

Servo Drives

The Unidrive M series of servo drives integrates seamlessly with existing manufacturing automation systems and vendor-supplied equipment, including communication interfaces, feedback devices, enhanced



safety features and onboard PLCs. The drives support a wide range of system integration modules and feature a high-speed parallel bus that removes delays between the drives and modules. There are seven models in the series, and each model offers an incremental level of functionality, designed to solve more advanced application needs.

Emerson Electric
www.emersonindustrial.com
 952-995-8000

Assembly Arm

The heavy-duty FlexArm counterbalances tool weight and absorbs torque reaction, helping assemblers save time and reduce errors. Eight standard models of the arm are available. They absorb torque reaction from 50 to 800 pounds. The largest model has a reach range of 20 to 84 inches. The arm's articulating design enables assemblers to move and lock the tool in place. The company allows a free trial and makes customized units.

Midwest Design Specialties Inc.
www.flexarminc.com
 800-837-2503



Camouflage-Design Welding Helmet

Weighing just 6 ounces, the Jackson welding helmet features a camouflage design by Realtree, a maker of outdoor gear. The helmet features a rugged Hydrflex shell that increases comfort by reducing neck tension. It is available with either a passive or auto-darkening filter (ADF) lens. ADF lenses increase productivity by eliminating the need for welders to frequently lift and nod their helmets. The lenses are powered by two AAA batteries.

Kimberly-Clark Professional
www.kcprofessional.com
 800-241-3146



Handheld Plastic Welding System

This 30-kilohertz ultrasonic plastic welding system can be set to weld in digital time, constant energy or continuous duty mode for maximum control and versatility. It features a 0.5-inch-diameter welding tip that attaches to an integral titanium front driver. Digital time controls range from 0.1 to 9.9 seconds, and digital energy controls range from 0 to 999,999 joules.

Additional features include autotune

circuitry, frequency display, digital amplitude control, ultrasonic power load meter and weld limit settings.

Sonics & Materials Inc.
www.sonics.com
 800-745-1105



Robotic Arms

Lightweight and flexible, the UR5 and UR10 six-axis robotic arms work alongside personnel, require no safety shielding and are easily moved around the production area. A teaching function allows users to grab the robot arm and show it how a movement should be performed. The UR5 has a load capacity of 5 kilos, the UR10 of 10 kilos. Their simple user interface enables employees with no programming experience to quickly set up and operate the robots.



Universal Robots
www.universal-robots.com
 704-755-1030

Lift Small Heavy Bags

Manufacturers can use this end-of-arm-tooling to lift woven cloth, plastic or paper bags that weigh up to 22 kilograms and are



290 to 450 millimeters wide. The tooling weighs 17 kilograms and features 16 stainless steel fingers designed to withstand harsh manufacturing environments. Its main frame is made of lightweight aluminum. Spring-return decking plates ensure accurate placement of each bag onto a pallet. Other features include high-flow pneumatic solenoid valves and a bag presence sensor.

SAS Automation
www.sasgripper.com
888-727-3628

3D Smart Sensors

Gocator all-in-one 3D smart displacement sensors enable manufacturers to perform 100



percent noncontact product inspection at scan rates up to 32 kilohertz. Each sensor uses a precalibrated laser, camera and optics to deliver consistent, reliable and precise real-world measurements. The sensor produces high-resolution images at distances up to 2 meters. It fits in small spaces and integrates without costly system modifications. The interface allows users to setup and control the sensor from a Web browser.

LMI Technologies Inc.
www.lmi3d.com
503-858-0482

Green Welding Technology

The Multiplaz 3500 welder is environmentally friendly because it uses water or a water-alcohol solution instead of shielding gas.

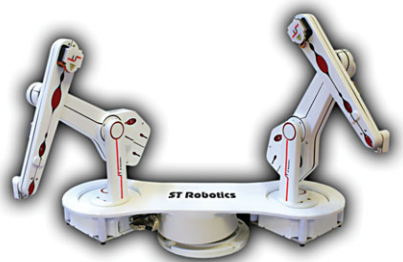


The water (or solution) releases vapor, which the welder's torch uses to produce a plasma stream that is 14,400 F and capable of cutting any metal. The welder can weld thin or thick metals and solder tool steels. It eliminates the need to purchase consumables (like gas bottles) or equipment such as compressors, transformers and pressure regulators.

Multiplaz North America
www.multiplaz.com
855-314-5551

Tandem Robot System

The Tandem R125 is comprised of two five-axis vertically articulated robot arms that are



mounted to a programmable carousel. The robots' K11R controllers are interconnected, enabling communications to synchronize the motions of the robots moving together, or allowing the robots to cooperatively alternate turns while performing one task. Including the carousel, the system has a total of 11 axes. It also includes RoboForth II software, intuitive teach pad, cables and simple interfacing with other equipment.

ST Robotics
www.strobotics.com
609-584-7522

Portable Riveting

Because it does not use compressed air lines, the eRiv b10 cordless riveting tool gives assemblers total portability in their workstations or when doing field work. The tool is ergonomically designed and powered by a 14.4-volt lithium-ion battery. It has a



21-millimeter-long stroke that can place breakstem rivets with a nominal diameter of 3 to 5 millimeters. The tool has a pull force of 9 kilonewtons and a 2-second cycle time. Battery charge time is 1 hour.

Avdel USA LLC
www.avdel-global.com
704-888-7100

Acrylic Adhesive Tapes

The 650 family of acrylic adhesive tapes are designed for low-surface-energy materials



and urethane foam frequently used by manufacturers in the automotive, medical device, electronics and transportation markets. Series 654T-74-54 is a thin, lightweight tissue coated on both sides with 2 mils of high-tack, high-shear acrylic. Series 653-74-54 is a 3-mil acrylic film cast on a silicone-coated release liner. Series 654M-74-54 has 2 mils of acrylic on both sides of a high-quality polyester film.

Adchem Corp.
www.adchem.com
631-727-6000

Vacuum Lifting Systems

These systems (standard or custom) use pneumatic or electric actuators to safely move



horizontal or pitched (up to 180 degrees) pieces that weigh thousands of pounds. The pieces can be smooth, rough or porous; made of sheet metal, glass or wood; and be of various shapes, including coils, sheets, planks, beams, barrels or drums. Recently, the company made a custom system for a commercial aircraft OEM to lift, rotate and reposition five separate fuselage panels.

Cynergy Ergonomics Inc.
www.cynergyergonomics.com
314-304-0221

Fasteners Join Panels

Snap-Line captive and noncaptive fasteners securely join two metal panels and can be used anywhere standard fasteners are installed. The



fasteners ensure a secure, vibration-resistant attachment to the panel, eliminating the need for tools and mounting hardware. Assemblers install fasteners by pushing them through the panel cutout. An optional spring facilitates easy removal. The fasteners are applicable for industrial machinery, medical and food equipment, transportation vehicles, and racks used in the telecommunications and computer industries.

DIRAK Inc.
www.dirak.com
703-378-7637



Benchtop Laser Engraver

The Fibre300 laser engraving system marks quickly with good surface depth on most metals, stainless steel, alloys, and reflective materials such as silver, platinum, copper, brass and gold. It features a large marking chamber (23 by 21 inches) that handles small or large projects. The system's Z-axis has a 12-inch working range, which enables users to engrave parts of different shapes and sizes. Air-cooled, the system uses

no consumables. Safety features include a large viewing window.

GravoTech Inc.

www.gravograph.us

800-843-7637



Handheld Seam Welder

Weighing just 35 kilograms, the LSS-3 attaches to a manipulator and allows workers to weld steel or aluminum seams up to 40 millimeters long by hand. It is designed for small-run assembly line welding, rework and the production of prototypes. The unit has a clamping force of 0.6 to 3 kilonewtons, and a maximum welding speed of 80 millimeters

Products

per second. Its optical head has a fixed focal length of 250 or 300 millimeters.

IPG Photonics
www.ipgphotonics.com
508-373-1100

Super-Resolution Digital Microscope

The VHX-2000 digital microscope alleviates the shortcomings of traditional optical light microscopes, such as shallow depth-of-field, short working distance and sample limitations. By integrating



advanced zoom optics with a CCD camera, the microscope streamlines testing and improves inspection speed. It has a magnification range from 0.1 to 5,000 times and comes with a 17-inch LCD monitor, light source, controller and analysis-reporting software. The microscope can be equipped with a motorized XY stage and Z-axis lens control.

Keyence Corp. of America
www.keyence.com
888-539-3623

Silicone Thermal Interface Material

EPM1-2493 is a low-viscosity pourable silicone elastomer that can be used for potting recessed areas and applied to intricate



geometries in electronic applications. It can also be used for adhering integrated circuit substrates, base plates or heat sinks, or where grooves require a limited flow material. The liquid can be loaded into syringes and dispensed as a one-part material in bond lines as thin as 5 microns. Its adhesive strength can be improved with a primer.

NuSil Technology LLC
www.nusil.com
805-684-8780

Angled Frame Conveyors

AS40Z angled frame automation conveyors enable elevation changes that are not possible with a flat conveyor. The conveyors' design resists twisting, which is a leading cause of belt tracking problems. They come in three



configurations. The L model is horizontal to inclined, the R model is inclined to horizontal, and the Z model is horizontal to inclined to horizontal. The standard angles are 30, 45 and 60 degrees. Other angles are available as special orders.

QC Industries
www.qcindustries.com
513-753-6000



Midrange Robots

S5 robots (S5-A701 and S5L-A901) feature a rigid arm design and advanced servo control technology that combine to produce high-speed motion, low vibration and high precision. The six-axis robots have a maximum payload of 5 kilograms, and a horizontal reach of 786 millimeters to the mounting face and 706 millimeters to the wrist center. Used with the RC180 or PC-based RC620+ controller, the robots can be mounted to a table top, wall or ceiling.

EPSON Robots
www.epsonrobots.com
562-290-5910

Screws Stick to Bit

Consisting of a bit with a hex-shaped tip and a screw with a hex-recess head, the HexStix system provides stability and alignment during one-handed fastening. The bit tip fits snugly into the screw head and keeps the screw firmly in place at the point of assembly, eliminating the problem of dropped screws. The bit requires no



magnetic pull or vacuum screw holders, and it meets industry-strength standards for lobular-drive systems. Standard six-lobe bits can remove the screws.

Semblex Corp.
www.semblex.com
800-323-1736

Electronic Kanban

EKanban software allows manufacturers to establish electronic kanban replenishment for raw materials, work in process and finished goods. Users set up the pull process, from customers through the plant and global supply chain. The software then standardizes lead times and lot sizes, and automatically resizes inventory based on consumption



changes. It shows where a kanban card is at any point in time, guaranteeing no lost or duplicate cards. The software uses scorecards to rate suppliers.

Ultriva Inc.
www.ultriva.com
408-248-9803

Plug-and-Play Servo Motors

Junma AC servo motors feature a plug-and-play design that allows for quick setup. Parameters are set on system power up, and machine load inertia is calculated automatically. Tuning gains are adjusted dynamically, even when the load changes. Four motors are available, offering torque output at speeds up to 4,500 rpm and power outputs from 100 to 750 watts. A



vibration-suppression function maintains precise positioning and optimizes efficiency. Other functions include jogging, electronic gearing and torque limiting.

Yaskawa America Inc.
www.yaskawa.com
800-927-5292

Tab Washers

Available in various materials and sizes, these tab washers lock a part into place in applications requiring extreme heat or vibration. Some washers lay flat, while others have one or more tabs that form around bolts or nuts. They are metallic (steel, aluminum, brass,

copper) or nonmetallic (ABS, acetal, polyester, nylon, fiber, laminates) and have outside diameters from 0.08 to 6 inches. Tab configurations include internal, external, internal and external, and multiple internal and external.



Boker's Inc.
www.bokers.com
800-927-4377

Two Series of Grippers

Both the mini 80 and power 140 series grippers offer a high closing force. The mini gripper has a closing force of 12 newtons and an 8-millimeter jaw opening. Its small design makes it suitable for use in gripper systems where space is at a premium. The power gripper has a closing force of 380 newtons and a 15-millimeter jaw opening. Its self-centering jaws securely grip and remove large parts from injection-molding machines.



FIPA Inc.
www.fipa.com
800-913-7002

Lift Stage

The AVS1000 lift stage uses a moving-wedge block to perform precise, incremental elevation of a heavy load (up to 135 kilograms) in a vertical

