



Leading  
Technology



# CNC PRESS BRAKE

## ADVANCED

[www.hilalsan.com.tr](http://www.hilalsan.com.tr)

[www.hilalsan.com.tr](http://www.hilalsan.com.tr)

Founded in 1984, HILALSAN has started with manual sheet metal shears and now continues with Hydraulic Ironworkers, CNC Hydraulic Presses, Mechanical Guillotine Shears with Reducer, CNC Hydraulic Guillotine Shears and CNC Hydraulic Press Brakes.

We work for Turkey with our imagination, our most important asset on the basis of our foundation, and our high confidence that gives life to these dreams. We are progressing with the goal of becoming a global company by creating added value for our country and the world.

Creating value for our customers, responding to expectations with quality and stability is our first priority.

Thanks to our computer aided design programs, we are able to produce high-quality, high-precision production lines equipped with advanced technology to provide our customers with high-performance machines.

Our main goal from our foundation to today; investors and industrialists to make sensitive quality machines, to provide reliable after-sales service and to offer quality with the best competitive price.

We are conscious that reaching our targets is our greatest assurance product and service quality. It is our duty to own our products and to be with our customers after sales.

We are shaping all of our products and services on the basis of building long-term relationships with our customers.

Our company has been serving with "HILALSAN" brand in the world markets and has reached to the five continents today, increasing the trust and potential given to its customers every day.

Hilalsan Machinery has aimed to achieve many successes in the future as it is in the past with its young and dynamic staff.

HILALSAN for quality, trust, stability ...



**HILALSAN**®





# CNC PRESS BRAKE

## ADVANCED

### STANDARD FEATURES

- Esa S630 Coloured Touchscreen Control Unit
- X Axis Back Gauge with Servo Motor & Drives, Including 2 pcs Back Gauge Finger Blocks
- Manual Crowning
- Sliding Front Support Arms (2 pcs)
- European Type Top Tool Clamping System
- European Type Top Tool ( h67 mm or h105 mm )
- European Type Bottom Tool 4V H:60x60mm
- Leuze or Fliessler Back Light Curtains
- Foot Pedal with Emergency Stop Button
- Lighting

### OPTIONAL FEATURES

- CNC Control Unit Options
- Motorized Crowning
- R Axis Servo Motorized
- Z1, Z2 Axis Servo Motorized
- X1, X2 Axis Servo Motorized
- X5, X6 Axis Servo Motorized
- ATF Type X1, X2, R1, R2, Z1, Z2 Axis Servo Motorized
- Front Laser Safety System
- Top Tool Quick Clamping System
- Hilalsan Type Multi V Bottom Tool Options
- WILA Type Top Tool Hydraulic Clamping System
- WILA Type Bottom Tool Hydraulic Clamping System
- Top and Bottom Tool Options
- Special Full-sized housing (machines for 3 to 4 meters)
- Stand Type Foot Pedal
- Oil Heaters
- Oil Fan Cooler
- Manual Central Lubrication
- Motorized Central Lubrication



## GENERAL FEATURES

- The machine frame is manufactured with advanced technology with very precise tolerances and stress relieved with large welded components. All tensile points are designed with large radii and strain accumulation and possible welding cracks are eliminated.
- The lower and upper tables' inertias are designed for optimum value for minimum deformation..
- The top plate is designed to be positioned vertically so that the roller bearings, piston bearings and felts can compensate for vertical loads.
- The hydraulic cylinder is designed as double-sided and honed to a surface quality of 2 microns. Thus, minimum wear resistance is created for the felts. The cylinder bodies are manufactured as SAE 1040 material forged.
- The hydraulic cylinders are bolted to the front of the feet with bolts and cams to provide excellent leveling and load balancing.
- Piston head features: Omega-type felts are fitted with wide bronze bearings, semi-angled sleeves.
- The pistons are precision ground and hard chrome plated to provide low friction and abrasion resistance when the piston passes through the felts.
- The adjustable top tray slides are made from materials that are suitable for very low friction resistance. These beds are arranged for guiding to move the top table from right to left and front to rear.
- The Hilalsan hydraulic system allows precise usage at all pressure values up to the maximum operating pressure. At the same time, with these pressure values, precise cylinder positioning, synchronization and repeatability are achieved.
- Backgauge system is manufactured in accordance with environmental conditions. Backgauge bearings are made for heavy conditions with double bearers. Scrapping type bearings are used against dust and other particles that will accumulate in the linear guideways against dusty environmental conditions.
- The outer surface of the machine is painted with two layers of paint at least 60 microns in thickness to protect against weather conditions. Paint drying is done gradually in different time and temperature ranges in state-of-the-art ovens.
- Standart Y1, Y2, X axis.

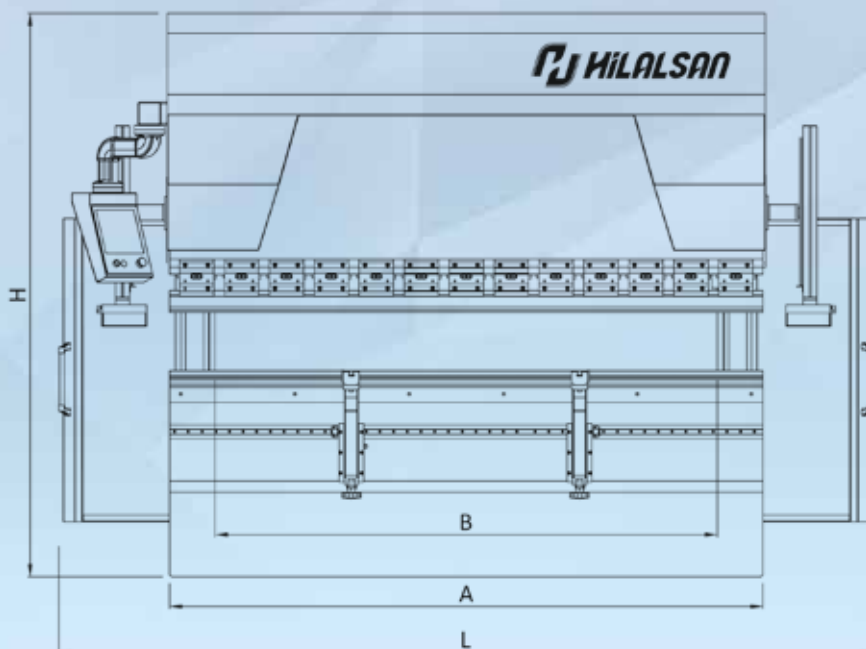


# CNC PRESS BRAKE

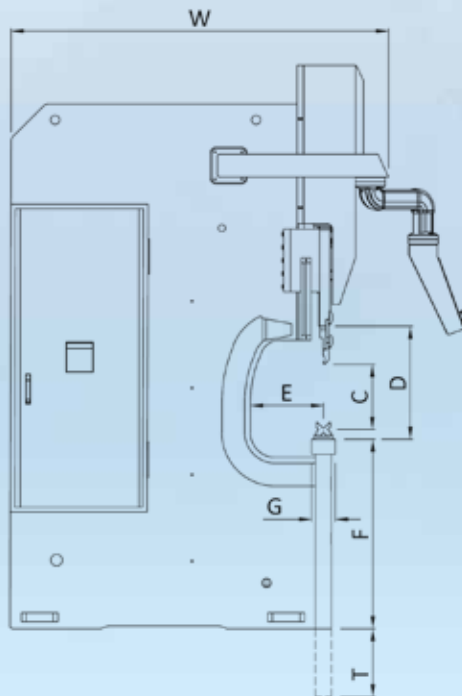
## ADVANCED

CAP Machine Type	Bending Force	Bending Length	Distance between columns	Stroke	Daylight	Throat depth	Table Height	Pit Depth	Table Width	Support Arm	Y Rapid Speed	Y Working speed	Y Return speed
	Ton	mm	mm	mm	mm	mm	mm	mm	mm	pcs.	mm/sec.	mm/sec.	mm/sec.
	A	B	C	D	E	F	T	G					
1560	60	1500	1300	205	410	310	850	--	108	2	140	10	120
2080	80	2100	1700	205	410	310	850	--	108	2	140	10	120
26100	100	2600	2200	265	485	410	900	--	108	2	140	10	110
3100	100	3100	2600	265	485	410	900	--	108	2	140	10	110
3135	135	3100	2600	265	485	410	900	--	108	2	140	10	100
3175	175	3100	2600	265	485	410	900	--	108	2	130	10	100
3220	220	3100	2600	265	485	410	900	--	108	2	130	10	100
3270	270	3100	2600	265	485	410	950	--	108	2	110	9	100
3320	320	3100	2600	365	585	510	950	--	154	2	100	9	90
3400	400	3100	2400	365	585	510	950	--	154	2	90	8	80
37175	175	3700	3200	265	485	410	950	--	108	2	120	10	100
37220	220	3700	3200	265	485	410	1000	--	108	2	110	10	100
37320	320	3700	3200	365	585	510	1000	--	154	2	90	9	90
4175	175	4100	3600	265	485	410	950	--	108	2	120	10	100
4220	220	4100	3600	265	485	410	1000	--	108	2	100	9	100
4270	270	4100	3600	265	485	410	1000	--	108	2	100	8	80
4320	320	4100	3600	365	585	510	1000	--	154	2	90	8	80
4400	400	4100	3400	365	585	510	1000	--	154	2	90	8	80
6220	220	6100	5100	265	485	410	1150	--	154	3	80	8	80
6320	320	6100	5100	365	585	510	1150	--	154	3	80	8	80
6400	400	6100	5100	365	585	510	1200	--	240	3	70	8	60
6600	600	6100	5100	365	585	510	1000	700	240	3	70	7	70
6800	800	6100	5100	415	635	610	1000	900	400	3	70	6	60
61000	1000	6100	5100	515	735	610	1050	1050	400	3	70	5	60
61250	1250	6100	5100	515	735	610	1050	1200	400	3	70	5	60

HILALSAN has right to change catalogue values and machine technical details without notice. Misprints are not restrictive.



X Axis Speed	R Axis Speed	Travel in R-axis	Travel in X-axis			Motor Power	Oil Capacity	Length	Width	Height	Approximate Weight
			500	750	1000						
mm/sec.	mm/sec.	mm	mm	mm	mm	Kw	Lt	mm	mm	mm	Kg
								L	W	H	
250	100	200	S	--	Op.	5,5	100	2150	1500	2300	4000
250	100	200	S	--	Op.	7,5	100	3050	1650	2350	5000
250	100	200	S	--	Op.	11	250	3400	1850	2650	6500
250	100	200	--	S	Op.	11	250	3900	1950	2750	7800
250	100	200	--	S	Op.	15	250	3900	1950	2800	9000
250	100	200	--	S	Op.	18,5	250	3900	2000	2850	10500
250	100	200	--	S	Op.	22	250	3950	2000	2900	12000
250	100	200	--	S	Op.	22	350	3950	2000	2950	13000
250	100	200	--	S	Op.	30	350	4000	2250	3200	15000
250	100	200	--	S	Op.	37	350	4050	2250	3300	19000
250	100	200	--	S	Op.	18,5	250	4550	2000	2900	11500
250	100	200	--	S	Op.	22	250	4550	2000	3000	13500
250	100	200	--	S	Op.	30	350	4600	2250	3250	18500
250	100	200	--	S	Op.	18,5	250	4950	2000	2900	12000
250	100	200	--	S	Op.	22	250	4950	2000	3000	15000
250	100	200	--	S	Op.	22	350	4950	2000	3000	17500
250	100	200	--	S	Op.	30	350	5000	2250	3250	21000
250	100	200	--	S	Op.	37	350	5000	2250	3350	25500
250	100	200	--	S	Op.	30	350	7000	2000	3350	24000
250	100	200	--	S	Op.	30	350	7000	2250	3550	28500
250	100	200	--	S	Op.	37	500	7050	2250	3750	36000
250	100	200	--	S	Op.	45	500	7200	2650	3900	54000
250	100	200	--	S	Op.	55	650	7200	3100	4200	70000
250	100	200	--	S	Op.	55	650	7400	3250	4500	78000
250	100	200	--	S	Op.	90	650	7400	3300	5300	97000



# CNC PRESS BRAKE



CYBELEC TOUCH8 2D

- 8" Colored Touch Screen.
- 2D graphic profile creation with manual sequencing (option).
- Bending sequences and programs can be memorized.
- Easy single bends with the EasyBend page.
- USB Flash Memory port for data transfer/backup
- User Language Options
- Easy Tool Drawing
- Delivered with offline software (This software allows you to create, calculate, and control the feasibility of parts on a desktop/laptop computer at the office)



CYBELEC TOUCH12 2D

- 12" Colored Touch Screen.
- 2D graphic profile creation with manual sequencing (option).
- Bending sequences and programs can be memorized.
- Easy single bends thanks to the "EasyBend" page.
- USB Flash Memory port for data transfer/backup
- User Language Options
- Easy Tool Drawing
- Delivered with offline software (This software allows you to create, calculate, and control the feasibility of parts on a desktop/laptop computer at the office)



CYBELEC MODEVA PAC 2D

- 15" Colored Touch Screen.
- 2D graphic profile creation with manual sequencing (option).
- Bending sequences and programs can be memorized.
- Easy single bends thanks to the "EasyBend" page.
- USB Flash Memory port for data transfer/backup
- User Language Options
- Windows XP Operating System
- RJ45 Ethernet for network
- Almost unlimited quantity of programs and sequences.
- Delivered with offline software (This software allows you to create, calculate, and control the feasibility of parts on a desktop/laptop computer at the office)



CYBELEC MODEVA 19T 3D

- 19" Colored Touch Screen.
- 3D graphic profile creation with automatic sequencing and simulation
- Automatic bend sequence calculation and collision detection & Full 3D machine set-up with multiple tool stations • Works on Tandem applications.
- Easy single bends thanks to the "EasyBend" page. • Windows 7 Operating System
- Bending sequences and programs can be memorized.
- USB Flash Memory port for data transfer/backup
- User Language Options
- RJ45 Ethernet for network
- Almost unlimited quantity of programs and sequences.
- Delivered with offline software (This software allows you to create, calculate, and control the feasibility of parts on a desktop/laptop computer at the office)



CYBELEC MODEVA RA 3D

- 15" Colored Touch Screen.
- 3D graphic profile creation with automatic sequencing and simulation
- USB Flash Memory port for data transfer/backup
- User Language Options
- Multiple view points while working..
- Machine components can be individually made invisible for better job examination.
- 3D collision detection.
- On-screen finger profile drawing.
- 3D models can be imported from PC-RA Premium or MetaBEND.
- Direct programming.
- Online maintenance
- Almost unlimited quantity of programs and sequences.
- Windows XP Pro for multitasking and file management..

- RJ45 Ethernet for network
- Video-like 3D bend simulation.
- Importing DXF flat patterns with folding information / Exporting computed flat patterns as DXF files
- Importing 3D models (MetaBEND IGES).
- Automatic tool shape selection.
- Automatic tool station segmentation.

- Tools:
- Imported from PC MetaBEND.
  - Created using parameters.
  - Automatic tool station dimensioning and positioning
  - Tool mounts can be edited interactively.



DELEM DA58T 2D

- 15" Colored Touch Screen.
- 2D graphic profile creation with automatic sequencing.
- Automatic bend sequence calculation and collision detection
- Full 3D machine set-up with multiple tool stations
- USB Flash Memory port for data transfer/backup
- User Language Options



DELEM DA66T 2D

- 17" Colored Touch Screen.
- 2D graphic profile creation with automatic sequencing.
- On-screen finger profile drawing. • Touch Screen Scaling • Full 3D Simulation
- 1 GB Hard Disk Drive (HDD) - 256 MB part memory
- Windows Operating System • User Language Options
- Automatic bend sequence calculation and collision detection & Full 3D machine set-up with multiple tool stations • USB Flash Memory port for data transfer/backup
- RJ45 Ethernet for network
- Delivered with offline software (This software allows you to create, calculate, and control the feasibility of parts on a desktop/laptop computer at the office)

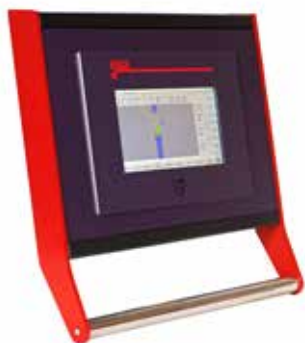


DELEM DA69T 3D

- 17" Colored Touch Screen.
- 2D & 3D graphic profile creation with automatic sequencing.
- On-screen finger profile drawing. • Touch Screen Scaling • Full 3D Simulation
- 1 GB Hard Disk Drive (HDD) - 256 MB part memory
- Windows Operating System • User Language Options
- Automatic bend sequence calculation and collision detection & Full 3D machine set-up with multiple tool stations • USB Flash Memory port for data transfer/backup
- RJ45 Ethernet for network
- Delivered with offline software (This software allows you to create, calculate, and control the feasibility of parts on a desktop/laptop computer at the office)



# CNC PRESS BRAKE



ESA S630 2D

- 10" Touchscreen Color Display.
- Creating 2D Graphics profile with automatic convolution sequence.
- 3D Simulation.
- Part Scratching with touchscreen.
- Bending sequences and programs can be stored in memory.
- Easy single bending page.
- USB memory port for data transfer / backup.
- Windows operating system
- Windows networking with Ethernet connectivity
- User Language option



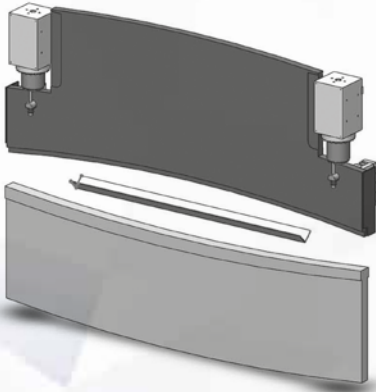
ESA S640 2D

- 15" Touchscreen Color Display.
- Creating 2D Graphics profile with automatic convolution sequence.
- 3D Simulation.
- Part Scratching with touchscreen.
- Bending sequences and programs can be stored in memory.
- Easy single bending page.
- USB memory port for data transfer / backup.
- Windows operating system
- Windows networking with Ethernet connectivity
- User Language option

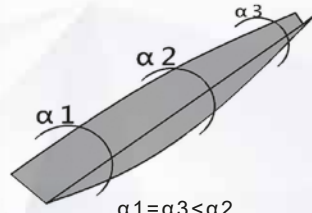


ESA S660W 3D

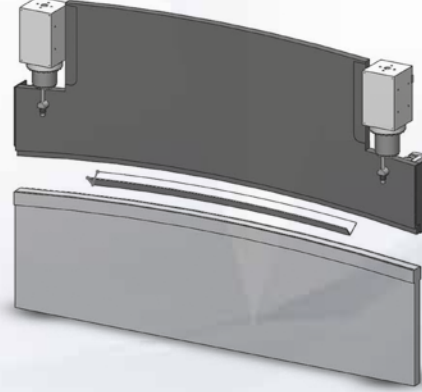
- 19" Touchscreen Color Display.
- Creating 3D Graphics profile with automatic convolution sequence.
- 3D Simulation.
- Part Scratching with touchscreen.
- Bending sequences and programs can be stored in memory.
- Easy single bending page.
- USB memory port for data transfer / backup.
- Windows 7 operating system
- 20 GB HDD
- Windows networking with Ethernet connectivity
- User Language option



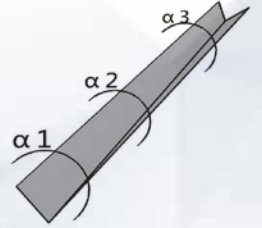
Bending without Crowning



$$\alpha 1 = \alpha 3 < \alpha 2$$



Bending with Crowning



$$\alpha 1 = \alpha 2 = \alpha 3$$

Advantages of crowning to achieve a constant angle;

A press brake's bending precision is effected by the deviations of the upper and lower table as well as other factors. Press brakes deviate from the opposite direction.

In fact, penetration of the force obtained into the tool is not constant and the angle is not the same over the length of the machine.

Independent right and left axes (Y1 and Y2) are controlled by proportional valves and linear position control system. The crowning system distributes the bending force equally to each point of the bending part to ensure correct bending results.

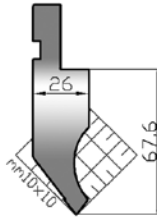
Manual Crowning



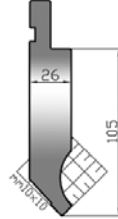
CNC Controlled Motorized Crowning



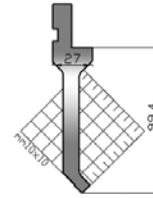
# CNC PRESS BRAKE



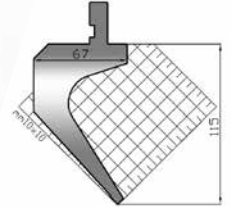
**110/85**  
max 1000 kN/mt



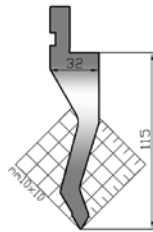
**110/85/h105**  
max 1000 kN/mt



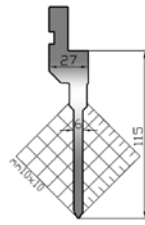
**143/88**  
max 500 kN/mt



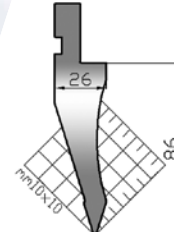
**141/85**  
max 700 kN/mt



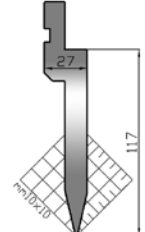
**134/60**  
max 700 kN/mt



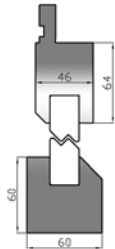
**151/60**  
max 500 kN/mt



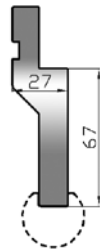
**112/35**  
max 700 kN/mt



**122/26**  
max 1000 kN/mt



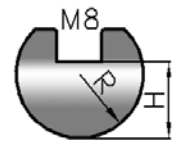
**130**  
max 1000 kN/mt



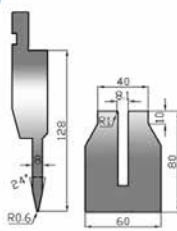
**119 h67**  
max 800 kN/mt



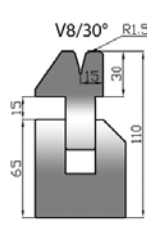
**119c h87**  
max 500 kN/mt



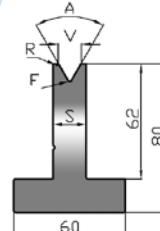
**305**



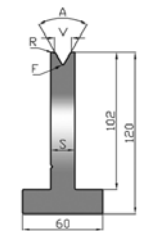
**138 l8+m8**  
max 500 kN/mt



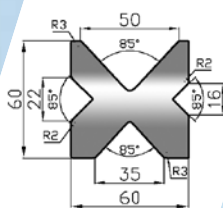
**306/30 v8**  
max 800 kN/mt



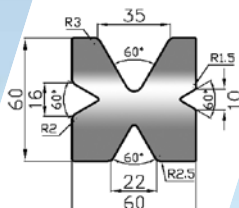
**220 h80**  
max 250-1000 kN/mt



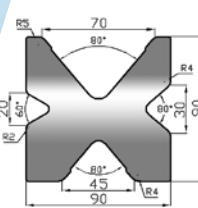
**420 h120**  
max 250-1000 kN/mt



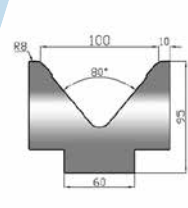
**209/v4**  
max 800 kN/mt



**210/v4**  
max 600 kN/mt

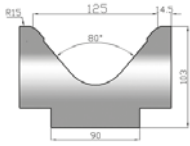


**203/v4**  
max 600 kN/mt

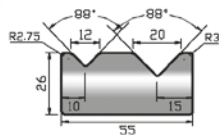


**211/100**  
max 1000 kN/mt

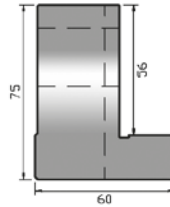




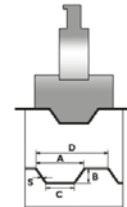
**211/125**  
max 1000 kN/mt



**214/88**  
max 1000 kN/mt

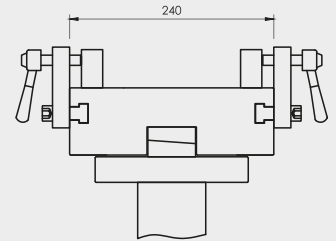
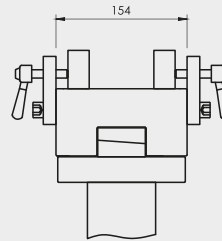
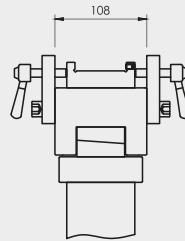


**408/75**

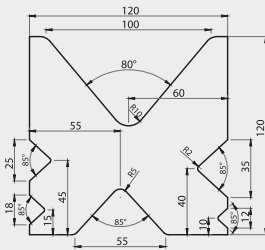
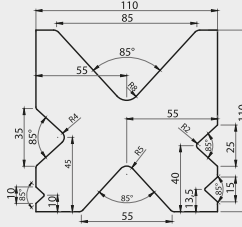
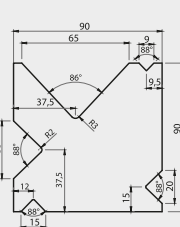


**SP14**

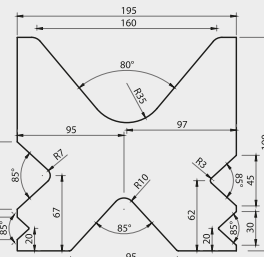
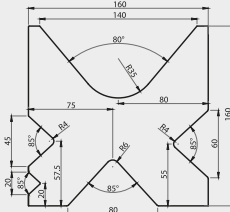
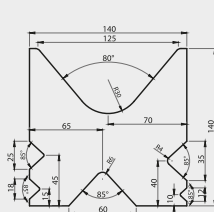
### Bottom Table Types



### Multi V Bottom Tables

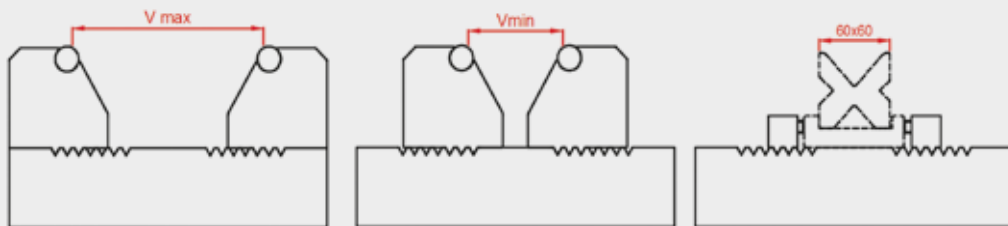


### Multi V Bottom Tables



V 60-80-100-120-140-160 / V 60-80-100-120-140-160-180-200 / V 60-80-100-120-140-160-180-200-220-240

### Adjustable Bottom Tables



# CNC PRESS BRAKE



WILA Type  
Bottom Tool  
Hydraulic  
Clamping System

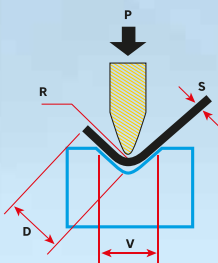


WILA Type  
Top Tool  
Hydraulic  
Clamping System



## BENDING POWER TABLE

V	D (Min)	R	S (min)																						
			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					5	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	35,5										
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	90	22																	37	46	66	103	149		
180	130	30																		33	48	75	107	133	
200	145	33																			43	67	97	119	
250	180	42																				54	77	95	



- : Nominal Working Capacity (Ton)
- L : Maximum bending length  
Table L = 1000mm
- V : Tool Width (mm)
- D : Minimum sheet bending distance (mm)
- R : Bending Radius
- S : Material Thickness (mm)
- $\bar{V}$  : Material Tensile Strength ( $\bar{V}=42 \text{ kg/mm}^2$ )
- P : Bending Force (Ton)

$$P = \frac{1.42 \times \bar{V} \times S^2 \times L}{1000 \times V} \text{ (Ton)}$$

Mitsubishi Servo Motors



Mitsubishi Drivers



The movement of the backgauge is operated by the CNC control unit in hydraulic press brakes.

The high performance servo motors produced by Mitsubishi move the bearing axes.

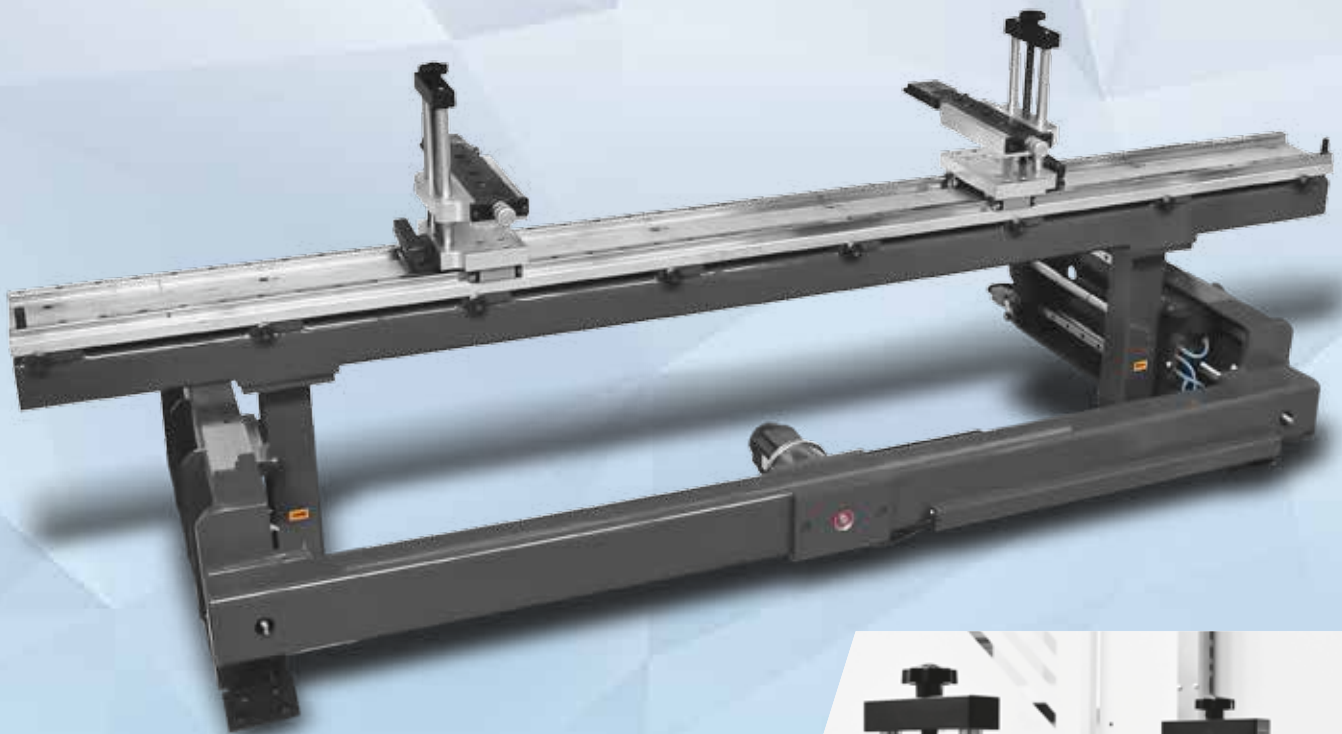
Precision parts are produced by these motors. The electrical circuit components used are Siemens, Telemecanique and Schneider brand products.

# CNC PRESS BRAKE

The most important factor for precision bending in press brakes is the Backgauge system.

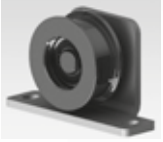
Hilalsan design features a special, powerful and precise backgauge system that works on linear guideways at side counters and large-sized ball screws. The special design has very strong construction due to its strong mechanical structure and can withstand large loads.

The backgauge finger blocks move on top of the double-rail and aluminum-plated top profile. These backgauge finger blocks are very sensitive and can be adjusted from any point.



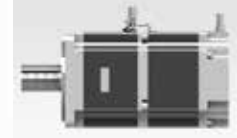
Backgauge Finger





**H:** Belt tensioning mechanisms used to prevent the trigger belts, which engage the X axis motor, from making a gap.

**D:** High resolution MITSUBISHI servo motor in the precision positioning axis.



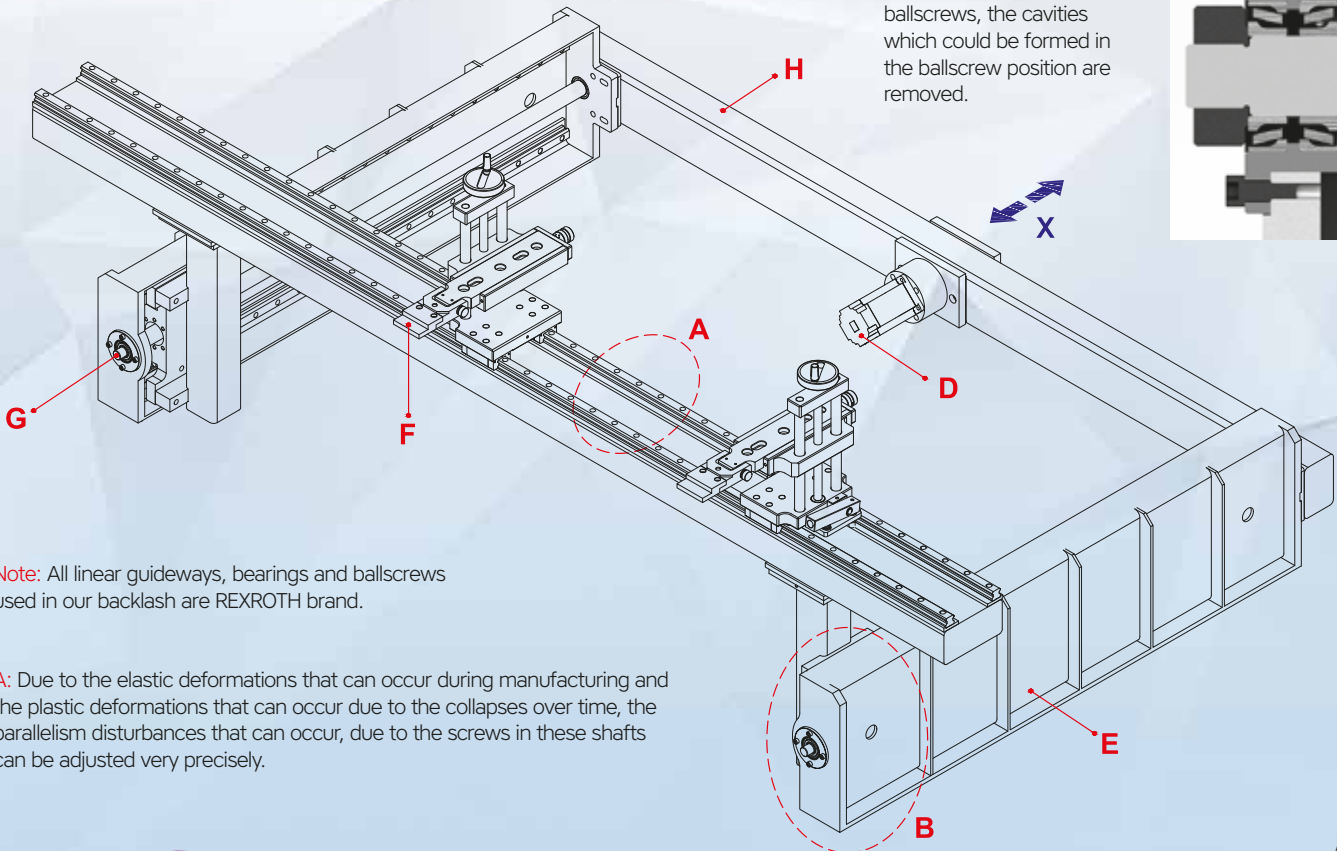
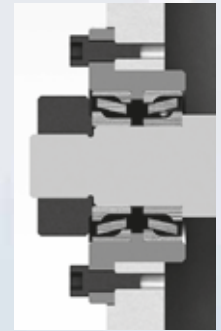
**F:** Resistant to wear and deformation, precisely adjustable, and heat treated back-gauge finger blocks.



**C:** The X Axis console is manufactured with a ball screw which is movable with a 200 mm stroke, with impact-resistant and anti-backlash system.

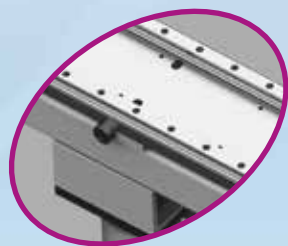
**F:** Mechanical braking system to prevent movement of fingers due to shocks and vibrations during operation.

**G:** Thanks to the tapered bearing made of tapered roller at the ends of the ballscrews, the cavities which could be formed in the ballscrew position are removed.

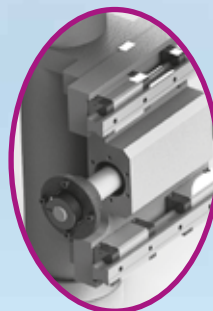


**Note:** All linear guideways, bearings and ballscrews used in our backlash are REXROTH brand.

**A:** Due to the elastic deformations that can occur during manufacturing and the plastic deformations that can occur due to the collapses over time, the parallelism disturbances that can occur, due to the screws in these shafts can be adjusted very precisely.



**A:** Movable top profile designed to absorb deformations that may occur in the trapezoid and precisely calibrate the distance to the bottom tool.



**B:** 4 pcs square type double row linear guideways and ballscrew are used so that our consoles do not cause any gap due to the collapses.

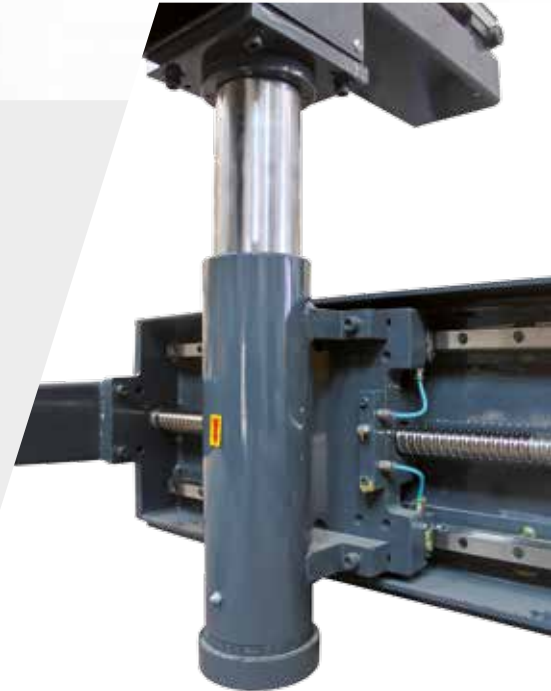
**E:** Strengthened steel construction and vibration-proof and durable side console.

# CNC PRESS BRAKE

The most important factor for precision bending in press brakes is the Backgauge system.

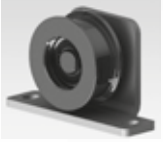
Hilalsan design features a special, powerful and precise backgauge system that works on linear guideways at side counters and large-sized ball screws. The special design has very strong construction due to its strong mechanical structure and can withstand large loads.

The backgauge finger blocks move on top of the double-rail and aluminum-plated top profile. These backgauge finger blocks are very sensitive and can be adjusted from any point.



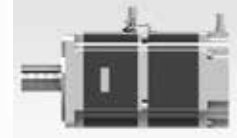
Backgauge Finger





**H:** Belt tensioning mechanisms used to prevent the trigger belts, which engage the X axis motor, from making a gap.

**D:** High resolution MITSUBISHI servo motor in the precision positioning axis.



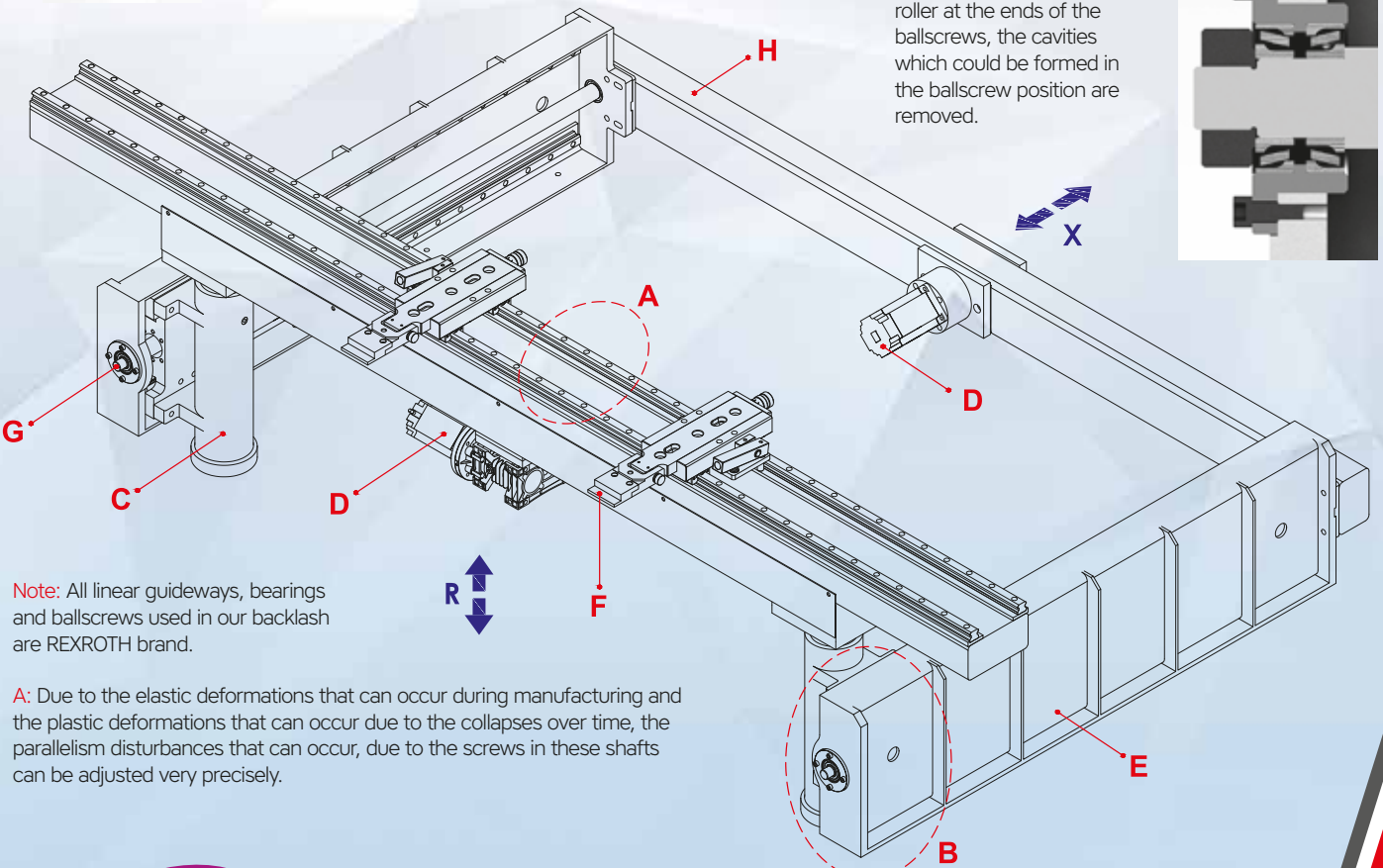
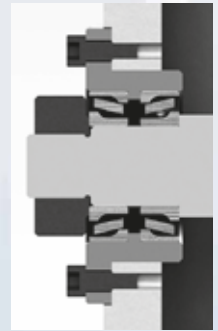
**C:** The R Axis console is manufactured with a ball screw which is movable with a 200 mm stroke, with impact-resistant and anti-backlash system.

**F:** Resistant to wear and deformation, precisely adjustable, and heat treated back-gauge finger blocks.



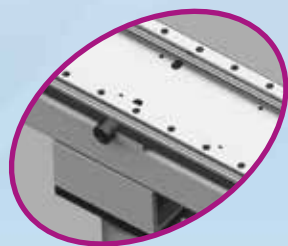
**F:** Mechanical braking system to prevent movement of fingers due to shocks and vibrations during operation.

**G:** Thanks to the tapered bearing made of tapered roller at the ends of the ballscrews, the cavities which could be formed in the ballscrew position are removed.

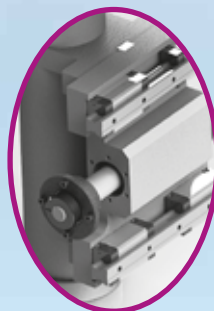


**Note:** All linear guideways, bearings and ballscrews used in our backlash are REXROTH brand.

**A:** Due to the elastic deformations that can occur during manufacturing and the plastic deformations that can occur due to the collapses over time, the parallelism disturbances that can occur, due to the screws in these shafts can be adjusted very precisely.



**A:** Movable top profile designed to absorb deformations that may occur in the trapezoid and precisely calibrate the distance to the bottom tool.

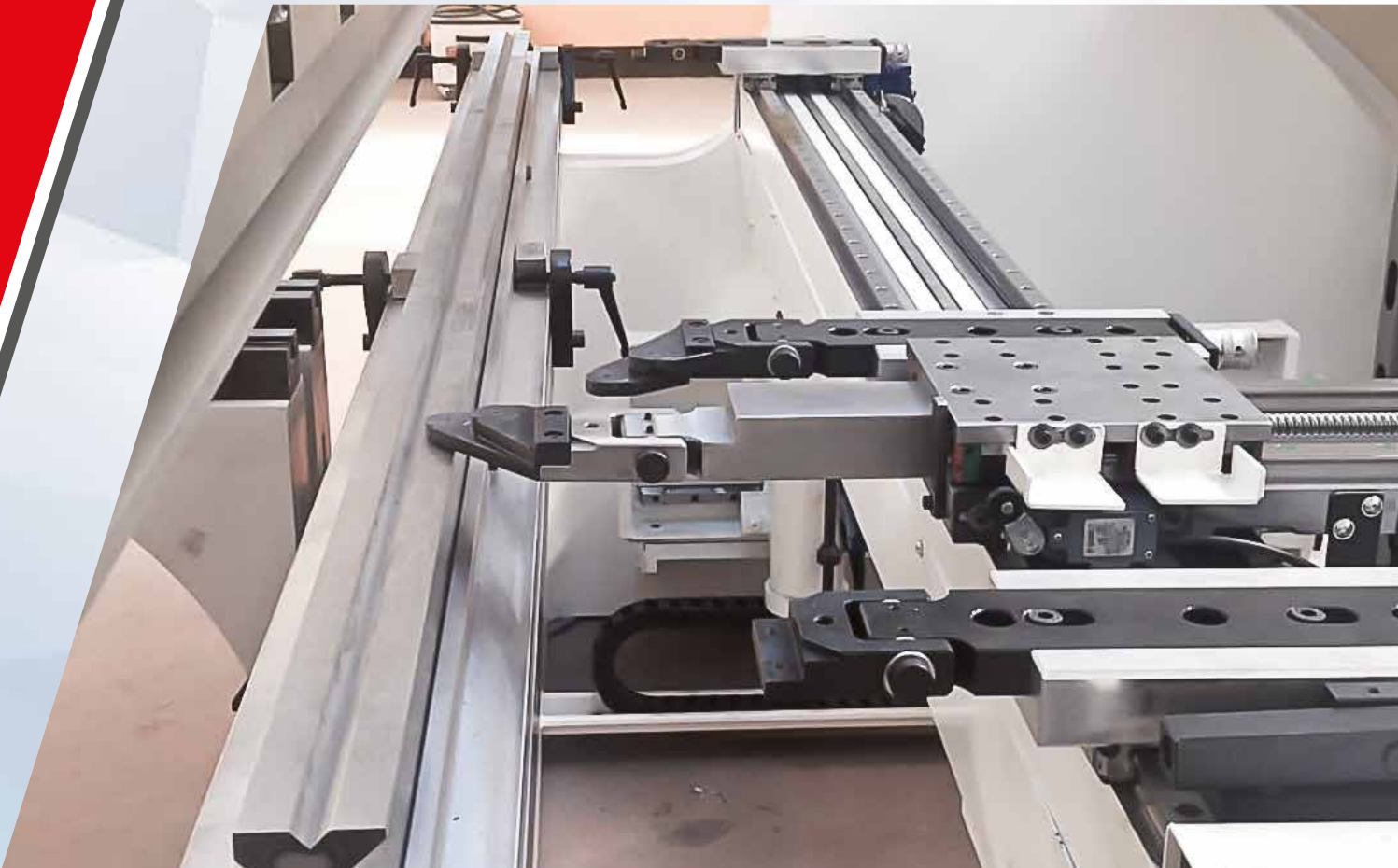


**B:** 4 pcs square type double row linear guideways and ballscrew are used so that our consoles do not cause any gap due to the collapses.

**E:** Strengthened steel construction and vibration-proof and durable side console.



# CNC PRESS BRAKE

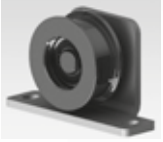


The most important factor for precision bending in press brakes is the Backgauge system.

Hilalsan design features a special, powerful and precise backgauge system that works on linear guide-ways at side counters and large-sized ball screws. The special design has very strong construction due to its strong mechanical structure and can withstand large loads.

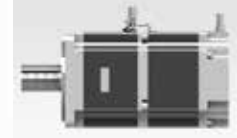
The backgauge finger blocks move on top of the double-rail and aluminum-plated top profile. These backgauge finger blocks are very sensitive and can be adjusted from any point.





**H:** Belt tensioning mechanisms used to prevent the trigger belts, which engage the X axis motor, from making a gap.

**D:** High resolution MITSUBISHI servo motor in the precision positioning axis.



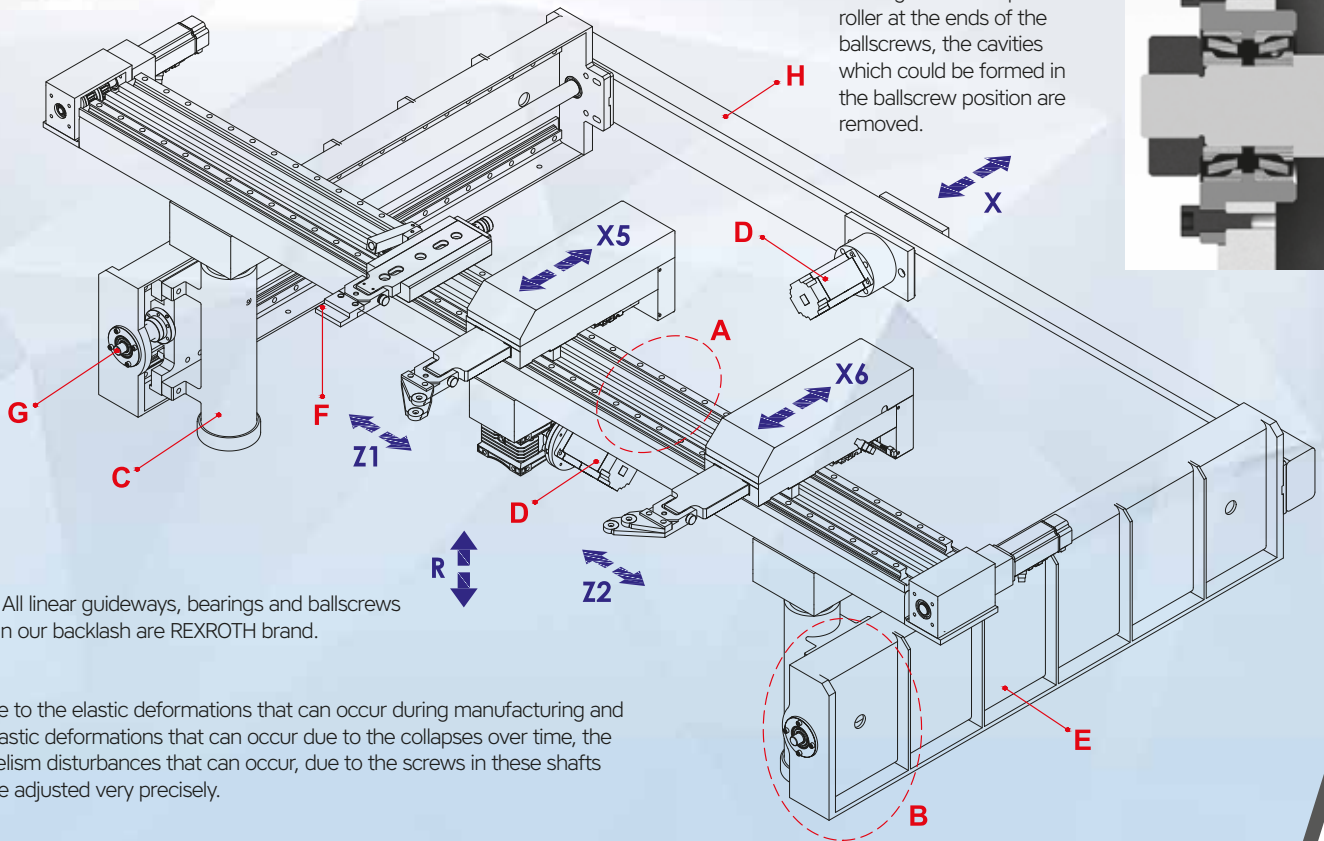
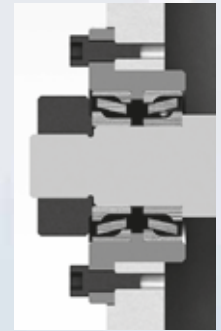
**C:** The R Axis console is manufactured with a ball screw which is movable with a 200 mm stroke, with impact-resistant and anti-backlash system.

**F:** Resistant to wear and deformation, precisely adjustable, and heat treated back-gauge finger blocks.



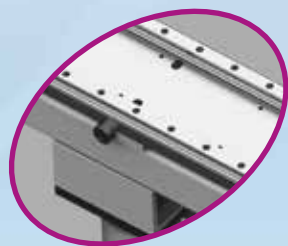
**F:** Mechanical braking system to prevent movement of fingers due to shocks and vibrations during operation.

**G:** Thanks to the tapered bearing made of tapered roller at the ends of the ballscrews, the cavities which could be formed in the ballscrew position are removed.

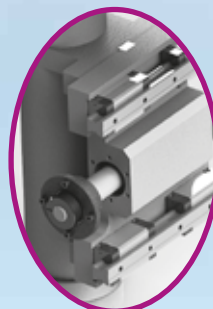


**Note:** All linear guideways, bearings and ballscrews used in our backlash are REXROTH brand.

**A:** Due to the elastic deformations that can occur during manufacturing and the plastic deformations that can occur due to the collapses over time, the parallelism disturbances that can occur, due to the screws in these shafts can be adjusted very precisely.



**A:** Movable top profile designed to absorb deformations that may occur in the trapezoid and precisely calibrate the distance to the bottom tool.

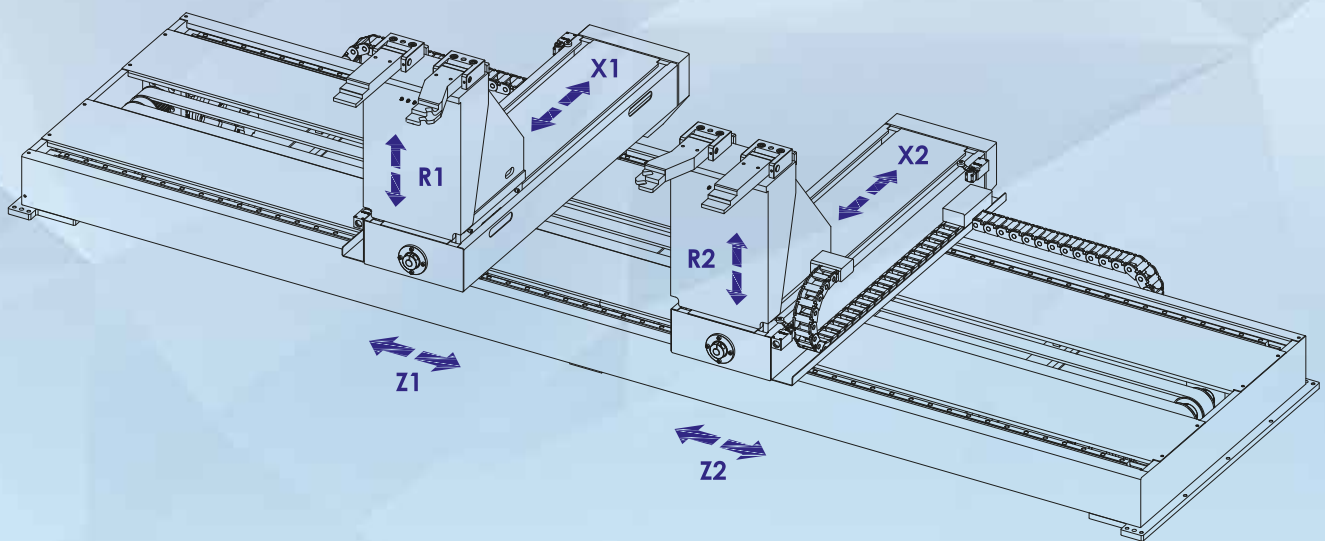


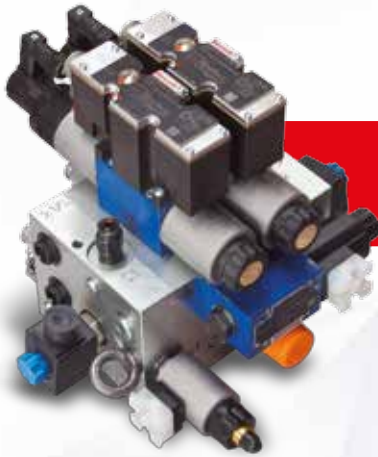
**B:** 4 pcs square type double row linear guideways and ballscrew are used so that our consoles do not cause any gap due to the collapses.

**E:** Strengthened steel construction and vibration-proof and durable side console.

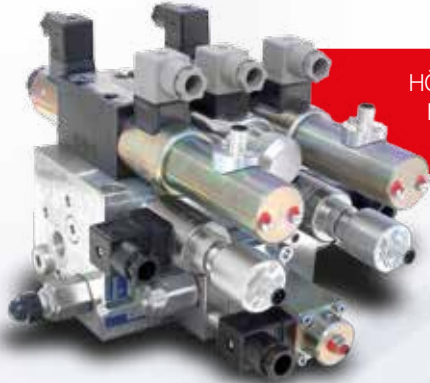
# CNC PRESS BRAKE

ATF X1-X2-R1-R2-Z1-Z2 BACKGAUGE





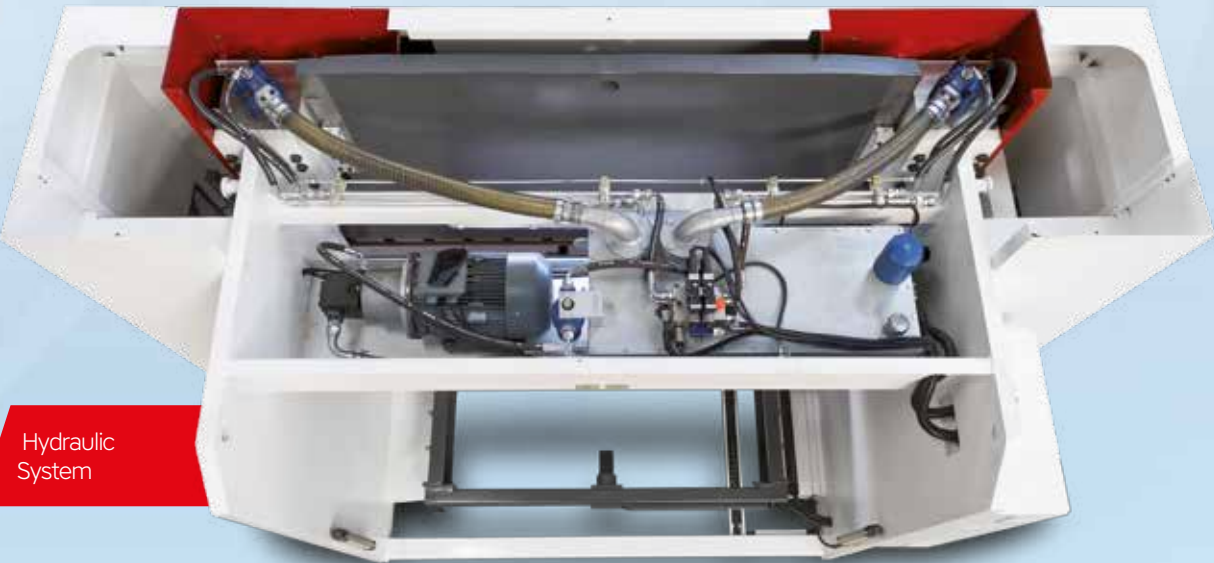
REXROTH  
Hydraulic  
Block



HÖERBIGER  
Hydraulic  
Block



Modular  
Hydraulic  
Tank



Hydraulic  
System

Hydraulic Block type may vary depending on the machine construction.

# CNC PRESS BRAKE



Stand Type  
Foot Pedal



Easily adjustable  
front Laser  
finger protection  
with linear guideways

Magnescales







Quick & Easy Adjustable Support Arms.

It is mounted in front of the machine in such a way as to move on a linear slide system and on a ball bearing.

It is easy to use by taking the desired position even when lightly pushed, and it is also possible to adjust it vertically.

European Type  
Quick Release System

European Type  
Top Tool



Narrow Table



# CNC PRESS BRAKE

Manual  
Central  
Lubrication



Oil Cooler  
with fan



Motorized Central Lubrication



Oil Heaters





The bedding of the top table kept longer to avoid stretch during bending and easy to slip.

To keep the bedding outside of the columns provides an advantage in box bends.



The top plate connections are mounted with double springs as well as spherical connection to the cylinders with double safety.

The parallelism with the top plate can be adjusted more precisely and the proportional valves can work synchronously with each other.

# CNC PRESS BRAKE

The outer surface of the machine is painted with two layers of paint at least 60 microns in thickness to protect against weather conditions.

Paint drying is done gradually in different time and temperature ranges in state-of-the-art ovens.







The press brake bodies machined in 5 Axis CNC machines are able to make more precise bendings and to reduce the friction coefficients to minimum level.

# CNC PRESS BRAKE

SPECIAL FULL-SIZED HOUSING







www.hilalsan.com.tr



CNC Press Brake



CNC Press Brake



Cnc Variable Rake Hydraulic Guillotine Shear



Nc Guillotine Shear



Guillotine Shear with Reducer



Guillotine Shear with Reducer



Double Cylinder  
Hydraulic Iron Worker



Single Cylinder  
Hydraulic Iron Worker



Hydraulic Drawing Press

**HILALSAN**  
Makina Endüstriyel ve Ticaret Limited Şirketi

Büyük Kayalık Mh.  
Konya Organize Sanayi Bölgesi  
Evrenköy Caddesi No.4  
Selçuklu / Konya / Türkiye

Tel.: +90 332 **345 16 16** (pbx)  
Fax: +90 332 **345 16 21**

hilalsan@hilalsan.com.tr