

Predator3D™ Adhesive and Sealant Bead Inspection

Smaller, lighter, easier to install, higher performance,
industrially hardened, lower cost

Robust 3D on-the-fly inspection

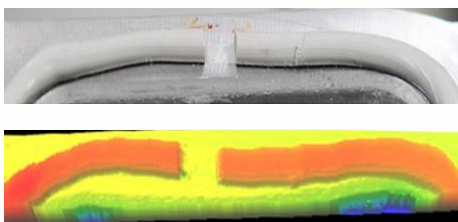
Predator3D bead inspection is the most advanced solution on the market. Rugged, reliable and 3D on-the-fly inspection during dispensing process guarantees bead quality without slowing down production.

The size, shape, location, and quality of beads are critical to avoiding leaks and assuring structural integrity. Predator3D bead inspection provides the most advanced 3D solution helping customers prevent scraps, increase yields while avoiding false rejects, and optimize the dispensing process.

Predator3D bead inspection, mounted around the nozzle, is equipped with four high-speed 3D sensors, providing 360° 3D view of the bead in any dispensing direction with no added complexity to robot programming. Embedded with Coherix proprietary solution software, Predator3D bead inspection provides real-time 3D information on bead width, height, volume, location, and detects skips or neck-downs with no external computer needed. Predator3D bead inspection is not affected by part color or ambient lighting changes, providing robust operation even in “black-on-black” or “gray-on-gray” situations where 2D techniques fail.

Predator3D Benefits

- Easy and quick setup
- Carried or pedestal mounting
- Robust 3D inspection of bead height, width, and volume 400 times a second
- Accurate inspection of bead location relative to part features
- Configurable reporting and displays
- Full part traceability with flexible archiving options
- Automatic tracking of robot speed changes
- Automatic repair
- Z-tracking robot guidance capability reduces process variation
- No added complexity in robot programming
- No change in setup for robot speed changes
- Impervious to ambient lighting changes
- Impervious to part color changes
- 0 to 45°C industrial operating temperature
- IP65 construction for sealed operation
- Rugged crash-resistant construction
- No moving components

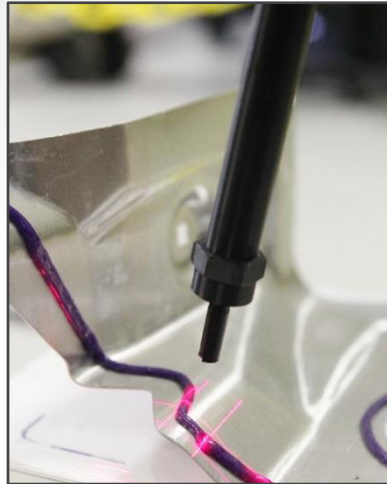


3D bead profile

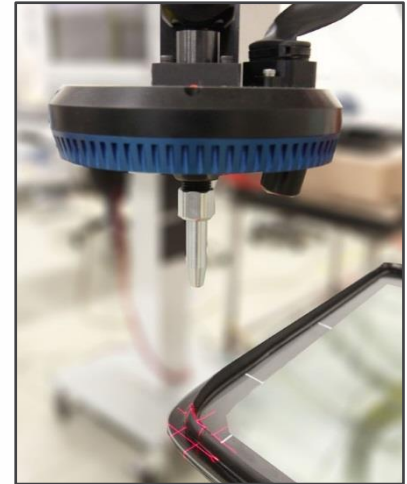




Powertrain RTV bead inspection



Body adhesive bead inspection



Glass bead inspection

Once and done: Single-pass 3D bead profile inspection is accomplished using four high-speed laser sensors surrounding the dispensing nozzle to track and inspect the bead in any direction without blind corner. Acquiring and processing 1,600 samples per second, Predator3D bead inspection has industry-leading acquisition speed avoiding production slow downs.

Easy to integrate: Predator3D mounts around the dispenser nozzle. It communicates easily with whatever protocol your dispenser or robot uses. Predator3D does not add complexity to robot programming. There are no time-consuming setup changes required for robot speed changes commonly necessary on other systems.

Proven: Predator3D bead inspection leverages Coherix Shark™ 3D high-speed imaging and processing platform which has proven reliability inspecting billions of customer parts to date. Predator3D bead inspection is deployed and routinely inspecting adhesive application in some of the most advanced automation cells in the world.

Rugged: With no moving parts, the Predator3D sensor is built with a solid aluminum frame to withstand impacts and IP65 sealed housing that protects it from typical spills and cleanup. Predator3D bead inspection is the online system that stays online.

*Preliminary Specification

Predator3D Standoff	Total Weight	Max inspection width (at nominal standoff)	Clearance range	Standard uncertainty on bead height	Standard uncertainty on bead width
60 mm	1.7 kg	35 mm	45-90 mm	< 0.1 mm* (1σ)	< 0.1 mm* (1σ)
125 mm	2.0 kg	33 mm	115-175 mm	< 0.125 mm* (1σ)	< 0.125 mm* (1σ)
200 mm	1.7 kg	39 mm	160-265 mm	< 0.15 mm* (1σ)	< 0.15 mm* (1σ)

Common Specifications

- # >15G Shock
- # 100BASE-T Ethernet M12 connector
- # <40 watt power consumption with 24VDC M12 connector

