Progressive Surface Robotic Shot Peening Blast System



Stock No	KLM500
Manufacturer	Progressive Surface
Year of Manufacture	Ref 2017
Serial	8032
Work Envelope (WxDxH mm)	Loading door - W1520 X H 1520mm
Other Info	Loading component max height - 1000mm
Location	Amsterdam, Netherlands
External Dimensions (WxDxH mm)	8,287 x 10,855 x 6,436mm

Description

A robotic shot peening system designed for automated shot peening of batches of small/medium components, this blast system provides controlled, repeatable processing with flexible part positioning. A cabinet mounted jib hoist and large access door simplify the loading and unloading of fixtured parts, while the integrated robotic system supports precise movement throughout the blasting cycle.

The system features PRIMS Pro® process control software for monitoring, data logging and management of key processing parameters.

General Description

Designed for production, overhaul, repair and research applications, this robotic system combines programmable part manipulation with controlled steel shot delivery. The tooling setup incorporates multiple axes of movement, including X and Z robot travel, A-axis tilt, B-axis rotation and a horizontal lance, alongside a turntable and horizontal rollers. This configuration offers flexibility for positioning components during processing, subject to the tooling and working envelope.

The blast system includes a steel shot media flow controller with adjustable media delivery and air pressure control. PRIMS Pro® provides an integrated process monitoring and control platform, helping operators and engineers manage processing parameters, queue parts, associate process data with individual components and maintain records for production or development work.

Benefits

- Robotic batch processing: Designed for shot peening small/medium components up to 1000mm in height.
- Easy component handling: Cabinet-mounted jib hoist and large work door help simplify loading and unloading fixtured parts.
- Multi-axis movement: Robot X and Z travel, A-axis tilt, B-axis rotation and horizontal lance movement support flexible component positioning.
- Integrated turntable and rollers: Supports different part handling and rotation requirements.
- Controlled steel shot delivery: Media flow controller provides an adjustable flow range of 0–13.61 kg/min.
- Adjustable blast pressure: Air pressure control range of 0–690 kPa (0–100 PSIG).
- PRIMS Pro® process control: Supports closed-loop process control, monitoring and data logging of key parameters.
- Part queuing and data association: Enables parts to be queued and process information associated with individual components.
- Flexible application setup: PRIMS Pro® can be configured for the user's specific process requirements.
- Production and development use: Suitable for production, overhaul, repair and research and development environments.

Axis Speeds & Part Capacity

- Robot X and Z axes: Up to 12,700 mm/min
- Robot A-axis tilt and B-axis rotation: Up to 3,600°/min
- Horizontal lance (U-axis): Up to 7,620 mm/min
- Turntable (C-axis): Up to 7,200°/min indexing; 0.2–20 RPM continuous
- Horizontal rollers: 6–60 RPM
- Maximum turntable part weight: 226.8 kg (500 lb)
- Maximum horizontal roller part weight: 226 kg (500 lb)

Blast System Specifications

- Blast media: Cut wire media (CW-14, CW-20 & CW-39)
- Media flow controller: Adjustable
- Media flow range: 0–13.61 kg/min (0–30 lb/min), Guns 1–3
- Air pressure control: Adjustable

- Air pressure range: 0–690 kPa (0–100 PSIG)

PRIMS Pro® Process Control System

PRIMS Pro® is Progressive Surface's proprietary Process Reporting and Integrated Monitoring System, developed using its Procise Process® methodology. It provides a flexible platform for monitoring and controlling shot peening operations, with features designed for both operators and process engineers.

Key Capabilities Include:

- Precision control over the complex multi-axis of the robot with a Siemens SINUMERIK 840D sl controller.
- Closed-loop process control and monitoring.
- Data logging of key process parameters.
- User friendly interface with Windows-based controls.
- Part queuing and expanded process/image association for individual parts.
- Application specific configuration for shot peening and other compatible Progressive Surface processes.
- Context sensitive help to support operation.

By combining robotic component handling, adjustable blast parameters and integrated process monitoring, the Progressive Surface system provides a flexible solution for automated shot peening applications where process control and traceability are important.

Photographs taken prior refurbishment. Our refurbishment service is not available on all machines.