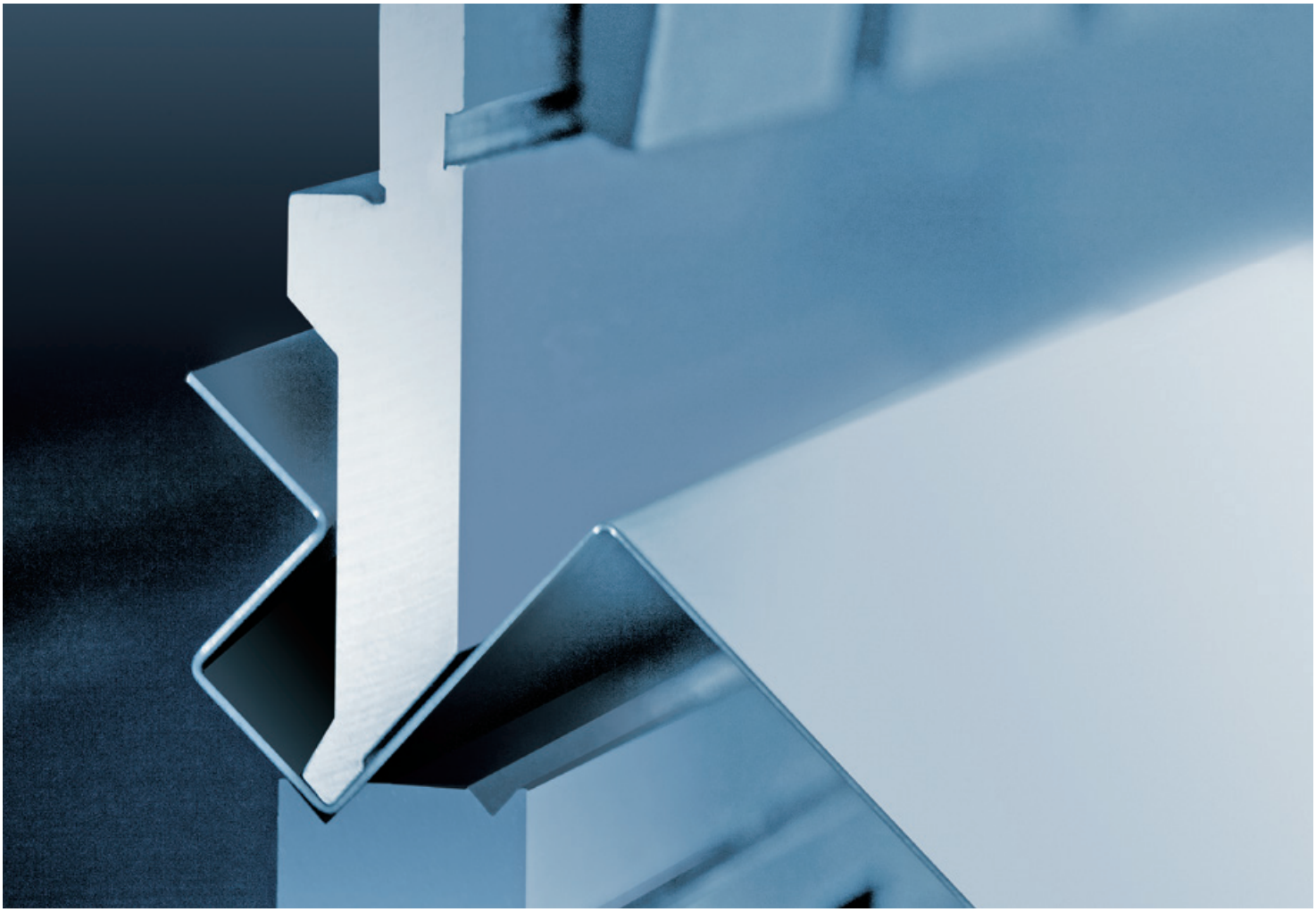


# CNC SHEET METAL PRESS BRAKES

PBA PBH PBC

Yawei 亚威

Stock Code 002559

# Pursuit of Excellence
# Insistence to Innovation

## Products Catalogue



### National single champion product in manufacturing industry

Since 1976, Yawei has entered the press brake industry, and has been committed to the R&D and manufacturing of efficient, high-precision and energy-saving press-brakes. With more than 50 years of technology and process, Yawei has been dedicated to serving customers in various metal sheet processing industries. Rich product series and functional parts provide you with better bending process solutions. Rich product series and functional parts provide you with better bending process solutions.

### Products advantages

- All new outlook design
- High speed and high efficiency bring higher profits
- High rigidity and high precision decide better quality
- Easy to operate, low maintenance cost


## PBA Series

**High speed CNC press brake**

- The main servo motor drives the oil pump, energy-saving and fast
- Trustworthy Yawei quality, stable and reliable
- High quality bending operations to all types of workpieces
- Automatic mechanical crowning system, closed-loop control


## PBH Series

**High Speed CNC Press Brake**

- High frequency response valve control technology, high dynamic response, high precision
- Low oil temperature control technology, reduce hydraulic breakdown rate and increase overall life time
- High precision and high efficiency bending to all kinds of workpieces


## PBC Series

**High Performance CNC Press Brake**

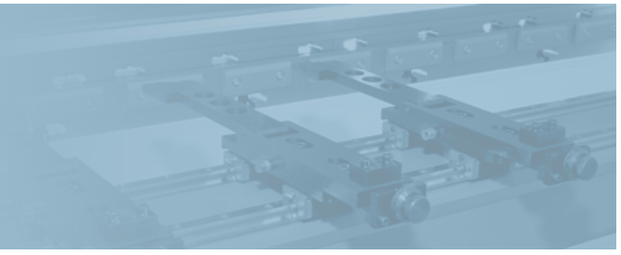
- Low oil temperature control technology reduces hydraulic failure and improves service life
- Suitable for high-precision and high-efficiency bending processing of various workpieces
- High frequency response valve control technology, high dynamic response and high precision
- Load sensitive adjustment, more energy saving and more stable


# PBA Series

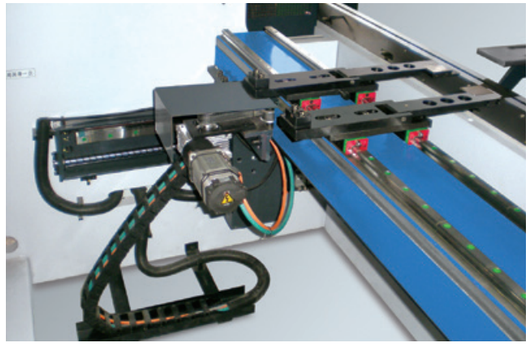
## High speed CNC press brake

- All new simplified design, elegant appearance
- Better parameters, better configurations, good performance, and easy to operate
- High rigidity machine frame, automatic mechanical crowning table for high precision bending operations
- Main motor adopts servo motor to drive the oil pump,save about 40% energy than normal electro-hydraulic machines.

# Multiple Configurations
# Flexible Combinations



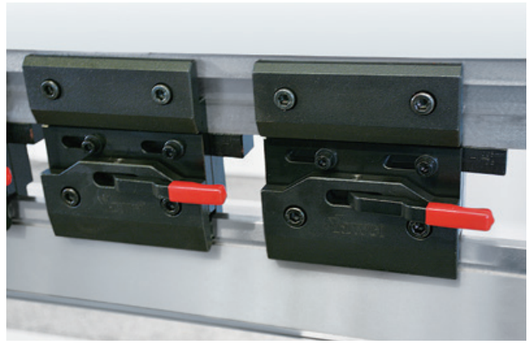
## Backgauge



**Standard Backgauge (Standard Configuration)**

- CNC axis is driven by AC servo motor, moved with ball screw, guided by linear guide

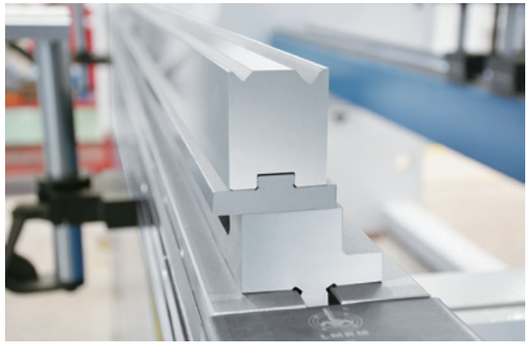
## Upper Tool Clamping



**Mechanical Fast Clamping (Standard Configuration)**

- Mechanical fast clamping enables a fast change of upper tool

## Lower Die Clamping



**2-V Clamping (Standard Configuration)**

- 2-V fast change clamping enables a fast change of lower die

## Crowning Compensation

**Mechanical Crowning Device (Standard Configuration)**

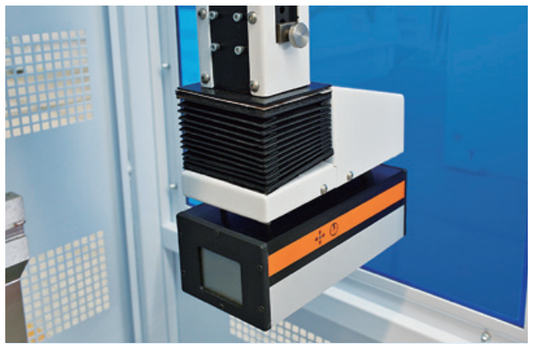
- Automatic adjustment of crowning compensation according to the instructions programmed by CNC

## Front Sheet Support

**Step-adjusted Front Sheet Support (Standard Configuration)**

- Standard front sheet support, manual adjustment of height, can be turned left and right

## Laser Safety Guard



**Laser Guarding Device (Option)**

- CNC and safety controller can monitor the machine operations in real time to effectively protect the hands and arms of the operator

## Multiple Configurations
## Flexible Combinations

## Outstanding Parameters
## Extraordinary Performance

### NCY64 CNC Controller(standard)

**Function Features**

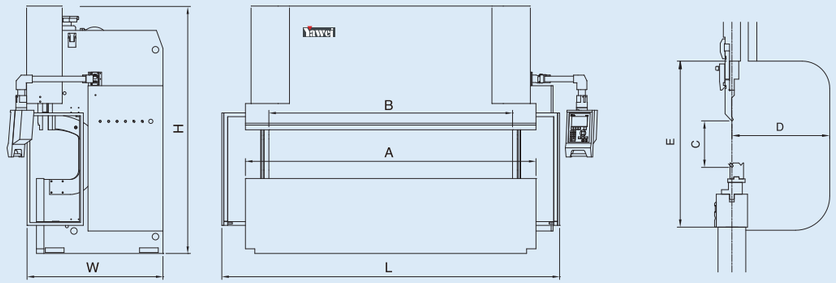
- Color LCD display, 15" widescreen TFT
- More than 2000 programs and tool storage space
- Data storage via USB
- One-page parameter quick programming
- Automatic calculation of worktable crownning compensation
- 2D programming, 3D/2D simulation
- Automatic calculation of bending pressure, mold safety area
- Online operation analysis tool
- Angle correction database (option)
- System diagnosis function
- Up to six axis control (Y1, Y2, four auxiliary axis)

### DA53T CNC Controller(Option)

**Function Features**

- 10.1" widescreen, TFT color display touch screen
- Up to four axis control
- Memory capacity 1GB
- One-page parameter quick programming, navigation shortcut keys
- Internal integrated valve amplifier
- Online operation analysis tool
- Network tandem machine device (option)
- System diagnosis function
- Real-time WINDOWS operating platform to ensure the stability of controller operation and support instant shutdown
- Automatic calculation of worktable crowning compensation
- Tool library 30 sets of upper tool/30 sets of lower tool

### Technical Parameters




| Model | Bending force | Bending length A | Distance between uprights B | Throat depth D | Ram stroke C | Die setting height E | Ram speed | | | Main motor power | Oil tank volume | Overall dimension LxWxH | | | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kN | mm | mm | mm | mm | mm | mm/s | | | kW | L | mm | | | kg |
| PBA-35/1250 | 350 | 1250 | 950 | 300 | 120 | 450 | 180 | 16 | 180 | 5 | 100 | 1930 | 1400 | 2200 | 3000 |
| PBA-63/2050 | 630 | 2050 | 1750 | 350 | 175 | 480 | 180 | 12.5 | 140 | 6 | 150 | 2700 | 1450 | 2360 | 4000 |
| PBA-63/2550 | | 2550 | 2150 | | | | | | | | 200 | 3200 | 1450 | 2560 | 5000 |
| PBA-110/3100 | 1100 | 3100 | 2600 | 410 | 215 | 520 | 220 | 15 | 180 | 8.7 | 250 | 3665 | 1430 | 2620 | 7000 |
| PBA-110/4100 | | 4100 | 3600 | | | | | | | | 300 | 4665 | 1430 | 2620 | 8500 |
| PBA-160/3100 | 1600 | 3100 | 2600 | 410 | 215 | 520 | 180 | 13 | 155 | 10.8 | 350 | 3685 | 1500 | 2750 | 8600 |
| PBA-160/4100 | | 4100 | 3600 | | | | | | | | 400 | 4685 | 1500 | 2820 | 10500 |
| PBA-220/3100 | 2200 | 3100 | 2600 | 410 | 215 | 530 | 160 | 12 | 150 | 16.7 | 400 | 3725 | 1745 | 2830 | 10800 |
| PBA-220/4100 | | 4100 | 3600 | | | | | | | | 500 | 4705 | 1745 | 2930 | 12800 |
| PBA-300/3100 | 3000 | 3100 | 2600 | 410 | 265 | 580 | 140 | 12 | 120 | 21.4 | 450 | 3725 | 1925 | 2980 | 13800 |
| PBA-300/4100 | | 4100 | 3600 | | | | | | | | 600 | 4725 | 1925 | 3080 | 15800 |

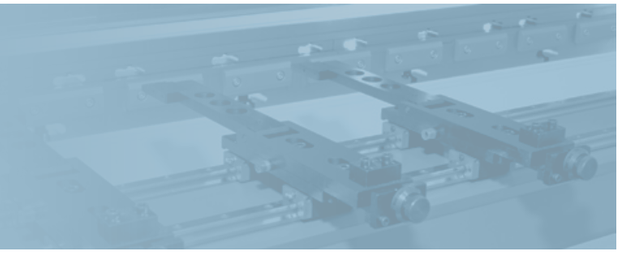

# PBH Series

## High Speed CNC Press Brake

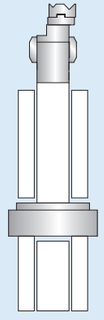
- High frequency response valve control technology, high speed, high efficiency, and high precision
- Balancing valve control technology, less overflow and lower oil temperature, more stable and reliable performance
- Optimized parameters and configurations, more functions while easier to operate

# PBH Series
# Hydraulic Control Technology

# Multiple Configurations
# Flexible Combinations



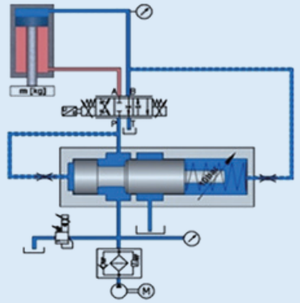
## Crowning Compensation



### Hydraulic Crowning Technology (Standard)

- Hydraulic crowning system is composed of a group of hydraulic cylinders under the worktable, which enables a relative movement of the worktable to form a convex curve to make sure the relative position between the ram and the worktable remains unchanged after the worktable is under pressure. The crowning compensation value is calculated automatically by CNC according to the thickness of the sheet, the opening of the lower die, and other material properties

## Balancing Control



### Pressure Differential Balancing Control Technology (Standard)

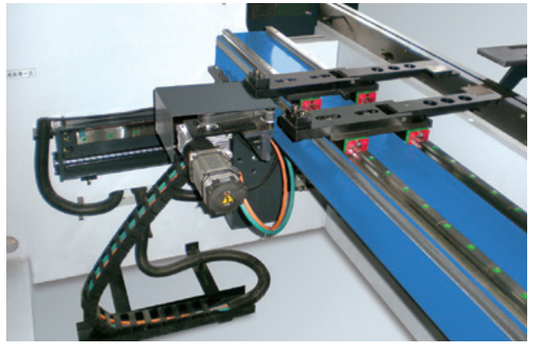
- Pressure differential balancing system can control the overflow of the hydraulic system in advance to effectively control the temperature of the hydraulic system, which helps for a long-term stabilized operation of the machine

## Control Technology

### High Frequency Response Control Valve Technology (Standard)

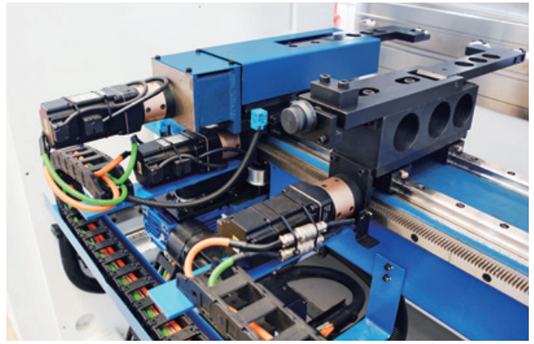
- Thanks to the high frequency response proportional valve, the synchronization precision of Y1 and Y2 in high speed operation is largely improved for higher bending efficiency

## Backgauge



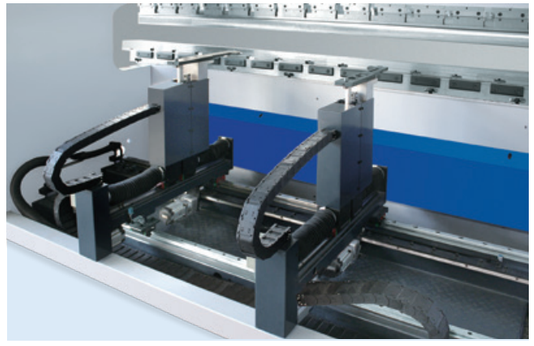
### Dual-linear Guide Backgauge (Standard)

- Axis: X, R
- CNC axis is driven by AC servo motor, moved with precise ball screw, guided by linear guide



### 5-axis Backgauge (Option)

- Axis: X, R, Z1, Z2, X1
- Suitable for positioning of complicated workpiece, as well as workpiece with inclined plane



### 6-axis Backgauge (Option)

- Axis: X1, X2, R1, R2, Z1, Z2
- Suitable for positioning of complicated workpiece, as well as workpiece with inclined plane

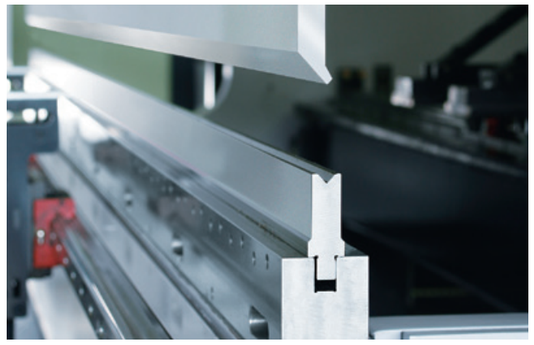
## Multiple Configurations
## Flexible Combinations

## Outstanding Paraqmeters
## Extraordinary Performance

### Lower Die Clamping

**2-V Structure Die (Standard)**

- 2V-T type fast clamping enables a fast change of lower die



**1-V Clamping (Option)**

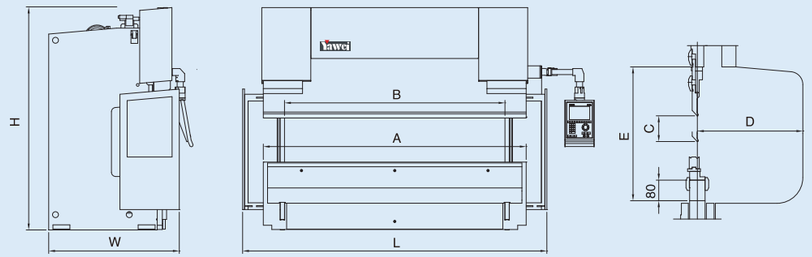
- 1-V clamping is used for high precision 1-V lower die. Fast change of lower die. 1-V lower die is narrow in width, very suitable for complicated flanging bending

### Bending Help


**Mechanical Servo Bending Help (Option)**

- The sheet support of the bending help can follow up the sheet when it is in the bending process. The follow-up angle and speed are automatically calculated and controlled by CNC. Bending help can be moved along the linear guide

### Technical Parameters



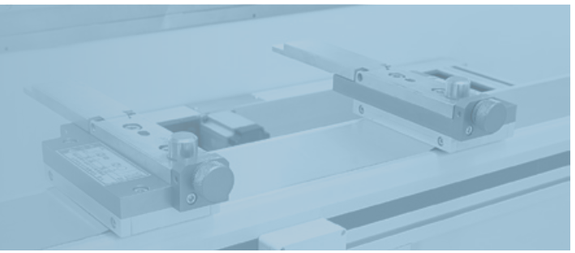

| Model | Bending force | Bending length A | Distance between uprights B | Throat depth D | Ram stroke C | Die setting height E | Ram speed | | | Main motor power | Oil tank volume | Overall dimension LxWxH | | | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kN | mm | mm | mm | mm | mm | mm/s | | | kW | L | mm | | | kg |
| PBH-80/2550 | 800 | 2550 | 2150 | 350 | 175 | 480 | 200 | 18 | 200 | 9.8 | 230 | 3140 | 1540 | 2450 | 6500 |
| PBH-110/3100 | 1100 | 3100 | 2600 | 410 | 215 | 520 | 220 | 18 | 180 | 12.5 | 300 | 3610 | 1550 | 2620 | 8800 |
| PBH-110/4100 | | 4100 | 3600 | 410 | 215 | 520 | | | | | 360 | 4610 | | 2670 | 11000 |
| PBH-160/3100 | 1600 | 3100 | 2600 | 410 | 215 | 520 | 180 | 15 | 170 | 18 | 380 | 3630 | 1600 | 2670 | 10300 |
| PBH-160/4100 | | 4100 | 3600 | 410 | 215 | 520 | | | | | 430 | 4630 | | 2720 | 12500 |
| PBH-220/3100 | 2200 | 3100 | 2600 | 410 | 215 | 520 | 160 | 13 | 150 | 24.4 | 400 | 3650 | 1850 | 2735 | 12800 |
| PBH-220/4100 | | 4100 | 3600 | 410 | 215 | 520 | | | | | 500 | 4650 | | 2935 | 16000 |
| PBH-250/3100 | 2500 | 3100 | 2600 | 410 | 215 | 530 | 150 | 12 | 130 | 24.4 | 400 | 3650 | 1850 | 2735 | 13000 |
| PBH-250/4100 | | 4100 | 3600 | 410 | 215 | 520 | | | | | 500 | 4650 | | 2935 | 16200 |
| PBH-300/3100 | 3000 | 3100 | 2600 | 410 | 265 | 580 | 120 | 9 | 100 | 22 | 450 | 3130 | 1890 | 2980 | 16000 |
| PBH-300/4100 | | 4100 | 3600 | 410 | 265 | 580 | | | | | 600 | 4310 | | 3080 | 19000 |


# PBC Series

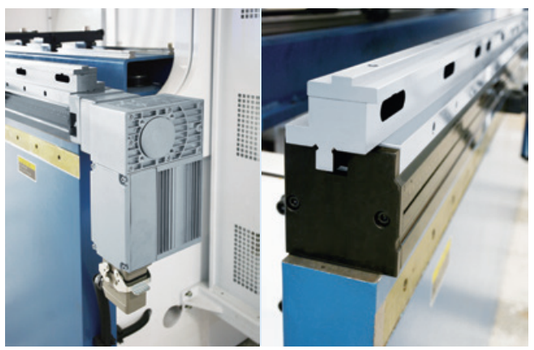
## High Performance CNC Press Brake

- All new outlook design, friendly human-machine interface
- Automatic mechanical crowning table for high precision bending operations
- Optimized parameters and configurations, more functions while easier to operat
- High frequency response valve control technology, high dynamic response and high precision
- Load sensitive adjustment, more energy saving and more stable

# Multiple Configurations
# Flexible Combinations



## Crowning Compensation



### Mechanical Crowning Device (Standard)

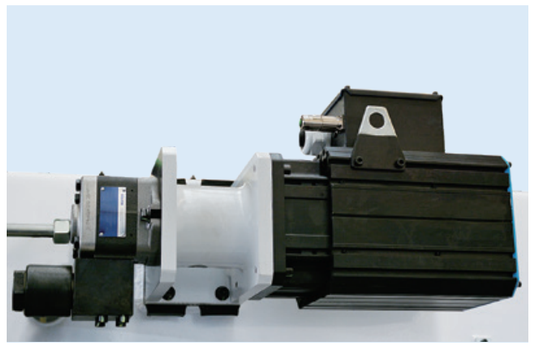
- Automatic adjustment of crowning compensation according to the instructions programmed by CNC

## Control Technology

### High Frequency Response Valve Control Technology (Standard)

- Thanks to the high frequency response proportional valve, the synchronization precision of Y1 and Y2 axis in high speed operation is largely improved for higher bending efficiency

## Servo Motor



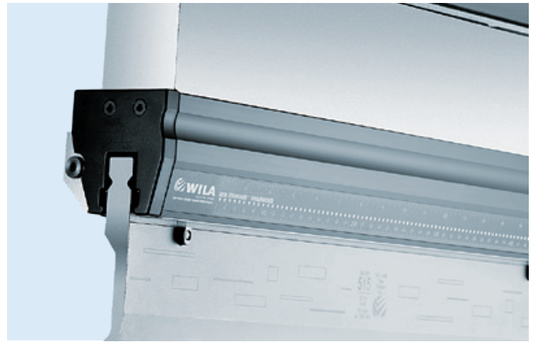
### Servo Main Motor (Standard)

- Servo motor can save energy, reduce oil temperature, increase overall life time, and reduce maintenance cost

## Upper Tool Clamping


### Mechanical Fast Clamping (Standard)

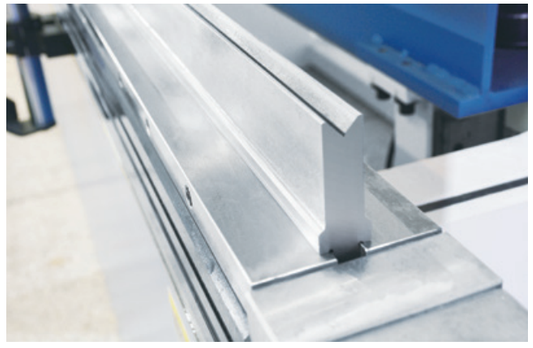
- Mechanical fast clamping enables a fast change of upper tool
- Can intall upper tool from front side




### Hydraulic Clamping (Option)

- Clamping and loosing actions are electrically controlled. Strong clamping force, easy and effective change of tool

## Lower Die Clamping

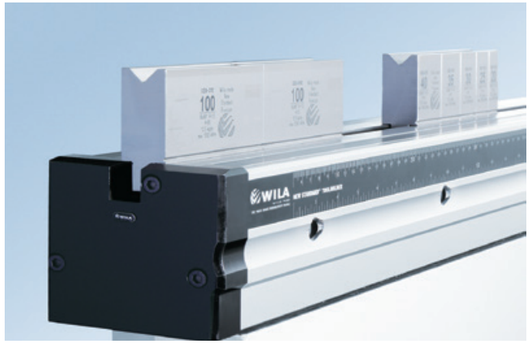


### 1-V Clamping (Option)

- 1-V clamping is used for high precision 1-V lower die. Fast change of lower die. 1-V lower die is narrow in width, very suitable for complicated flanging bending

# Multiple Configurations
# Flexible Combinations

## Lower Die Clamping



### 1-V Automatic Hydraulic Clamping (Option)

- Clamping and loosing actions are electrically controlled, easy and effective change of lower die

## Front Sheet Support

### Front Sheet Support Moving Along Linear Guide (Standard)

- Front sheet support moving along linear guide

### Front Sheet Support Moving Along Linear Guide (Option)

- Front sheet support moving along linear guide

## NCY64 CNC Controller (standard)

### Function Features

- Color LCD display, 15" widescreen TFT
- More than 2000 programs and tool storage space
- Data storage via USB
- One-page parameter quick programming
- Automatic calculation of worktable crownning compensation
- 2D programming, 3D/2D simulation
- Automatic calculation of bending pressure, mold safety area
- Online operation analysis tool
- Angle correction database (option)
- System diagnosis function
- Up to six axis control (Y1, Y2, four auxiliary axis)

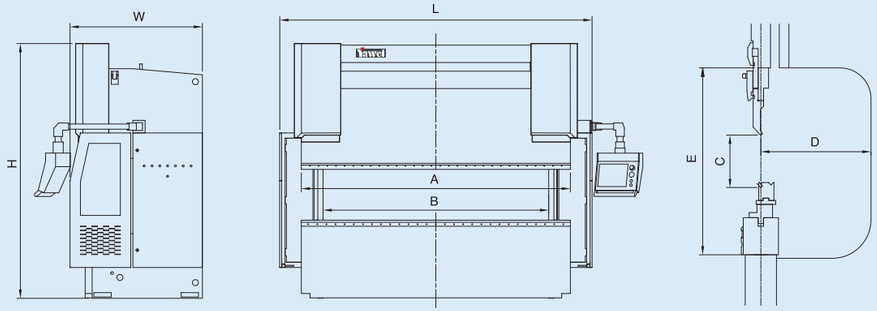
## DA58T CNC Controller (option)

### Function Features

- Color LCD display
- 15” widescreen TFT
- Full touch screen operation
- 1GB storage capacity
- 2D programming, 2D display
- Data storage via USB
- Automatic calculation of bending process
- Network dual machine linkage (option)
- Automatic calculation of worktable crowning compensation
- Internal integrated valve amplifier

# Outstanding Parameters Extraordinary Performance

## Technical Parameters

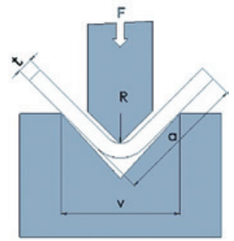



## PBC Technical Parameters (Main Motor is Servo Motor)

| Model | Bending force | Bending length A | Distance between uprights B | Throat depth D | Ram stroke C | Die setting height E | Ram speed | | | Main motor power | Oil tank volume | Overall dimension LxWxH | | | Weight |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | kN | mm | mm | mm | mm | mm | mm/s | | | kW | L | mm | | | kg |
| PBC-30/1050 | 300 | 1050 | 950 | 90 | 120 | 450 | 200 | 18 | 200 | 3 | 40 | 1790 | 1235 | 2385 | 3000 |
| PBC-50/2050 | 500 | 2050 | 1750 | 350 | 175 | 495 | 200 | 18 | 190 | 6.2 | 150 | 2550 | 1450 | 2485 | 4500 |
| PBC-80/2550 | 800 | 2550 | 2150 | 350 | 175 | 495 | 200 | 18 | 200 | 9.8 | 200 | 3140 | 1540 | 2485 | 6000 |
| PBC-110/3100 | 1100 | 3100 | 2600 | 410 | 215 | 535 | 220 | 18 | 200 | 13 | 200 | 3610 | 1550 | 2785 | 8500 |
| PBC-110/4100 | | 4100 | 3600 | | | | | | 180 | | 300 | 4610 | 1550 | 2835 | 9200 |
| PBC-160/3100 | 1600 | 3100 | 2600 | 410 | 215 | 535 | 200 | 15 | 180 | 19 | 300 | 3630 | 1600 | 2835 | 10000 |
| PBC-160/4100 | | 4100 | 3600 | | | | | | 170 | | 400 | 4630 | 1600 | 2875 | 11900 |
| PBC-220/3100 | 2200 | 3100 | 2600 | 410 | 215 | 545 | 180 | 13 | 160 | 24 | 300 | 3650 | 1850 | 2845 | 12300 |
| PBC-220/4100 | | 4100 | 3600 | | | | | | | | 400 | 4650 | 1850 | 2945 | 14000 |

# Calculation Chart of Force for Air Bending

## Calculation Chart of Force for Air Bending




- The calculation results are based on 90°bending with bending length 1 meter. This chart can help you to easily calculate the bending force needed per meter on different workpieces. The bending force needed is up to the thickness of the sheet and the opening width of the lower die. The shortest edge length and inside radius are decided by the opening width of the lower die

Mild steel 450N/mm²

| Thickness of sheet | V | 6 | 8 | 10 | 12 | 16 | 20 | 24 | 32 | 36 | 40 | 50 | 60 | 63 | 80 | 100 | 120 | 130 | 140 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a | 4.5 | 5 | 7 | 8.5 | 12 | 15 | 17 | 23 | 25 | 28 | 35 | 43 | 45 | 57 | 71 | 85 | 92 | 100 |
| | r | 1 | 1.2 | 1.6 | 2 | 2.5 | 3 | 3.5 | 5 | 5.5 | 6 | 8 | 9.5 | 10 | 12 | 15.5 | 19 | 21 | 23 |
| | 0.5 | 2.5 | | | | | | | | | | | | | | | | | |
| | 0.8 | 7 | 4.8 | | | | | | | | | | | | | | | | |
| | 1 | 11 | 8 | 6 | | | | | | | | | | | | | | | |
| | 1.2 | | 12 | 9 | 7 | | | | | | | | | | | | | | |
| | 1.5 | | | 15 | 12 | 8 | | | | | | | | | | | | | |
| | 2 | | | | 23 | 16 | 20 | | | | | | | | | | | | |
| | 2.5 | | | | | 26 | 20 | 15 | | | | | | | | | | | |
| | 3 | | | | | | 30 | 24 | 16 | | | | | | | | | | |
| | 4 | | | | | | | 44 | 31 | 28 | | | | | | | | | |
| | 5 | | | | | | | | | 47 | 43 | 31 | | | | | | | |
| | 6 | | | | | | | | | | 61 | 45 | 36 | | | | | | |
| | 8 | | | | | | | | | | | | 69 | 65 | 47 | 36 | | | |
| | 10 | | | | | | | | | | | | | | 80 | 60 | 47 | 43 | |
| | 12 | | | | | | | | | | | | | | | 90 | 71 | 65 | 58 |

Stainless steel 700N/mm²

| Thickness of sheet | V | 6 | 8 | 10 | 12 | 16 | 20 | 24 | 32 | 35 | 40 | 50 | 60 | 63 | 80 | 100 | 120 | 130 | 140 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | a | 4.5 | 5 | 7 | 8.5 | 12 | 15 | 17 | 23 | 25 | 28 | 35 | 43 | 45 | 57 | 71 | 85 | 92 | 100 |
| | r | 1 | 1.2 | 1.6 | 2 | 2.5 | 3 | 3.5 | 5 | 5.5 | 6 | 8 | 9.5 | 10 | 12 | 15.5 | 19 | 21 | 23 |
| | 0.5 | 4 | | | | | | | | | | | | | | | | | |
| | 0.8 | 11 | 8 | | | | | | | | | | | | | | | | |
| | 1 | 18 | 13 | 10 | | | | | | | | | | | | | | | |
| | 1.2 | | 19 | 14 | 11 | | | | | | | | | | | | | | |
| | 1.5 | | | 24 | 19 | 13 | | | | | | | | | | | | | |
| | 2 | | | | 37 | 26 | | | | | | | | | | | | | |
| | 2.5 | | | | | 42 | 32 | 24 | | | | | | | | | | | |
| | 3 | | | | | | 48 | 38 | 26 | | | | | | | | | | |
| | 4 | | | | | | | 70 | 50 | 45 | | | | | | | | | |
| | 5 | | | | | | | | | 75 | 69 | 50 | | | | | | | |
| | 6 | | | | | | | | | | 98 | 72 | 58 | | | | | | |
| | 8 | | | | | | | | | | | | 110 | 104 | 75 | 58 | | | |
| | 10 | | | | | | | | | | | | | | 128 | 96 | 75 | 69 | |
| | 12 | | | | | | | | | | | | | | | 144 | 114 | 104 | 93 |

F: Bending force T/m  V: Opening Width of lower die mm  a: Length of the shortest edge mm  r: Inside radius mm

Best opening width of lower die

## JIANGSU YAWEI MACHINE TOOL CO., LTD.

### INTERNATIONAL

XIANCHENG INDUSTRIAL ZONE, HUANGHAI SOUTH ROAD
JIANGDU DIST. 225200 YANGZHOU, JIANGSU, CHINA
Sales hot line: +86-514-86880517 +86-514-86880518
Service phone: +86-514-86880517 +86-514-86880538
Part sales phone: +86-514-86880517
FAX: +86-514-86880521 +86-514-86882218
HTTP: www.yawei.cc
Email: sales2@yawei.cc



2022.10 www.tidecom.com /design/ +86(0) 25-84713640