PENDING



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All information correct as April 2013 and subject to changes without notification.

# Introduction

Design brief was to allow more flexibility to work in rough sea state when deploying tool through splash zone to avoid premature triggering of bucket closing mechanisms.

This new design incorporates 620mm of vertical travel before bucket closing mechanism is activated, dramatically increasing deployment capabilities in rough sea state.

**Your safety is your responsibility. Please ask if you are unsure about anything.**

**Vortex has provided a tool which will be used in an offshore environment on a vessel and cannot accept any responsibility for injury or harm to persons or property resulting from use of this tool.**



# Specifications

Maximum working load = 150kg

Sample bucket capacity = 24.7 liter volume total (collective total of four buckets)

Overall height = 1296mm

Overall width = 1200mm

Gross weight = 115kg

**Your safety is your responsibility: If you don't know, please ask.**



Tool in position to be deployed.

Please refer to clients instructions for maximum descent rate through splash zone, descent through water column and landing out subsea.



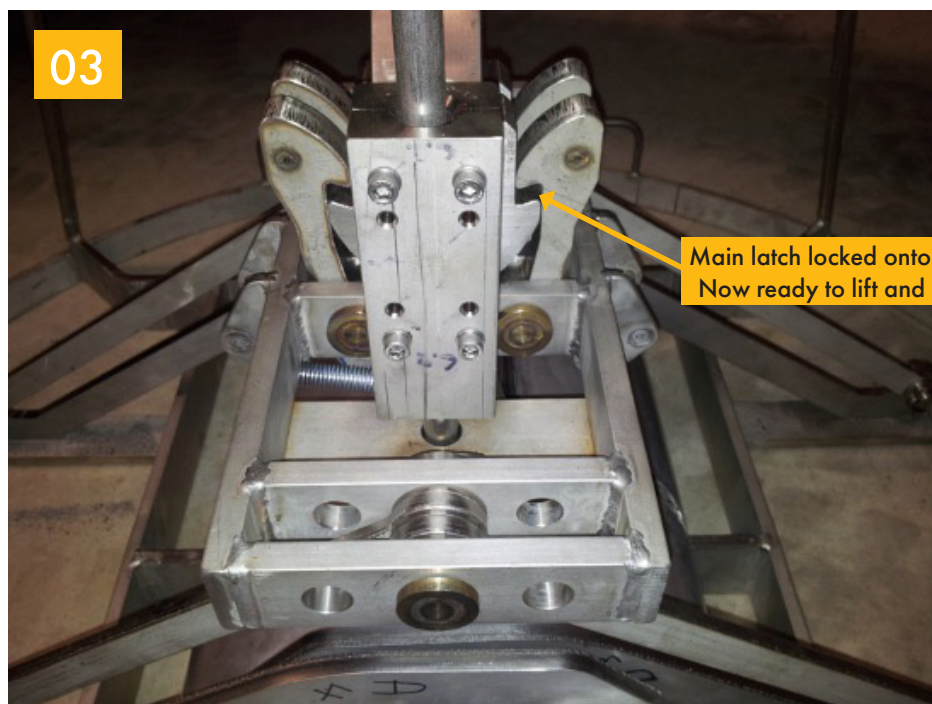
# Operation



Land out on sea bed



Slack off crane to lower lifting point into main latch.



Main latch locked onto buckets.  
Now ready to lift and sample.

# Operation



Bring weight up on crane to close buckets, take sample and recover to deck.





# Operation



Landed out on deck on suitable cradle with sample buckets closed.



Sample buckets closed with safety lock in place **BEFORE** any human handling of samples takes place.

Safety lock can go on arms on either side of tool.



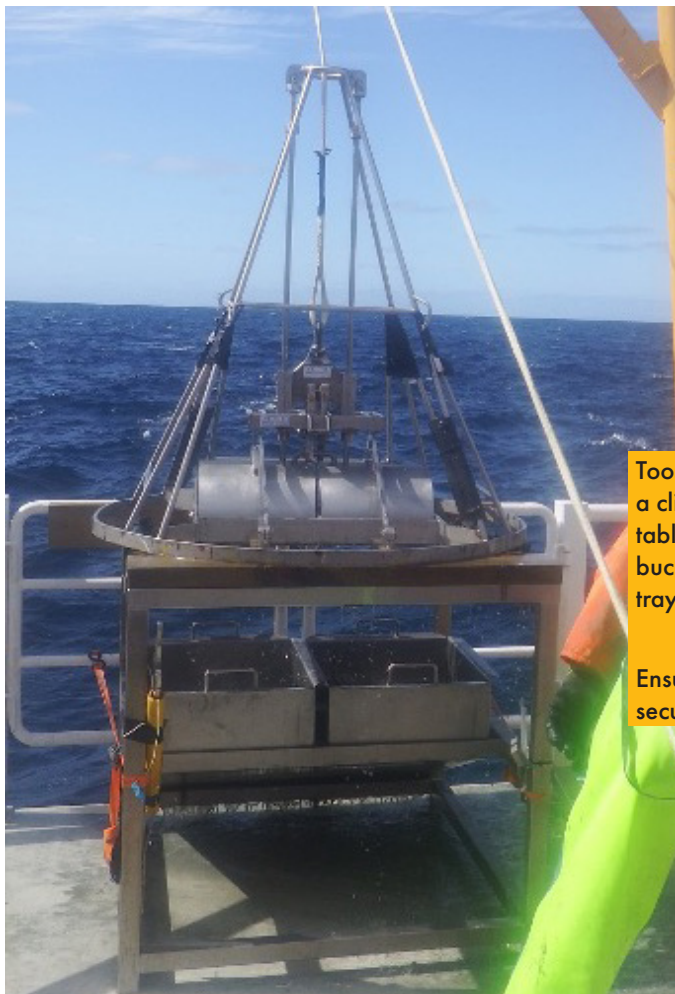
Sample bucket top access door and lock.



Safe to handle sample product **ONLY** when safety lock is in place to prevent buckets from moving.



Sample bucket top access door and lock.



Tool shown positioned on a client or vessel provided table to securely hold buckets over receiving trays for sample collection.

Ensure tool and table are secured safely on deck.



# Operation



Landed on deck, samples taken, about to empty buckets . Crane slack. Safety lock removed.

Due to the cam workings of the arms it may be necessary to 'encourage' arms to widen and so open up the buckets with the crane coming down slowly to gently lower main latch assembly into bucket open position.

Lower crane to continue to fully empty (open) buckets.

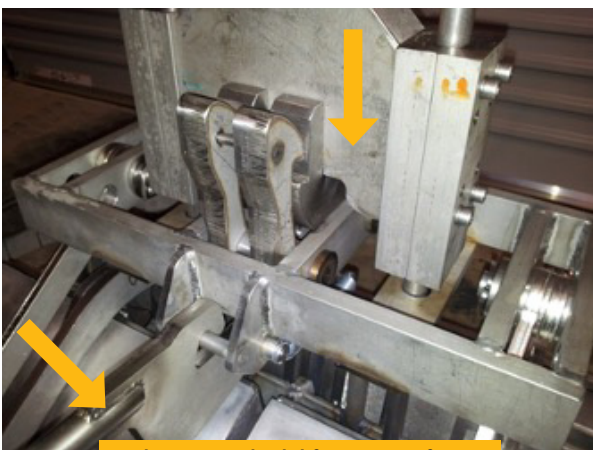
# Operation



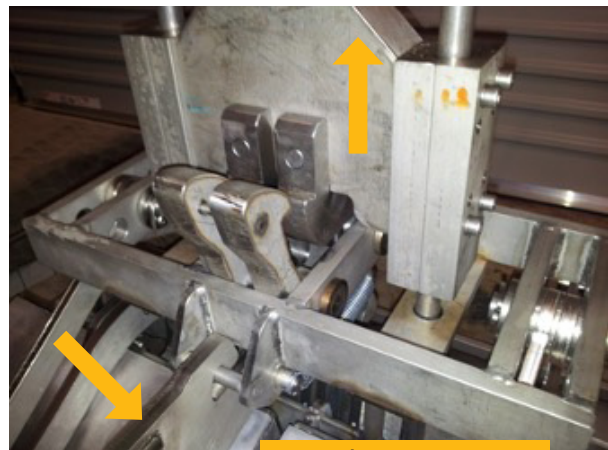
Buckets are now empty, crane still coming down slow to land main latch slowly into buckets locked open position.



Buckets locked into open position.



About to unlock lifting point from main latch.  
Fit unlatching spanner into location shown (it can go on either side in this location), push lever down to open latches.



Latches now open.  
Hold weight down on lever and slowly come up on crane.



Raise crane slowly to bring lift point to the top of the frame  
ready to deploy overboard for another sample.  
Remove unlatching tool.



# Inventory

1 X Frame mounted seabed sampling tool complete.

1 X Unlatching spanner.

1 X safety lock.

## **SERVICING:**

Ensure entire assembly is washed down with fresh water after each dive.

# Contacts



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