

## Objects of Interest

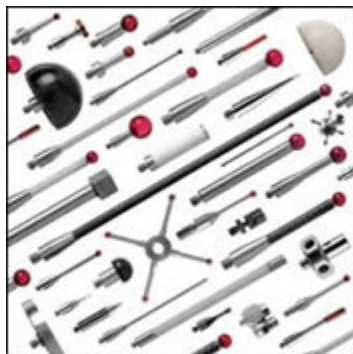
### Camera-Based Measuring System

Pilz Automation Safety's ([www.pilz.com](http://www.pilz.com)) PSEnvip measurement and protection system design for press brakes provides an easy-to-configure and low-maintenance camera-based way to reduce the reliance on curtain systems. It creates protected fields that are constantly monitored and represented on the camera unit's display, assuring that any object (finger-sized or smaller) breaching the protected area results in an immediate stop in less than 3 milliseconds. Suitable for press brakes up to 32.8-ft. long, the system uses an LED-based light source and camera unit complete with integral display. The camera is connected to either a PNOZmulti modular safety controller or a programmable safety system, both of which are mounted to the upper die to save space, while providing added resistance to vibration and interference from diffused light sources.



### Torque Measurement System

ASI DataMyte's ([www.asidatamyte.com](http://www.asidatamyte.com)) LightStar Torque Measurement System provides a solution to reduce false readings commonly found in peak torque auditing. A solid-state gyro in the wrench head captures torque only when the fastener actually turns. Angle resolution is 0.037°, while the instrumentation and logic built into the data collector differentiates between windup in the drive, socket, and bolt head. A multi-colored LED indicator in the wrench head instantly notifies the operator of good (green) or bad (red) torque readings when the wrench is connected to an ASI DataMyte data collector.



### CMM and Machine Tool Styli

Renishaw's ([www.renishaw.com](http://www.renishaw.com)) CMM and machine tool styli feature stylus balls that are bonded to the stems for maximum joint integrity. The balls are manufactured from synthetic ruby (99% aluminum oxide crystal cultured at 2,000°C), silicon nitride, and zirconia for improved purity, finish, and sphericity. Renishaw styli are available in a range of sizes and configurations—straight styli and ball, disc, cylinder, pointer, and ceramic hollow ball.

### Precision Bar Feeders

Edge Technologies' ([www.hydrumat.com](http://www.hydrumat.com)) Patriot Series 12-foot magazine bar feeders automatically feed round, square, and up to 12.5-ft. hexagonal bar stock into CNC lathes. The Patriot 338 feeds stock in a diameter range of 3 mm to 38 mm, while the patriot 551 offers a range of 5 mm to 51 mm. A touch-screen with menu-driven parameters makes programming easier, with memory storage for up to 36 speed changeovers. The cutting guide features polyurethane channels that are flooded with oil to create a hydrodynamic effect, providing higher RPM with lower noise and vibration.



### Modular Conveyor System

Arbor Automation's ([www.orbitform.com](http://www.orbitform.com)) Low Back Pressure modular conveyor system provides a low friction, low-impact option for moving parts of various sizes and shapes. Designed for easy set up and configuration, the conveyors are available in varying lengths with widths ranging from 3.75- to



12-in. with the ability to complete 45° and 90° turns.

### Compact Coating System

CemeCon's ([www.cemecon.com](http://www.cemecon.com)) CC800/9 JET coating system capable of coating up to 900 drills or 2,450 indexable inserts in a single coating cycle. It uses sputter technology and can accommodate various coating materials.

### Stainless Steel Turning Inserts

Seco Tools ([www.secotools.com](http://www.secotools.com)) expands its lineup of stainless steel turning inserts with the addition of TM2000 and TM4000 grades, ideal for M20 to M40 stainless steel applications. The TM2000 can maintain speeds of up to 300 meters per minute in finishing operations, and almost 200 meters per minute in roughing operations.

### High-Precision EDM

GF AgieCharmilles' ([www.gfac.com/us](http://www.gfac.com/us)) AC Vertex wire-cutting EDM fulfills the requirements for micro and nano machining through the use of wires just 0.02 mm in diameter using IPG-V's eCut technology for improved surface finishes down to 0.05  $\mu\text{m}$  Ra. Vertex works with dual wire spools of different type and width via the machine control system. Table design separates the X- and Y-axes on a monobloc allowing for movement of the workpiece in the X direction exclusively while a second axis slide, moveable in the horizontal plane, accommodating the upper part of the C-frame, moving the wire in the Y direction for improved taper cutting of complex parts.

### Handheld 3-D Scanner

Z Corp.'s ([www.zcorp.com](http://www.zcorp.com)) handheld, self-orienting ZScanner 800 offers five-times the resolution and more than double the accuracy of its first-generation scanners. Equipped with a third high-definition camera for improved scanning resolution with accuracy within 40  $\mu\text{m}$ , the scanner can detect changes in surface height down to 50  $\mu\text{m}$ . An automatic multi-resolution function self-calibrates the resolution level based on the type of surface being scanned.



### Safety Light Curtains

Honeywell's ([www.honeywell.com](http://www.honeywell.com)) FF-SG Series AM2-L self-contained safety light curtains provide longer scanning range, greater cable length and more mounting possibilities without the addition of a separate operating control unit. Designed for applications including engine line, welding, assembly, stamping, and paint shop operations, the FF-SG Series generates an emergency stop condition as soon as an object is detected inside the protection field.