Efficient manufacturing requires appropriate means of production – not always automation. In particular, with small production runs, manual presses are often the most cost effective solutions.

We are continually developing the range of manual presses so that you can achieve your production targets. The expertise we have gained from our exposure to numerous production applications has been implemented in our new models. Therefore, we can offer a wide range of manual presses to suit all requirements.

**Features**

- **Flexibility**
  - Rapid changeover due to the easy and secure adjustment of the working height
  - Table tops with precision T-slot and precise alignment between the ram and table bores allow for accurate and repeatable set ups which reduces set-up times
  - The original position of the hand lever can be varied by 360°
  - Horizontal Pull (111/113)
  - Available for left-handed and right-handed use
  - The return stroke force of the ram can be adapted to different tool weights

- **Precision**
  - Alignment < 0.001" / 0.002" between upper and lower tool
- **Maintenance-free**
  - No lubrication necessary
- **Long service life**

Depending on the application, there is a wide selection of rack-and-pinion presses and toggle presses to choose from. Furthermore, a modular product design gives you the opportunity to choose the appropriate press for your application.
**SCHMIDT® Rack-And-Pinion Presses**

Constant force over the entire stroke

Do you need a long stroke and a constant force progression for assembly processes? Then, **SCHMIDT® Rack-and-Pinion Presses** are just the right choice.

**Features**
- Long stroke
- Linear force progression
- Precise adjustment of the press depth via hardened lower stop
- Honed bores and ground rams provide a long service life and a precise guidance

**Press Type 5**

**Press Type 3/6**

**Press Type 1/2**

**Press Head**

No. 1 and No. 2 have a ground guidance plate and teflon-coated adjustable gibs for precise and torsion-proof guidance.

![](image)

<table>
<thead>
<tr>
<th>Pushing force (lbs)</th>
<th>0</th>
<th>113</th>
<th>225</th>
<th>338</th>
<th>450</th>
<th>563</th>
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<td>0</td>
<td>4.5</td>
<td>9.0</td>
<td>13.5</td>
<td>18.0</td>
<td>22.5</td>
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</table>

![](image)
From 1.6 kN to 2.5 kN / 360 lbs. to 560 lbs.

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<tr>
<th>Press Type</th>
<th>5</th>
<th>5R</th>
<th>3</th>
<th>3R</th>
<th>6</th>
<th>6R</th>
<th>1</th>
<th>1R</th>
<th>2</th>
<th>2R</th>
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<td>360</td>
<td>540</td>
<td>540</td>
<td>540</td>
<td>540</td>
<td>560</td>
<td>560</td>
<td>560</td>
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<tr>
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<td>inch</td>
<td>0 - 1.57</td>
<td>0.66 - 1.57</td>
<td>0 - 2.75</td>
<td>0 - 2.75</td>
<td>0.70 - 2.75</td>
<td>0.70 - 2.75</td>
<td>0 - 3.14</td>
<td>0 - 3.14</td>
<td>0 - 3.14</td>
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<tr>
<td>Special strokes</td>
<td>A</td>
<td>6.29</td>
<td>0.70 - 3.93</td>
<td>6.29</td>
<td>0.70 - 3.93</td>
<td>6.29</td>
<td>0.70 - 3.93</td>
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<tr>
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<td>3.38</td>
<td>3.38</td>
<td>3.38</td>
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</tr>
<tr>
<td>Press head height</td>
<td>S</td>
<td>9.4</td>
<td>9.4</td>
<td>13.7</td>
<td>13.7</td>
<td>13.7</td>
<td>13.7</td>
<td>15.7</td>
<td>15.7</td>
<td></td>
</tr>
<tr>
<td>Ram bore Ø</td>
<td>mm</td>
<td>10H7</td>
<td>10H7</td>
<td>10H7</td>
<td>10H7</td>
<td>10H7</td>
<td>10H7</td>
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<tr>
<td>Colet (standard Ø10) Ø</td>
<td>mm</td>
<td>1 - 17</td>
<td>1 - 17</td>
<td>1 - 17</td>
<td>1 - 17</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hand lever left</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
<td>o</td>
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<td>Angle of rotation / 0.1 inch stroke</td>
<td>10.4°</td>
<td>10.4°</td>
<td>8.2°</td>
<td>8.2°</td>
<td>8.2°</td>
<td>8.2°</td>
<td>8.2°</td>
<td>5.6°</td>
<td>5.6°</td>
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<tr>
<td>Max. weight of the upper tool</td>
<td>lbs</td>
<td>3</td>
<td>6</td>
<td>4.5</td>
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<td>4.5</td>
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</tr>
<tr>
<td>Return stroke lock</td>
<td>1)</td>
<td>Adjustment of locking position on request</td>
<td></td>
<td></td>
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<tr>
<td>Locked position 1 inch bef. BDC</td>
<td>0.45</td>
<td>0.5</td>
<td>0.5</td>
<td>0.76</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Locked position 2 inch bef. BDC</td>
<td>0.13</td>
<td>0.17</td>
<td>0.17</td>
<td>0.27</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Disengaging accuracy</td>
<td>inch</td>
<td>0.0023</td>
<td>0.0027</td>
<td>0.0027</td>
<td>0.0031</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working height</td>
<td>4)</td>
<td>Typical values; can vary ± 0.118 inch due to cast and production tolerances</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frame No. 13</td>
<td>F</td>
<td>2.1 - 7.4</td>
<td>2.1 - 7.4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Frame No. 3</td>
<td>inch</td>
<td>3.1 - 8.2</td>
<td>3.1 - 8.2</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Frame No. 2</td>
<td>inch</td>
<td>4.7 - 14.1</td>
<td>4.7 - 14.1</td>
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<td></td>
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</tr>
<tr>
<td>Frame No. 2-600</td>
<td>Ø</td>
<td>7.8 - 23.6</td>
<td>7.8 - 23.6</td>
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<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Frame No. 2-1000</td>
<td>Ø</td>
<td>12.9 - 40.5</td>
<td>12.9 - 40.5</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Weight</td>
<td>approx. lbs</td>
<td>24</td>
<td>24</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Accessories</td>
<td>o</td>
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<td>o</td>
<td>o</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Throat depth frame (total depth)</td>
<td>4.37 inch, 5.15 inch, 6.29 inch, 7.87 inch</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Additional fixture mounting plate suitable for throat depth frame</td>
<td>o</td>
<td>o</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Micrometer stop</td>
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</tr>
</tbody>
</table>

Options
- Series with no additional charge
- Additional charge applies
- Adjustment of locking position on request
- The weight was determined with hand lever position 45° forward (guide)
- Typical values; can vary ± 0.118 inch due to cast and production tolerances

Other available options
- Nickel plated – Cast parts are electroless nickel plated, steel components black oxide finished, aluminum anodized, precision steel surfaces are untreated
- Custom Paint – Press and column can be painted to customer’s color specification
- Bores for Adapting Tooling – Customer specific sizes can be supplied

Please consult our Sales Department or Representative.
Detailed dimensional drawings can be downloaded: www.schmidtpresses.com
**SCHMIDT® Toggle Presses**  
The high force at the end of stroke, just where it is important

Do you need a high force at the end of stroke for material transforming processes? Then, **SCHMIDT® Toggle Presses** are just the right choice.

**Features**
- High force at end of stroke (see diagram below)
- Honed bores and ground rams provide a long service life and a precise guidance

**Press Type 13RFZ**

**Press Type 11/14 -17R**

**Note:** Maximum force will be reached just before extended position
From 5 kN to 15 kN / 1,125 lbs. to 3,370 lbs.

### Options
- Series with no additional charge
- Additional charge applies
  1. Adjustment of locking position on request
  2. Stroke reduction about 0.39 inch by version with additional charge
  3. The weight was determined with hand lever position 45° forward (guide)
  4. Typical values; can vary ± 0.118 inch due to cast and production tolerances

### Other available options
- Nickel plated – Cast parts are electroless nickel plated, steel components black oxide finished, aluminum anodized, precision steel surfaces are untreated
- Custom Paint – Press and column can be painted to customer’s color specification
- Bores for Adapting Tooling – Customer specific sizes can be supplied

**Detailed dimensional drawings can be downloaded:** [www.schmidtpresses.com](http://www.schmidtpresses.com)
SCHMIDT® Toggle Presses with Horizontal Pull
The High Force At The End Of Stroke, Just Where It Is Important

Do you need a high force at the end of stroke for material-transforming processes? Then, SCHMIDT® Toggle Presses are just the right choice.

Features
- High force at the end of stroke (see diagram below)
- Honed bores and ground rams provide a long service life and a precise guidance

Ergonomic Press with horizontal pull
With press No. 113 and No. 111 the manual force is applied by pulling the lever towards the body. This press is especially suitable for rapid production at small forces. We supply press No. 111 including the ergonomic handle (standard scope of supply).

Press Type 113RFZ
Press Type 111RF

Note: Maximum force will be reached just before extended position
From 2.5 kN to 12 kN / 560 lbs. to 2,700 lbs.

<table>
<thead>
<tr>
<th>Press Type</th>
<th>113</th>
<th>113F</th>
<th>113R</th>
<th>113RF</th>
<th>111</th>
<th>111F</th>
<th>111R</th>
<th>111RF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Press head type</td>
<td>113</td>
<td>113F</td>
<td>113R</td>
<td>113RF</td>
<td>111</td>
<td>111F</td>
<td>111R</td>
<td>111RF</td>
</tr>
<tr>
<td>Nominal force</td>
<td>lbs</td>
<td>560</td>
<td>560</td>
<td>2,700</td>
<td>2,700</td>
<td>560</td>
<td>560</td>
<td>2,700</td>
</tr>
<tr>
<td>Working stroke</td>
<td>A</td>
<td>inch</td>
<td>0 - 1.10</td>
<td>0.86 - 1.10</td>
<td>0 - 1.77</td>
<td>0.94 - 1.77</td>
<td>0 - 1.10</td>
<td>0.86 - 1.10</td>
</tr>
<tr>
<td>Throat depth</td>
<td>C</td>
<td>inch</td>
<td>2.55</td>
<td>2.55</td>
<td>3.38</td>
<td>3.38</td>
<td>2.55</td>
<td>2.55</td>
</tr>
<tr>
<td>Press head height</td>
<td>S</td>
<td>inch</td>
<td>6.69</td>
<td>7.08</td>
<td>8.46</td>
<td>9.44</td>
<td>7.08</td>
<td>7.87</td>
</tr>
<tr>
<td>Ram bore Ø</td>
<td>mm</td>
<td>10H7</td>
<td>10H7</td>
<td>10H7</td>
<td>10H7</td>
<td>10H7</td>
<td>10H7</td>
<td></td>
</tr>
<tr>
<td>Hand lever left</td>
<td>-</td>
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<td>80</td>
<td>80</td>
<td>90</td>
</tr>
<tr>
<td>Max. Weight upper tool</td>
<td>lbs</td>
<td>2.2/6.6</td>
<td>1.1/5.5</td>
<td>5.5/-</td>
<td>5.5/-</td>
<td>3.4/6.6</td>
<td>1.3/5.5</td>
<td>5.5/-</td>
</tr>
<tr>
<td>Return stroke lock</td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Locked position 1</td>
<td>inch bef. BDC</td>
<td>0.47</td>
<td>0.55</td>
<td>0.47</td>
<td>0.55</td>
<td>0.019</td>
<td>0.059</td>
<td>0.011</td>
</tr>
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<td>Locked position 2</td>
<td>inch bef. BDC</td>
<td>0.47</td>
<td>0.55</td>
<td>0.47</td>
<td>0.55</td>
<td>0.019</td>
<td>0.059</td>
<td>0.011</td>
</tr>
<tr>
<td>Disengaging accuracy</td>
<td>inch</td>
<td>0.0011</td>
<td>0.0027</td>
<td>0.0011</td>
<td>0.0027</td>
<td>0.0011</td>
<td>0.0027</td>
<td>0.0011</td>
</tr>
<tr>
<td>Working height</td>
<td>F</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frame No. 13</td>
<td>inch</td>
<td>1.96-6.49</td>
<td>1.96-6.49</td>
<td>1.96-6.49</td>
<td>1.96-6.49</td>
<td>1.57-6.10</td>
<td>1.57-6.10</td>
<td>1.57-6.10</td>
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<tr>
<td>Frame No. 3</td>
<td>inch</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>Frame No. 2</td>
<td>inch</td>
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<td>Frame No. 2-600</td>
<td>inch</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Frame No. 2-1000</td>
<td>inch</td>
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</tr>
<tr>
<td>Weight</td>
<td>approx. lbs</td>
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<td>62</td>
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### Accessories

<table>
<thead>
<tr>
<th>Press Type</th>
<th>113</th>
<th>113F</th>
<th>113R</th>
<th>113RF</th>
<th>111</th>
<th>111F</th>
<th>111R</th>
<th>111RF</th>
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</thead>
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<tr>
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<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Throat depth frame (total depth)</td>
<td>4.37 inch, 5.15 inch</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Additional fixture mounting plate suitable for throat depth frame</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>Block clamping piece</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

### Options
- Series with no additional charge
- Additional charge applies

1. Adjustment of locking position on request
2. Stroke reduction about 0.39 inch by version with additional charge
3. The weight was determined with hand lever position 45° forward (guide)
4. Typical values; can vary ± 0.118 inch due to cast and production tolerances

### Other available options
- Nickel plated - Cast parts are electroless nickel plated, steel components black oxide finished, aluminum anodized, precision steel surfaces are untreated
- Custom Paint - Press and column can be painted to customer's color specification
- Bores for Adapting Tooling - Customer specific sizes
**SCHMIDT® Toggle Presses with Square Ram**

Optimum guidance and anti-rotation

Do you need a high force at the end of stroke for material-transforming processes? Then, **SCHMIDT® Toggle Presses** are just the right choice.

**Features**
- High force at end of stroke
- Square ram is anti-rotational (no die sets required)
- Precise adjustment of the press depth via hardened lower stop
- Fully adjustable, play-free teflon-lined gibbs

---

**Press Type 11 VRFZ**  
13 VRFZ  
14 VRFZ

**Press Type 15 VF**  
16 VF

**Press Type 19 VF**

---

<table>
<thead>
<tr>
<th>Press Type</th>
<th>Pushing Force (lbs)</th>
<th>Stroke before plug-in position of the toggle (inch)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 VRFZ</td>
<td>0</td>
<td>0.15</td>
</tr>
<tr>
<td>13 VRFZ</td>
<td>0</td>
<td>0.11</td>
</tr>
<tr>
<td>14 VRFZ</td>
<td>0</td>
<td>0.07</td>
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<tr>
<td>15 VF</td>
<td>0</td>
<td>0.03</td>
</tr>
<tr>
<td>16 VF</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>19 VF</td>
<td>0</td>
<td>0.15</td>
</tr>
</tbody>
</table>

---

**Note:** Maximum force will be reached just before extended position
From 5 kN to 22 kN / 1,125 lbs. to 4,950 lbs.

<table>
<thead>
<tr>
<th>Press Type</th>
<th>13 V</th>
<th>13 VF</th>
<th>13 VR</th>
<th>11 V</th>
<th>11 VF</th>
<th>11 VR</th>
<th>15 V</th>
<th>15 VF</th>
<th>15 VR</th>
<th>14 V</th>
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<th>16 V</th>
<th>16 VF</th>
<th>16 VR</th>
<th>19 V</th>
<th>19 VF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal force</td>
<td>lbs</td>
<td>1,125</td>
<td>1,125</td>
<td>2,700</td>
<td>2,700</td>
<td>2,700</td>
<td>2,700</td>
<td>2,700</td>
<td>2,700</td>
<td>2,700</td>
<td>2,700</td>
<td>4,950</td>
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<tr>
<td>Working stroke</td>
<td>A</td>
<td>13</td>
<td>0-1.57</td>
<td>1.02-1.57</td>
<td>0-1.77</td>
<td>0-1.77</td>
<td>0.98-1.77</td>
<td>0.98-1.77</td>
<td>0-1.94</td>
<td>0-2.36</td>
<td>0-2.36</td>
<td>1.10-2.36</td>
<td>1.10-2.36</td>
<td>1.10-2.36</td>
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<tr>
<td>Press head height</td>
<td>S</td>
<td>mm</td>
<td>10H7</td>
<td>10H7</td>
<td>10H7</td>
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<td>10H7</td>
</tr>
<tr>
<td>Hand lever left</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
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<td>•</td>
<td>•</td>
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<td>Angle of rotation</td>
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<td>95</td>
<td>95</td>
<td>110</td>
<td>110</td>
<td>110</td>
<td>110</td>
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<td>175</td>
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<td></td>
<td></td>
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<tr>
<td>Max. Weight top tool</td>
<td>lbs</td>
<td>2.5/9</td>
<td>2.5/9</td>
<td>3.5/9</td>
<td>3.5/9</td>
<td>3.5/9</td>
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<td>2.8</td>
<td>2.8</td>
<td>4.5/-</td>
<td>4.5/-</td>
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<td></td>
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<tr>
<td>Return stroke lock</td>
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<td></td>
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<td></td>
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<tr>
<td>Locked position</td>
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<td>0.06</td>
<td>0.03</td>
<td>0.03</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Disengaging accuracy</td>
<td>inch</td>
<td>0.001</td>
<td>0.001</td>
<td>0.001</td>
<td>0.002</td>
<td>0.002</td>
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<td>0.002</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Working height</td>
<td>F</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Frame No. 13</td>
<td>inch</td>
<td>2.55-7.08</td>
<td>2.55-7.08</td>
<td>1.96-6.10</td>
<td>1.96-6.10</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>Frame No. 3</td>
<td>inch</td>
<td>3.14-8.26</td>
<td>3.14-8.26</td>
<td>2.36-10.0</td>
<td>2.36-7.18</td>
<td>2.36-10.0</td>
<td>2.36-7.18</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frame No. 19</td>
<td>inch</td>
<td>3.54-8.66</td>
<td>3.54-8.66</td>
<td>3.54-8.66</td>
<td>3.54-8.66</td>
<td>3.54-8.66</td>
<td>3.54-8.66</td>
<td>3.54-8.66</td>
<td>3.54-8.66</td>
<td>3.54-8.66</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight approx. lbs</td>
<td></td>
<td>26</td>
<td>26</td>
<td>53</td>
<td>71</td>
<td>53</td>
<td>71</td>
<td>53</td>
<td>71</td>
<td>53</td>
<td>71</td>
<td>187</td>
<td>187</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Options
- Series with no additional charge
- Additional charge applies
  - Special strokes 0.47 inch and 1.96 inch on request
  - Fixture mounting plate is already existing in the frame
  - Adjustment of locking position on request
  - The weight was determined with hand lever position 45° forward (guide)
  - Typical values; can vary ± 0.118 inch due to cast and production tolerances

Other available Options
- Nickel plated - Cast parts are electroless nickel plated, steel components black oxide finished, aluminum anodized, precision steel surfaces are untreated
- Custom Paint - Press and column can be painted to customer's color specification
- Bores for Adapting Tooling - Customer specific sizes
**SCHMIDT® ManualPress**
Options Suitable For Your Application

The return Stroke lock guarantees reaching the required pressing Depth with every Stroke

1. TDC (Top Dead Center) position
2. First locking position: Loose tools can still be aligned
3. Second locking position before BDC (Bottom Dead Center). From here you can only continue to BDC
4. After reaching BDC (Bottom Dead Center) by completing the stroke the return stroke lock is released. This guarantees a repeatable BDC and thus a constant press depth
5. The emergency button releases the locking function in any position

The Micrometer Screw serves as Stop for the rack and pinion Presses
A micrometer adjustable stop specially developed for presses for the fine adjustment of the BDC. The robust and precise design ensures the repeatability of the stop, no matter how many strokes are taken.

Fine Adjustment with Micrometer Scale for Toggle Presses
By loosening the set screw 1 and turning the adjusting nut 2 with the same tool, the setting of the BDC can be adjusted infinitely. Graduation is 0.0007 inch line to line and is reached rapidly and precisely.
**SCHMIDT® ManualPress**
Options Suitable For Your Application

**Mechanical Counter**
A four digit counter monitors the number of pieces produced. The counter is provided with a reset function.

**Collet**
For the rack-and-pinion presses No. 1 and No. 2, collet bore diameter of 1 – 17 mm / 0.03 – 0.66 inch.

**Throat Extension Block**
We offer various sizes for extended throat depths.

**Special Fixture Mounting Plates**
Special fixture tabletops, designed in conjunction with throat extension blocks, provide ram to table bore alignment when spacer is used.

**Ergonomic Left-handed Design**
With most press types, left-handed or left-/right-handed design is an available option.

**Upper Tooling Adapter**
Adapter for tools with a diameter of 5 – 20 mm / 0.19 – 0.78 inch.

**Nickel plated Design**
Press frames and cast parts are electroless nickel-plated, steel components are black oxide finished, aluminum parts are anodized, precision steel surfaces are untreated.

**Ergonomic Handle**
Swivelling handle for improved comfort; easy and flexible installation on the hand lever.

**Press Base**
Plastic (9.84 x 13.38 inch), including fasteners.

**Stop Clamp**
For Toggle Presses.

**How To Order**

<table>
<thead>
<tr>
<th>Key</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>R</td>
<td>incl. return stroke lock with emergency release</td>
</tr>
<tr>
<td>F</td>
<td>incl. fine adjustment (for toggle presses)</td>
</tr>
<tr>
<td>Z</td>
<td>incl. mechanical counter</td>
</tr>
<tr>
<td>M</td>
<td>modular head only</td>
</tr>
<tr>
<td>RF</td>
<td>incl. return stroke lock with emergency release and fine adjustment</td>
</tr>
</tbody>
</table>

**Order Example**

<table>
<thead>
<tr>
<th>Order Example</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 3 R</td>
<td>SCHMIDT® Rack-and-Pinion Press No. 3 incl. return stroke lock with emergency release</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>No. 13 RFZ</td>
<td>SCHMIDT® Toggle Press No. 13 incl. return stroke lock with emergency release, fine adjustment and mechanical counter</td>
</tr>
</tbody>
</table>
Process reliability, force/stroke monitoring of the joining process and EN ISO-compatible documentation of the results are becoming the major factors for small and medium production at a manual workplace.

The **SCHMIDT® ManualPress 300 Series** system with **SCHMIDT® PressControl 600** includes:

- Integrated reliable measuring technology
- High resolution of the obtained process data
- Graphical and numerical output of the processing results
- Quality monitoring using freely selectable tolerances

Process reliability – not just a slogan
The system software allows easy setup of quality control criteria for 100 % in-process monitoring.

Assembly system with patented return stroke lock and programmable clutch.
**SCHMIDT® ManualPress 300 Series**

Process Reliability For Manual Workplaces, Force Range 0.4 kN to 12 kN/90 to 2,700 lbs

**Features**
- Linear force progression for No. 305 and No. 307
- High force at the end of stroke for No. 311
- Precise adjustment of the press depth via micrometer fine adjustment
- Guides require little maintenance, have little wear and are locked against rotation. This results in precise operation and a long service life
- Optimum fit and form closure due to dovetail guide on the press head
- Quick set-up
  - Exact alignment of ram bore to the table of 0.002 inch
  - Height adjustment using a crank
  - Precision bores in ram and column base plate

**Functional Components**
- Electronic stroke lock
- Integrated transducer
  - Force sensor
  - Incremental encoder
- Integrated signal amplifier
- Programmable overload coupling

**Press Type**

<table>
<thead>
<tr>
<th>Frame Type</th>
<th>Press 305</th>
<th>Press 307</th>
<th>Press 311</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal force</td>
<td>lbs</td>
<td>90</td>
<td>900</td>
</tr>
<tr>
<td>Force at the hand lever</td>
<td>approx. lbs</td>
<td>11</td>
<td>45</td>
</tr>
<tr>
<td>Working stroke</td>
<td>A inch</td>
<td>0 - 1.65</td>
<td>0 - 2.12</td>
</tr>
<tr>
<td>Throat depth</td>
<td>C inch</td>
<td>5.03</td>
<td>5.03</td>
</tr>
<tr>
<td>Press head height</td>
<td>S inch</td>
<td>12.20</td>
<td>16.41</td>
</tr>
<tr>
<td>Ram bore Ø mm</td>
<td>6H7</td>
<td>10H7</td>
<td>10H7</td>
</tr>
<tr>
<td>Stroke fine adjustment</td>
<td>inch</td>
<td>0.0007</td>
<td>0.0007</td>
</tr>
<tr>
<td>Stroke resolution</td>
<td>inch</td>
<td>0.0001</td>
<td>0.0001</td>
</tr>
</tbody>
</table>

**Angle of rotation/mm stroke**
- 3.3°
- 4.8° non linear

**Resolution, process data acquisition**
- stroke force: inch/inc lbs/inc 0.0002 0.0002 0.0002 0.0002 0.0002 0.0002 0.78

**Working height**
- F inch
- 2.36 - 16.54
- 1.97 - 16.14
- 1.97 - 11.41
- 3.14 - 23.62
- 3.14 - 18.89
- 3.14 - 18.89

**Max. Weight upper tool**
- lbs
- 1
- 2
- 3

**Weight**
- approx. lbs
- 90
- 90
- 132

**Protection type**
- IP 54
- IP 54
- IP 54

**Accessories**
- Stronger return assist spring
- Speed control

**Options**
- Additional charge applies
  - The fine adjustment increases the working stroke by 0.12 inch
  - Throat depth frame only available with frame No. 7-600
  - Increased throat and higher frame lead to smaller nominal forces for No. 311
  - The weight was determined with hand lever position 45° forward (guide)
  - Typical values; can vary ± 0.018 inch due to cast and production tolerances

**Other Available Options**
- Nickel plated – cast parts are electroless nickel plated, steel components black oxide finished, aluminum anodized, precision steel surfaces are untreated
- Custom paint – press and column can be painted to customer’s color specification
- Bores for adapting tooling – customer specific sizes can be supplied

---

**Illustration**

**ManualPress 311**

**Frame Overview**

<table>
<thead>
<tr>
<th>Frame Overview</th>
<th>Press Type</th>
<th>Frame Height M (inch)</th>
<th>Table Size B x T (inch)</th>
<th>Table bore D Ø mm</th>
<th>Table Height K (inch)</th>
<th>Mounting Surface B x  L (inch)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 7-420</td>
<td>305, 307, 311</td>
<td>29.13</td>
<td>7.08 x 5.90</td>
<td>20H7</td>
<td>3.54</td>
<td>8.66 x 14.25</td>
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<tr>
<td>No. 7-600</td>
<td>305, 307, 311</td>
<td>37.79</td>
<td>7.08 x 11.02</td>
<td>20H7</td>
<td>4.33</td>
<td>13 x 18.30 - 19.88</td>
</tr>
</tbody>
</table>

**Note:** Maximum force will be reached just before extended position.
SCHMIDT® ManualPress 300 Series
Process Reliability For Manual Workplaces

**ManualPress 300 Series** included with the control unit **SCHMIDT® PressControl 600**

- Force/stroke monitoring of the entire pressing operation
  - Allows for extensive error analysis
- Process reliability:
  - Separation of the power flow
  - Utilizing the interface of external sensors and actuators, the clutch is engaged once the workpieces are placed properly.
  - Locking of the press with failed parts
  - Secure separation and acknowledgement of Pass and Fail ("Poka Yoke")

- Freely programmable positioning, stopping and braking in forward and return stroke and end position.
- Process intervention
- Quality monitoring
- Reduction of error costs and elimination of errors
- Short changeover times due to preselection of stored working profiles

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**Forward Stroke Lock Mode (the return Stroke is released)**
Press blocked/restricts the force flow in forward stroke
- When reaching a defined force
- When reaching the stroke
For protecting the produced parts and the force sensor of the press.

**Return Stroke Lock Mode (the forward Stroke is released)**
Press blocks the return stroke
- If the necessary force has not been reached
- If the required stroke has not been reached
This ensures that the user always completes the operation.
Both examples below can be combined arbitrarily when taking into account the maximum available inputs and outputs. In addition, the functions of the different operating modes are available, which can be freely parameterized or programmed for special functions.

- The control unit SCHMIDT® PressControl 600 analyzes the force/stroke signals of the SCHMIDT® ManualPress using windows.
- Depending on the analysis, the PLC actuates a flap. Thus, the parts are securely separated into pass/fail bins.
- The light barrier generates an acknowledgement signal.
- This releases the press again.

- The control unit SCHMIDT® PressControl 600 does not release the press until all parts are completely and correctly positioned.
- This avoids erroneous pressing.
Options Suitable
For Your Application

Control Mounting Bracket
Used for fastening the SCHMIDT® PressControl 600, either mounted to the table or to the wall. The mounting bracket permits the unit to swivel 70° (with control).

External Reset Button
We recommend an external reset button in rough production environments.

Calibration Tool
The calibration tool is a clamping device with which a constantly defined force is applied to the load cell of the SCHMIDT® ManualPress Serie 300 Series. In order to complete calibration, either a SCHMIDT® LoadCheck or a customer supplied calibration device is required. Photo on left side shows the device for the SCHMIDT® ManualPress 305. The right side is for SCHMIDT® ManualPress 307. The SCHMIDT® ManualPress 311 is being calibrated by using the fine adjustment mechanism in BDC.

CANopen Compact Box
With this add-on up to 16 digital combination in-/outputs (8 in- and 8 outputs) are provided, useable optionally as in- or output.

Ergonomic Handle
Swivelling handle for improved comfort; easy and flexible installation on the hand lever.

Speed Control
To reach a very high repeatability by pressing on force and stroke, a speed control can be installed optionally instead of the micrometer screw, which brakes the pressing process shortly before achieving the end position.

Press Base
Plastic (9.84 x 13.38 inch), incl. fasteners.