

SOLUTION

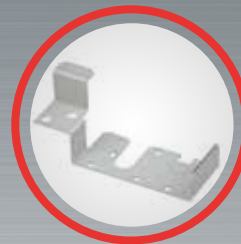
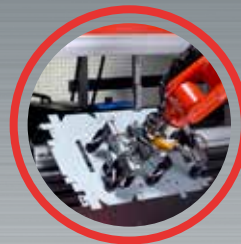
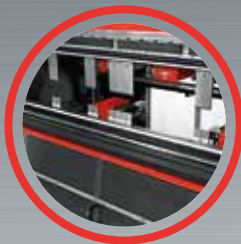
BENDING



HG 1003 ARs



MEDIUM-PART AUTOMATED BENDING SYSTEM



AMADA

HG 1003 ARs

MEDIUM-PART AUTOMATED BENDING SYSTEM

TOTAL FLEXIBILITY AND BENDING EFFICIENCY

VARIABLE VOLUME PRODUCTION OF DIFFERENT SHAPED PARTS

The HG-1003 ARs is based on the proven technology of AMADA 's cutting edge HG-ATC press brake, utilizing an ECO hybrid drive system and an automatic tool changer for fast and accurate tool set-ups. Material load/unload and bending are all performed by a single 6 axis and 1 travel axis articulated robot which is capable of a complete range of motions.

The HG-1003 ARs system can bend complex shaped parts without multiple set-ups and run continuous production for extended periods of time.



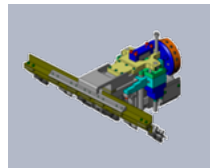
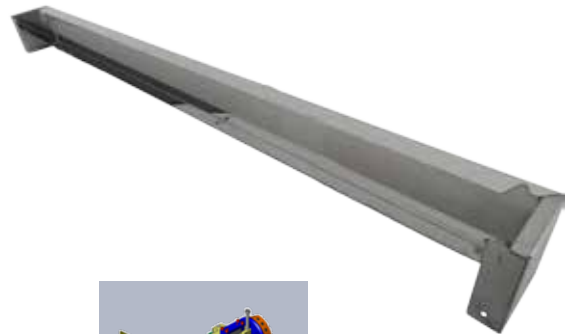
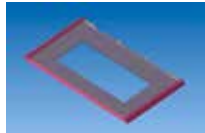
Photograph includes optional equipment

TYPICAL PROCESSING SAMPLES



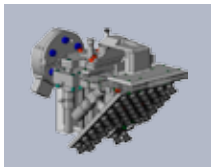
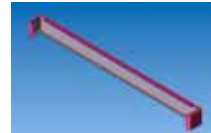
Medium vacuum gripper

Material: Stainless steel 0.8 mm
 Dimensions: 860 x 550 mm
 Total number of bends: 12



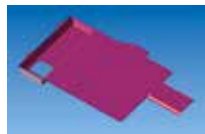
Combination gripper

Material: Stainless steel 0.8 mm
 Dimensions: 950 x 130 mm
 Total number of bends: 9



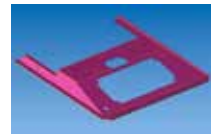
Combination gripper

Material: Stainless steel 1 mm
 Dimensions: 400 x 250 mm
 Total number of bends: 8



Vacuum & Combination gripper

Material: Aluminium 0.8 mm
 Dimensions: 600 x 550 mm
 Total number of bends: 16



HG 1003 ARs

FULLY AUTOMATIC, FLEXIBLE AND RELIABLE PRODUCTION OF THE WINNING SOLUTION FOR NEW BUSINESS CHALLENGES

REDUCTION OF SET-UP, RELIABLE AND ACCURATE PRODUCTION OF MEDIUM PARTS AND VARIATION FOR OPTIMUM PRODUCTIVITY

HG-1003ATC

High speed bending utilising the new hybrid drive system.
Automatic angle correction at any chosen part position (Bi-S sensors).
Automatic set-up of multi-station bending layouts thanks to the automatic tool changer (ATC).
ATC tool storage is composed by 18 racks for dies and 15 racks for punches.
Dynamic crowning by hydraulic system achieves consistent bend angles throughout the entire length of the machine.



LOADING AREA

LOADING AREA WITH THICKNESS DETECTOR:
parts can be accurately picked up by robot; double thickness detector ensures only single parts are loaded. Two loading areas are standard, third one can be set as an option.

LD AREA SEPARATOR (OPTION)
Loading area can be divided in two by an easy set-up device; it allows double the loading area capacity.

VERTICAL LOADING
For loading of special or formed parts which can't be stacked flat.



ROTATING REGRIPPING DEVICE

Increase of productivity by utilising a rotating device which reduces robot movement for regripping operations, easy regripping of parts with complex shapes.

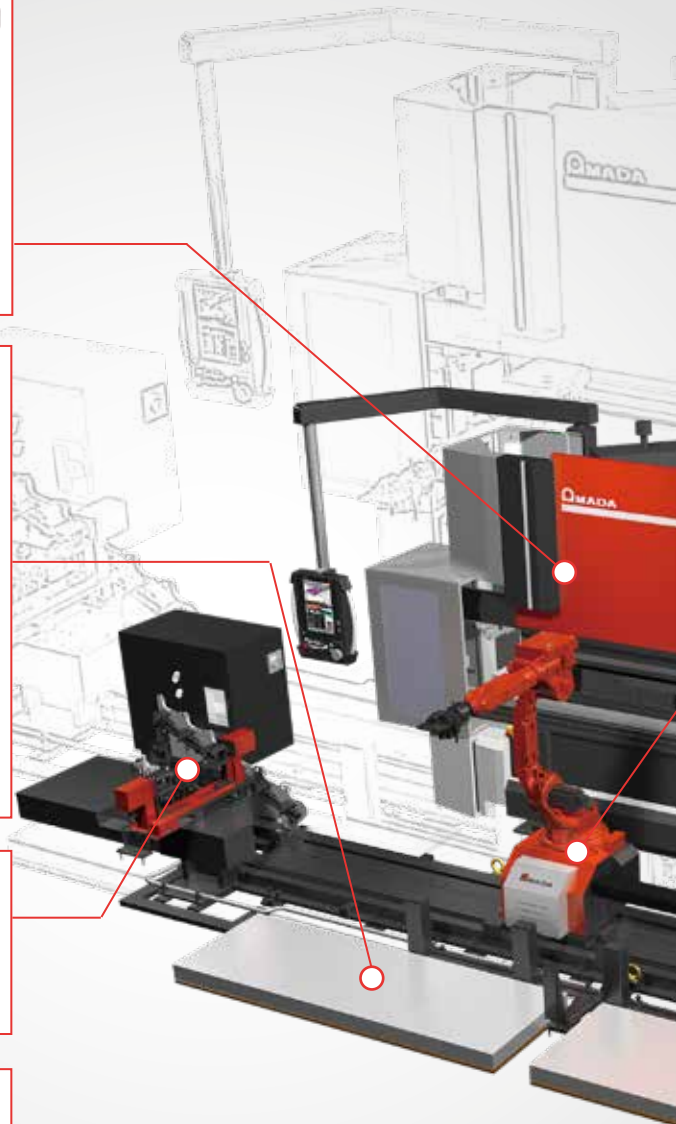
UNLOADING

PALLET
Unloading for conventional pallets on the floor (max 3 pallet).

CONVEYOR
Single piece unloading on to a belt conveyor; parts can be picked up by operator outside the safety fence without stopping production.



AUTOMATIC PALLET CHANGER (OPTION)
AC300 automatically changes the full pallet for an empty one; pallet can be removed by the operator outside the fence without stopping production; it ensures high unloading capacity.



F MEDIUM PARTS, VARIABLE VOLUME ...

BLE SHAPES, LONG UNMANNED PRODUCTION



6 AXES + TRAVEL AXIS ARTICULATED ROBOT

The 6 axis + travel axis articulated robot performs all material loading, material handling during bending and unloading of formed parts.



Material loading



Approach for bending



Bending

GRIPPERS

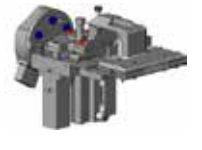
Three types of grippers are available: combination, vacuum and mechanical for the optimum handling of any specific parts.



Combination Type



Vacuum Type



Mechanical Type

AUTOMATIC GRIPPER CHANGE

The AGC allows the robot to change the gripper automatically which is needed for the production; gripper can be changed even during production of the part when necessary for correct handling.

AGC can be fitted with 9 grippers.



Automatic Gripper Changer (AGC)

RELIABLE PRODUCTION AND REDUCTION OF TRIAL BEND

Bi-S 1 axis (2 axis option) guarantees high accuracy, reliable production and elimination of trial bend.



HG 1003 ARs

EASY OPERATION



1

Program load



2

Tool layout



3

Condition check



4

Start

AMNC 3i

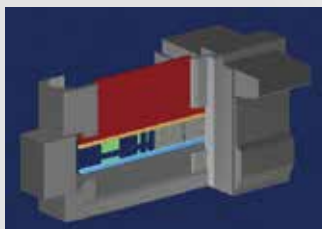
The AMNC 3i control is optimised for ease of use.

- 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 operators can manage the entire process.

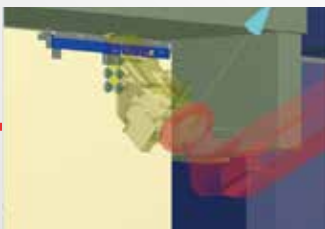
DEDICATED CAM

PROGRAMMING FLOW

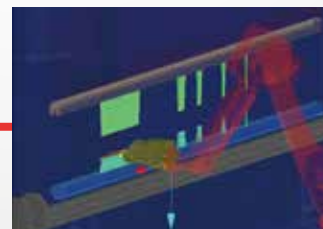
A 3D part is selected from the database then all the process steps (tool set-up and bending sequence, robot grip position, UL strategy) are defined; all robot movements are automatically generated avoiding manual teaching operations. AR-Cam generates the press brake and robot programs offline. The programmer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



Setting tool layout



Setting loading and grippers



Setting bending sequence



Programming and simulation

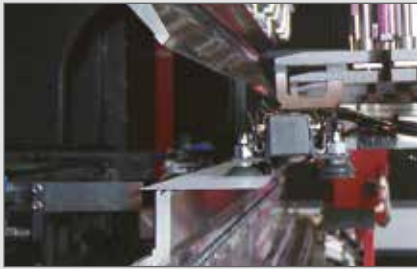


Setting unloading



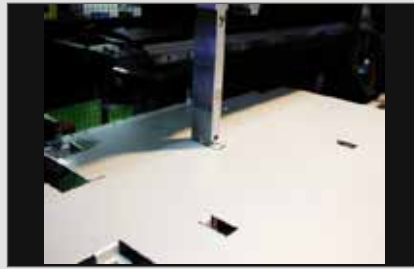
Setting repositioning

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.



X-gauging device (option)

- Accurate part positioning is set by X gauging device; this function is particularly important for reliable production of parts where horizontal positioning has to be very accurate.



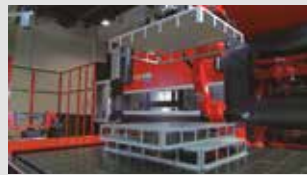
Die & Die holder cleaning

- Integrated and automatic devices for die and die holder cleaning guarantees a reliable performance of tool changing solution.

Various unloading patterns



Parallel cross stacking



90° twist stacking*



Vertical stacking*



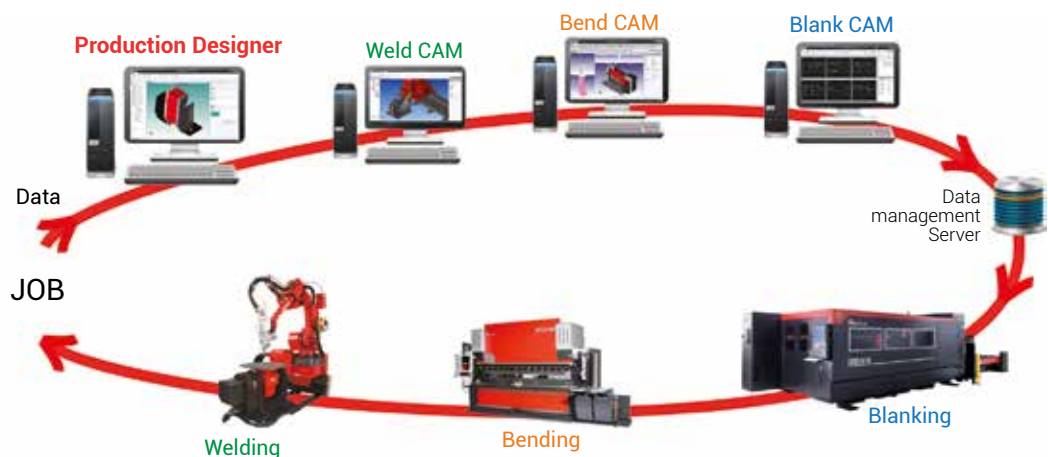
Single piece flow*

*Pictures for illustration only

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.



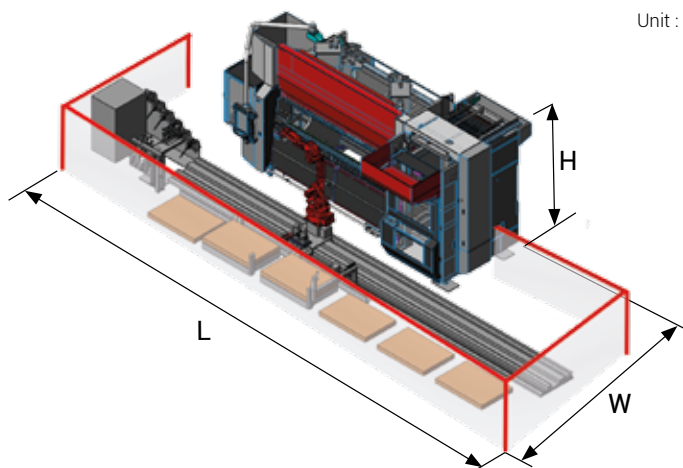
DIMENSIONS

Unit : mm

HG-1003 ARs
Dimension for standard configuration 8.8 m track stroke
(L) 13700 x (W) 6500 x (H) 3002

Maximum height reachable by robot:
3860 (including part)

Dimensions for all other configurations are different.
Please contact us for detailed specification.



MACHINE SPECIFICATIONS

PRESS BRAKE		HG-1003 ARs	
Capacity	kN	1000	
Open height	mm	596	
Stroke length	mm	250	
Approach speed	mm/s	220	
Bending speed	mm/s	20 (without robot following)	
Angle sensor		Bi-S (1 axis: standard, 2 axes: option)	
ATC	Number of punch stockers	15	
	Number of die stockers	18	
ROBOT			
Axis composition		Robot: 6 axes, Travel axis: 1	
Payload	kg	20 (including gripper)	
Workpiece size	Max.	mm	1000 x 800
	Min.	mm	150 x 150
Workpiece thickness	mm	0.5 ~ 6.0	
Travel axis	Stroke length	m	5 / 6.4 / 8.8
Grippers types		Combination types	
		Vacuum types	
		Mechanical type	
Loading	Number of positions	from 2 up to 4, depending on layout configuration vertical loading is available	
	Stacking height	mm	300
Unloading	Number of positions	1, 2 or 3 depending on track length and layout configuration	
	Unloading method	Flat or vertical Conveyor and pallet changer AC 300 also available	

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



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 name of machine described in this catalogue is HG-1003 ARs. 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.

AMADA UK LTD.

Spennells Valley Road,
Kidderminster,
Worcestershire DY10 1XS
United Kingdom
Tel: +44 (0)1562 749500
Fax: +44 (0)1562 749510
www.amada.co.uk

AMADA SA

Paris Nord II
96, avenue de la Pyramide
F-93290 Tremblay
France
Tél : +33 (0)149903000
Fax : +33 (0)149903199
www.amada.fr

AMADA GmbH

Amada Allee 1
42781 Haan
Germany
Tel: +49 (0)2104 2126-0
Fax: +49 (0)2104 2126-999
www.amada.de

AMADA ITALIA S.r.l.

Via Amada I., 1/3
29010 Pontenure (PC)
Italia
Tel: +39 (0)523-872111
Fax: +39 (0)523-872101
www.amada.it

