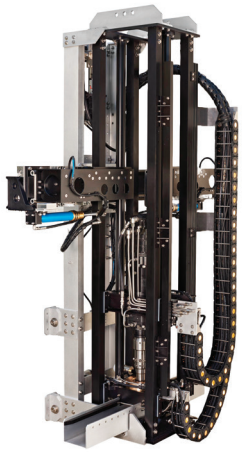
ROCS

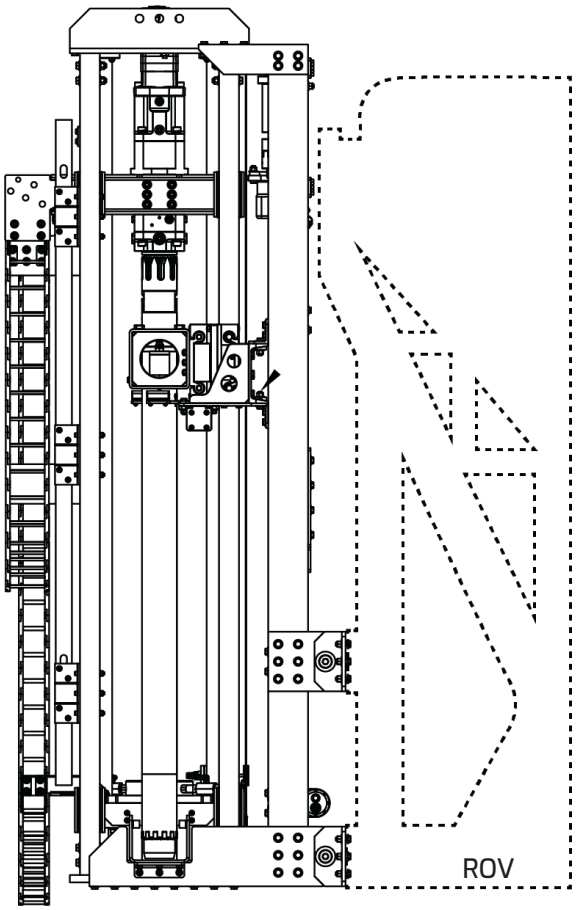
Remotely·Operated·Core·Sampler



Key in the exploration of massive sulfides and other seabed mineral deposits, the ROCS is a truly bolt on implement turning any large hydraulically powered subsea asset into a highly portable subsea core drill. The ROCS has been deployed worldwide with a proven track record including sampling missions from the northwest Pacific Ocean, Mid Atlantic Ridge, and Southern Ocean.

How It Works

The ROCS (Remotely Operated Core Sampler) is a compact subsea core drill designed to be mounted to and powered by a work class ROV or other subsea asset. The ROCS system is capable of core samples 70 to 100mm in diameter and up to 1000mm in length. The ROCS can be built as a light weight single core system or a multi core system capable of up to four cores per deployment.



Features

- 4000 meter rated, with corrosion resistant anodized aluminum, stainless steel, and polymer construction
- Spline and detent tool connection method (simplified tool handling and emergency release capabilities)
- Integral hydraulic control manifold with precision “balanced” drill feed
- Multi Core Magazine assembly allows for up to four cores per dive
- Embedded sensor suite provides feedback on all parameters necessary for quality coring
- Intuitive and adaptable Windows based control GUI

Specifications

Mechanical

Dimensions (W* x D x H), in [cm]	66 [168] x 34 [87] x 90 [229] (* with magazine)
Weight (air), lbs [kg]	661 [300]
Max RPM	1000 rpm
Max Weight on Bit	100 kg
Max Core Breaking Force	4500 kg
Max Sample Capacity	Four tools
Core Diameter (Nominal)	70 mm
Core Length (Nominal)	1000mm

Environmental

Depth Rating	4000m

Hydraulic

Global Flow Requirement	18–20 gpm
System Pressure	3000 psi

System

Power Requirement	24VDC, 8A
Comms	RS-232

QD Tech Tooling

The ROCS utilizes QD Tech tooling. The proprietary spline and detent connection method features reduced weight compared to a standard threaded connection and simplified tool handling while maintaining excellent core breaking force and emergency tool separation in the event of subsea systems power loss. All tools feature stainless steel or corrosion resistant materials where possible to limit sample/rust contamination. The rotating portion of the tool features a compensated lubrication system designed specifically for the subsea environment. The ROCS tooling has the thinnest kerf in the industry resulting in good penetration rates in hard rock with sub 100kg bit weight.

350 C

1050mm Double Tube Thin Kerf Core barrel for hard rock sampling. The 350C can be fitted with a basket style core catcher to improve core recovery in friable substrates.

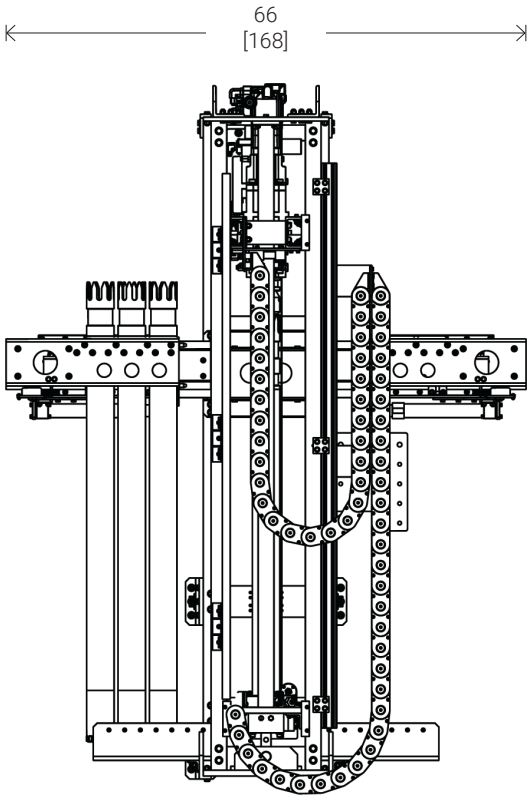
350 EXN

1050mm Double Tube EXN Core barrel for loose/sediment coring. The EXN allows the bit to rotate behind the extended nose inner tube and greatly reduces friction. The EXN can be fitted with basket style core lifter or core liner.

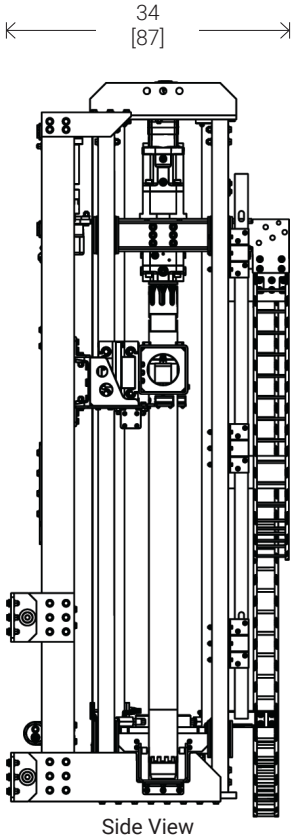
350 S

1000mm Shelby Push Core assembly for standard push coring.

*Requires the most bit weight.



Front View
*Not to Scale
in [cm]



Side View
*Not to Scale
in [cm]

600-10020-1.0