

Automation Systems

Products and Solutions for Assembly



About ASG

We are personally committed to understanding and exceeding the requirements of our internal and external customers and all other interested parties. We are committed to continuously improving our products, processes, and services.

We are dedicated to delivering products, services, and solutions on time and at a competitive value.

ASG, Division of Jergens, Inc. is an ISO 9001 certified manufacturer, provider, and service center for products and solutions focused around assembly. Since the 1970s, we have developed a first-class reputation unrivaled in the industry offering a wide range of world class products through our various world wide locations.

We offer a wide selection of products including: electric, pneumatic and manual torque control screwdrivers; torque and angle control precision fastening systems; automatic screw feeders and screw presenters; torque testers and calibration services; custom designed automation equipment as well as a full line of accessories.

ASG also offers a selection of value-added products and solutions including engineering and consulting services, financing, and extended protection and maintenance plans.



Industry Commitment

ASG is committed to the highest quality standards, ensuring that all processes and procedures are followed to produce the best products for our customers. We maintain ISO 9001 certification for the manufacture, distribution, and service of assembly tools. Maintaining membership in key industry organizations in order to stay abreast of the most current industry trends and information is vital to serving our customers.



ASG Automation Product Group

Engineered Performance



The ASG Automation group provides pre-engineered and custom solutions to meet the comprehensive expectations of our clients. Underpinned by world class knowledge of threaded fastening, our systems are distinctive in their operation; providing market leading precision. With robust elements of flexibility and expansion built in, the systems are designed to persevere life cycle changes to provide our customers with longevity in an automated solution.

TM Robotics

Preferred Partner

TOSHIBA MACHINE
INDUSTRIAL ROBOTS

TM Robotics, in partnership with Toshiba Machine, offers a comprehensive range of industrial robots ideally suited for high-precision assembly, machine loading/unloading and material-handling applications. The company's extensive product line starts with a Cartesian solution available in thousands of combinations from single actuators to four-axis solutions; six-axis solutions that can include precise vision-control; and a complete range of SCARAs from low cost to the industry-leading SCARA with 1200-mm reach that can carry up to 20 kgs. TM Robotics sells and services Toshiba Machine's Industrial robots throughout Europe, the Middle East, India, Russia, and Africa, as well as North, Central, and South America, from headquarters in Hertfordshire, England and Elk Grove Village, IL, USA. For more information, visit www.tmrobotics.com or www.tmrobotics.co.uk

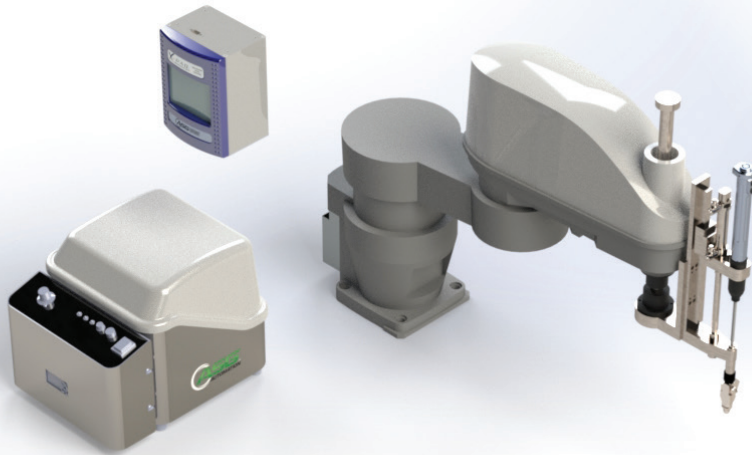
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Section 1: The AX-03 Robot Package

Includes: Robot, Integrated Auto Feed, and Drive Tool

The AX-03 robot package is designed with the sophisticated end user and systems integrator in mind. The package comes complete with fully integrated ASG Auto Feed screw feeding system and driver. The package is pre-assembled, programmed, and tested prior to shipment; allowing it to be up and running and driving screws in a matter of minutes.



The AX-03 packaged components are:

- Choice of Driver: ASG X-PAQ™ SD2500, X-PAQ™ EH2, or Fiam® driver
- ASG Integrated Auto Feed screw feeding system with 1L or 3L bowl size
- Choice of robot type
- Single or dual stroke pneumatic slide for screw placement
- Controls Options:
 - On-board Robot PLC
 - Standard controls package is Allen Bradley, other manufacturers available upon request

ASG Number	¹ Robot Type	² Max. Robot Envelope Size	³ Torque Range	Power	Min. Air Pressure
		mm	N.m		PSI
AX03-0000	SCARA	450, 550, 650, 850, 1050, 1200	0.1 - 500	230V/1 PH	92
	6-Axis	800, 900, 1000, 1200, 1500	0.1 - 500	230V/1 PH	92
	Cartesian	Up to 4450 per axis	0.1 - 500	230V/1 PH	92

¹ Cartesian robot is either 2-Axis (X-Y) or 3-Axis (X-Y-Z). Inquire with ASG if a different configuration is necessary.

² Sizes listed are per robot. For example, the SCARA type with 650 size is a SCARA robot with a maximum envelope size of 650mm. Likewise, the 6-Axis type with 1000 size is a 6-Axis robot with a maximum envelope size of 1000mm.

³ Torque ranges above 5 N.m may require external support to counteract applied torque. External support can be provided by ASG at the time of quotation. Inquire with ASG if higher or lower torque ranges are required.

Section 2: The AX-05 Tabletop Package

Includes: Tabletop Robot, Screw Presenter, and Drive Tool

The AX-05 tabletop package is a simple, pre-packaged screw driving system. The package comes complete with fully integrated screw presenter and driver. The system is pre-assembled, programmed, and tested prior to shipment; providing for quick setup upon delivery.



The AX-05 packaged components are:

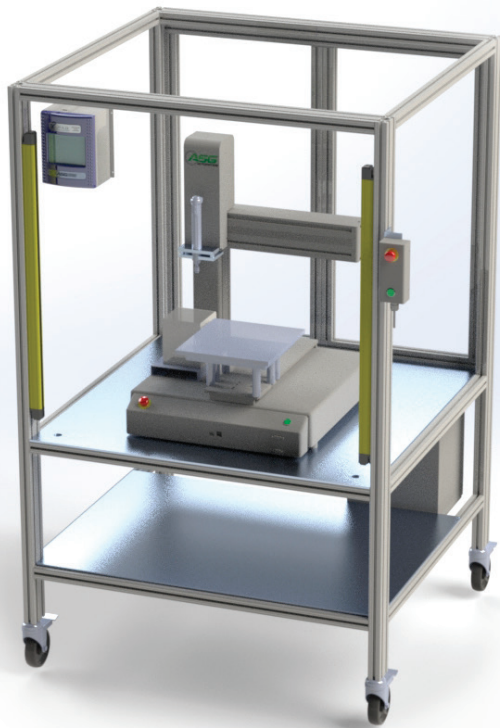
- Choice of Driver: ASG X-PAQ™ SD2500 or HIOS® driver
- Choice of tabletop robot size
- Screw presenter customized to screw dimensions

ASG Number	Max. Robot Envelope Size	Torque Range	Power	Min. Air Pressure
	X x Y x Z (mm)	N.m		PSI
AX05-0000	300 x 320 x 100	0.1 - 4.9	120V/1 PH	80
	400 x 400 x 150	0.1 - 4.9	120V/1 PH	80
	510 x 510 x 150	0.1 - 4.9	120V/1 PH	80
	510 x 620 x 150	0.1 - 4.9	120V/1 PH	80

Section 3: The AX-10 Tabletop System

Includes: Tabletop Robot, Screw Presenter, Drive Tool, Frame, and Safety Light Curtain

The AX-10 tabletop package is a base model turnkey automation system. As such, it is a solid platform for batch runs of smaller components or assemblies. The AX-10 is marketed primarily as a screw driving machine, but can also provide dispensing, and vision guided processing.



The AX-10 packaged components are:

- Choice of Driver: ASG X-PAQ™ SD2500 or HIOS® driver
- Choice of tabletop robot size
- Standard maximum load for workpiece is 15kg. A 20kg maximum load is available upon request.
- Standard communication via: Fieldbus, CC-Link, DeviceNet, PROFIBUS, PROFINET, Ethernet/IP, CANopen
- Standard 16 inputs/16 outputs
- Screw presenter customized to screw dimensions
- Frame size as indicated below
- Light curtain provided to meet RIA safety standard

ASG Number	¹ Max. Robot Envelope Size	² Frame Size	Torque Range	Power	Min. Air Pressure
	X x Y x Z (mm)	W x D x H (m)	N.m		PSI
AX10-0000	300 x 320 x 100	0.9 x 1.0 x 2.0	0.1 - 4.9	230V/1 PH	80
	400 x 400 x 150	0.9 x 1.0 x 2.0	0.1 - 4.9	230V/1 PH	80
	510 x 510 x 150	1.1 x 1.1 x 2.0	0.1 - 4.9	230V/1 PH	80
	510 x 620 x 150	1.1 x 1.1 x 2.0	0.1 - 4.9	230V/1 PH	80

¹ Different robot envelope (and frame) sizes are available.

² Sizes are approximate and for reference only. Frame size is contingent upon robot envelope size and part size.

Section 4: The AX-15 Multi-Spindle System

Includes: Z-Axis Multi-Spindle, Integrated Auto Feed, Drive Tools, Frame, and Safety Light Curtain

The AX-15 multi-spindle system is flexible in its design in that it can be provided as a semi or fully automated system. The system may also be provided with or without an auto feed screw feeding system. The number of spindles on this system may be increased or decreased to match the output required. Finally, the system can be provided with synchronous torque controls, allowing all of the drivers to reach torque simultaneously.



The AX-15 packaged components are:

- Choice of Driver: ASG X-PAQ™ SD2500, X-PAQ™ EH2, or Fiam® driver
- ASG Integrated Auto Feed screw feeding system with 1L or 3L bowl size
- Light curtain (required for automatic system)
- Requested number of spindles – Generally, the system is provided with between 1 and 6 spindles
- Frame size as indicated below

ASG Number	¹ Vertical Stroke	² Frame Size	³ Torque Range	Power	Min. Air Pressure
	mm	W x D x H (m)	N.m		PSI
AX15-0000	100	0.9 x 1.0 x 2.0	0.1 - 500	230V/1 PH	92
	100	1.1 x 1.1 x 2.0	0.1 - 500	230V/1 PH	92

¹ Standard stroke. Stroke may be increased if required.

² Sizes are approximate and for reference only. Standard frame is extruded aluminum. A steel base shall be provided for heavier applications.

³ Inquire with ASG if higher or lower torque values are required.

Section 5: The AX-20 Fixed Table System

Includes: Robot with Fixed Table, Integrated Auto Feed, Drive Tool, Frame, and Safety Light Curtain

At the foundation of the AX-20 fixed table system is a heavy duty steel base, industrial robot, ASG Auto Feed screw feeding system, and driver of choice. These robust components are managed by an Allen Bradley control architecture that features HMI, PLC, and network connectivity. The fixed table provides ample work space for large assemblies, or for the nesting of several small assemblies.



The AX-20 packaged components are:

- Choice of Driver: ASG X-PAQ™ SD2500, X-PAQ™ EH2, or Fiam® driver
- Choice of robot type
- ASG Integrated Auto Feed screw feeding system with 1L or 3L bowl size
- Frame: Steel base and aluminum enclosure, sliding drawer for Auto Feed system
- Controls¹: PLC, HMI, safety related devices

ASG Number	² Robot Type	³ Max. Robot Envelope Size	⁴ Frame Size	⁵ Torque Range	Power	Min. Air Pressure
		mm	W x D x H (m)	N.m		PSI
AX20-0000	SCARA	450, 550	1.2 x 1.2 x 2.0	0.1 - 500	230V/1 PH	92
	Cartesian	Up to 600 per axis	1.2 x 1.2 x 2.0	0.1 - 500	230V/1 PH	92
	SCARA	650, 850	1.5 x 1.5 x 2.0	0.1 - 500	230V/1 PH	92
	6-Axis	800, 900	1.5 x 1.5 x 2.0	0.1 - 500	230V/1 PH	92
	Cartesian	Up to 1000 per axis	1.5 x 1.5 x 2.0	0.1 - 500	230V/1 PH	92
	SCARA	1050, 1200	2.0 x 2.0 x 2.0	0.1 - 500	230V/1 PH	92
	6-Axis	1000, 1200	2.0 x 2.0 x 2.0	0.1 - 500	230V/1 PH	92
	Cartesian	Up to 1500 per axis	2.0 x 2.0 x 2.0	0.1 - 500	230V/1 PH	92

¹ Standard controls package is Allen Bradley, other manufacturers available upon request.

² Cartesian robot is either 2-Axis (X-Y), or 3-Axis (X-Y-Z). Inquire with ASG if a different configuration is necessary. Larger Cartesian robots are available.

³ Sizes listed are per robot. For example, the SCARA type with 650 size is a SCARA robot with a maximum envelope size of 650mm. Likewise, the 6-Axis type with 1000 size is a 6-Axis robot with a maximum envelope size of 1000mm. The 6-Axis robot also has a 1500mm size. The frame for the 6-Axis 1500mm robot is a custom frame.

⁴ Sizes are approximate and for reference only. Standard steel frame sizes. Custom frame sizes are available.

⁵ Inquire with ASG if higher or lower torque values are required.

Section 6: The AX-30 Turntable System

Includes: Robot with Turntable, Integrated Auto Feed, Drive Tool, Frame, and Safety Light Curtain

The same robust features that are foundational to the AX-20, also reside in the AX-30; including steel base and Allen Bradley controls (unless specified otherwise). The AX-30 turntable system is designed for optimal efficiency. While the operator is loading the new components, the robot is simultaneously assembling the presented components via the turntable. This leads to almost zero downtime for the machine; providing peak throughput.



The AX-30 packaged components are:

- Choice of Driver: ASG X-PAQ™ SD2500, X-PAQ™ EH2, or Fiam® driver
- Choice of robot type
- ASG Integrated Auto Feed screw feeding system with 1L or 3L bowl size
- Indexing turntable: Choice of 2, 4, or more stations
- Frame: Steel base and aluminum enclosure, sliding drawer for Auto Feed system
- Controls¹: PLC, HMI, safety related devices

ASG Number	2Robot Type	3Max. Robot Envelope Size	4Turntable Diameter	5Frame Size	6Torque Range	Power	Min. Air Pressure
		mm	m	W x D x H (m)	N.m		PSI
AX30-0000	SCARA	450, 550	0.76 and 0.91	1.3 x 2.0 x 2.2	0.1 - 500	230V/1 PH	92
	Cartesian	Up to 600 per axis	0.76 and 0.91	1.3 x 2.0 x 2.2	0.1 - 500	230V/1 PH	92
	SCARA	650, 850	1.22	1.6 x 2.3 x 2.2	0.1 - 500	230V/1 PH	92
	6-Axis	800, 900	1.22	1.6 x 2.3 x 2.2	0.1 - 500	230V/1 PH	92
	Cartesian	Up to 1000 per axis	1.22	1.6 x 2.3 x 2.2	0.1 - 500	230V/1 PH	92
	SCARA	1050, 1200	1.52	1.9 x 2.6 x 2.2	0.1 - 500	230V/1 PH	92
	6-Axis	1000, 1200	1.52	1.9 x 2.6 x 2.2	0.1 - 500	230V/1 PH	92
	Cartesian	Up to 1500 per axis	1.52	1.9 x 2.6 x 2.2	0.1 - 500	230V/1 PH	92

¹ Standard controls package is Allen Bradley, other manufacturers available upon request.

² Cartesian robot is either 2-Axis (X-Y), or 3-Axis (X-Y-Z). Inquire with ASG if a different configuration is necessary. Larger Cartesian robots are available.

³ Sizes listed are per robot. For example, the SCARA type with 650 size is a SCARA robot with a maximum envelope size of 650mm. Likewise, the 6-Axis type with 1000 size is a 6-Axis robot with a maximum envelope size of 1000mm. The 6-Axis robot also has a 1500mm size. The frame for the 6-Axis 1500mm robot is a custom frame.

⁴ Turntables are generally indexing type. Tabletop is 19 or 25mm thick aluminum (steel available) at diameter listed.

⁵ Standard steel frame sizes. Custom frame sizes are available.

⁶ Inquire with ASG if higher or lower torque values are required.

Section 7: The AX-40 Conveyor System

Includes: Robot with Conveyor, Integrated Auto Feed, Drive Tool, Frame, and Safety Light Curtain

The AX-40 conveyor system has the built-in flexibility to be installed on a new or existing conveyor. The standard system is provided with stop gate and lift out station to provide the utmost accuracy during the screw driving process. As with the AX-20 and AX-30, this system has as its foundation a steel base and Allen Bradley PLC and HMI.



The AX-40 packaged components are:

- Choice of Driver: ASG X-PAQ™ SD2500, X-PAQ™ EH2, or Fiam® driver
- Choice of robot type
- ASG Integrated Auto Feed screw feeding system with 1L or 3L bowl size
- Conveyor: System may be provided with or without conveyor
- Frame: Steel base and aluminum enclosure, frame wraps around conveyor, safety latched doors, sliding drawer for Auto Feed system
- Controls¹: PLC, HMI, safety related devices
- Lift out station: To stop pallet and fix its orientation prior to screw driving application

ASG Number	² Robot Type	³ Max. Robot Envelope Size	⁴ Conveyor Pallet Dimensions	⁵ Frame Size	⁶ Torque Range	Power	Min. Air Pressure
		mm	m	W x D x H (m)	N.m		PSI
AX40-0000	SCARA	450, 550	Up to 400 x 400	1.3 x 2.0 x 2.2	0.1 - 500	230V/1 PH	92
	Cartesian	Up to 600 per axis	Up to 400 x 400	1.3 x 2.0 x 2.2	0.1 - 500	230V/1 PH	92
	SCARA	650, 850	Up to 400 x 400	1.6 x 2.3 x 2.2	0.1 - 500	230V/1 PH	92
	6-Axis	800, 900	Up to 400 x 400	1.6 x 2.3 x 2.2	0.1 - 500	230V/1 PH	92
	Cartesian	Up to 1000 per axis	Up to 400 x 400	1.6 x 2.3 x 2.2	0.1 - 500	230V/1 PH	92

¹ Standard controls package is Allen Bradley, other manufacturers available upon request.

² Cartesian robot is either 2-Axis (X-Y), or 3-Axis (X-Y-Z). Inquire with ASG if a different configuration is necessary.

³ Sizes listed are per robot. For example, the SCARA type with 650 size is a SCARA robot with a maximum envelope size of 650mm. Likewise, the 6-Axis type with 1000 size is a 6-Axis robot with a maximum envelope size of 1000mm. Larger SCARA, 6-Axis, and Cartesian robots are available.

⁴ Larger pallet sizes are available if required. Conveyor is generally a belt type sliding conveyor with stop gates and lift out stations for pallet location control. Different conveyor types are available if required.

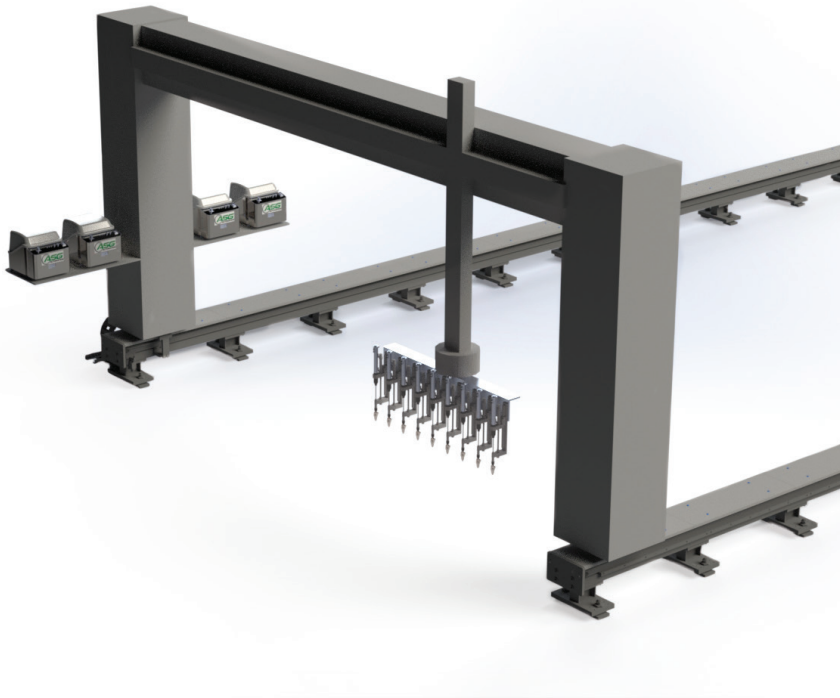
⁵ Custom frame sizes are available.

⁶ Inquire with ASG if higher or lower torque values are required.

Section 8: The AX-00 Engineered to Order System

Custom Solutions

ASG Automation is a full service solution provider with the ability to supply pre-engineered systems or engineered to order (ETO) systems. In developing these custom, engineered to order systems, the following equipment may be included. The list below is meant to generate ideas, but is not exhaustive. If you have a need that is not listed below, please contact us, and put us to the test.



Robots/Robot Movers/Positioners:

- Dual arm and multi-arm systems
- RTU (Robot Transfer Unit)
- Gantries, overhead, and multi-track
- Turntables, headstocks, conveyors, linear slides

Peripheral Equipment:

- Parts sorting/Bin Picking/Part Dispensing
- Packaging
- Dispensing
- Label Application
- Riveting
- Soldering
- Vision Systems
- Line Building



Global Support

Our footprint covers the globe!

ASG employs a team of technical experts to provide support, repair, calibration and preventative maintenance services. We welcome the opportunity to provide assistance by telephone or online chat Monday through Friday, 8 a.m. to 5 p.m. (U.S. Eastern Time) excluding holidays.

ASG maintains subsidiaries in Shanghai, China and Mumbai, India, and sales offices in Mexico and Europe to provide direct support to our international customers. We work together with our global Field Sales Representative and Distributor Network to help customers standardize their assembly equipment and processes around the world.

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