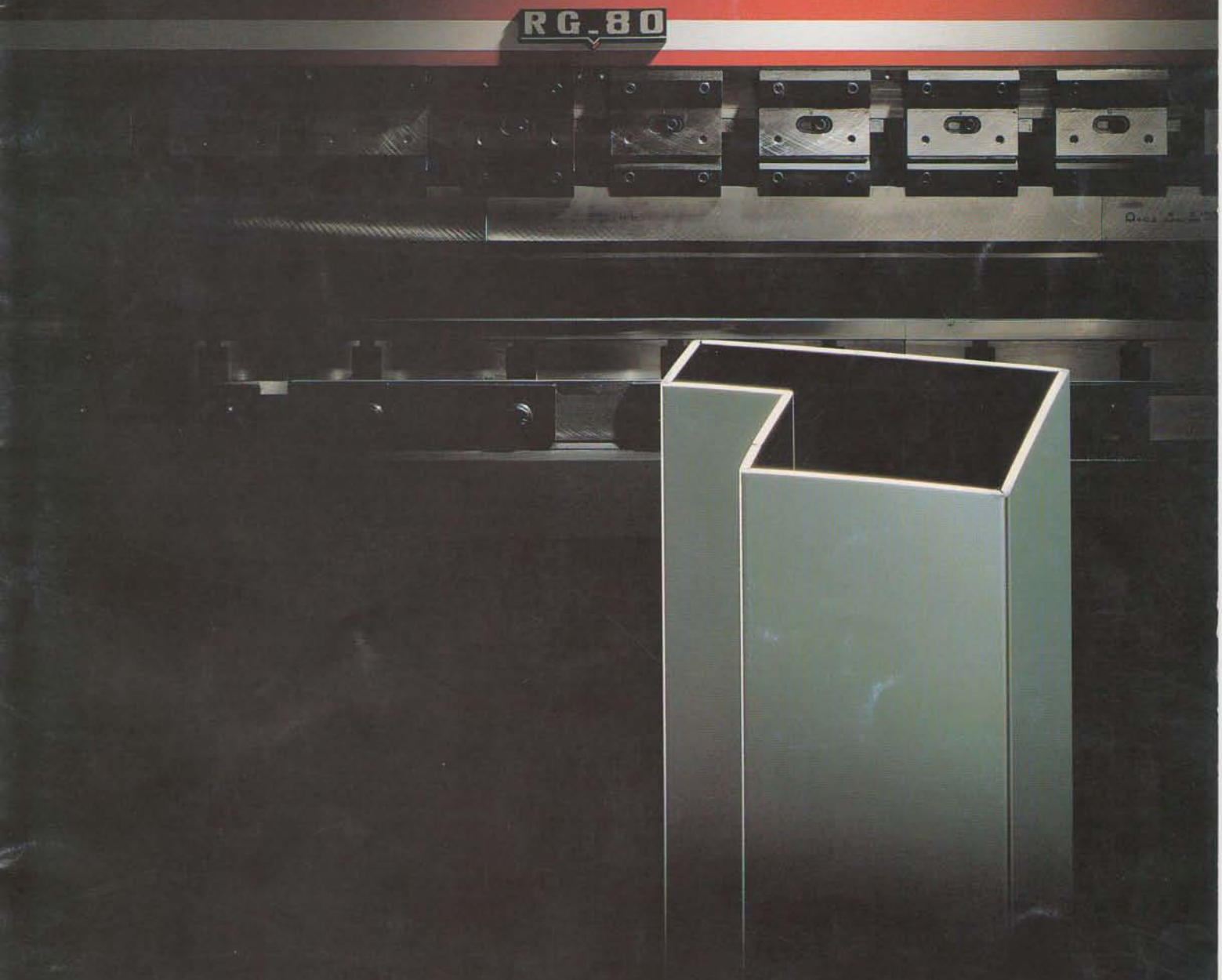
AMADA

AMADA PRESS BRAKE

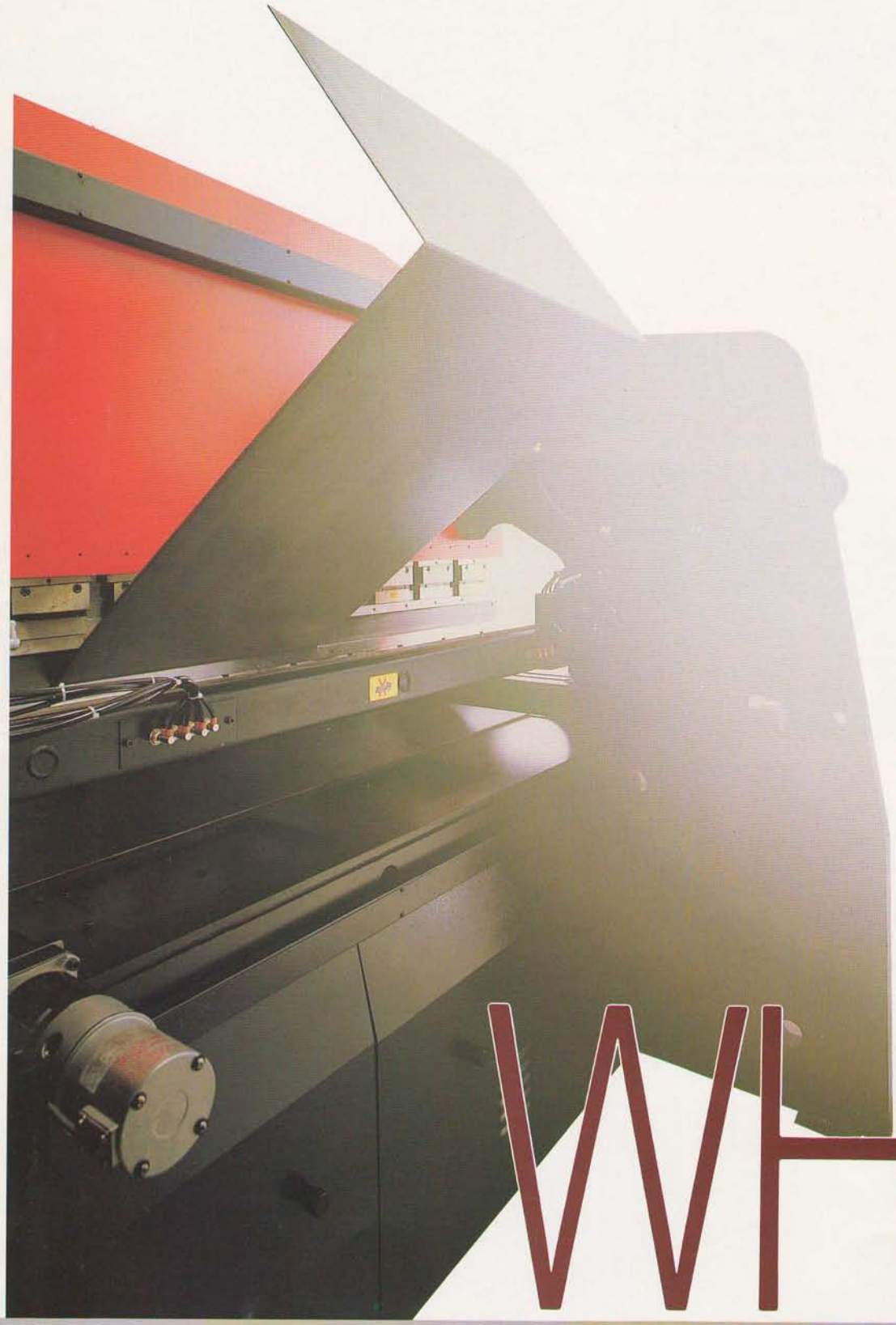
RG SERIES



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

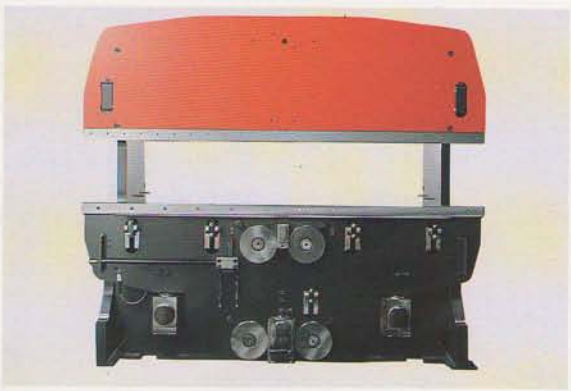
The Amada press brake is a precision hydraulic up-acting system. Unique design features eliminate time-consuming set-up procedures such as shimming and tool alignment. The Amada press brake utilizes a centrally located primary cylinder that ensures parallel beam deflection and uniform bends. Two additional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

RG SERIES

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.

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.

Nothing's Above It in Versatility.

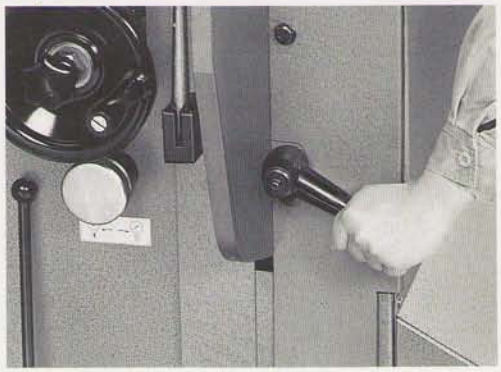
Beam parallelism and positioning are controlled mechanically, thus simplifying the hydraulic system and eliminating valve reaction time and error. The drive and control mechanisms are located in the lower part of the main frame, leaving the work area open and interference free.

OPERATION CONTROLS

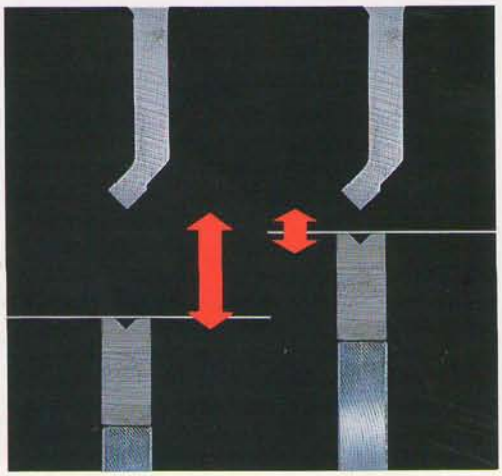
Precise Bending Angle Control

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

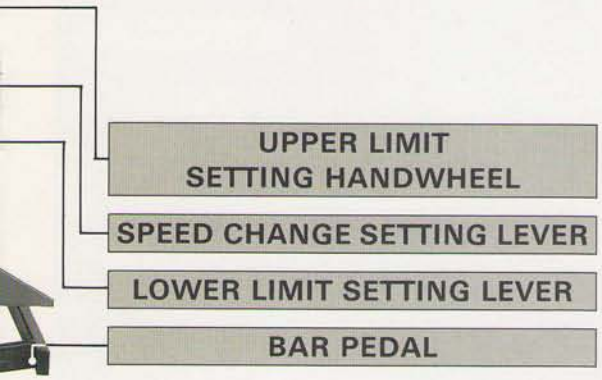


Unnecessarily long bending strokes waste production time and are dangerous and tiring for the operator. The most efficient stroke length can be set by the lower limit setting lever.



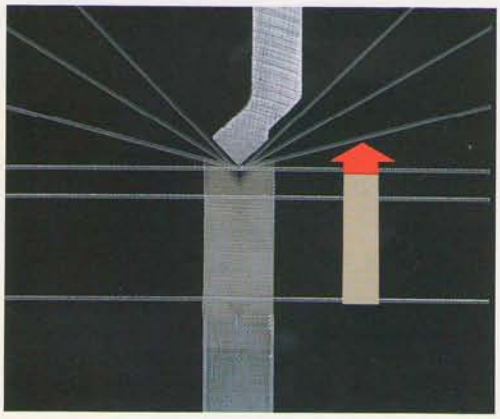
All operation parts integrated to one location on the machine Equipped with diverse functions for productivity and safety

RG SERIES



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.

L-ONLY Mode/Auto Operation Mode

NC9-EV Dual-Mode Switching M

Allowing the novice to make pro

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.

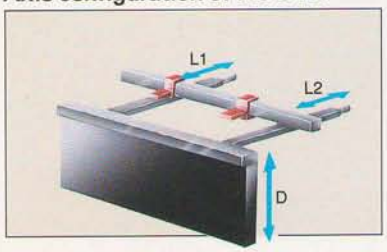
Backgauge Unit

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)	Axes L 1 and L 2 independently driven Max.offset between L 1 and L 2 ±80 mm(FBD II 2512~1603)
Setting unit	D-axis	0.01(0.0001 inch)	Repeat accuracy : L-axis ±0.1 mm
	L-axis	0.01(0.0001 inch)	
Feedrate	D-axis	1 m/min.	Switched with parameter
	L-axis	30 m/min.	
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) preregistered
No. of stoppers		4 for 2M machine or more 2 for 1.2M machine	
Stopper UP/CENTER/DOWN		○	
Stopper-Finger flip-up		○	2M machine or more
Actual hydraulic pressure display		○	Displayed during processing
External I/F		RS-232C	
Communication capability		○	
Option		○	
Power consumption		1.5kVA	
Compatible models		RG25~400	

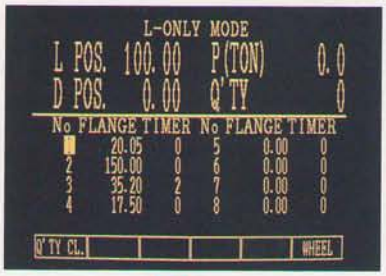
Specifications are subject to change without prior notice.

akes Bending Easy
fessional quality parts.

RG SERIES

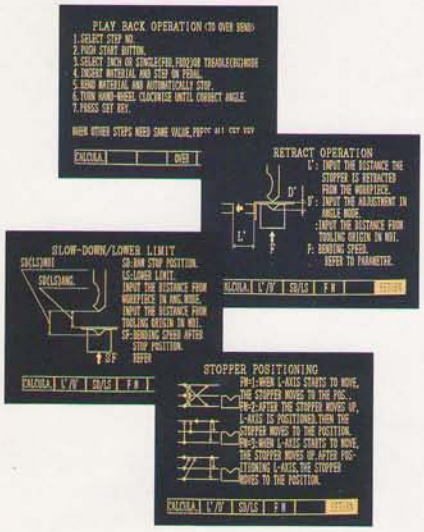
L-ONLY Mode

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.

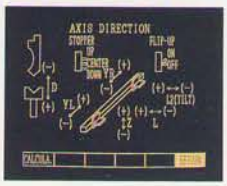


Easy-to Comprehend reference functions

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

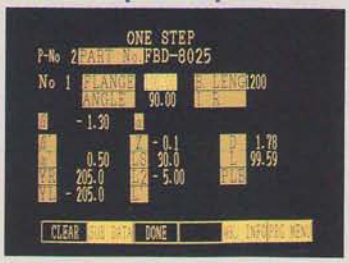
All operations can be monitored on the display as they are executed. Items such as current axis position, tonnage, number of completed parts can be displayed in this mode.

Memory Mode

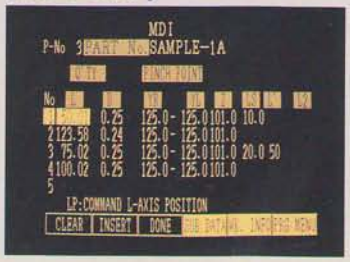
Use any of the following three entry methods according to your bending requirements.

Multiple step entry

One step entry



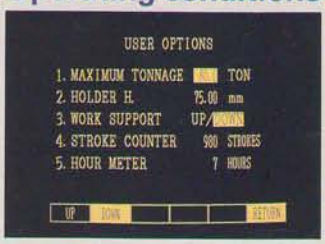
MDI entry



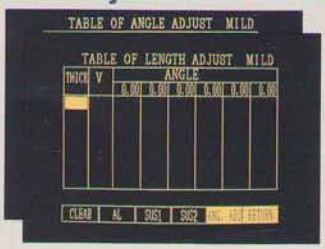
Custom User Data

There are many variables in bending applications such as individual machine properties, material characteristics, and tooling specifications. The NC 9-EV can be programmed to recognize all of these variables as they apply to your particular situation.

Operating conditions

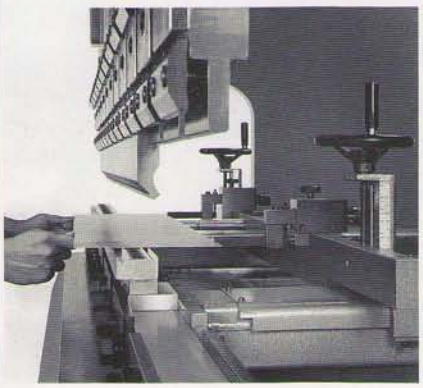


List of adjustment values



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.

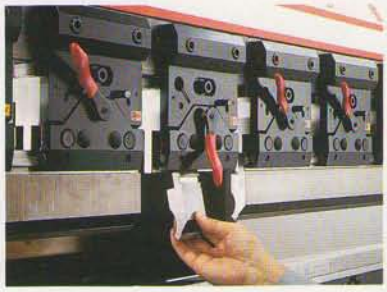
AUTO BACKGAUGE SPECIFICATION

Feed Speed	5m (16.4 ft)/min.
Positioning accuracy	±0.15mm (±0.006in.)
Movement range	0 to 500mm (0 to 19.685in.)
Command unit	0.1mm or 0.001in.
Input method	Tenkey numeric pad
Data display	LED

Memory capacity	99 steps
Memory backup	Backup battery system
Bend allowance	±9.9mm or ±0.999in.
Height adjustment of stretch (from upper surface of lower beam to lower surface of finger)	55 to 140mm (2.17 to 5.51 in.)

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

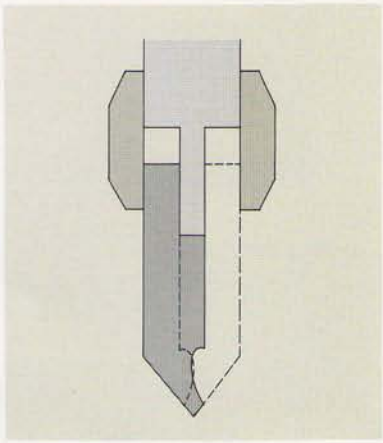
■One-touch clump(optional)



■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



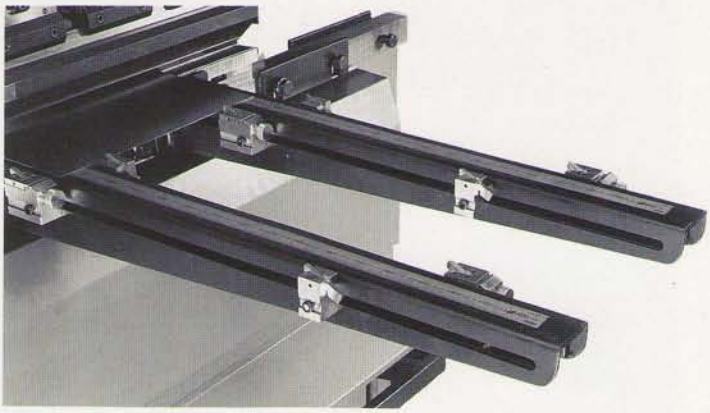
Enables toolings turn-over and install as illustrated, for extended bending variations.

OTHER SPECIAL SPECIFICATIONS

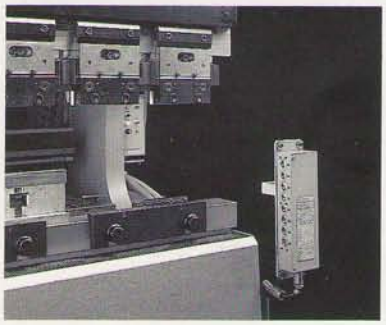
RG SERIES

■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

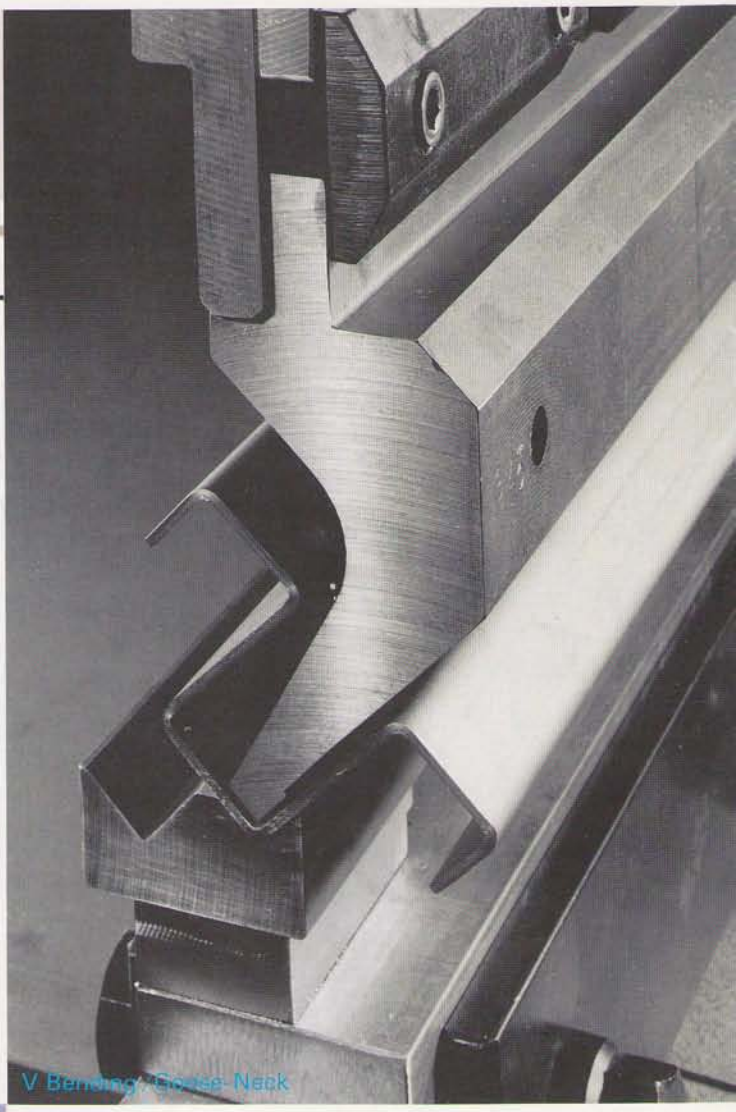
The side covers ensure safety by covering the opening on both sides of the machine.

■Sheet follower/support system

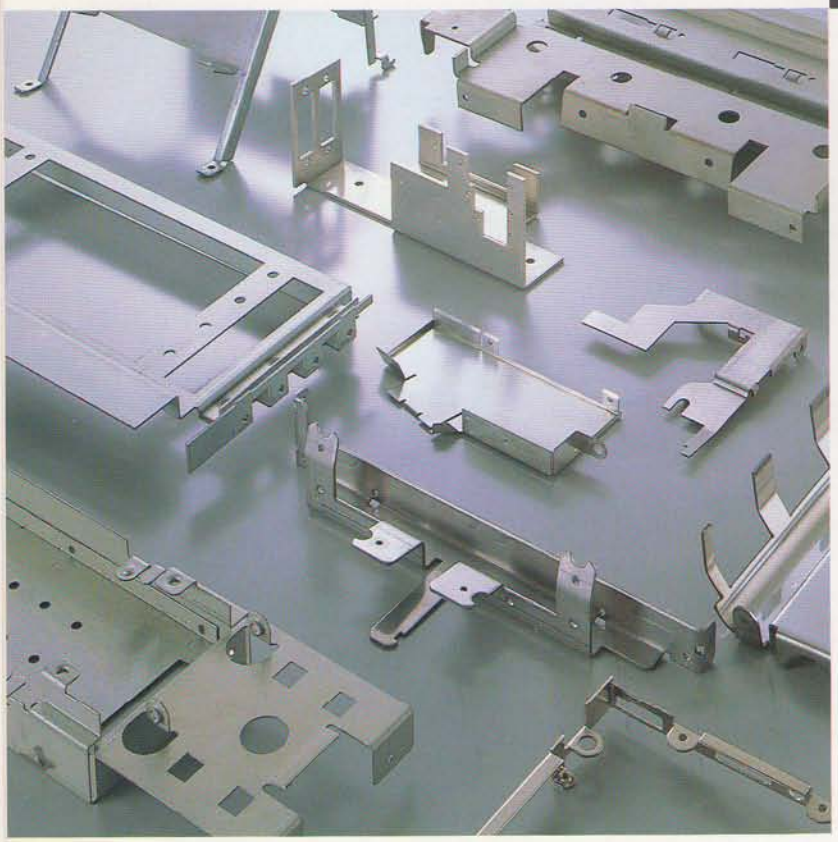
This unit rises with the lower beam of the press brake and supports the workpiece during the bend to prevent distortion.
It enables large and heavy material to be bent safely and quickly. The speed is synchronized with the bending speed set by the NC9 system.

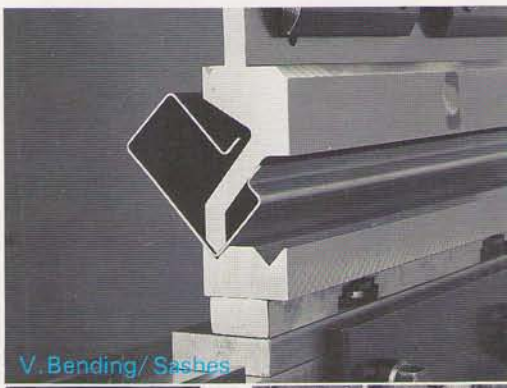
WIDE VARIETY OF TOOL SELECTION

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.

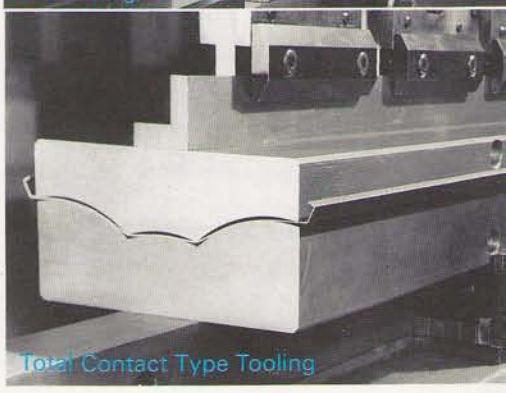


V Bending/Goose Neck





V. Bending/ Sashes

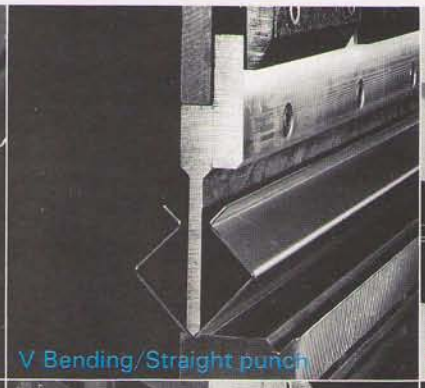


Total Contact Type Tooling

RG SERIES

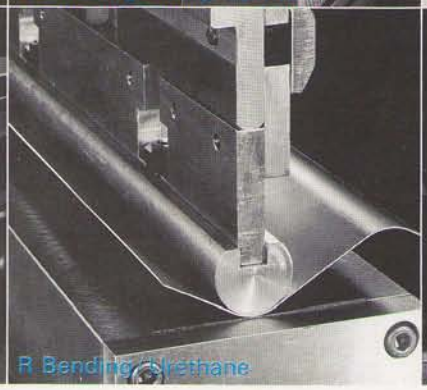
Standard tools

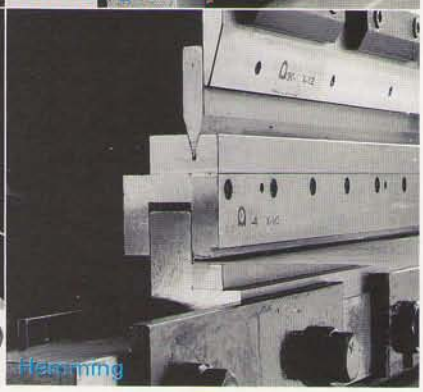

V Bending/Standard


V Bending/Straight punch

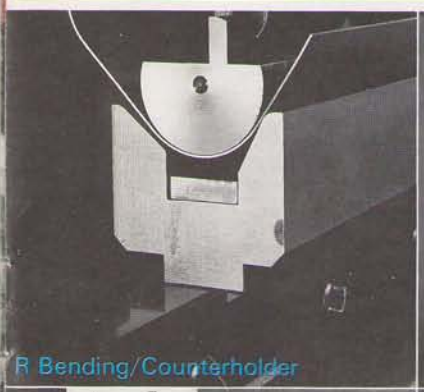

R Bending/1 V Die


V Bending/Sashes


R Bending/Urethane

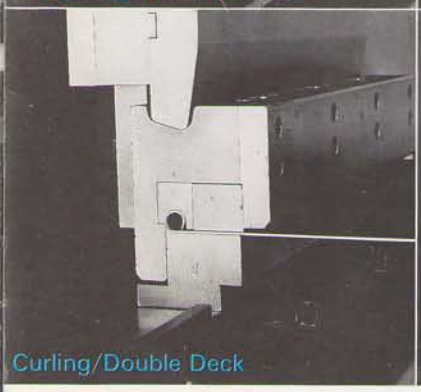

Hemming

Order tools

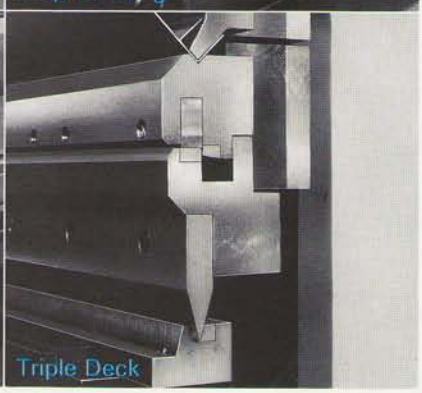

R Bending/Counterholder


U Bending/Roller Type


Step Bending

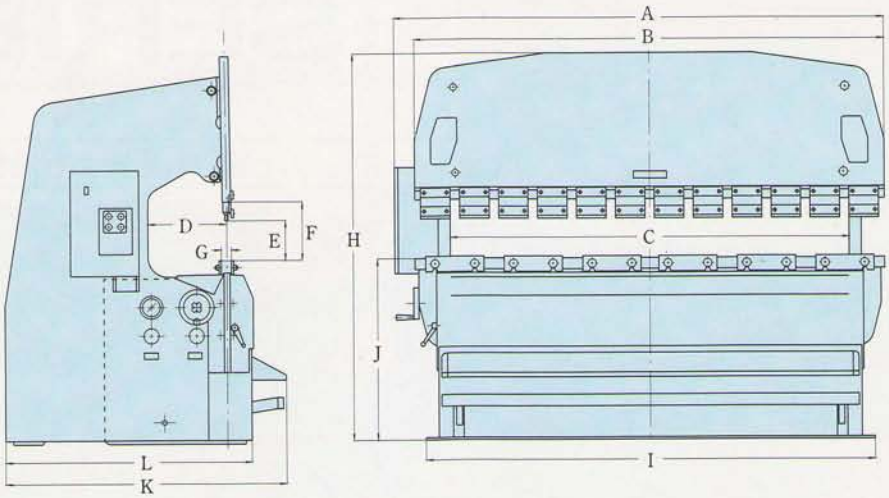

Curling/Double Deck


Beading/Air Bend (Semicircle)


Triple Deck

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)	1960(77.17)	1960(77.17)	1915(75.39)	2065(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	990(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		kN {tonf}	245 {25}	343 {35}	490 {50}	490 {50}	784 {80}	784 {80}	980 {100}	980 {100}	980 {100}	1225 {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		MPa {kgf/cm²}	21.6 {221}	30.4 {310}	27.4 {280}	18.1 {185}	29.0 {296}	29.0 {296}	33.1 {338}	33.1 {338}	33.1 {338}	29.0 {296}
		psi	3138.2	4402	3976	2627	4203.2	4203.2	4799.6	4799.6	4799.6	4203.2
Speed mm/s (in./sec.)	Rising	50Hz	46(1.81)	46(1.81)	38.1(1.49)	38.1(1.49)	38.1(1.49)	38.1(1.49)	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	50Hz	8(0.31)	8(0.31)	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)	9.6(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(2.35)	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
Mass of machine		kg	1400	1600	1800	2900	4300	5100	6000	6400	7500	7100
		lb.	3087	3528	3969	6394	9481	11245	13228	14110	16535	15653

{ } Reference only

AIR BENDING FORCE CHART

{ } Reference only

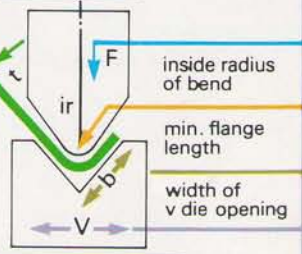
t mm	4	6	7	8	10	12	14	16	18	20	25	32	40	50	63	80	100	125	160	200	250	v
	2.8	4	5.0	5.5	7	8.5	10	11	13.5	14	17.5	22	28	35	45	55	71	89	113	140	175	b
	0.7	1	1.1	1.3	1.6	2	2.3	2.6	3	3.3	4	5	6.5	8	10	13	16	20	26	33	41	ir
0.5	40 {4}																					
0.6	60 {6}	40 {4}	40 {4}	30 {3}																		
0.8		70 {7}	70 {7}	50 {5}	40 {4}																	
1.0		110 {11}	100 {10}	80 {8}	70 {7}	60 {6}																
1.2			140 {14}	120 {12}	100 {10}	80 {8}	70 {7}	60 {6}														
1.4				150 {15}	130 {12}	110 {11}	100 {10}	90 {9}	80 {8}													
1.6					170 {17}	150 {15}	130 {13}	110 {11}	100 {10}	90 {9}												
2.0						220 {22}	190 {19}	170 {17}	150 {15}	130 {12}	110 {11}											
2.3							250 {25}	230 {23}	190 {19}	170 {17}	150 {15}	120 {12}										
2.6								280 {28}	250 {25}	220 {22}	180 {18}	140 {14}										
3.0									340 {34}	300 {30}	240 {24}	190 {19}	150 {15}									
3.2										340 {34}	270 {27}	220 {22}	170 {17}	140 {14}								
3.5											330 {33}	260 {26}	200 {20}	160 {16}	130 {12}							
4.0											430 {43}	340 {34}	270 {27}	210 {21}	170 {17}							
4.5												430 {43}	340 {34}	270 {27}	210 {21}							
5.0													420 {42}	330 {33}	260 {26}	210 {21}						
6														480 {48}	380 {38}	300 {30}	240 {24}					
7															520 {52}	410 {41}	330 {33}	260 {26}				
9																670 {67}	540 {54}	430 {43}				
10																850 {85}	670 {67}	530 {53}	420 {42}			
12																	960 {96}	780 {78}	600 {60}	500 {50}		
16																		1360 {136}	1050 {105}	860 {86}		
19																			1500 {150}	1250 {125}	1000 {100}	
22																				1600 {160}	1300 {130}	
25																				2100 {210}	1700 {170}	
30																					2400 {240}	

F kN/meter {tons/meter}

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.

t Material thickness [tensile strength : 450~500N/mm² (above) or 56892-71115 lbs/in² (below)]
F Pressure per 1 meter (above) or 1 foot (below)
ir Inside bending radius
b Minimum flange length
V Die opening



t mm / Gauge or Frac. / Dec

Thickness (mild steel)

Gauge or Frac.	Dec	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	9/32	5/16	3/8	1/2	9/16	5/8	11/16	3/4	1	1-1/4	1-1/2	2	2-1/2	3	4	5	6	8	10	
		1/8	3/16	13/64	7/32	9/32	11/32	13/32	7/16	17/32	9/16	11/16	7/8	1-1/8	1-3/8	1-3/4	2-3/16	2-13/16	3-1/2	4-1/2	5-1/2	6-7/8	b
		1/32	1/32	3/64	3/64	1/16	5/64	3/32	7/64	1/8	9/64	5/32	13/64	1/4	5/16	13/32	33/64	5/8	3/4	1-1/32	1-5/16	1-5/8	ir
20	0.036	5.4	3.6	3.0	2.5	2	1.7																
18	0.048		6.8	5.8	4.8	3.7	2.7	2.4	2														
16	0.060				7.8	6.2	5	4.2	3.5	3.1	2.7												
14	0.075					11.0	8.2	7.0	5.5	4.8	4.1	3.1											
12	0.105						15	13	11	9.4	7.4	5.5	4										
11	0.120								16	13	10	7.3	5	3.8									
10	0.135										12	9	6.2	4.7	3.5								
3/16	0.188											24	15	11	7.5	5.7							
1/4	0.250												30	20	14	10.5	8.5						
5/16	0.313													36	25	18	13	10					
3/8	0.375														38	28	20	15	11				
1/2	0.500															52	39	30	22	16			
5/8	0.625																70	52	38	27	20	15	
3/4	0.750																		66	43	32	22	
1	1.000																			90	61	44	
1-1/4	1.250																				102	70	

F {tons/foot}

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AMADA COMPANY, LTD.
200, Ishida, Isehara-shi, Kanagawa 259-1196 JAPAN
Phone:81-463-96-3411 Fax:81-463-96-3281
http://www.amada.co.jp

AMADA AMERICA INC
7025 Firestone 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 Quebec 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 Ternitz, Austria
Phone:43-2630-35170 Fax:43-2630-35165

AMADA SCHIAVI S.R.L.
Via Copernico 2/4, Casoni di Gariga, 29027
PODENZANO (Pi cenza), Italy
Phone:39-0523-[illegible]50711 Fax:39-0523-550724

AMADA SINGAPORE (1989) PTE LTD.
5611, North Bridge Road 01-02A, Eng Cheong Tower,
Singapore 198782
Phone:65-298-5033 Fax:65-296-1713

AMADA SINGAPORE (1989) PTE LTD.
Jl. Dr. Susilo Raya no.17 Jakarta 11450
Phone:62-21-56965367 Fax:62-21-56965369

AMADA (MALAYSIA) SDN, BHD.
Lot1-1, Technology Park Malaysia, Support Services,
Resource Centre, Lebuhraya Puchong-Sungai Besi,
Bukit Jalil, 57000 Kuala Lumpur, Malaysia.
Phone:60-3-89963912 Fax:60-3-89965937

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

AMADA TAIWAN INC.
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AMADA (INDIA) PRIVATE LTD.
412-C, Floral Deck Plaza, MIDC, Opp. Seepz, Andheri (East),
Mumbai-400093 India
Phone:91-22-823-5406, 91-22-839-5592, 91-22-838-2271
Fax:91-22-823-5405

AMADA KOREA CO., LTD.
123 Block 5Lot, Namdong Industrial Area 693-4 Kojandong,
Namdong-ku, Inchon, Korea
Phone:82-32-821-6010~4 Fax:82-32-821-6015

AMADA do Brasil Ltda.
Rua Dr. Moises Kahan, 55/73, Barra Funda, CEP:01139-040,
Sao Paulo, SP, Brasil
Phone:55-11-3611-6278 Fax:55-11-3611-8432

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