SCHMIDT® Cylinder Units
For Flexible Use

SCHMIDT® Double-acting Cylinder Units are useful components for construction of special machines. They can be mounted independently and are equipped with a magnet kit for detecting the corresponding end position using a cylinder switch. As flange or side-mount model, with toggle transmission or as hydropneumatic cylinder unit in the force range up to 22,480 lbs.

![Press Head (side-mount) Model](image1)
![Flange Model](image2)

<table>
<thead>
<tr>
<th>Technical Data</th>
<th>Press Head Model</th>
<th>SCHMIDT® Cylinder Units</th>
<th>Flange Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Typ No.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 - 29</td>
<td>●</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>32 - 36</td>
<td>●</td>
<td></td>
<td>●</td>
</tr>
<tr>
<td>61 - 68</td>
<td>●</td>
<td></td>
<td>● (not for No. 61, 62, 68)</td>
</tr>
<tr>
<td>323 - 368</td>
<td>●</td>
<td></td>
<td>●</td>
</tr>
</tbody>
</table>

For the performance data, please refer to the chapters SCHMIDT® PneumaticPress and SCHMIDT® HydroPneumaticPress, optional with force/stroke monitoring.

Order Indications
Key for design options

**Cylinder Unit / Stroke / Design**

Order Example 65 - 50 - 6
Press No. **65**
Total stroke
Power stroke

= SCHMIDT® Cylinder Unit No. 65 with total stroke 1.96 inch and power stroke 0.23 inch as press head model

**Cylinder Unit / Stroke / Design**

Order Example 20 - 50 - FL
Press No. **20**
Stroke **50**
Model

= SCHMIDT® Cylinder Unit No. 20 with stroke 1.96 inch as flange model
**SCHMIDT® Manual Workstations**

Ergonomic Manual Workstations With Safety Technology

SCHMIDT® manual workstations are delivered ready for operation with certified safety technology, press base, and corresponding operating elements. Depending on customer requirements, the workstations can be equipped with light curtain, SCHMIDT® SmartGuard protective housing or the proven two-hand safety technology.

These systems are single workstations which can be delivered with all SCHMIDT® presses.

Included in the scope of delivery are:
- SCHMIDT® press module mounted on frame and/or gantry
- SCHMIDT® PressControl 75, SCHMIDT® PressControl 600 or SCHMIDT® PressControl 5000 with pivoting support arm system
- press workstation.

Available safety equipment:
- transparent protective housing with light curtain and workplace illumination (adjustable distance of the light curtain in order to ensure a safe distance to the tool)
- SCHMIDT® SmartGuard protective housing with automatic transparent safety door
- two-hand safety technology

All systems are EC type-approved!
SCHMIDT® Press Bases
Ergonomic in Focus

The SCHMIDT® Press Base offers a safe base for the vibration-free installation of all SCHMIDT® Press Systems. They are suitable as seated or standing press base according to the latest ergonomic guidelines.

The SCHMIDT® Press Base offers the following features:
- Adjustable height (PU-10 is not adjustable, but can be ordered as sitting or standing press base)
- Allows mounting of auxiliary components, such as part bins and staging, safety guarding, work piece clamping devices, rotary indexer, slide table, controls, etc.

Options
- Adjustable foot support (fixed support with PU-1)
- Alternate table top materials (nickel-plated steel, aluminum, stainless steel skin, composite)
- Casters, two of them swivel, two fixed (not height-adjustable)

### PU 1 Press Base

![PU 1 Press Base Image]

### PU 10 Press Base

![PU 10 Press Base Image]

### Caster for PU 10°

Height as seated press base:
- A: 820 – 880 mm / 32.28 – 34.65 inches,
- B: with casters, 920 mm / 36.22 inches

Height in standing position:
- A: 1020 – 1070 mm / 40.16 – 42.13 inches,
- B: with casters, 1110 mm / 43.70 inches

* Not for HydroPneumaticPress No. 64, 68, 74, 76 and ServoPress No. 420, 450, 460 and TorquePress 200

Simply the best! | 73
**SCHMIDT® Slide Tables**
For Efficient Production

**SCHMIDT® Slide Tables** are specially designed for the high forces of press systems and where a position requires high precision against an adjustable stop. It is an economical solution for tall parts and for placement of parts outside of the danger area. They can be mounted, depending on the type, both in longitudinal and lateral positions, and can be adapted for automated processes.

**Features**
- Cross roller bearings for high-precision guidance
- Play-free adjustment of the table guidance is possible
- Maintains its working position via pneumatic cylinders
- Position detection of the slide table via integrated sensors
- Integrated shock absorbers cushion impact at end positions
- Positioning via pneumatic cylinders in automatic mode
- The press stroke is activated only when the slide is in its proper position

---

**ST 10/ST 10 P**
(stroke 3.14 inch)

**ST 45 P**
(stroke 5.11 inch)

**ST 140 P**
(stroke 6.29 inch)

---

<table>
<thead>
<tr>
<th>Type</th>
<th>ST 10</th>
<th>ST 10 P</th>
<th>ST 45</th>
<th>ST 45 P</th>
<th>ST 140 P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pressure load</td>
<td>lbs</td>
<td>lbs</td>
<td>lbs</td>
<td>lbs</td>
<td>lbs</td>
</tr>
<tr>
<td>Stroke</td>
<td>inch</td>
<td>inch</td>
<td>inch</td>
<td>inch</td>
<td>inch</td>
</tr>
<tr>
<td>Manual presses</td>
<td>up to 2,000 lbs</td>
<td>up to 2,000 lbs</td>
<td>all</td>
<td>all</td>
<td>all</td>
</tr>
<tr>
<td>ServoPresses</td>
<td>405, 415, 416</td>
<td>405, 415, 416</td>
<td>420 max.</td>
<td>420 max.</td>
<td>all</td>
</tr>
<tr>
<td>Shock absorber</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Bow-type handle</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Operating mode</td>
<td>manual</td>
<td>pneumatic</td>
<td>manual</td>
<td>pneumatic</td>
<td>pneumatic</td>
</tr>
</tbody>
</table>

Mounting holes available upon request
- Standard
- all ManualPress < 2,000 lbs
- all ManualPress

Special designs for very long strokes on request
- manual = without cylinder, without sensors, without shock absorber
**SCHMIDT® Safety Technology**

**Safety Concepts**

**SCHMIDT® SmartGuard**
The transparent protective housing entirely encloses the working area during the press process. It thus prevents the user and a third person from getting their hands into the danger area and efficiently protects against the particles or splinters that may be ejected. The distances to the working zone are minimized which considerably improves the ergonomics and the efficiency of the workstations. This fully programmable guarding system allows for position and speed values to be input into the system, yet eliminates pinch point concerns by using the SCHMIDT Technology’s TÜV/CE certified safety technology.

<table>
<thead>
<tr>
<th>SmartGuard</th>
<th>Typ</th>
<th>405</th>
<th>415/416</th>
<th>417</th>
<th>520</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable opening stroke</td>
<td>inch</td>
<td>11</td>
<td>13.8</td>
<td>16.1</td>
<td>16.1</td>
</tr>
<tr>
<td>Speed opening</td>
<td>inch/s</td>
<td>7.9 – 39.4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speed closing</td>
<td>inch/s</td>
<td>7.9 – 19.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electr. safety lock</td>
<td>cat</td>
<td>Plc</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drive</td>
<td>typ</td>
<td>Servo motor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Min. cycle</td>
<td>s</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum power</td>
<td>W</td>
<td>80</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protection class</td>
<td>F</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deep</td>
<td>inch</td>
<td>17.1</td>
<td>19.1</td>
<td>22.6</td>
<td>23.6</td>
</tr>
<tr>
<td>Wide</td>
<td>inch</td>
<td>9.1</td>
<td>11.3</td>
<td>12.3</td>
<td>13.5</td>
</tr>
<tr>
<td>Height</td>
<td>inch</td>
<td>40.1</td>
<td>43.7</td>
<td>56.7</td>
<td>64.6</td>
</tr>
<tr>
<td>Material guard</td>
<td>PC</td>
<td>antistatic / transparent</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Light curtain with transparent protective housing
The light curtain control provides optimum safety to the user. The danger area is protected with Lexan windows against contact. A light curtain protects the access to the danger area on the side of insertion. The working process is immediately interrupted and the press is stopped when intervening. The cycle can be continued automatically after leaving the danger area. In combination with SCHMIDT® ServoPress, the light curtain control is the basic version. The press can be activated via the light curtain. Depending on the application, it can be selected between 1-cycle and 2-cycle activation.

Two-hand safety technology
In basic design, SCHMIDT® PneumaticPress, SCHMIDT® Hydro-PneumaticPress as well as SCHMIDT® ElectricPress are operated with two-hand safety technology. This anti-tie down / anti-repeat dual channel and TÜV/CE certified safety circuit requires the user to maintain contact with both two-hand switches until both a ram position and a cylinder pressure sensor is reached, eliminating the pinch point. If either button is released, the ram will return to the TDC position. Once both of the sensors are made, the control will take over the operation with ram retraction based on the control type and the operation mode selected.
**SCHMIDT® Customer-Specific Solutions**

Standard ‘out of the catalog’ products, customized or complete turn-key solutions. **SCHMIDT Technology** is an invaluable source for your assembly needs, with the center point being a press. We welcome the opportunity to evaluate your application, perform feasibility studies, process sample parts to determine process capability from a control, as well as monitoring standpoint.

We can take your applications from process development and manufacturing of prototype tooling to providing you with custom designed, turn-key solutions.

**SCHMIDT** engineers and sales force have gained a wealth of experience while working on a wide array of applications.

**SCHMIDT Technology** products are suitable for a broad variety of industries and can be tailored to the specific requirements and challenges that applications present, from very basic and simple pressing operations to intelligent, precise and complex processes, combined with monitoring.

The ever rising need to log and exchange process data with third party systems can easily be addressed by the various ways our control systems can be interfaced.

Your need is our challenge. We look forward to the opportunity to be of service.

**SCHMIDT® ElectricPress 43/343 Automation**
Integrates easily and quickly into an automated system; ideal for new design concepts, integration or as a replacement in an existing production line.

**SCHMIDT® PressControl 5000 RT**
controlling a 6 axis system consisting of:
- ServoPress 420
- ServoPress 416
- NC Axis for the tooling shuttle
- NC Gripper with NC X/Y positioning axis
SCHMIDT® Customer-Specific Solutions

“Press-Fit” Application

SCHMIDT® ServoPressSystems are the ideal tool for press-fit applications. Their integrated process data and closed-loop force control are perfect for the assembly and disassembly of electronic components. In contrast to soldering, press-fit contacts on a circuit board require precisely defined and closely monitored assembly processes at very slow speeds. A SCHMIDT® Press can be the solution.

SCHMIDT® Rotary Indexing Systems are the basis for an economic rationalization. All SCHMIDT® Press Types can be integrated in a rotary indexing system. Mostly, the machines are designed for manual loading. The machine designs are as varied as the requirements. Depending on the requirements of the customer, an individual design is planned.

Hybrid Assembly Cell Configuration with
- A monitored PneumaticPress
- A monitored ServoPress
- A conventional HydroPneumaticPress

A single SCHMIDT® PressControl 5000 RT can control all of these presses as well as an indexing table. It acquires all stroke/force process data, which can then be transmitted to the SCHMIDT™ DataBase software for storage and analysis.
SCHMIDT® PneumaticPress & ManualPress

Accessories

Electronic Stroke Completion Sensor
Will confirm that the end of the stroke has been reached. Installed into hardened mounting block on top of fine adjustment screw on the Model No. 20 – 29. Triggered via the stroke limit block of the press. Automatically accepts changes in stroke adjustments.

Intermediate Stop
For two-stroke or safety stop sequential operations.

Handle Rotation Reduction Package
Ergonomic device reduces handle rotation to ram travel on Nr 3 / 6 Rack & Pinion presses for same ram stroke with less handle motion. Handle rotation to stroke ratio is approx. 7 mm / ¼” of ram travel per 10 degree handle rotation. Note: when device is installed, maximum force output of press is 550 N / 125 lbs. at 200 N / 45 lbs. handle pull.

Speed Control
This accessory in conjunction with a pneumatic press can be a very cost effective solution to good ram speed control.

A speed control on a pneumatic press provides the following benefits:
- Completely eliminate slipstick effect
- Better accuracy in conjunction with force or distance control
- Improved cycle times, as it allows rapid approach, reduced speed for actual process

Metric Conversions

<table>
<thead>
<tr>
<th>Stroke Length</th>
<th>Conversions</th>
<th>Metric</th>
<th>Nominal Inch</th>
<th>Tolerance Inch</th>
</tr>
</thead>
<tbody>
<tr>
<td>50 mm</td>
<td>1.97 inch</td>
<td>10H7</td>
<td>0.3934</td>
<td>- 0 / + 0.0006</td>
</tr>
<tr>
<td>75 mm</td>
<td>2.95 inch</td>
<td>20H7</td>
<td>0.7874</td>
<td>- 0 / + 0.0008</td>
</tr>
<tr>
<td>100 mm</td>
<td>3.94 inch</td>
<td>25H7</td>
<td>0.9842</td>
<td>- 0 / + 0.0008</td>
</tr>
<tr>
<td>125 mm</td>
<td>4.92 inch</td>
<td>40H7</td>
<td>1.5748</td>
<td>- 0 / + 0.0010</td>
</tr>
<tr>
<td>160 mm</td>
<td>6.30 inch</td>
<td>10H9</td>
<td>0.3937</td>
<td>- 0 / + 0.0014</td>
</tr>
<tr>
<td>200 mm</td>
<td>7.87 inch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>250 mm</td>
<td>9.84 inch</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>300 mm</td>
<td>11.81 inch</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Threads</th>
<th>Pitch</th>
</tr>
</thead>
<tbody>
<tr>
<td>M8</td>
<td>1.25 mm</td>
</tr>
<tr>
<td>M10</td>
<td>1.50 mm</td>
</tr>
</tbody>
</table>
SCHMIDT® PneumaticPress & ManualPress

Accessories

For SCHMIDT® Presses that are tooled with column-guided die sets, optional Modular Coupling Devices can be attached for quick, easy removal and installation of die sets.

<table>
<thead>
<tr>
<th>DIE PLATE MALE Coupling</th>
<th>RAM FEMALE Coupling</th>
<th>Press Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>SN 1540-16 X 1.5</td>
<td>SN 1560-20</td>
<td>All PneumaticPresses except 64 – 76</td>
</tr>
<tr>
<td>SN 1554-63</td>
<td>SN 1560-32</td>
<td></td>
</tr>
<tr>
<td>SN 1540-16 X 1.5</td>
<td>SN 1560-25</td>
<td>64 &amp; 74</td>
</tr>
<tr>
<td>SN 1554-63</td>
<td>SN 1560-25</td>
<td></td>
</tr>
<tr>
<td>SN 1540-20 X 1.5</td>
<td>SN 1560-32</td>
<td>76</td>
</tr>
<tr>
<td>SN 1554-80</td>
<td>SN 1560-32</td>
<td></td>
</tr>
</tbody>
</table>

More accessories available. Contact us for additional information.

More Throat: SCHMIDT® Spacers

SCHMIDT® Spacers for Additional Throat Clearance A spacer is used in case the standard throat depth is not adequate for the application. Throat depth is measured from press ram centerline to surface on which the press head gets mounted.