

Premium Auto Feed System

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 9001:2015 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.



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Section 1: The ASG Auto Feed System Series

Type of Auto Feed Systems

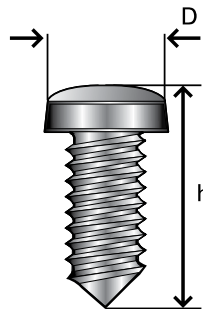
The ASG Auto Feed System is designed to increase production while decreasing cycle time and labor costs. This is accomplished through attributes that provide for speed, reliability, and ease of maintenance. In regards to speed, the system is very swift, delivering a screw to the jaw set in less than half of a second. Because of its simplistic design, the system is also reliable and consistent, providing for a virtually jam-free operation. Finally, the system has multiple access points that may be removed without tools to provide for ease of maintenance.

ASG offers two types of Auto Feed Systems – a Manual Auto Feed System and an Integrated Auto Feed System.

- The Manual Auto Feed System consists of four main components:
 1. Vibratory bowl feeder
 2. Stroke mechanism - forward bit stroke or telescoping
 3. Customizable nose piece
 4. Customizable jaw set
- The Integrated Auto Feed System consists of four main components
 1. Vibratory bowl feeder
 2. Fastening slide (variable strokes)
 3. Customizable nose piece
 4. Customizable jaw set

The auto feed system is capable of feeding and fastening various types of screws (metric, self-threading, self-tapping, etc.) with various types of heads (countersunk, flat, oval, etc.) and various types of imprints (slotted, Phillips, Torx, etc.).

For dimensions outside of these parameters, contact ASG.



Dimensions of the Head (D)	ø 4.5- 10.5* mm
Total Length of the Screw (h)	8 - 35 mm
Screws with Hexagonal Head	Hexagon Max 7 mm

*For certain circumstances the maximum diameter is 13.5mm

NOTE: The length of the screw is recommended to be at least 1.5x of the head diameter. Contact ASG for smaller ratios.

Example:

Screw-head diameter (D) = 8 mm

Screw length (h) = 12mm (12:8 = 1.5)

| The ASG Auto Feed System Series

Choosing the Appropriate Auto Feed System

Contact ASG for additional help or information.

When choosing a tightening system, one must consider the following:

1. The auto feed tightening screw system: Manual or Integrated
2. Material (plastic, wood, steel, etc.)
3. Dimensions and potential restricted access of component to assemble
4. Tightening torque, speed, and screw size

NOTE: Screw samples are **REQUIRED** to complete the evaluation process. For customized solutions, both screws and workpiece samples are required.

Vibratory Bowl Features and Benefits

- Precisely aligns the screws and presents them to the screw selector. Wherein, they are rapidly dispensed into the distribution tube. Finally, a blast of air propels the screw past the screw sensor into the jaw set
- The PLC, signaled by the screw sensor, initiates the driving sequence
- Dependable screw feeding is managed by the PLC to optimize all machine parameters

Air Connection	3/8" NPT
Power Requirements	110V/60Hz (Standard) 220V/50Hz (Optional)
Maximum Feed Rate	120 screws/minute
Air Consumption	27.5 CFM
Sound Pressure Level	<80 dB(A)
Diameter of Bowl	8.7 in (220mm)
Capacity of Bowl	1 liter
Weight	79 lb (36kg)
Feed Hose to the Screwdriver*	13 ft. (4 m)
Dimensions	17.7in x 13.4in x 15.7in (450mm x 340mm x 400mm)

The ASG Auto Feed System Series

Vibratory Bowl Features and Benefits (Continued)



Vibrating Bowl with special coating to grip screws



PLC adjusts all machine parameters

Stainless Steel Structure



Filter and lubrication unit with compressed air pressure gauge. Lubricator for use with pneumatic drivers only



Transparent Cover sound dampening



Optical Sensor prevents screws from getting jammed in the selection track



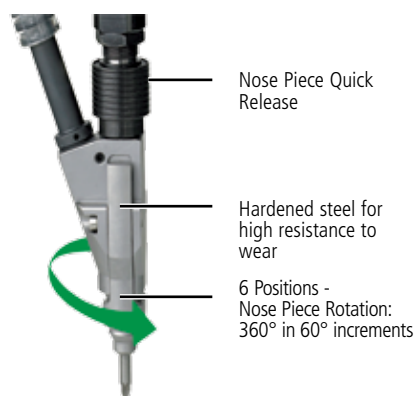
Selector adjustment to increase or decrease speed of cycle

LED Light to monitor the phases of work

External structure can be easily dismantled

The ASG Auto Feed System Series

Customizable Nose Piece and Jaw Set



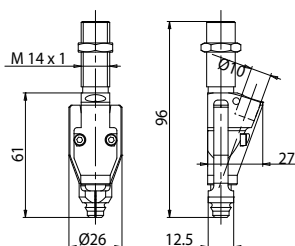
The nose piece holds the screw blown from the bowl feeder and guides it toward the work piece, enabling the bit to engage the screw and fasten the components.

- Allows excellent axial compensation
- Accurate screw guide to fastening location
- Capable of attaining various depths
- Customizable for restricted access dependent on application
- Compact in size and provides screw tip visibility
- Quick and easy to assemble and disassemble
- Bit engages the fastener, eliminating the fastener pushing back into the jaw set

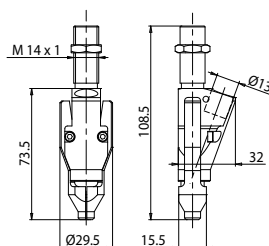
Screw Types

Below are three standard nose pieces suitable for most screws available in the market. All nose pieces are customized according to the application's requirements.

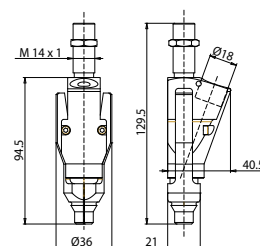
Head Diameter	Total Length
4.5 - 7.0 mm	Max. 25 mm



Head Diameter	Total Length
7.1 - 10.0 mm	Max. 35 mm



Head Diameter	Total Length
10.1 - 13.5 mm	Max. 35 mm



Special Applications Available

ASG offers uniquely tailored solutions for various applications. Contact ASG for additional information.



Anti-tumbler device for screws with screw length/head diameter ratio lower than 1.5x.



Friction Jaws: The screw is held by the head diameter rather than the shank. The long nose piece can easily access hard to reach applications.



Front centering tube that allows easy access for hard to reach applications.

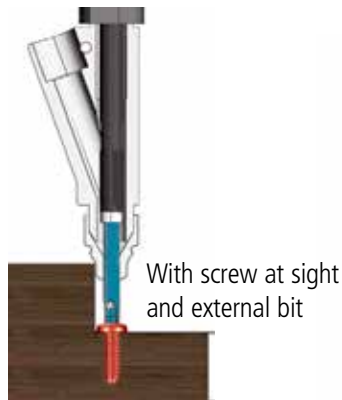
Section 2: Manual Auto Feed System

The ASG Manual Auto Feed System consists of two main components – the vibratory bowl feeder and the stroke mechanism. The stroke mechanism options for the manual system are forward bit stroke or telescoping stroke. In addition, the nose piece and jaw set are fully customizable.



Auto Feed System with Forward Bit Stroke

- Patented Forward Bit Stroke
- Tip of the screw is visible in order to assist the operator
- Forward stroke automatically retracts the bit, therefore minimizing surface damage
- Enhanced fastening process: screw tip is visible to the operator, which eases centering on the screw hole, streamlining process time and safety (subject to screw dimensions)
- Long bit stroke: allows reaching tightening points with difficult access (such as close to sidewalls or narrow recesses)
- Nose Piece Rotation: 360° in 60° increments
- Nose Piece Quick Release System: quick and safe bit replacement



Pneumatic Driver Specifications

ASG offers a full line of inline and pistol grip pneumatic drivers with a torque range of 0.4 to 40 N.m across the series. Please contact ASG for additional information.

SD2500 Electric Screwdriver Tool Specifications

Model Number	Driver Type	Torque Range		Length		Weight		Max. RPM	Drive Size
		lbf.in	N.m	in.	mm	lb.	kg		
ASG-SD2500-10FX	Inline Fixture Mount	1.0 - 10.0	0.1 - 1.1	9.5	240	1.00	0.46	1700	1/4" Hex
ASG-SD2500-20FX	Inline Fixture Mount	2.0 - 20.0	0.2 - 2.3	9.5	240	1.00	0.46	1100	1/4" Hex
ASG-SD2500-35FX	Inline Fixture Mount	3.5 - 35.0	0.4 - 3.9	9.5	240	1.00	0.45	800	1/4" Hex
ASG-SD2500-50FX	Inline Fixture Mount	5.0 - 50.0	0.6 - 5.6	9.7	246	1.10	0.49	500	1/4" Hex

Manual Auto Feed System

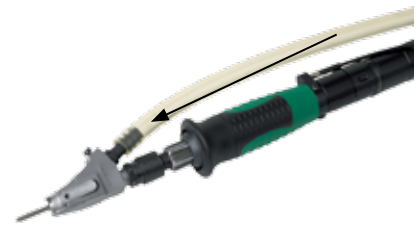


Auto Feed System with Telescopic Device

- Equipped with telescoping device to work with high speed and optimum grip at different depths or inside the holes
- Screw shooting sensor: Aside from offering reliable tightenings and continuous working cycles with minimal screw jams, the version with 2 sensors controls the final screw height as well.
- All models are equipped with a nozzle allowing practical rotation of the head in 6 positions at 360°. Thus, the position of the head can be adjusted based on the encumbrances of assembled workpiece.



Telescope extended waiting for screw to be fed to jaw set



Telescope compressed driving screw into the work piece

Pneumatic Driver Specifications

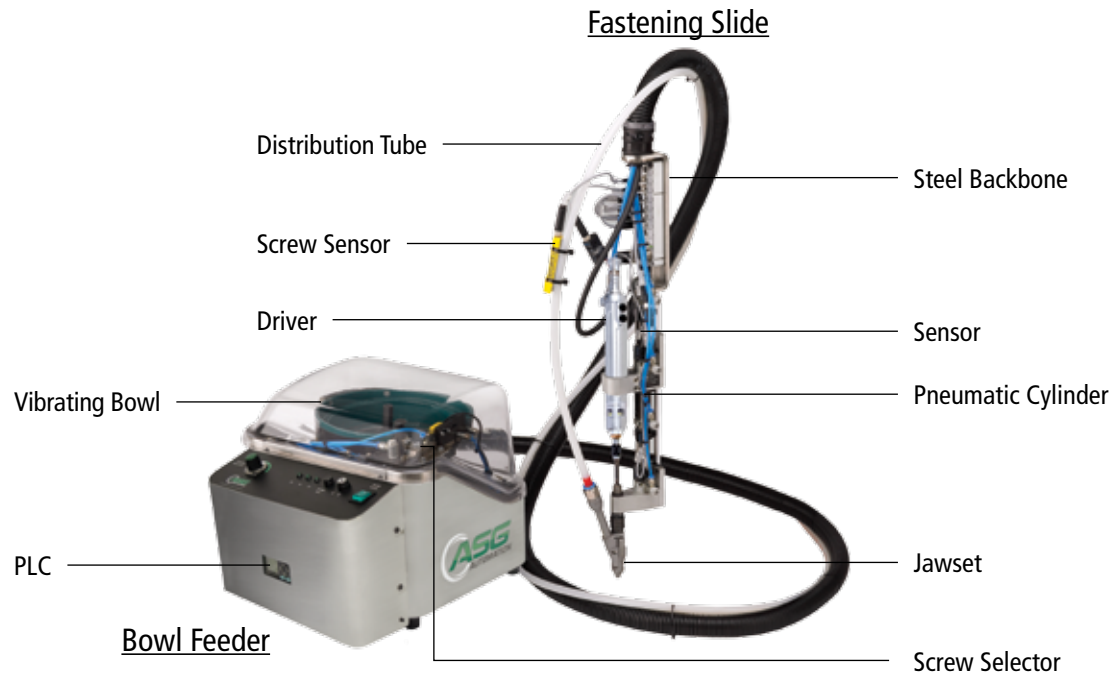
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SD2500 Electric Screwdriver Tool Specifications

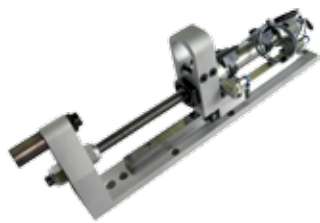
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ASG-SD2500-35FX	Inline Push-to-Start	3.5 - 35.0	0.4 - 3.9	9.5	240	1.00	0.45	800	1/4" Hex
ASG-SD2500-50FX	Inline Push-to-Start	5.0 - 50.0	0.6 - 5.6	9.7	246	1.10	0.49	500	1/4" Hex

Section 3: Integrated Auto Feed System

The ASG Integrated Auto Feed System consists of two main components – the vibratory bowl feeder and the fastening slide – as well as a customizable nose piece and jaw set. This system is designed to be integrated into assembly systems and robots.



Fastening Slide



Single Stroke Fastening Slide



Dual Stroke Fastening Slide

Engineered for proper movement, the fastening slide ensures a proper stroke approach of the screw to the component to be tightened. This provides high quality fastening of the assembled product to ensure all screws are properly fastened. Manufactured with aluminum alloy, the fastening slide is light and compact (as narrow as 40mm in width) and can be used on solutions with manipulators or robots.

- Includes a support structure, pneumatic cylinders, and driver
- The steel backbone structure allows for the unit to be mounted to robotic arms or manipulators; while the pneumatic cylinder(s) provides the force to accurately drive the fastener into the part
- The driver can be pneumatic or electric. The X-PAQ™ SD2500 (DC Electric) tool is recommended to maintain precision within the system.
- Manages the working cycle and guarantees high flexibility, by allowing changes to be made to the tightening cycle based on the specific application
- Ideal for manipulators, robots and anthropomorphic arms
- For air nutrunner motors: ø max 36 mm
- For electric nutrunner motors: ø max 42.5 mm

| Integrated Auto Feed System

Nutrunners and Screwdrivers



Pneumatic Nutrunner Motor



ASG X-PAQ™ SD2500

Specifically designed and manufactured for industrial automation and applications where high cycle times are required. Pneumatic motors and the ASG X-PAQ™ SD2500 (for electric applications) ensure constant performance for each unique application. These torque control products are sized dependent on application, type of joint, and fastener.

Pneumatic Nutrunner Motor

- 0.4 to 40 N.m
- Models with air shut-off and built-in torque transducer for monitoring the tightening cycle

ASG X-PAQ™ SD2500 Electric Screwdriver

- 0.1 to 5.6 N.m (for higher torque, please contact ASG)
- Controls and monitors the entire assembly cycle and it stores and collects statistical data
- Precise torque and angle control

Automation Systems

View the ASG
Automation
Systems catalog
on our website

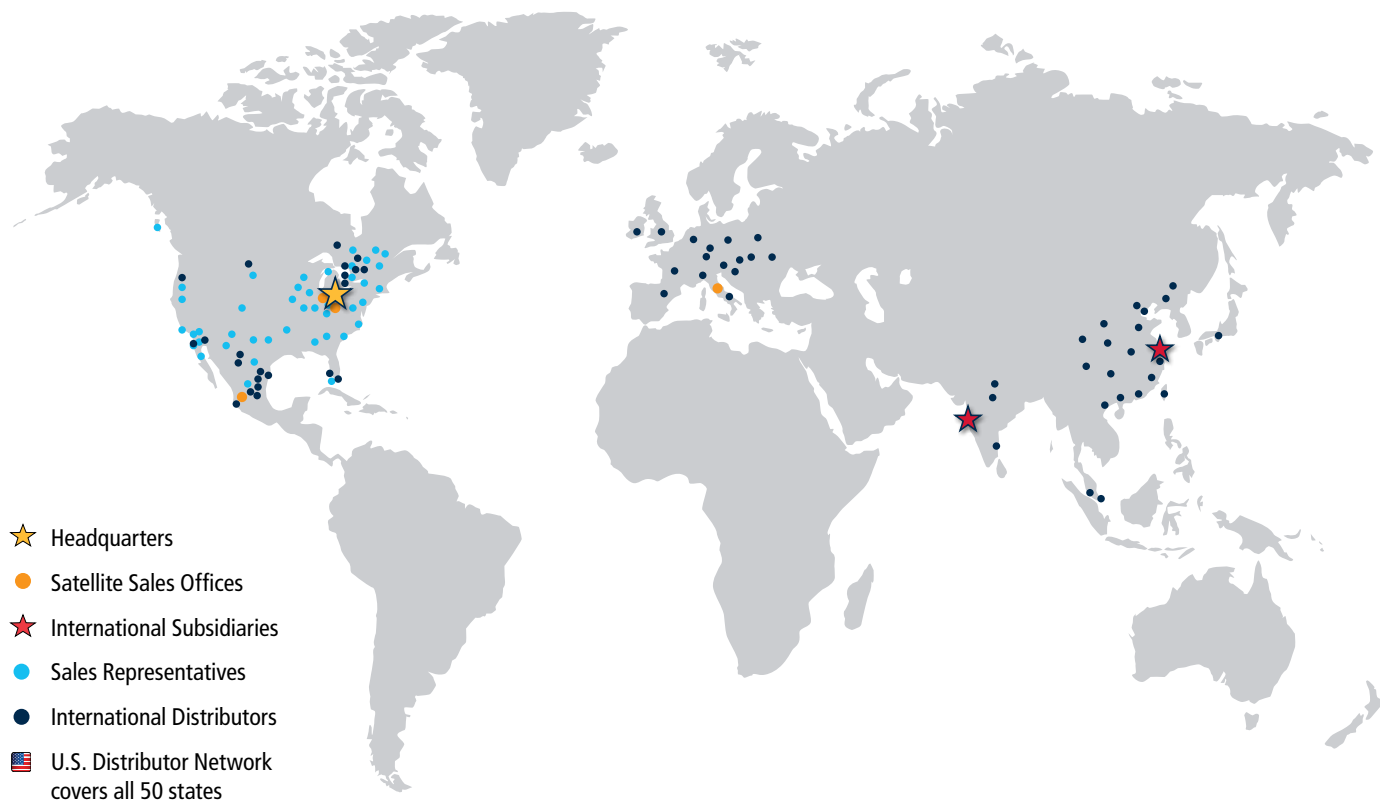


The ASG AX-03 Robot Package



The ASG AX-15 Multi-Spindle System

ASG is an RIA (Robotics Industry Association) certified robot integrator. The Integrated Auto Feed System is a core component to these automated solutions. See our Automation Systems catalog or contact ASG for additional information.



Our footprint covers the globe!

Global Support

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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Products and Solutions for Assembly

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