

SOLUTION

BENDING



HG 1303 Rm



AUTOMATED BENDING SYSTEM FOR LARGE SCALE PARTS



AMADA

HG 1303 Rm

AUTOMATED BENDING SYSTEM FOR LARGE SCALE PARTS

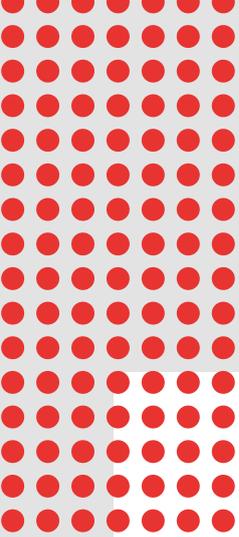
BENDING ROBOT SYSTEM FOR BENDING COMPLEX RIB AND PANEL SHAPES

EASY OPERATION , SECURE AND ACCURATE AUTOMATIC PRODUCTION OF COMPLEX RIB AND LARGE SIZE PARTS

The HG-Rm uses the high end HG-1303 press brake, the best bending performance with a new hybrid drive system :

The press brake is integrated with a single 7-axis articulated robot and a series of intelligent devices aimed specifically at bending complex rib and large panel parts.



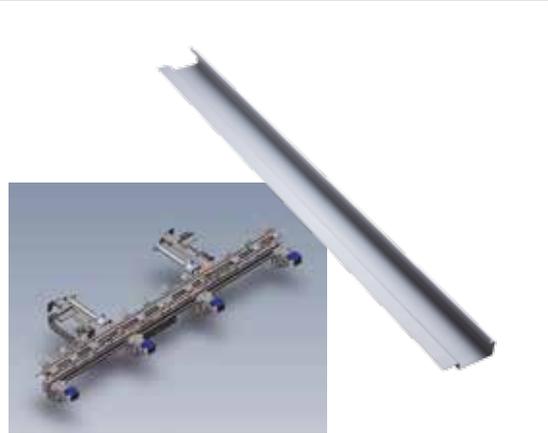


TYPICAL PROCESSING SAMPLES



Slide gripper

Material: Galvanised steel 3.2 mm
Dimensions: 683.0 x 1203.0 mm
Total number of bends: 16



Combination gripper

Material: Galvanised steel 3.2 mm
Dimensions: 283.0 x 2400.0 mm
Total number of bends: 5



These two grippers are dedicated to rib part and they allow processing of complex shapes with shorter cycle times.



HG 1303Rm

COMPLEX RIB PARTS AND LARGE SCALE PANELS CAN BE AUTOMATICALLY BENT WITH HIGH ACCURACY AND SPEED

REDUCTION OF SETUP OPERATION BY AGC AND AUTOMATIC REGRIPPING DEVICE

SIMPLE OPERATION WITH A SINGLE ROBOT (7-AXIS ARTICULATED ROBOT)

A 7-axis articulated robot (six axes of motion plus one travel axis) can perform the whole bending cycle: loading, bending, repositioning when necessary and unloading.



Part loading



Part positioning & bending



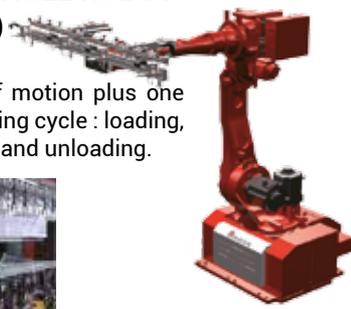
Part squaring



Part repositioning



Part unloading



REGRIPPING DEVICE FOR PANEL

The automatic regripping for large panels is equipped with 2 motorized arms and automatic scissor supports.

The panel regripping is fully automatic and doesn't need any manual setup.

SECURE PRODUCTION BY SQUARING TABLE

The squaring table guarantees perfect part positioning after loading regardless of part shape or loading stack accuracy.



Correct positioning by part sliding



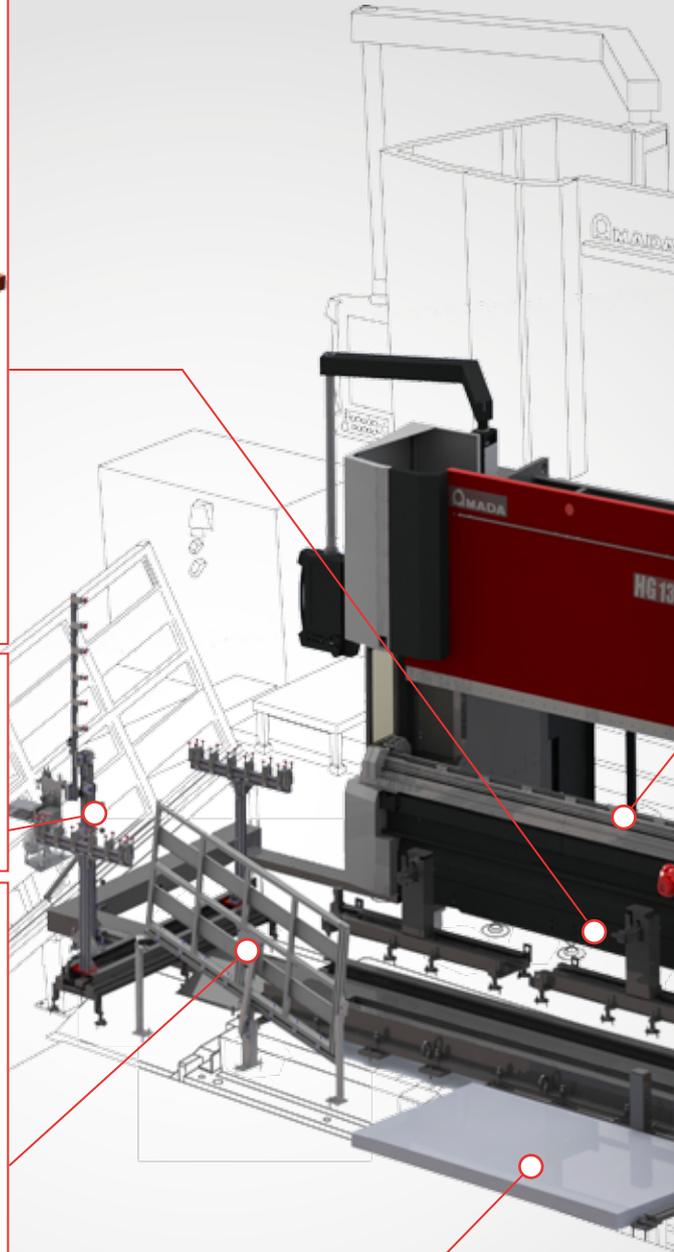
Part is correctly positioned regardless of edge shape

ACCURATE LOADING OF RIBBED PARTS AND PANELS

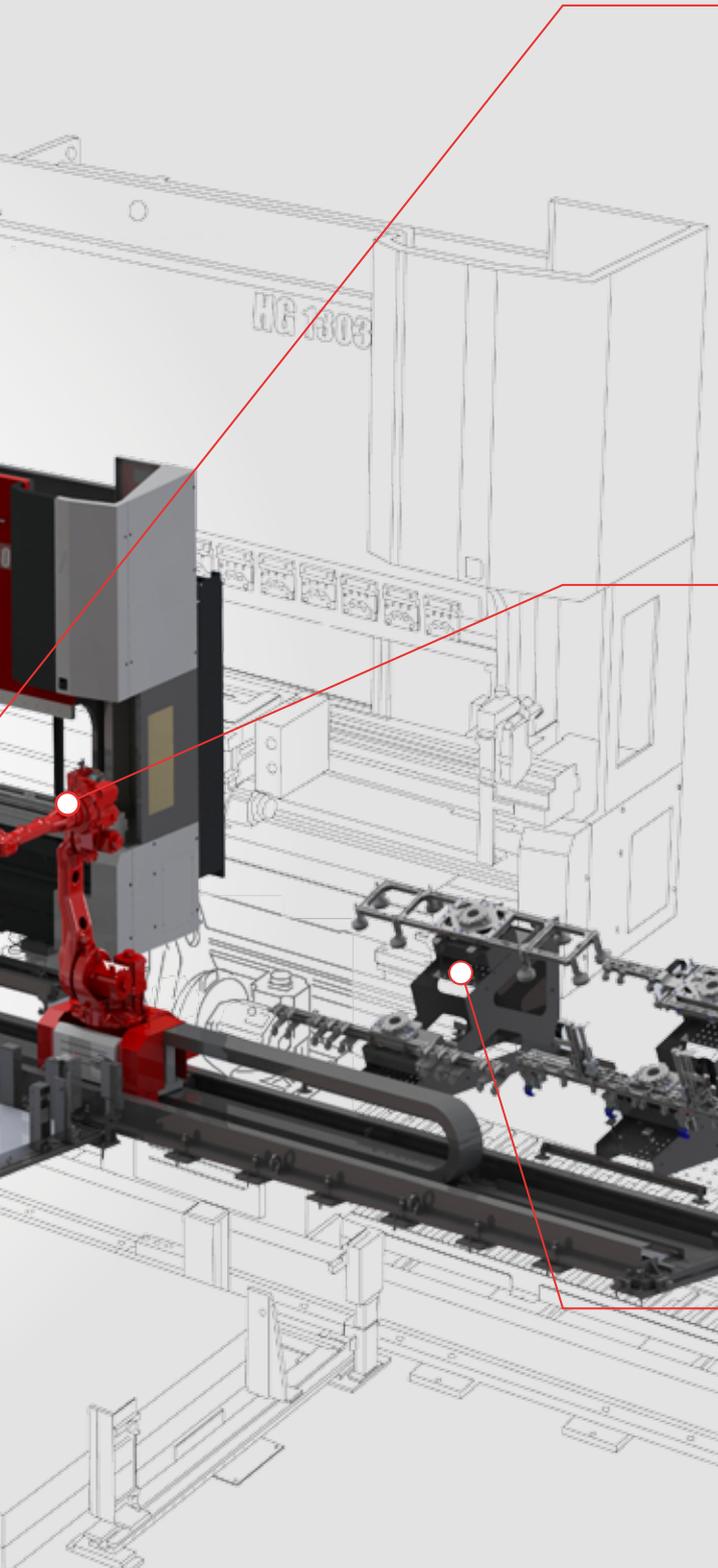
Parts can be accurately picked up by the vacuum girpper; the double thickness detector ensures only single sheets are loaded.



Worksheet double thickness detector

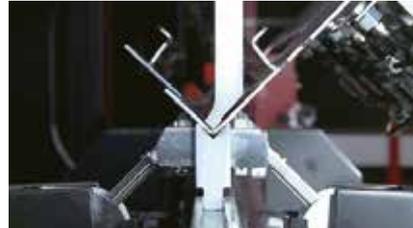


OMATICALLY FOLDED WITH HIGH



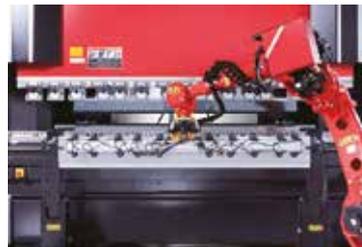
REDUCED TRIAL BENDING AND RELIABLE PRODUCTION

2-axis BI-S angle sensor (option) guarantees high accuracy for the entire length of the part.



REGRIPPING DEVICE FOR RIB PARTS

An automatic regripping device dedicated to rib parts ensures high productivity even for complex shapes.



The regripping system for ribbed parts consists of an automated arm and clamp for minimal downtime.



The regripping device can also be used as a sheet support when regripping at the material pinch point.

REDUCED SETUP TIME AND EXPANSION OF THE BENDING RANGE

The gripper is automatically changed according to the part to be produced. A maximum of 4 grippers can be stored on 2 gripper parking stations (1 standard, 1 option).



Gripper being automatically changed



Automatic gripper changer (AGC)



Combination gripper



Slide gripper

HG 1303Rm

EASY OPERATION



AMNC 3i

The AMNC 3i control is optimised for ease of use.

- The multi-touch LCD panel, with its user-friendly design, provides intuitive and smart operation.
- The 18.5 inch vertical display is the unique control panel where operator can manage the entire process.



1 Program load



2 Tool layout



3 Condition check

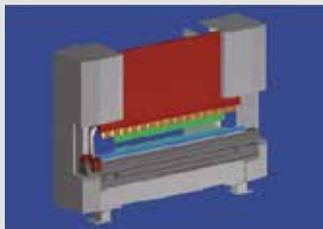


4 Start

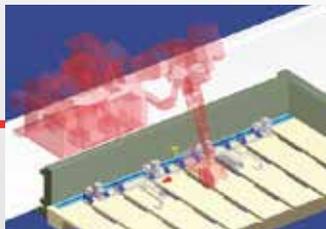
DEDICATED CAM

PROGRAMMING FLOW

A 3D part is selected from the database then all the process steps (tool setup and bending sequence ,robot grip position , UL strategy) are defined; all robot movements are automatically generated avoiding manual teaching operations. AR-Cam generates the press brake and robot programs offline. The programmer can check the complete simulation of the bending cycle.



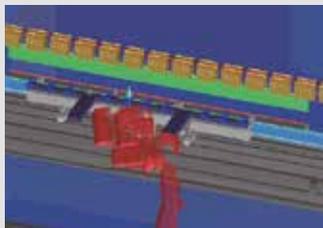
Setting tool layout



Setting loading and grippers



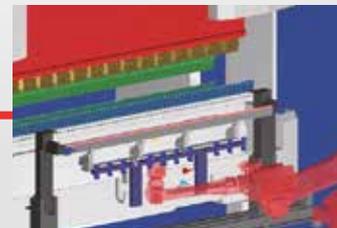
Setting bending sequence



Programming and simulation

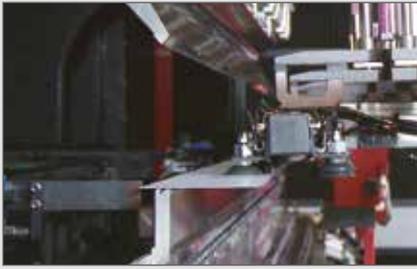


Setting unloading



Setting repositioning

OTHER FUNCTIONS AND OPTIONAL EQUIPMENT



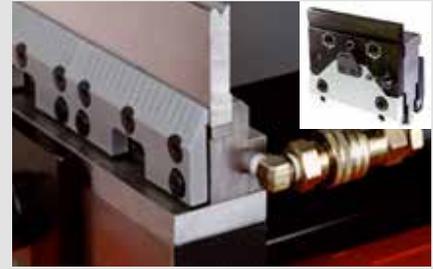
L-axis shift (delta X)

- Independent X-axis system allows effective gauging even for variable part shapes.
- Maximum L-axis shift stroke: ± 150 mm



Tool cleaner

- Automatically cleans the dies and die holders.



AGRIP A & hydraulic die holder

- Easy and fast setting of complicated tool layouts with automatic tool clamping.
- AGRIP A:
- Front installation /removal of punches
 - Tool dropout prevention mechanism
 - Secure tool clamping

Various unloading patterns



90° twist stacking*



Vertical stacking*



Single piece flow*

*Pictures for illustration only

Dedicated enclosure for safety and visibility



Safety enclosure

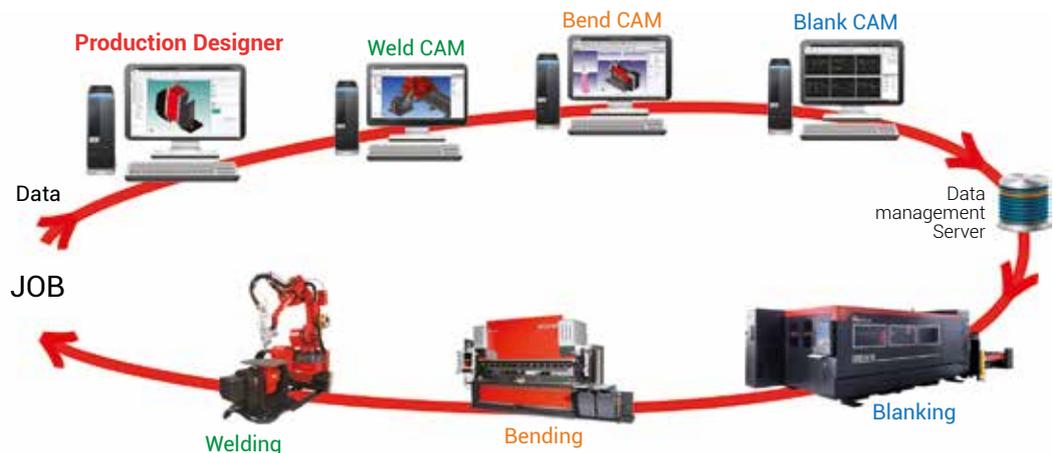


Electromagnetic interlock

THE SHEET METAL DIGITAL FACTORY

AMADA proposes digital manufacturing using VPSS (Virtual Prototype Simulation System).

All data is created in the office and utilised in the workshop via a network.

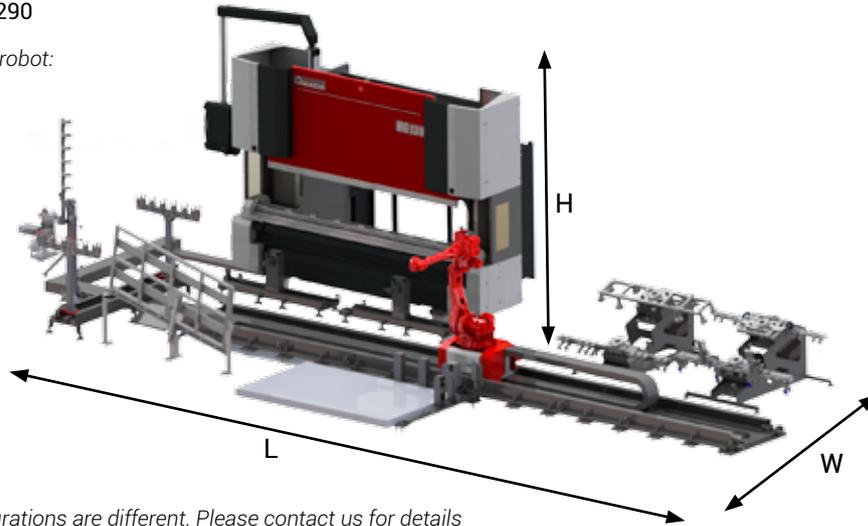


DIMENSIONS

Unit: mm

HG-1303 Rm Dimension for standard configuration with 8m track stroke
(L) 14400 x (W) 7200 x (H) 3290

Maximum height reachable by robot:
4000 mm (including part)



Dimensions for all other configurations are different. Please contact us for details

MACHINE SPECIFICATIONS

HG-1303 Rm			
Material	Thickness	mm	0.5 - 6.0
	Maximum workpiece size	mm	1250 x 2500
	Minimum workpiece size	mm	100 x 500
Press brake	Model		HG 1303
	Tonnage capacity	kN	1300
	Open height	mm	520
	Stroke length	mm	250
	Approach speed	mm/s	220
	Bending speed	mm/s	20 (without robot follow-up operation)
	Return speed	mm/s	250
Robot	Model		HGROBOT 80
	Axis composition		Robot: 6 axes of motion and 1 axis of travel
	Payload	kg	80 including gripper
	Stroke length of travel axis	m	8 (4.8 in option)
	Bending gripper		Combination, slide, vacuum T, vacuum H
	Automatic gripper changer (AGC) number of stations		2 stations (1 x STD, 1 x OPT) ; two parking positions/station
loading - unloading	Loading - Stacking height	mm	300
	Unloading method		Flat or vertical

Specifications, appearance and equipment are subject to vary without notice by reason of improvement or regional requirement.



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

The official model names of machines described in this catalogue are HG1303Rm and the HG1303. 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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