

# SCHMIDT® Toggle presses

The high force at the end of stroke, just where it is important

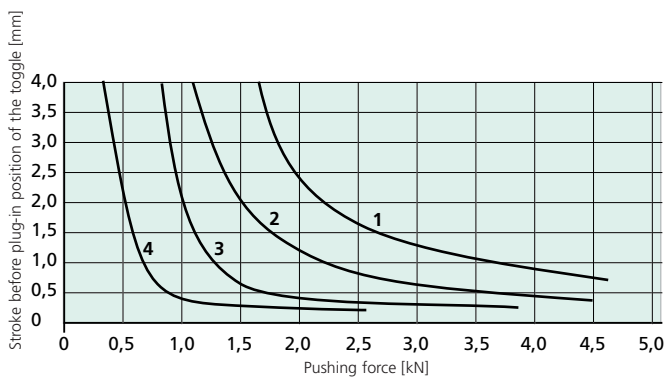


Do you need a high force at the end of stroke for material-transforming processes? Then, **SCHMIDT® Toggle Presses** are just the right choice.

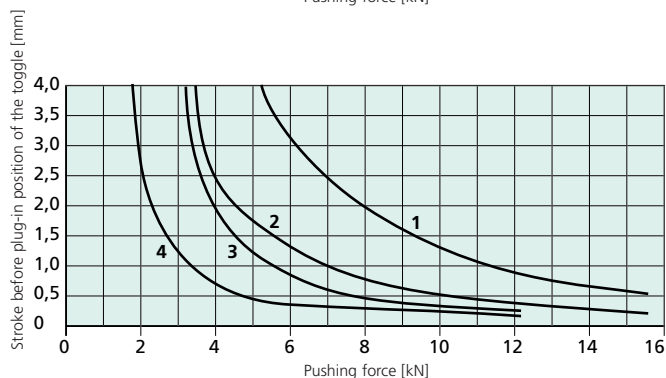
**Features:**

- High force at end of stroke
- Honed bores and ground rams provide a long service life and a precise guidance

With press No. 113, the manual force is applied by pulling the lever towards the body. This press is especially suitable for rapid production at small forces.



- 1 = No. 13 force at the hand lever 200 N
- 2 = No. 13 force at the hand lever 120 N
- 3 = No. 113 force at the hand lever 120 N
- 4 = No. 113 force at the hand lever 50 N



- 1 = No. 17 force at the hand lever 200 N
- 2 = No. 17 force at the hand lever 120 N
- 3 = No. 11, 14, 15, 16 force at the hand lever 200 N
- 4 = No. 11, 14, 15, 16 force at the hand lever 120 N

# From 2.5 kN to 15 kN

Press type		113	113R	13	13R	11	15	11R	15R	14	16	14R	16R	17
Press head type		113F	113RF	13F	13RF	11F	15F	11RF	15RF	14F	16F	14RF	16RF	17F
Nominal force	kN	2.5	2.5	5	5	12	12	12	12	12	12	12	12	15
Working stroke	A mm	0 - 28	22 - 28	0 - 40	25 - 40	0 - 45	0 - 45	20 - 45	20 - 45	0 - 60	0 - 60	24 - 60	24 - 60	0 - 20
Throat depth	C mm	65	65	65	65	86	86	86	86	86	86	86	86	86
Press head height	S mm	250	250	385	385	520	520	520	520	500	500	500	500	620
Ram bore	Ø mm	10H7	10H7	10H7	10H7	10H7	10H7	10H7	10H7	10H7	10H7	10H7	10H7	10H7
Hand lever left				○		○		○		○		○		
Angle of rotation		80°	80°	95°	95°	110°	110°	110°	110°	125°	125°	125°	125°	90°
Spring restoring force standard/enhanced	N	15/30	15/30	15/35	13/35	30/50	30/50	30/50	30/50	22/30	22/30	22/30	22/30	25/-
		6/30	6/30	22/30	22/30	30/70	30/70	30/70	30/70	30/50	30/50	30/50	30/50	25/-
<b>Return stroke lock<sup>1)</sup></b>														
Locked position 1	mm before BDC		11.6		14.5				12	12			14	14
Locked position 2	mm before BDC		0.6		1.5				1.5	1.5			1.5	1.5
Disengaging accuracy	mm		0.03		0.03				0.03	0.03			0.04	0.04
<b>Working height F</b>														
Frame No. 13	mm	50-165	50-165	65-180	65-180									
		40-155	40-155	50-155	50-155									
Frame No. 3	mm					80-210		80-210		90-225		90-225		70-200
						60-180		60-180		70-190		70-190		60-185
Frame No. 2	mm						110-350		110-350		120-360		120-360	
							80-325		80-325		90-335		90-335	
Frame No. 2-600 ○	mm					200-585	200-585	200-585	200-585	210-595	210-595	210-595	210-595	
						175-560	175-560	175-560	175-560	185-570	185-570	185-570	185-570	
Frame No. 2-1000 ○	mm					330-1020	330-1020	330-1020	330-1020	340-1030	340-1030	340-1030	340-1030	
						305-1000	305-1000	305-1000	305-1000	315-1010	315-1010	315-1010	315-1010	
Weight	approx. kg	11	11	12	12	23	31	23	31	23	23	23	31	24

### Accessories

Mechanical counter		○	○	○	○	○	○	○	○	○	○	○	○	○
Throat depth frame 111 mm, 131 mm						○	○	○	○	○	○	○	○	○
Additional fixture mounting plate suitable for throat depth frame						○	○	○	○	○	○	○	○	○
Block clamping piece <sup>2)</sup>		●	●	○	○	●	●	●	●	○	○	○	○	●
		○	○											

### Frame overview

Frame type	Press type	Frame height M mm	Table size W x D mm	Table bore Ø mm	Table height K mm	Mounting surface W x L mm
No. 13	13, 113	330	110 x 80	20H7	46	110 x 185
No. 3	11, 14, 17	540	150 x 110	20H7	60	150 x 260
No. 2	15, 16	700	185 x 110	20H7	60	185 x 280
No. 2-600 ○	15, 16	810	200 x 160	20H7	98	200 x 290
No. 2-1000 ○	15, 16	1248	200 x 160	20H7	98	200 x 290

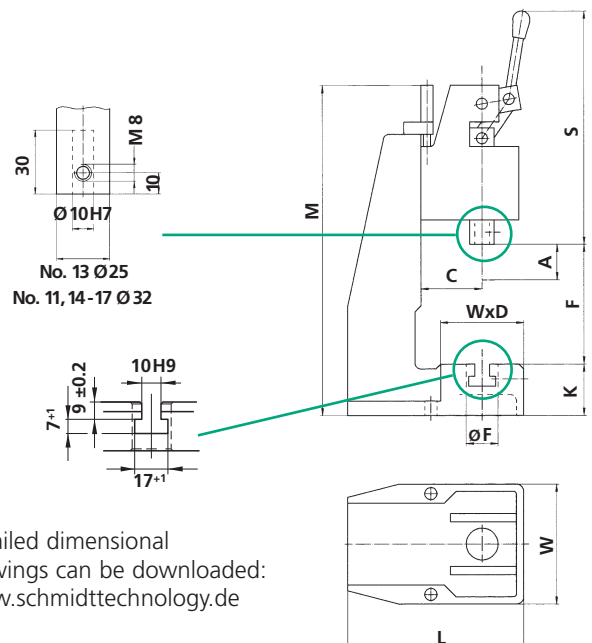
### Options

- = Series standard with no additional charge
- = Additional charge applies
- <sup>1)</sup> = Adjustment of locking position on request
- <sup>2)</sup> = Stroke reduction about 10 mm by version with additional charge

### 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.

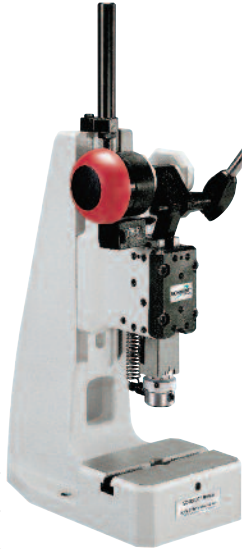


Detailed dimensional drawings can be downloaded:  
[www.schmidttechnology.de](http://www.schmidttechnology.de)

# SCHMIDT® Toggle Presses with Square Ram

Optimum guidance and anti-rotation

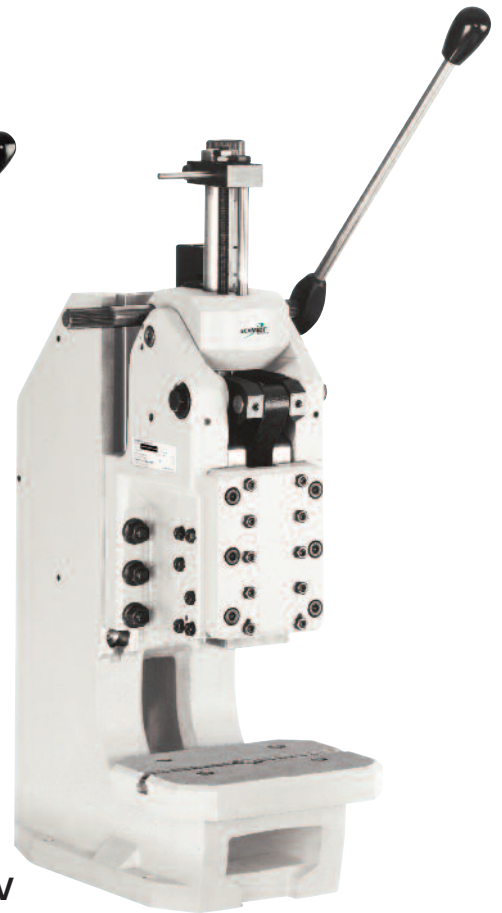
11 V  
13 V  
14 V



15 V  
16 V



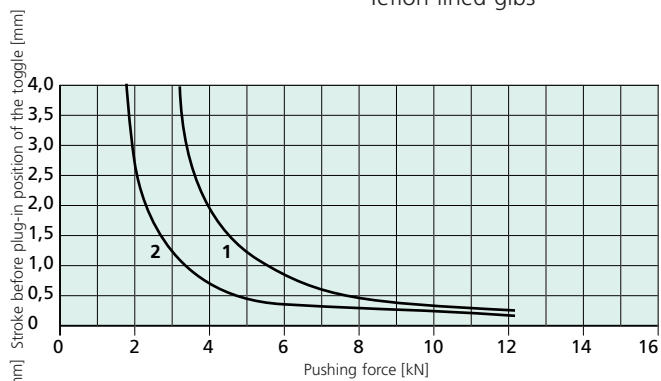
19 V



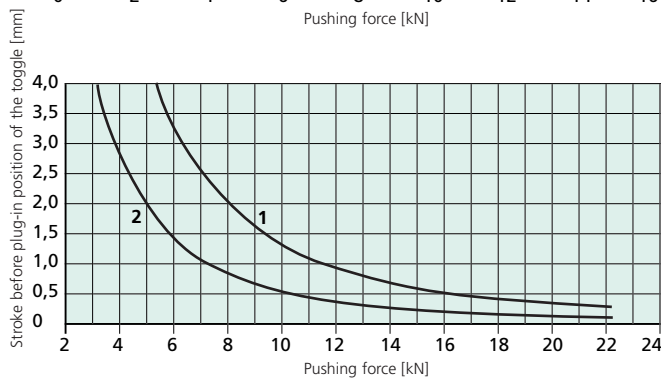
Do you need a high force at the end of stroke for material-transforming processes? Then, **SCHMIDT® Toggle Presses** are just the right choice.

**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 gibs



1 = No. 11, 14, 15, 16 force at the hand lever 200 N  
2 = No. 11, 14, 15, 16 force at the hand lever 120 N  
No. 13 see on page 10



1 = No. 19 force at the hand lever 200 N  
2 = No. 19 force at the hand lever 120 N

Press type	13V	13VR	11V	15V	11VR	15VR	14V	16V	14VR	16VR	19V	19VR		
	13VF	13VRF	11VF	15VF	11VRF	15VRF	14VF	16VF	14VRF	16VRF	19VF	19VRF		
Press head type	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	5	5	12	12	12	12	12	12	12	12	22	22		
Working stroke	A	mm	0 - 40 0 - 40	26 - 40 26 - 40	0 - 45 0 - 45	0 - 45 0 - 45	20 - 45 20 - 45	20 - 45 20 - 45	0 - 60 0 - 60	0 - 60 0 - 60	28 - 60 30 - 60	28 - 60 30 - 60	0 - 40 0 - 40	10 - 40 10 - 40
Throat depth	C	mm	65	65	86	86	86	86	86	86	131	131		
Press head height	S	mm	385 400	385 400	510 530	510 530	510 530	510 530	510 530	510 530	620 620	620 620		
Ram bore	Ø mm		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°
Spring restoring force standard/enhanced	N		15/45 30/45	15/45 30/45	20/42 30/60	20/42 30/60	20/42 30/60	20/42 30/60	12/45 12/45	12/45 12/45	12/45 12/45	12/45 12/45	25/- 25/-	25/- 25/-
<b>Return stroke lock<sup>1)</sup></b>														
Locked position 1	mm before BDC			14,5			12	12			14	14	4,5	4,5
Locked position 2	mm before BDC			1,5			1,5	1,5			1,5	1,5	0,9	0,9
Disengaging accuracy	mm			0,03			0,03	0,03			0,04	0,04	0,02	0,02
<b>Working height F</b>														
Frame No. 13	mm		65-180 50-155	65-180 50-155										
Frame No. 3	mm				80 - 210 60 - 180		80 - 210 60 - 180		80 - 215 60 - 190		80 - 215 60 - 190			
Frame No. 2	mm					120 - 350 100 - 325		120 - 350 100 - 325		120 - 360 100 - 335		120 - 360 100 - 335		
Frame No. 2-600 ○	mm					200 - 585 185 - 570		200 - 585 185 - 570		210 - 590 195 - 575		210 - 590 195 - 575		
Frame No. 2-1000 ○	mm					330 - 1020 315 - 1000		330 - 1020 315 - 1000		340 - 1030 325 - 1015		340 - 1030 325 - 1015		
Frame No. 19	mm										90 - 220	90 - 220		
Frame No. 19-400 ○	mm										160 - 400	160 - 400		
Frame No. 19-500 ○	mm										260 - 550	260 - 550		
Weight	approx. kg		12	12	24	32	24	32	24	32	24	32	85	85

### Accessories

Mechanical counter	○	○	○	○	○	○	○	○	○	○	○	○	
Throat depth frame 111 mm, 131 mm		○	○	○	○	○	○	○	○	○	○	○	
Throat depth frame 151 mm											○	○	
Additional fixture mounting plate suitable for throat depth frame				○	○	○	○	○	○	○	○	○ <sup>2)</sup>	○ <sup>2)</sup>

### Frame overview

Frame type	Press type	Frame height	Table size	Table bore	Table height	Mounting surface
		M (mm)	W x D (mm)	Ø mm	K (mm)	W x L (mm)
No. 13	13	330	110 x 80	20H7	46	110 x 85
No. 3	11, 14	540	150 x 110	20H7	60	150 x 260
No. 2	15, 16	700	185 x 110	20H7	60	185 x 280
No. 2-600 ○	15, 16	810	200 x 160	20H7	98	200 x 290
No. 2-1000 ○	15, 16, 17	1250	200 x 160	20H7	98	200 x 290
No. 19	19	640	200 x 160	25H7	112	200 x 370
No. 19-400 ○	19	840	250 x 200	40H7	145	250 x 460
No. 19-500 ○	19	1000	250 x 200	40H7	145	250 x 480

### Options

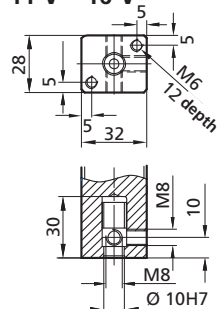
- = Series standard with no additional charge
- = Additional charge applies
- <sup>1)</sup> = Special strokes 12 mm and 50 mm on request
- <sup>2)</sup> = Fixture mounting plate is already existing in the frame
- <sup>3)</sup> = Adjustment of locking position on request

### Other Available Options

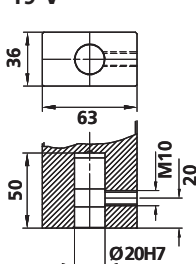
- **Nickel plated** - Cast parts are electroless nickel plated, steel components black oxide finished, aluminum anodized, precision steel surfaces are untreated
  - **Custom Paint** - Press and column can be painted to customer's color specification
  - **Bores for Adapting Tooling** - Customer specific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

### Ram footprint – Bores

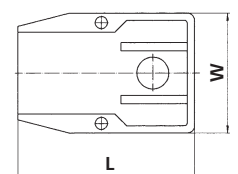
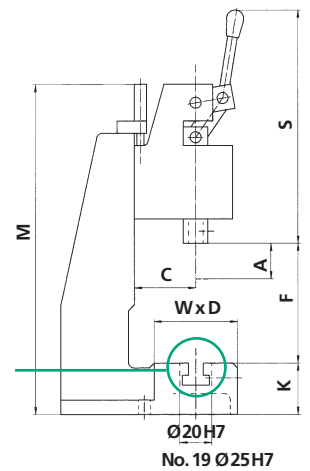
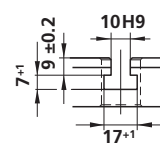
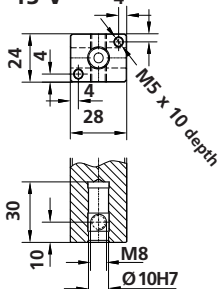
#### 11 V – 16 V



#### 19 V



#### 13 V



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