HFE

A NEW GENERATION OF PRESS BRAKES

AMADA®

INNOVATION BOOSTED BY EXPERIENCE...

AMADA with over 45 year's experience in the bending field and knowledge of customer requirement's have introduced a state of the art Press Brake for the 21st century. To meet market needs, the HFE series is suited to the demands of forming complex components with tight tolerances making it **AMADA**'s high capacity, high specification down stroking press brake.

Manufactured to the highest quality in our 14,000M ISO9002 quality certified Chateau de Loir plant, the new HFE series will enable you to cover the full spectrum of bending requirements. With the introduction of this new range **AMADA** is setting a new trend in the world of press brakes and reinforcing its position as the market leader in the field of sheet metal and plate forming machinery.

AMADA PRESS BRAKES, THE ULTIMATE PRECISION IN HYDRAULIC BENDING PERFORMANCE

Bending precision, an assurance to quality !...

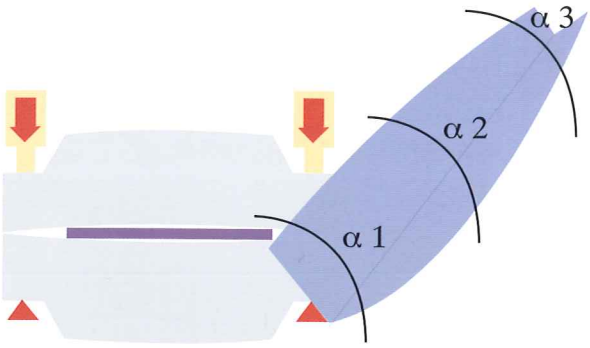
The bending accuracy is directly related to minor stresses and deformations in the upper and lower beams.

Under load, the beams on a conventional press brake deflect in opposite directions. A minor variation of punch penetration into the vee die will lead to considerable variation of the bend angle. Perfect control of straightness, parallelism and rigidity of the beams are key factors in achieving accurate bends.

AMADA's renowned and unique concept for parallel beam deflection, a standard feature on Amada machines !...

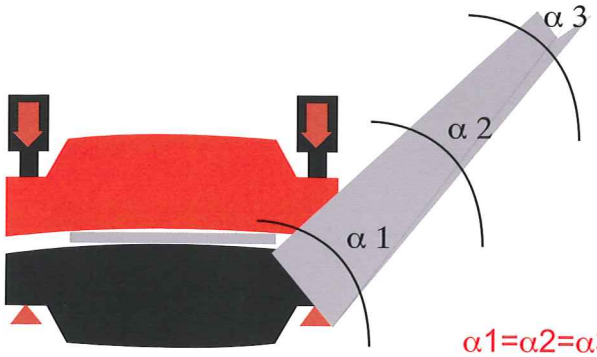
The HFE press brakes are equipped with the **AMADA**'s patented lower beam as standard, giving "Parallel Deflection" under all bending loads. This concept ensures consistent punch penetration into the vee die, over the full bending length under all loads and conditions.

Conventional press brakes

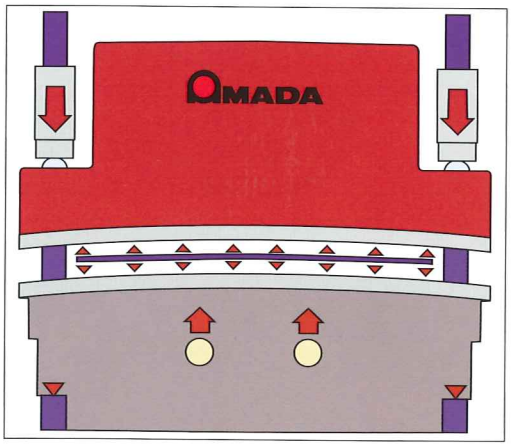


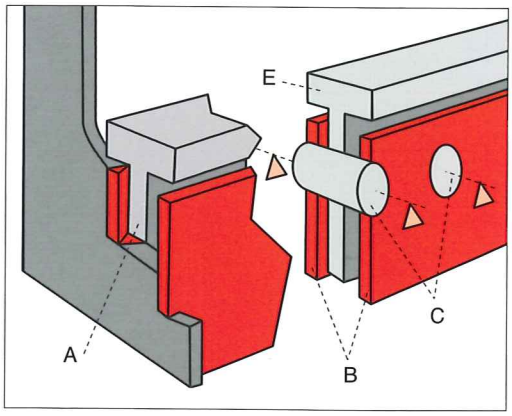
α2 > α1,α3

AMADA's standard press brakes



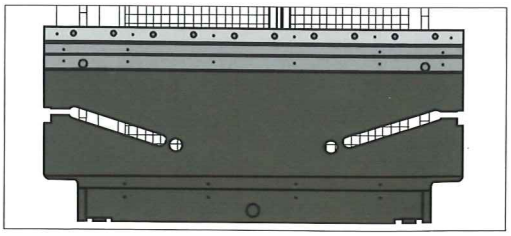
α1=α2=α3





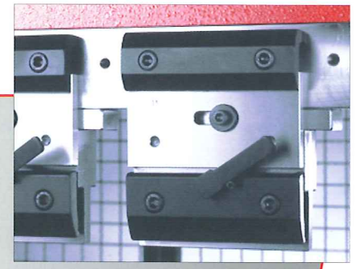
The bottom beam is composed of a centre plate "A", supporting the worktable "E". The centre plate is mounted between two fixed side plates "B" which are in turn welded to the side frames. and "A" is supported by two large steel shafts "C", located either side of the central axis.
During bending, the reactive forces deform the centre plate in parallel with the upper beam. Consequently, the deflections, small but unavoidable, of the two beams, are of the same value, thereby ensuring that the punch penetration in the vee die remains consistent through out it's length, guaranteeing accurate bending.

The HFE machines in the lower tonnage range (up to 100 tonnes) have **AMADA**'s new patented "Reactive Bottom Beam". The design and construction of the bottom beam is the result of extensive research to obtain the optimum parallel deflection of the beams.



THE PERFORMANCE, IT'S ALSO A QUESTION OF EXPERIENCE

Distance Pieces



HFE press brakes are equipped with quick release punch holders on adjustable sectionalised distance pieces. This versatile system provides very simple and rapid tool change for any part type. Individual punch holders can be moved as needed. By using 100mm extended distance pieces, deep box bending can be performed without the need for any special or expensive tooling. They also allow window and horn applications to be carried out in the centre of the machine.

In the event of excessive loading, the distance pieces also protect the upper beam from damage.

Opérateur 2002, a numerical controller dedicated to sheet metal machinery

This new PC based CNC offers total control of the bending process. A modern and ergonomic design, new programming functions, quick set up, easy operation, out standing accuracy, fast processing time and user friendly interface make it very beneficial for the users.

***AMADA** has taken into account all aspects of press brake work when designing this new controller. It provides all the functionality required to ensure ease and speed of operation.*

*Once again, **AMADA** provides a complete forming system; machine, CNC control and tooling in a very modern and ergonomic package.*

Ease of positional adjustment

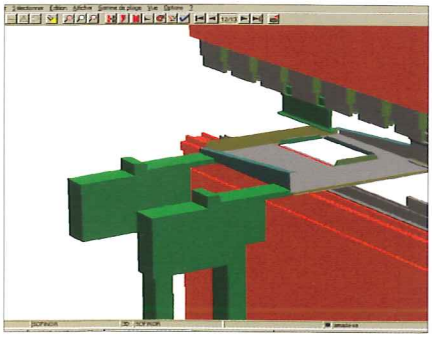
Ergonomic and robust, this new hand wheel-teaching device is a standard feature on all HFE press brakes. This unit allows the operator to individually control the upper beam movement (Y1 and / or Y2) and all backgauge axes in order to carry out manual adjustments.

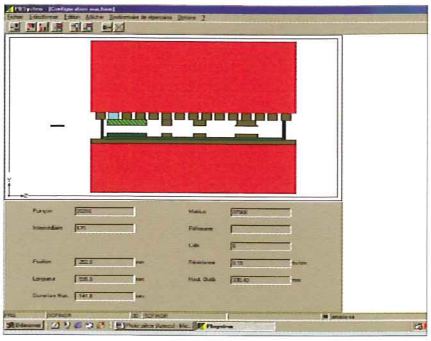
The ultimate step in achieving accuracy

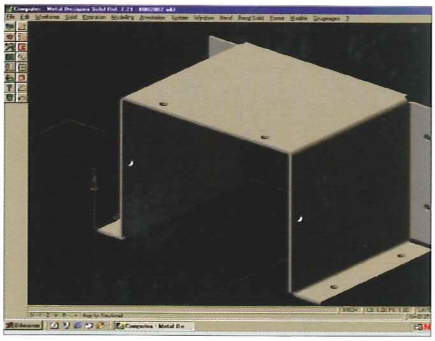
Bend accuracy is highly dependent upon the backgauge. Five, independent axes (X1, X2, R, Z1 and Z2) are driven by large recirculating ball screws.

*The high performance backgauge rail has been exclusively designed for **AMADA** and is made of an extruded aluminium alloy. The use of this technology allows a extremely light but strong and rigid moving element, giving maximum speed and maintaining long-term accuracy.*
The standard, multi position fingers, provide sheet-gauging capacity up to 1020 mm. The 250mm backgauge height stroke give the ultimate versatility for the user.

PROGRAMMING INITIATES THE PERFORMANCE

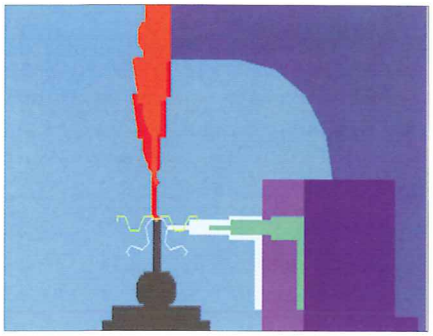




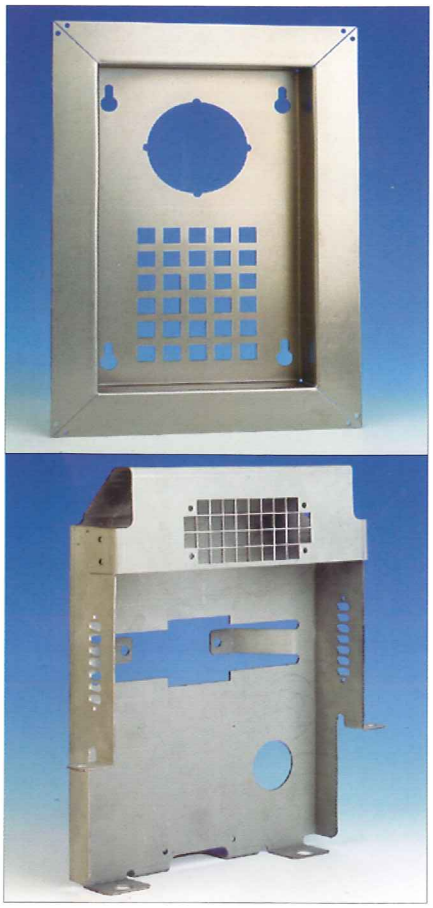


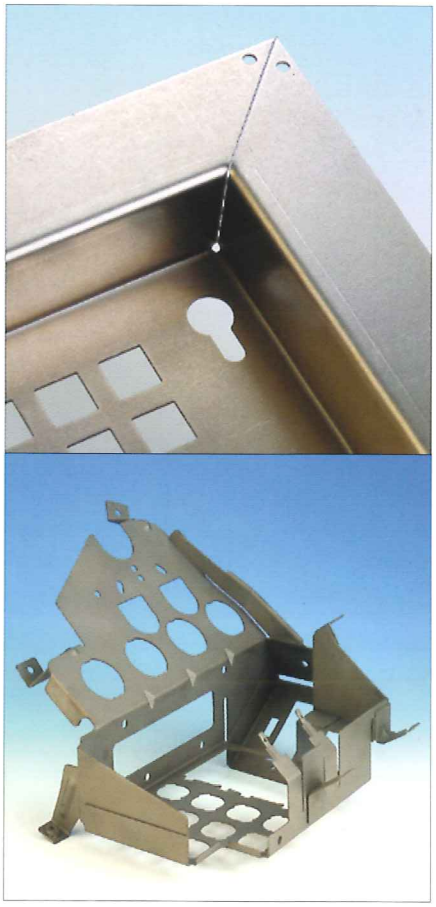
▪ A comprehensive bending software package, PBs permits bend simulation in a 3-D environment. Using PBs, you can prepare and test the program before going into actual production. By linking PBs to the Opérateur 2002 controller, the press brake can be freed from none productive tasks.

• Preparing and down loading the program from a PC to Opérateur 2002 controller eliminates the machine stopping for programming.



• 2-D OPERALOG software, enables the user to draw the part profile. It calculates the developed length, backgauge axes position, punch penetration, spring back and detects any possible collisions between piece part and the machine.





HFE, A PRESS BRAKE DESIGNED TO FULLFILL ALL YOUR REQUIREMENTS !...

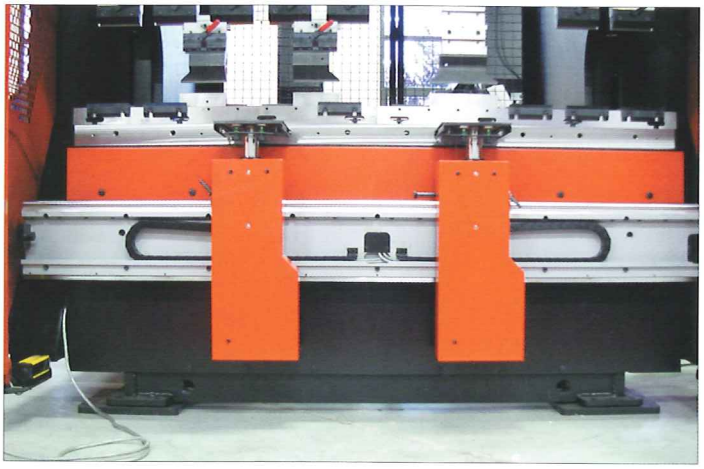
Safety on Amada press-brakes:

Operator safety first, has always been **AMADA**'s motto the HFE is no exception. All HFE press-brakes are built, type tested and certified to comply with current CE regulations. A 3-position footswitch is a standard feature on HFE press-brakes. Depending on the customers requirement, **AMADA** can supply different safety solutions to suit their needs including two-hand push button control, light guard control unit or protective laser beam.

Common sense approach to tooling:

For the last 45 years, **AMADA** has provided a standard range of tooling, fulfilling numerous bending requirements. The 5 major features unique to Amada tooling are:

- Ease of tool handling,
- Precision-ground tooling,
- Sectionalised tooling,
- Tool standardisation,
- Tool availability.



Work follower:

- Highly accurate work following,
- Assists the operator for handling large parts,
- Easy conversion for extended sheet supports,
- Rotary motion adapted to different tool set-ups.

Programmable front supports :

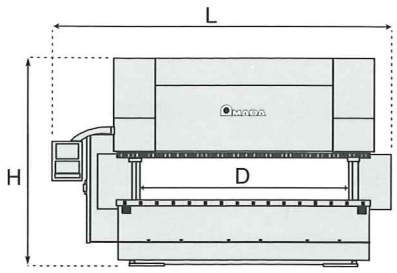
- User-friendly operator assistance system,
- Very simple NC programming,
- Ensures accurate gauging,
- Supports programmable retract,
- Saves time.

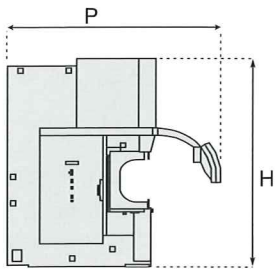
Using the programmable front support rationalises the operation.

Digipro:

The **AMADA** Digipro is a patented digital protractor, linked to the Opérateur 2000 numerical control. This highly reliable precise measuring device ensures accurate measurement of the bent angle. By Simply pressing the function button, it transmits the measured angle value to the Opérateur 2000 numerical control, which then recalculates the punch penetration to give a perfect angle.

SPECIFICATION





Specifications	HF 50-12	HFE 50-20	HFE 80-25	HFE 100-3
Nominal tonnage (kN)	500	500	800	1000
Table length (mm)	1270	2090	2570	3110
Frame distance "D" (mm)	1035	1665	2125	2705
Table width (mm)	60	60	60	60
Open height (mm)	370	470	470	470
Stroke length (mm)	150	200	200	200
Throat depth (mm)	100	420	420	420
Approach speed	without light guard 10 mm/sec with light guard (option) 100 mm/sec			
Bending speed	10 mm/sec			
Return speed	100 mm/sec			
Machine Length (mm)*	2380	3300	3720	4320
Machine width (mm)*	2620	2800	2800	2800
Machine height (mm)*	2300	2450	2550	2700
Total machine weight (Kg)*	3100	4600	5600	6600

Specifications	HFE 130-3	HFE 130-4	HFE 170-3	HFE 170-4	HFE 220-3	HFE 220-4
Nominal tonnage (kN)	1300	1300	1700	1700	2200	2200
Table length (mm)	3140	4200	3170	4230	3220	4280
Frame distance "D" (mm)	2700	3760	2700	3760	2700	3760
Table width (mm)	90	180	180	180	180	180
Open height (mm)	470	470	470	470	470	470
Stroke length (mm)	200	200	200	200	200	200
Throat depth (mm)	420	420	420	420	420	420
Approach speed	without light guard 10 mm/sec with light guard (option) 100 mm/sec					
Bending speed	10 mm/sec					
Return speed	100 mm/sec					
Machine Length (mm)*	4350	5480	4400	5480	4400	5480
Machine width (mm)*	2900	3000	3000	3000	3000	3000
Machine height (mm)*	2820	2900	2900	2920	2940	3100
Total machine weight (Kg)*	8150	11300	11600	13900	13750	17100

*Basic machine without any options.

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