

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.

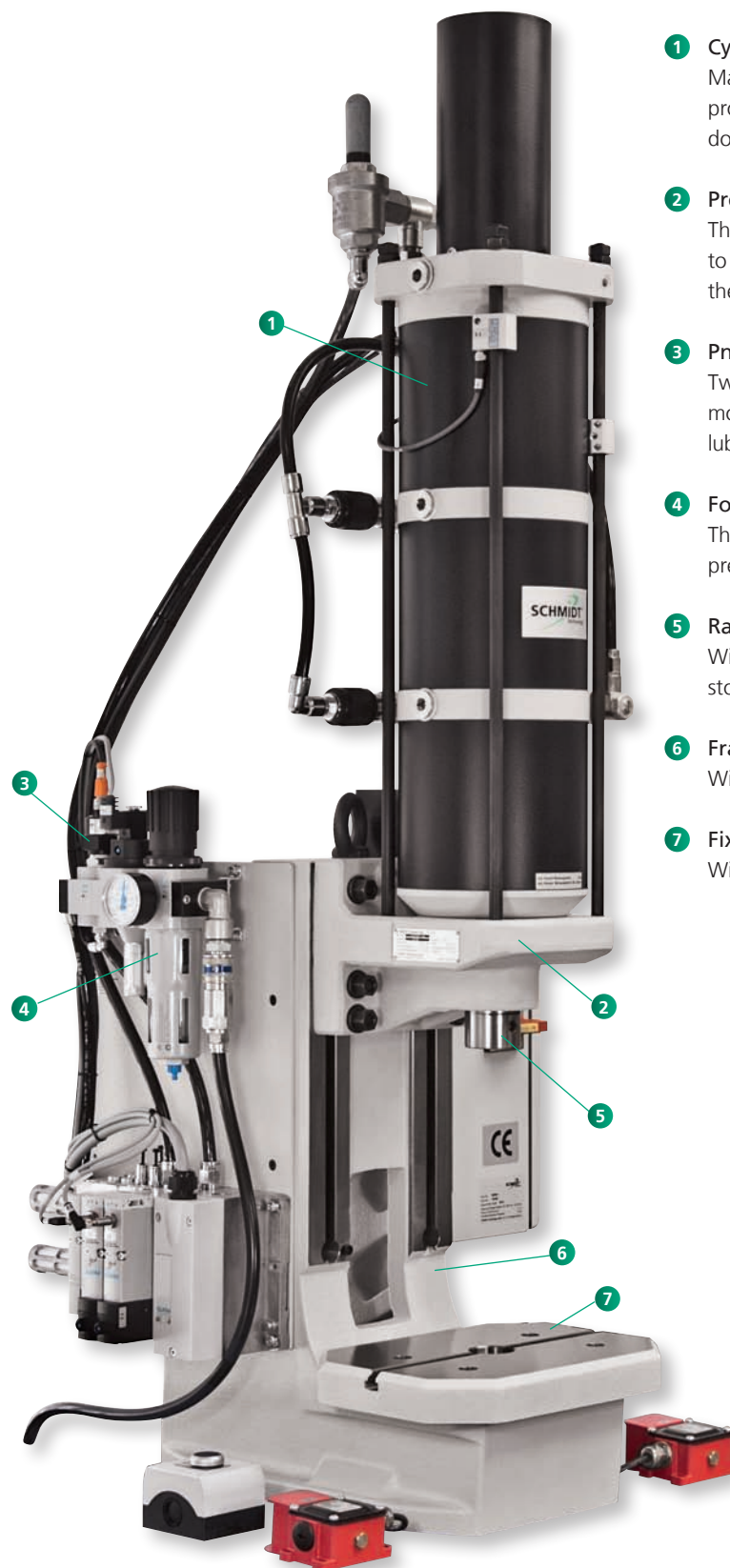
With the addition of the **SCHMIDT® PressControl 70** or **600** and the optional process monitoring, these presses become EC type-approved, CE-conformed workstations. Therefore these press systems can be used in either single cycle mode or automatic mode.

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 downstroke.

2 Press Head Unit

The working height can be rapidly & 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.

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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.

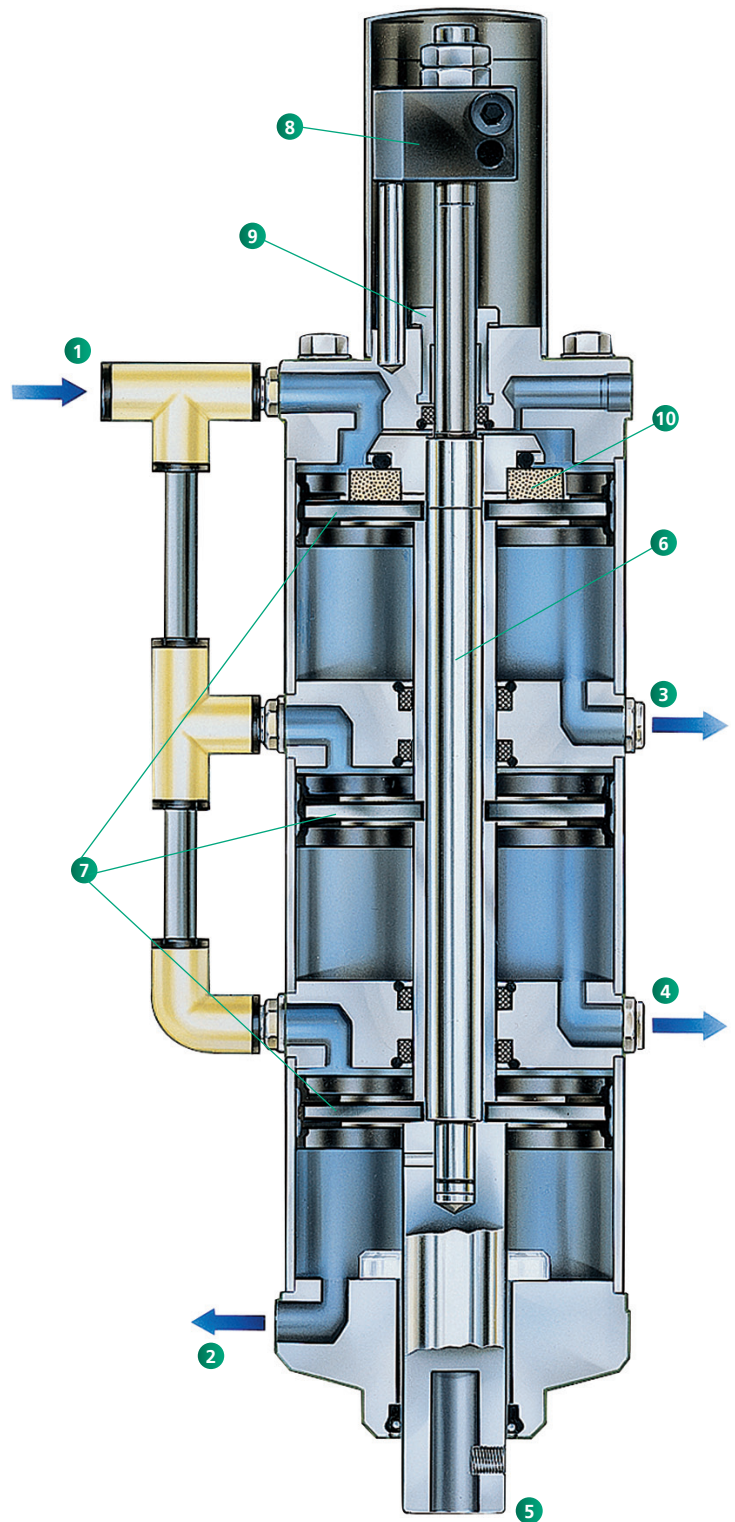
This construction has the same effect as a parallel connection of three cylinders. Thus, a powerful working stroke is achieved with a compact design as well as an economic use due to the low air consumption in the return stroke.

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 & bottom of cylinder
- Precision ground ram
- Precision double ram guides

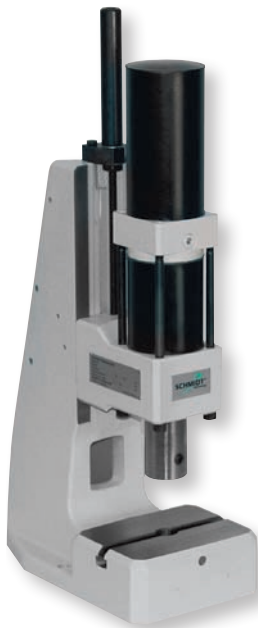


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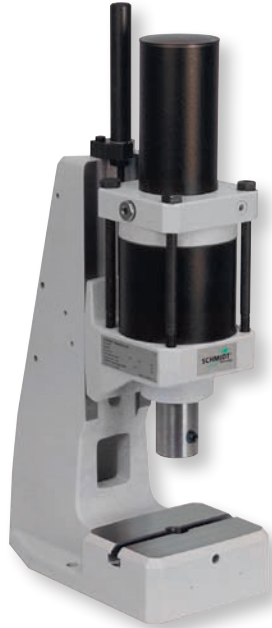
Direct Acting with Constant Force over the entire Stroke

Features

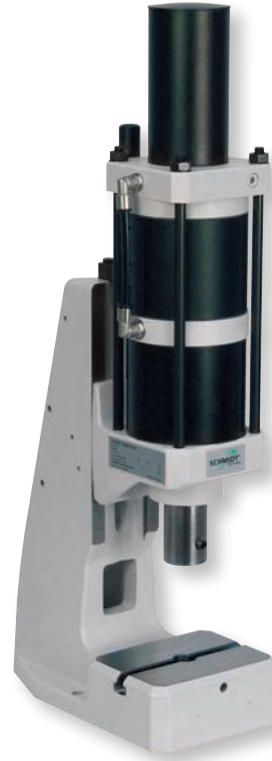
- Round anti-rotational ram
- Adjustable ram position in BDC by means of precision lower stop (1 division line = 0.001 inch) on scale
- T-slot with locking set screw in fixture mounting plate



Press Type 20



Press Type 23



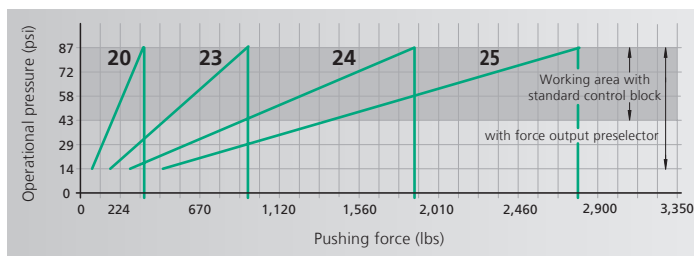
Press Type 24



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, 75 100, 125 160, 200 250, 300	50, 75 100, 125 160, 200 250, 300	50, 75 100, 125 160	50, 75 100
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	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	100
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 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

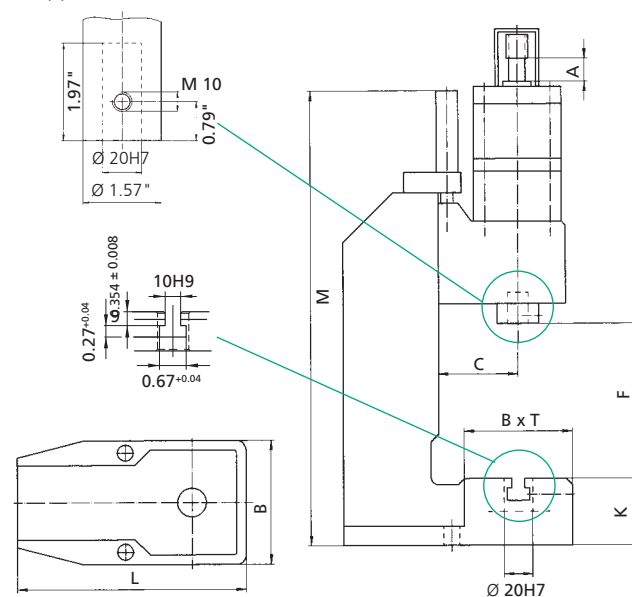
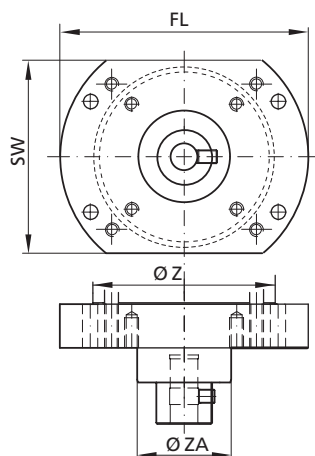
- Additional charges apply

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



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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



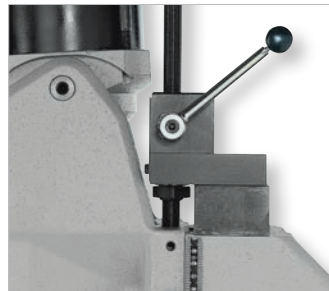
Press Type 27



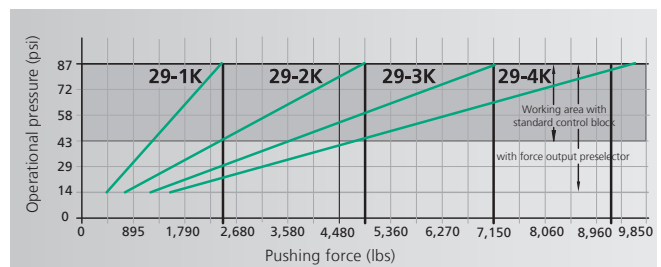
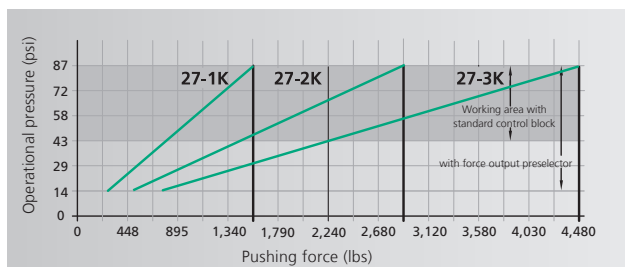
Press Type 29



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
		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	4,500	2,475	4,950	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 o	inch	5.94	5.94	5.94	6.29, 7.08	6.29, 7.08	6.29, 7.08	6.29
Additional fixture mounting plate suitable for throat depth frame		o	o	o	o	o	o	o
Ram bore	Ø mm	20H7	20H7	20H7	20H7	20H7	20H7	20H7
Ram diameter	Ø inch	1.57	1.57	1.57	1.96	1.96	1.96	1.96
Working height								
Frame No. 34	inch	3.54-10.62	3.54-10.62	3.54-10.62				
Frame No. 301 o	inch	6.29-15.74	6.29-15.74	6.29-15.74				
Frame No. 301-500 o	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 o	inch				5.90-19.68	5.90-19.68	5.90-19.68	5.90-19.68
Frame No. 29-600 o	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 Øinch	5.19	5.19	5.19	6.69	6.69	6.69	6.69
Flange	FL Øinch	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 Øinch	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 Ø (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 o	27	38.97	9.84 x 7.87	40H7	5.70	9.84 x 18.89
Special fixture mounting plate with 3 longitudinal slots o			11.81 x 8.66	40H7		
			15.74 x 9.05	40H7		
Frame No. 29	29	27.16	11.81 x 8.66	40H7	5.55	11.81 x 18.11
Frame No. 29-500 o	29	38.97	11.81 x 8.66	40H7	6.53	11.81 x 21.25
Frame No. 29-600 o	29	43.70	11.81 x 8.66	40H7	6.53	11.81 x 22.24
Special fixture mounting plate with 3 longitudinal slots o			13.97 x 8.85	40H7		
			15.74 x 9.05	40H7		

Options

- o Additional charges apply

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

