

The Winning Force

DURMA

AD-SERVO SERIES

Press Brakes



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



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



3

High quality
machines designed
in R&D Centre

2

Top quality
components



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

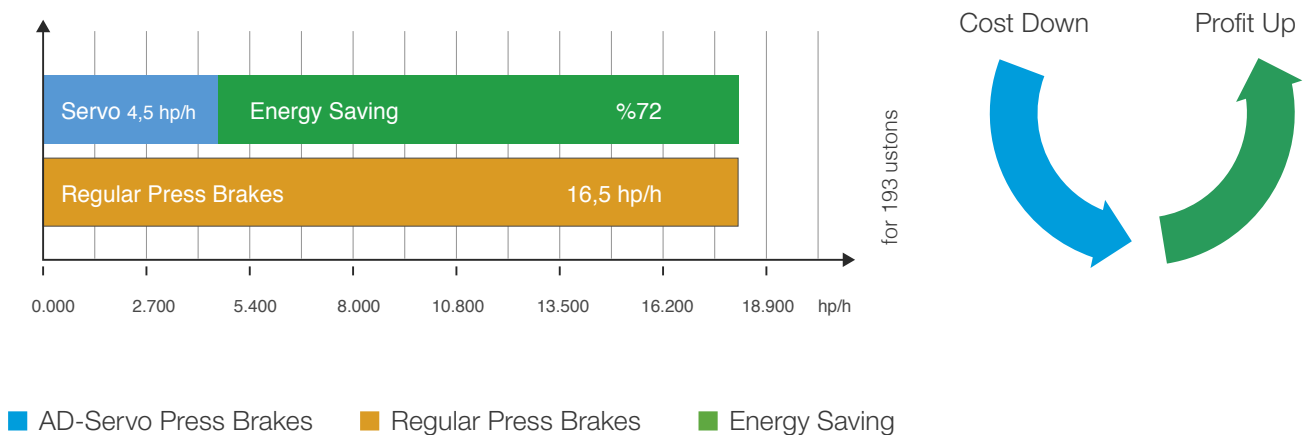
Ergonomic

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



Main components

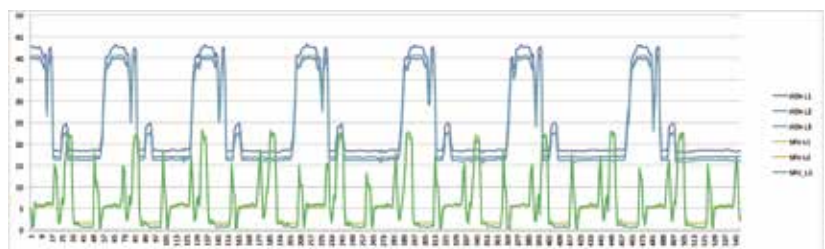
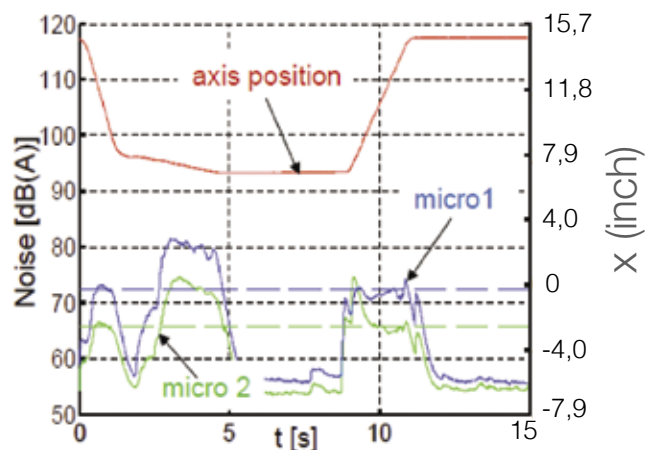
- Servomotor
- Hydromotor-pump (4-quadr. oper.)
- Servo controller IndraDrive C
- Software-Technology function
- Parameter
- Bell housing and coupling
- Power unit (Oil tank, accessories)
- Valve block, prefill valve
- Cylinder

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.



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

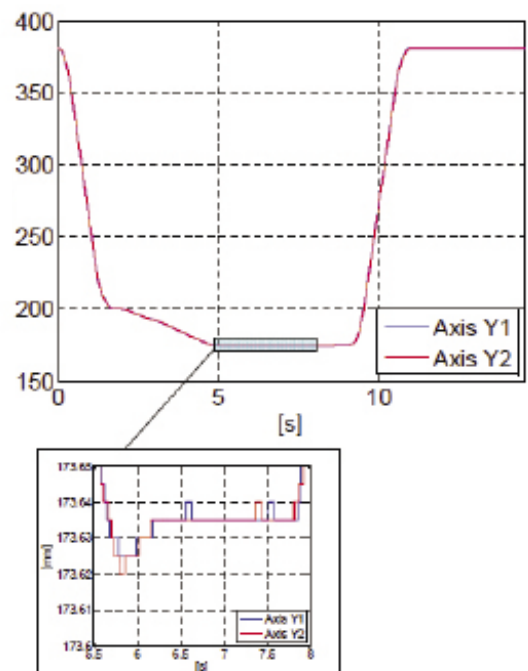
Economy Proof

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.

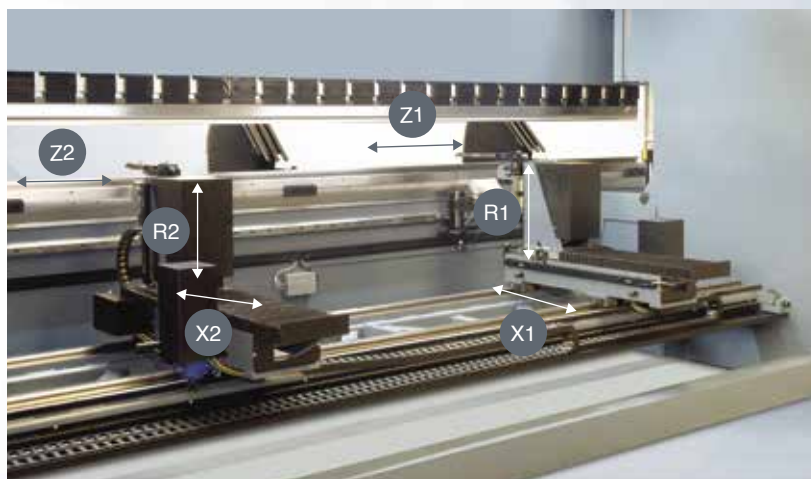
Special designed finger blocks with steps to achieve maximum stability can also be supplied for every kind of bending solution.



CNC back gauge
X - R
Z manuel
X



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



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.

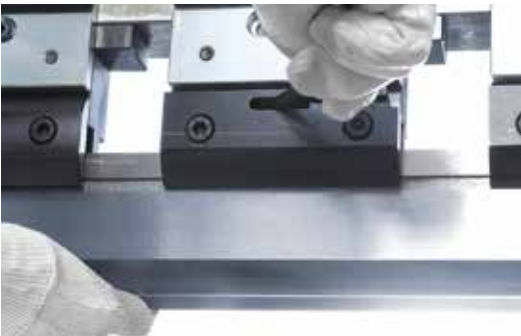
DURMA is your solution partner with various tool options.



European Clamping System



European Type Bottom Tool (4V Die)



Quick Release Clamping



Wila Bottom Tool Clamping



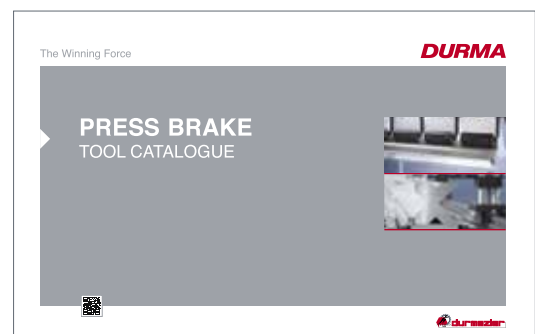
Wila Top Tool Clamping



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

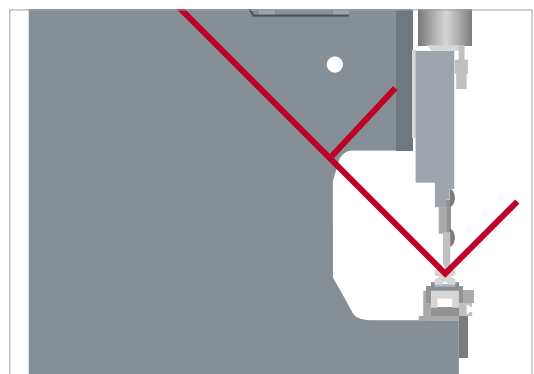
Our machines are designed in accordance with CE-Norms to ensure your safety with hydraulic, electric, appropriate height covers and laser light curtains. CE safety in tandem machines are also provided with light barriers.



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

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

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



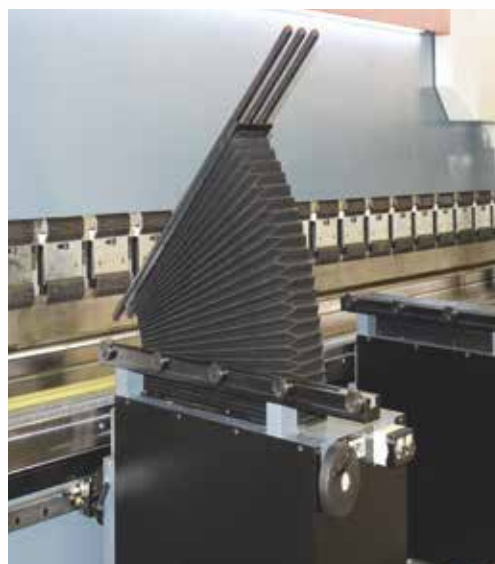
DA-69T

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

System of DURMA Angle Measurement



Automatic AP3 - AP4 Sheet Follower



Robotic System of Applications



Standard & Optional Equipment

Standard Equipment

Control Unit - CNC DA 66T
Y1, Y2, X, R - 4- Axis
CE Manuel F. AKAS II M FPSC-B-C + Safety Cages with switch
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 - SKY 22 - DA 69 T
Motorized FIESSLER AKAS-3PM (distance of mute until 1/8 inch)
Delta X Axis ± 5 inch stroke
X Axis = 40 inch – light barrier back protection
AP3-AP4 Automatic system of sheet follower – Motorized elevation adjustment
(There is a motorized elevation adjustment of 242 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



Service
Agreements



Software



Training



Flexible Solution

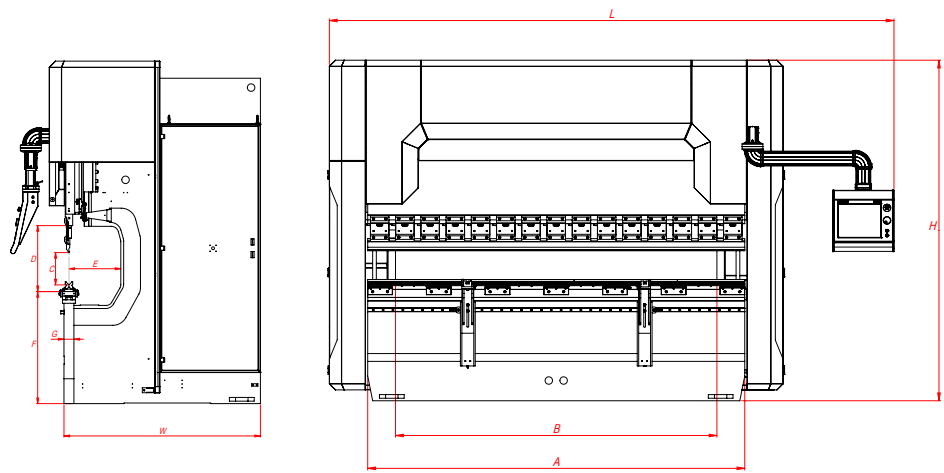
AD-Servo Series Techical Details

AD-SERVO Series	Bending Force	Bending Length	Distance Between Columns	Stroke	Daylight	Throat Depth	Table Height	Table Width (Narrow / Wide)	Y Rapid Speed	Y Working Speed	Y Return Speed	Y Axes Precision	X Axes Working Speed
	ustons	ft	ft	inch	inch	inch	ft	inch	inch/s	inch/s	inch/s	inch	inch/s
		A	B	C	D	E	F	G					
AD-Servo 25100	110	8 ' 4 "	7' 2 "	10,4	20,9	17,7	3 '	4,1	7,9	0,4	7,9	0,0004	19,7
AD-Servo 30100	110	10 '	8' 5 "	10,4	20,9	17,7	3 '	4,1	7,9	0,4	7,9	0,0004	19,7
AD-Servo 30135	149	10 '	8' 5 "	10,4	20,9	17,7	3 '	4,1	7,9	0,4	7,9	0,0004	19,7
AD-Servo 30175	193	10 '	8' 5 "	10,4	20,9	17,7	3 '	4,1/7,1	7,9	0,4	7,9	0,0004	19,7
AD-Servo 30220	242	10 '	8' 5 "	10,4	20,9	17,7	3 '	4,1/7,1	7,9	0,5	7,1	0,0004	19,7
AD-Servo 30320	352	10 '	8' 5 "	14,4	24,8	17,7	3 '	4,1/9,5	6,3	0,4	6,3	0,0004	19,7
AD-Servo 40175	193	13 ' 3 "	11' 9 "	10,4	20,9	17,7	3 '	4,1/9,5	7,9	0,4	7,9	0,0004	19,7
AD-Servo 40220	242	13 ' 3 "	11' 9 "	10,4	20,9	17,7	3 '	4,1/9,5	7,9	0,5	7,1	0,0004	19,7
AD-Servo 40320	352	13 ' 3 "	11' 9 "	14,4	24,8	17,7	3 '	6,1/11,8	6,3	0,4	6,3	0,0004	19,7
AD-Servo 40400	440	13 ' 3 "	11' 2 "	14,4	24,8	20,1	3 ' 4 "	6,1/11,8	5,9	0,4	5,9	0,0004	19,7
AD-Servo 40600	660	13 ' 3 "	10' 2 "	14,4	27,6	20,1	3 ' 2 "	6,1/11,8	3,1	0,3	3,1	0,0004	13,8
AD-Servo 60320	352	19 ' 8 "	16' 7 "	14,4	24,8	17,7	3 ' 6 "	6,1/11,8	6,3	0,4	6,3	0,0004	19,7
AD-Servo 60400	440	19 ' 8 "	16' 7 "	14,4	24,8	20,1	3 ' 6 "	6,1/11,8	5,9	0,4	5,9	0,0004	19,7
AD-Servo 60600	660	19 ' 8 "	16' 7 "	14,4	27,6	20,1	3 ' 2 "	6,1/11,8	3,1	0,3	3,1	0,0004	13,8

* 750 mm throat depth

** 750 - 1000 - 1250 mm throat depth

Machines set according to optimum values.



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												
inch	inch	inch	inch	inch/s	inch	inch	inch/s	inch	hp	hp/h	gal	ft	ft	ft	lbs
± 0.002	S	-	O	13,8	9,8	± 0.004	39,4	62,2	5,5 x 2	2,9	19,8	12' 5"	5' 5"	9' 3"	17195
± 0.002	S	-	O	13,8	9,8	± 0.004	39,4	78,3	5,5 x 2	2,9	19,8	13' 9"	5' 5"	9' 3"	18740
± 0.002	S	-	O	13,8	9,8	± 0.004	39,4	78,3	5,5 x 2	3,6	19,8	13' 9"	5' 5"	9' 3"	21120
± 0.002	S	-	O	13,8	9,8	± 0.004	39,4	78,3	5,5 x 2	4,6	19,8	13' 9"	5' 6"	9' 3"	24030
± 0.002	S	-	O	13,8	9,8	± 0.004	39,4	78,3	15 x 2	7,1	21,1 x 2	13' 9"	5' 8"	9' 8"	27780
± 0.002	S	-	O	13,8	9,8	± 0.004	39,4	78,3	15 x 2	9,8	21,1 x 2	14' 1"	6'	10' 9"	37700
± 0.002	S	-	O	13,8	9,8	± 0.004	39,4	114,6	5,5 x 2	4,6	19,8	17' 2"	5' 6"	9' 3"	28175
± 0.002	S	-	O	13,8	9,8	± 0.004	39,4	114,6	15 x 2	7,1	21,1 x 2	17' 2"	5' 8"	9' 8"	32515
± 0.002	S	-	O	13,8	9,8	± 0.004	39,4	114,6	15 x 2	9,8	21,1 x 2	17' 4"	6' 3"	10' 9"	44090
± 0.002	-	S	O	13,8	9,8	± 0.004	39,4	114,6	15 x 2	9,8	21,1 x 2	18' 9"	6' 9"	11' 3"	61245
± 0.002	-	S	O	11,8	9,8	± 0.004	39,4	114,6	15 x 2	16,0	37 x 2	18' 9"	8' 2"	13'	89285
± 0.002	S	-	O	13,8	9,8	± 0.004	39,4	173,2	15 x 2	9,8	21,1 x 2	24' 6"	6' 3"	11' 3"	63935
± 0.002	-	S	O	13,8	9,8	± 0.004	39,4	173,2	15 x 2	9,8	21,1 x 2	24' 6"	6' 9"	12' 5"	76280
± 0.002	-	S	O	11,8	9,8	± 0.004	39,4	173,2	15 x 2	16,0	37 x 2	24' 9"	8' 7"	13'	11574

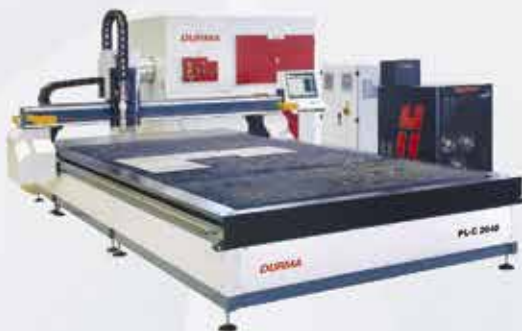
DURMA



PANEL BENDER



PUNCH



PLASMA



L ANGLE PROCESSING CENTER



IRON WORKER



POWER OPERATED SHEAR

DURMA



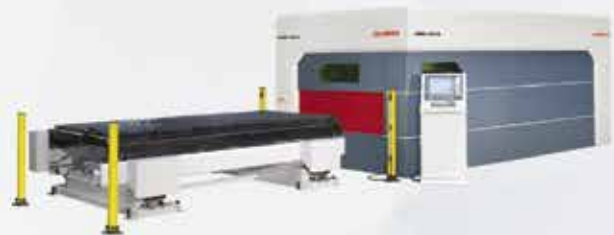
PRESS BRAKE



VARIABLE RAKE SHEAR



TUBE LASER CUTTING



FIBER LASER



ROLL BENDING



PROFILE BENDING



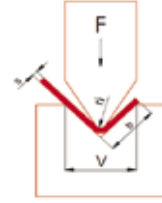
CORNER NOTCHER

DURMA

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	

The diagram illustrates a V-belt pulley system. A red V-belt is shown passing over a pulley. A downward force **F** is applied to the top of the belt. The belt moves with a velocity **V** to the right. The angle between the two sides of the V-belt is labeled **α**.



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

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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