Introduction

Chicago Pneumatic offers a range of modular components and systems for increased productivity and finished assembly quality. Products range from a basic hand held screw feed solution, to systems and components for integration into a fully automatic assembly station.

At the heart of a screw feed solution is the vibratory bowl that sorts and meters the screws. Screws can be blow fed to jaws at the front of a hand held screwdriver or to a fixtured slide. Options are also available for sending multiple screws simultaneously to a number of slides from a single bowl through diverters.

Individual slides are also available for driving only applications and can also be used with x-y robots as a compound Z axis.

The companies of Chicago Pneumatic, Desoutter and Georges Renault are working together to provide you with solutions to all your manufacturing needs. Whether your application requires just a basic assembled fastener or very accurate torque and quality control we can offer a wide range of standard driving options.

Fastening tool solutions include:

- air stall torque
- non shut off air screwdrivers
- shut off air and electric screwdrivers
- current control torque and angle electric tools
- transducer control torque and angle electric tools

How to Order

Every application receives the benefit of our wide experience and attention to detail in order to satisfy the customer needs. For quotation sample components and screws are taken to ensure the quality of the solution. To aid this a quotation request form is given on page 6. Final testing of the product includes running sample screws through the vibratory bowl and on the application to assure the system integrity.
The Vibratory Bowl:

**D-SE-PLC**  
Single escapement PLC controlled vibratory bowl feeder for one screw\(^1\) on demand from the bowl.

**D-DE-PLC**  
Dual escapement PLC controlled vibratory bowl feeder for two screws\(^1\) simultaneously from a single bowl.

**Additional Multiple Feed Options**\(^1\)
- **D2** – 1 to 2 diverter when selectable feed of two screws is required
- **D3** – 1 to 3 diverter for 3 screws simultaneously from a single bowl
- **D4** – 2 to 4 diverter for 4 screws simultaneously from a single bowl

**Vibratory Bowl Options and Specifications**

<table>
<thead>
<tr>
<th>Electrical</th>
<th>Feedable Fasteners</th>
<th>Approx. Weight</th>
<th>Approx. Dimensions (ins)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard – A10</td>
<td>10” bowl</td>
<td>#0-#10 sizes and up to 1.5” long</td>
<td>75lbs</td>
</tr>
<tr>
<td>Optional - A18</td>
<td>18” bowl</td>
<td>#0-5/8” sizes and up to 2.5” long</td>
<td>200lbs</td>
</tr>
</tbody>
</table>

Other bowl sizes available for custom applications

- **-HP** - Hopper available for A18 18” bowl systems

**Common Features**
- Hard anodised aluminum bowl\(^3\) for long bowl life
- Hardened steel bowl tooling, track tooling and escapement for long life.
- All tooling fixed allowing quick and easy set up with no on site adjustment.
- Optical sensor on track tooling stops bowl vibration when track is full. Lengthens bowl life and reduces possibility of jamming.
- Full PLC Control with valve actuated sequencing for optimized performance.
- Sound enclosure for quite operation.

**Fixtured System Bowl Feature Options**
- **BI** – Basic interface with ready signal and screwdrive fail signal.
- **EI** – Enhanced interface ready signal and screwdrive fail signal, manual screwfeed and low bowl level signal.
- **CC** – Custom controls quoted on application.

\(^1\)Only for use with fixtured slide systems
\(^2\)Cad drawings available
\(^3\)Stainless steel option
Hand Held Systems

**Entry Level Hand Held System -D10**
The traditional “D10” telescoping handpiece offers a cost effective entry level solution. The screw is fed automatically “on demand” to the operator based on a microswitch or proximity switch signal. An optional metal latch (ML) is available to prevent the fastener from being pushed back up into the jaws. The screw can be driven to torque or depth using a push to start or trigger start screw driver

e.g. Furniture Assembly

**Advanced Hand Held System -D11**
The D11 system is a hand held automatic driving system. The “suredrive” auto feed handpiece self advances based on a proximity switch signal and requiring only 2lbs of operator effort. Once torque is reached the driver shuts off and the operator lifts up signalling the next screw to be blown. Automatically the bit is retracted the screw blown and held by the jaws. The bit is then advanced to just behind the screw head locking it in place ready for the next driving cycle. Uses standard ¼” hex drive bits.

e.g. Appliance Assembly

**Additional D11 Quality Control Option – FAS**
Enhanced fastener assurance Pass/Fail and Cycle Count Options
Common Hand Held Options and Accessories

- **CJ** Custom jaws for restricted access or larger headed fastener applications
- **FJ** Finder tube on jaws when screw is located in a recess
- **SH** Stand off heel to prevent marking of component surface
- **RJ** Rotary joint, allows jaws to be rotated relative to the screwdriver, for use when tool is mounted in balance arm and jaw orientation is important in the assembly
- **D53-STD** Balance arm, takes weight and torque reaction of the screwdriver and fixes the tool vertically for better ergonomic solution

Fastening Solutions

- **non shut off air screwdrivers (straight and pistol)**: 3 – 133 inlbs
- **shut off air (straight and pistol)**: 0.8-283 inlbs
- **shut off electric screwdrivers**: 0.7-20 inlbs
- **current control torque and angle electric tools**: 0.7-88 ftlbs
- **transducer control torque and angle electric tools**: 0.7-88 ftlbs

**TBAR – T Handle System for Trailer Floor Screws**

- **Ordering Code**: D-SE-PLC-A18-HP-TBAR

- ‘TBAR’ T handle telescoping drive unit (Approx 2.5” travel).
- Tool start lever.
- Drive to an adjustable depth.
- Fastener feeds automatically.
- Optional no charge screw feed button available.
- 18” plc controlled anodized aluminum bowl with a strong base/ backplate and hopper feed.
- Acoustic cover with top fill lexan window.

Fixtured screwfeeder and drilling solutions and also available for trailer floor assembly.

**Trailer Drilling Rig**
CP Industrial Business Unit – USA, Canada & Mexico  
Chicago Pneumatic 1800 overview Drive, Rock Hill, SC 29730-7463 USA  
Main Telephone +1 803 817 7000 Facsimile +1 803 817 7257  
Customer Service Telephone +1 800 367 2442 Facsimile +1 800 232 6611

### Fixtured Slide Options

<table>
<thead>
<tr>
<th>Type</th>
<th>Code</th>
<th>Number of Spindles</th>
<th>Max Spindle Torque</th>
<th>Minimum Ctre Distance</th>
<th>Total Stroke</th>
<th>Max Jaw Stroke</th>
<th>Approx Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slimdrive</td>
<td>DT</td>
<td>1</td>
<td>180 inslbs</td>
<td>1.5”</td>
<td>6” (8”*)</td>
<td>3” (4”*)</td>
<td>6.5lbs</td>
</tr>
<tr>
<td>TwinSlim</td>
<td>DTS</td>
<td>1 to 4</td>
<td>420 inslbs</td>
<td>0.75”</td>
<td>8”</td>
<td>6”</td>
<td>12lbs</td>
</tr>
<tr>
<td>MidDrive</td>
<td>DMD</td>
<td>1 to 6</td>
<td>800 inslbs</td>
<td>0.75”</td>
<td>6”</td>
<td>10”</td>
<td>25lbs</td>
</tr>
</tbody>
</table>

For all slides:

- **Suffix**
  - **-1** – with Screwfeeder jaws for use with blow feed or hand feed systems
  - **-2** – with finder style output for use with pick and place system
  - **-3** – with drive output for driving pre-placed screws or thread verification systems

Custom Multi-Slides available for close centre applications  
Offset Gearboxes also available – minimum centers 0.7”

### Common Fixtured Options and Accessories

- **CJ** Custom jaws for restricted access or larger fastener head applications
- **FJ** Finder tube on jaws when screw is located in a recess
- **HL** Head lock for inverted operation to prevent fastener from falling back in the jaws
- **SP** Screw Presence Sensors

### Fastening Solutions

- **torque range**
  - air stall torque: 1.5-130 ftlbs
  - non shut off air screwdrivers: 3 – 133 inlbs
  - shut off air screwdrivers: 0.8-283 inlbs
  - shut off electric screwdrivers: 0.7-20 inlbs
  - current control torque and angle electric tools: 0.7-1400 ftlbs
  - transducer control torque and angle electric tools: 0.7-1400 ftlbs
Screwfeeder Application Request – Fax or mail with sample components

From: Date: 
Name: Company: 
Tel No. Fax No. 

Application Details – Please provide actual screw and component samples if possible

<table>
<thead>
<tr>
<th>Screw Dimensions</th>
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<tbody>
<tr>
<td>Head Diameter – A</td>
</tr>
<tr>
<td>Overall Length – B</td>
</tr>
<tr>
<td>Thread Size</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Screw Features</th>
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<tbody>
<tr>
<td>Drive Style</td>
</tr>
<tr>
<td>Head Style</td>
</tr>
<tr>
<td>Captive Washer?</td>
</tr>
<tr>
<td>Thread Type</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Assembly Details</th>
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<tbody>
<tr>
<td>Fastened Item Material</td>
</tr>
<tr>
<td>Threaded Item Material</td>
</tr>
<tr>
<td>Torque Requirement +/−</td>
</tr>
<tr>
<td>Cycle Time</td>
</tr>
<tr>
<td>How is assembly held?</td>
</tr>
<tr>
<td>Any clearance issues?</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Product Requirement</th>
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<tbody>
<tr>
<td>Operator Hand Held</td>
</tr>
<tr>
<td>Vertical?</td>
</tr>
<tr>
<td>Horizontal?</td>
</tr>
<tr>
<td>With Balance Arm?</td>
</tr>
<tr>
<td>Other Requirements?</td>
</tr>
<tr>
<td>Stand Alone Operator Control?</td>
</tr>
<tr>
<td>Number of screws per cycle</td>
</tr>
<tr>
<td>Torque Control?</td>
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<tr>
<td>Depth Control?</td>
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<tr>
<td>Screw Presence Sensing?</td>
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</table>