DCB-A 460
DOUBLE COLUMN AUTOMATIC BANDSAW MACHINE
METAL CUTTING WITH BANDSAWS

Today, Bandsaws are the easiest, the fastest and the best way to cut metal. They are used in cutting iron, copper compounds, aluminum compounds, production steel, carbon steel, hot-cold work tool steel, reform steel, pattern steel, nickel chrome compound steel, bearing steel, stainless steel, titanium compounds, foundries, construction steels and non-ferrous metals straight or angular. It can cut one by one and also multiple. As bandsaws are fast and inexpensive, they are used commonly in steel plants, craft, aircraft, automotive industries and manufacturing, construction and aluminum sectors.
ADVANTAGES OF DESIGN AND PRODUCTION

R&D

All mechanical and hydraulic systems of HB and DCB series Durma Band saws are designed by experienced Durmazlar engineers in the R&D centre by using parametric 3D technology. All electric and electronic systems are designed by our own computer and mechatronics engineers. Prototypes are forwarded to the serial production after numerous tests.

Strong and Heavy Body Design

Stretch and vibration during the cutting process are minimized by the reinforced body structure. Rigid body is connected to the strong chassis by chrome plated columns. Chassis, body and other parts are treated with stress relieve device after casting and welding. The other processes are completed with 5 axis CNC working stations in one fixing. By this way, entire axes and the surfaces of the machine are being paralleled.

All these processes ensure DURMA HB, DCB series Band saws precise and long lasting for cutting operations.

High Motor Power and Faster Cutting Ability

The saw that turns on pulley is driven by high torque helix gear box and electrical motor. Even in continuous working conditions no heating or torque loss is happened on reducer. The torque transmitted to the saws without any power loss by driven system guided with strong conic bearings at the same axis with pulley. Because of high torque its cutting speed is much higher than the other machines in the market.

The frequency inverter provides protection for the tape and other components to possible overloads and peak pressure.
Longer Tape Life

While saw tape is tight between the pulleys and tends to twist between the guides vertical to the table. Twisting level increases when the tape is on maximum angle and minimum distance to the work piece. This causes very thin fractures on the tape which make the tape broken.

DURMA HB, DCB series Band saws last longer because the body which the saw tape is placed 25-40° backwards and the distance between pulleys are%10-30 longer in comparison to the other machines in the market.

Low Sound Level

Despite suitable cutting parameters are assured, the sounds in production process are caused by the mechanical parts. The sounds due to vibration are minimized when the pulleys and the bearings are in appropriate length and quality. In DURMA HB, DCB series Bandsaws, the pulleys and the direction arms are produced by vibration and sound absorbent casting. Also bearings from worldwide best quality brands are used.

Hydraulic and Electric System

The desired precision in hydraulic movements and down speed is gained by worldwide known Rexroth valves’ which are able to response quickly to the commands as well as with its pressure compensation. Especially during solid material cutting unwanted speed differences does not occur and no harm is done to the saw edges. All electrical control components are selected from Siemens and Schneider.
STANDARD FEATURES

- **Hydraulic Vice (HV)**

  One of the most important factors for cutting quality is to fasten the material between the vices. The materials are fastened by hydraulic driven vices in order to prevent any loosening during cutting.

- **Electronic Cutting Speed Adjustment with Inverter (INV)**

  The appropriate cutting speed is very important for providing ideal cutting. In case of cutting speed is faster or slower, it affects the cutting quality as well as shortens the tape life. As it shown on the picture, cutting speed is easily adjustable on the digital control panel.

- **Bimetal Bandsaw and Cooling System (SAW)**

  As a standard one bi-metal bandsaw for general purpose is given with the machine. Different model or geared lanes are given on request. Water based boron oil is spread with desired flow to the tape bed and cutting area with strong centrifugal pump. The machine is dispatched without boron oil.

- **Blade Tensioning –Hydro mechanic (THM)**

  During the tensioning of the blade provides an ideal view of the tension from the manometer. In the event of rupture of the tape it stops the system.

- **Bearing and Carbide Tape Blade Housing (BH)**

  When the right saw tape is used, the steepness and tangential of the cutting is mostly depends to tape guiding. Ideal cutting is achieved by carbide metals guides that touch to the tape side surface thanks to its vertical positioned bearings that assures proper gap and parallelism. By this way, tape and material costs are minimized and finishing operations eliminated.

- **Cutting Height Adjustment (CHA)**

  According to work piece height, appropriate positioning of the tape saves great time especially at serial cuttings.
• **Motorized Roller Feeding (RFM)**

It is the fastest and the simplest material driving system at automatic models. All rollers are driven with chains from the motor exit. It provides great advantage in general purpose cuttings.

• **Top Clamping - Mechanical (TCM)**

In bonded material cutting process, mechanically adjusted with bearing roll prevents the material to be separated from the package.

• **Length Adjustment- Electrical (LAE)**

Cutting length adjustment of the material in automatic models are done by adjusting the mechanical gauge with switch to desired distance up to 600mm. At serial cuttings, the roll driven vise(MRV) feeds the material to the gauge and when the desired length is gained cutting process starts. When cutting is over, the piece falls and the process is repeated.

• **Chip Brush (CB)**

Cleaning the chips between the tapes is very important for the tape’s life. Manual chip brush cleans most of the chips and prevents the dirt gathering on the body.

• **Part Counter (PC)**

In automatic models information of pieces of the material to be cut is entered in order to provide the serial cutting. Apart from this, also displays information about the machine, alarm and cutting.

• **Roller Table L= 1200 mm (RT1200)**

At the front or back side of the machine the table provides easy material entrance by bear driven rolls. One table is standard with the related machine. Extra tables can be put together, this way longer materials are supported.
OPTIONAL SUPPLEMENTS

● Motorized Chip-Brush (CBM)

Cleaning the chips between the tapes is very important for the tape’s life. Motorized chip brush cleans most of the chips and prevents the dirt gathering on the body.

● Chip Conveyor (CC)

Especially solid material cutting creates big amounts of chips and needs to be cleaned frequently. The motorized chip conveyor transfers the chips out of the machine.

● Blade Tensioning - Hydraulic (TH)

Provides blade tensioning done via the control panel without the need for human operation. When ideal stress occurs, the process terminates tension. In the event of rupture, the system stops.

● Laser Marking System (LM)

It helps length adjustment of the work piece. The laser line reflecting on the front side of the tape allows seeing the length and the cutting line of the material easier. Tape placed higher than the material and during feeding of the material, tape is not damaged by hitting the material. This system provides convenience in half-automatic machines and special cutting works.

● Top Clamping - Hydraulic (TCH)

In bonded material cutting process, hydraulically adjusted with bearing roll prevents the material to be spread from the package.
• **NC Control System (NC)**

All functions operation, the amount of length, cutting units and other parameter use controlling via the touch screen provides ease of use. Material between the clamp controlled by PLC provides desired length cut. Provides the material which is compressed between the roller collar clamps, to be cut in desired length measured with the encoder; without need of having switch type of automatic size system (SLA).

• **Micro Spray Cooling System (MC)**

The spray is used on the tape instead of boron oil to prevent over heating. It minimizes the heating by spraying special mixture of micronized cutting oil and air to make longer tape life and facilitate the cutting. Besides being ecological it also minimizes the boron oil costs.

• **Automatic Cutting Pressure Control (ACP)**

It is very important to obtain suitable lowering speed for ideal cutting. If the speed is too slow or too fast it affects the cutting quality and shortens tape life. Automatic cutting pressure control prevents the machine working overload.

• **Extra Roller Table L= 1200 mm (RT1200)**

At the front or back side of the machine the table provides easy material entrance by bear driven rolls. One table is standard with the related machine. Extra tables can be put together, this way longer materials are supported.
# DCB-A 460 TECHNICAL DATA

## DCB-A 460 Double Column Automatic Band Saw

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<th>Cutting Capacities</th>
<th>90°</th>
<th>60°</th>
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## Motor
- Main Motor HP: 4
- Hydraulic Motor HP: 1½
- Material Rolling Motor HP: 1
- Cooling Motor HP: 1/8

## Dimensions
- Length (L) Inch: 119"
- Width (W) Inch: 46"
- Height (H) Inch: 72"
- Vice Height (B) Inch: 9¾"
- Mechanical Top Hold-down Height (C) Inch: 13"

## Cutting Speed
- Ft/Min: 65 ~ 295 Inverter

## Band Size
- Inch: 1.6" x .05" x 228" (19')

## Working Height
- Inch: 22¼"

## Weight
- Lbs: 5,071 Lbs.

## Band Twisting Angle
- °: 60°