SERVO/HYDRAULIC, DOWN-ACTING PRESS BRAKE

HFE M2 Series

HFE M2 5020, HFE M2 8025, HFE M2 1003, HFE M2 1303,
HFE M2 1703, HFE M2 1704 & HFE M2 2204

VPSS
Virtual Prototype Simulation System

AMADA®

Complete range to cover all of your bending needs.

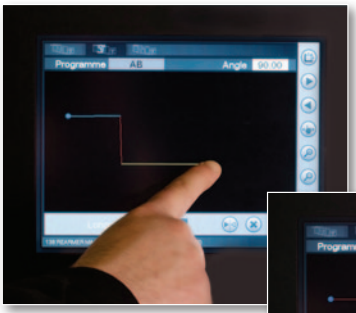
Built on the solid foundation of the HFE series, Amada's new HFE M2 press brake models include additional production-enhancing features and an innovative touch-screen AB PAD interface. Overall design improvements result in an eco-friendly series that provide maximum performance and ease of use. Equipped with an energy saving drive — the inverter on the HFE M2 series reflects Amada's ongoing commitment to environmental protection. The new drive system uses a frequency inverter that controls the motor pump and ensures efficiency by operating only when necessary. The system continually monitors and self-regulates bending requirements — this translates to using 20% less energy, a significant reduction in maintenance requirements, less oil consumption, lower noise levels, and an increase in reliability.

Numeric Control (NC)

The new AB PAD NC introduces an intuitive touch-screen man/machine interface. Users can also remotely monitor the operation of the machine, transfer programs and perform diagnostics.

The key advantages of the powerful, easy to use AB PAD are:

- Interactive touch-screen
- Automatic program creation from a 2D representation of the workpieces
- Network ready
- Large program, tool and materials libraries
- Remote diagnostics capabilities
- Software updates via USB or internet
- Movable on three axes – adaptable to the requirements of the operator



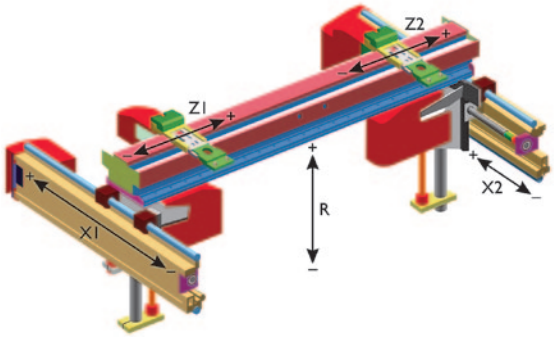
Drawings can be made directly into the NC by using the new touch-screen technology.

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 personalized programs.

Multiple Axis Backgauge



The HFE-M2 is available in two backgauge configurations:

- 2 axes X,
- 5 Axes X1 X2, R, Z1 Z2

The light weight but rigid design allows for high speed and precise positioning. With the gauging capacity of up to 40 inches, large components can be easily processed.

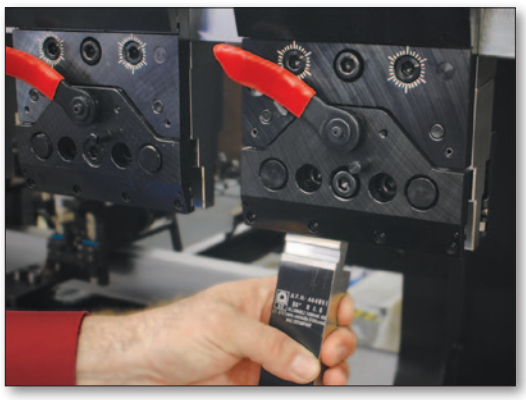
In the 5 axes version, the modules X1 X2 and Z1 Z2 are programmable independently, offering great flexibility.

Delta-X – Motorized X-axis Finger (Optional)

A Delta-X option is also available for the rear backstop of the 7-axis machine. This provides the stop fingers with an additional incremental adjustment of ± 6″ in the X-direction. Both stop fingers can be set to different depth measurements – particularly helpful in the case of asymmetrical workpieces. Available as a single option or as a pair.

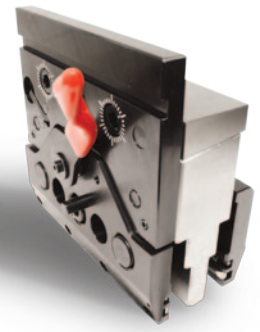
Stroke	± 5.9″ (maximum offset 11.8″)
Speed	3 in/sec
Position Accuracy	± .004″
Repeatability	± .0004″

Punch Holders



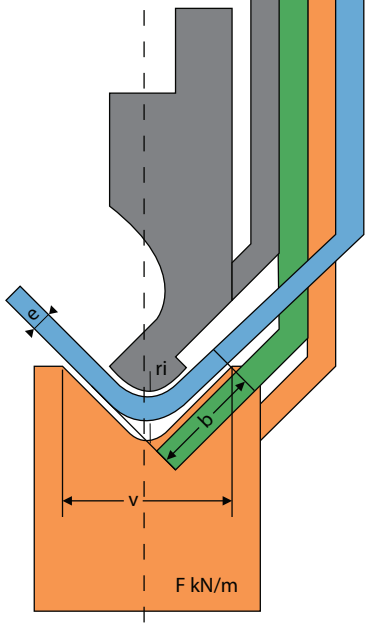
Amada's S-GRIP punch holder allows the brake operator to change punches on the press brake quickly and safely without requiring a wrench. The patented S-GRIP design dramatically decreases tool changeover time, thereby increasing bending productivity

- No tools required to tighten punch, simply turning lever locks the punches into the holder
- An internal adjustment wedge allows for gapless punch holder positioning
- The S-GRIP works on all existing brakes, offering easy retrofit
- Proper tool tightening is ensured every time



Air Bending Force Chart

	6	8	10	12	16	20	25	32	40	50	63	80	100	125	160	200	250	320	400	500	630
	4	5.5	7	8.5	11	14	17.5	22	28	35	45	55	71	89	113	140	175	226	280	350	450
	1	1.3	1.6	2	2.6	3.3	4	5	6.5	8	10	13	16	20	26	33	41	53	65	83	100
0.6	40	40																			
0.8	70	50	40																		
1	110	80	70	60																	
1.2	160	120	100	80	60																
1.5		170	150	130	90	80															
2			270	220	170	130	110														
2.5				350	260	210	170	130													
3					380	300	240	190	150												
4						540	420	340	270	210											
5							670	520	420	330	260										
6								750	600	480	380	300									
8									1070	850	680	530	430								
10										1340	1050	850	670	530							
12												1200	960	780	600						
15													1500	1200	950	750					
20														2150	1700	1350	1080	850			
25															2650	2100	1700	1300	1050		
30																3000	2400	1900	1500	1200	
40																	4300	3400	2700	2150	
50																		5250	4200	3400	2700



This example of an air-bending force chart is for mild-steel (40-45k/mm2 tensile strength). From the material thickness it is possible to determine:

- Bending Force
- Correct V-size
- Minimum Flange Size

The ideal V-size is indicated using the red boxes. If the V-size is not available or the tonnage is out of range, it is also possible to use the sizes indicated by the clearer boxes.

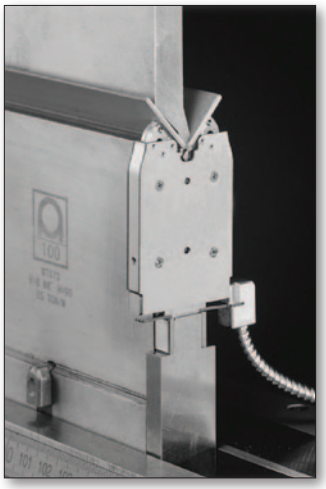
To fold other materials (stainless, aluminum, etc.) a multiplication factor is used for the bending force.

Angle Control and Angle Measuring Systems (Optional)

The bend accuracy of a press brake is affected by several factors including the deflection of the upper and lower beams. The smallest deviation in material thickness or tensile strength can have a detrimental effect on the bend angle. That's why Amada offers two different angle measuring systems to meet your specific needs.

Digipro

Digipro is a highly-accurate, electronic angle measuring device that transmits the measured angle wirelessly to the press brake's NC via an infrared interface. The measured angle value is transmitted to the NC and the program is automatically corrected as needed, thereby providing the precise bend angle.



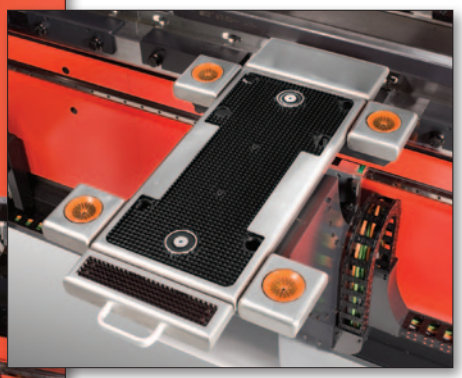
BI-J

To maintain bending accuracy while processing materials that vary in type, thickness and grain direction, the HFE M2 series is equipped with BI (Bend Indicator) technology. BI technology results in trial-free bending — boosting bending repeatability while reducing QA inspection and rework.

Improved Safety and Reduced Labor Costs

To enhance performance while improving operator safety, HFE Series press brakes can be equipped with an automated sheet follower system.

The optional automated SF75 sheet followers are ideal for processing heavy or large parts. Precisely managed by the NC control, this production-enhancing feature provides for greater accuracy and increased safety. Their capacity relieves the operator of difficult and arduous tasks and often eliminates the need for a second operator.

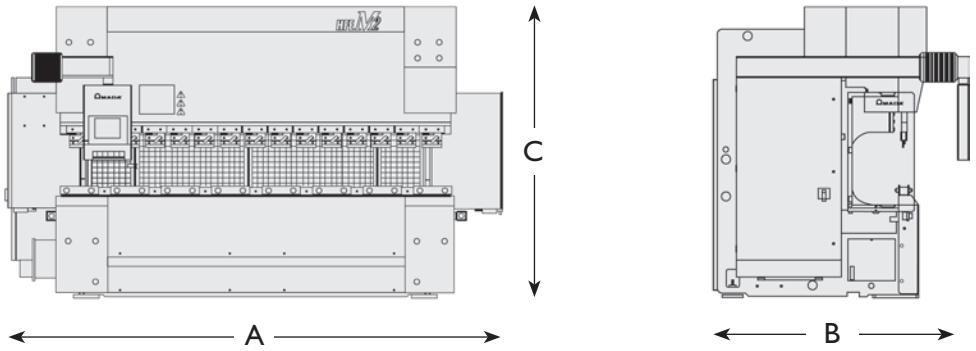


The machine can be equipped with either one or two independently controllable arms (each arm has a capacity of 165 lbs. at a minimum 30° angle).

To further increase safety, AKAS laser safety system comes standard.

Dimensions

(Refer to the chart below for individual machine measurements.)



Specifications

Model	HFE M2 5020	HFE M2 8025	HFE M2 1003	HFE M2 1303	HFE M2 1703	HFE M2 1704	HFE M2 2204
Maximum Tonnage	56	90	112	146	191	191	247
Minimum Tonnage	4.5	7.9	8.5	16.9	23.6	23.6	29.2
Working Length	82″	101″	122″	123″	124″	166″	168″
Table Width	2.36″	2.36″	2.36″	3.54″	7.09″	7.09″	7.09″
Working Height	37.8″	37.8″	37.8″	37.8″	37.8″	37.8″	37.8″
Open Height	18.5″	18.5″	18.5″	18.5″	18.5″	18.5″	18.5″
Stroke Length	7.87″	7.87″	7.87″	7.87″	7.87″	7.87″	7.87″
Throat Depth	16.5″	16.5″	16.5″	16.5″	16.5″	16.5″	16.5″
Distance Between Frames	65.5″	82.7″	106.5″	106.3″	106.3″	148″	148″
Oil Capacity	14.5 gallons	19.8 gallons	24.2 gallons	39.6 gallons	62.1 gallons	62.1 gallons	77.9 gallons
Total Length (A)	131.5″	149.6″	172.6″	174.8″	176″	217.7″	218.9″
Total Width (B)	96.5″	96.3″	95.7″	103.3″	103.3″	103.3″	103.3″
Total Height (C)	96.5″	100″	105.5″	110.8″	114.2″	113.8″	121.5″
Total Weight	10,140 lbs.	12,345 lbs.	14,550 lbs.	17,970 lbs.	25,575 lbs.	30,645 lbs.	37,700 lbs.
Power Consumption	7 KVA	10.5 KVA	10.5 KVA	14 KVA	18 KVA	18 KVA	21.5 KVA
Max Approach Speed*	3.94 in/sec	3.94 in/sec	3.94 in/sec	3.94 in/sec	3.94 in/sec	3.94 in/sec	3.94 in/sec
Max Bending Speed	0.39 in/sec	0.39 in/sec	0.39 in/sec	0.39 in/sec	0.39 in/sec	0.39 in/sec	0.39 in/sec
Max Return Speed	0.394 in/sec	0.394 in/sec	0.394 in/sec	0.394 in/sec	0.394 in/sec	0.394 in/sec	0.394 in/sec

Long stroke models available in 1303 models and larger (24.4″ open height and 13.77″ stroke).

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