

# SCHMIDT® ManualPress 300 Series

## Manual Presses with Process Monitoring

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 within the manual workplace.

The **SCHMIDT® ManualPress 300 Series** system with **PressControl 3000** 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

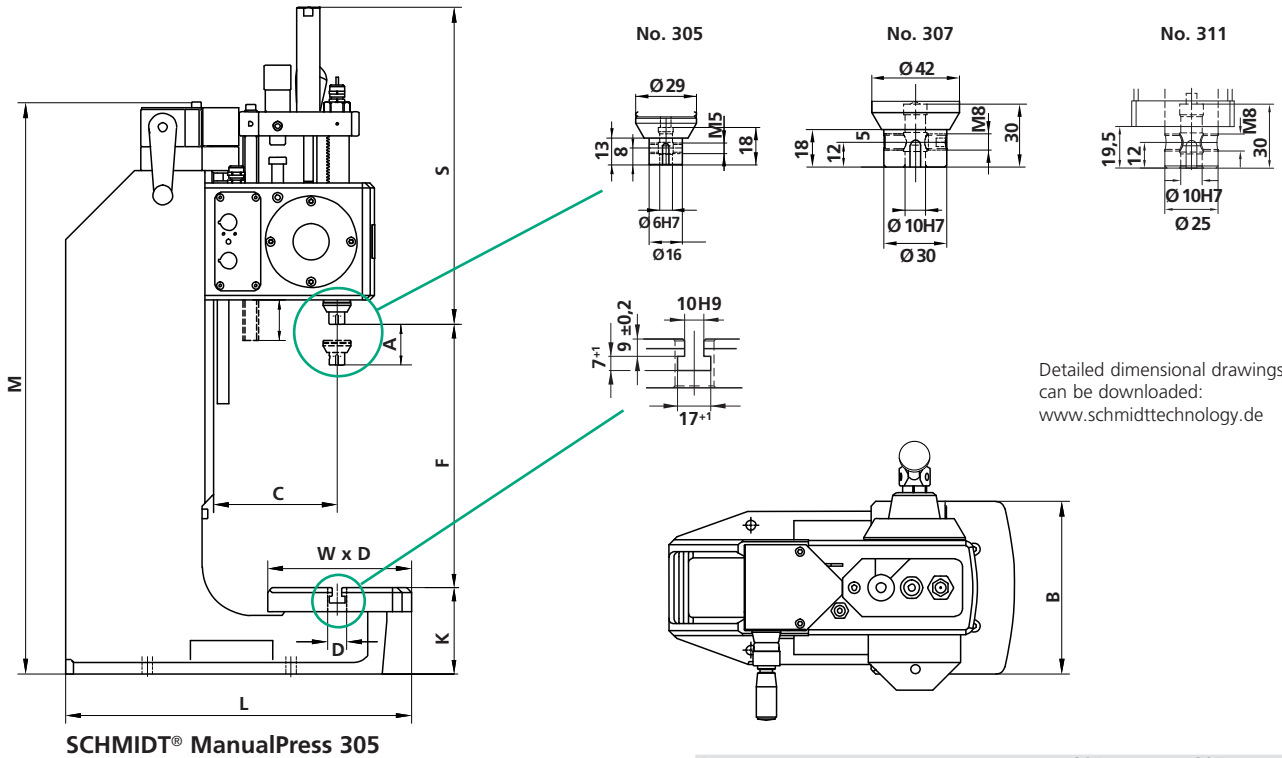
The system software allows easy setup of quality control criteria for 100 % in-process monitoring.



Assembly system with patented return stroke lock and programmable clutch

# SCHMIDT® ManualPress 300 Series

Process reliability for manual workplaces, force range 0.4 to 12 kN



Detailed dimensional drawings can be downloaded: [www.schmidttechnology.de](http://www.schmidttechnology.de)

SCHMIDT® ManualPress 305

## 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 anti-rotation. This results in precise working 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 0.05 mm.
  - Height adjustment using a crank
  - Precision bores in ram and column base platen

## Functional components:

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

Press type		305	307	311
Nominal force	kN	0,4	4	12
Force at hand lever	approx. N	50	200	200
Working stroke	A mm	0 – 42	0 – 54	0 – 50 <sup>1)</sup>
Throat depth	C mm	128	128	128
Press head height	S mm	310	417	555
Ram bore	Ø mm	6H7	10H7	10H7
Stroke stop				
fine adjustment, division	mm	0,02	0,02	0,02
Stroke resolution	v	0,005	0,005	0,005
Angle of rotation / mm stroke		3,3°	4,8°	non linear
Resolution, process	stroke µm/inc	5	5	5
data acquisition	force N/inc	0,25	2,5	10
<b>Working height</b>	<b>F</b>			
Frame No. <b>7</b>		60 – 270	50 – 260	50 – 140
Frame No. <b>7-600</b> <sup>3)</sup>		90 – 600	80 – 600	80 – 480
Spring restoring force	N	6	10	10 / 30
Weight (standard)	ca. kg	41	41	60
Protection type		IP 54	IP 54	IP 54

## Accessories

Stronger return assist spring	<input type="checkbox"/>	<input type="checkbox"/>
Speed control	<input type="checkbox"/>	<input type="checkbox"/>
Throat depth frame <sup>2)</sup> (total depth) 168 mm, 208 mm, 248 mm	<input type="checkbox"/>	<input type="checkbox"/>
Fixture mounting plate suitable for throat depth frame	<input type="checkbox"/>	<input type="checkbox"/>

## Frame overview

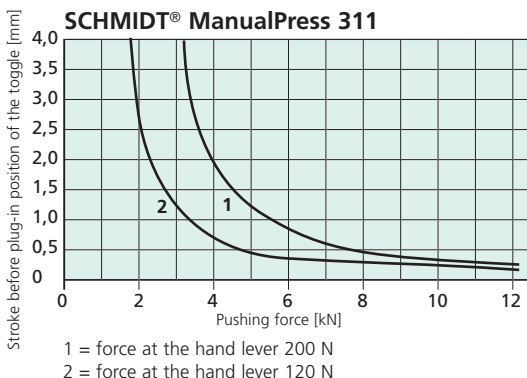
Frame type	Press type	Frame height M mm	Table size W x D mm	Table bore D Ø mm	Table height K mm	Mounting surface W x L mm
No. <b>7</b>	No. 305, 307, 311	600	180 x 150	20H7	90	330 x 361
No. <b>7-600</b> <input type="checkbox"/>	No. 305, 307, 311	960	180 x 280	20H7	110	330 x 465 – 505

## Options

- = Additional charge applies
- <sup>1)</sup> = The fine adjustment increases the working stroke by 0.12 inch
- <sup>2)</sup> = Throat depth frame only available with frame No. **7-600**
- <sup>3)</sup> = Increased throat and higher frame lead to smaller nominal forces for No. **311**

## Other Available Options:

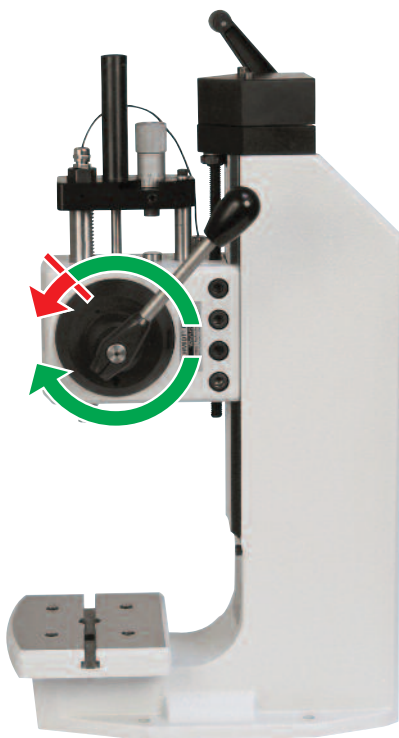
- **Nickel plated** – Cast parts are electroless nickel plated, steel components black oxide finished, aluminum anodized, precision steel surfaces are untreated
  - **Custom Paint** – Press and column can be painted to customer's color specification
  - **Bores for Adapting Tooling** – Customer specific sizes can be supplied
- Please consult our sales department or representative.



# Process reliability for manual workplaces

## Included with the control unit SCHMIDT® PressControl 3000

- 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
- Integrated software embedding of program modules **SCHMIDT® ControlTool** and **SPC Software** via USB connection to PC for
  - Production data management
  - Process monitoring
  - Process visualization
  - Quality evaluation
  - Static process control



### 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

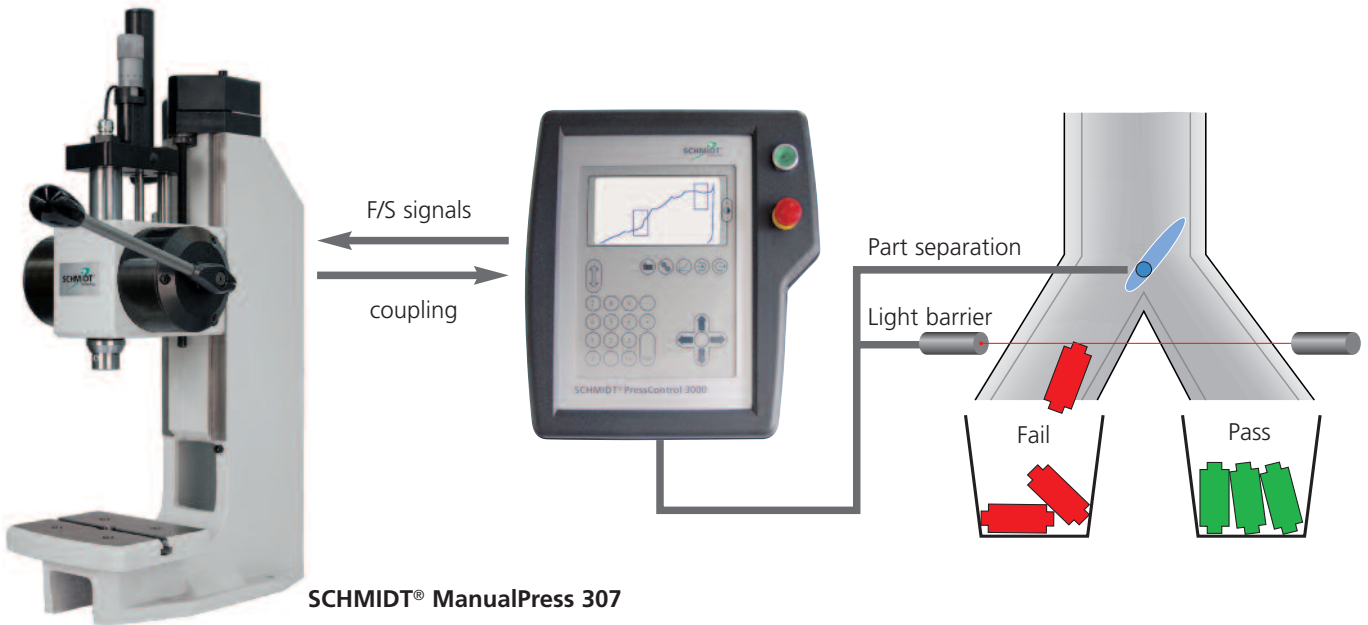
- If the necessary force has not been reached
- If the required stroke has not been reached

This ensures that the user always completes the operation.

# SCHMIDT® ManualPress 300 Series

## Examples of verified process workplaces

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 3000** 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.



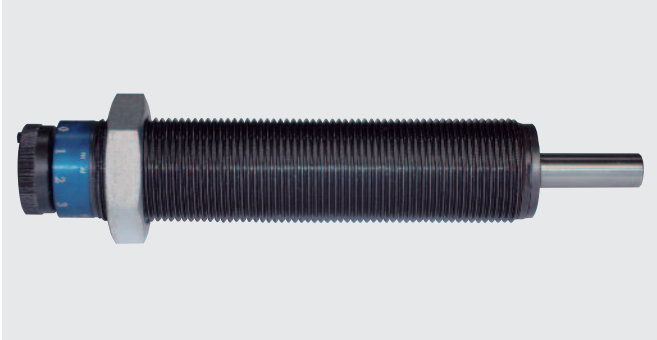
- The control unit **SCHMIDT® PressControl 3000** does not release the press until all parts are completely and correctly positioned.
- This avoids erroneous pressing.

## Options suitable for your application



### Control mounting bracket

Used for fastening the **SCHMIDT® PressControl 3000**, either mounted to the table or to the wall. The mounting bracket permits the unit to swivel 70° (Included with control).



### Speed control

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



### 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 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.



### CAN bus node

Integrates additional digital and analog inputs and outputs (I/O) which enable the full functionality of the control unit. (8 inputs / 4 outputs are included with the control)



### I/O distribution board

Facilitates easy interface of up to 8 inputs and 4 outputs.



### External Reset Button

We recommend an external reset button in rough production environments.



### Ergonomic handle

Swivelling handle for discharge of the wrist; easy and flexible assembly on the hand lever.