Shape.
Join.
Look ahead.

SCHAAL engineering gmbh

Presses
Punch Systems
Machine Tools

Flexibility second by second

Automatic Punching Press SEP
with a press capacity from 120 - 1000 kN
Servo-Automatic Stamping Press DELTA v^{servo} with
Direct Drive
Gripper Feed SZV
Roller Feed SWV
Hydraulic Punching and Bending Plants
Product-Specific Specialized Punching Plants
Progressive and Transfer Tools

weil technology

A brand of weil engineering gmbh

Machinery and equipment for innovative forming, cutting and joining systems

weil technology

weil technology is a weil engineering gmbh brand and incorporates different enterprises, which are market and technology leaders in the field of sheet metal processing. Machines and equipment for innovative forming, cutting and joining systems have been designed and manufactured for the global market within the group since 1987.

Our turn-key and fully automated production lines are primarily found in the automotive sector and in the HVAC, housing and container construction and electrical industries.

Each company within ***weil technology*** focuses on its core competency and together we are able to offer our clients a large pallet of customized system solutions.

Our focus is on flexible, rational and efficient production while making use of innovative roll-forming, stamping, laser welding and laser cutting technologies.

weil technology clients value the fact that our system concepts are efficient, reliable and consistently reproduce high quality parts:

Shape. Join. Look ahead.

Client Information

SCHAAL engineering is a wholly owned subsidiary of weil engineering gmbh. The SCHAAL punching presses and the system solutions, which have been developed for a variety of applications are marketed under the name ***weil technology***.

Presses · Punch Systems · Machine Tools

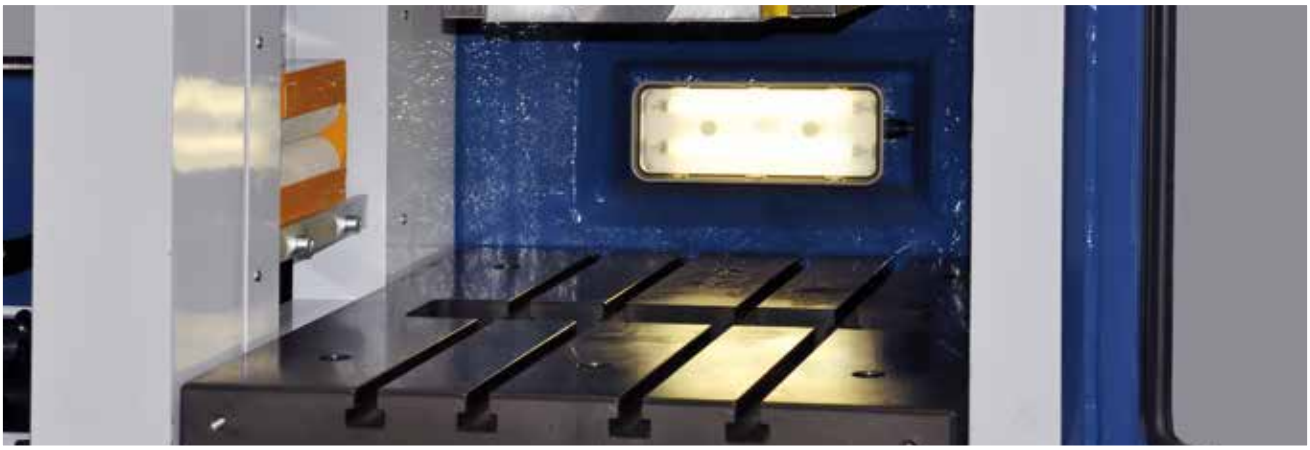
Performance Range

***weil technology* manufactures the SEP series, a modular program of modern and efficient automatic punching presses, for the range 100 to 1000kN. The DELTA v servo series is designed for the range 600 to 1000 kN and combines precision, performance, reliability, durability and a universal range of applications in one machine.**

Our punching presses, and the system solutions developed from these presses, form the basis for the flexible, rational and cost-effective production in many industries.

The high-speed presses reach stroke rates of up to 800 strokes/min. The forming energy is provided via modern drive technology with a flywheel and brake-clutch combination.
The precision presses from the SEP 80 onwards are additionally equipped with a spur planetary gear to provide high work capacity within the lower stroke rate range.

We Provide Space for Flexibility



The tool area with mounting plate provides the ideal space for flexible usage!

Design

The precision automatic punching presses, with connecting-rod drives, are designed for demanding continuous operation conditions. The press body has a stable double column frame, mono block construction made of rigid, vibration damping grey cast iron. The sturdy design of the press is also apparent when looking at other components. For example, the connecting rod is air-cooled and the ram is made of high-strength, titanium alloy cast aluminum.

Due to the adjustable ram stroke and the customer-specific bolster, different tools can be used on the same press.

Optional:

- Fine adjustment of ram height (either motorized or via a NC axis)
- Automatic stroke adjustment
- Special bolster (also available with integrated die bottom drive)
- Parts ejecting system
- Additional rams in varying models
- Central lubrication system
- Decoilers according to client requirements
- Straightening unit according to client requirements
- Strip lubrication unit
- Sound proof booth
- and much more

Fine adjustment of ram height

Motorized ram height adjustment

Ram SEP 63 - 100

Eccentric shaft

Precision Parts over the Whole Range of Stroke Rates

Control System

The press control system provides the operator with a user-friendly interface for the flexible handling of operating modes and tool data. The context-related control enables the user to set the tool data quickly and safely. Different press control systems can be used and we select the most appropriate system together with our clients, based on their specific requirements.

Optional:

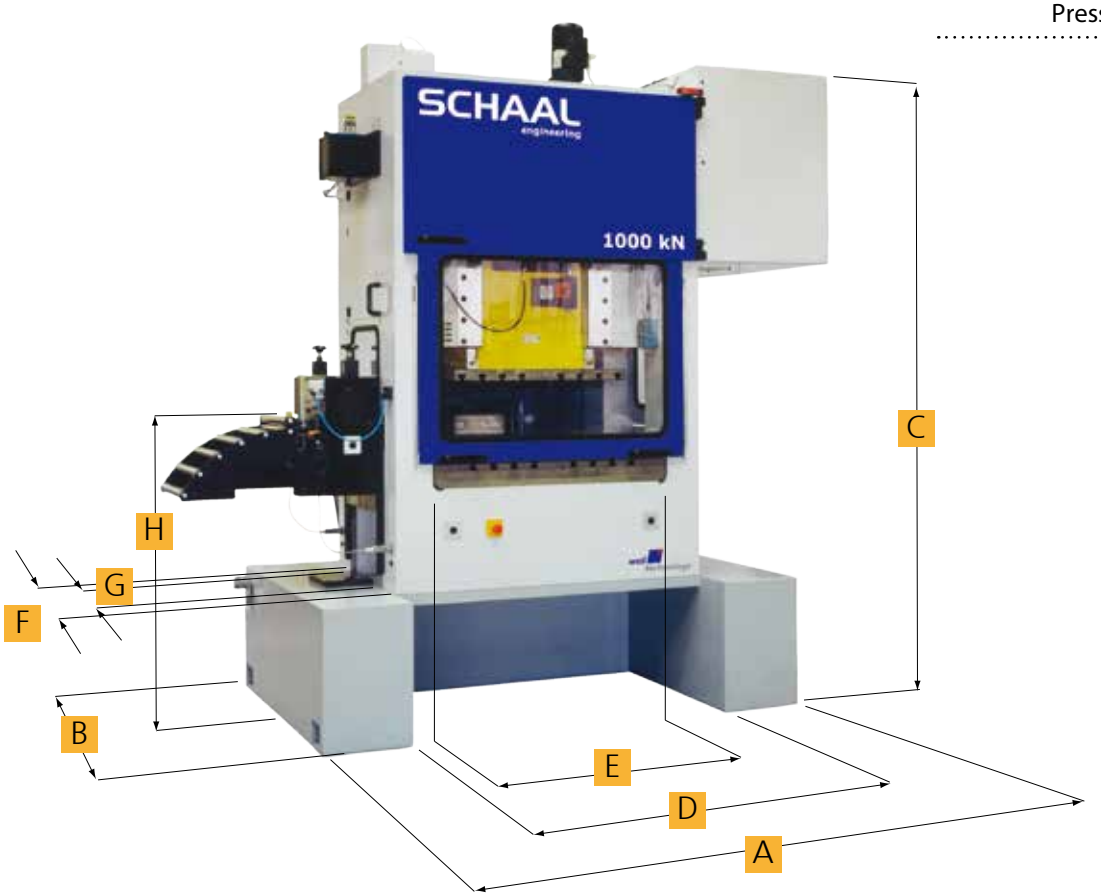
- Tool data memory
- Monitoring of maximum force
- Press force monitoring with envelop curve
- Ram depth regulation
- Vester or Unidor control unit
- Tool protection device
- Remote maintenance
- and much more

SEP Series – The Right Choice

The modular design of the SEP-series allows for diverse application possibilities and combinations. This makes it particularly attractive for any manufacturing task.

Easy to use changeover equipment, control aided set-up processes as well as the design of the press, which is customized to meet the client's requirements, all contribute to improved efficiency, cost savings and flexibility. This in turn translates into a significant increase in your competitiveness.

Press / Model		***SEP 12***	***SEP 25***	***SEP 30 S 700***	***SEP 40***	***SEP 40 S 7***
Press capacity at 100 min -1	*KN*	*120*	*250*	*300*	*400*	*400*
Stroke rate	*min $^{-1}$*	*120 - 600 (200 - 800)*	*100 - 500 (100 - 800)*	*100 - 500*	*100 - 500*	*100 - 500*
Installation height, when largest stroke in BDC and ram fine adjustment at highest point	*mm*	*215*	*240*	*270*	*270*	*250 / 275**
Ram stroke - adjustable	*mm*	*40*	*60*	*70*	*70*	*80*
Ram height adjustment	*mm*	*8 - 40*	*8 - 60*	*8 - 70*	*8 - 70*	*8 - 80*
Ram dimensions LxW	*mm*	*225 x 140*	*280 x 260*	*340 x 320*	*340 x 320*	*500 x 400 /*
Bore hole in ram	*mm*	*Ø 32*	*Ø 40*	*Ø 40*	*Ø 40*	*Ø 50*
Slot	*mm*	*16 ^{H7}*	*30 ^{H7}*	*30 ^{H7}*	*30 ^{H7}*	*30 ^{H7}*
Bed dimensions LxW	*mm*	*370 x 440*	*490 x 560*	*700 x 690*	*610 x 690*	*710 x 710*
Bolster - thickness	*mm*	*50*	*50*	*60*	*60*	*80*
Scrap hole in bolster	*mm*	*240 x 120*	*330 x 120*	*540 x 160*	*460 x 160*	*710 x 130/*
Scrap hole in bed	*mm*	*300/240 x 160*	*420 / 340 x 160*	*540 / 460 x 200*	*540 / 460 x 200*	*640 / 520 x*
Main drive	*kW*	*2,2 (3,0)*	*10*	*10*	*10*	*10*
Weight	*kg*	*1800*	*3400*	*5400*	*5400*	*6000*
A Press frame length	*mm*	*940*	*1.180*	*1510*	*1420*	*1700*
B Press frame width	*mm*	*740*	*950*	*1240*	*1140*	*1240*
C Height (without additional options)	*mm*	*1900*	*2110*	*2420*	*2305*	*2550*
D Press frame inside	*mm*	*520*	*700*	*860*	*860*	*1010*
E Installation space width	*mm*	*380*	*500*	*720*	*620*	*720*
F Installation space length	*mm*	*440*	*560*	*690*	*690*	*710*
G Frame opening width	*mm*	*210*	*250*	*320*	*320*	*320*



710	SEP 40 S 810	SEP 63 / DELTA v 630	SEP 63 S / DELTA v 630 S	SEP 80 / DELTA v 800	SEP 100 / DELTA v 1000	SEP 100 S / DELTA v 1000 S
	400	630	630	800	1000	1000
	100 - 500	100 - 500	100 - 500	60 - 320 (150 - 500)	60 - 320	60 - 320
	250 / 275*	250 / 275*	310 - 355*	310 / 355*	320 / 370*	320 / 370*
	80	80	80	80	100	100
	8 - 80	8 - 80	8 - 80	8 - 80	10 - 100	10 - 100
/ 500 x 300*	620 x 400 / 500 x 300*	500 x 400 / 500 x 300*	620 - 500 / 500 x 300*	620 x 500 / 500 x 300*	800 x 600 / 600 x 360*	960 x 600 / 600 x 360*
	Ø 50	Ø 50	Ø 50	Ø 50	Ø 50	Ø 50
	30 H7	30 H7	30 H7	30 H7	30 H7	30 H7
	810 x 710	710 x 710	830 x 710	830 x 710	1050 x 860	1210 x 860
	80	80	80	80	100	100
/190	810 x 130 / 190	710 x 130 / 190	830 x 130 / 190	830 x 130 / 190	1050 x 100 / 220	1210 x 100 / 200
x 200	640 / 520 x 200	640 / 500 x 200	640 / 500 x 200	640 / 500 x 200	840 / 720 x 260	1000 / 880 x 260
	10	21,5 / 60	21,5 / 60	21,5 / 80	21,5 / 80	21,5 / 80
	6000	6200	8000	8400	12000	14000
	1700	1700	1820	1820	2100	2260
	1240	1240	1240	1240	1400	1400
	2550	2550	2690	2690	2960	2980
	1010	1010	1130	1130	1380	1540
	820	720	840	840	1060	1220
	710	710	710	710	860	860
	320	320	320	320	420	420

** Press capacity at 200 min-1*
*** with / without ram plate*

DELTA v^servo: 630 - 1000 kN

Can be easily combined with gripper, roller and other special feeds

We design custom made machining solutions (standard or special machines) based on your specific requirements. From punching systems, which are combined with welding, perforating or pulling, to the design of machines or tools and project management; SCHAAL engineering is the right partner for your innovative engineering solution.

Your Partner for Innovative Engineering Solutions

Welding in the Press

Thanks to the freely programmable speed curve, welding processes have been streamlined and production is even more cost effective.

DELTA v increases output and quality through:

- Variable speeds over 360° freely programmable
- Full press capacity from the first stroke
- Servo direct drive with torque technology
- Integration in system solutions based on newest standards
- Reduction of reworking processes
- Try-out function
- Integrated laser- and contact welding

Special Features

- Full torque from the first stroke
- Freely programmable ram cycle
- Energy costs not higher than conventional production due to energy management system
- Extremely long ram guide ratio
- Made in Germany
- And much more…

Dynamic Roller Feed SWV

The SCHAAL roller feed forms the perfect link in your highly productive production line by joining the decoiler and the press. Providing a feed capacity of up to 120 m/min and an accuracy of up to 0.02 mm, as well as minimum changeover and set-up times, your press will be well equipped with our roller feed SWV.

- Stable design, high precision and repeat accuracy
- Off-centre strip transport is possible
- Feed rollers in hardened and ground versions, plastic/rubber optional
- Integrated feed control with user-friendly programming
- Pneumatic roller release, mechanical automatic release for high stroke rates available on request
- Can be mounted on the left or right side or on the back of the press as well as on punching presses made by other manufacturers
- Strip width of up to 1000 mm depending on the client's requirements

- Your partner for presses and feeds

Roller - Feed SWV

Feed Unit / Size		*SWV 1 E*	*SWV 2 E*	*SWV 202 E*	*SWV 302 E*
*Strip width**	*mm*	*160*	*250*	*250*	*300*
Strip thickness	*mm*	*0,1 - 2*	*0,1 - 3*	*0,1 - 3*	*0,1 - 4*
Cross section of strip max	*mm^2*	*100*	*400*	*400*	*800*
Feed length	*mm*	*0 - 9.999,9*	*0 - 9.999,9*	*0 - 9.999,9*	*0 - 9.999,9*
Roller diameter	*mm*	*72*	*100*	*110*	*165*
Contact pressure	*kN*	*0 - 4*	*0 - 6*	*0 - 8*	*0 - 12*

** Additional strip widths upon request*

High-Performance Gripper Feed SZV

- Compact and rigid design
- Fully mechanized, force-controlled process for high stroke rates
- Strip thickness guide over the whole feed length
- Roller release lever can be activated, deactivated and steplessly adjusted
- Is adapted to the SCHAAL SEP-series
- Stroke rates of up to 800 strokes/min
- Strip speed of up to 30 m/min
- Feed height adjustment possible up to ±30 mm
- Feed angle 180°
- Feed accuracy up to 0.01 mm
- Feed is easy to adjust for different tools and strokes

The quick and easy adjustment of the feed length and sheet thickness at a high feed accuracy are characteristics of the SCHAAL mechanical gripper feed SZV. The gripper feed can be mounted onto all SEP presses, optionally on the left or on the right.

Gripper Feed SZV

Feed Unit / Size		SZV 2	SZV 2 - S	SZV 202	SZV 3	SZV 3 - S	SZV 302
Strip width	mm	8 - 120	8 - 160	8 - 160	8 - 220	8 - 270	8 - 270
Strip thickness		0,1 - 2	0,1 - 2	0,1 - 2	0,1 - 4	0,1 - 4	0,1 - 4
Cross section of strip max	mm^2	200	200	200	400	400	400
Feed length	mm	2 - 80	2 - 80	3 - 100 30 -130	4 - 150	4 - 150	4 - 160 70 - 230
Grip force feed gripper	kN	1,6	1,6	1,6	4	4	4
Grip force hold gripper	kN	0,8	0,8	0,8	2	2	2
Feed angle	°	180	180	180	180	180	180
Feed accuracy	mm	± 0,01	± 0,01	± 0,02	± 0,015	± 0,03	± 0,03
Strip speed max	m/min	30	30	30	30	30	30
Feed height adjustment	mm	./.	./.	± 30	./.	./.	+/- 30

Customized Solutions

- Punch systems for the efficient manufacturing of cooling fins from the coil
- Punch systems for manufacturing clutch friction linings
- Punch systems for manufacturing band saw blades
- Punch systems for manufacturing needle bearing cages

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You are in good hands at SCHAAL engineering with our quick, uncomplicated and competent service and support.

We offer our clients proactive, preventative and situation specific ser- vices. We will develop a personalized service package together with you to ensure that you receive support tailored to your individual re- quirements.

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