DENER MAKİNA was established in 1974 in Kayseri / TURKEY. It has been manufacturing sheet metal working machines like Fiber Laser Cutting, Servo Electric Press Brake, Ball Screw Press Brake, Hydraulic Press Brakes, Hybrid Press Brake, NC - CNC Hydraulic Shears and Plasma Cutting machines.

Dener Makina’s production facilities are located in the industrial and Freezone Area in Kayseri. Since it’s beginning, Dener has the philosophy of production with the best quality and latest technology. It crowns this with the ISO 9001 Quality Management System and following European Safety Standards. Dener Makina is a leading Turkish Brand in Sheet Metal Working Machinery. It has qualified workmanship and a complete machinery manufacturing facility in it’s 30,000 m² closed area. Today, Dener machines are working all around the world.
Dener Servo Electric Press Brakes are no-hydraulic, flexible, reliable and advance bending machines. This next generation machine idea combines green-eco friendly machines with productivity, accuracy, flexibility and reliability. The new concept offers low power consumption, less maintenance, no hydraulic oil for operation.

Dener Electric Press Brakes come with an advance CNC controller, fast and accurate punch and die clamping, and a multi axis back gauge system. Operators easily make perfect sheet metal parts with very low cost.

Dener utilizes the most stringent manufacturing technologies during the production to manufacture highest quality machines. Standard Dener electric press brake come with a 3D graphical CNC controller offering simple operation, quick and easy 3D or numerical part programming easy set up of the machine, and auto calculation of the bend sequence. Optional 3D off line programming features the ability to create programs on an office PC then transfer to the CNC control by LAN or USB.

SERVO ELECTRIC PRESS BRAKE

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<th>MODEL</th>
<th>BENDING CAPACITY (t)</th>
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"EXCEED YOUR EXPECTATIONS"

Pays you back.
HOW SERVO ELECTRIC PRESS BRAKE WORKS

Servo Brake pressing force by means of synchronized two servo motors that transfer the power by the help of special belt and pulleys. During the upper beam down movement, the servo motors place a tension force $F$ on the belt that is multiplied equally in every belt segment. The force of each motor ($F$) creates a down force many times greater. The ram return force is derived from mechanical springs located at the side of the machine. These springs are compressed during pressing time, but recoil after completion of the bend pushing the ram to a programmed top top of stroke position.

The Servo Brake has a closed O-frame system that supplies a rigid frame with no deformation under large forces. The result is better tool alignment and more accurate bends.
Servo Electric Press Brake provides energy saving up to 50%
Servo Electric Press Brake has 50% energy saving compared with hydraulic press brakes.

Servo Electric Press Brake is faster up to 30%
Servo Electric Press Brake is shown to be up to 30% faster than hydraulic press brake. Shorter response time one of the biggest advantages of servo electric press brake.

Servo Electric Press Brake is eco-friendly machine
Servo uses 100% electrical power instead of hydraulic oil and hydraulic components. Less pollution - best solution.

Servo Electric Press Brake provides high productivity
Servo has high acceleration, high deceleration. The quick change of the moving direction is an advantage for high productivity and efficiency. Servo has less maintenance cost.

Servo Electric Press Brake provides advanced bending
Servo is a flexible, reliable and advanced bending machine. Servo Electric Press Brake combines high accuracy, flexibility and reliability. This concept offers low power consumption, less maintenance and no hydraulic oil or components for operation.

Servo Electric Press Brake works quietly
Servo working system has no noise and provides silent working conditions.
Some Optional equipments used on the machine photos
Gauging is a main concern for press brake operators. Whether you require complex part multi station bending, single bending, or production of taper bends, Servo Electric Press Brake offers solutions with six different back gauge options. Depending on the geometry of the parts and their complexity, all back gauge models are specially designed and manufactured to reach high precision and high speeds.

**Optional Back Gauge Systems**
- X1, X2, R
- X, R, Z1, Z2
- X, X', R, Z1, Z2
- X1, X2, R, Z1, Z2
- X1, X2, R1, R2, Z1, Z2 (ATF TYPE)
SERVO ELECTRIC PRESS BRAKE

**CONTROLLERS**

**ESA S 660 W CONTROLLER**
- 19” 4.3 high-resolution 3D touch screen
- 2.5” Hard disk drive 20GB or more
- Fiber optic interface
- 3D Programming
- Direct import of tools shapes (.dxf files)
- Automatic bending sequence search and collision control
- Remote access
- Windows 7 operating system
- 2 USB Port

**DELEM DA-69T**
- 3D and 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 with in the controllers
- Multitasking environment
- Sensor bending & correction interface

**DELEM 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 with in the controllers
- Multitasking environment
- Sensor bending & correction interface

Servo Electric Press Brakes come with advance CNC controllers, fast and accurate punch and die clamping, multi axis back gauge system. Operators simply make perfect sheet metal parts with very low cost.
CLAMPING SYSTEMS

European Type Sectioned Punch Clamping System

European Type Pneumatic Punch Clamping System

Wilson Hydraulic Punch and Die Clamping System

American Type Sectioned Punch Clamping System
SERVO ELECTRIC PRESS BRAKE

- Extremely fast press brake tooling changes
- Maximum control of vertical tolerances during the bending process
- Extremely accurate clamping, positioning and alignment
- Individual clamping pins for each tool segment for superior clamping force
- Vertical and horizontal tool loading and unloading for maximum speed and safety
- Professional finish, including a slide rule for ease of tool positioning
- Provides maximum productivity

CLAMPING SYSTEMS

NSCL-I-MC/UPB

OB-I-MC-TY/ES IV

NSCL-I-HC/UPB

NSCL-I-HC-CNC/UPB

www.dener.com
### AIR BENDING TONNAGE CHART

Required press force at 90° air bending force in t/m.

The charts below give the appropriate tonnage to air bend mild steel. Bending force for other metals:

- Soft aluminum: Tons per unit length x 50%
- Aluminium alloys heat treated: Tons per unit length x 100%
- Stainless: Tons per unit length x 150%
- Bottoming: Tonnage requirements are three to five times greater than for air bending.

#### TECHNICAL SPECIFICATIONS

**Metric**

<table>
<thead>
<tr>
<th>Material Thickness (mm)</th>
<th>Bendng Lenght (mm)</th>
<th>Pressure Force (ton)</th>
<th>Max. Stroke (mm)</th>
<th>Q - Distance Between Tables (mm)</th>
<th>Apprcaching Speed (mm/sec)</th>
<th>Bendng Speed (mm/sec)</th>
<th>Return Speed (mm/sec)</th>
<th>Man Motor Power (kw)</th>
<th>Weight (kg)</th>
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**Inch**

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**AIR BENDING TONNAGE CHART**

**Bendng Lenght (mm)**

**Pressure Force (ton)**

**Max. Stroke (mm)**

**Q - Distance Between Tables (mm)**

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