

# 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 fail-safe 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

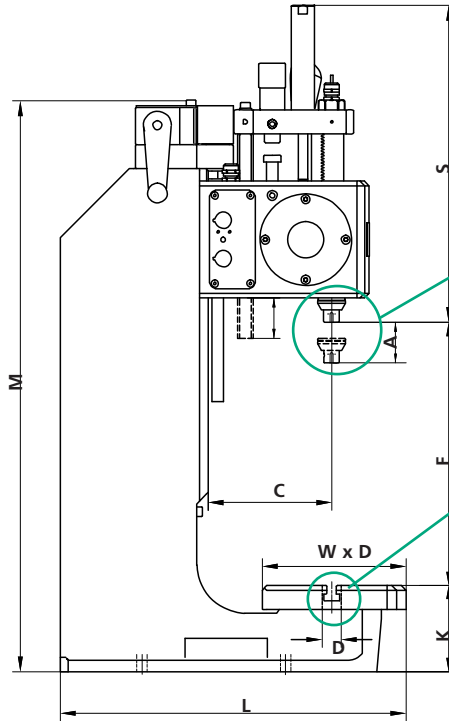
The system software allows easy setup of quality control criteria for 100 % in-process monitoring.



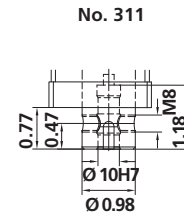
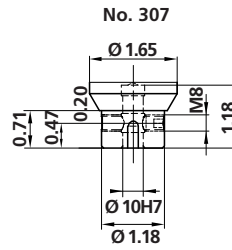
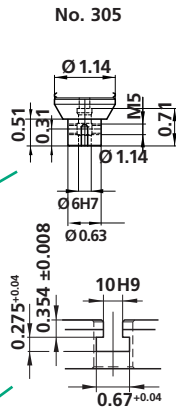
Assembly system with patented return stroke lock and programmable clutch

# SCHMIDT® ManualPress 300 Series

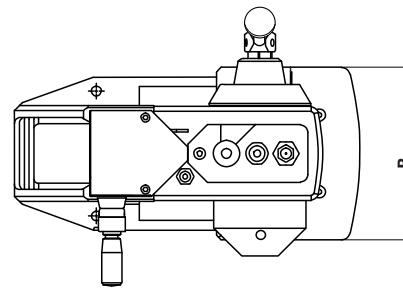
Process reliability for manual workplaces, force range 90 lbs. to 2700 lbs.



SCHMIDT® ManualPress 305



Dimensions are converted from metric units, most are approximate. Detailed dimensional drawings can be downloaded from our website: [www.schmidtpresses.com](http://www.schmidtpresses.com)



### 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 / < 0.002 inches.
  - 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

### Tolerance conversion of typical sizes of SCHMIDT® Presses

Metric	Nominal Inch	Tolerance Inch
6H7	0.2362	-0 / +0.0005
10H7	0.3937	-0 / +0.0006
20H7	0.7874	-0 / +0.0008
10H9	0.3937	-0 / +0.0014

Threads	Pitch
M8	1.25 mm
M10	1.50 mm

Press type		305	307	311
Nominal force	lbs	90	900	2700
Force at hand lever	approx. lbs	11	45	45
Working stroke	A inch	0 – 1.65	0 – 2.13	0 – 1.97 <sup>1)</sup>
Throat depth	C inch	5.04	5.04	5.04
Press head height	S inch	12.20	14.96	21.85
Ram bore	Ø mm	6H7	10H7	10H7
Stroke stop				
fine adjustment, division	inch	0.0008	0.0008	0.0008
Stroke resolution	inch	0.0002	0.0002	0.0002
Angle of rotation /0.1 inch stroke		8.4°	12.2°	non linear
Resolution, process	stroke inch/inc	0.0002	0.0002	0.0002
data acquisition	force lbs/inc	0.056	0.56	2.25
<b>Working height F</b>				
Frame No. <b>7</b>		2.36 – 10.63	1.97 – 10.24	1.97 – 5.50
Frame No. <b>7-600</b> <sup>3)</sup>		3.54 – 23.62	3.15 – 23.62	3.15 – 18.9
Spring restoring force	lbs	1.35	2.25	2.25/6.74
Weight (standard)	approx. lbs	90	90	132
Protection type		IP 54	IP 54	IP 54

Accessories			
Stronger return assist spring		○	○
Speed control		○	○
Throat depth frame <sup>2) 3)</sup>			
6.61 / 8.19 / 9.76 inch		○	○
Fixture mounting plate suitable for throat depth frame		○	○

Frame type	Press type	Frame height	Table size	Table bore	Table height	Mounting surface
		M	W x D	D	K	W x L
		inch	inch	Ø mm	inch	inch
No. <b>7</b>	No. 305, 307, 311	23.62	7.09 x 5.90	20H7	3.54	12.01 x 14.21
No. <b>7-600</b>	○ No. 305, 307, 311	37.79	7.09 x 11.02	20H7	4.33	11.6 x 18.31 – 19.88

### 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**

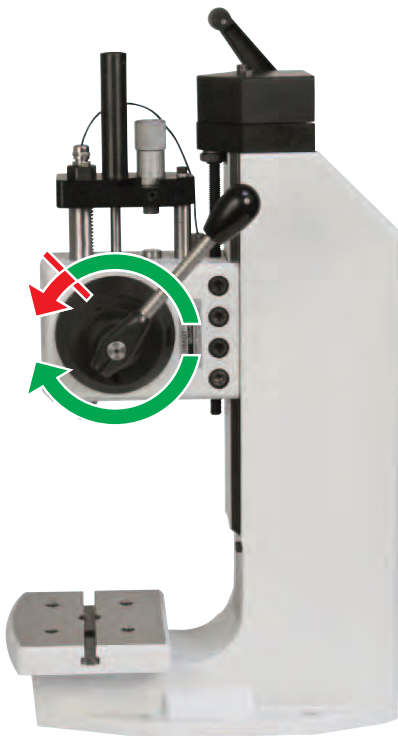
### Other Available Options:

- **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

# 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)

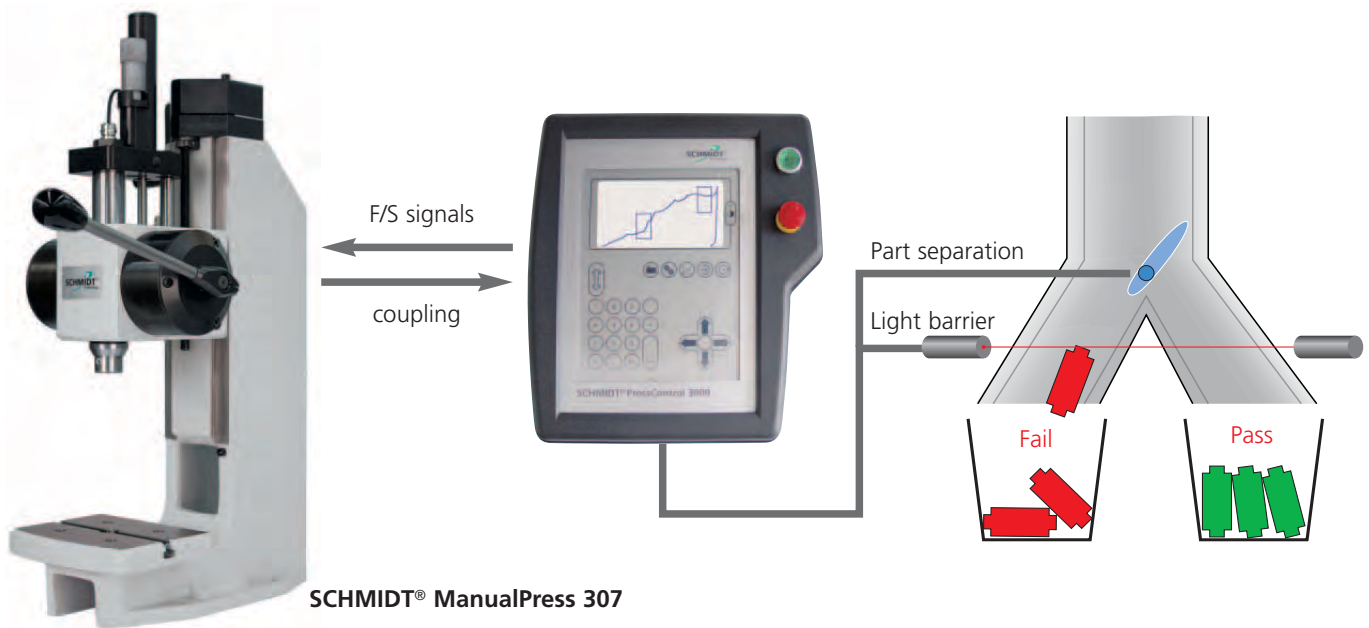
- Press blocks the return stroke
- If the necessary force has not been reached
  - If the required stroke has not been reached

This ensures that the user always completes the operation.

# SCHMIDT® ManualPress 300 Series

## Examples of verified process workplaces

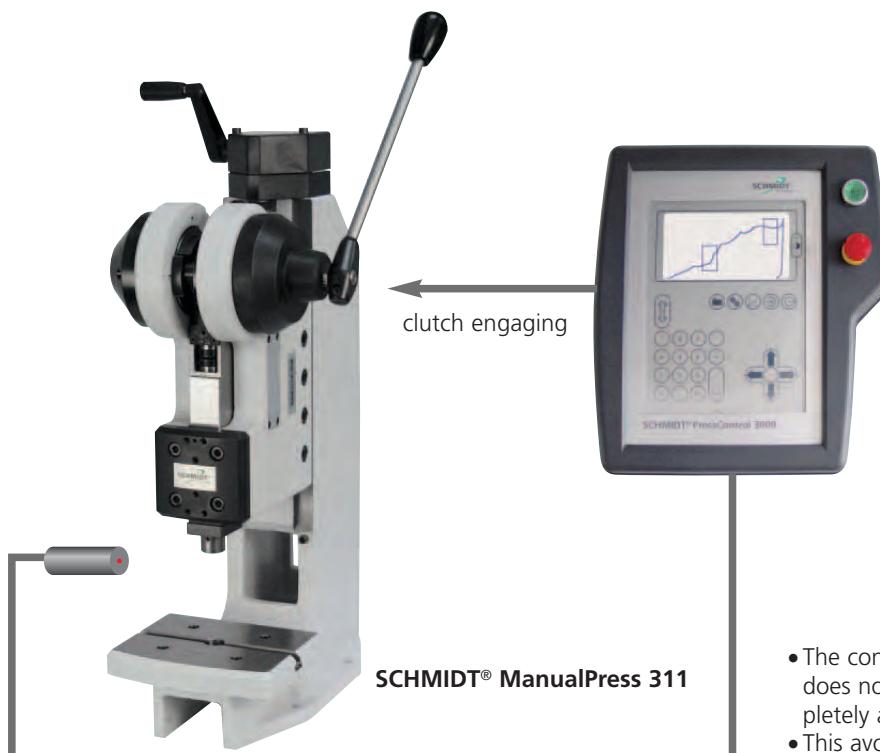
Both examples below can be combined arbitrarily when taking into account the maximum available inputs and outputs. In addition, the functions of the different operating modes are available, which can be freely parameterized or programmed for special functions.



SCHMIDT® ManualPress 307

- The control unit **SCHMIDT® PressControl 3000** analyzes the force/stroke signals of the **SCHMIDT® ManualPress 300 Series** 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.



SCHMIDT® ManualPress 311

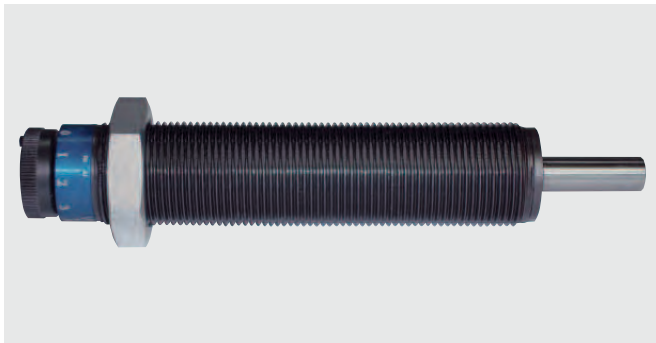
- The control unit **SCHMIDT® PressControl 3000** does not release the press until all parts are completely and correctly positioned.
- This avoids erroneous pressing.

## 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 slows the pressing process shortly before reaching 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

Swiveling handle for improved comfort of the wrist. Easy and flexible installation on the hand lever.