

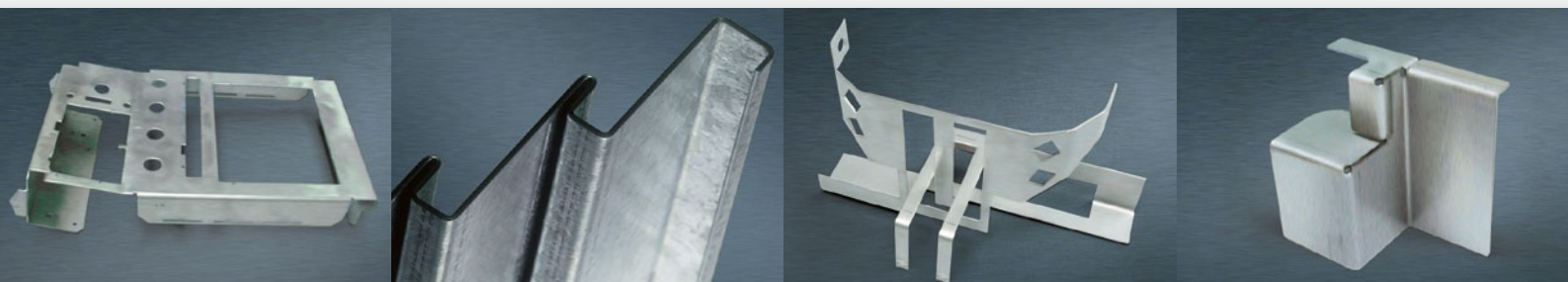


for impressive  
performances



# 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).



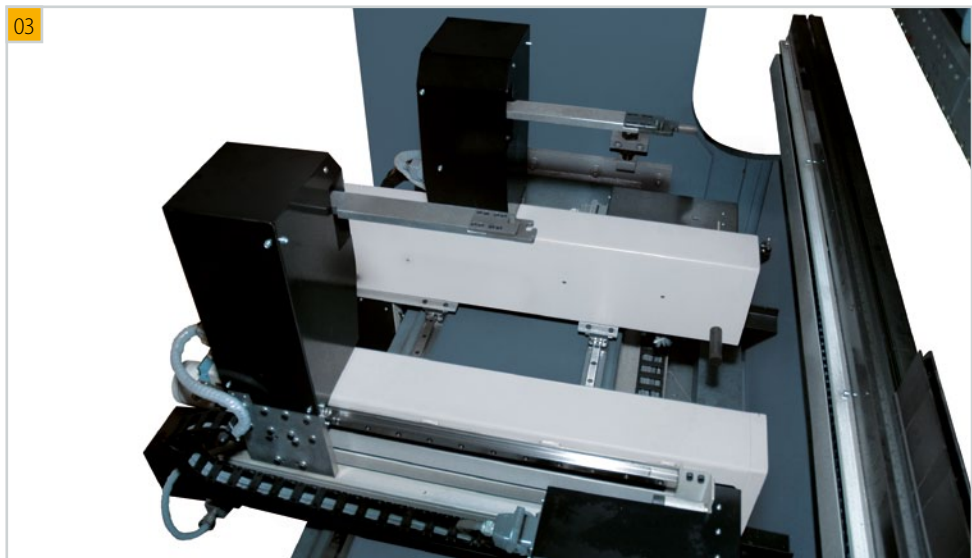
02

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



03

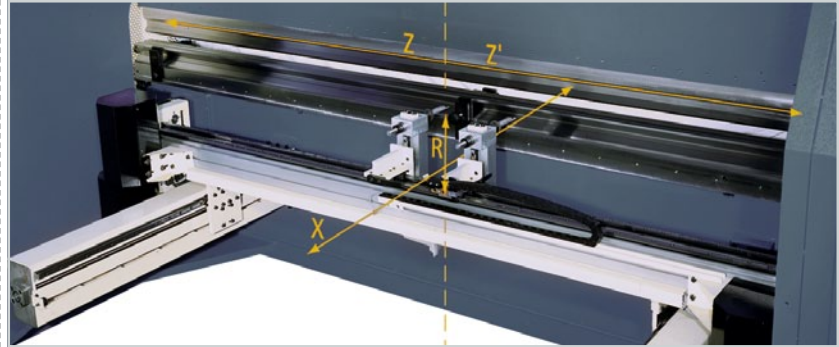
Robust 6-axis back gauge.



## MULTI-AXES BACK GAUGES

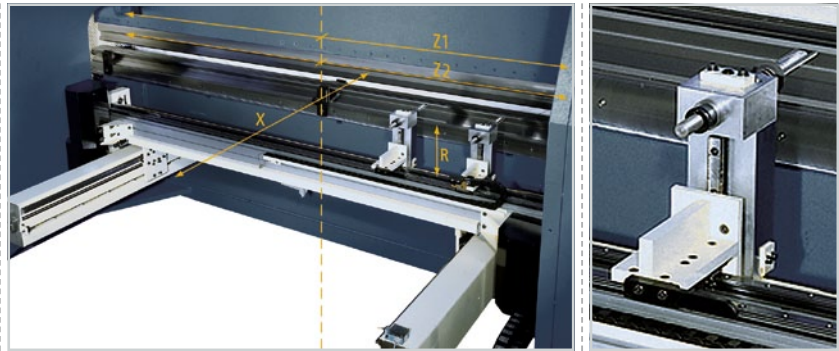
### ■ X - R - Z: Z - Z' VERSION: SYMMETRIC FINGERWIDTH

- X-stroke: 600 mm.
- R-stroke machine:  $\leq 1500$  kN: 100 mm.
- R-stroke machine: 1750 - 3200 kN: 135 mm.



### ■ X - R - Z: Z<sub>1</sub> - Z<sub>2</sub> VERSION: ASYMMETRIC FINGERWIDTH

- X-stroke: 600 mm.
- R-stroke machine:  $\leq 1500$  kN: 100 mm.
- R-stroke machine: 1750 - 3200 kN: 135 mm.



### ■ HEAVY DUTY VERSION X - R - Z<sub>1</sub> - Z<sub>2</sub>

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

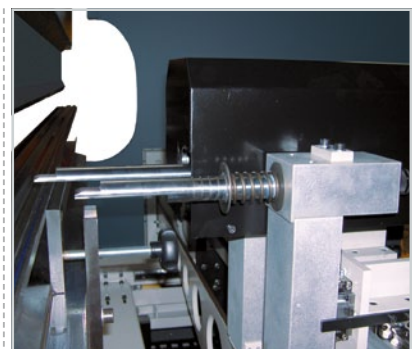


### ■ X<sub>1</sub> - X<sub>2</sub> VERSION

- Full 6-axis.
- X<sub>1</sub> X<sub>2</sub> stroke: 600 mm.
- R<sub>1</sub> R<sub>2</sub> stroke:  $\leq 1500$  kN: 100 mm.
- W<sub>1</sub> W<sub>2</sub>.



### X<sub>3</sub> (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 Haco Bend-2D).
- Importing of complex 3D-programs (from Haco Bend-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!).

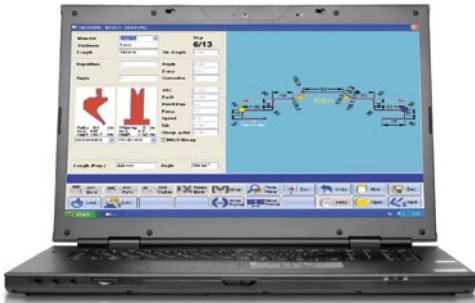
#### HARDWARE FEATURES

- 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

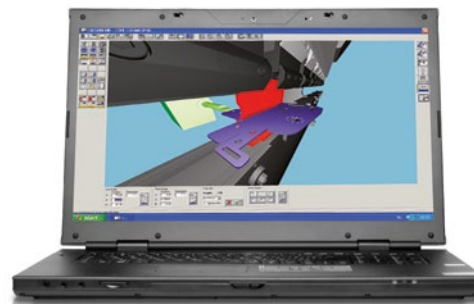
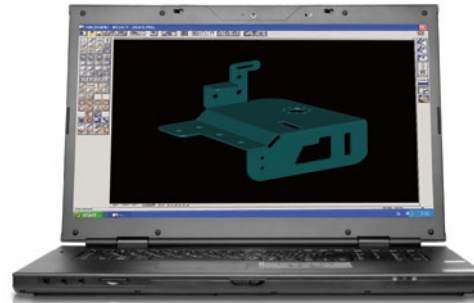
- Touch-Screen (FastBEND-2D-T and FastBEND-3D-T).
- Bar-code reader.
- Robot mode.

## 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.

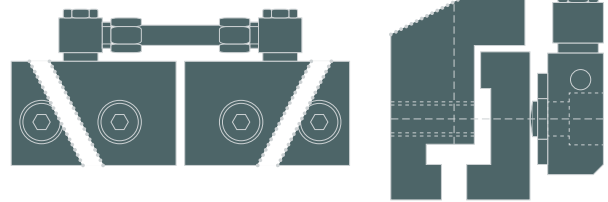


**PRESS BRAKE TOOLING**

■ **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.

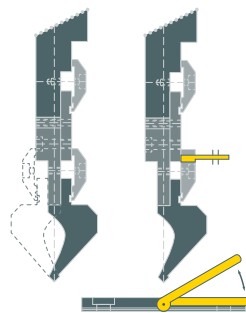
hydraulic clamping for Haco style upper tools



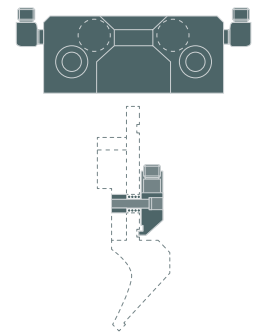
■ **SYSTEM TOOLING**

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

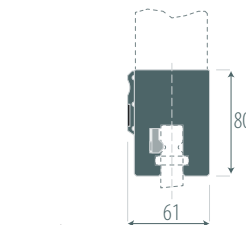


hydraulic clamping

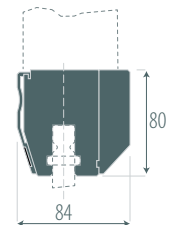


■ **NEW STANDARD**

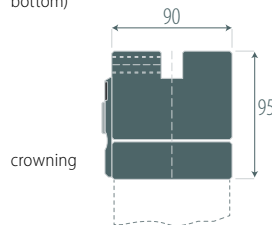
This system offers a high degree of accuracy tool changing speed and flexibility. All 'New Standard' top and bottom tools are available in a wide range of heights and shapes. They all are manufactured to the smallest possible tolerances resulting in an optimal final bending accuracy. The top tools can 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.



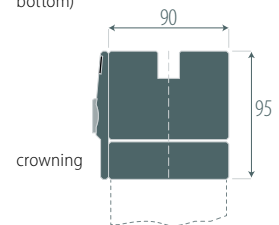
manual clamping (top and bottom)



hydraulic clamping (top and bottom)



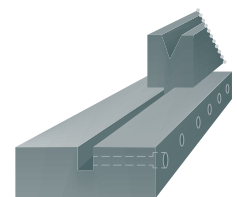
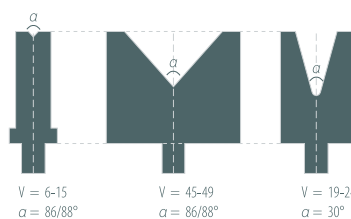
crowning



crowning

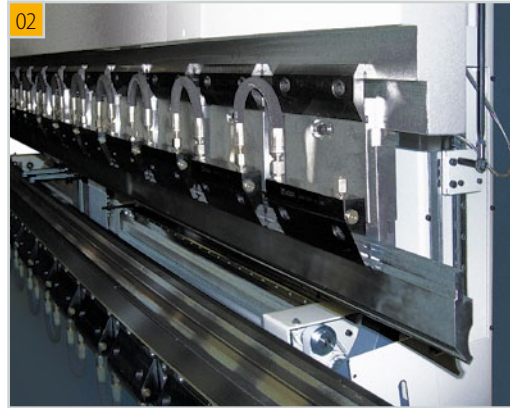
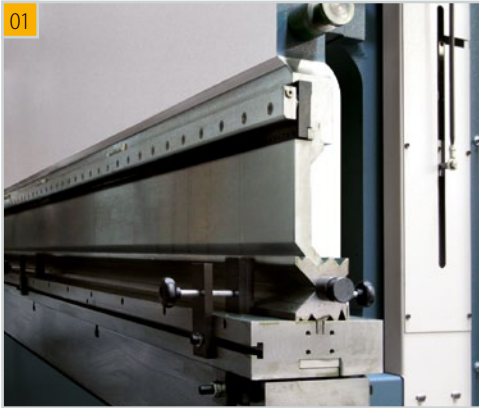
■ **SINGLE V-DIES**

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.





## HYDRAULIC CLAMPING DEVICES



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

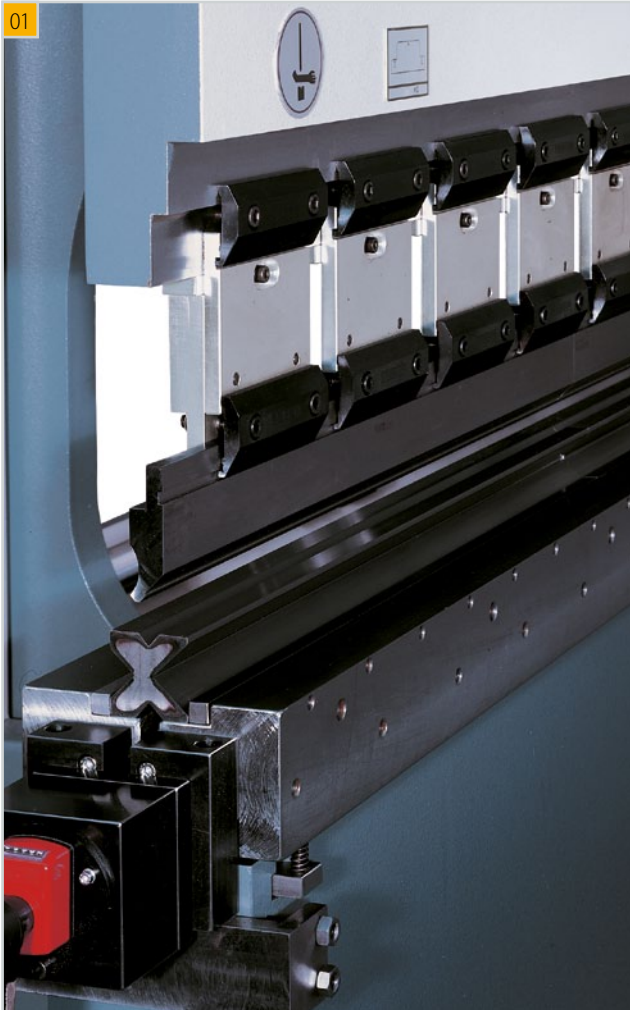
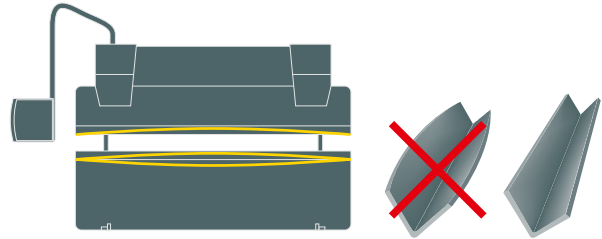
02 Hydraulic clamping for System tools.

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.

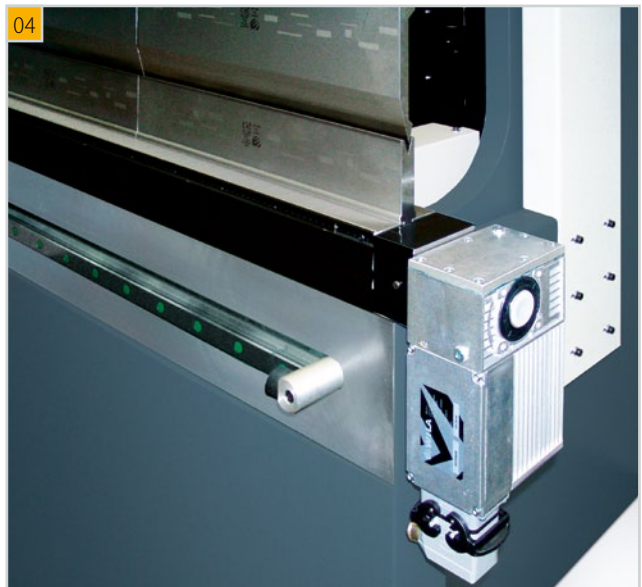
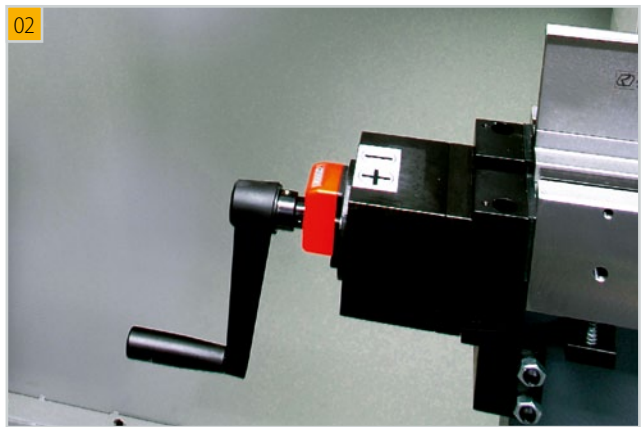
The anti-deflection table delivered standard with the machines up to 5 m is manually controlled by hand wheel. In option, it can be motorised driven, controlled directly by the CNC control. On Euromasters 6 m 2500 and 3200 kN, the anti-deflection table is hydraulic driven and CNC controlled as standard.



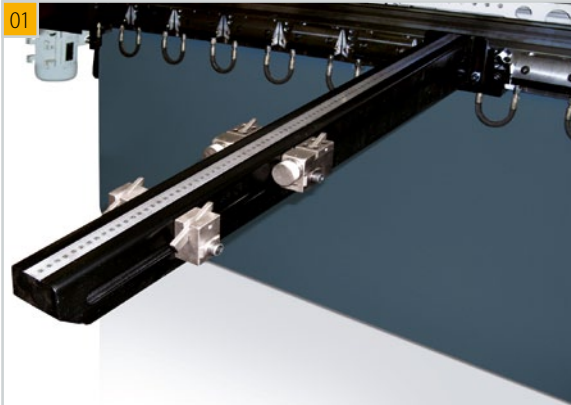
01 02 Manual anti-deflection table for System tools.

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

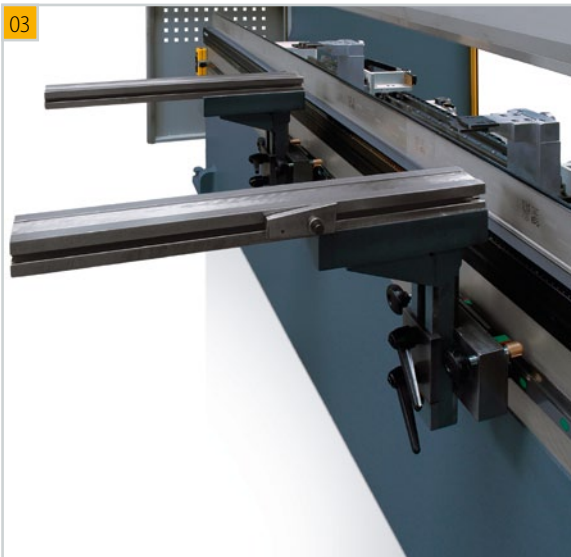


Hydraulic sheet following system to support long and heavy or small and thin sheets during the bending process.



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

02 Long arm version.



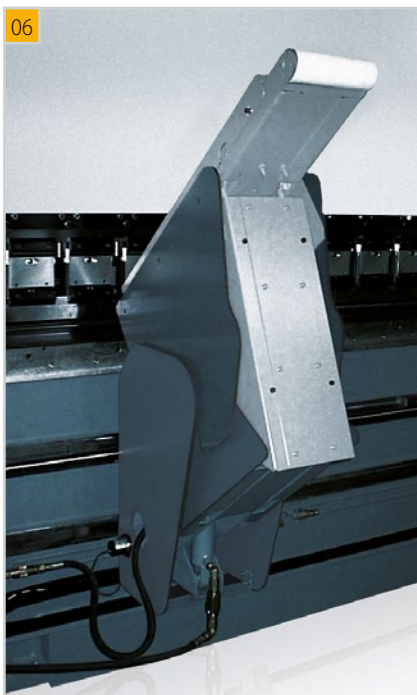
03 Front supports (with tilting stop) adjustable in width (over the complete working length of the machine) and height, type I.



04 06 Short arm version.

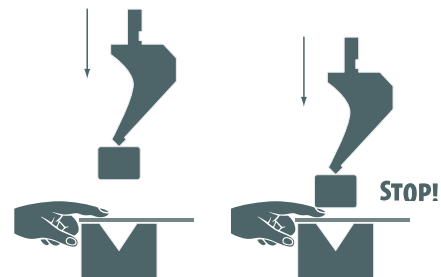


05 Front supports (with tilting stop) adjustable in width (over the complete working length of the machine) and height, type II.



## 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 of 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.



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

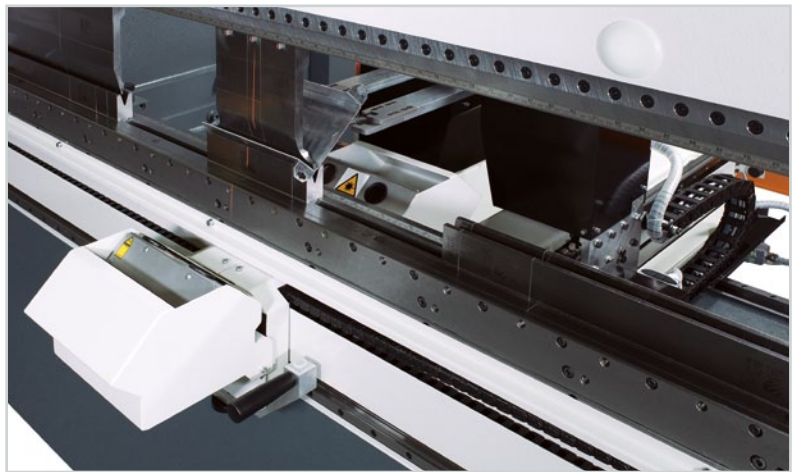
Receiver is adjustable in height and driven by a motor for a quick tool exchange and calibration. Optional: retractable for a free gap.



## 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.



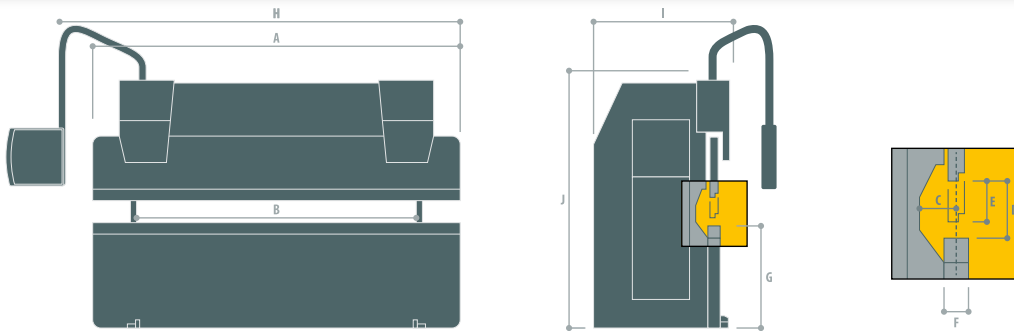
## OVERVIEW OPTIONAL EQUIPMENT

- 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, Lasersafe manual or Akas motorised).
- Robosoft FastBEND-3D graphic control.
- HACO Bend-2D and HACOSoft (e.g. HACO Bend-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 | DIMENSIONS |         |         | 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:

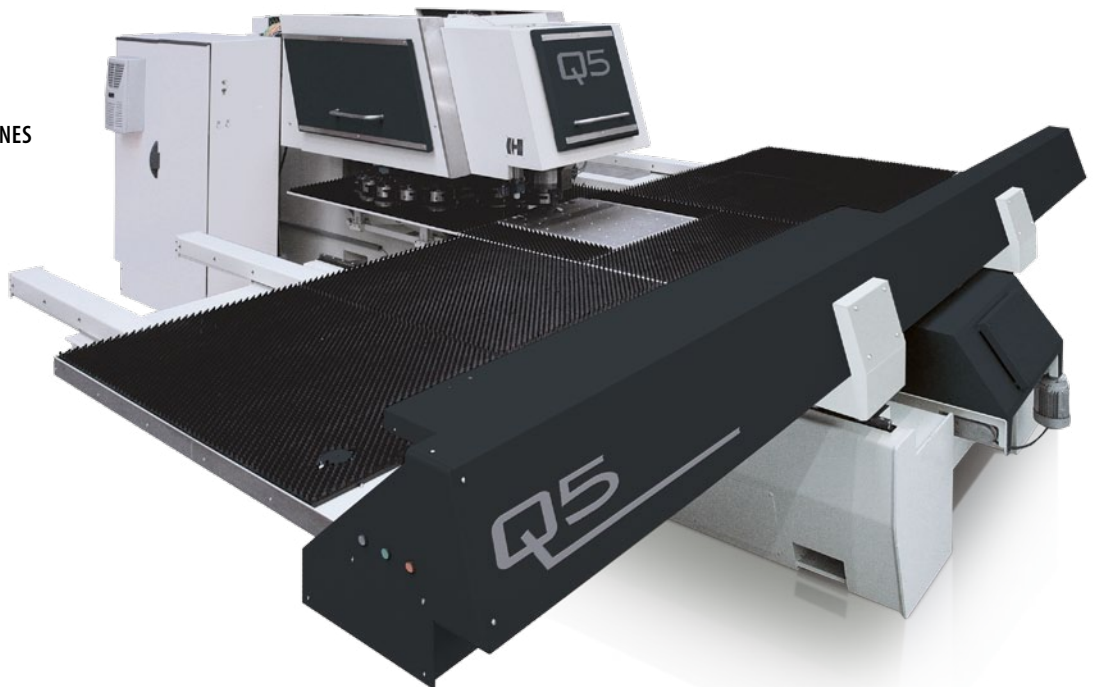
# 01

### CNC LASER CUTTING MACHINES



# 02

### CNC PUNCHING MACHINES



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