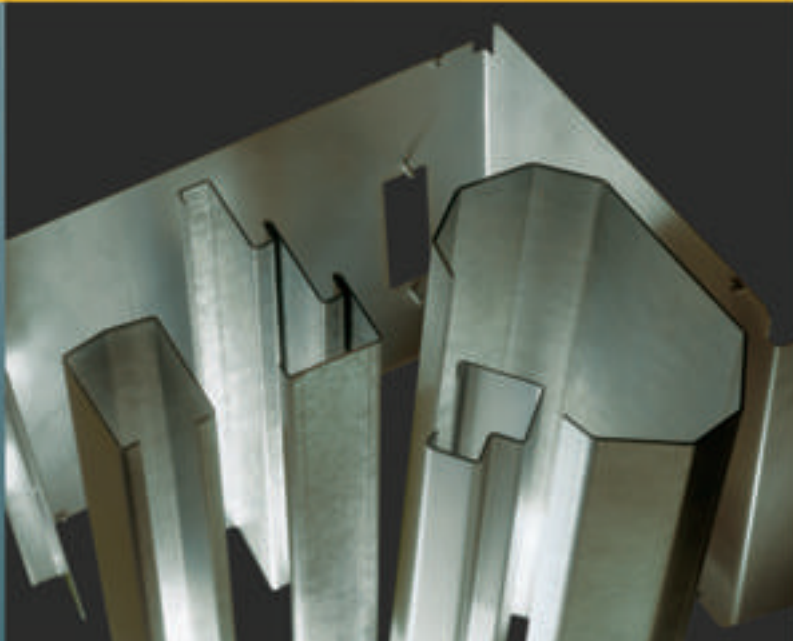




for impressive
performances



PPM HYDRAULIC PRESSBRAKES



PPM

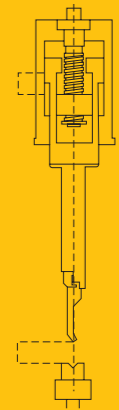


Hydraulic pressbrakes

Our long experience in producing hydraulic pressbrakes, as well conventional as CNC controlled, enables us to bring to our customers a solid engineered, high quality and most of all an economical affordable pressbrake. Our PPM pressbrakes can easily be adapted to the specific needs of our customer offering a wide range of tooling and backgauges.



Unique positive depth setting



The PPM machine has a unique design with mechanical positive depth stops incorporated in the hydraulic cylinders for very accurate depth stroke adjustment (0.01 mm). Motorised adjustment controlled by 2 pushbuttons and electronic read-out conveniently located at the pendant control station.

Standard features

- Mechanical equilibration by means of a heavy-duty solid anti-torsion bar.
- Mechanical depth stops incorporated in the cylinders for long life.
- Pendant control panel.
- Infinitely motorised depth adjustment by 2 pushbuttons from the control panel with electronic read-out.
- Easy infinitely adjustable ram stroke.
- Adjustable open height.
- Adjustable speed change-over point.
- Pressure control with electronic adjustment and read-out.
- Manual (jog mode) and automatic cycle selector switch.
- Movable foot pedal control.
- Short sectional tool holders to secure tool clamping.
- Filled oil tank.
- Instruction and maintenance manuals.
- Service tools.

Options

- Safety fences and light curtains according to CE safety specifications.
- Motorised backgauge stroke.
- Standard stroke:
 - for 400 kN and 750 kN: 650 mm.
 - for other tonnages: 800 mm.
- Backgauge stroke up to 1000 mm.
- Central manual adjustable anti deflection tables.
- Frontstops.
- Different tooling configuration.
- Hydraulic top tool clamping.
- Groove for single V-dies.
- Hour meter.
- Stroke counter.



Ram parallelism

Parallelism of the upper beam is maintained through an anti-torsion bar system. This solid torsion bar links both ends of the ram and maintains parallelism throughout the entire stroke even if off-centre loadings occur.



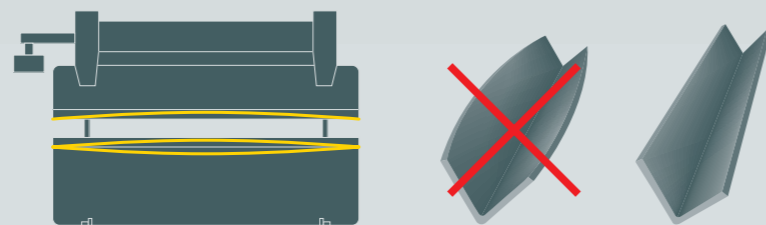
Stroke adjustment

Adjustable mechanical cams at the operators side of the brake to set the upper position and work speed change point. In case of ATL550 control, an extra cam sets the retraction of the backgauge.



Anti deflection tables

Angular variations caused by beam and table deformation can be compensated by the anti deflection table fitted directly onto the lower beam. It works by means of wedges moving progressively over each other, giving the table the desired crown in order to compensate for the beam and bed deflection. This results in a constant angular profile of the workpiece over the full working length of the machine. The anti deflection table can be set independently from the machine type or execution and in combination with different tool systems.



Anti deflection table for haco-dies.



Anti deflection table for system-dies.

CNC control

ATL550 (only up to 1500 kN)

Simple to programm basic control for conventional PPM pressbrake. Electronic digital readout of depth stop position and working pressure. Preselection mode: automatic positioning of backgauge and depth stop to the preselected position.

- Positioning of backgauge X - 0.1 mm.
- Positioning of depth stop Y - 0.01 mm.

Programming mode: possibility to make several programmes in which the backgauge and depthstop are positioned automatically after each step (bend).

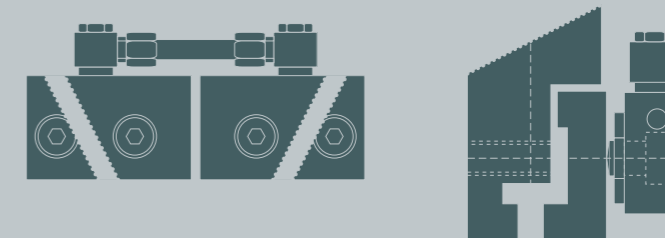
- Programming X and Y (in depth only).
- Memory capacity: max. 200 programmes - max. 400 steps.



Tooling

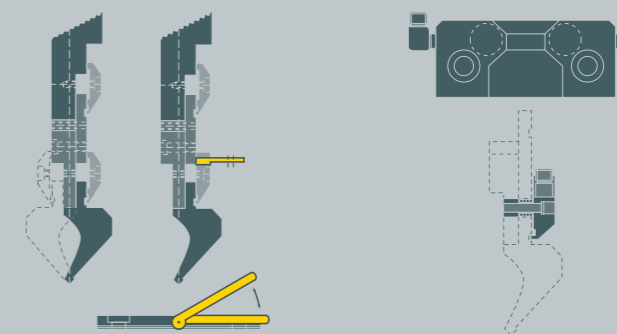
Haco tooling

A budget friendly tool system specifically designed for each machine capacity. The multi V-die combines flexibility by having different V-openings into 1 die and easy tool turning. The top bending tool is available in different versions: flexible gooseneck tool 86°, straight tools of 86°, 30°, 60° or 180°, in full length or sectioned.



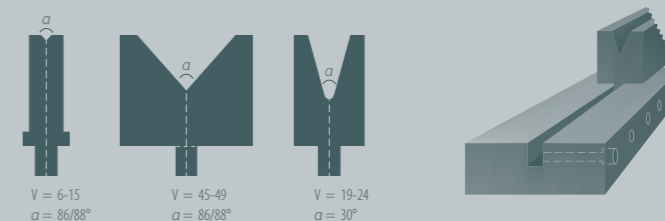
System tooling

System tooling is available in a wide range of different bottom and top tools, to adapt the machine to almost any specific job. System tooling is manufactured to the smallest tolerances in standard lengths of 835 and 415mm so they can be put together to get bigger lengths. System bottom tooling in combination with an anti-deflection table results in a machine with the highest degree of accuracy.



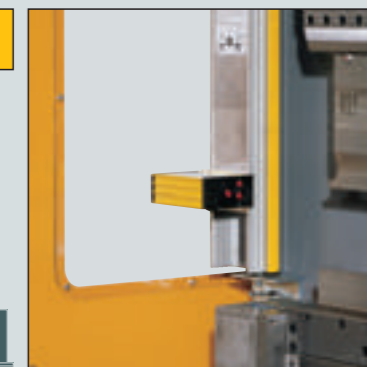
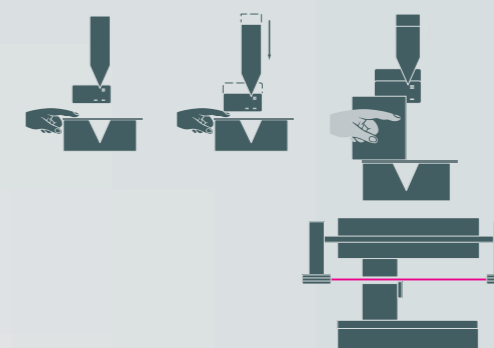
Single V-dies

Single V-dies are available in a large variety of angles and V-openings. The small width/height ratio allows improved access for the workpiece around the die. Single V-die clamping uses a groove in either a Haco or a System tool table. By using the groove as a self alignment system, the toolchange can be reduced to very little time.



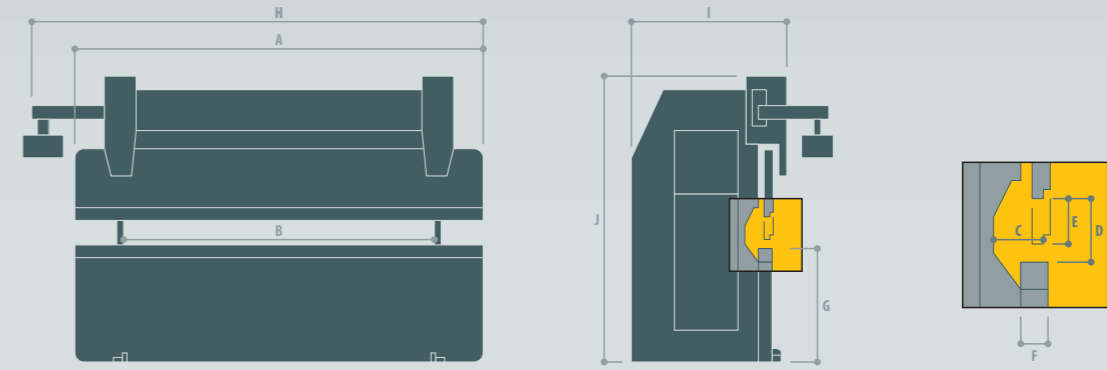
Saffir

Machines according to CE specifications, are limited to working speed of 10 mm/s if operated with footpedal only. Working at fast approach speed is only possible with guarded working area. Saffir offers a solution by means of an optical system guarding the area around the punch.



Technical specifications

Haco reserves the right to change any specifications without prior notice.



TYPE	WORKING LENGTH	CAPACITY	DISTANCE BETWEEN HOUSINGS	GAP	DAYLIGHT OPENING	STROKE	TABLE HEIGHT	FAST APPROACH SPEED	MAX. WORKING SPEED	FAST RETURN SPEED	MOTORPOWER	MAX. PRESSURE	TOTAL LENGTH	TOTAL WIDTH	TOTAL HEIGHT	WEIGHT
	A		B	C	D	E	G						H	I	J	
16040	1600 mm	400 kn	1100 mm	195 mm	295 mm	100 mm	840 mm	70 mm/s	8 mm/s	55 mm/s	4,1 kW	180 bar	2100 mm	1450 mm	2100 mm	2500 kg
20040	2100 mm	400 kn	1600 mm	195 mm	295 mm	100 mm	840 mm	70 mm/s	8 mm/s	55 mm/s	4,1 kW	180 bar	2450 mm	1450 mm	2100 mm	3000 kg
25040	2600 mm	400 kn	2100 mm	195 mm	295 mm	100 mm	840 mm	70 mm/s	8 mm/s	55 mm/s	4,1 kW	180 bar	2900 mm	1450 mm	2100 mm	3500 kg
20075	2100 mm	750 kn	1600 mm	200 mm	280 mm	100 mm	840 mm	70 mm/s	8 mm/s	55 mm/s	7,5 kW	330 bar	2450 mm	1450 mm	2100 mm	4400 kg
25075	2600 mm	750 kn	2100 mm	200 mm	280 mm	100 mm	840 mm	70 mm/s	8 mm/s	55 mm/s	7,5 kW	330 bar	2900 mm	1450 mm	2100 mm	4700 kg
30075	3100 mm	750 kn	2600 mm	200 mm	280 mm	100 mm	840 mm	70 mm/s	8 mm/s	55 mm/s	7,5 kW	330 bar	3500 mm	1450 mm	2100 mm	5100 kg
25100	2600 mm	1000 kn	2100 mm	250 mm	325 mm	120 mm	875 mm	70 mm/s	7 mm/s	60 mm/s	5,6 kW	220 bar	2900 mm	1700 mm	2240 mm	6900 kg
30100	3100 mm	1000 kn	2600 mm	250 mm	325 mm	120 mm	875 mm	70 mm/s	7 mm/s	60 mm/s	5,6 kW	220 bar	3500 mm	1700 mm	2240 mm	7400 kg
36100	3600 mm	1000 kn	3150 mm	250 mm	325 mm	120 mm	875 mm	70 mm/s	7 mm/s	60 mm/s	5,6 kW	220 bar	4100 mm	1700 mm	2240 mm	8200 kg
40100	4100 mm	1000 kn	3150 mm	250 mm	325 mm	120 mm	915 mm	70 mm/s	7 mm/s	60 mm/s	5,6 kW	220 bar	4400 mm	1700 mm	2430 mm	9100 kg
43100	4300 mm	1000 kn	3750 mm	250 mm	325 mm	120 mm	915 mm	70 mm/s	7 mm/s	60 mm/s	5,6 kW	220 bar	4700 mm	1700 mm	2800 mm	10600 kg
25135	2600 mm	1000 kn	2100 mm	250 mm	325 mm	120 mm	915 mm	70 mm/s	7 mm/s	60 mm/s	7,5 kW	300 bar	2900 mm	1700 mm	2280 mm	7400 kg
30135	3100 mm	1350 kn	2600 mm	250 mm	325 mm	120 mm	915 mm	70 mm/s	7 mm/s	60 mm/s	7,5 kW	300 bar	3500 mm	1700 mm	2280 mm	7800 kg
36135	3600 mm	1350 kn	3150 mm	250 mm	325 mm	120 mm	915 mm	70 mm/s	7 mm/s	60 mm/s	7,5 kW	300 bar	4200 mm	1700 mm	2280 mm	8800 kg
40135	4100 mm	1350 kn	3150 mm	250 mm	325 mm	120 mm	1010 mm	70 mm/s	7 mm/s	60 mm/s	7,5 kW	300 bar	4400 mm	1700 mm	2430 mm	9800 kg
43135	4300 mm	1350 kn	3750 mm	250 mm	325 mm	120 mm	915 mm	70 mm/s	7 mm/s	60 mm/s	7,5 kW	300 bar	4700 mm	1700 mm	2800 mm	10800 kg
25150	2600 mm	1500 kn	2100 mm	250 mm	325 mm	120 mm	915 mm	70 mm/s	7 mm/s	60 mm/s	11,4 kW	330 bar	2900 mm	1700 mm	2750 mm	7700 kg
30150	3100 mm	1500 kn	2600 mm	250 mm	325 mm	120 mm	915 mm	70 mm/s	7 mm/s	60 mm/s	11,4 kW	330 bar	3500 mm	1700 mm	2750 mm	8200 kg
36150	3600 mm	1500 kn	3150 mm	250 mm	325 mm	120 mm	915 mm	70 mm/s	7 mm/s	60 mm/s	11,4 kW	330 bar	4100 mm	1700 mm	2800 mm	9300 kg
40150	4100 mm	1500 kn	3150 mm	250 mm	325 mm	120 mm	915 mm	70 mm/s	7 mm/s	60 mm/s	11,4 kW	330 bar	4400 mm	1700 mm	2800 mm	10400 kg
43150	4300 mm	1500 kn	3750 mm	250 mm	325 mm	120 mm	1010 mm	70 mm/s	7 mm/s	60 mm/s	11,4 kW	330 bar	4700 mm	1700 mm	2900 mm	12900 kg
25175	2600 mm	1750 kn	2100 mm	300 mm	450 mm	200 mm	890 mm	80 mm/s	9 mm/s	95 mm/s	15 kW	280 bar	2820 mm	1750 mm	2665 mm	10000 kg
30175	3100 mm	1750 kn	2600 mm	300 mm	450 mm	200 mm	965 mm	80 mm/s	9 mm/s	95 mm/s	15 kW	280 bar	3320 mm	1750 mm	2750 mm	11400 kg
36175	3600 mm	1750 kn	3150 mm	300 mm	450 mm	200 mm	965 mm	80 mm/s	9 mm/s	95 mm/s	15 kW	280 bar	3880 mm	1750 mm	2750 mm	13400 kg
40175	4100 mm	1750 kn	3150 mm	300 mm	450 mm	200 mm	965 mm	80 mm/s	9 mm/s	95 mm/s	15 kW	280 bar	4320 mm	1750 mm	2800 mm	14200 kg
43175	4300 mm	1750 kn	3750 mm	300 mm	450 mm	200 mm	965 mm	80 mm/s	9 mm/s	95 mm/s	15 kW	280 bar	4520 mm	1750 mm	2900 mm	16400 kg
25220	2600 mm	2200 kn	2100 mm	300 mm	450 mm	200 mm	965 mm	80 mm/s	9 mm/s	95 mm/s	18,7 kW	350 bar	2820 mm	2000 mm	2750 mm	11600 kg
30220	3100 mm	2200 kn	2600 mm	300 mm	450 mm	200 mm	965 mm	80 mm/s	9 mm/s	95 mm/s	18,7 kW	350 bar	3320 mm	2000 mm	2750 mm	12100 kg
36220	3600 mm	2200 kn	3150 mm	300 mm	450 mm	200 mm	965 mm	80 mm/s	9 mm/s	95 mm/s	18,7 kW	350 bar	3880 mm	2000 mm	2800 mm	15100 kg
40220	4100 mm	2200 kn	3150 mm	300 mm	450 mm	200 mm	965 mm	80 mm/s	9 mm/s	95 mm/s	18,7 kW	350 bar	4320 mm	2000 mm	2800 mm	16000 kg
43220	4300 mm	2200 kn	3750 mm	300 mm	450 mm	200 mm	965 mm	80 mm/s	9 mm/s	95 mm/s	18,7 kW	350 bar	4520 mm	2000 mm	2900 mm	18000 kg
30250	3100 mm	2500 kn	2600 mm	300 mm	450 mm	200 mm	965 mm	80 mm/s	8 mm/s	90 mm/s	18,7 kW	330 bar	3320 mm	2050 mm	2800 mm	13400 kg
36250	3600 mm	2500 kn	3150 mm	300 mm	450 mm	200 mm	965 mm	80 mm/s	8 mm/s	90 mm/s	18,7 kW	330 bar	3880 mm	2050 mm	2800 mm	16500 kg
40250	4100 mm	2500 kn	3150 mm	300 mm	450 mm	200 mm	965 mm	80 mm/s	8 mm/s	90 mm/s	18,7 kW	330 bar	4320 mm	2050 mm	2800 mm	17400 kg
43250	4300 mm	2500 kn	3750 mm	300 mm	450 mm	200 mm	890 mm	80 mm/s	8 mm/s	90 mm/s	18,7 kW	330 bar	4520 mm	2050 mm	3000 mm	19500 kg
30320	3100 mm	3200 kn	2600 mm	330 mm	500 mm	250 mm	890 mm	80 mm/s	8 mm/s	100 mm/s	22,5 kW	325 bar	3320 mm	2050 mm	3000 mm	17700 kg
36320	3600 mm	3200 kn	3150 mm	330 mm	500 mm	250 mm	890 mm	80 mm/s	8 mm/s	100 mm/s	22,5 kW	325 bar	3880 mm	2050 mm	3100 mm	20200 kg
40320	4100 mm	3200 kn	3150 mm	330 mm	500 mm	250 mm	890 mm	80 mm/s	8 mm/s	100 mm/s	22,5 kW	325 bar	4320 mm	2050 mm	3200 mm	21700 kg
43320	4300 mm	3200 kn	3750 mm	330 mm	500 mm	250 mm	890 mm	80 mm/s	8 mm/s	100 mm/s	22,5 kW	325 bar	4520 mm	2050 mm	3200 mm	24000 kg

Large sheetworking programme



Hydraulic shears

Conventional and CNC controlled.
Up to 32 mm.

Hydraulic steelworkers

4 and 5 station universal steelworkers for punching, shearing flat, angle and bar cutting, notching. Up to 1600 kN.



Angle notchers

Fix and variable angle.
Up to 6 mm.



for impressive
performances

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