

SCHMIDT® PneumaticPress

Maximum Pressing Force from 1.6 kN to 60 kN / 350 lbs. to 13,490 lbs.

SCHMIDT® PneumaticPresses consist of a modular system suitable for optimal transforming, joining and assembling operations within the pressing capacities of 1.6 to 60 kN / 350 lbs. to 13,490 lbs.

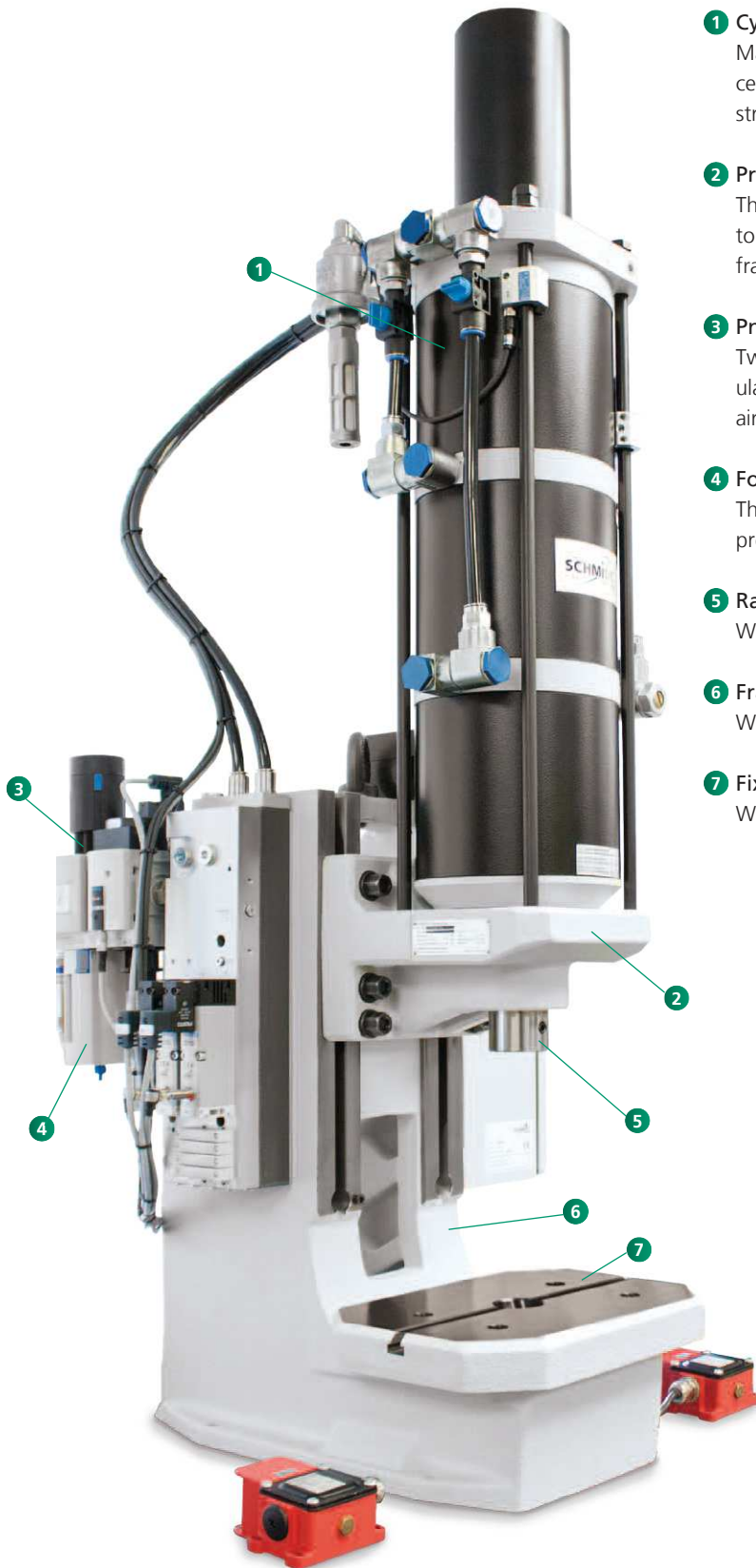
With the addition of the **SCHMIDT® PressControl 75** or **600** and the optional process monitoring, these presses become EC type-approved, CE-conformed workstations. Therefore these press systems can be used in either single cycle mode or automatic mode.

The application determines the selection of the press system. Consideration is given to the flexible design of the assembly location taking into account ergonomic and safety aspects. These characteristics are achieved by means of a finely adjusted, modular type product range. The efficiency and increased process reliability of these press systems have been proven many times, in single applications, semi-automated assembly systems and have been integrated into automated production lines.



SCHMIDT® PneumaticPress

Example Of a System Design With a Direct Acting Press



- 1 Cylinder Unit**
Maintenance-free specifically developed for the assembly processes; with flow control for speed regulation of the down-stroke.
- 2 Press Head Unit**
The working height can be rapidly and accurately adjusted due to the height adjustment's ease of use. Can be used without the frame as processing station in automated installations.
- 3 Pneumatic Control Package**
Two-channel pneumatic package (as shown) is based on a modular valve block, designed to operate with filtered, non-lubricated air, supply pressure range of 3 – 6 bar/44 – 87 psi.
- 4 Force Control**
The press force output can easily be controlled via a separate pressure regulator and pressure gauge (not shown).
- 5 Ram**
With precision bore for tool holding and built-in adjustable stop.
- 6 Frame**
With precision machined press head guide rails.
- 7 Fixture Mounting Plate**
With precision T-slot and bore for tool location.

SCHMIDT® PneumaticPress

Principle Of Operation

Functional Description Using Of a 3-Chamber Pneumatic Cylinder – As An Example

In working stroke, three pistons **7** connected by the piston rod **6** are pressurized with compressed air via air connection **1** and move downward. The air below the pistons exhausts from the cylinder chambers via depressurized connection **2** and breather vents **3** and **4**. The ram **5** extends up to the maximum working stroke.

In return stroke, the upper cylinder chambers are depressurized via connection **1** and only the bottom piston is pressurized with compressed air via air connection **2**. Ambient air enters in both remaining cylinder chambers via breather vents **3** and **4**. The ram with the three pistons moves upward.

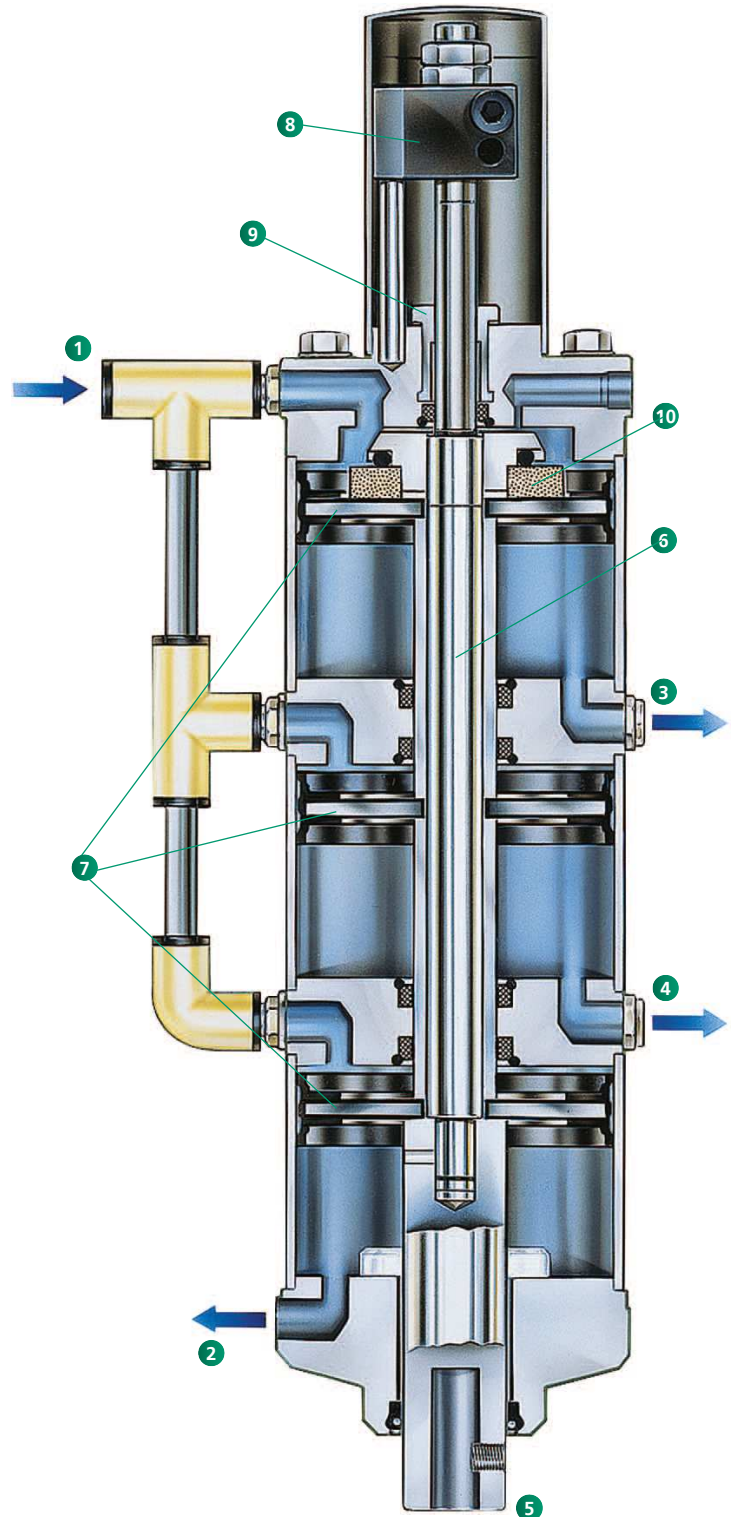
This construction has the same effect as a parallel connection of three cylinders. Thus, a powerful working stroke is achieved with a compact design as well as an economic use due to the low air consumption in the return stroke.

The stroke can be limited by setting Stroke Limit Block **8** to an approximate, desired position. The gap between Stroke Limit Block and Stroke Fine Adjustment **9** now determines the maximum stroke that the ram can travel. In order to fine-tune this stroke, Fine Adjustment Nut **9** can be adjusted.

All direct acting presses have a built-in permanent magnet **10**. This magnet facilitates sensing of the ram position via tie rod mounted sensors.

Features

- Optimally adapted to individual requirements due to its modular design
- Process optimization by means of adjustable parameters (stroke, force, speed)
- Easy adaptation to different tool and part heights because of easy stroke and height adjustment
- Additional safety measures when using heavy tools due to the optional device for retention of ram in home position
- Optional end position request via cylinder switch as signal transmitter for peripheral processes
- Low noise level (< 75 dBA)
- Double-acting, wear-resistant cylinders with low air consumption for the return stroke
- High flexibility due to short changeover time
- Long service life and high precision due to wear-resistant Teflon coated bushings at top and bottom of cylinder
- Precision ground ram
- Precision double ram guides



SCHMIDT® PneumaticPress

Direct Acting With Constant Force Over The Entire Stroke

Features

- Round anti-rotational ram
- Adjustable ram position in BDC by means of precision lower stop (1 division line = 0.001 inch) on scale
- T-slot with locking set screw in fixture mounting plate



Press Type 20



Press Type 23



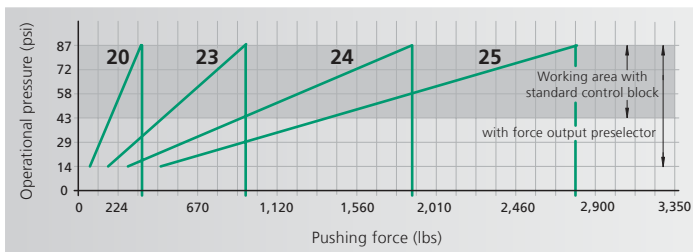
Press Type 24



Press Type 25



Pneumatic Cylinder
with piston and magnet kit
for ram position via cylinder
switch.



From 1.6 kN to 12.5 kN / 360 lbs. to 2,800 lbs.

Press Type			20	23	24	25
Working stroke	A	mm	50, 75	50, 75	50, 75	50, 75
			100, 125	100, 125	100, 125	100
			160, 200	160, 200	160	
			250, 300	250, 300		
Nominal force at 87 psi		lbs	360	945	1,890	2,800
Throat depth	C	inch	3.38	3.38	3.38	3.38
Throat depth frame o		inch	4.37, 5.15 6.29, 7.87	4.37, 5.15 6.29, 7.87	4.37, 5.15 6.29, 7.87	4.37, 5.15
Additional fixture mounting plate suitable for throat depth frame			o	o	o	o
Ram bore	Ø	mm	20H7	20H7	20H7	20H7
Ram diameter	Ø	inch	1.57	1.57	1.57	1.57
Working height ¹⁾	F					
Frame No. 3		inch	3.14-8.66	3.54-8.26	3.54-8.26	3.54-8.26
Frame No. 2 o		inch	4.33-14.17	4.72-13.77	4.72-13.77	4.72-13.77
Frame No. 2-600 o		inch	7.87-23.62	8.26-22.83	8.26-22.83	8.26-22.83
Frame No. 2-1000 o		inch	12.99-40.94	13.18-40.15	13.18-40.15	13.18-40.15
Weight		approx. lbs	66	77	88	99
Flange model			20-FL	23-FL	24-FL	25-FL
Cylinder	Z	Ø inch	2.71	4.17	4.17	4.17
Flange	FL	Ø inch	4.33	5.51	5.51	5.51
Width across flats	SW	inch	3.14	4.40	4.40	4.40
Centering shoulder	ZA	Ø inch	2.36	2.67	2.67	2.67

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. 3	20, 23, 24, 25	21.25	5.90 x 4.33	20H7	2.36	5.90 x 10.23
No. 2	20, 23, 24, 25	27.55	7.28 x 4.33	20H7	2.36	7.28 x 11.02
No. 2-600 o	20, 23, 24, 25	38.34	7.87 x 6.29	20H7	3.85	7.87 x 11.41
No. 2-1000 o	20, 23, 24, 25	55.51	7.87 x 6.29	20H7	3.85	7.87 x 11.41

Options

o Additional charge applies

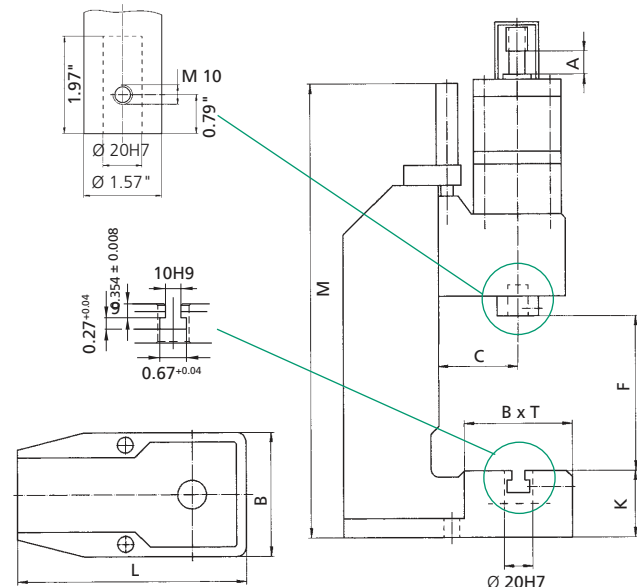
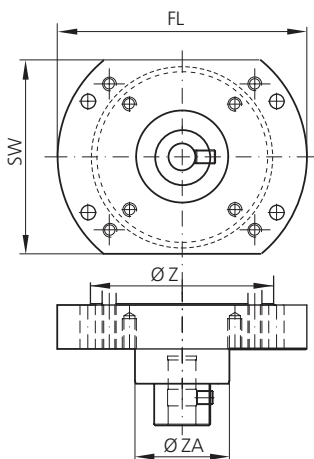
¹⁾ Typical values; can vary ± 0.118 inch due to cast and production tolerances

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

Bottom View Of The Press Head, Flange Model

Mounting drill pattern flange/ram



Please consult our Sales Department or Representative. Detailed dimensional drawings can be downloaded: www.schmidtpresses.com

SCHMIDT® Pneumatic Press

Direct Acting With Constant Force Over The Entire Stroke

Features

- Round anti-rotational ram
- Adjustable ram position in BDC by means of precision lower stop (1 division line = 0.001 inch) on scale
- T-slot with locking set screw in fixture mounting plate



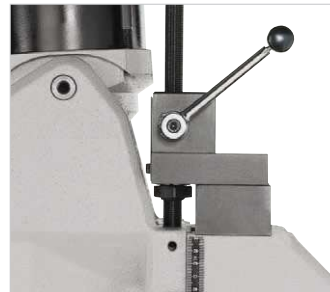
Press Type 27



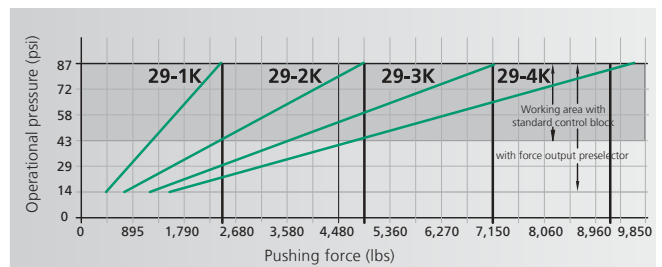
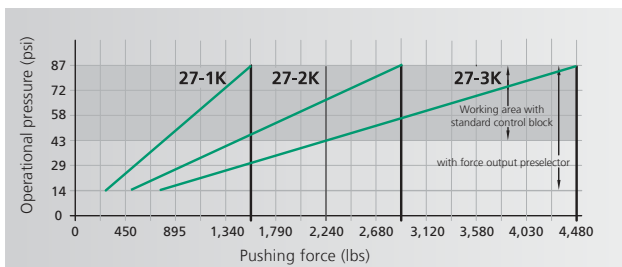
Press Type 29



Precision Lower Stop



Height Adjustment
Fast, accurate setting of the work height.



From 7 kN to 43 kN / 1,575 lbs. to 9,670 lbs.

Press Type			27-1K	27-2K	27-3K	29-1K	29-2K	29-3K	29-4K
Working stroke	A	mm	50, 75, 100	50, 75	50, 75	50, 75	50, 75	50, 75	50, 75
		lbs	160, 200	100, 125	100, 125	100, 160	100, 125	100, 125	100
			250, 300	160, 200	160	200, 300	160, 200	160	
Nominal force at 87 psi		lbs	1,575	2,920	4,495	2,475	4,945	7,195	9,670
Throat depth	C	inch	5.15	5.15	5.15	5.51	5.51	5.51	5.51
Throat depth frame \circ		inch	5.94	5.94	5.94	6.29, 7.28	6.29, 7.28	6.29, 7.28	6.29
Additional fixture mounting plate suitable for throat depth frame			\circ	\circ	\circ	\circ	\circ	\circ	\circ
Ram bore	\emptyset	mm	20H7	20H7	20H7	20H7	20H7	20H7	20H7
Ram diameter	\emptyset	inch	1.57	1.57	1.57	1.96	1.96	1.96	1.96
Working height ¹⁾	F								
Frame No. 34		inch	3.54-10.62	3.54-10.62	3.54-10.62				
Frame No. 301 \circ		inch	6.29-15.74	6.29-15.74	6.29-15.74				
Frame No. 301-500 \circ		inch	12.20-21.65	12.20-21.65	12.20-21.65				
Frame No. 29		inch				3.14-11.41	3.14-11.41	3.14-11.41	3.14-11.41
Frame No. 29-500 \circ		inch				5.90-19.68	5.90-19.68	5.90-19.68	5.90-19.68
Frame No. 29-600 \circ		inch				9.84-23.62	9.84-23.62	9.84-23.62	9.84-23.62
Weight (standard)		approx. lbs	190	190	190	265	265	265	265
Flange model			27-1K-FL	27-2K-FL	27-3K-FL	29-1K-FL	29-2K-FL	29-3K-FL	29-4K-FL
Cylinder	Z	\emptyset inch	5.19	5.19	5.19	6.69	6.69	6.69	6.69
Flange	FL	\emptyset inch	7.08	7.08	7.08	8.66	8.66	8.66	8.66
Width across flats	SW	inch	5.51	5.51	5.51	7.08	7.08	7.08	7.08
Centering shoulder	ZA	\emptyset inch	2.67	2.67	2.67	3.14	3.14	3.14	3.14

Frame Overview	Press Type	Frame Height M (inch)	Table Size B x T (inch)	Table Bore D \emptyset mm	Table Height K (inch)	Mounting Surface B x L (inch)
No. 34	27	24.80	7.87 x 6.29	25H7	4.37	7.87 x 14.56
No. 301	27	32.67	9.84 x 7.87	40H7	5.70	9.84 x 18.11
Frame No. 301-500 \circ	27	38.97	9.84 x 7.87	40H7	5.70	9.84 x 18.89
Special fixture mounting plate with 3 longitudinal slots \circ			11.81 x 8.66 15.74 x 9.05	40H7 40H7		
Frame No. 29	29	27.16	11.81 x 8.66	40H7	5.55	11.81 x 18.11
Frame No. 29-500 \circ	29	38.97	11.81 x 8.66	40H7	6.53	11.81 x 21.25
Frame No. 29-600 \circ	29	43.70	11.81 x 8.66	40H7	6.53	11.81 x 22.24
Special fixture mounting plate with 3 longitudinal slots \circ			13.97 x 8.85 15.74 x 9.05	40H7 40H7		

Options

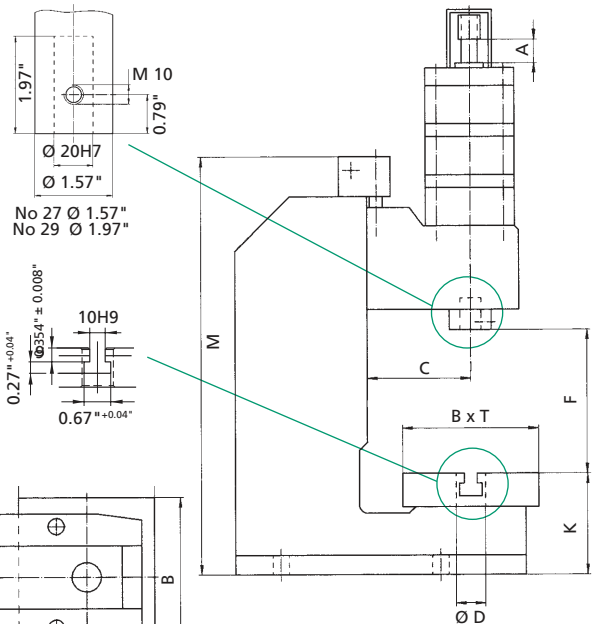
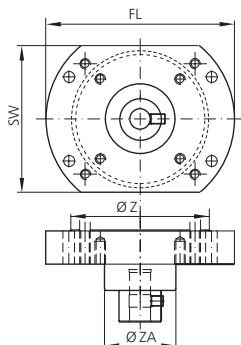
\circ Additional charge applies

¹⁾ Typical values; can vary \pm 0.118 inch due to cast and production tolerances

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

Bottom View Of The Press Head, Flange Model
Mounting drill pattern
flange/ram



SCHMIDT® Pneumatic Press

Pneumatic Toggle Presses With Maximum Force At The End Of Stroke

Features

- Cross hole with locking screw in the press table for safe installation of tool
- Accurate adjustable ram position via fine adjustment (Type 33)
- T-slot with set screw in fixture mounting plate to secure bottom tool



Press Type 32



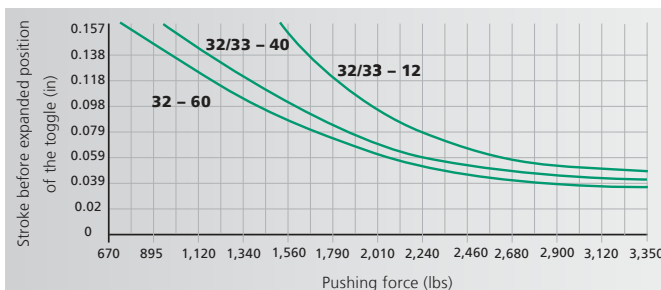
Press Type 33



Fine Adjustment
for Press No. 33 with scale
1 division line = 0.0007 inch.



Flexible Stroke Adjustment
reduces the air consumption
for shorter strokes.



Up to 15 kN / 3,375 lbs.

Press Type			32	33
Working stroke	A	mm	0-12 4-40 6-60	0-12 4-40
Nominal force at 87 psi		lbs	3,375	3,375
Throat depth	C	inch	3.38	3.38
Throat depth frame \circ		inch	4.37, 5.15	4.37, 5.15
Additional fixture mounting plate suitable for throat depth frame			\circ	\circ
Ram bore	\emptyset	mm	20H7	20H7
External ram dimensions	\emptyset	inch	1.57	1.57
Fine adjustment				•
Working height ¹⁾	F			
Frame No. 3		inch	3.54-8.26	
Frame No. 2		inch	4.72-13.38	2.75-11.41
Frame No. 2-600 \circ		inch	8.26-22.83	6.29-20.86
Frame No. 2-1000 \circ		inch	13.38-40.15	11.41-38.18
Weight		approx. lbs	100	110

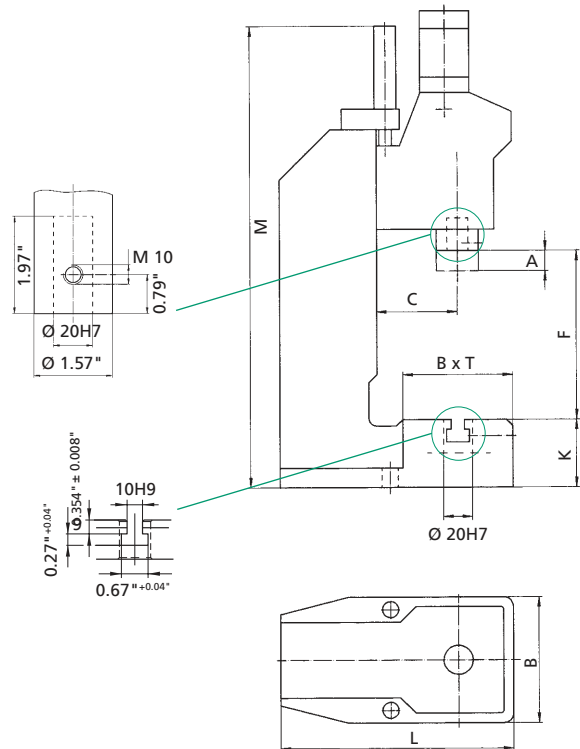
Frame Overview	Press Type	Frame Height M (inch)	Table Size B x T (inch)	Table Bore D \emptyset (mm)	Table Height K (inch)	Mounting Surface B x L (inch)
No. 3	32	21.25	5.90 x 4.33	20H7	2.36	5.90 x 10.23
No. 2	32, 33	27.55	7.28 x 4.33	20H7	2.36	7.28 x 11.02
Frame No. 2-600 \circ	32, 33	31.88	7.87 x 6.29	20H7	3.85	7.87 x 11.41
Frame No. 2-1000 \circ	32, 33	49.13	7.87 x 6.29	20H7	3.85	7.87 x 11.41

Options

- Series standard with no additional charge
- \circ Additional charge applies
- ¹⁾ Typical values; can vary \pm 0.118 inch due to cast and production tolerances

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



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Detailed dimensional drawings can be downloaded: www.schmidtpresses.com

SCHMIDT® PneumaticPress

Pneumatic Toggle Presses With Maximum Force At The End Of Stroke

Features

- Anti-rotational square ram with fully adjustable, Teflon lined gibs for precise travel, no die set required
- Exact positioning due to fine adjustment scale (1 division line = 0.001 inch)



Press Type 34



Press Type 36



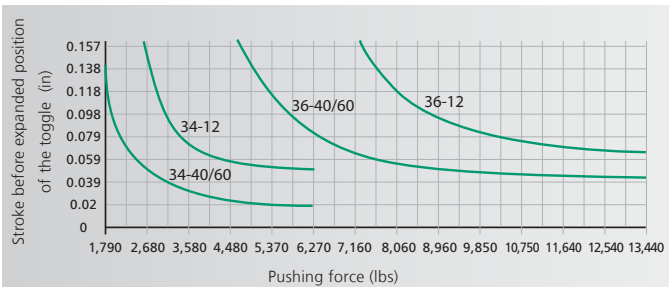
Square Ram



Fine Adjustment

Pushing Force Diagram

Operational pressure: 87 psi



From 28 kN to 60 kN / 6,295 lbs. to 13,490 lbs.

Press Type			34	36
Working stroke	A	mm	0-12 4-40 6-60	0-12 4-40 6-60
Nominal force at 87 psi		lbs	6,295	13,490
Throat depth	C	inch	5.15	6.29
Throat depth frame ϕ		inch	5.94, 6.69	7.28
Fixture mounting plate suitable for throat depth frame			ϕ	ϕ
Ram bore	ϕ	mm	20H7	20H7
External ram dimensions	G x H	ϕ inch	1.41 x 2.48	1.81 x 3.38
Working height ¹⁾	F			
Frame No. 34		inch	3.93 - 9.84	
Frame No. 301		inch	6.29 - 15.74	
Frame No. 301 - 500		inch	12.20 - 21.65	
Frame No. 35		inch		3.93 - 9.84
Frame No. 35 - 500		inch		5.90 - 19.68
Frame No. 35 - 600		inch		9.84 - 23.62
Weight		approx. lbs	200	330

Frame Overview	Press Type	Frame Height M (inch)	Table Size B x T (inch)	Table Bore D ϕ mm	Table Height K (inch)	Mounting Surface B x L (inch)
No. 34	34	24.80	7.87 x 6.29	25H7	4.37	7.87 x 14.56
No. 301	34	32.67	9.84 x 7.87	40H7	5.70	9.84 x 18.11
No. 301 - 500	34	38.97	9.84 x 7.87	40H7	5.70	9.84 x 18.89
Special fixture mounting plate with 3 longitudinal slots ϕ			11.81 x 8.66 15.74 x 9.05	40H7		
No. 35	36	27.55	11.81 x 8.66	40H7	5.55	11.81 x 18.89
No. 35 - 500	36	38.97	11.81 x 8.66	40H7	6.53	11.81 x 22.04
No. 35 - 600	36	43.70	11.81 x 8.66	40H7	6.53	11.81 x 23.03
Special fixture mounting plate with 3 longitudinal slots ϕ			13.97 x 8.85 15.74 x 11.02	40H7		

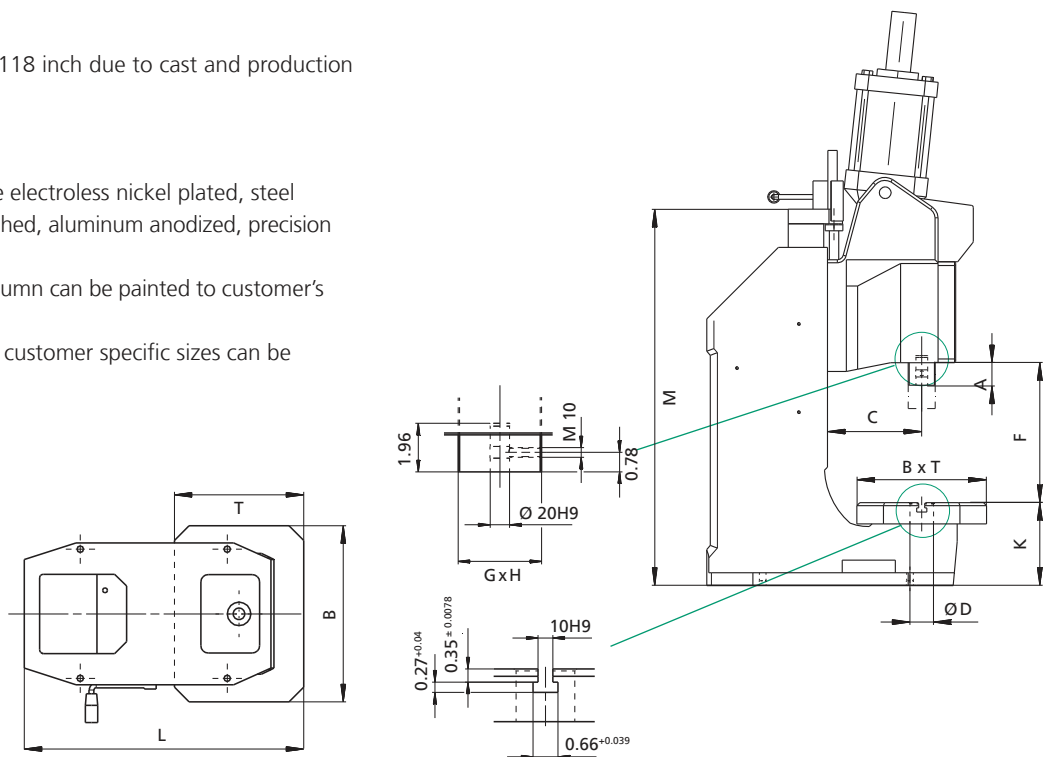
Options

ϕ Additional charge applies

¹⁾ Typical values; can vary \pm 0.118 inch due to cast and production tolerances

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



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Detailed dimensional drawings can be downloaded: www.schmidtpresses.com

SCHMIDT® PneumaticPress

Direct Acting Pneumatic Presses With Force/Stroke Monitoring

SCHMIDT® PneumaticPresses with force/stroke monitoring are offered as complete system with control unit SCHMIDT® PressControl 600. These systems are characterized by sensors and signal amplification integrated in the press head. These signals are evaluated in real time.

Features

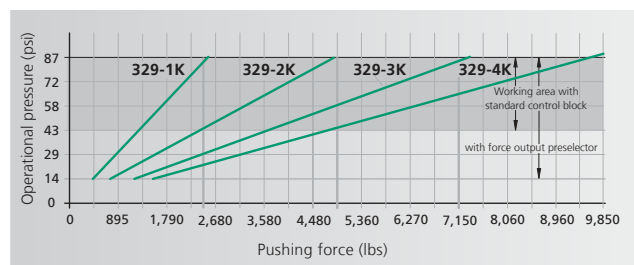
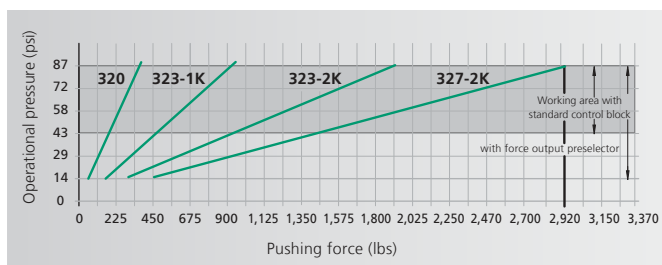
- Direct forces are measured with a force sensor integrated in the ram. Insensitive against side loads
- Force and displacement sensors are immune to EMI and environmental conterminaton
- A measuring data amplification integrated in the press head provides short transmission paths of unamplified signals
- Anti-rotational square ram with two fully adjustable guiding gibs for precise work, also with tools without guide (not for type 320, here special anti-twist protection in the roller-guided round ram)



Press Type 323, 327, 329



Press Type 320



From 1.6 kN to 43 kN / 360 lbs. to 9,665 lbs.

Press Type			320	323-1K	323-2K	327-2K	327-3K	329-2K	329-3K	329-4K
Working stroke	A	mm	100	50, 75, 100, 125, 150	50, 75, 100	50, 75, 100, 125, 150	50, 75, 100	50, 75, 100, 150	50, 75, 100, 125, 150	50, 75, 100
Nominal force at 87 psi		lbs	360	945	1,890	2,920	4,495	4,950	7,195	9,665
Resolution, process data acquisition										
- stroke		inch/inc	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
- force		lbs/inc	0.28	0.56	2.25	2.25	2.25	5.62	5.62	5.62
Throat depth	C	inch	5.03	5.15	5.15	5.15	5.15	6.29	6.29	6.29
Throat depth frame ϕ		inch		5.94	5.94	5.94	5.94			
Fixture mounting plate suitable for throat depth frame				ϕ	ϕ	ϕ	ϕ			
Ram bore	ϕ	mm	20H7	20H7	20H7	20H7	20H7	20H7	20H7	20H7
External ram dimensions	G x H	inch	ϕ 1.57	2.75 x 1.96	2.75 x 1.96	2.75 x 1.96	2.75 x 1.96	3.54 x 2.36	3.54 x 2.36	3.54 x 2.36
Working height ¹⁾	F									
Frame No. 7-420		inch	1.96-16.54							
Frame No. 7-600 ϕ		inch	3.34-23.62							
Frame No. 301		inch		5.51-13.77	5.51-13.77	5.51-13.77	5.51-13.77			
Frame No. 301-500 ϕ		inch		12.20-19.68	12.20-19.68	12.20-19.68	12.20-19.68			
Frame No. 329		inch						5.11-11.81	5.11-11.81	5.11-11.81
Frame No. 329-460 ϕ		inch						7.48-18.11	7.48-18.11	7.48-18.11
Weight (standard)	approx. lbs		154	375	375	375	375	705	716	727

Frame Overview	Press Type	Frame Height M (inch)	Table Size B x T (inch)	Table Bore D ϕ mm	Table Height K (inch)	Mounting Surface B x L (inch)
No. 7-420	320	29.13	7.08 x 5.90	20H7	3.54	8.66 - 14.25
No. 7-600	320	37.79	7.08 x 11.02	20H7	4.33	12.99 x 18.30-19.88
No. 301	323, 327	32.67	9.84 x 7.87	40H7	5.70	9.84 x 18.11
No. 301-500	323, 327	38.97	9.84 x 7.87	40H7	5.70	9.84 x 18.89
Special fixture mounting plate with 3 longitudinal slots ²⁾ ϕ			11.81 x 8.66 15.74 x 9.05	40H7		
No. 329	329	31.88	11.81 x 9.05	40H7	5.78	11.81 x 21.65
No. 329-460	329	38.97	11.81 x 9.05	40H7	5.78	11.81 x 24.40
Special fixture mounting plate with 3 longitudinal slots ²⁾ ϕ			15.74 x 11.02 19.68 x 11.02	40H7		

Options

ϕ Additional charge applies

- ¹⁾ Typical values; can vary \pm 0.118 inch due to cast and production tolerances
- ²⁾ With Press type 320 only in combination with Frame type No. 7-600 with 6.61, 8.18 or 9.76 inch

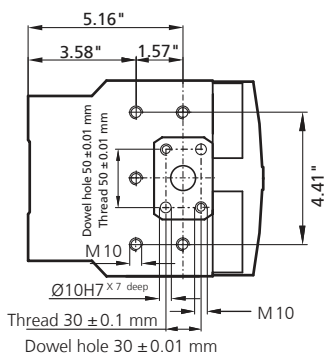
Other Available Options

- 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

Bottom View Of The Press Head

Fastening drill pattern flange/ram

Press Type 323/327



Press Type 329

