

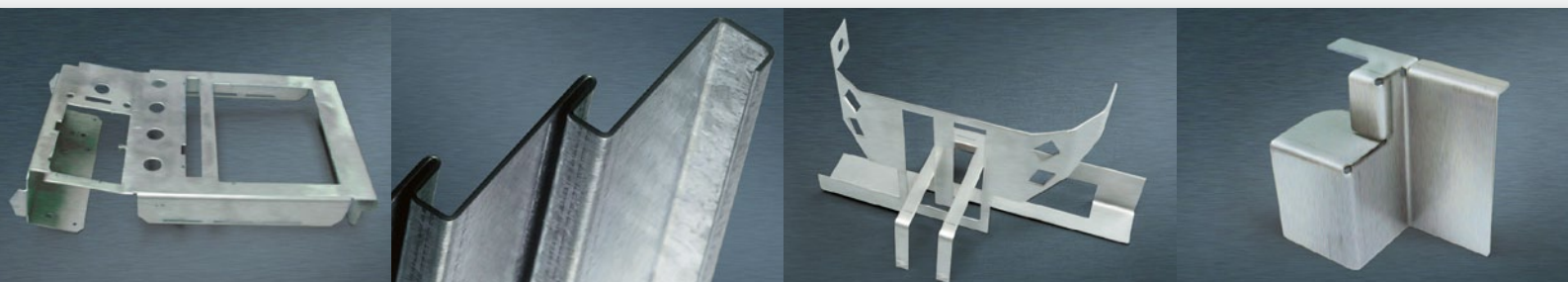


for impressive
performances



EUROMASTER

HYDRAULIC PRESS BRAKES



EUROMASTER

The Euromaster has been developed as a modern press brake with electronic levelling and depth control Synchro in combination with a number of flexible and user friendly CNC controls at the choice of the customer.



Euromaster 40135 with specific options (e.g. plate following system with parking station).

In this system the Y1 and Y2 axes operate as an independent double acting hydraulic system. Both axes share the same oil supply but the flow to the valves as well as true position(s) of the ram are entirely and separately controlled by computer command. The CNC reads the ram position from independent linear encoders while monitoring and adjusting the proportional valves, producing a double-closed loop system. By using this principle as well as the integration of the latest technologies, we have succeeded in developing a user-friendly, service-friendly, fast and accurate system.

Accuracy is further ensured by mounting the linear encoders on a C-frame connected to the bed, rather than directly on the side frames, so that deflection of the side frame and loads do not affect positioning. Accuracy is guaranteed up to 0.01 mm. The Synchro system is such that it easily allows the coupling of two or more machines to obtain working lengths up to 20 m. In this configuration, machines can work independently as 2 separate machines with different applications or in tandem mode as one machine with double capacity and double bending length.



Euromaster 36135 with specific options (e.g. bigger daylight opening, stroke and gap).

■ STANDARD EQUIPMENT

- Electro-hydraulic levelling and depth stop setting by Synchro system.
- Automatic compensation of the side frame deflection by means of table referenced measuring scales coupled to the Synchro system.
- Pendant control panel with CNC control Robosoft FastBEND-2D.
- X-axis: back gauge positioning, programmable in 0,1 mm.
- Y1/Y2 hydraulic axes: depth stop setting in 0,01 mm.
- Programmable wording pressure, ram stroke, ram opening.
- CNC controlled back gauge on ball screws, stroke 600 mm, speed 400 mm/s, including 2 universal finger blocks, manually adjustable in width and height.
- Machines up to 2500 kN executed with ram and table machined to use System style tooling.
- Machines from 3200 kN executed with ram and table machined to use Haco style tooling.
- Central manual adjustable Anti Deflection Table (from 2,5 m working length; for 6 m models: CNC-hydraulic adjustment).
- Operation, programming and maintenance manual.
- Foot pedal control.

MULTI-AXES BACK GAUGES**01**

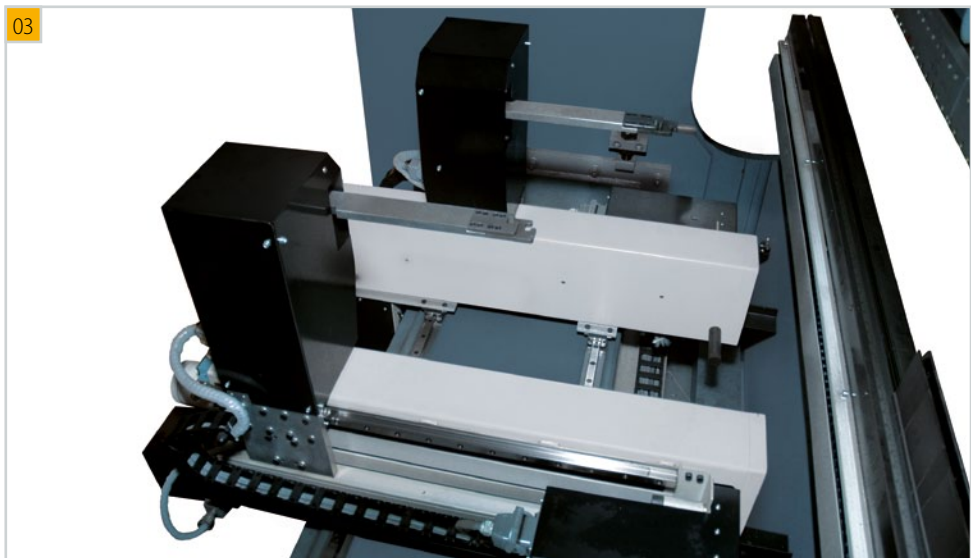
Euromaster 30135
with specific options
(e.g. 4-axes back
gauge X-R-Z1-Z2).

01**02**

Special 'beak' fingers
on a 4- or 6-axis back
gauge.

02**03**

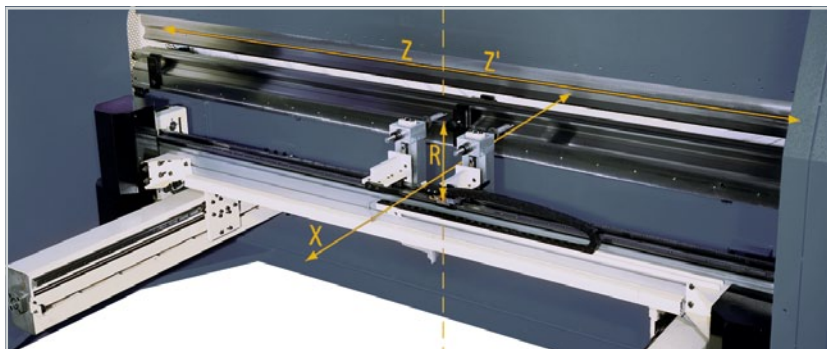
Robust 6-axis back
gauge.

03

MULTI-AXES BACK GAUGES

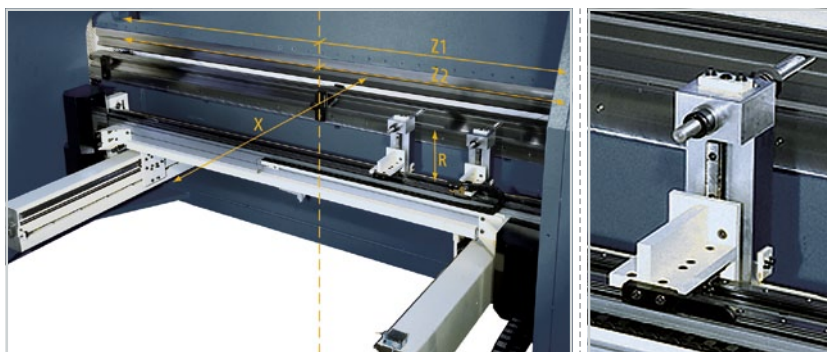
■ X - R - Z: Z - Z' VERSION: SYMMETRIC FINGERWIDTH

- X-stroke: 600 mm.
- R-stroke machine: ≤ 1500 kN: 100 mm.
- R-stroke machine: 1750 - 3200 kN: 135 mm.



■ X - R - Z: Z₁ - Z₂ VERSION: ASYMMETRIC FINGERWIDTH

- X-stroke: 600 mm.
- R-stroke machine: ≤ 1500 kN: 100 mm.
- R-stroke machine: 1750 - 3200 kN: 135 mm.



■ HEAVY DUTY VERSION X - R - Z₁ - Z₂

- Available as option on machines ≥ 1750 kN.
- X-stroke: 1000 mm.
- R-stroke: 200 mm.

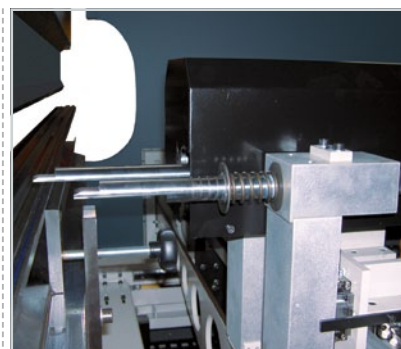


■ X₁ - X₂ VERSION

- Full 6-axis.
- X₁ X₂ stroke: 600 mm.
- R₁ R₂ stroke: ≤ 1500 kN: 100 mm.
- W₁ W₂.



X₃ (OPTIONAL)



CNC CONTROLS

■ **FastBEND-2D**

- Graphical visualisation of 2D-profiles with thickness.
- Generation and execution of 2D-programs.
- 2D-view of the bending steps + zoom function.
- Collision detection.
- Importing of 2D-programs (from HACO Bend-2D).
- Importing of complex 3D-programs (from HACO Bend-3D, no visualisation).

■ **FastBEND-3D**

- Graphical visualisation of 2D-profiles and 3D-parts with thickness.
- Generation and execution of 2D- and 3D-programs.
- 2D- and 3D-view of the bending steps + zoom and view-angle function (3D).
- 2D-unfolding.
- Dynamic collision detection with true shaped machine.
- Importing of 2D-programs (from HacoBend-2D).
- Importing of complex 3D-programs (from HacoBend-3D, with visualisation).

■ **FastBEND-2D / FastBEND-3D****FAST**

- Easy profile creation.
- Automatic calculation from solutions and bending sequences in real-time.
- Immediate CNC program generation (beam depth, force, back gauge position(s), retraction...).

OTHER USER FEATURES

- Automatic or manual mode.
- Programmable depth, angle or pressure.
- Tilt function beam.
- Absolute or incremental back gauge positioning.
- Jog on the back gauge axes.
- Material library with all available materials.
- Tool libraries (machine and Haco catalogue).
- Multiple languages.
- Importing of DXF (2D-sections!).

HARDWARE FEATURES

- 15" multicolour TFT flat screen.
- Durable industrial PC-based control.
- Windows environment, no mouse required.
- DC single-axis back gauge control (optional up to 16 controlled axes).
- Depth axis servo control.
- Auxiliary outputs.
- Built-in test routines and parameters.
- Network + offline possibilities.
- USB-connection.

OPTIONS FOR CONTROLS

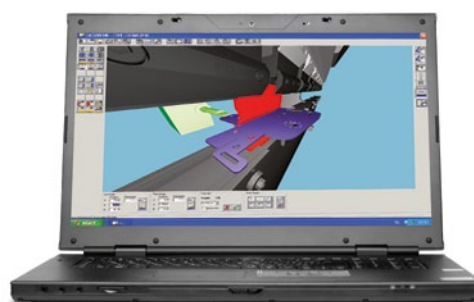
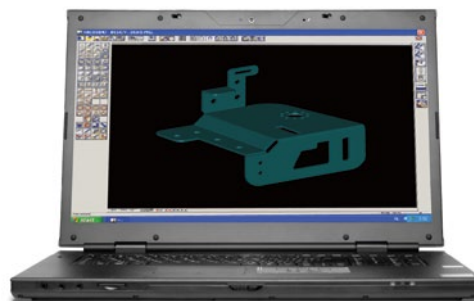
- Touch-Screen (FastBEND-2D-T and FastBEND-3D-T).
- Bar-code reader.
- Robot mode.

OFFLINE SOFTWARE



HACOBend-2D

- Windows based software.
- Parametrical drawing of 2D profiles.
- No more calculating while drawing profiles with TCC functionality (Take over Drawing Dimensions).
- Automatic, semi-automatic and manual calculation of bending sequence in 2D.
- Automatic collision detection with machine in 2D.
- Visual collision detection with true shaped 3D model of machine.
- Automatic and manual positioning of the finger position.
- Advanced macro programming.



HACOBend-3D

- Windows based software.
- 2D CAD drafting.
- Importing of dxf, iges, me10, hpgl 2D files.
- Importing of iges, step 3D files.
- Full 3D sheet metal CAD functionality.
- Manual, semi-automatic and automatic bend sequence.
- Dynamic collision detection with true shaped machine.
- Tool mixture possible.
- 3D shaped tools possible (horns, special tools).
- Calculation of flat layout with bending allowance.
- Automatic finger position calculation.
- Safety test to point out dangerous situations.
- Completely integrated in the Haco software program.



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 sectionalized.

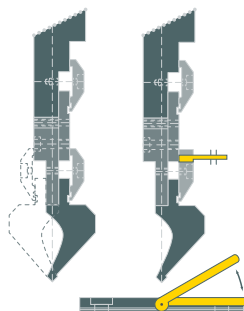
hydraulic clamping for Haco style upper tools



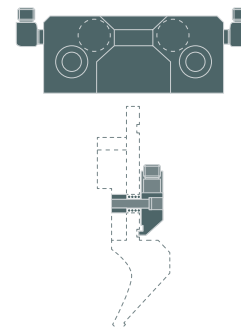
SYSTEM TOOLING

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



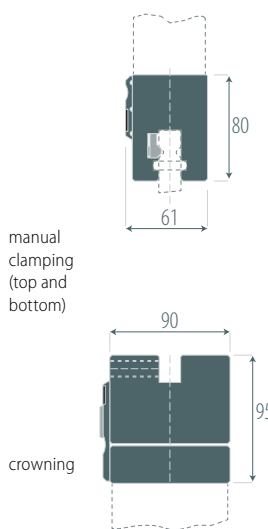
hydraulic clamping



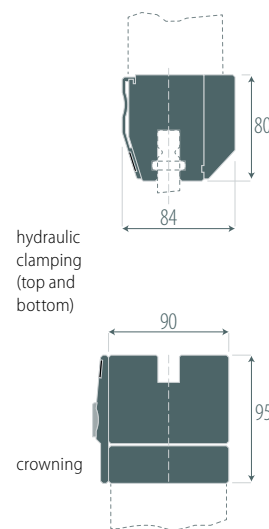
NEW STANDARD

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)

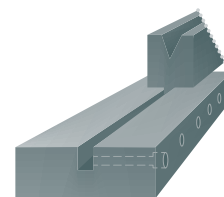
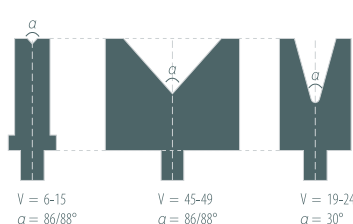


hydraulic clamping
(top and bottom)



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.



HYDRAULIC CLAMPING DEVICES



01
Hydraulic clamping
for Haco tools (photo:
top tools).

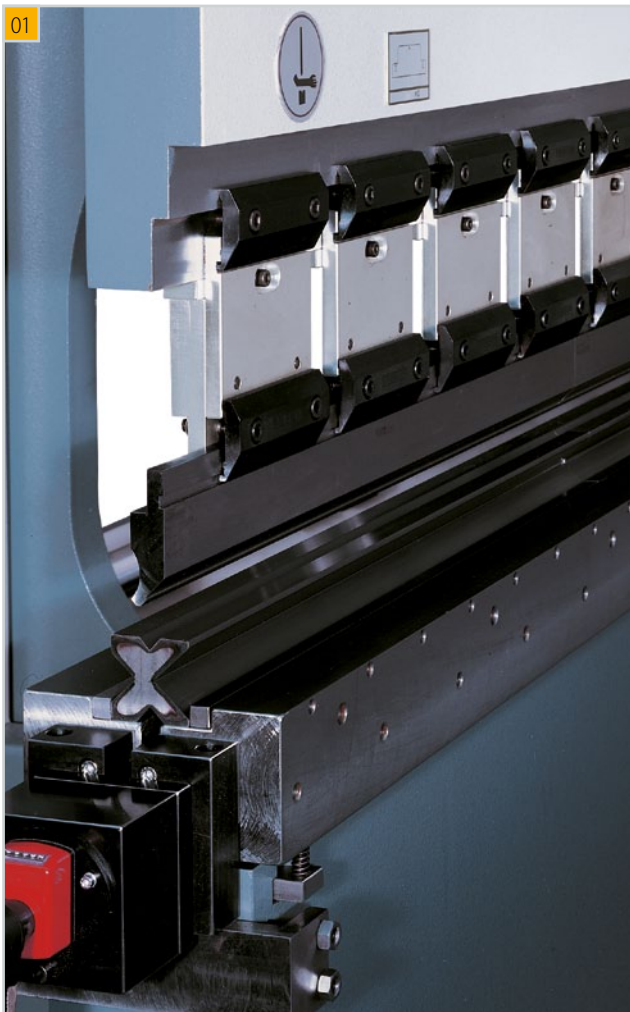
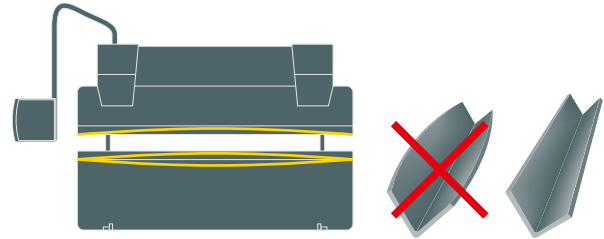
02
Hydraulic clamping
for System tools.

03
Hydraulic clamping
for New Standard
tools.

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.

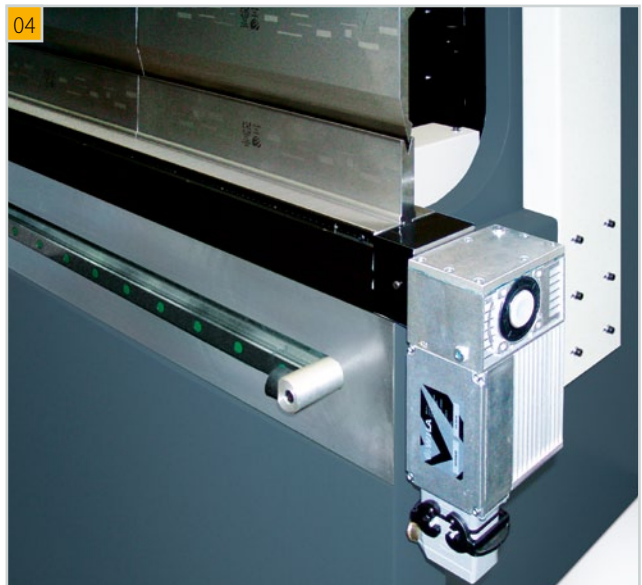
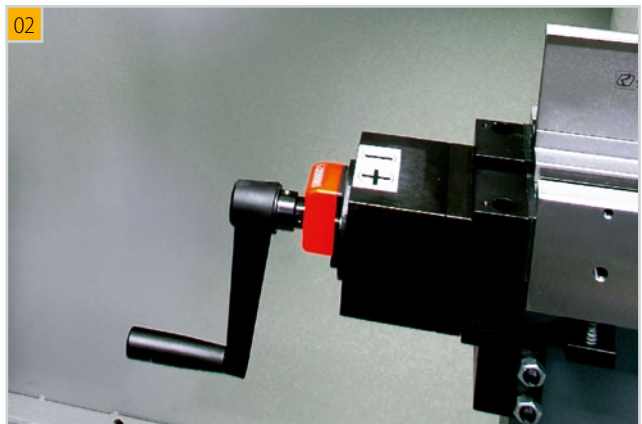
The anti-deflection table delivered standard with the machines up to 5 m is manually controlled by hand wheel. In option, it can be motorised driven, controlled directly by the CNC control. On Euromasters 6 m 2500 and 3200 kN, the anti-deflection table is hydraulic driven and CNC controlled as standard.



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.



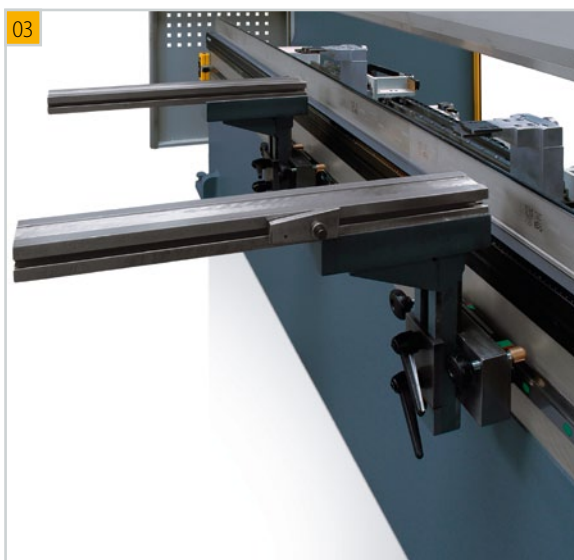
FRONT AND PLATE FOLLOWING SUPPORTS



Hydraulic sheet following system to support long and heavy or small and thin sheets during the bending process.



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



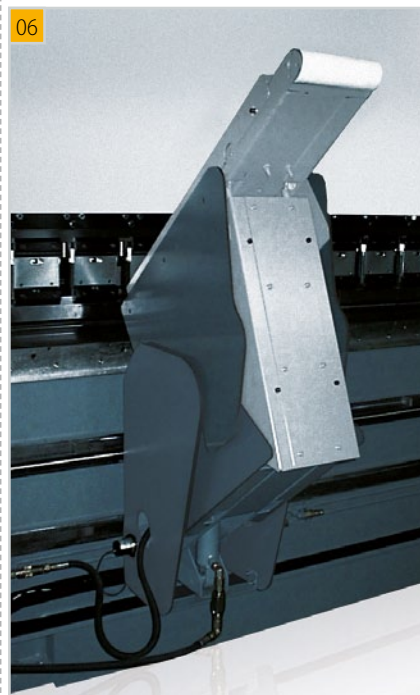
02 Long arm version.



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



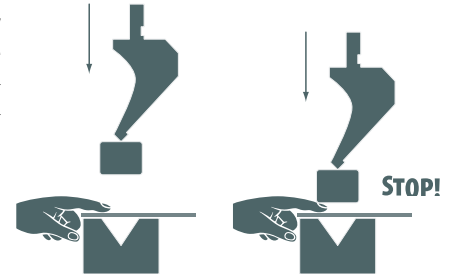
04 06 Short arm version.



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

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 tool, the system interrupts the downward movement. Available: Saffir, Akas and Lazer-safe manual light guards and Akas motorized light guards.



01

LAZERSAFE

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

01



02



02

SAFFIR

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

03



03

SAFFIR

Transmitter is manually adjustable in height.

04

AKAS MOTORIZED

Transmitter is adjustable in height and driven by a motor.

04



05



05

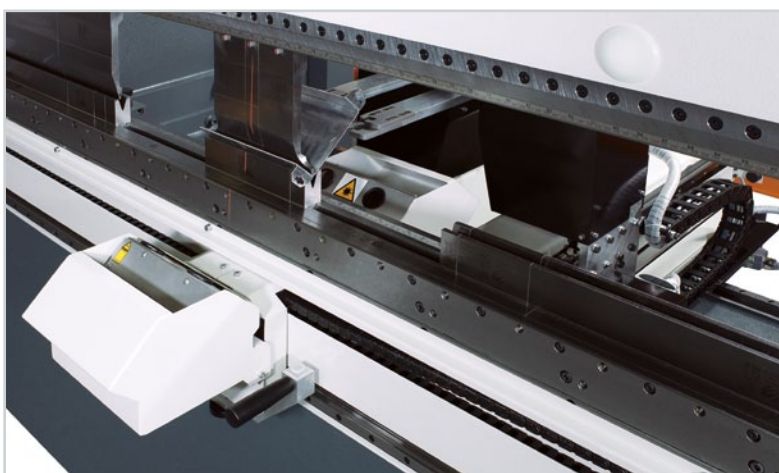
AKAS MOTORIZED

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

OPTICAL ANGLE MEASURING SYSTEM TYPE ALFA-F

AUTOMATIC ANGLE ADJUSTMENT FOR PRECISE ANGLES – FOR ONE PART OR MANY

- A system consisting of two laser beams and two cameras – a unit either side of the work-piece – in addition to spring-back-sensors measure the actual angle of bend. This data is then analysed at the automatic angle correction unit.
- Standard tool can be used - no additional tool costs.
- No contact elements - no mechanical wear of parts.
- Contact less measurement ensure a reliable system in heavy duty industrial environments.
- Different V-dies and Top Tools can be used.
- The compact assembly ensures optimum working area for the material and operator.
- Fast and complete manual adjustment over the machine length (optional: CNC-driven).
- Optional Park Station.
- The bending order sequence is complemented by the angle measuring system.
- Possibility to measure materials with holes and apertures.
- Assured precision through simultaneous angle spring-back measuring.



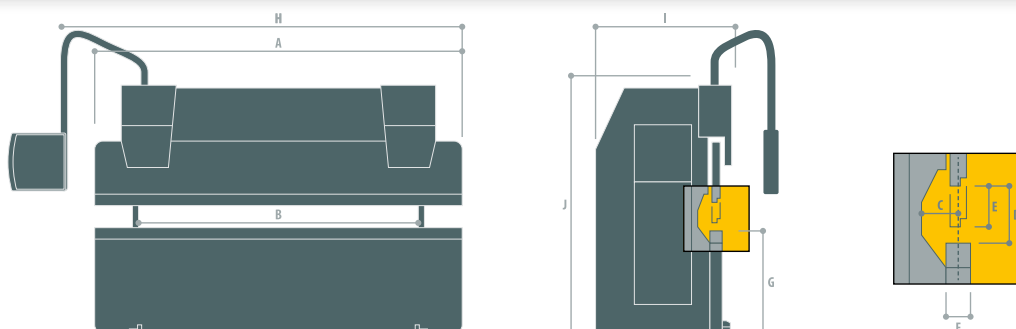
OVERVIEW OPTIONAL EQUIPMENT

- Programmable pneumatic finger height positioning.
- Motorised and hydraulic CNC controlled anti-deflection table drive.
- Groove in the table for Single V-dies.
- Different tooling.
- Quick manual clamping for System upper tools.
- Hydraulic tool clamping.
- Manual and hydraulic tool clamping devices for New Standard tools.
- Front supports: fixed or movable.
- Hydraulic sheet following system.
- Parking station for front supports and sheet following arms.
- Back gauge stroke increased to 1000 mm or more.
- Additional axes on back gauge (up to 6 axes).
- Optical safety device (Saffir, Akas, Lazersafe manual or Akas motorised).
- Robosoft FastBEND-3D graphic control.
- HACOBend-2D and HACOSoft (e.g. HACOBend-3D) Offline software.
- Angle measuring system Alpha-F.
- Bigger daylight opening, stroke and/or gap.
- 'Tandem' execution.
- Special configurations.

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
ERM	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:

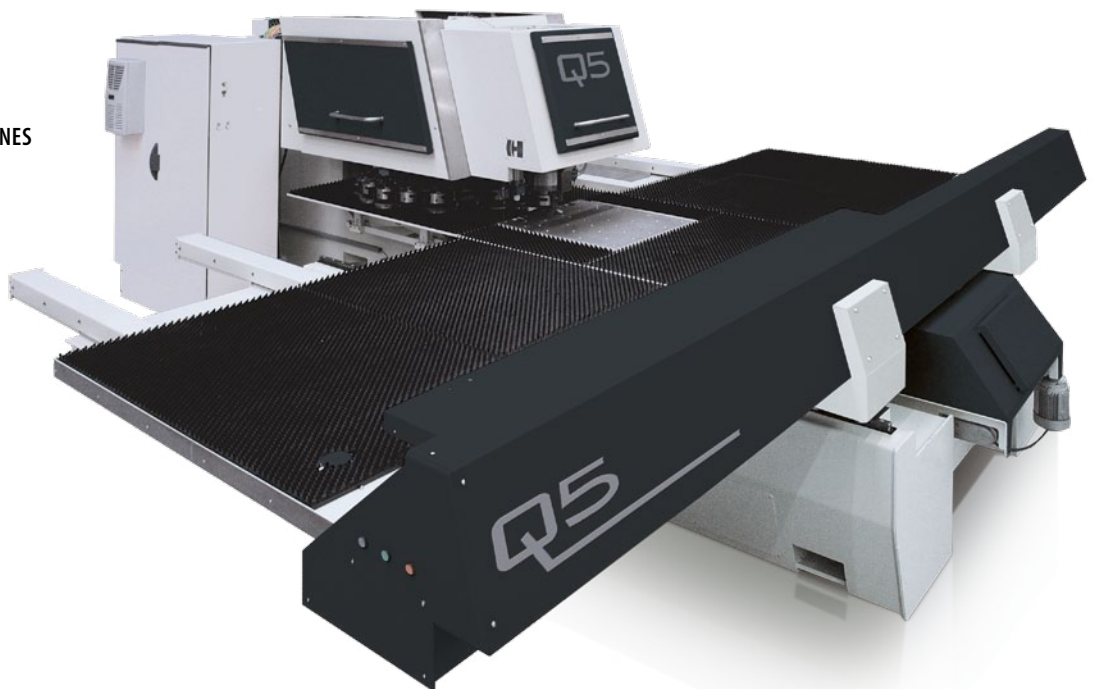
01

CNC LASER CUTTING MACHINES



02

CNC PUNCHING MACHINES



HACO nv

Oekensestraat 120
B-8800 Rumbeke (Belgium)
tel. +32 (0)51 26 52 00
fax +32 (0)51 26 52 01
sales@haco.com
www.haco.com