

# SCHMIDT® ManualPress

From 1.6 kN to 22 kN / 360 lbs. to 4,945 lbs.

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



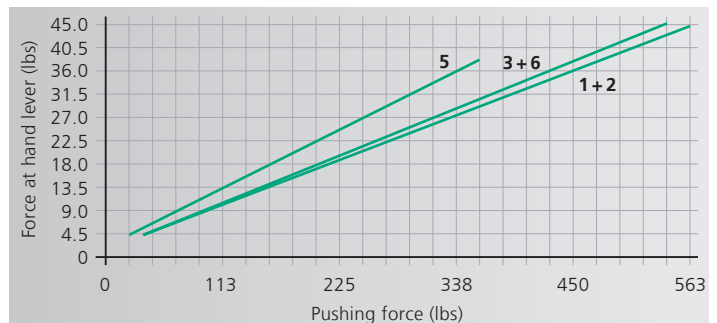
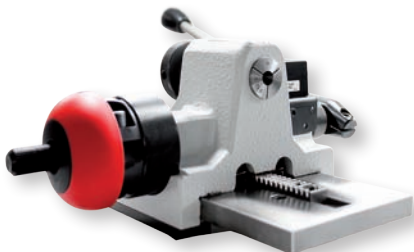
Press Type 3/6



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.



From 1.6 kN to 2.5 kN / 360 lbs. to 560 lbs.

Press Type		5	5R	3	3R	6	6R	1	1R	2	2R	
Press head type		5	5R	3	3R	3	3R	1	1R	1	1R	
Nominal force	lbs	360	360	540	540	540	540	560	560	560	560	
Working stroke	A	inch	0-1.57	0.66-1.57	0-2.75	0.70-2.75	0-2.75	0.70-2.75	0-3.14	1.02-3.14	0-3.14	1.02-3.14
Special strokes			0-6.29		0.70-3.93		0-6.29	0.70-3.93	0-3.93	1.02-3.93	0-3.93	1.02-3.93
Throat depth	C	inch	2.55	2.55	3.38	3.38	3.38	3.38	3.38	3.38	3.38	
Press head height	S	inch	9.4	9.4	13.7	13.7	13.7	13.7	15.7	15.7	15.7	
Ram bore	Ø mm		10H7	10H7	10H7	10H7	10H7					
Collet (standard Ø10)	Ø mm							1-17	1-17	1-17	1-17	
Hand lever left			○	○	○	○	○	●	●	●	●	
Angle of rotation/0.1 inch stroke			10.4°	10.4°	8.2°	8.2°	8.2°	8.2°	5.6°	5.6°	5.6°	
Max. weight upper tool*	lbs		3	2	6	4.5	6	4.5	2	2	2	
<b>Return stroke lock<sup>1)</sup></b>												
Locked position 1	inch		0.45		0.5		0.5		0.76		0.76	
Locked position 2	inch		0.13		0.17		0.17		0.27		0.27	
Disengaging accuracy approx.	inch		0.0023		0.0027		0.0027		0.0031		0.0031	
<b>Working height</b>	F											
Frame No. 13	inch	2.1-7.4	2.1-7.4									
Frame No. 3	inch			3.1-8.26	3.1-8.26			4.7-10.2	4.7-10.2			
Frame No. 2	inch					4.7-14.1	4.7-14.1			5.7-14.9	5.7-14.9	
Frame No. 2-600 ○	inch			7.8-23.6	7.8-23.6	7.8-23.6	7.8-23.6	9.6-25.5	9.6-25.5	9.6-25.5	9.6-25.5	
Frame No. 2-1000 ○	inch			12.9-40.5	12.9-40.5	12.9-40.5	14.9-42.5	14.9-42.5	14.9-42.5	14.9-42.5	14.9-42.5	
Weight	approx. lbs	24	24	49	49	66	66	50	50	70	70	
<b>Accessories</b>		5	5R	3	3R	6	6R	1	1R	2	2R	
Mechanical counter		○	○	○	○	○	○	○	○	○	○	
Throat depth frame (total depth) 4.37 inch, 5.15 inch, 6.29 inch, 7.87 inch				○	○	○	○	○	○	○	○	
Additional fixture mounting plate suitable for throat depth frame				○	○	○	○	○	○	○	○	
Micrometer stop		○	○	○	○	○	○					

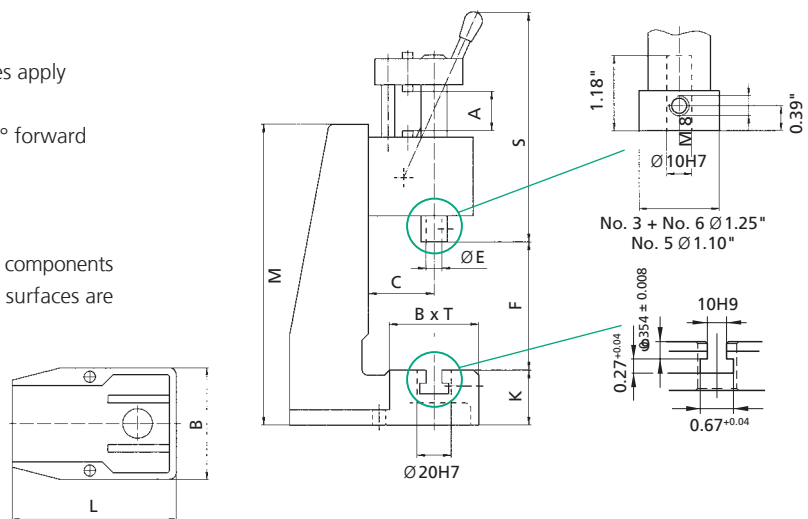
Frame Overview	Press Type	Frame Height M (inch)	Table Size B x T (inch)	Table Bore Ø (mm)	Table Height K (inch)	Mounting Surface B x L (inch)
No. 13	5	12.99	4.33 x 3.15	20H7	1.81	4.33 x 7.28
No. 3	3, 1	15.74	5.91 x 4.33	20H7	2.36	5.9 x 10.23
No. 2	6, 2	21.10	7.28 x 4.33	20H7	2.36	7.28 x 11.02
No. 2-600	3, 6, 1, 2	31.89	7.87 x 6.30	20H7	3.86	7.87 x 11.41
No. 2-1000	3, 6, 1, 2	49.21	7.87 x 6.30	20H7	3.86	7.87 x 11.41

**Options**

- Standard with no additional charge ○ Additional charges apply
- <sup>1)</sup> Adjustment of locking position on request
- \* The weight was determined with hand lever position 45° forward (guidelines)

**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](http://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

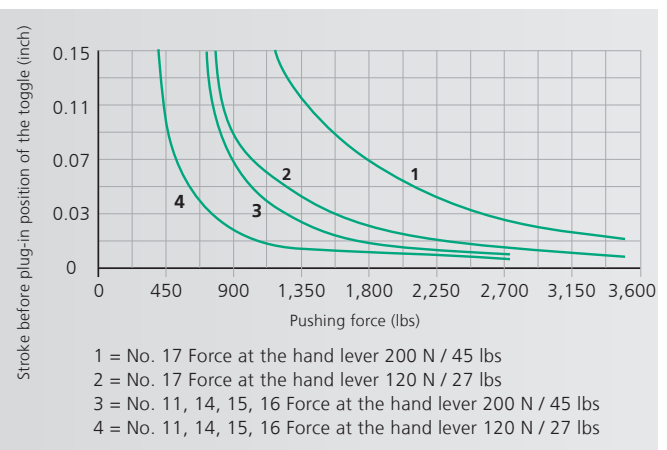
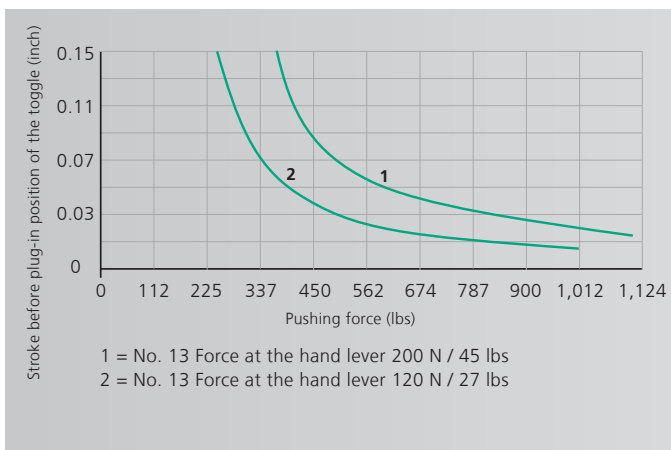
- High force at end of stroke (see diagram below)
- Honed bores and ground rams provide a long service life and a precise guidance



Press Type 13



Press Type 11/14 -17



Note: Maximum force will be reached just before extended position

From 5 kN to 15 kN / 1,125 lbs. to 3,370 lbs.

Press Type		13 13F	13R 13RF	11 11F	11R 11RF	15 15F	15R 15RF	14 14F	14R 14RF	16 16F	16R 16RF	17 17F
Press head type		13 - 40 13F - 35	13R - 40 13RF - 35	11 - 45 11F - 35	11R - 45 11RF - 35	11R - 45 11F - 35	11R - 45 11F - 35	11 - 60 11F - 50	11R - 60 11RF - 50	11 - 60 11F - 50	11R - 60 11RF - 50	11 - 20 11F - 20
Nominal force	lbs	1,125	1,125	2,700	2,700	2,700	2,700	2,700	2,700	2,700	2,700	3,370
Working stroke	A inch	1.57 1.37	1.57 1.37	0 - 1.77 0 - 1.37	0.78 - 1.77 0.78 - 1.37	0 - 1.77 0 - 1.37	0.78 - 1.77 0.78 - 1.37	2.36 1.96	2.36 1.96	2.36 1.96	2.36 1.96	0 - 0.78 0 - 0.78
Throat depth	C inch	2.55	2.55	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38
Press head height	S inch	15.15 15.74	15.15 15.74	20.47 21.25	20.47 21.25	20.47 21.25	20.47 21.25	19.68 20.47	19.68 20.47	19.68 20.47	19.68 20.47	24.40 25.19
Ram bore	Ø mm	10H7	10H7	10H7	10H7	10H7	10H7	10H7	10H7	10H7	10H7	10H7
Hand lever left		○		○		○		○		○		
Angle of rotation		95°	95°	110°	110°	110°	110°	125°	125°	125°	125°	90°
Max. weight upper tool*	lbs	3/8 3/7	3/8 3/7	4.5/10 5.5/13.5	4.5/9 20/13.5	4.5/10 5.5/13.5	4.5/9 4.5/13.5	3/5.5 4.5/11	3/5.5 3/9	3/5.5 4.5/11	3/5.5 3/9	5.5/- 5.5/-
<b>Return stroke lock<sup>1)</sup></b>												
Locked position 1	inch bef. BDC		0.51		0.47		0.47		0.55		0.55	
Locked position 2	inch bef. BDC		0.05		0.05		0.05		0.05		0.05	
Disengaging accuracy	inch		0.001		0.001		0.001		0.0015		0.0015	
<b>Working height</b>	F											
Frame No. 13	inch	2.55-7.08 1.57-6.10	2.55-7.08 1.57-6.10									
Frame No. 3	inch			3.14-8.26 2.16-7.08	3.14-8.26 2.16-7.08			3.54-8.66 2.55-7.67	3.54-8.66 2.55-7.67			2.75-7.87 2.36-7.28
Frame No. 2	inch					4.33-13.77 3.14-12.79	4.33-13.77 3.14-12.79			4.72-14.17 3.54-13.1	4.72-14.37 3.54-13.1	
Frame No. 2-600 ○	inch			7.87-23.03 6.8-22	7.87-23.03 6.8-22	7.87-23.03 6.8-22	7.87-23.03 6.8-22	8.26-23.42 7.2-22.44	8.26-23.42 7.2-22.44	8.26-23.42 7.2-22.44	8.26-23.42 7.2-22.44	7.87-23.03 6.8-22
Frame No. 2-1000 ○	inch			13-40.15 12-39.37	13-40.15 12-39.37	13-40.15 12-39.37	13-40.15 12-39.37	13.38-40.55 12.40-39.76	13.38-40.55 12.40-39.76	13.38-40.55 12.40-39.76	13.38-40.55 12.40-39.76	13.38-40.15 12-39.37
Weight	approx. lbs	26	26	51	53	64	64	53	53	64	64	51

Accessories		13 13F	13R 13RF	11 11F	11R 11RF	15 15F	15R 15RF	14 14F	14R 14RF	16 16F	16R 16RF	17 17F
Mechanical counter		○	○	○	○	○	○	○	○	○	○	○
Throat depth frame (total depth) 4.37 inch, 5.15 inch				○	○	○	○	○	○	○	○	
Additional fixture mounting plate suitable for throat depth frame		○	○	○	○	○	○	○	○	○	○	
Block clamping piece		○	○	●	●	●	●	○	○	○	○	●

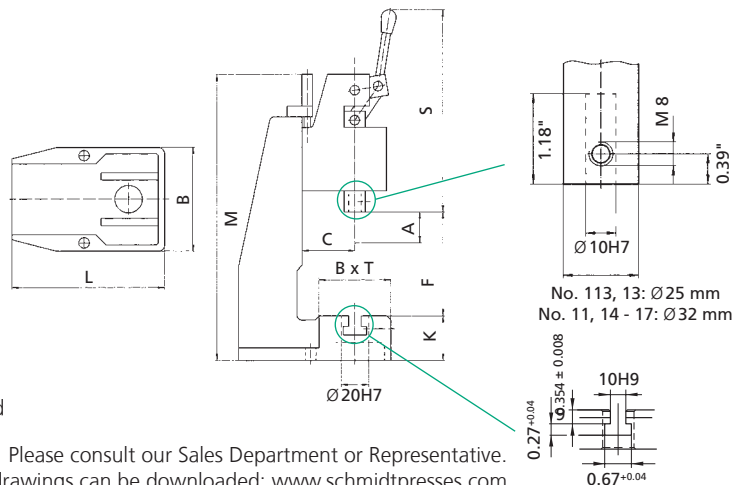
Frame Overview	Press Type	Frame Height M (inch)	Table Size B x T (inch)	Table Bore Ø (mm)	Table Height K (inch)	Mounting Surface B x L (inch)
Nr. 13	13	18.70	4.33 x 3.14	20H7	1.8	4.33 x 7.28
Nr. 3	11, 14, 17	21.25	5.9 x 4.3	20H7	2.36	5.9 x 10.23
Nr. 2	15, 16	27.55	7.28 x 4.3	20H7	2.36	7.28 x 11.02
Nr. 2-600	11, 14, 15, 16, 17	38.34	7.87 x 6.29	20H7	3.85	7.87 x 11.41
Nr. 2-1000	11, 14, 15, 16, 17	55.51	7.87 x 6.29	20H7	3.85	7.87 x 11.41

**Options**

- Standard with no additional charge ○ Additional charges apply
- <sup>1)</sup> Adjustment of locking position on request
- \* The weight was determined with hand lever position 45° forward (guidelines)

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



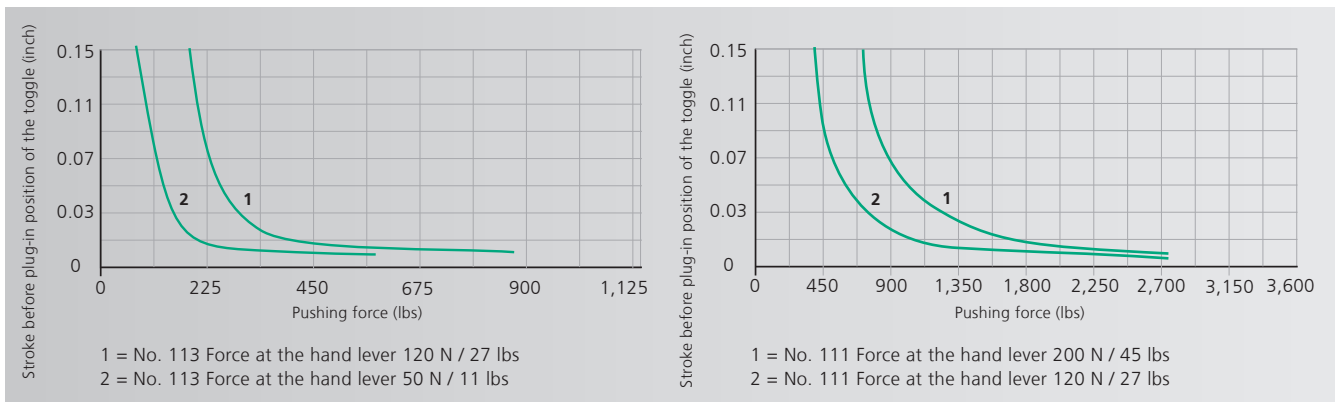
Press Type 113



Press Type 111

## 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.



**Note:** Maximum force will be reached just before extended position



From 2.5 kN to 12 kN / 560 lbs. to 2,700 lbs.

Press Type			113 113F	113R 113RF	111 111F	111R 111RF
Press head type			113 113F	113R 113RF	111 - 45 111F - 50	111R - 45 111RF - 50
Nominal force		lbs	560	560	2,700	2,700
Working stroke	A	inch	0 - 1.10 0 - 1.10	0.86 - 1.10 0.86 - 1.10	0 - 1.77 1.96	0.94 - 1.77 1.96
Throat depth	C	inch	2.55	2.55	3.38	3.38
Press head height	S	inch	6.69 7.08	7.48 7.87	8.46 8.85	9.44 9.84
Ram bore		Ø mm	10H7	10H7	10H7	10H7
Hand lever left			-	-	-	-
Angle of rotation			80°	80°	90°	90°
Max. weight upper tool*		lbs	2/7 1/7	1/6 1/7	6/- 7/-	6/- 7/-
<b>Return stroke lock<sup>1)</sup></b>						
Locked position 1		inch		0.47		0.55
Locked position 2		inch		0.01		0.05
Disengaging accuracy		inch		0.001		0.002
<b>Working height</b>						
Frame No. 13		inch	1.96-6.49 1.57-6.10	1.96-6.49 1.57-6.10		
Frame No. 3		inch			5.11-8.07 4.52-7.67	5.11-8.07 4.52-7.67
Frame No. 2		inch			5.11-13.38 4.52-13.0	5.11-13.38 4.52-13.0
Frame No. 2-600 o		inch			7.87-22.83 7.28-22.44	7.87-22.83 7.28-22.44
Frame No. 2-1000 o		inch			13.0-40.15 12.2-39.37	13.0-40.15 12.2-39.37
Weight		approx. lbs	24	24	62	62
<b>Accessories</b>			113 113F	113R 113RF	111 111F	111R 111RF
Mechanical counter			o	o	o	o
Throat depth frame (total depth) 4.37 inch, 5.15 inch					o	o
Additional fixture mounting plate suitable for throat depth frame					o	o
Block clamping piece <sup>2)</sup>			•	•	•	•

Frame Overview	Press Type	Frame Height M (inch)	Table Size B x T (inch)	Table Bore Ø (mm)	Table Height K (inch)	Mounting Surface B x L (inch)
No. 13	113	18.70	4.33 x 3.14	20H7	1.81	4.33 x 7.28
No. 3	111	21.25	5.90 x 4.33	20H7	2.36	5.90 x 10.23
No. 2	111	27.55	7.28 x 4.33	20H7	2.36	7.28 x 11.02
No. 2-600	111	38.34	7.87 x 6.29	20H7	3.85	7.87 x 11.41
No. 2-1000	111	55.51	7.87 x 6.29	20H7	3.85	7.87 x 11.41

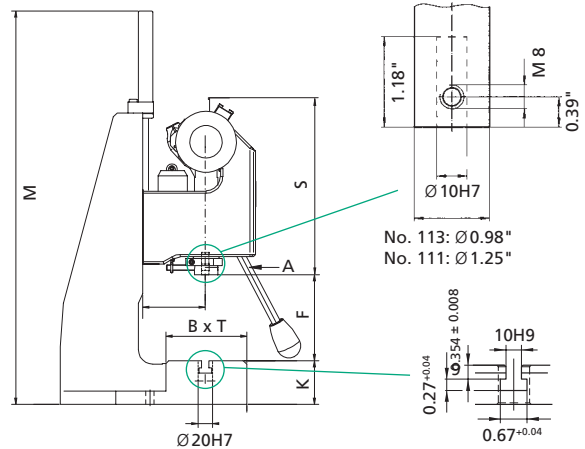
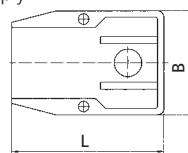
**Options**

• Standard with no additional charge o Additional charges apply

<sup>1)</sup> Adjustment of locking position on request

<sup>2)</sup> Stroke reduction about 0.39 inch by version with additional charge

\* The weight was determined with hand lever position 45° forward (guidelines)



**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

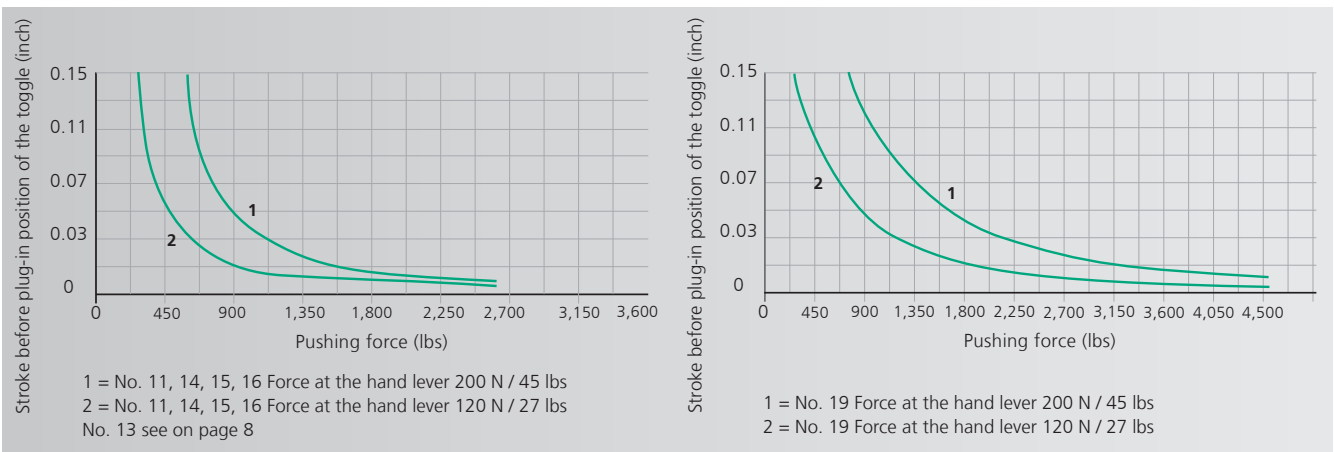
- High force at end of stroke
- Square ram is anti-rotational (no die sets required)
- Precise adjustment of the press depth via hardened lower stop
- Fully adjustable, play-free teflon-lined gibbs



Press Type 11 V  
13 V  
14 V

Press Type 15 V  
16 V

Press Type 19 V



**Note:** Maximum force will be reached just before extended position



From 5 kN to 22 kN / 1,125 lbs. to 4,950 lbs.

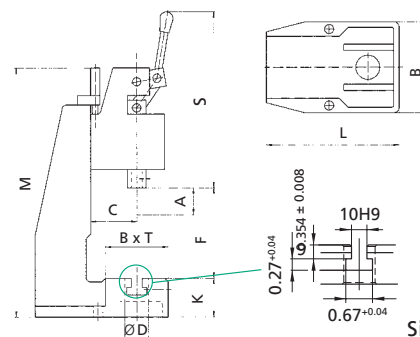
Press Type		13 V 13 VF	13 VR 13 VRF	11 V 11 VF	15 V 15 VF	11 VR 11 VRF	15 VR 15 VRF	14 V 14 VF	16 V 16 VF	14 VR 14 VRF	16 VR 16 VRF	19 V 19 VF	19 VR 19 VRF
<b>Press head type</b>		13V-40 13VF-40	13VR-40 13VRF-40	11V-45 11VF-45	15V-45 15VF-45	11VR-45 11VRF-45	15VR-45 15VRF-45	11V-60 11VF-60	16V-60 16VF-60	14VR-60 14VRF-60	16VR-60 16VRF-60	19V-40 <sup>1)</sup>	19VR-40 <sup>1)</sup>
Nominal force	lbs.	1,125	1,125	2,700	2,700	2,700	2,700	2,700	2,700	2,700	2,700	4,950	4,950
Working stroke	A inch	0 - 1.57 0.59 - 1.57	1.02 - 1.57 1.02 - 1.57	0.39 - 1.77 0.98 - 1.77	0.39 - 1.77 0.98 - 1.77	0.78 - 1.77 0.98 - 1.77	0.78 - 1.77 0.98 - 1.77	0.59 - 2.36 1.18 - 2.36	0.59 - 2.36 1.18 - 2.36	1.10 - 2.36 1.18 - 2.36	1.10 - 2.36 1.18 - 2.36	0 - 1.57 0 - 1.57	0.39 - 1.57 0.39 - 1.57
Throat depth	C inch	2.55	2.55	3.38	3.38	3.38	3.38	3.38	3.38	3.38	3.38	5.15	5.15
Press head height	S inch	15.15 15.74	15.15 15.74	20.07 20.86	20.07 20.86	20.07 20.86	20.07 20.86	20.07 20.86	20.07 20.86	20.07 20.86	20.07 20.86	24.40 24.40	24.40 24.40
Ram bore	Ø mm	10H7	10H7	10H7	10H7	10H7	10H7	10H7	10H7	10H7	10H7	20H7	20H7
Hand lever left		○		○	○			○	○			●	●
Angle of rotation		95°	95°	110°	110°	110°	110°	125°	125°	125°	125°	175°	175°
Max. weight upper tool*	lbs	3/9 4.5/8	3/9 4.5/8	16/9 4.5/11	16/9 4.5/11	16/9 4.5/11	16/9 4.5/11	2/8 2/8	2/8 2/8	2/8 2/8	2/8 2/8	4.5/- 4.5/-	4.5/- 4.5/-
<b>Return stroke lock<sup>2)</sup></b>													
Locked position 1	inch bef. BDC		0.57			0.47	0.47				0.55	0.55	0.17
Locked position 2	inch bef. BDC		0.06			0.06	0.06				0.06	0.06	0.03
Disengaging accuracy	inch		0.001			0.001	0.001				0.002	0.002	0.002
<b>Working height</b>	F												
Frame No. 13	inch	2.55-7.08 1.96-6.10	2.55-7.08 1.96-6.10										
Frame No. 3				3.14-8.26 2.36-7.08		3.14-8.26 2.36-7.08		3.14-8.26 2.36-7.48		3.14-8.46 2.36-7.48			
Frame No. 2	inch			4.72-13.77 3.93-12.79		4.72-13.77 3.93-12.79		4.72-13.77 3.93-12.79		4.72-13.77 3.93-12.79		4.72-350 3.93-12.79	
Frame No. 2-600 ○	inch			7.87-23.03 7.28-22.44		7.87-23.03 7.28-22.44		8.26-23.22 7.67-22.63		8.26-23.22 7.67-22.63			
Frame No. 2-1000 ○	inch			12.99-40.15 12.40-39.37		12.99-40.15 12.40-39.37		13.38-40.55 12.79-39.96		13.38-40.55 12.79-39.96			
Frame No. 19	inch											3.54-8.66	3.54-8.66
Frame No. 19-400 ○	inch											6.29-15.74	6.29-15.74
Frame No. 19-500 ○	inch											10.23-21.65	10.23-21.65
Weight	approx. lbs	26	26	53	70	53	70	53	70	53	70	187	187

Accessories	13 V 13 VF	13 VR 13 VRF	11 V 11 VF	15 V 15 VF	11 VR 11 VRF	15 VR 15 VRF	14 V 14 VF	16 V 16 VF	14 VR 14 VRF	16 VR 16 VRF	19 V 19 VF	19 VR 19 VRF
Mechanical counter	○	○	○	○	○	○	○	○	○	○	○	○
Throat depth frame 4.37 inch, 5.15 inch		○	○	○	○	○	○	○	○	○	○	○
Throat depth frame 5.94 inch											○	○
Additional fixture mounting plate suitable for throat depth frame			○	○	○	○	○	○	○	○	○ <sup>2)</sup>	○ <sup>2)</sup>

Frame Overview	Press Type	Frame Height M (inch)	Table Size B x T (inch)	Table Bore D Ø (mm)	Table Height K (inch)	Mounting Surface B x L (inch)
No. 13	13	18.70	4.33 x 3.14	20H7	1.81	4.33 x 3.34
No. 3	11, 14	21.25	5.90 x 4.33	20H7	2.36	5.90 x 10.23
No. 2	15, 16	27.55	7.28 x 4.33	20H7	2.36	7.28 x 11.02
No. 2-600 ○	15, 16	38.34	7.87 x 6.29	20H7	3.85	7.87 x 11.41
No. 2-1000 ○	15, 16	55.51	7.87 x 6.29	20H7	3.85	7.87 x 11.41
No. 19	19	25.19	7.87 x 6.29	25H7	4.40	7.87 x 14.56
No. 19-400 ○	19	33.07	9.84 x 7.87	40H7	5.70	9.84 x 18.11
No. 19-500 ○	19	39.37	9.84 x 7.87	40H7	5.70	9.84 x 18.89

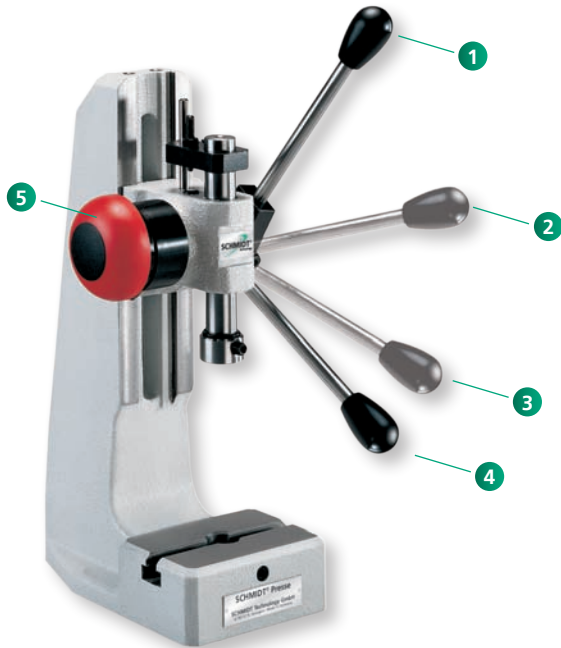
**Options**

- Standard with no additional charge ○ Additional charges apply
- <sup>1)</sup> Special strokes 0.47 inch and 1.96 inch on request
- <sup>2)</sup> Fixture mounting plate is already existing in the frame
- <sup>3)</sup> Adjustment of locking position on request
- \* The weight was determined with hand lever position 45° forward (guidelines)



# SCHMIDT® ManualPress

## Optional Accessories



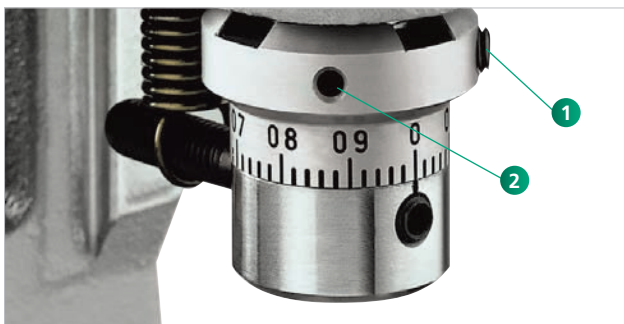
The return Stroke lock guarantees reaching the required pressing Depth with every Stroke.

- 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.



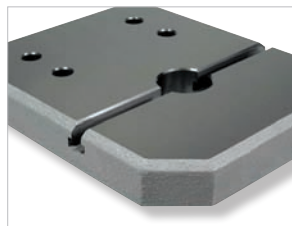
### Collet

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.



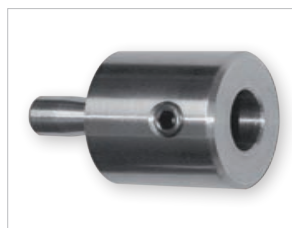
### Special fixture Mounting Plates

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

#### Order Key for press options

R = incl. return stroke lock with emergency release

F = incl. fine adjustment (for toggle presses)

Z = incl. mechanical counter

M = micrometer screw (for rack-and-pinion presses)

RF = incl. return stroke lock with emergency release and fine adjustment

### Order Example

No. 3 R = SCHMIDT® Rack-and-Pinion Press No. 3

incl. return stroke lock with emergency release

or

No. 13 RFZ = SCHMIDT® Toggle Press No. 13

incl. return stroke lock with emergency release, fine adjustment and mechanical counter

# 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 at a manual workplace.

### Process reliability – not just a slogan

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

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



Assembly system with patented return stroke lock and programmable clutch.

# SCHMIDT® ManualPress 300 Series

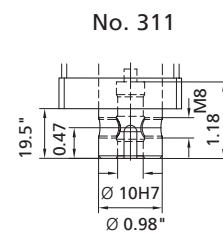
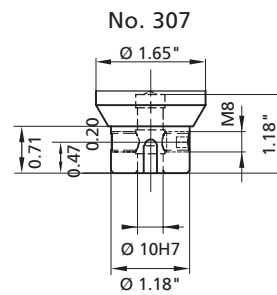
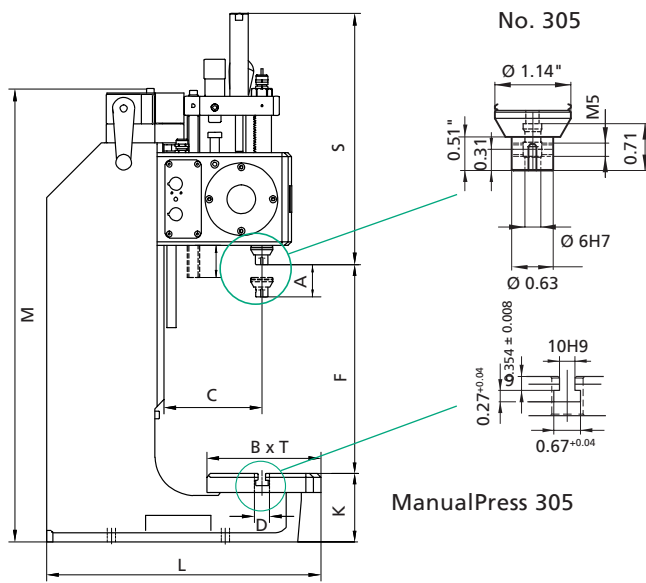
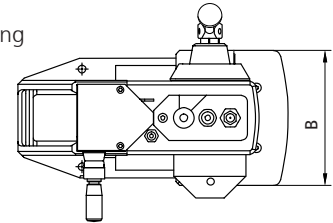
Process Reliability for Manual Workplaces, Force Range 90 lbs. to 2,700 lbs.

## 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		305	307	311
Nominal force	lbs	90	900	2,700
Force at the hand lever	approx. lbs	11	45	45
Working stroke	<b>A</b> inch	0 - 1.65	0 - 2.12	0 - 1.96 <sup>1)</sup>
Throat depth	<b>C</b> inch	5.07	5.07	5.07
Press head height	<b>S</b> inch	12.20	16.41	21.85
Ram bore	Ø mm	6H7	10H7	10H7
Stroke fine adjustment	inch	0.0007	0.0007	0.0007
Stroke resolution	inch	0.0001	0.0001	0.0001
Angle of rotation/mm stroke		3.3°	4.8°	non linear
Resolution, process data acquisition	stroke inch/inc force lbs/inc	0.0002 0.028	0.0002 0.28	0.0002 0.78
<b>Working height</b>	<b>F</b>			
Frame No. <b>7</b>	inch	2.36 - 10.62	1.96 - 10.23	1.96 - 5.51
Frame No. <b>7-600</b> <sup>3)</sup> ○	inch	3.54 - 23.62	3.14 - 23.62	3.14 - 18.89
Max. Weight upper tool*	lbs	1	2	2/7
Weight	approx. lbs	90	90	132
Protection type		IP 54	IP 54	IP 54

Accessories	305	307	311
Stronger return assist spring	○	○	
Speed control	○	○	
Throat depth frame <sup>2)3)</sup> (total depth) 6.65, 8.22, 9.80 inch	○	○	

Frame Overview	Press Type	Frame Height M (inch)	Table Size B x T (inch)	Table Bore D (Ø mm)	Table Height K (inch)	Mounting Surface B x L (inch)
No. <b>7</b>	305, 307, 311	23.62	7.08 x 5.90	20H7	3.54	12.99 x 14.21
No. <b>7-600</b> ○	305, 307, 311	37.79	7.08 x 11.02	20H7	4.33	12.99 x 18.30 - 19.88

## Options

- Additional charges apply
- <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**
- \* The weight was determined with hand lever position 45° forward (guidelines)

## 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

# SCHMIDT® ManualPress 300 Series

## Process Reliability for Manual Workplaces

ManualPress 300 Series with SCHMIDT® PressControl 600 control unit

- 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 scrap costs and elimination of errors
- Short changeover times due to pre-selection of stored working profiles



### 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 with Process Verification 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 diagram shows a SCHMIDT® ManualPress 307 on the left, connected to a SCHMIDT® PressControl 600 control unit in the center. Two arrows between them indicate 'F/s - signals' pointing from the press to the control unit and 'coupling' pointing from the control unit to the press. To the right, a schematic of the press mechanism shows a red part being separated into two bins. A red line labeled 'light barrier' is positioned to detect the part separation. Labels 'part separation' and 'light barrier' are placed near the schematic.

**SCHMIDT® ManualPress 307**

- 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



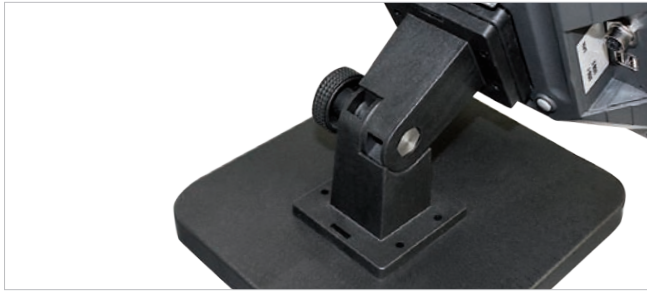
The diagram shows a SCHMIDT® ManualPress 311 on the left, connected to a SCHMIDT® PressControl 600 control unit on the right. An arrow labeled 'clutch engaging' points from the control unit to the press. A light barrier sensor is mounted on the press, with a line connecting it to the control unit.

**SCHMIDT® ManualPress 311**

- 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.



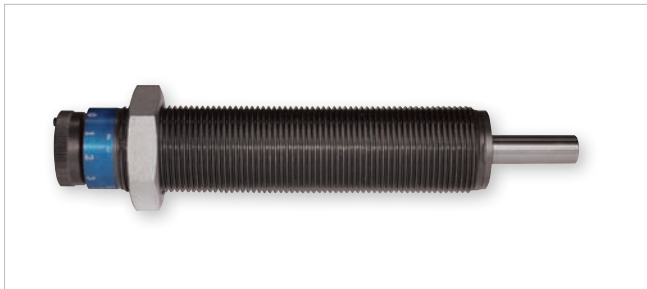
## Calibration Tool

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.



## 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.



## Ergonomic Handle

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



## Press Base

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