

DURMA

AD-SERVO SERIES

Hybrid Press Brakes



- Perfect Precision
- Profit
- Energy Efficient
- Hi-Speed & Repeatability
- Elegant Design



DURMA





As a total supplier for sheet metal manufacturing with almost 60 years of experience, Durma understands and recognizes the challenges, requirements and expectations of the industry.

We strive to satisfy the ever higher demands of our customers by continuously improving our products and processes while researching and implementing the latest technologies.

In our three production plants with a total of 150.000 m², we dedicate 1,000 employees to delivering high quality manufacturing solutions at the best performance-to-price ratio in the market.

From the innovations developed at our Research & Development Center to the technical support given by our worldwide distributors, we all have one common mission: to be your preferred partner.

Present Durmazlar machines with **DURMA** name to the world.



1

High technology,
modern production
lines



3

High quality
machines designed
in R&D Centre

2

Top quality
components



AD-Servo Series Hybrid Press Brake

Now Production is More Effective

The future – as a result of rising energy costs and increasingly cost efficient speed-controlled drives offered on the market, variable-speed solutions are on the advance.



Cost Down Profit Up

Precise bending result at fast speed

Minimalized tool change and adjustment time

Maximized speed and safety

Energy-efficient Hydraulics with Variable Speed Pump Drives

Energy consumption has a significant effect on Total Cost of Ownership of plant and machinery: even with standard machines, the energy consumption represents 30% of total costs, and with particularly energy-intensive applications, this share is remarkably higher.



High Capacity

Robust Body

Perfect Precision

Winning

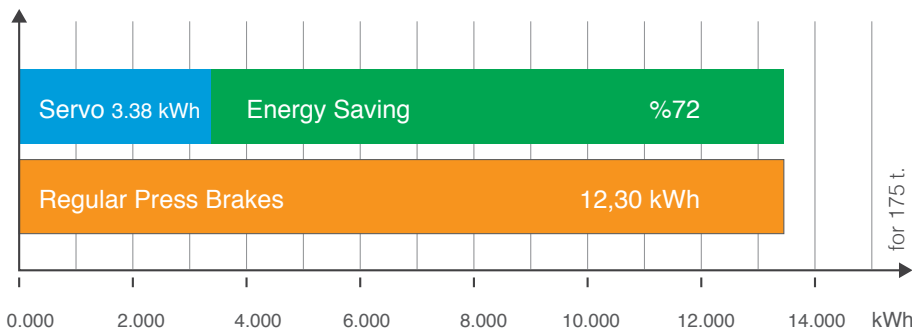
Ergonomic

Advantages

- High energy-saving potential
- Decreased operating costs
- Clearly reduced cooling effort
- Operational reliability
- High availability
- Lower investment
- System safety
- Future-oriented technology
- Remarkable noise reduction
- Fewer secondary measures
- Ease of integration of flexible check functions
- Decrease in the number of expensive machine failures
- Compliance with EU Directives

Comparison of Energy Consumption of a Press Brakes

Electric Consumption



■ AD-Servo Press Brakes ■ Regular Press Brakes ■ Energy Saving

Main components

- Servomotor
- Hydromotor-pump (4-quadr. oper.)
- Servo controller IndraDrive C
- Software-Technology function
- Parameter
- Bell housing and coupling
- Power unit (Oil tank, accessories)
- Valve block, prefill valve
- Cylinder

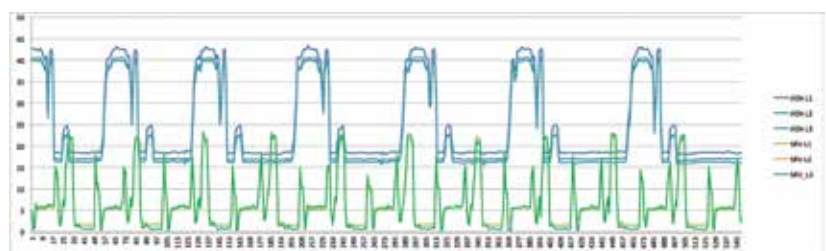
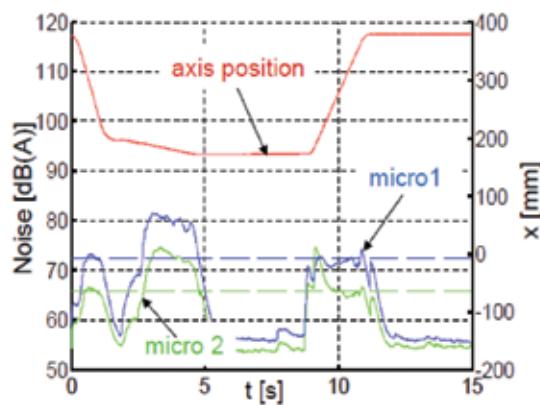
Physical characteristics

- Control of position
- Control of pressure/load pressure
- Open/closed hydraulic circuit
- 4-quadrant operation

Productivity

%60 more productivity with %72 less energy consumption at work.

Less Noise Level



Fast Increase in Efficiency in Production

AD-Servo is high modularity of hydraulics also opens up economic options on existing plant and machinery by substituting fixed displacement power units by variable-speed pump drives with little effort.

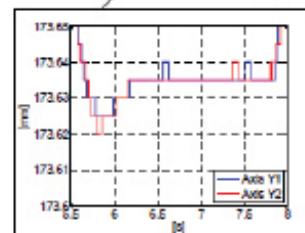
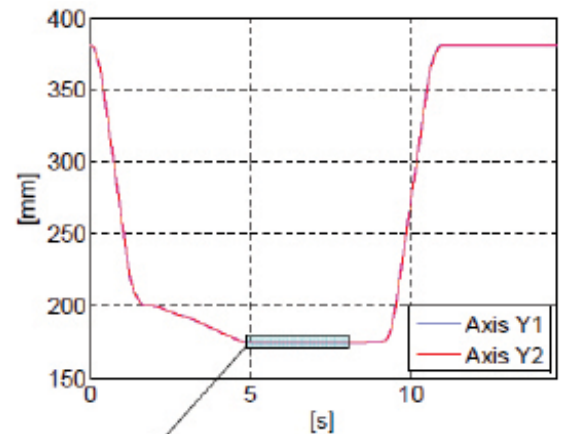


- Energy Saver
- Accurate on each cycle
- Economy Proof
- Hi-Speed & Repeatability



Depending on cycle characteristics and rating, variable-speed pump drives achieve energy savings

AD-Servo positioning accuracy Less Noise Level at target position



Fast, Efficient, Modern

AD-Servo Series press brakes, designed with high technology to increase efficiency on precise part bending.

Quality approved components used.

Stress relieved made on bodies for long life and precise bending.



General Specifications

- High sensitivity, Stress relieved steel construction body, long life Mono Block Frame
- Automatic calibration and first start up
- *DURMA* designed and copyrighted guiding system
- Ball Screw and linear guide integrated perfect back gauge system
- Durable, long life and sensitive bending capable special hardened top tools
- Suitable for segmented tools special and fast tool holding system
- Sensitive solutions on Long and deep bending
- High accuracy linear scales
- CE safety standards
- Best quality world wide accepted hydraulic and electric components

Strong Back Gauge System

Precise

Reliable

Strong

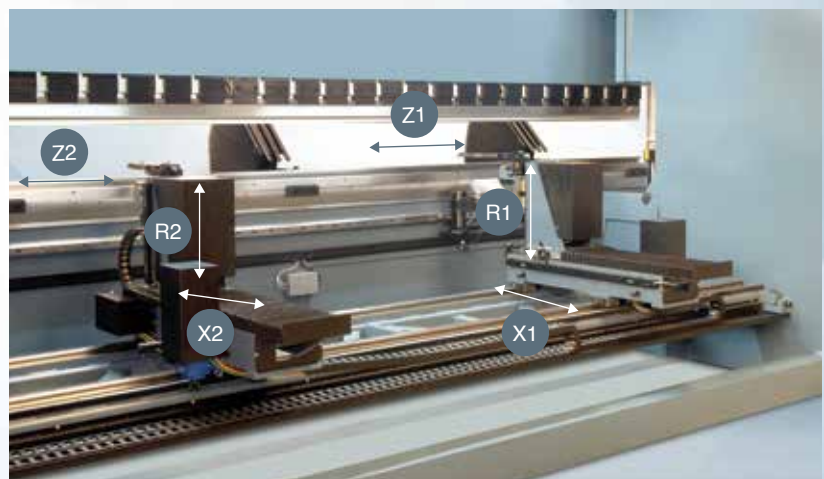
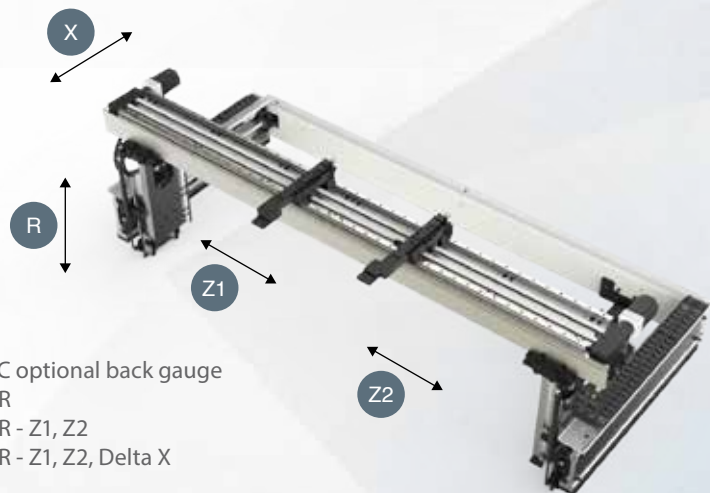
- Fast and high accuracy
- Safe movement
- Resistance to crash
- Maintenance free
- Adjustment availability at every point

Why DURMA Back Gauge ?

Most important feature to achieve perfect bending is the stability and the design of the back gauge, which allows an impeccable and correct product to be produced.

The high speed ballscrew back gauge system movement is also supported with linear guides, which helps the back gauge achieve long life, greater sensitivity and strengthens against any collisions.

Special designed finger blocks with steps to achieve maximum stability can also be supplied for every kind of bending solution.



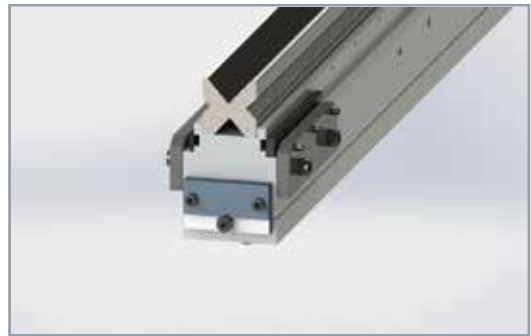
Tool Holders and Tools

Bending performance increased using with high quality European clamping system and easy to use. Narrow table designed for European style tool holder and Z bending.

DURMA is your solution partner with various tool options.



European Clamping System



European Type Bottom Tool (4V Die)



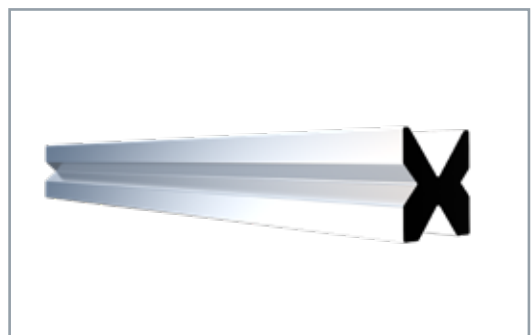
Quick Release Clamping



DURMA Hydraulic Holder



DURMA Top Tool Holder



DURMA Multi V Bottom Tool

Safe and Accurate Bends with Top Quality Equipments

Crowning System

Manual or CNC-controlled motorized crowning system simplifies bending, by adjusting each point of the bending parts to acquire straight bends. The need for shimming is eliminated.



CNC Crowning System

Linear Guide Front Sheet Supports

Rugged support arms with tilting stops are mounted on a linear guide rail system. This allows “finger-tip” lateral adjustment as required by the bend length of the part. They are also equipped with side gauges for the fast, easy, and accurate feeding of parts small or large.



Linear Guide Front Sheet Supports

CE Safety Systems

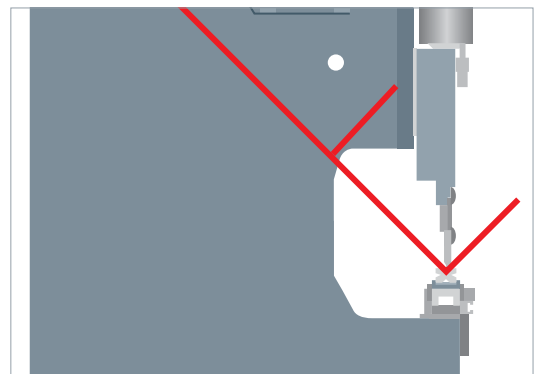
Our machines are designed in accordance with CE-Norms to ensure your safety with hydraulic, electric, appropriate height covers and laser light curtains. CE safety in tandem machines are also provided with light barriers.



CE Laser Safety System

Stable Top Beam Movement

By using long and planar guiding surfaces, all the disadvantages of point guiding are eliminated 100% free bending space: guiding system that eliminates bending between frame has been moved to the outside of the frame.



90 Degree Endless Bend

Now Bending is More Easier

SKY 22



- 21.5" TFT color touch screen with USB port and backup
- Automatic bending order
- Perfect control of electrical servo systems
- Archiving user bendings
- 2D/3D color graphics display and multi-simulation
- Windows 10 operating system
- D-Bend offline software
- Tandem applications
- Network interface
- X1-X2-R1-R2-Z1-Z2 and AP3-AP4 part support system
- DURMA laser angle measurement system compatible
- 2D / 3D part & tool import

DA-66T



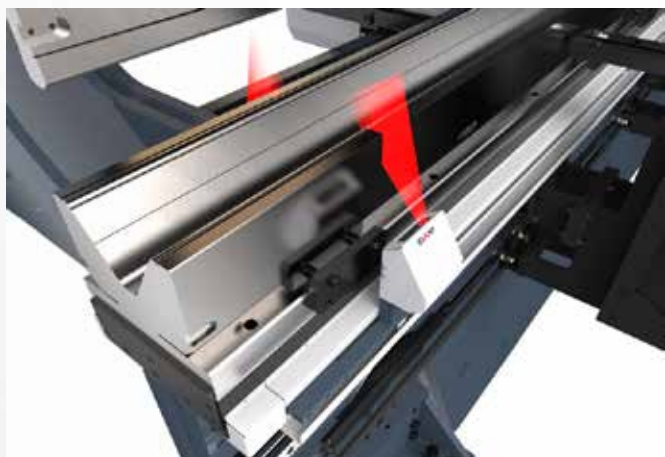
- 2D graphical touch screen programming mode
- 3D visualisation in simulation and production
- 17" high resolution colour TFT
- Full Windows application suite
- Delem modusys compatibility
- USB, peripheral interfacing
- User specific application support within the controllers multitasking environment
- Sensor bending & correction interface
- Profile - TL - software

DA-69S



- 24" TFT screen, 1920 x3080 pixels, 32 bit colour,
- Real-time Linux embedded OS
- Full touch screen control
- Storage capacity 2 GB
- Network connectivity
- Delem modusys compatible
- Tandem operation
- 2D/3D real-scale product programming and visualisation
- Automatic bending calculation 2D/ 3D
- DXF part & tool import support

System of DURMA Angle Measurement



Automatic AP3 - AP4 Sheet Follower



Robotic System of Applications



Standard & Optional Equipment

Standard Equipment

Control Unit - SKY 22
Y1, Y2, X, R - 4- Axis
F. AKAS LC 5 Front safety system
CE F.AKAS BVLTL Light barrier and safety cages (for tandem Press Brakes)
Servo motor back gauge & linear guided & ballscrew system (X-R)
CNC controlled motorized Crowning
European style tool clamping system
Sliding front arms (With T-Slot and stopper)
World standards special design hydraulic block and valves
World standard electric equipment

Optional Equipment

Control Unit - DA 66T - 69S
Motorized F. AKAS - 3P FPSC (Safety PLC)
Delta X Axis ± 125 stroke
X Axis = 1000 mm – light barrier back protection
AP3-AP4 Automatic system of sheet follower – Motorized elevation adjustment
(There is a motorized elevation adjustment of 220 tons or more.)
Durma laser angle measurement
DBEND 3D bending simulation program
Quick release clamping system
Hydraulic and pneumatic tool clamping systems
Parking area
Central lubrication system manual / automatic
Oil cooler / Oil heater
Additional back gauge finger and sliding front support arms
Special packing for overseas shipments

Fast on Service and Spare Parts

DURMA provides the best level of service and spare parts with qualified personnel and spare parts in stock. Our experienced and professional service personnel are always ready at your service. Our professional training and application enriched courses will give you an advantage to use our machinery.



Consultancy



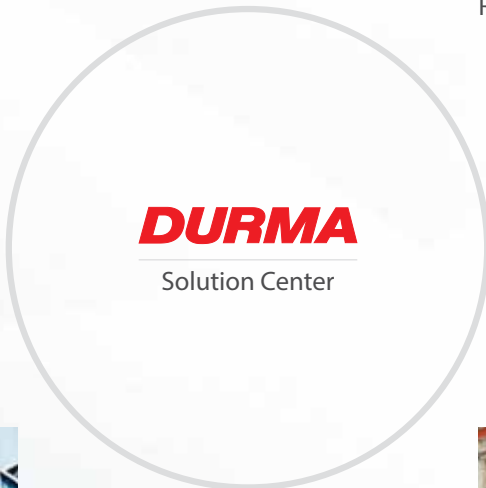
Spare Parts



R&D Center



After Sales Service



Service Agreements



Software



Training

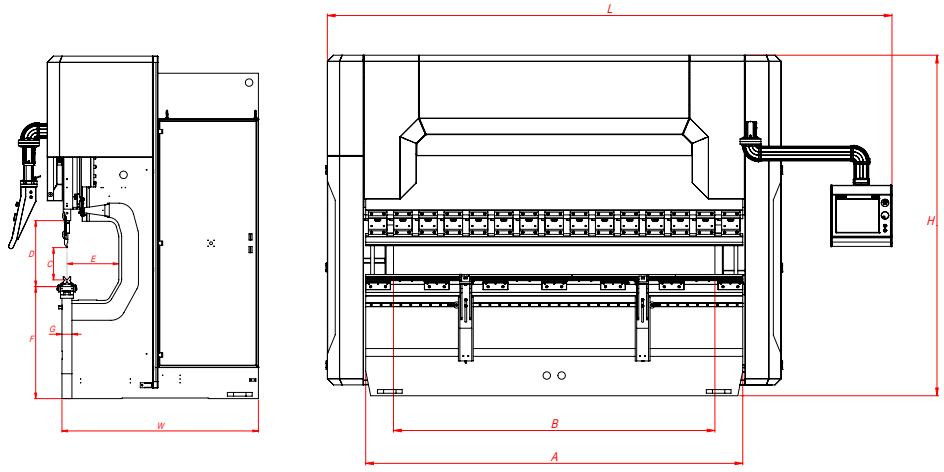


Flexible Solution

AD-Servo Series Technical Details

AD-SERVO Series	Bending Force	Bending Length	Distance Between Columns	Stroke	Daylight	Throat Depth	Table Height	Table Width (Narrow / Wide)	Y Rapid Speed	Y Working Speed	Y Return Speed	Y Axes Precision	X Axes Working Speed	X Axes Precision
	ton	mm	mm	mm	mm	mm	mm	mm	mm/sec	mm/sec	mm/sec		mm/sec	
		A	B	C	D	E	F	G						
AD-Servo 25100	100	2550	2200	265	530	450	900	104	200	10	200	0,01	500	0,05
AD-Servo 30100	100	3050	2600	265	530	450	900	104	200	10	200	0,01	500	0,05
AD-Servo 30135	135	3050	2600	265	530	450	900	104	200	10	200	0,01	500	0,05
AD-Servo 30175	175	3050	2600	265	530	450	900	104/180	200	10	200	0,01	500	0,05
AD-Servo 30220	220	3050	2600	265	530	450	900	104/180	200	12	180	0,01	500	0,05
AD-Servo 30320	320	3050	2600	365	630	450	900	104/240	160	10	160	0,01	500	0,05
AD-Servo 37175	175	3700	3100	265	530	450	900	104/240	200	10	200	0,01	500	0,05
AD-Servo 37220	220	3700	3100	265	530	450	900	104/240	200	12	180	0,01	500	0,05
AD-Servo 40175	175	4050	3600	265	530	450	900	104/240	200	10	200	0,01	500	0,05
AD-Servo 40220	220	4050	3600	265	530	450	900	104/240	200	12	180	0,01	500	0,05
AD-Servo 40320	320	4050	3600	365	630	450	900	154/300	160	10	160	0,01	500	0,05
AD-Servo 40400	400	4050	3400	365	630	510	1050	154/300	150	9	150	0,01	500	0,05
AD-Servo 40600	600	4050	3400	365	700	510	990	154/300	80	6,5	80	0,01	500	0,05
AD-Servo 60220	220	6050	5100	265	530	450	1050	104/240	200	12	180	0,01	500	0,05
AD-Servo 60320	320	6050	5100	365	630	450	1100	154/300	160	10	160	0,01	500	0,05
AD-Servo 60400	400	6050	5100	365	630	510	1100	154/300	150	9	150	0,01	500	0,05
AD-Servo 60600	600	6050	5100	365	700	510	990	154/300	80	6,5	80	0,01	350	0,05

Machines are adjusted to optimum values.



X Axes Dimensions			R Axes Working Speed	R Axes Working Distance	R Axes Precision	Z Axes Working Speed	Z Axes Working Distance	Motor Power	Consumption Ratio	Oil Tank Capacity	Length	Width	Height	Weight Approx.
650	750	1000												
mm	mm	mm	mm/sec	mm		mm/sec	mm	kw	kw/h	lt	mm	mm	mm	kg
S	-	O	350	250	0,1	1000	1580	4 x 2	2,1	75	3800	1670	2850	7800
S	-	O	350	250	0,1	1000	1990	4 x 2	2,1	75	4200	1670	2850	8500
S	-	O	350	250	0,1	1000	1990	4 x 2	2,65	75	4200	1680	2850	9580
S	-	O	350	250	0,1	1000	1990	4 x 2	3,38	75	4250	1700	2850	10900
S	-	O	350	250	0,1	1000	1990	11 x 2	5,2	80 x 2	4250	1770	3000	12600
S	-	O	350	250	0,1	1000	1990	11 x 2	7,2	80 x 2	4300	1820	3330	17100
S	-	O	350	250	0,1	1000	2375	4 x 2	3,38	75	4950	1700	3000	11750
S	-	O	350	250	0,1	1000	2375	11 x 2	5,2	80 x 2	4950	1770	3000	14440
S	-	O	350	250	0,1	1000	2910	4 x 2	3,38	75	5250	1700	2850	12780
S	-	O	350	250	0,1	1000	2910	11 x 2	5,2	80 x 2	5250	1770	3000	14750
S	-	O	350	250	0,1	1000	2910	11 x 2	7,2	80 x 2	5300	1910	3330	20000
-	S	O	350	250	0,1	1000	2910	11 x 2	7,2	80 x 2	5750	2110	3450	27780
-	S	O	300	250	0,1	1000	2910	11 x 2	11,8	140 x 2	5750	2500	4000	40500
-	S	O	350	250	0,1	1000	4400	11 x 2	5,2	80 x 2	7500	1770	3350	20800
-	S	O	350	250	0,1	1000	4400	11 x 2	7,2	80 x 2	7500	1910	3350	29000
-	S	O	350	250	0,1	1000	4400	11 x 2	7,2	80 x 2	7500	2110	3810	34600
-	S	O	300	250	0,1	1000	4400	11 x 2	11,8	140 x 2	7600	2650	3950	52500

DURMA



PANEL BENDER



PUNCH



PLASMA



L ANGLE PROCESSING CENTER



IRON WORKER



POWER OPERATED SHEAR

DURMA



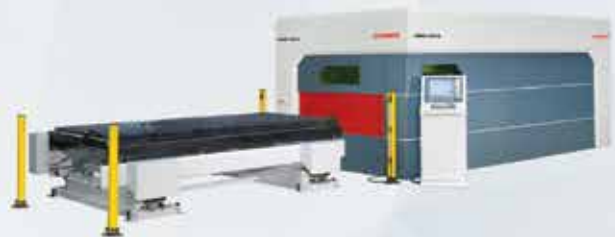
PRESS BRAKE



VARIABLE RAKE SHEAR



TUBE LASER CUTTING



FIBER LASER



ROLL BENDING



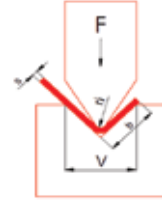
PROFILE BENDING



CORNER NOTCHER

DURMA

V	b	r _i	s(mm)																					
			0.5	0.8	1	1.2	1.5	1.8	2	2.5	3	3.5	4	4.5	5	6	7	8	9	10	12	15	18	20
6	5	1	2,5	6,5	10																			
8	6	1,3	2	5	8	11																		
10	7	1,7	1,5	4	6	9	13																	
12	9	2		3	5	7	11	16																
15	12	2,7			4	6	9	13	16															
20	15	3,3				4	7	10	12	19														
26	18	4,2					4	7,5	9	14	21													
30	22	5						6,5	8	12	19	24												
32	23	5,4						7,5	11,6	17	23	30												
37	25	5,8							10	14,5	20	26	33											
42	29	6,7								13	17	23	29	33,5										
45	32	7,5									16	21	27	33	48									
50	36	8,3										19	24	30	43	58								
60	43	10											20	25	36	49	64							
70	50	11,5												21	31	42	55	69						
80	57	13,5													27	37	48	60	75					
90	64	15														32	42	54	66	95				
100	71	17															38	48	60	86	134			
130	93	22																	37	46	66	103	149	
180	130	30																		33	48	75	107	153
200	145	33																			43	67	83	119
250	180	42																				54	77	92



$$F = \frac{1,42 \times L \times R_m \times s^2}{1000 \times V} \text{ (Ton)}$$

F: Bending Force (Ton) L: Length (mm) Ri: Inside Radius (mm) Rm: Material Tensile Strength (daN/mm²) V: Channel Width (mm) B: Minimum Sheet Bending Side (mm) S: Thickness (mm)

AD-SERVO SERIES Press Brakes

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