

 AMADA

AMADA PRESS BRAKE

**RG**  
SERIES

RG-80

A large industrial press brake machine, model RG-80, is shown in a dark setting. The machine's upper beam is visible, with a label 'RG-80' on it. Below the beam, several hydraulic cylinders are mounted. In the foreground, a large, rectangular metal part, possibly a box or a component, is positioned vertically, showing its hollow interior. The lighting is dramatic, highlighting the metallic surfaces and the machine's structure.

AMADA MAKES A DIFFERENCE.



THAT'S

50,000 units have already been installed.



# WHY

Bending mechanism built into a simple system. The primary concern of this original system is precision and operability. Provides excellent performance in general processing from small to large works. The numbers of installed units prove its high reliability in the international market.

## **RG** **SERIES**

## COMING UP WITH A BETTER DESIGN

The Amada press brake is a precision hydraulic up-acting system. Unique design features eliminate time-consuming set-up procedures such as shimming and tool alignment. The Amada press brake utilizes a centrally located primary cylinder that ensures parallel beam deflection and uniform bends. Two additional outboard cylinders assist in spreading the bending force evenly along the bend's length.



# RG SERIES



**Roller Bearing Guide Block System Ensures Parallelism for Unprecedented Accuracy.**



The lower beam moves on pre-loaded bearing guide blocks rather than on conventional friction guides. This entirely eliminates side play or uneven movement by firmly holding the beam parallel at all times. The Amada bearing guide block system is permanently self-lubricated and requires no maintenance at all.

**Sectionalized Punch Holders Provide Versatility.**



The individual punch holders can be moved as needed to provide access for deep box forming. Window and horn applications can be performed in the center of the machine. Each punch holder has a calibrated wedge for making fine bending angle adjustments.

**Nothing's Above It in Versatility.**



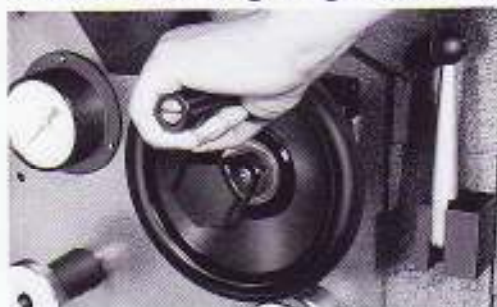
Beam parallelism and positioning are controlled mechanically, thus simplifying the hydraulic system and eliminating valve reaction time and error. The drive and control mechanisms are located in the lower part of the main frame, leaving the work area open and interference free.

## OPERATION CONTROLS

- DIGI COLLAR
- PRESSURE GAUGE
- PRESSURE REGULATION KNOB
- PEDAL LOCK LEVER
- CUT-OFF VALVE KNOB



### Precise Bending Angle Control



The upper limit setting handwheel precisely controls the angle the workpiece will be bent by setting the point where the lower beam will stop its upward movement. A digital LED display indicates relative position in increments of 0.01mm or 0.001 in. Same bending angle can be obtained at any time while reading the LED display. The angle will be exactly duplicated on bend after bend.

This handwheel is locked in place with the knob on its side.



### Stroke Length Control Reduces Cycle Time




Unnecessarily long bending strokes waste production time and are dangerous and tiring for the operator. The most efficient stroke length can be set by the lower limit setting lever.



All operation parts integrated to one location on the machine  
Equipped with diverse functions for productivity and safety

# RG SERIES



UPPER LIMIT  
SETTING HANDWHEEL

SPEED CHANGE SETTING LEVER

LOWER LIMIT SETTING LEVER

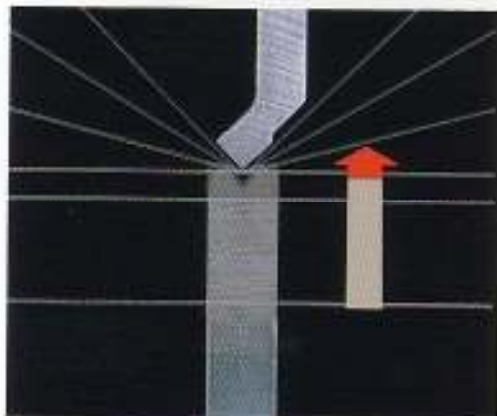
BAR PEDAL

## Two-speed Movement



Amada hydraulic press brakes feature the fast approach/slow bend. This protects the operator from sudden workpiece movement and increases production speed.

The operator can set the point where the lower beam movement changes from fast to slow with the speed change position setting lever.



## Convenient Punch and Die Alignment — Precision ground and hardened tooling



Amada tooling is sectionalized so that it can easily be handled by one man. Precision ground, the match between sections is unconditionally guaranteed. All Amada tooling shares the same precise centerline which provides a consistent origin point.

## Precise Movement Control

In addition to the fast approach/slow bend feature, the lower beam movement speed depends on the position of the bar pedal. When the bar is pushed down slowly, the lower beam moves up slowly and stops at a position relative to the bar pedal position. This allows the operator to hold a workpiece very lightly between the punch and die when bending on a scribed line.

## Safe Operation

The lower beam rises when the bar pedal is pressed, then retracts as soon as the bar is released. Since the lower beam retracts rather than just stopping when the bar is released, there is no danger of anything being trapped in the machine. This also contributes to smooth and controlled operation. The hydraulic system produces little noise and vibration, so special noise protection is not necessary.

# NC9-EV Dual-Mode Switching M

L-ONLY Mode/Auto Operation Mode  
Allowing the novice to make prof

Amada has developed a new control with advanced functions based on the latest technology. The NC 9-EV is a user-friendly NC featuring streamlined operations and improved bending accuracy making it a must for all manufacturers. It's flexibility will permit a novice operator as well as an expert to produce a wide variety of parts quickly, easily, and accurately.

## Backgauge Unit

The Amada backgauge unit is mounted with ball screws directly linked to the left and right independent servomotors providing accurate positioning. The unit is designed with a light-weight, highly rigid column structure to provide a fast positioning feed rate of 30m/min.

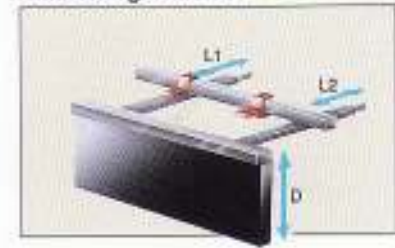


## NC 9-EV (3-axis control)



The best for bending longer or shorter sides of the workpiece to complete a box type product. The L-axis is activated with the left and right independent drive systems, so you can position the workpiece at an angle.

### Axis configuration of NC 9-EV



## SPECIFICATIONS

Operation method	Data entry from keyboard	
Display	9"-CRT	
No. of axes	Servo 3-axis (L1, L2, D)	Axis L1 and L2 independently driven Max.offset between L1 and L2 ±80 mm (F80 II 2512-1603)
Setting unit	D-axis: 0.01 (0.0001 inch) L-axis: 0.01 (0.0001 inch)	Repeat accuracy : L-axis ±0.1 mm
Feedrate	D-axis: 1 m/min. L-axis: 30 m/min.	Switched with parameter
Travel range	0~500 mm	
Memory capacity	No. of programs: 16 programs steps/program (Max.100 steps total) Punch/die set registration: AMADA std. set : 100 User set : 48	Amada std. set (50 each punch and die) pre-registered
No. of stoppers	4 for 2M machine or more 2 for 1.2M machine	
Stopper UP/CENTER/DOWN	<input type="checkbox"/>	
Stopper-Finger flip-up	<input type="checkbox"/>	
Actual hydraulic pressure display	<input type="checkbox"/>	
External I/F	RS-232C	
Communication capability	<input type="checkbox"/>	
Option	<input type="checkbox"/>	
Power consumption	1.5kVA	
Compatible models	RG25~400	

Specifications are subject to change without prior notice.



# Makes Bending Easy

Professional quality parts.

# RG SERIES

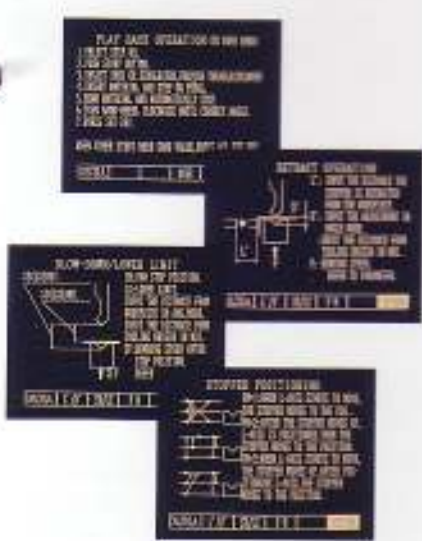
## L-ONLY Mode

An eight-STEP auto-backgauge function is engaged using the NC. Enter the L-axis dimension and you are ready to start bending. The number of completed workpieces is shown on display.



### Easy-to Comprehend reference functions

The auxiliary information is divided into four displays, so you can see the details of the bending operation at a glance. The axial direction can be checked from the graphics in manual operation mode.



### In manual mode



## Auto Operation Mode

### PROGRAM MANAGEMENT (16 PROGRAMS)

Tool specification, die orientation, material type and thickness, as well as blank size are displayed. By simply entering the program name.



### Auto Operation

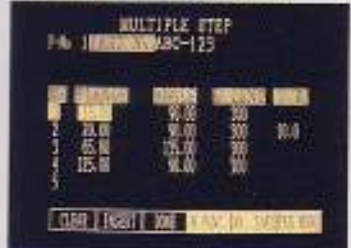
All operations can be monitored on the display as they are executed. Items such as current axis position, tonnage, number of completed parts can be displayed in this mode.



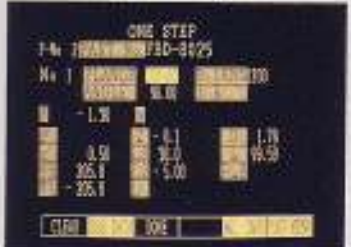
## Memory Mode

Use any of the following three entry methods according to your bending requirements.

### Multiple step entry



### One step entry



### MDI entry



## Custom User Data

There are many variables in bending applications such as individual machine properties, material characteristics, and tooling specifications. The NC 0-EV can be programmed to recognize all of these variables as they apply to your particular situation.

### Operating conditions



### List of adjustment values



### Punch and die registration (up to types registered)



# AUTO BACKGAUGE



## Micro-computer multi-step backgauge reduces backgauge positioning time.

This unit moves the backgauge to positions entered in the NC memory. The memory capacity is 99 positions. The position number and its corresponding backgauge position are shown on the LED display. When bend allowance data is entered, the system automatically adjusts the backgauge position. The interval between backgauge movements can be adjusted by entering time delay data. The stored data is maintained by a backup battery when the power is off.

## AUTO BACKGAUGE SPECIFICATION

Feed Speed	5m (16.4 ft)/min.	Memory capacity	99 steps
Positioning accuracy	$\pm 0.15\text{mm}$ ( $\pm 0.006\text{in.}$ )	Memory backup	Backup battery system
Movement range	0 to 500mm (0 to 19.685 in.)	Bend allowance	$\pm 9.9\text{mm}$ or $\pm 0.999\text{in.}$
Command unit	0.1mm or 0.001 in.	Height adjustment of stretch (from upper surface of lower beam to lower surface of finger)	55 to 140mm (2.17 to 5.51 in.)
Input method	Tenkey numeric pad		
Data display	LED		

With self-diagnostic function.  
Specifications are subject to change without prior notice.

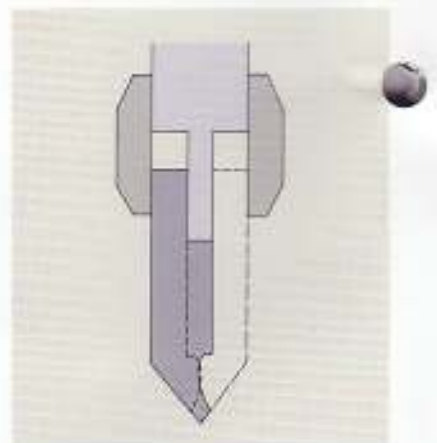
## One-touch clump (optional)



## Emergency stop bar for operator safety

This attachment can be used by the operator from any operating location to stop the machine during an emergency to ensure operator safety.

## Double Sided Section - alized Punch Holder



Enables toolings turn-over and install as illustrated, for extended bending variations.

## OTHER SPECIAL SPECIFICATIONS

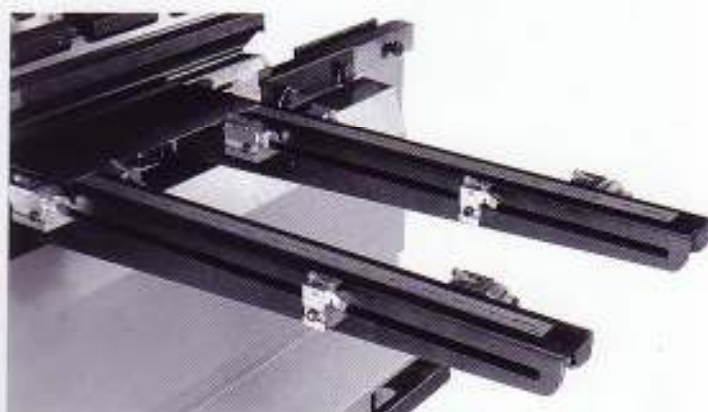
# RG SERIES

### ■ Micrometer feed front gauge with flip up stops

The front gauge is mounted on the lower table for positioning and holding awkward workpieces.

Four flip up stops are provided, two of which are micrometers.

The front gauge arms can be positioned or removed as needed.



### ■ Optical safety device



A beam reflecting safety device stops the ram instantly whenever the beam of light is blocked by any portion of the operator's body.

### ■ Portable foot pedal

The portable foot pedal can be operated from any position.

### ■ Side covers

The side covers ensure safety by covering the opening on both sides of the machine.

### ■ Sheet follower/support system



This unit rises with the lower beam of the press brake and supports the workpiece during the bend to prevent distortion.

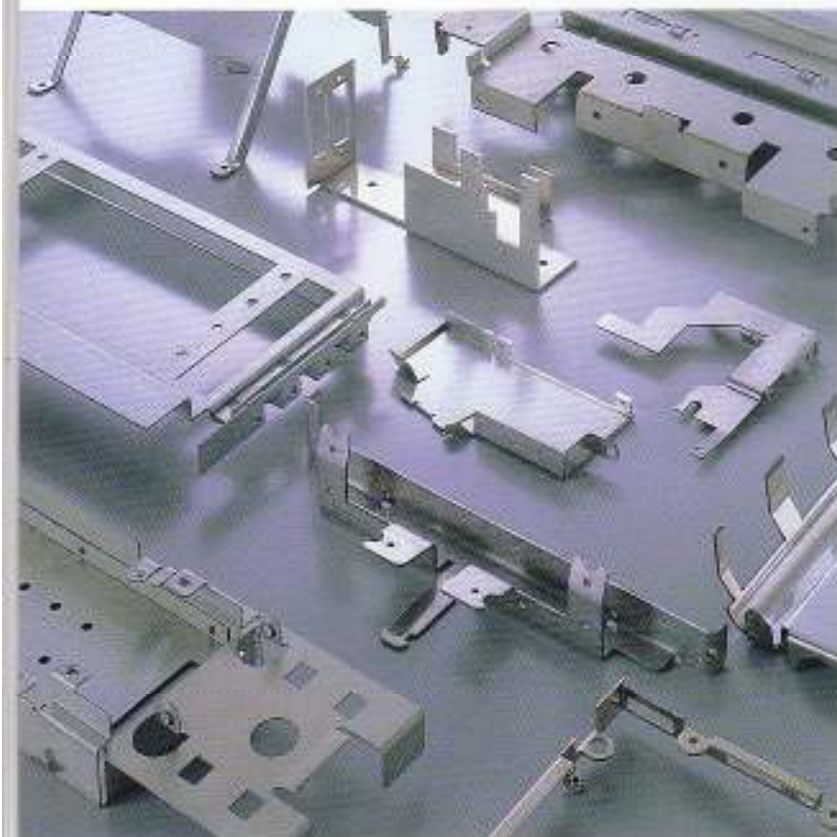
It enables large and heavy material to be bent safely and quickly. The speed is synchronized with the bending speed set by the NC9 system.

## WIDE VARIETY OF TOOL SELECTION

Over 100 types of standard toolings available in different sizes, shapes and materials - the result of our 20 years of experience in developing our wide range of bending technologies in response to customers' demand.

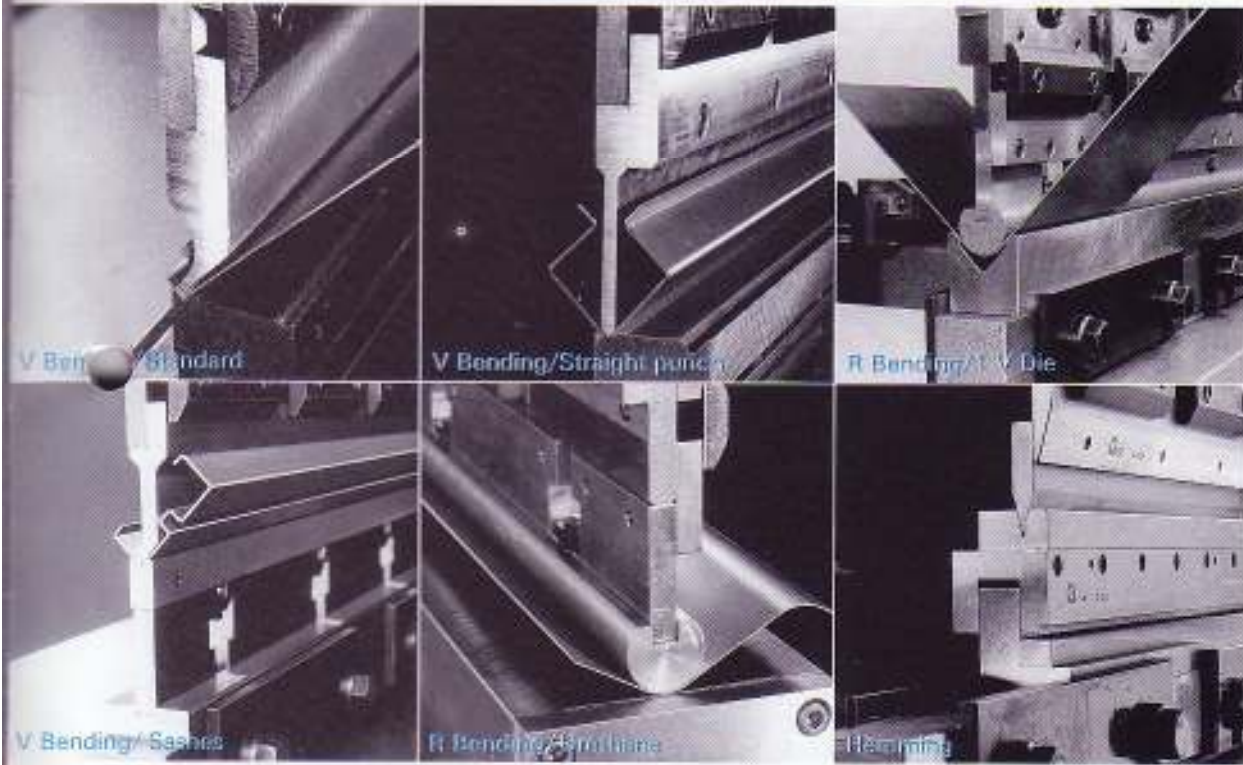
Analysis and research of basic data for raw materials, tooling design with the latest CAD system, detailed production control with a CAM system, and quick supply system through our international network . . . . . AMADA pursues perfect toolings to satisfy demands for "quality, delivery date, and cost" for our customers.

AMADA is also engaged in the design and production of special toolings to immediately respond to all processing requirements.

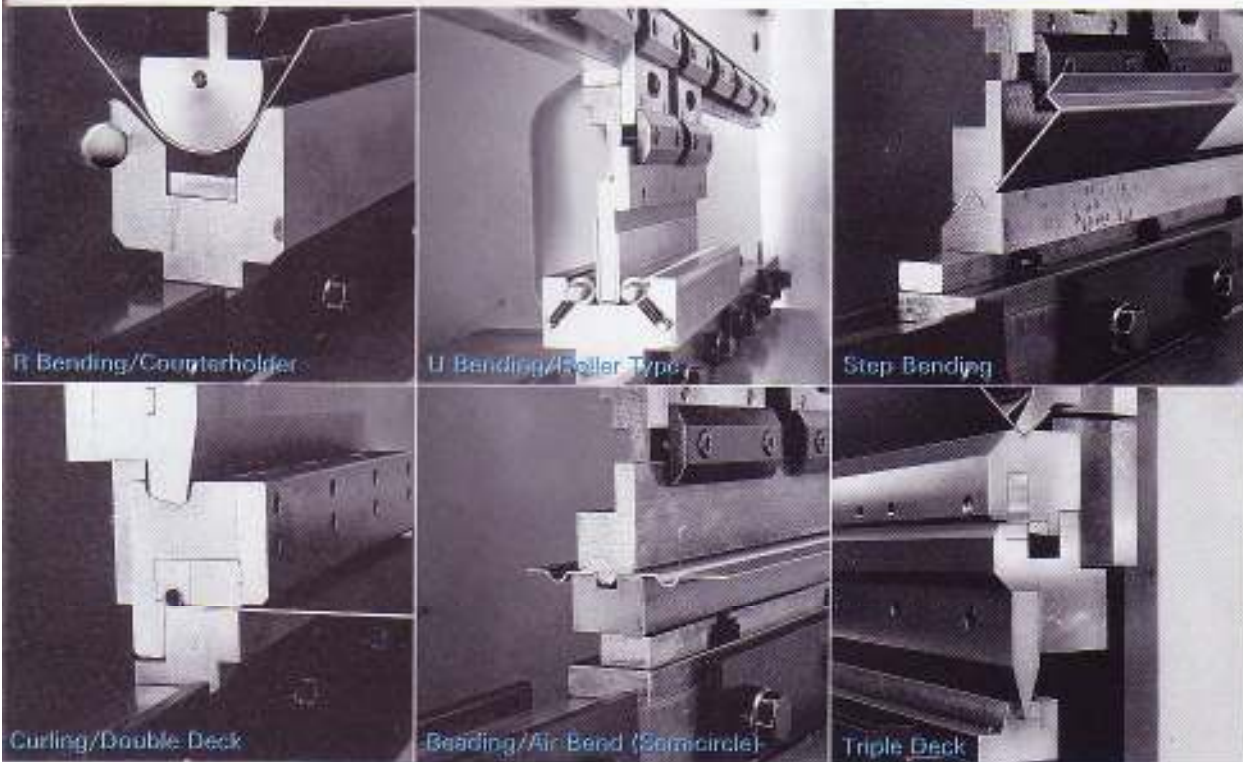


# RG SERIES

## Standard tools

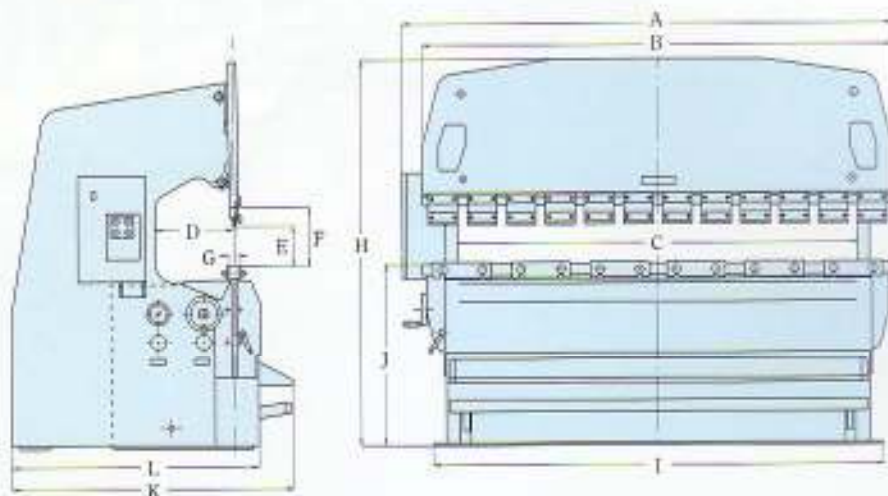


## Order tools



# SPECIFICATIONS

## RG-25~125



unit:mm(in)

	RG-25	RG-35S	RG-50S	RG-50	RG-80S	RG-80	RG-100S	RG-100	RG-100L	RG-125
A	1350(53.15)	1355(53.35)	1370(53.94)	2020(79.53)	2040(80.31)	2505(98.62)	2555(100.59)	3055(120.28)	4000(157.48)	3055(120.28)
B	1200(47.24)	1200(47.24)	1200(47.24)	2000(78.74)	2000(78.74)	2400(94.49)	2500(98.43)	3000(118.11)	4000(157.48)	3000(118.11)
C	1020(40.16)	1020(40.16)	1020(40.16)	1520(59.84)	1520(59.84)	2050(80.71)	2050(80.71)	2550(100.39)	3100(122.05)	2550(100.39)
D	200(7.87)	200(7.87)	400(15.75)	400(15.75)	400(15.75)	400(15.75)	400(15.75)	400(15.75)	400(15.75)	400(15.75)
E	250(9.84)	250(9.84)	250(9.84)	250(9.84)	250(9.84)	250(9.84)	250(9.84)	250(9.84)	250(9.84)	250(9.84)
F	370(14.57)	370(14.57)	370(14.57)	370(14.57)	370(14.57)	370(14.57)	370(14.57)	370(14.57)	370(14.57)	370(14.57)
G	60(2.36)	60(2.36)	60(2.36)	60(2.36)	60(2.36)	60(2.36)	90(3.54)	90(3.54)	90(3.54)	90(3.54)
H	1825(71.85)	1980(77.17)	1980(77.17)	1915(75.39)	2085(81.30)	2060(81.10)	2300(90.55)	2300(90.55)	2490(98.03)	2300(90.55)
I	1125(44.29)	1130(44.49)	1220(48.03)	1720(67.72)	1760(69.29)	2290(90.16)	2300(90.55)	2800(110.24)	3350(131.89)	2800(110.24)
J	935(36.81)	935(36.81)	940(37.01)	940(37.01)	940(37.01)	940(37.01)	1030(40.55)	1030(40.55)	1030(40.55)	1030(40.55)
K	890(38.98)	1025(40.35)	1400(55.12)	1395(54.92)	1430(56.30)	1430(56.30)	1555(61.22)	1555(61.22)	1555(61.22)	1790(70.47)
L	870(34.25)	905(35.63)	1230(48.43)	1220(48.03)	1260(49.61)	1260(49.61)	1385(54.53)	1385(54.53)	1430(56.30)	1650(64.96)

		RG-25	RG-35S	RG-50S	RG-50	RG-80S	RG-80	RG-100S	RG-100	RG-100L	RG-125	
Capacity	tonf	25	35	50	50	80	80	100	100	100	125	
	US ton	27.5	38.5	55	55	88	88	110	110	110	137	
Bending length	mm	1250	1250	1250	2085	2085	2505	2600	3100	4100	3100	
	in.	49.2	49.2	49.2	82.0	82.0	98.6	102.3	122.0	161.4	122.0	
Stroke length	mm	100	100	100	100	100	100	100	100	100	100	
	in.	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	3.9	
No. of cylinders		1	1	1	3	3	3	3	3	3	3	
Max. pressure	kg/cm <sup>2</sup>	221	310	280	185	296	296	338	338	338	296	
	psi	3138.2	4402	3976	2627	4203.2	4203.2	4799.6	4799.6	4799.6	4203.2	
Speed (mm/sec. in./sec.)	Rising	60Hz	46(1.81)	46(1.81)	36(1.4149)	36(1.4149)	36(1.4149)	36(1.4149)	49(1.92)	49(1.92)	49(1.92)	40(1.57)
		60Hz	55(2.16)	55(2.16)	45.3(1.78)	45.3(1.78)	45.3(1.78)	45.3(1.78)	59(2.32)	59(2.32)	59(2.32)	48.5(1.90)
	Bending	60Hz	810(31)	810(31)	7.4(0.28)	7.0(0.27)	7.0(0.27)	7.0(0.27)	8.3(0.32)	8.3(0.32)	8.3(0.32)	7.5(0.29)
		60Hz	9.6(0.37)	8.6(0.37)	8.9(0.35)	8.5(0.33)	8.5(0.33)	8.5(0.33)	10.1(0.39)	10.1(0.39)	10.1(0.39)	9.0(0.35)
Lowering		40(1.57)	40(1.57)	60(2.36)	35(1.37)	36(1.42)	52(2.05)	52(2.05)	52(2.05)	53(2.08)	40(1.57)	
Motor	kW	1.5	2.2	3.7	3.7	5.5	5.5	7.5	7.5	7.5	11	
	HP	2	3	5	5	7.5	7.5	10	10	10	15	
Tank capacity	l	26	26	50	51	51	51	65	65	65	94	
	gal.	6.8	6.8	13.1	13.4	13.4	13.4	17.1	17.1	17.1	24.8	
Machine weight	kg	1400	1600	1800	2900	4300	5100	6000	6400	7500	7100	
	lb.	3087	3528	3969	6394	9481	11245	13228	14110	16535	15653	

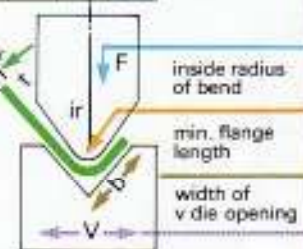
# AIR BENDING FORCE CHART

t	4	6	7	8	10	12	14	16	18	20	25	32	40	50	63	80	100	125	160	200	250	V				
0.5	3.8	4	5.0	5.5	7	8.5	10	11	13.5	14	17.5	22	28	36	45	55	71	88	113	140	175	W				
0.6	4	3																				W				
0.8	6	4	4	4																		W				
0.8		7	7	5	4																	W				
1.2		11	10	8	7	6																W				
1.2			14	12	10	8	7	6														W				
1.4				15	13	11	10	9	8													W				
1.8					17	15	13	11	10	9												W				
2.0						22	19	17	15	13	11											W				
2.3							25	23	19	17	15	12										W				
2.6								28	25	22	18	14										W				
3.0									34	30	24	19	15									W				
3.2										34	27	22	17	14								W				
3.5											33	26	20	16	13							W				
4.0												43	34	27	21	17						W				
4.5													44	34	27	21						W				
5.0														52	42	33	26	21				W				
6															60	48	38	30	24			W				
7																52	41	33	26			W				
8																	67	54	43			W				
10																		85	67	53	42		W			
12																			96	78	60	55		W		
16																				136	107	86		W		
18																					150	125	100		W	
22																						180	130		W	
25																							210	170		W
30																								240		W

If the material thickness and inside bending radius are known, the following can be obtained from the chart:

1. Pressure required for bending the material for 1 meter (above) or 1 foot (below).
2. Opening of the die to be used.
3. Minimum bendable flange length.

1. Material thickness [tensile strength: 45-80 kg/mm<sup>2</sup> (above) or 56992-71115 lbs/in<sup>2</sup> (below)]
- F Pressure per 1 meter (above) or 1 foot (below)
- ir Inside bending radius
- b Minimum flange length
- V Die opening



Die	Fract.
-----	--------

Thickness (mild steel)

t	4	6	7	8	10	12	14	16	18	20	25	32	40	50	63	80	100	125	160	200	250	V			
5.32	1.4	8.32	5.16	3.8	1.2	9.16	5.8	11.11	3/4	1	11.11	11.1	2	11.7	3	4	5	6	8	10	W				
1.8	3.16	12.64	7.32	9.22	11.22	13.22	7.16	17.22	9.18	11.18	7.6	11.8	1.24	1.34	2.4	1.62	3.16	3.12	4.12	5.12	6.78	W			
1.32	1.32	3.64	3.64	1.16	5.64	3.22	7.64	1.8	9.64	5.32	12.64	7.4	5.16	10.32	30.64	5.6	3.4	1.12	1.5	1.5	1.5	W			
20 0.038	5.4	3.6	3.0	2.5	2	1.7																	W		
16 0.048		6.8	5.8	4.8	3.7	2.7	2.4	2															W		
16 0.060				7.8	6.2	5	4.2	3.5	3.1	2.7													W		
14 0.075					11.0	8.2	7.0	5.5	4.8	4.1	3.1												W		
12 0.105						15	13	11	9.4	7.4	5.5	4											W		
11 0.120							16	13	10	7.3	5	3.8											W		
10 0.135										12	9	6.2	4.7	3.5									W		
116 0.188											24	15	11	7.5	5.7								W		
14 0.200												30	20	14	10.5	8.5							W		
5 16 0.313													36	25	18	13	10						W		
38 0.375														38	28	20	15	11					W		
12 0.500															52	38	30	22	16				W		
58 0.625																70	52	38	27	20	15		W		
14 0.750																		66	43	32	22		W		
1 1.000																				90	61	44		W	
114 1.250																							102	70	W



© 1999 by AMADA Co., LTD.

• AMADA used recycled paper for the production of this brochure.



**AMADA COMPANY, LTD.**  
200, Inada, Isahaya-shi, Nagasaki 859-1198 JAPAN  
Phone:81-463-95-3411 Fax:81-463-95-3281

**AMADA AMERICA INC.**  
7029 Freetome Boulevard Buena park CA 90621, U.S.A.  
Phone:1-714-739-2111 Fax:1-714-739-4099

**AMADA CANADA LTD.**  
885, Avenue Georges Cros Granby Québec J2J1E8, Canada  
Phone:1-450-378-0111 Fax:1-450-777-3736

**AMADA U.K. LTD.**  
Spennells Valley Road, Kidderminster, Worcestershire DY10  
1XS, England  
Phone:44-1562-749-500 Fax:44-1562-749-510

**AMADA GmbH**  
Westfalenstr 6 D-42781 Haan Germany  
Phone:49-2129-57901 Fax:49-2129-59183

**AMADA S.A./AMADA EUROPE S.A.**  
Avenue de la pyramide, 93290 Tremblay-en-France, France  
Phone:33-1-4990-3000 Fax:33-1-4990-3199

**AMADA AUSTRIA GmbH**  
Wassergasse 1, A-2630 Tamitz, Austria  
Phone:43-2630-35170 Fax:43-2630-35185

**AMADA SCHIAVI S.R.L.**  
Via Copernico 2/A, Casoli di Gariga, 28027  
PODENZANO (Piacenza), Italy  
Phone:39-0523-590711 Fax:39-0523-550724

**AMADA SINGAPORE (1989) PTE LTD.**  
5611, North Bridge Road 01-02A, Eng Cheong Tower,  
Singapore 168782  
Phone:65-296-5033 Fax:65-296-1713

**AMADA (MALAYSIA) SDN. BHD.**  
Lot1-1, Technology Park Malaysia, Support Services, Resource  
Centre, Lebuhraya Puchong-Sungai Besi, Bukit Jalil, 57000 Kuala  
Lumpur, Malaysia.  
Phone:03-9663075/9912 Fax:03-9665637

**AMADA (THAILAND) CO., LTD.**  
Thosapol Land 3 BLDG., 6th Floor 947 MDD 12 Bangna Trad  
Road, K.M. 3, Bangna Sub-District, Bangna District, Bangkok  
10260 Thailand  
Phone:66-2-361-9152-60 Fax:66-2-361-9165-88

**AMADA TAIWAN INC.**  
21, Wenming St., Linkou 3rd. Park, Keelung, Taoyuan Hsien,  
Taiwan  
Phone:886-3-328-3511 Fax:886-3-328-4200

**BEIJING AMADA MACHINE & TOOLING CO., LTD.**  
No.14 Dongpingmen, Guang Qu Men Nei Street, Chong Wen  
District, Beijing, People's Republic of China  
Phone:86-10-6711-6414 Fax:86-10-6711-8348

**AMADA INTERNATIONAL INDUSTRY AND  
TRADING (SHANGHAI) CO., LTD.**  
Room B1-1, First Floor, Huashan garden, No.813, Jiangsu  
Road, Shanghai, People's Republic of China  
Phone:86-21-6240-4107 Fax:86-21-6240-4105

**AMADA HONG KONG CO., LTD.**  
Shop 5A, G/F., Kwong Sang Hong Centre 151-153 Hoi Bun  
Road, Kwun Tong, Kowloon, Hong Kong People's Republic of  
China  
Phone:852-2668-9186 Fax:852-2521-1363

**AMADA CO., LTD., INDIA LIAISON OFFICE**  
412-C, Floral Deck Plaza, MDC, Opp Secc, Andher (E), Mumbai-  
400033 India  
Phone:91-22-8235406 Fax:91-22-8235405

**AMADA KOREA CO., LTD**  
123 Block 5Lot, Namdong Industrial Area 803-4 Kojandong,  
Namdong-ku, Incheon, Korea  
Phone:032-821-8010 ~4 Fax:032-821-6015