

# ALPHA1

BY SABRE

## The Future of Blasting

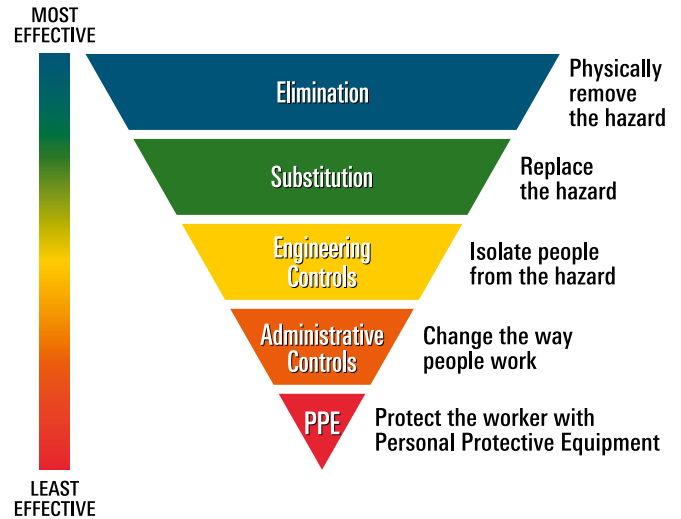
The ALPHA1 Autonomous Blasting Robot by SABRE offers a new ground-breaking way to abrasive blast. It incorporates a six-degrees-of-freedom (6DOF) robotic arm equipped with a 3D sensor that, once installed and commissioned, can scan, map, and blast complex environments, removing the human operator from the work space.

Designed with ease of installation and use in mind, the system can be assembled or disassembled in minutes.

The robot weighs less than 25kg and is small enough to be installed in areas with restricted access.

The ALPHA1 by SABRE was created for use in the field on industrial sites by blasters and painters who have NO PRIOR EXPERIENCE with robotics.

## The Hierarchy of Safety Controls



### SAFETY



Eliminate Repetitive Stress Injuries



Minimise Exposure to Contaminants



Easily Moved Lightweight Components



Reduce Confined Space Activities



Incorporate Best Practice Risk Management



Flexible, Fatigue-less, Autonomous



Simple Scan-Plan-Blast Operation



Competitive Bidding Advantage



Faster Job Completion Times



Systematised Operating Environment

### QUALITY



Consistent Surface Profile



Repeatable, Predictable Blast Times & Results



Quantitative Management and Control

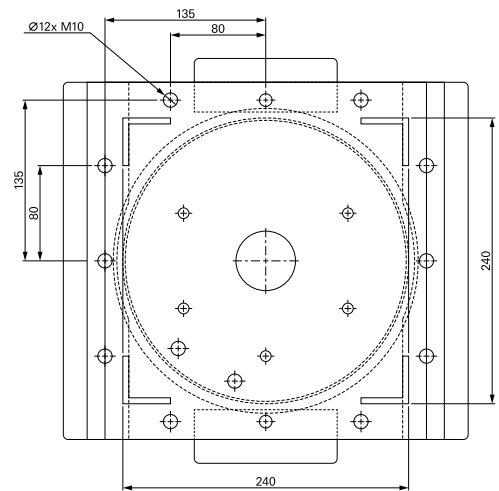
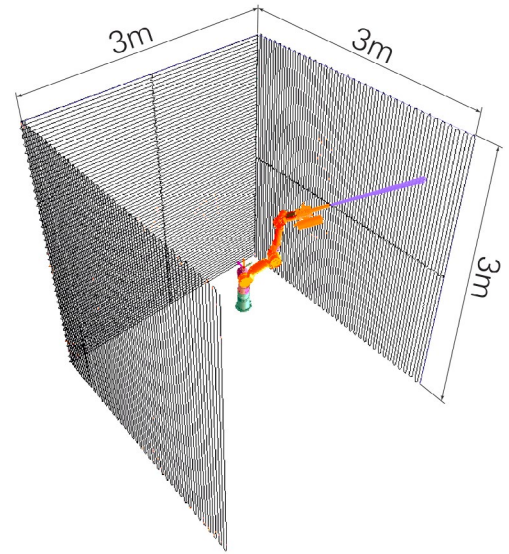


Precise Speed Control



The SABRE System is designed to be customised for each customer's application. Its arm configuration, shape and mounting are easily adapted to the blasting job.

Core-System Includes (as above)	6 DOF Robot, 3D Vision System, Blast Nozzle Safety Controller, Operator Terminal, Autonomous Blast Motion Planning Software with Obstacle Avoidance, Robot Blast Covers, Mounting, 30m Cable, Operator Training
Interface	Resistive touch screen (works with gloves on)
3D Vision System	Structured light infra-red laser (eye safe)
Safety Controller	CAT4 Safety System, Redundant Circuits, Customisable
Blasting Productivity	
Max Blast Spot Speed	400mm/s
Max Coverage Rate	40m <sup>2</sup> /hr
Nominal Coverage Width	3m all directions
Minimum Workspace (box girder)	80cm x 80cm
Nozzle (Hose Size: NHP-1 & NHP-2)	#7 - 7/16" (11mm) Nozzle with 2" UNC / 50mm Contractor Thread
6 DOF Arm	25kg
Safety Control Unit	27.5kg
Operator Control Unit	11.4kg
Power	24V DC 20A peak (Includes mains adaptor)
Environmental	IP56
Rated Payload	150N Thrust
Mounting	Quick-release frame (dimensions shown) Custom mounts, rails etc available



Mounting Plate Dimensions (mm)

### High Quality Blasting



Predefined parameters for desired blasting quality. Precision control for repeatability.

### Confined Space



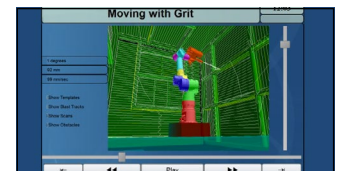
Ideal for confined space environments, the robot operates collision free in complicated structures.

### Position-Scan-Blast



The robot uses its 3D scanner to automatically plan the robotic motion in seconds. No robotics experience is required.

### Blast Monitoring



A 3D view of the environment and robot allows previewing of planned motion and monitoring blasting progress.

Want to know more? Contact SABRE Autonomous Solutions

+61 (02) 9792 2733

info@sabreautonomous.com.au

www.sabreautonomous.com.au

291 Milperra Road Revesby NSW 2212 Australia