



# Dixon Automatic Tool, Inc.

## 100 Series Screw/Nut Driving Head Model SD-185 Robotic Blow-Fed Screwdriver



The Model SD-185 Screwdriver is ideally suited for applications where a screwdriving head will be positioned by a robot or other type of positioning system. The driving head can be universally mounted at any attitude and the feed system may be located away from the driving head. This mounting arrangement is also advantageous when only limited mounting space is available or when mounting multiple driving heads in close proximity to one another.

The Model SD-185 Screwdriver head is equipped with placement jaws and a feed tube attachment. The feed tube conveys the fasteners from a vibratory feeder bowl to the placement jaws. A wide range of fastener types can be fed and driven by this screwdriver and the size of the feeder bowl is determined by the physical size of the chosen fastener. Fasteners can be driven into a workpiece to either a predetermined torque setting or to a specific depth setting. The screwdriver head has built-in sensing to confirm proper insertion of each fastener. This screwdriver may be purchased as a complete tooled system with controls and vibratory feed system.

### Product Specifications

Head Stroke	76.2, 101.6, 127 mm (3.0, 4.0, 5.0 in.)
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### Piece Part Information

Shank Diameter	2.8 - 6.4 mm (#4 - 1/4 in.)
Shank Length	Max 38.1 mm (1.5 in.)
Head Diameter	Max 13.2 mm (0.52 in.)

### Feed System Information

Feed System	Vibratory Feeder Bowl
Bowl Size	228.6 - 914.4 mm (9 - 36 in.)
Track	Incline
Escapement	Tube to Escape/Blow Mechanism

**Contains all options from base head**

**100 Series Screw/Nut Driving Head**



Above left: Close-up of SD-185 Screwdriver tooling on a horizontally mounted driver.

Above right: Typical parts used in a Model SD-185 Screwdriver.

Right: Two SD-185 Screwdrivers mounted vertically in close proximity on a dial machine.



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## Standard 100 Series Screw/Nut Driving Head Components

Head Stroke	50.8 mm, 76.2 mm, 101.6 mm, 127 mm (2 in., 3 in., 4 in., 5 in.)
Torque	Std: 0.5 - 13.5 Nm (4 - 120 in.-lbs)
Proximity Switches	Std: 24 VDC PNP Others optional
MC-9 Control Pac	Four-way pneumatic valve (24 VDC)
Pneumatic Motor Speeds	250 to 3000 RPM
Air Supply	6.3 Bar (90 PSI)

## 100 Series Depth Options

Depth Settings	Std: $\pm 2$ turns Optional: $\pm 1/2$ turn
Drive to Depth	Yes

## 100 Series Torque Options

Clutches	<ul style="list-style-type: none"> <li>• 0.45 - 2.8 Nm (4 - 25 in.-lbs)</li> <li>• 1.7 - 3.9 Nm (15 - 35 in.-lbs)</li> <li>• 2.8 - 5.6 Nm (25 - 50 in.-lbs)</li> </ul> Note: 4.5 Nm (40 in.-lbs) and above requires a commercial pneumatic motor with clutch.
Higher Torque Option	13.5 - 20.3 Nm (120 - 180 in.-lbs) available with optional head stiffener

## Optional Motors

DC Electric	<ul style="list-style-type: none"> <li>• Transducer torque control</li> <li>• Torque/angle control</li> </ul> Note: All brands supported
Servo Motor	Current sensing torque control

The SD-100 Series Screw/Nut Driving Head is designed for automated driving applications. The head can be purchased untooled or tooled for your specific production requirements with a feeder, trackage, and placement jaws.

The SD-100 Series Screw/Nut Driver can be furnished with a wide range of driving speeds and torque capacities using either DC electric or pneumatic motors. A torque and depth sensing control verify when a fastener is properly driven during each driving cycle and accuracy can be achieved in various ways depending on the application requirements. Depth settings can be held to  $\pm 2$  turns with standard tooling. Closer depth tolerances can be achieved with optional controls. While driving, each fastener is held in the placement jaws until the fastener is properly engaged. The placement jaws are then opened mechanically.