SOLUTION

HFE M² SERIES

THE PRESS BRAKE REFERENCE
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PRECISION, AN AMADA PRINCIPLE

With more than 125,000 press brakes and 1,500 bending cells installed, AMADA has a long history and extensive knowledge of the sheet metal folding market.

The reasons for this are simple: excellent technical knowhow, being responsive to customer needs and producing reliable and accurate machines. We meet our customer’s expectations by listening carefully to their needs and responding accordingly.

In addition, we have equipped the HFE-M2 with the latest technological developments, useful to both the operator and the investor. A new digital touch screen control, energy and oil saving, and a new range of labour and time saving accessories are standard features.

The goal is to make the HFE-M2 more efficient and easier to operate but also environmentally friendly.
### TYPICAL PROCESSING SAMPLES

#### POINT OF SALE EQUIPMENT
- **Mild steel 0.8mm**
  - Length: 1,500mm
  - 12 parts | 64 bends
  - Processing time: 7min 28s

#### TOOLING STORAGE
- **Zinc coated 1mm**
  - 5 parts | 32 bends
  - Processing time: 4min 16s

#### RAILWAY INDUSTRY
- **Mild steel 3mm**
  - 12 bends
  - Processing time: 1 min 36s

#### AGRICULTURAL INDUSTRY
- **Mild steel 4mm**
  - 6 bends
  - Processing time: 42 s

#### BUILDING EQUIPMENT
- **Zinc coated 1.2mm**
  - Length: 2,500mm
  - 7 bends
  - Processing time: 49 s

#### ELECTRICAL INDUSTRY
- **Mild steel 1.2mm**
  - Length: 3,000mm
  - 2 parts | 16 bends
  - Processing time: 1 min 52 s

### BENDING TOOLS

**AFH & STAGED BEND TOOL**
AMADA Fixed Height and Staged Bending tools are the best solution to minimise set-up operations.
EASY OPERATION

AB PAD EVOLUTION

The new AMADA Bending Pad NC introduces a new, intuitive man/machine interface based on a touch-screen.

The care taken in developing the ergonomics and our technical know-how have combined to produce a simple, friendly and efficient interface.

It is possible to remotely monitor the operation of the machine, transfer programs and perform diagnostics.

Drawings can be made directly on the NC by using the new touch-screen technology.

The operator enters the dimensions into a pop-up window. It is also possible to indicate bending priority.

The NC control is capable of generating programs automatically. It takes into account bending constraints and ergonomics, including gauging position, component handling, bend order and required tolerance.

For special applications, manual mode programming allows the operator to create personalised programs.

AB Pad Simulator

The AB Pad simulator runs on a windows based PC or tablet and allows offline programming of the press brake.

ENVIRONMENTAL CONSIDERATIONS

THE ECO DRIVE SYSTEM

The Eco drive system continually monitors and self-adjusts bending requirements – providing benefits such as 20% less energy usage, reduced maintenance, less oil consumption, lower noise levels and increased reliability.

Optional on 4 Axis Models
**BENDING PRECISION**

**CONSTANT ANGLE WITH PARALLEL BEAM DEFLECTION**

The bend accuracy of a press brake is affected by, amongst other factors, the deflection of the upper and lower beams. Conventional press brakes deflect in opposite directions. In fact, the penetration of the punch into the dies is not constant and the angle is not uniform along the length of the machine.

AMADA’s solution: using the principle of parallel deformation. The HFE-M2 press brakes are equipped with 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.

For higher tonnage versions the lower pins in the centre. This lower beam is secured to the machine frame by means of two pins in the centre of the lower beam, this allows for a certain degree of movement. Thus, when the cylinders exert the bending force at the extremities of the machine, the beam deflections are parallel.

For the machines below 130 tonnes the same result is obtained using a specially designed lower beam.

**ANGLE CONTROL AND ANGLE MEASURING SYSTEMS**

**Digipro**

The AMADA Digipro is a highly-accurate, electronic angle measuring device that transmits the measured angle wirelessly to the press brake’s NC.

The program is then automatically corrected as required, providing a precise bend angle.

**BI-J / Bi-M**

Automatic angle adjustment ensures highly accurate bending even when material thickness and properties vary from part to part. This removes the need for test bending and adjustment of the initial bend angle, eliminating scrap and reducing set-up time.
STANDARD EQUIPMENT AND FUNCTIONS

Back gauges system
The back gauges of HFE-M2 are available in two forms: 2 axes X, R and 5 axes X1, X2, R, Z1, Z2.
A special back gauge is available for the HFE-5012M2: 2 independent X, 2 independent Z and one R axis.

Manual clamps
- Front installation/front removal
- Close the space between clamps
- Manual rear plate (option)

Finger pin
Flexible position with pin exchange

Hand wheel
- Adjust all axis
- Easy and flexible manual adjustments.

LINE UP

* HFE-5012M2 has different functions/options compared to other models
** Machine shown with optional extra features
## OPTIONAL EQUIPMENT AND FUNCTIONS

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The Delta X finger</strong></td>
<td>The Delta X finger is a useful feature when bending asymmetrical work pieces. This option complements both 2 and 5 axes versions. It allows the creation of an offset between the two X-axis fingers, even when they are close together.</td>
</tr>
</tbody>
</table>
| **Manual clamps (S-grip)**    | - Front installation/front removal  
- Prevent falling tools by mechanical groove  
- Can be installed side by side  
- Clamping achieved by lever operation  
- Wedge adjustment by dial mechanism |
| **Automatic clamps (A-grip)**  | - Front installation / front removal  
- Automatic pull up function  
- Easy to reposition and remove clamps  
- Manual rear plate (option)  
- Can be installed side by side  
- No tubes on rear side |
| **Front support**             | Front workpiece support                                                     |
| **Sheet follower**            | - Improves accuracy and safety.  
- Assists operator.  
- Eliminates the need for a second operator. |
| **AKAS V**                    | The latest AKAS security system solution (AKAS V) offers the highest level of safety with an increased performance due to easier set-up. |
| **LED light (rear)**          | A LED light is installed to the rear side of the upper beam to increase operator visibility. |
### Machine Specifications

<table>
<thead>
<tr>
<th>HFE-M2</th>
<th>5012</th>
<th>5020</th>
<th>8025</th>
<th>1003</th>
<th>1303</th>
<th>1703</th>
<th>1704</th>
<th>2203</th>
<th>2204</th>
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<tbody>
<tr>
<td>Capacity</td>
<td>kN</td>
<td>500</td>
<td>500</td>
<td>800</td>
<td>1000</td>
<td>1300</td>
<td>1700</td>
<td>1700</td>
<td>2200</td>
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<tr>
<td>Beam length</td>
<td>mm</td>
<td>1270</td>
<td>2090</td>
<td>2570</td>
<td>3110</td>
<td>3140</td>
<td>3170</td>
<td>4230</td>
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<tr>
<td>Beam width</td>
<td>mm</td>
<td>60</td>
<td>90</td>
<td>180</td>
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<tr>
<td>Distance between frames</td>
<td>mm</td>
<td>1035</td>
<td>1665</td>
<td>2125</td>
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<td>2700</td>
<td>2700</td>
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<td>Throat depth</td>
<td>mm</td>
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<tr>
<td>Open height</td>
<td>mm</td>
<td>480</td>
<td>470</td>
<td>470 (620)*</td>
<td>470</td>
<td>470 (620)*</td>
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</tr>
<tr>
<td>Stroke</td>
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<td>150</td>
<td>200</td>
<td>200 (350)*</td>
<td>200</td>
<td>200 (350)*</td>
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<tr>
<td>Working height</td>
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<td>Power consumption</td>
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<td>5.5</td>
<td>6</td>
<td>9</td>
<td>12.5</td>
<td>16.5</td>
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<td>Approach speed</td>
<td>mm/s</td>
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<td>100 (200)**</td>
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<tr>
<td>Maximum bending speed</td>
<td>mm/s</td>
<td>15***</td>
<td>10 (15)****</td>
<td>10</td>
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<tr>
<td>Return speed</td>
<td>mm/s</td>
<td>185</td>
<td>100 (150)****</td>
<td>100</td>
<td></td>
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</tr>
</tbody>
</table>

* (Long Stroke) ** HI-SPEED model *** depending on tonnage and Vdie **** HI-SPEED model, 75% tonnage limitation

Note: HFE-5012M2 has different functions/options compared to other models.
For further details please contact your sales subsidiary.

Specifications, appearance, and equipment are subject to change without notice by reason of improvement.

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For Your Safe Use
Be sure to read the operator’s manual carefully before use.
When using this product, appropriate personal protective equipment must be used.

The official model name of machine described in this catalogue is HFE-M2. Use the registered model name when you contact the authorities for applying for installation, exporting, or financing.
Hazard prevention measures are removed in the photos used in this catalogue.

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