The Winning Force

DURMA

AD-SERVO SERIES
Press Brakes



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

Low Power Consumption

durmazlar

DURMA The Winning Force



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.

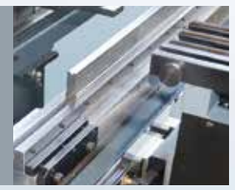
Present Durmazlar machines with DURMA name to the world.



1
High technology, modern production lines



2
Top quality components



3
High quality machines designed in R&D Centre

durmazlar

AD-Servo Series 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.

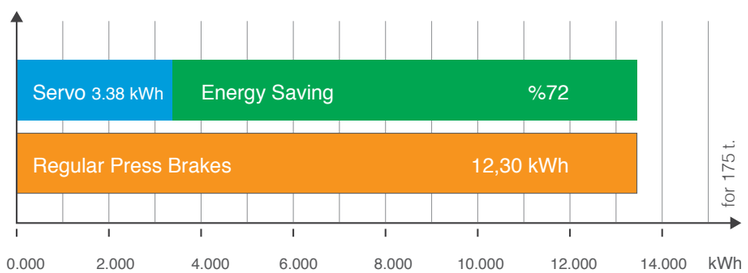
Low Power Consumption | **High Capacity** | **Robust Body** | **Perfect Precision** | **Winning** | **Ergonomic**

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

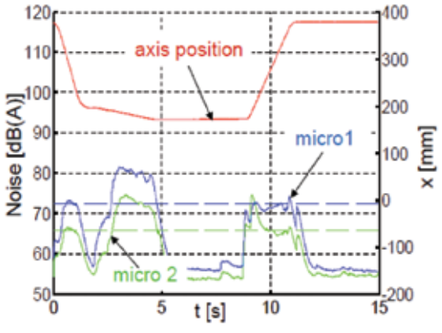
Physical characteristics

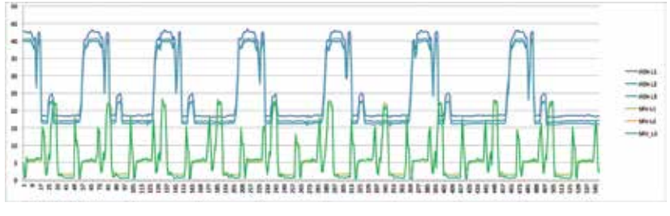
Control of position
Control of pressure/load pressure
Open/closed hydraulic circuit
4-quadrant operation

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.



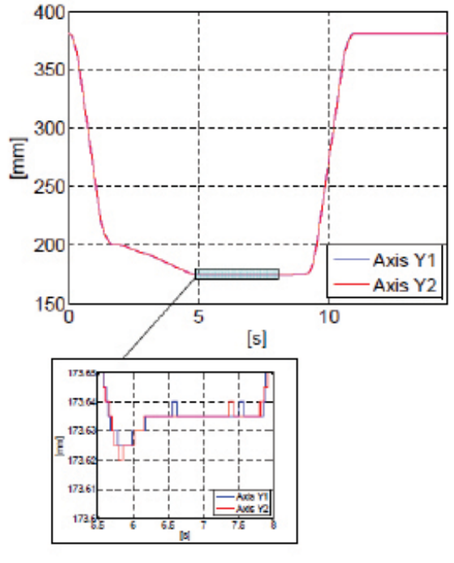
- Energy Saver
- Accurate on each cycle
- Economy Proof
- Hi-Speed & Repeatability



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



CNC back gauge
X - R
Z manuel
X



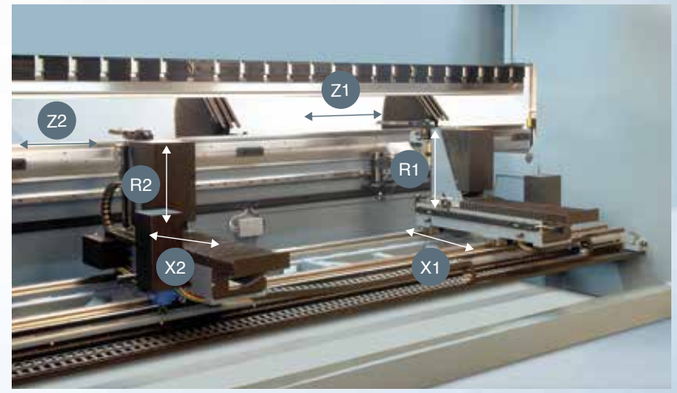
CNC optional back gauge
X - R
X - R - Z1, Z2
X - R - Z1, Z2, Delta X

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.



CNC optional back gauge
X1 - X2, R1 - R2, Z1 - Z2

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)



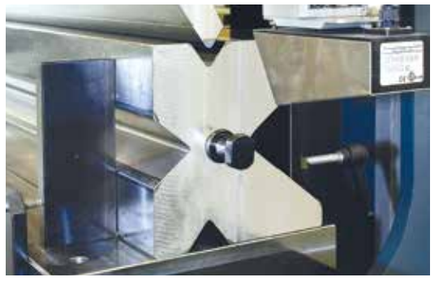
Quick Release Clamping



Wila Bottom Tool Clamping



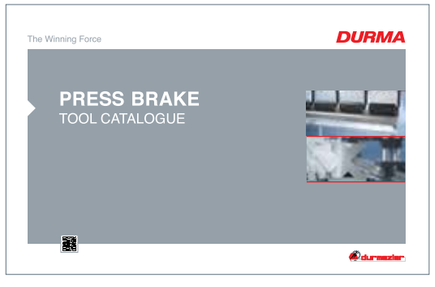
Wila Top Tool Clamping



DURMA Multi V Bottom Tool



DURMA Top 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

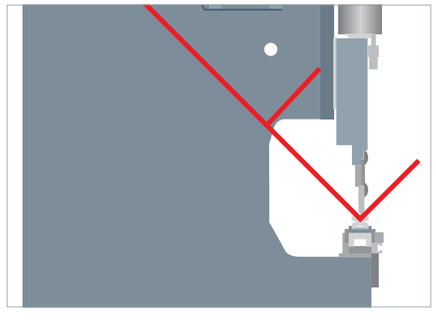
Our machines are designed in accordance with CE-Norms to ensure your safety with hydraulic, electric, appropriate height covers and laser light curtains. CE safety in tandem machines are also provided with light barriers.



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

ModEva 19T



19" color Touch Screen
On-screen finger profile drawing
Automatic bend listing
Very simple and convenient data transfer
Higher productivity thanks to easy and rapid
Multi-simulation capability
Simulation criteria for better sheet management
Windows XPe for multitasking and file management
EC safety-cycle management
Ethernet for easy communication
Bundled Offline Software

Modeva Premium

Full 3D simulation
Multiple view points while working
3D collision detection
User defined table for bend deduction
Rapid solution computation
Importing 3D models (MetaBEND, IGES)
Automatic Tool Shape Selection
Video-like bend simulation.
Almost unlimited quantity of programs and sequences

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

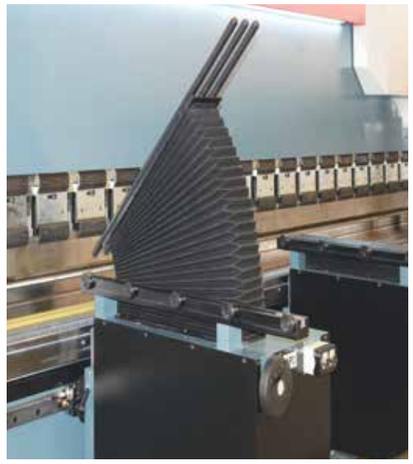
DA-69T

Higher grade of efficiency
3D and 2D graphical touch screen programming mode
17" high resolution colour TFT
Minimal set up time
Delem modusys compatability
Sensor bending correction interface
1 GB memory capacity
Integrated OEM-Panel
1280x1024 pixels, 16-bit colour
3D graphics acceleration

System of DURMA Angle Measurement



Automotic AP3 - AP4 Sheet Follower



Robotic System of Applications



Standard & Optional Equipment

Standard Equipment

Y1, Y2, X, R - 4- Axis
Control Unit - CNC ModEva19T
CE Manuel F. AKAS II M FPSC-B-C + Safety Cages with switch
CE F.AKAS BVLT 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 - ModEva Premium, 69T ve 66T
Motorized FIESSLER AKAS-3PM (distance of mute until 3 mm)
Z1, Z2 Axis
X1, X2 Axis
R1, R2 Axises
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 adjusment of 220 tons or more.)
System of laser angle measurement
Quick release clamping system
Hydraulic and pneumatic tool clamping systems
Bottom and top tools
Bottom tool separation system
Parking area
Central lubrication system
Oil cooler
Additional back gauge finger and sliding front support arms
Special packing for overseas shipments
DBEND 3D bending simulation program

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

DURMA
Solution Center

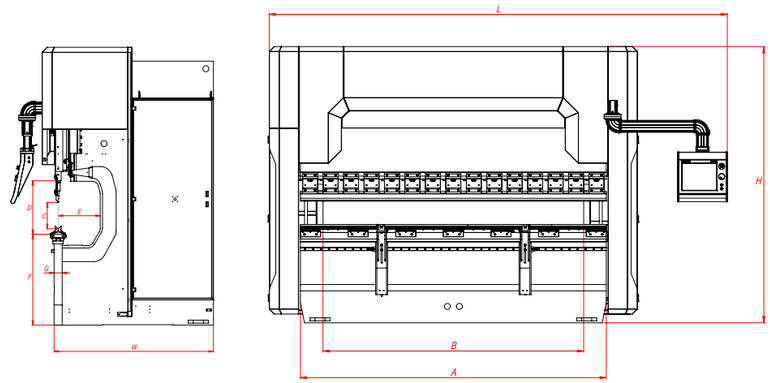

Service Agreements


Software


Training


Flexible Solution

AD-Servo Series Techical Details



AD-SERVO Series	Bending Force	Bending Length	Distance Between Columns	Stroke	Daylight	Throat Depth	Table Height	Table Width	Y Rapid Speed	Y Working Speed	Y Return Speed	Y Axes Precision	X Axes Working Speed	X Axes Precision	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.
															25,6	29,5	39,4												
	ton	mm	mm	mm	mm	mm	mm	mm	mm/s	mm/s	mm/s		mm/s		mm	mm	mm	mm/s	mm		mm/s	mm	kw	kw/h	lt	mm	mm	mm	kg
		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	S	-	O	350	250	0,1	1000	1580	4 x 2	2.Oca	75	3800	1670	2850	7800
AD-Servo 30100	100	3050	2600	265	530	450	900	104	200	10	200	0,01	500	0,05	S	-	O	350	250	0,1	1000	1990	4 x 2	2,1	75	4200	1670	2850	8500
AD-Servo 30135	135	3050	2600	265	530	450	900	104	200	10	200	0,01	500	0,05	S	-	O	350	250	0,1	1000	1990	4 x 2	2,65	75	4200	1680	2850	9580
AD-Servo 30175	175	3050	2600	265	530	450	900	104/180	200	10	200	0,01	500	0,05	S	-	O	350	250	0,1	1000	1990	4 x 2	3,38	75	4250	1700	2850	10900
AD-Servo 30220	220	3050	2600	265	530	450	900	104/180	200	12	180	0,01	500	0,05	S	-	O	350	250	0,1	1000	1990	11 x 2	5,2	80 x 2	4250	1770	3000	12600
AD-Servo 30320	320	3050	2600	365	630	450	900	104/240	160	10	160	0,01	500	0,05	S	-	O	350	250	0,1	1000	1990	11 x 2	7,2	80 x 2	4300	1820	3330	17100
AD-Servo 37175	175	3700	3100	265	530	450	900	104/240	200	10	200	0,01	500	0,05	S	-	O	350	250	0,1	1000	2375	4 x 2	3,38	75	4950	1700	3000	11750
AD-Servo 37220	220	3700	3100	265	530	450	900	104/240	200	12	180	0,01	500	0,05	S	-	O	350	250	0,1	1000	2375	11 x 2	5,2	80 x 2	4950	1770	3000	14440
AD-Servo 40175	175	4050	3600	265	530	450	900	104/240	200	10	200	0,01	500	0,05	S	-	O	350	250	0,1	1000	2910	4 x 2	3,38	75	5250	1700	2850	12780
AD-Servo 40220	220	4050	3600	265	530	450	900	104/240	200	12	180	0,01	500	0,05	S	-	O	350	250	0,1	1000	2910	11 x 2	5,2	80 x 2	5250	1770	3000	14750
AD-Servo 40320	320	4050	3600	365	630	450	900	154/300	160	10	160	0,01	500	0,05	S	-	O	350	250	0,1	1000	2910	11 x 2	7,2	80 x 2	5300	1910	3330	20000
AD-Servo 60220	220	6050	5100	265	530	450	1050	104/240	200	12	180	0,01	500	0,05	-	S	O	350	250	0,1	1000	4400	11 x 2	5,2	80 x 2	7500	1770	3350	20800
AD-Servo 60320	320	6050	5100	365	630	450	1100	154/300	160	10	160	0,01	500	0,05	-	S	O	350	250	0,1	1000	4400	11 x 2	7,2	80 x 2	7500	1910	3350	29000

* 750 mm throat depth
** 750 - 1000 - 1250 mm throat depth
Machines set according to optimum values.

DURMA



PANEL BENDER



PUNCH



PRESS BRAKE



VARIABLE RAKE SHEAR



PLASMA



L ANGLE PROCESSING CENTER



TUBE LASER CUTTING



FIBER LASER



IRON WORKER



POWER OPERATED SHEAR



ROLL BENDING



PROFILE BENDING

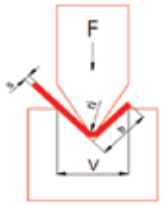


CORNER NOTCHER

DURMA

Today, Tomorrow, Forever...

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



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

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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