



## SCABBLER

The Scabblar is a remotely operated, hydraulically powered contaminated concrete removal device, capable of suppressing and collecting hazardous dust.

**Fine cutting control** – The Scabblar can remove up to 50mm of contaminated material in a single cut. The design utilises Barrnon's Rotocutter technology to remove concrete by utilising a mechanical cutting chain. The cutting capabilities can be deployed to both walls and floors.

**Vacuum recovery** – The scabblar is a dry system and does not require water to cut or transport the waste. Waste is vacuumed directly from the head to a waste collection chamber. The system can handle the transportation of both fine particles, and larger particles of 30mm in diameter. The Scabblar uses a unique dust suppression system preventing hazardous contaminated particles becoming airborne.

**Modular System** – Each sub assembly has been designed to minimise operator interaction and down time. All sub-assemblies are replaceable, repairable, and based on the modules used for the Barrnon Integrated Decommissioning System (BIDS). The Scabblar has multiple deployment options to suit client requirements. The machine can be remotely driven into areas of work, crane lifted into areas such as dry fuel storage ponds, or assembled in situ on site.

### Key points

- Contaminated concrete removal with full dust suppression and extraction
- Removal of circa 50mm per cut
- Recovers waste directly to a storage container
- No drop in air quality between cuts
- Produces gravel /sand sized particles
- Fully modular and scalable system
- 7m vertical reach
- Remotely operated
- Can withstand rebar
- Variety of deployment options
- All components are decontaminatable and replaceable



## Barrnon Specialities

- Nuclear decommissioning solutions
- Sludge waste handling specialists
- Nuclear fabrication
- Concept to close-out in house
- Patented technologies
- Environment characterisation
- Rapid prototyping
- Plastic and metal 3D printing
- VR control of robotics
- CAD design

## Capabilities

- **The Scabbler can enter a range of hazardous environments**
- **Capable of removing contaminated material from the walls and floors remotely**
- **The Scabbler is a modular system and can be adapted to accommodate specific client requirements**
- **Capable of removing approximately 113 kg/m<sup>2</sup> at a rate of 216 minutes/m<sup>2</sup>**
- **Full controllable depth of cut, if contamination is deeper than 50mm then multiple cuts can be performed**
- **All modules weigh less than 1.7 tonnes and can be lifted by an overhead crane**

The Scabbler has been initially designed for the remediation of dewatered nuclear fuel ponds and other concrete structures. The project was established using the Nuclear Decommissioning Authority (NDA) lead and learn strategy between Sellafield Ltd. and NRS Dounreay due to similar pond designs. The Scabbler also has applications for the removal of material in hazardous areas such as cells, and other grossly contaminated areas.

The Scabbler consists of swappable cutting heads, a Telescopic boom capable of vertically reaching 7m, and hydraulically driven tracks to move and reposition the system around site.

The Scabbler head has been designed to cut at a smooth controlled pace, to reduce reaction forces experienced within the rest of the machine. The design of Scabbler's linkages and telescoping boom ensures that any adverse reaction forces exhibited by the cutting are absorbed but will not damage the rest of the machine.

The Scabbler separates itself from other products by suppressing and recovering the dust created during the scabbling process. The conformable shroud design ensures that hazardous contaminated dust is fully contained and there is no drop in air quality during cutting or repositioning.



For more information on the Scabbler

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