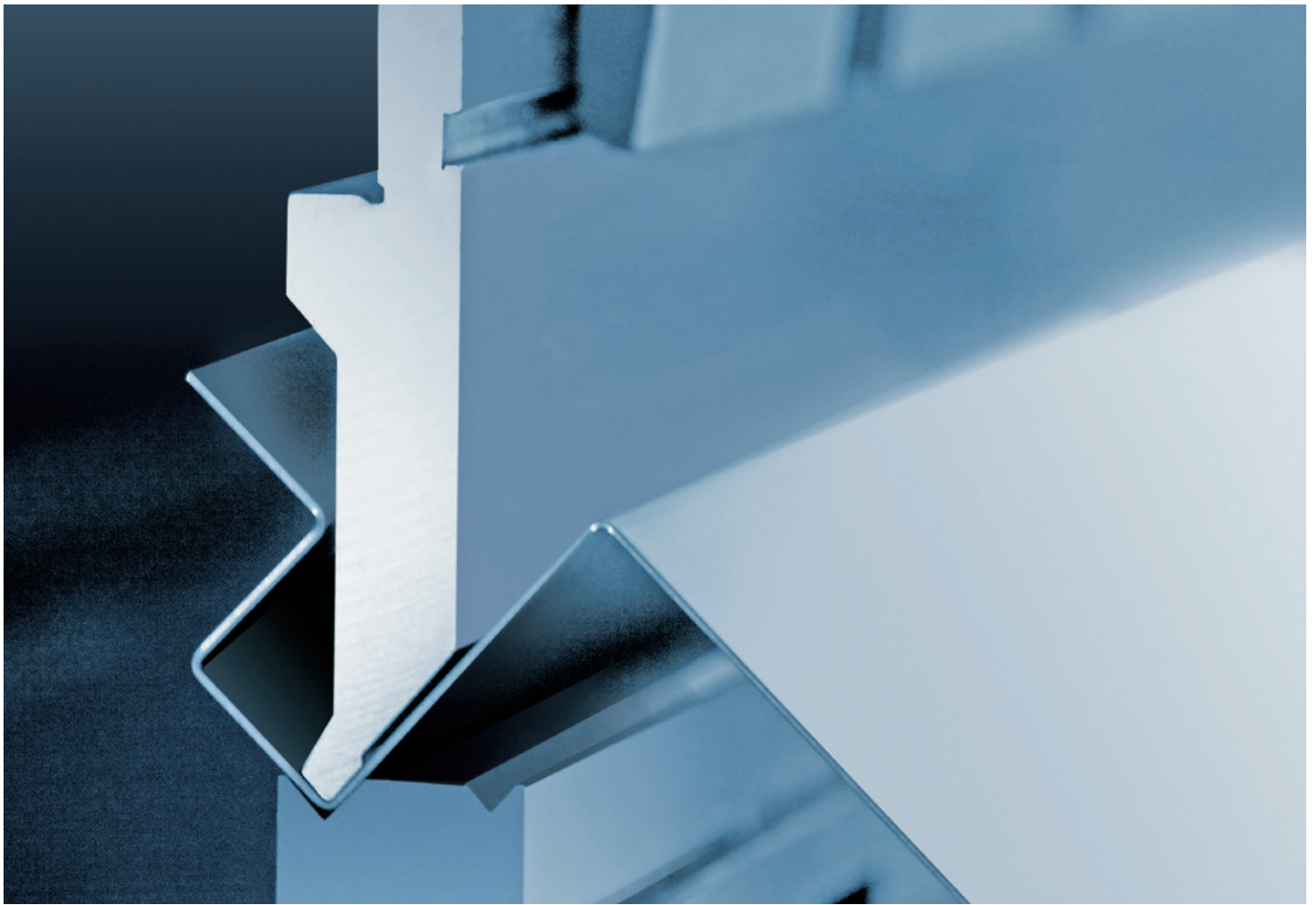




CNC SHEET METAL PRESS BRAKES

PBA

PBH

PBC

 **Yawei** 亚威

Stock Code 002559

Products Catalogue

Pursuit of excellence, insistence to innovation — 02

PBA Series — 04

PBH Series — 10

PBC Series — 16

Chart of force for Air bending — 23

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



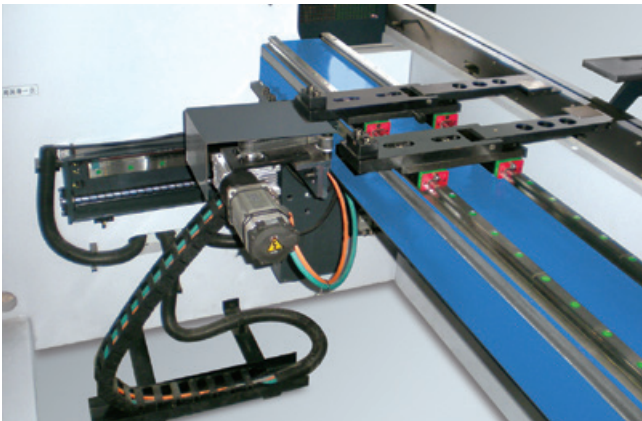
PBA Series

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

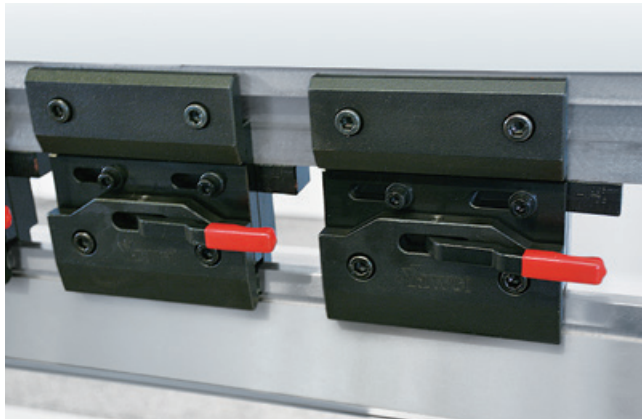
Backgauge



Standard Backgauge (Standard Configuration)

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

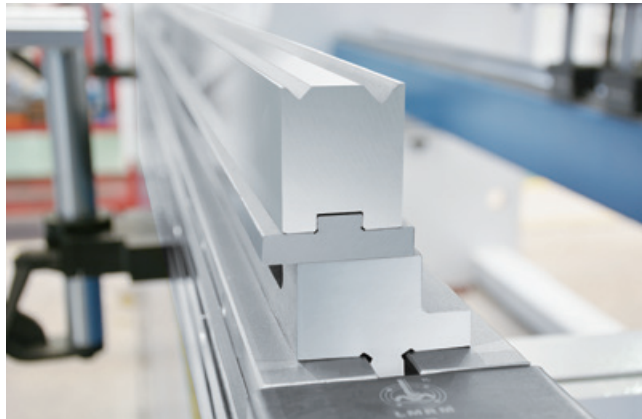
Upper Tool Clamping



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

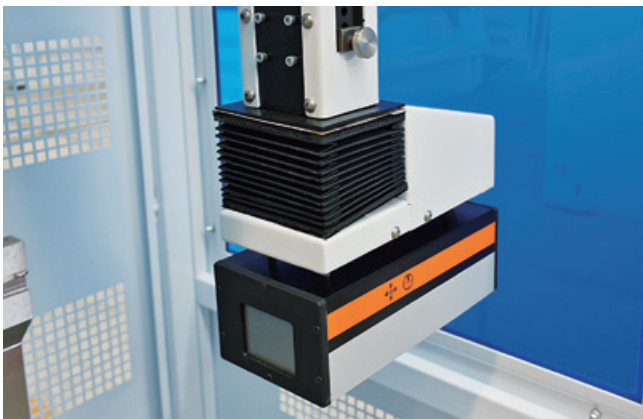
Front Sheet Support



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 crowning 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)

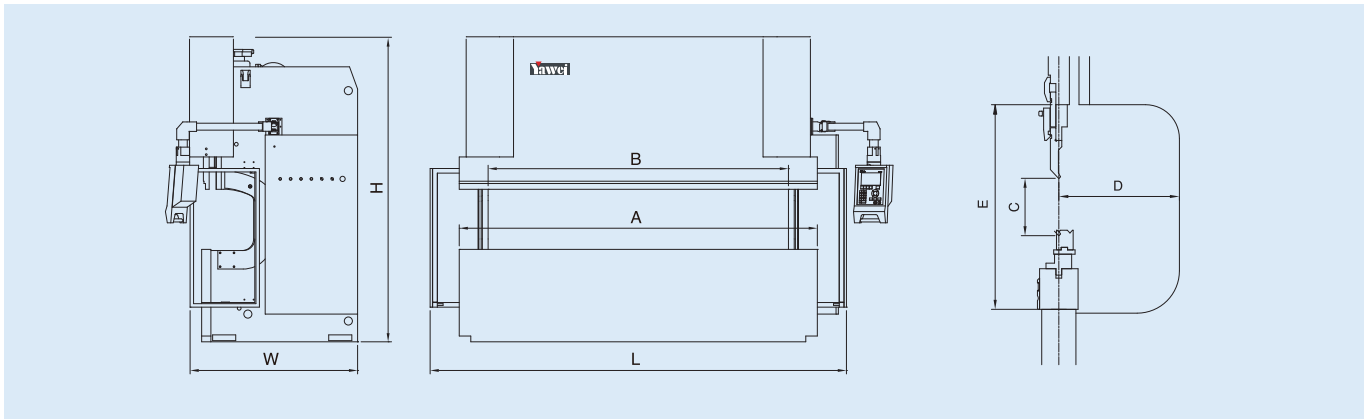
DA53T CNC Controller(Option)



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

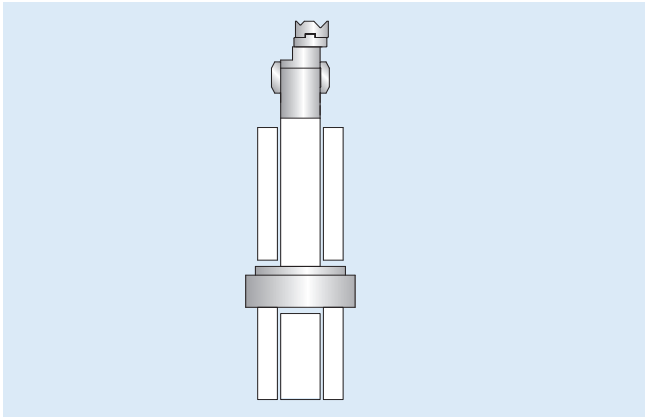
High Speed CNC Press Brake

- 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

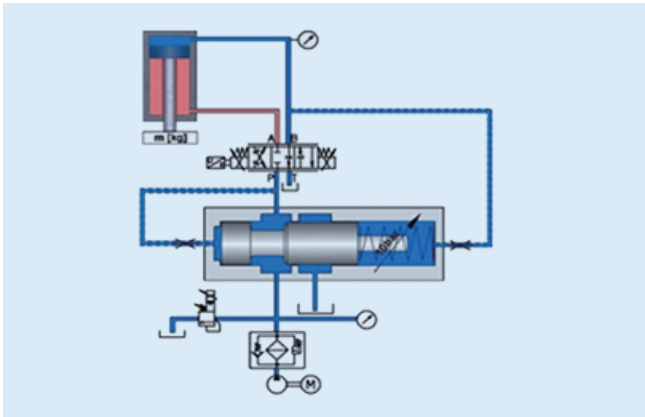
Crowning Compensation



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

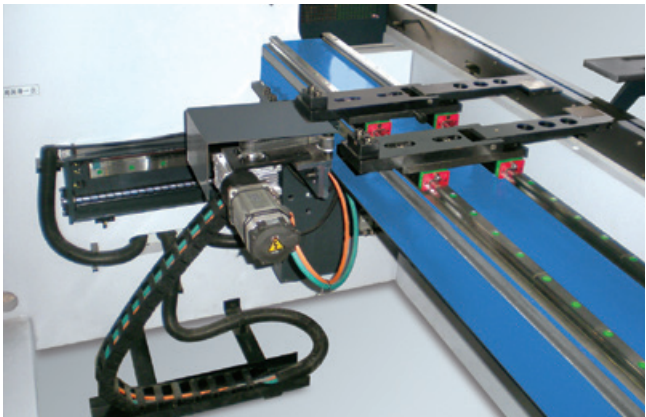
Control Technology



High Frequency Response Control Valve Technology (Standard)

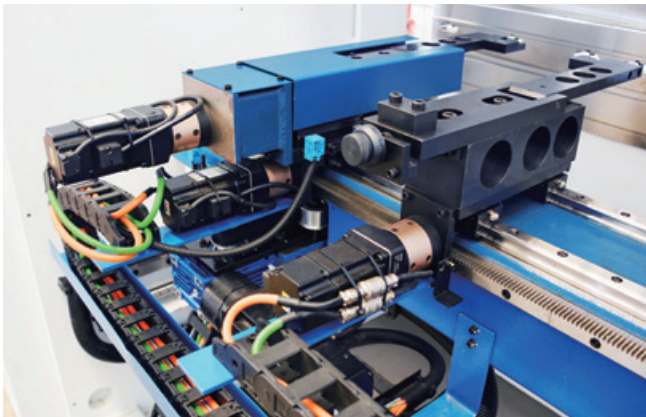
- Thanks to the high frequency response proportional valve, the synchronization precision of Y1 and Y2 in high speed operation is largely improved for higher bending efficiency

Backgauge



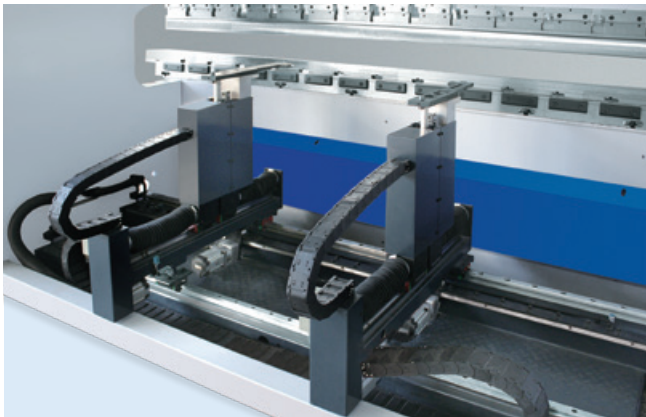
Dual-linear Guide Backgauge (Standard)

- 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

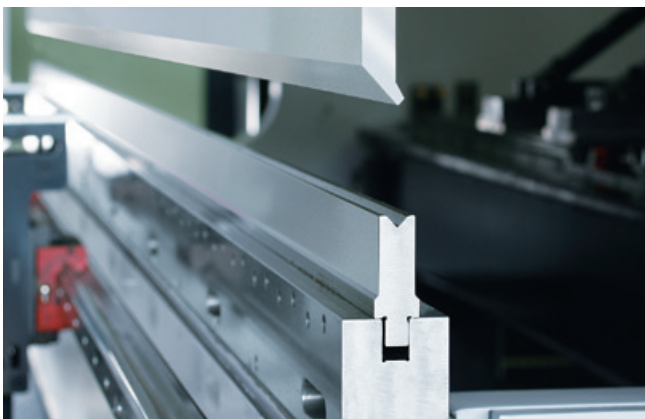
Outstanding Parameters
Extraordinary Performance

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

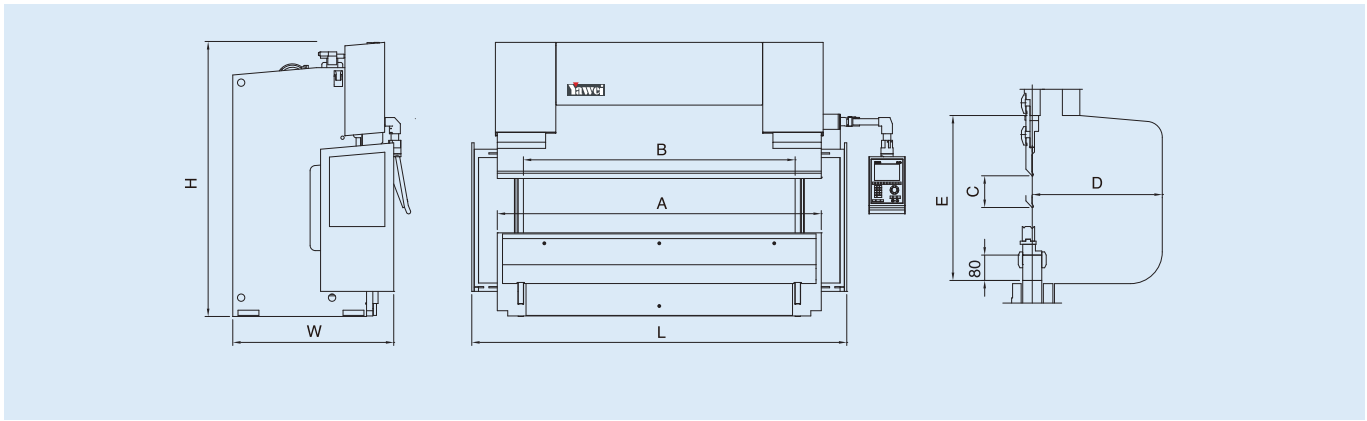
Bending Help



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	

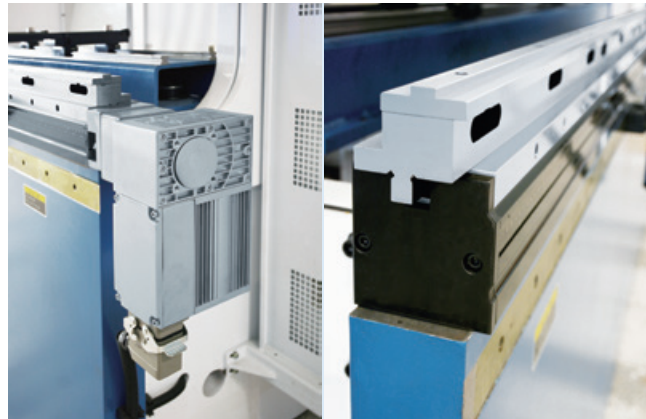
PBC Series

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 operate
- 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

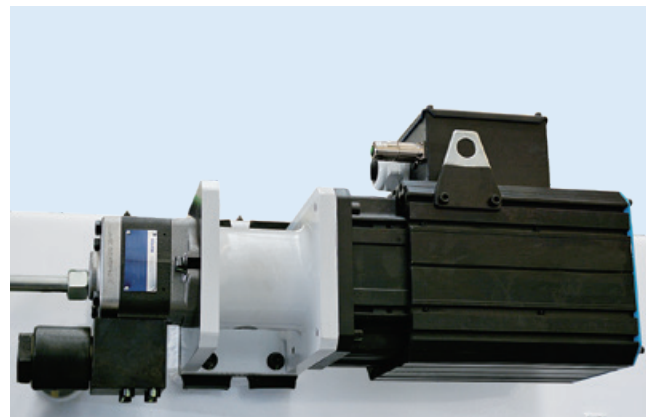
Control Technology



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)

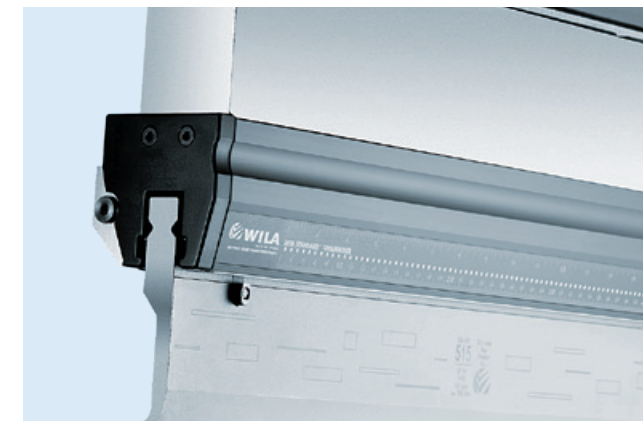
- Servo motor can save energy, reduce oil temperature, increase overall life time, and reduce maintenance cost

Upper Tool Clamping



Mechanical Fast Clamping (Standard)

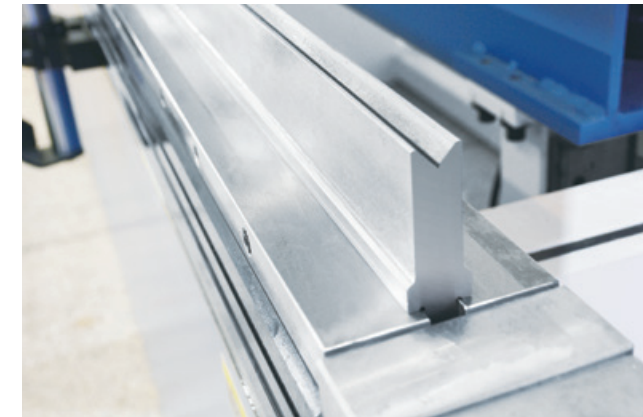
- Mechanical fast clamping enables a fast change of upper tool
- Can install upper tool from front side



Hydraulic Clamping (Option)

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

Lower Die Clamping

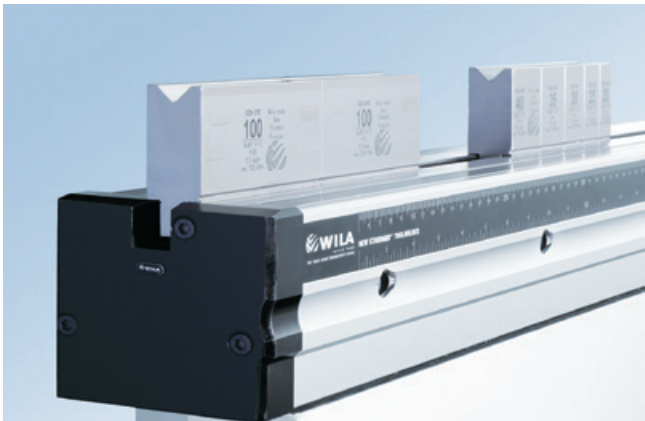


1-V Clamping (Option)

- 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

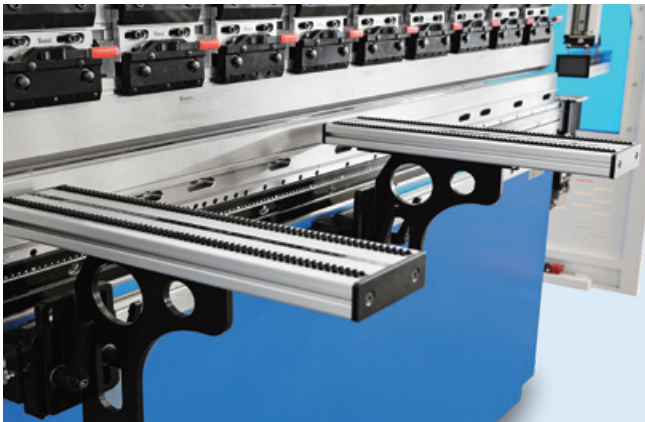
Lower Die Clamping



1-V Automatic Hydraulic Clamping (Option)

- Clamping and loosening 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 crowning 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)



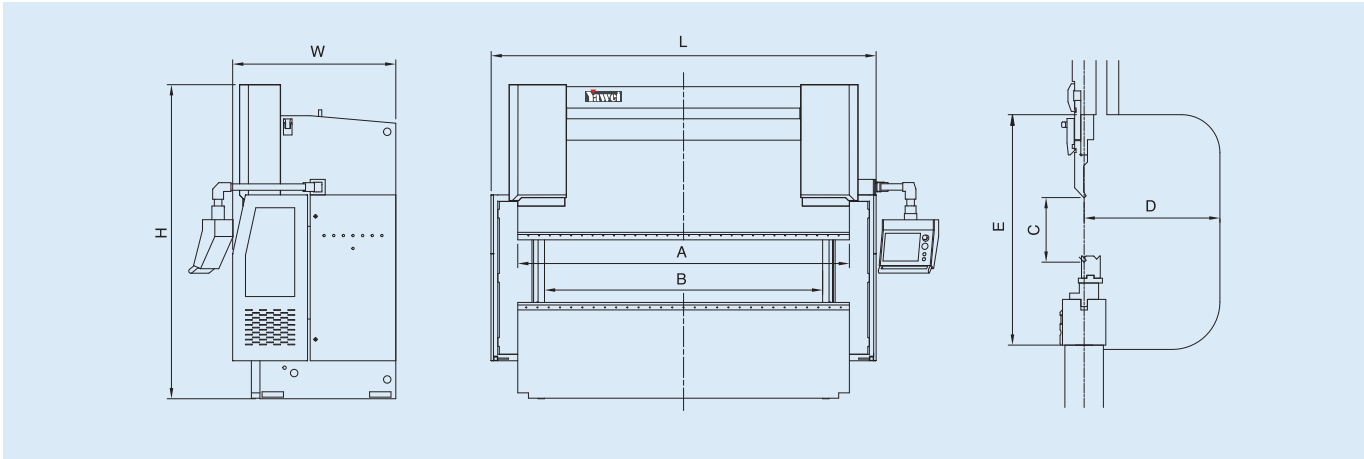
Function Features

- 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

Calculation Chart of Force
for Air Bending

Technical Parameters

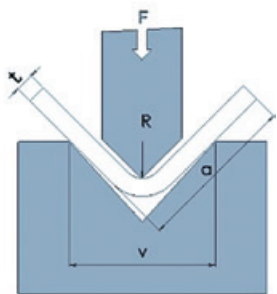


PBC Technical Parameters (Main Motor is Servo Motor)

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									300	4610	1550	2835
PBC-160/3100	1600	3100	2600	410	215	535	200	15	180	19	300	3630	1600	2835	10000
PBC-160/4100		4100	3600									400	4630	1600	2875
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

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



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																	
Mild steel 450N/mm ²	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

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																	
Stainless steel 700N/mm ²	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.

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Yawei 亚威

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