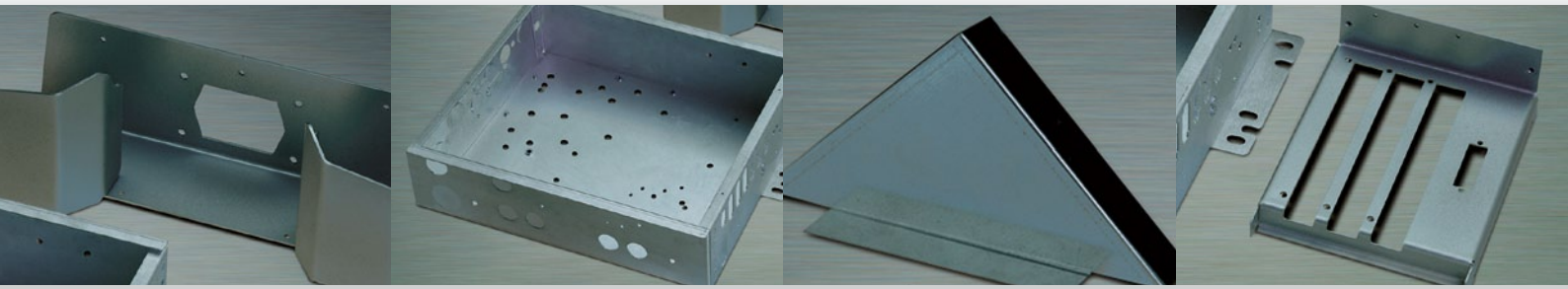
HACO

for impressive performances

SYNCHROMASTER

HYDRAULIC PRESS BRAKES



SYNCHROMASTER

Synchromaster 30135 with specific options.

STANDARD EXECUTION

- Pendant control panel with CNC control Robosoft ATS 565.
- Electro-hydraulic levelling and depth stop setting by Synchro system.
- Automatic compensation of the sideframe deflection by means of table referenced measuring scales, coupled to Synchro system.
- X-axis: back gauge positioning, programmable in 0,1 mm.
- Y1/Y2 hydraulic axes: depth stop setting in 0,01 mm.
- Programmable working pressure, ram stroke, ram opening.
- Adjustable speed change-over point.
- Possibility for automatic return of the beam.
- CNC controlled back gauge, stroke 800 mm (exceptions: 40 and 75 ton models, stroke 650 mm), speed 120 mm/s, including 2 universal finger blocks, manually adjustable in width and height.
- Ram and table machined to use Haco or System style tooling.
- Operation, programming and maintenance manual.
- Foot pedal control.

Back gauge with R-axis.

OPTIONAL

- Central adjustable anti-deflection tables (manual or CNC controlled).
- CNC controlled anti-deflection table for New Standard tools
- Extra finger blocks.
- Pneumatic finger height control.
- Motorised adjustment from the finger height (= R-axis) including laterally movable fingers from the front.
- Front supports: fixed or movable.
- Quick manual clamping for System upper tools.
- Hydraulic tool clamping.
- Manual and hydraulic tool clamping devices for New Standard tools.
- Higher level CNC controls.
- Optical safety device (Saffir, Akas, Lazersafe manual or Akas motorised).
- Bigger daylight opening, stroke and/or gap.

CNC CONTROLS

ATS 565 (STANDARD)

- 5-axis control: Y1-Y2-X-R-crowning.
- LCD-display (240 x 64) in a revolving screen on pendant arm.
- Memory capacity of 200 programs/400 steps.
- Tool height calibration mode.
- Pressure or depth programming Y1=Y2.
- Tilt function beam.
- Absolute back gauge programming (axes X-R).
- 'Jog' function on the back gauge.
- Programming crowning (= anti-deflection).
- Programmable Top Dead Centre (TDC), beam speed, speed changeover point, dwell time, retraction, auto-up function.
- Piece counter (up and down).
- Diagnostics.
- Multiple languages.

ATS 585 (OPTION)

- 5-axis control: Y1-Y2-X-R-crowning.
- Graphic LCD-display (240 x 128) in a revolving screen on pendant arm.
- Memory capacity of 200 programs/400 steps.
- Graphic tool library for 30 upper and 30 lower tools.
- Creation and editing of tools.
- Graphic display from tools and parts (if loaded by serial connection).
- Angle, pressure or depth programming Y1=Y2.
- Tilt function beam.
- Angle correction.
- Absolute back gauge programming (axes X-R).
- 'Jog' function on the back gauge.
- Programming crowning (= anti-deflection).
- Programmable Top Dead Centre (TDC), beam speed, speed changeover point, dwell time, retraction, auto-up function.
- Piece counter (up and down).
- Diagnostics.
- Multiple languages.
- Back gauge DC driven on ball circulating screws, speed 240 mm/s.

EASYBEND-2D (OPTION)

- 5-axis control: Y1-Y2-X-R-crowning.
- 10" TFT colour screen on pendant arm.
- Memory capacity for virtually unlimited number of programs.
- Material library - up to 30 different materials.
- Graphical tool library for 30 upper and 30 lower tools.
- Importing, creating and editing of tools.
- Angle, pressure or depth programming Y1=Y2.
- Tilt function beam.
- 'Teach-in' function on the depth axis.
- Angle correction.
- Absolute/incremental back gauge programming.
- Piece counter (up and down).
- Diagnostics.
- Multiple languages.
- Network board.
- USB support.
- 2D graphic programming.
- Several drawing methods of work pieces.
- Real-time solution during drawing.
- Collision detection.
- Visualisation of found solutions.
- Automatic CNC program calculation.
- Automatic calculation of the required force, bending sequence and anti-deflection.
- Adjustment of the program is possible: Top Dead Centre (TDC), beam speed, speed changeover point (with optional light guard), dwell time, delay, retraction, clamping point, auto-up function.
- Hemming.
- Stepped radius bending.
- Back gauge DC driven on ball circulating screws, speed 240 mm/s.

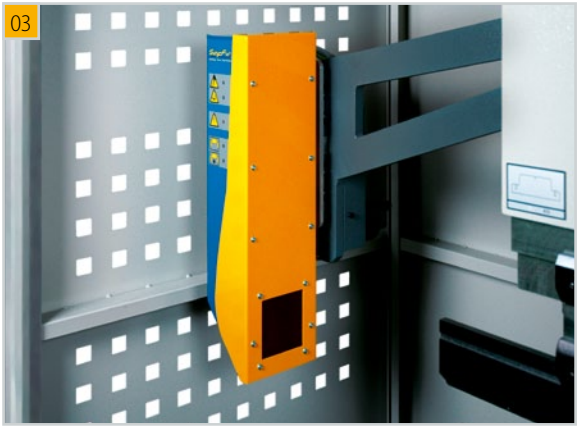
PHOTO ELECTRIC SAFETY LIGHT GUARDS

- Optical devices are mounted on the beam and therefore follow the movement of the beam. At detection of an obstacle in the monitored area around the top of the top tool, the system interrupts the downward movement. Available: Saffir, Akas and Lazersafe manual light guards and Akas motorized light guards.

01

02

03



04

05

01

LAZERSAFE
Transmitter (photo) and receiver are manually adjustable in height.

02

SAFFIR
Receiver is manually adjustable in height and retractable for a quick tool exchange.

03

SAFFIR
Transmitter is manually adjustable in height.

04

AKAS MOTORIZED
Transmitter is adjustable in height and driven by a motor.

05

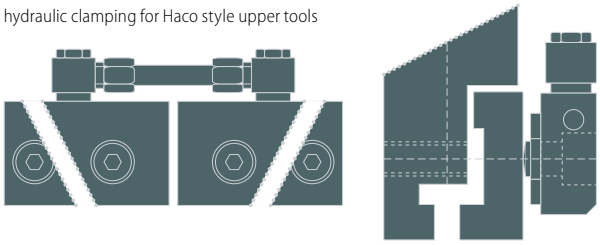
AKAS MOTORIZED
Receiver is adjustable in height and driven by a motor for a quick tool exchange and calibration. Optional: retractable for a free gap.

PRESS BRAKE 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.

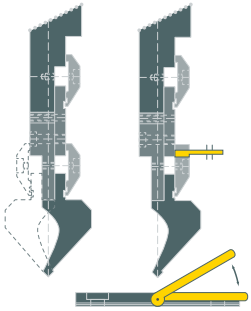
hydraulic clamping for Haco style upper tools



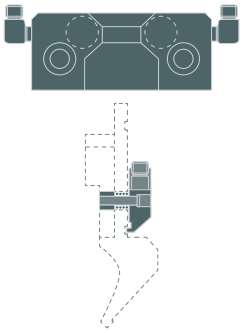
SYSTEM TOOLING

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

quick manual clamping for System upper tools



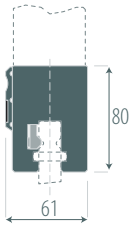
hydraulic clamping



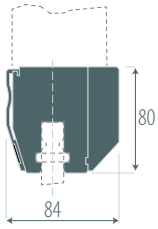
NEW STANDARD

This system offers a high degree of accuracy tool changing speed and flexibility. All 'New Standard' top and bottom tools are available in a wide range of heights and shapes. They all are manufactured to the smallest possible tolerances resulting in an optimal final bending accuracy. The top tools can be exchanged quickly and safely, vertically as well as horizontally. The self alignment of the dies by using the groove, avoids additional press strokes, so it is possible to start bending operations immediately after tool change. Hydraulic clamping on both, top and bottom tools is available.

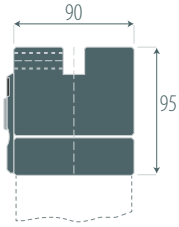
manual clamping (top and bottom)



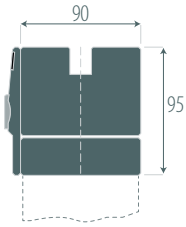
hydraulic clamping (top and bottom)



crowning

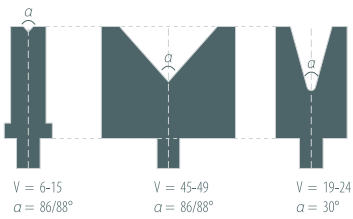


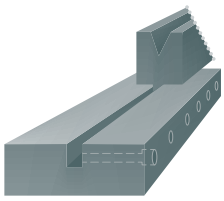
crowning



SINGLE V-DIES

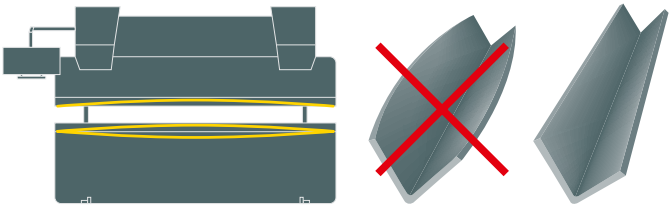
Single V-dies are available in a large variety of angles and V-openings. The small width/height ratio allows an improved access for the workpiece around the die. Single V-die clamping is using a groove in either a Haco or a System tool table. By using the groove as a self alignment system, the tool change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



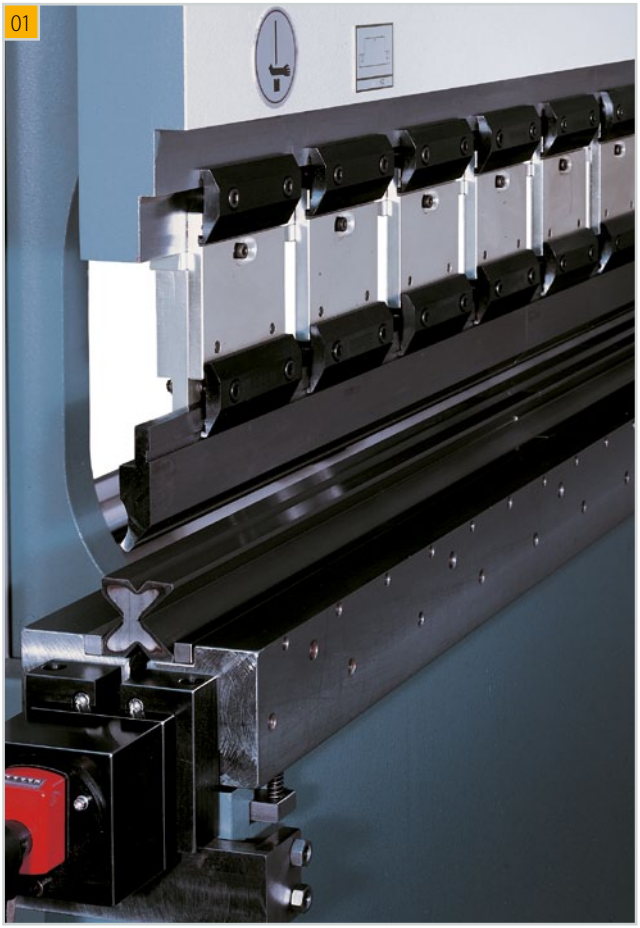


ANTI-DEFLECTION TABLES

Angular variations caused by beam and machine deformation can be compensated for by the anti-deflection table fitted directly on the lower beam. It works by means of a system of wedges moving progressively over each other, giving the table the desired form in order to compensate for 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 machine type or execution and is available for standard Haco tools, System tools, Single V-dies and New Standard tools.



01



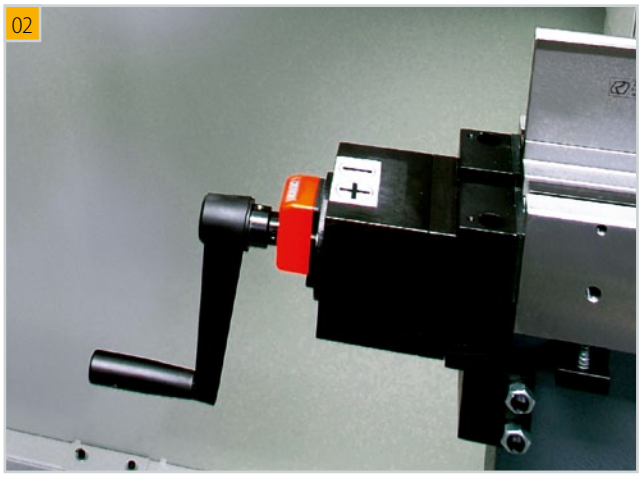
03

01 02 Manual anti-deflection table for System tools.

03 Motorised CNC controlled anti-deflection table for System and single V-dies.

04 Motorised CNC controlled anti-deflection table for New Standard tools and single V-dies.

02



04

BACK GAUGE FINGERS

01

Manually adjustable fingers in height and width on the standard back gauge (= X-axis).

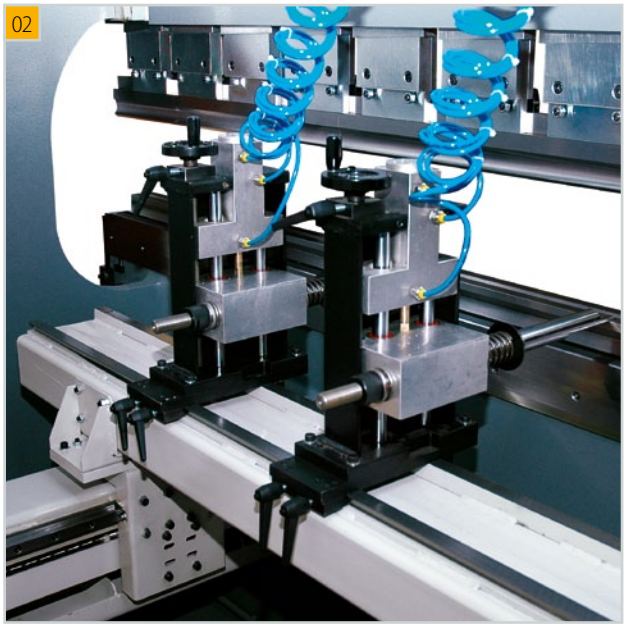
02

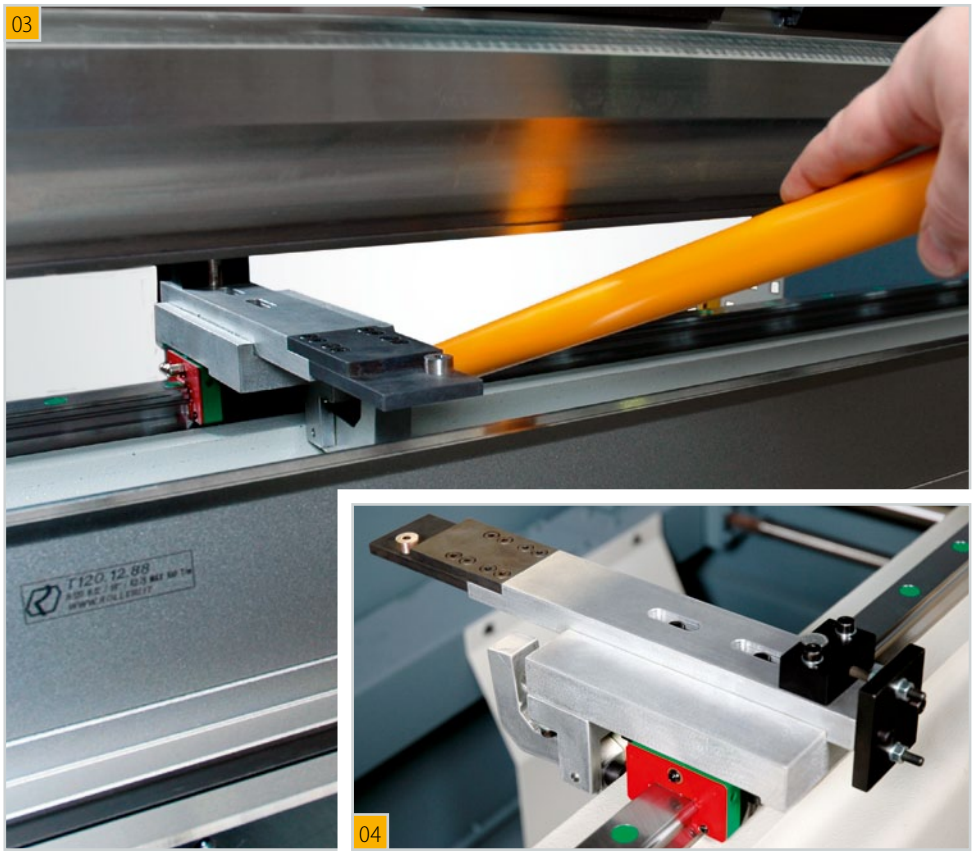
Pneumatic finger height control.

Remark: indicative picture from a Euromaster back gauge, identical pneumatic fingers.

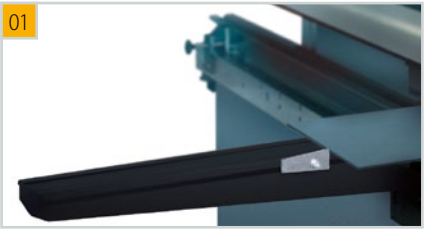
03 04

Laterally movable fingers from the front on a back gauge with R-axis.

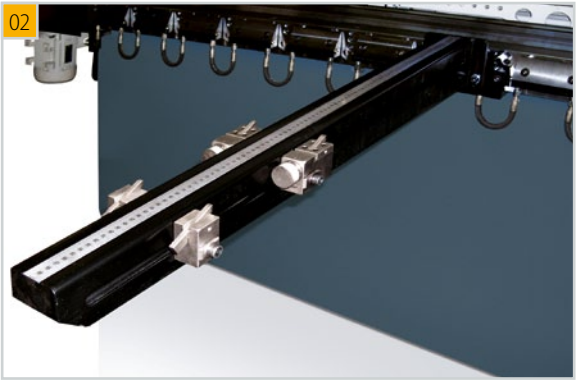




FRONT STOPS: FIXED OR MOVABLE



01



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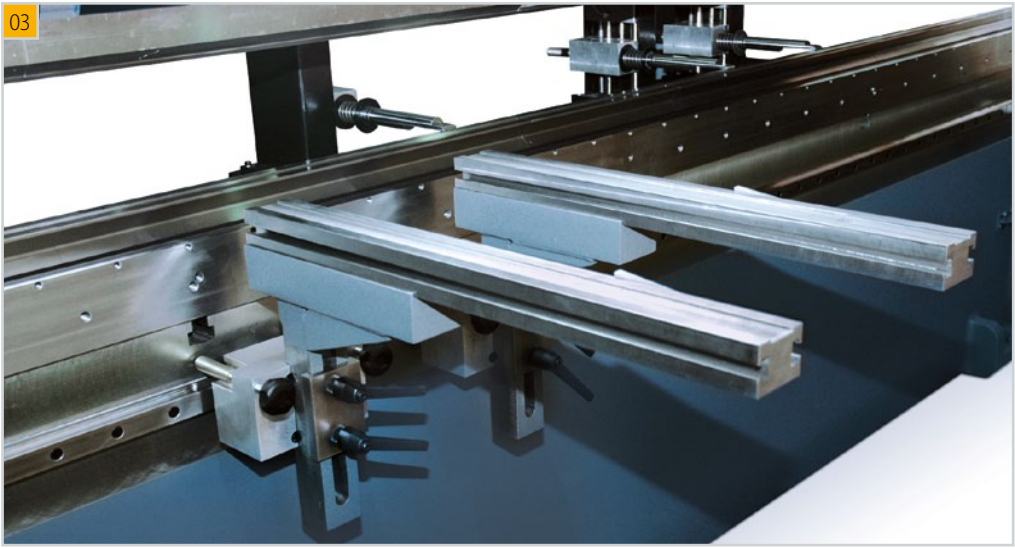
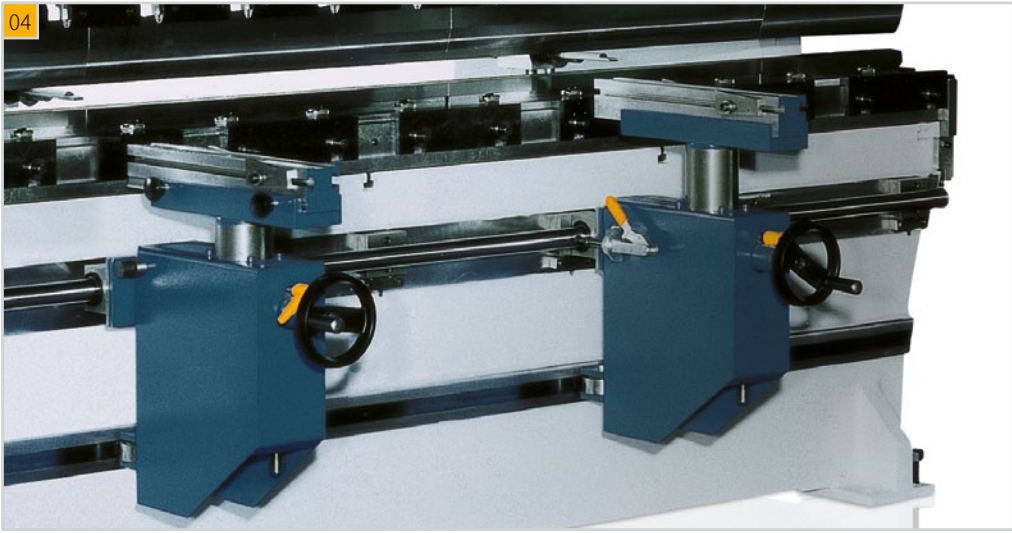


03



04

01

Front support, type PFA 1000 mm with tilting stop (for machines until 150 ton). Type PFB 750 mm in heavy-duty execution also available (for machines starting from 175 ton).

02

Front support, type PFRR4001 1000 mm with micrometric tilting stops (optional).

03

Front supports (with tilting stop) adjustable in width (over the complete working length of the machine) and height, type I.

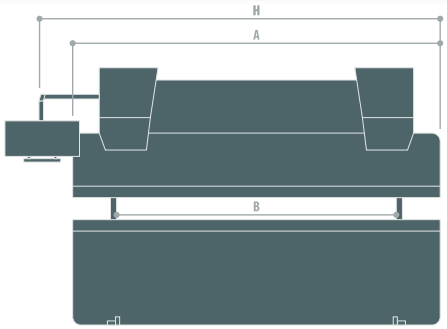
04

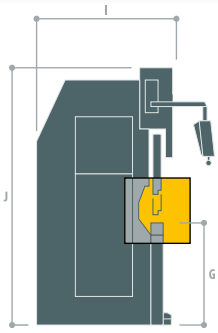
Front supports (with tilting stop) adjustable in width (over the complete working length of the machine) and height, type II.

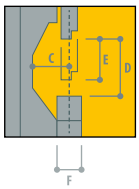
TECHNICAL SPECIFICATIONS

Specifications can be changed without prior notice.

TYPE	WORKING LENGTH	CAPACITY	DISTANCE BETWEEN HOUSINGS	GAP	DAYLIGHT OPENING	STROKE	TABLE HEIGHT	FAST APPROACH SPEED
ERMS	A		B	C	D	E	G	
16040	1600 mm	400 kN	1100 mm	195 mm	295 mm	100 mm	840 mm	80 mm/s
20040	2100 mm	400 kN	1600 mm	195 mm	295 mm	100 mm	840 mm	80 mm/s
25040	2600 mm	400 kN	2100 mm	195 mm	295 mm	100 mm	840 mm	80 mm/s
20075	2100 mm	750 kN	1600 mm	200 mm	280 mm	100 mm	840 mm	80 mm/s
25075	2600 mm	750 kN	2100 mm	200 mm	280 mm	100 mm	840 mm	80 mm/s
30075	3100 mm	750 kN	2600 mm	200 mm	280 mm	100 mm	840 mm	80 mm/s
25100	2600 mm	1000 kN	2100 mm	250 mm	400 mm	200 mm	875 mm	100 mm/s
30100	3100 mm	1000 kN	2600 mm	250 mm	400 mm	200 mm	875 mm	100 mm/s
36100	3600 mm	1000 kN	3150 mm	250 mm	400 mm	200 mm	875 mm	100 mm/s
40100	4100 mm	1000 kN	3150 mm	250 mm	400 mm	200 mm	915 mm	100 mm/s
43100	4300 mm	1000 kN	3750 mm	250 mm	400 mm	200 mm	915 mm	100 mm/s
25135	2600 mm	1350 kN	2100 mm	250 mm	400 mm	200 mm	915 mm	100 mm/s
30135	3100 mm	1350 kN	2600 mm	250 mm	400 mm	200 mm	915 mm	100 mm/s
36135	3600 mm	1350 kN	3150 mm	250 mm	400 mm	200 mm	915 mm	100 mm/s
40135	4100 mm	1350 kN	3150 mm	250 mm	400 mm	200 mm	915 mm	100 mm/s
43135	4300 mm	1350 kN	3750 mm	250 mm	400 mm	200 mm	1010 mm	100 mm/s
25150	2600 mm	1500 kN	2100 mm	250 mm	400 mm	200 mm	915 mm	100 mm/s
30150	3100 mm	1500 kN	2600 mm	250 mm	400 mm	200 mm	915 mm	100 mm/s
36150	3600 mm	1500 kN	3150 mm	250 mm	400 mm	200 mm	915 mm	100 mm/s
40150	4100 mm	1500 kN	3150 mm	250 mm	400 mm	200 mm	915 mm	100 mm/s
43150	4300 mm	1500 kN	3750 mm	250 mm	400 mm	200 mm	1010 mm	100 mm/s
25175	2600 mm	1750 kN	2100 mm	300 mm	450 mm	200 mm	890 mm	100 mm/s
30175	3100 mm	1750 kN	2600 mm	300 mm	450 mm	200 mm	965 mm	100 mm/s
36175	3600 mm	1750 kN	3150 mm	300 mm	450 mm	200 mm	965 mm	100 mm/s
40175	4100 mm	1750 kN	3150 mm	300 mm	450 mm	200 mm	965 mm	100 mm/s
43175	4300 mm	1750 kN	3750 mm	300 mm	450 mm	200 mm	965 mm	100 mm/s
25220	2600 mm	2200 kN	2100 mm	300 mm	450 mm	200 mm	965 mm	100 mm/s
30220	3100 mm	2200 kN	2600 mm	300 mm	450 mm	200 mm	965 mm	100 mm/s
36220	3600 mm	2200 kN	3150 mm	300 mm	450 mm	200 mm	965 mm	100 mm/s
40220	4100 mm	2200 kN	3150 mm	300 mm	450 mm	200 mm	965 mm	100 mm/s
43220	4300 mm	2200 kN	3750 mm	300 mm	450 mm	200 mm	965 mm	100 mm/s
30250	3100 mm	2500 kN	2600 mm	300 mm	450 mm	200 mm	965 mm	100 mm/s
36250	3600 mm	2500 kN	3150 mm	300 mm	450 mm	200 mm	965 mm	100 mm/s
40250	4100 mm	2500 kN	3150 mm	300 mm	450 mm	200 mm	890 mm	100 mm/s
43250	4300 mm	2500 kN	3750 mm	300 mm	450 mm	200 mm	890 mm	100 mm/s
50250	5000 mm	2500 kN	4050 mm	300 mm	450 mm	200 mm	940 mm	100 mm/s
60250	6000 mm	2500 kN	5050 mm	300 mm	450 mm	200 mm	1090 mm	80 mm/s
30320	3100 mm	3200 kN	2600 mm	330 mm	500 mm	250 mm	890 mm	80 mm/s
36320	3600 mm	3200 kN	3150 mm	330 mm	500 mm	250 mm	890 mm	80 mm/s
40320	4100 mm	3200 kN	3150 mm	330 mm	500 mm	250 mm	890 mm	80 mm/s
43320	4300 mm	3200 kN	3750 mm	330 mm	500 mm	250 mm	890 mm	80 mm/s
50320	5000 mm	3200 kN	4050 mm	330 mm	500 mm	250 mm	940 mm	80 mm/s
60320	6000 mm	3200 kN	5050 mm	330 mm	500 mm	250 mm	1090 mm	80 mm/s
30400	3100 mm	4000 kN	2600 mm	330 mm	550 mm	300 mm	1025 mm	90 mm/s
40400	4100 mm	4000 kN	3150 mm	330 mm	550 mm	300 mm	1045 mm	90 mm/s







MAX. WORKING SPEED	FAST RETURN SPEED	MOTORPOWER	LENGTH	WIDTH	HEIGHT	WEIGHT
			H	I	J	
10 mm/s	70 mm/s	4,1 kW	2100 mm	1450 mm	2300 mm	2500 kg
10 mm/s	70 mm/s	4,1 kW	2450 mm	1450 mm	2300 mm	3000 kg
10 mm/s	70 mm/s	4,1 kW	2900 mm	1450 mm	2300 mm	3500 kg
10 mm/s	70 mm/s	7,5 kW	2450 mm	1450 mm	2300 mm	4400 kg
10 mm/s	70 mm/s	7,5 kW	2900 mm	1450 mm	2300 mm	4700 kg
10 mm/s	70 mm/s	7,5 kW	3500 mm	1450 mm	2300 mm	5100 kg
10 mm/s	80 mm/s	11 kW	2900 mm	1700 mm	2500 mm	6900 kg
10 mm/s	80 mm/s	11 kW	3500 mm	1700 mm	2500 mm	7400 kg
10 mm/s	80 mm/s	11 kW	4100 mm	1700 mm	2500 mm	8200 kg
10 mm/s	80 mm/s	11 kW	4400 mm	1700 mm	2500 mm	9100 kg
10 mm/s	80 mm/s	11 kW	4700 mm	1700 mm	2850 mm	10600 kg
10 mm/s	80 mm/s	15 kW	2900 mm	1700 mm	2500 mm	7400 kg
10 mm/s	80 mm/s	15 kW	3500 mm	1700 mm	2500 mm	7800 kg
10 mm/s	80 mm/s	15 kW	4200 mm	1700 mm	2500 mm	8800 kg
10 mm/s	80 mm/s	15 kW	4400 mm	1700 mm	2500 mm	9800 kg
10 mm/s	80 mm/s	15 kW	4700 mm	1700 mm	2850 mm	10800 kg
10 mm/s	80 mm/s	15 kW	2900 mm	1700 mm	2500 mm	7700 kg
10 mm/s	80 mm/s	15 kW	3500 mm	1700 mm	2500 mm	8200 kg
10 mm/s	80 mm/s	15 kW	4100 mm	1700 mm	2500 mm	9300 kg
10 mm/s	80 mm/s	15 kW	4400 mm	1700 mm	2500 mm	10400 kg
10 mm/s	80 mm/s	15 kW	4700 mm	1700 mm	2850 mm	12900 kg
8 mm/s	100 mm/s	15 kW	2820 mm	1750 mm	2665 mm	8500 kg
8 mm/s	100 mm/s	15 kW	3320 mm	1750 mm	2750 mm	10000 kg
8 mm/s	100 mm/s	15 kW	3880 mm	1750 mm	2750 mm	12300 kg
8 mm/s	100 mm/s	15 kW	4320 mm	1750 mm	2800 mm	14200 kg
8 mm/s	100 mm/s	15 kW	4520 mm	1750 mm	2900 mm	16400 kg
8 mm/s	100 mm/s	18,7 kW	2820 mm	2000 mm	2750 mm	11200 kg
8 mm/s	100 mm/s	18,7 kW	3320 mm	2000 mm	2750 mm	11600 kg
8 mm/s	100 mm/s	18,7 kW	3880 mm	2000 mm	2800 mm	14500 kg
8 mm/s	100 mm/s	18,7 kW	4320 mm	2000 mm	2800 mm	15400 kg
9 mm/s	100 mm/s	18,7 kW	4520 mm	2000 mm	2900 mm	17200 kg
8 mm/s	90 mm/s	18,7 kW	3320 mm	2050 mm	2800 mm	12900 kg
8 mm/s	90 mm/s	18,7 kW	3880 mm	2050 mm	2800 mm	16000 kg
8 mm/s	90 mm/s	18,7 kW	4320 mm	2050 mm	2800 mm	16900 kg
8 mm/s	90 mm/s	18,7 kW	4520 mm	2050 mm	3000 mm	18700 kg
8 mm/s	90 mm/s	18,7 kW	5700 mm	2050 mm	3250 mm	24300 kg
8 mm/s	45 mm/s	18,7 kW	6700 mm	2050 mm	3700 mm	31000 kg
8 mm/s	100 mm/s	22,5 kW	3320 mm	2050 mm	3000 mm	17500 kg
8 mm/s	100 mm/s	22,5 kW	3880 mm	2050 mm	3100 mm	20000 kg
8 mm/s	100 mm/s	22,5 kW	4320 mm	2050 mm	3200 mm	21500 kg
8 mm/s	100 mm/s	22,5 kW	4520 mm	2050 mm	3200 mm	23500 kg
8 mm/s	100 mm/s	22,5 kW	5500 mm	1980 mm	3300 mm	28000 kg
8 mm/s	100 mm/s	22,5 kW	6500 mm	1980 mm	3700 mm	33000 kg
7 mm/s	60 mm/s	37,5 kW	3550 mm	2150 mm	3860 mm	23000 kg
7 mm/s	60 mm/s	37,5 kW	4500 mm	2150 mm	3860 mm	34000 kg

HACO OFFERS ALSO:

01

HYDRAULIC PRESS BRAKES

Hydraulic conventional press brakes, type PPM. Up to 10 axis CNC controlled hydraulic press brakes, type Euromaster and HDSY.

- PPM:
  capacity of 40 up to 320 tons.
- Euromaster:
  capacity of 40 up to 400 tons.
- HDSY:
  capacity from 400 tons and more.

02

HYDRAULIC SHEARS

Hydraulic conventional and CNC controlled guillotine shears. Having the possibility to turn the machine into a shearing center by optional sheet hold-up or conveying systems.

Capacity of 6 up to 32 mm.

HACO

for impressive performances

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