

## V BENDING



### TECHNICAL DATA

V Bending machine	<b>MVD INAN 40/800</b>
Bending length	4000 mm
Bending force	800 t
Backgauge	X axis
Crowning	Motorized
Main motor	55 kW

### SOFTWARE

Controler	Delem DA-56
Programing	ProfileW

## V BENDING

The shaping of sheet metal by straining the metal around a straight axis. A bending operation compresses the interior side of the bend and stretches the exterior side. Flanging, hemming, and seaming are all bending operations.

### A. WHY BENDING

Bending is used as a sheet metal forming process to produce angled parts, sheet profiles, tubes and workpieces for shipbuilding and apparatus manufacturing. Apart from these parts, profile stock is also used to make rings for various fields of application.

### B. BENDING PROCESS (AIR-BENDING, FREE BENDING)

Air bending is the most common method of forming used today in the production of precision sheet metal parts and is listed by all major press brake manufacturers worldwide as the preferred method of sheet metal bending.

Air Bending is a bending process in which the punch touches the workpiece and the workpiece does not bottom in the lower cavity. As the punch is released, the workpiece springs back a little and ends up with less bend than that on the punch (greater included angle).

The amount of springback depends on the material, thickness, grain and temper. The springback will usually range from 5 to 10 degrees. The same angle is usually used in both the punch and the die to minimize set/up time. The inner radius of the bend is the same as the radius on the punch.

In air bending, there is no need to change any equipment or dies to obtain different bending angles because the bend angles are determined by the punch stroke. The forces required from the parts are relatively small, but accurate control of the punch stroke is necessary to obtain the desired bend angle.

