CQC ISO9001:2008 CE

Pursue the ultimate user experience!

追求极致的用户体验!

HIGH EFFICIENCY
CNC BENDING MACHINE
高效率数控折弯机 制造商

南京三协科技有限公司

NANJING SANXIE TECHNOLOGY CO., LTD.

地址：南京市溧水区明觉工业园

Add: Mingjue Industrial Park, Lishui District, Nanjing

SONKYO

Our Experience, Your Success

360 DEGREE SOLUTION FOR YOUR PROJECTS

致力于为客户提供完整的钣金机械解决方案

三协凭借自身丰富的工业机械从业经验和先进的设计理念
致力于为全球客户提供全套的钣金机械解决方案
配合客户升级、再增值。

ABOUT US

关于我们

三协机床，专业生产钣金加工机械的制造商，位于南京市溧水区明觉工业园。我们专注于生产数控折弯机、数控剪板机、数控刨槽机等钣金成型加工设备及相关数控系统的研发。

在 2011 年，我们作为进口和国产品牌设备代理商涉足行业，随后添置了大型加工设备，提供机架焊接及加工业务进入钣金设备集成领域。

2017 年，我们增加了数控系统和液压系统的研发销售业务，并自主研发出电液折弯机控制系统，打破了过度依赖国外系统的局面，提升了性能、功能和性价比。凭借多年的经验和资源，我们自主生产整机，追求效率和精度，得到了用户的一致好评，更坚定了我们扎实做产品的决心。

我们还不断致力于为钣金加工行业带来更多创新产品。在三协机床，我们始终坚持追求卓越的质量，这是我们一切工作的基石。我们不仅专注于现有产品的优化与升级，还不断追求效率和精度的极致，打造出一系列高品质的产品。至今投入市场使用的设备已获得了广大用户的一致好评，这充分证明了我们的实力和信誉。

我们相信一个品牌的成功并非偶然，而在于其产品力的强大。我们凭借多年来深耕行业所积累的经验和资源，打造出一系列高品质的产品，这让我们在市场上获得了成功。我们承诺将继续努力，用创新和高质量的产品来满足不断增长的市场需求。

Sanxie Machine Tools is a manufacturer specializing in the production of sheet metal processing machinery, is located in Mingjue Industrial Park, Lishui District, Nanjing. We focus on the production of sheet metal forming and processing equipment such as CNC bending machines, CNC shearing machines, CNC slotting machines, and the research and development of related CNC systems.

In 2011, we entered the industry as an agent for imported and domestic brand equipment, and then added large-scale processing equipment to provide frame welding and processing services to enter the field of sheet metal equipment integration.

In 2017, we added the research and development and sales business of CNC systems and hydraulic systems, and independently developed an electro-hydraulic bending machine control system, breaking the situation of over-reliance on foreign systems and improving performance, functions and cost-effectiveness. With years of experience and resources, we independently produce complete machines, pursue efficiency and precision, and have received unanimous praise from users, which has strengthened our determination to make solid products.

We are also constantly committed to bringing more innovative products to the sheet metal processing industry. At Sanxie Machine Tools, we always adhere to the pursuit of excellent quality, which is the cornerstone of all our work. We not only focus on the optimization and upgrading of existing products, but also continue to pursue the ultimate efficiency and precision to create a series of high-quality products. The equipment put into use in the market has won unanimous praise from users, which fully proves our strength and reputation.

We believe that the success of a brand is not accidental, but lies in the strength of its products. With the experience and resources accumulated over the years in the industry, we have created a series of high-quality products, which has made us successful in the market. We promise to continue to work hard to meet the growing market demand with innovative and high-quality products.

CONTENT

SPES SERIES

Hybrid Electric CNC Press Brake

油电混合数控折弯机

- 通过双伺服油电混合系统，左右油缸各一组伺服电机及伺服泵控制
- Through the dual servo oil-electric hybrid system, a group of servo motors and servo pumps are controlled for the left and right oil cylinders respectively

节能 Energy Saving　环保 Environment Protection　高效 Efficient　低噪 Low Niose　油量少 Low Fuel

SONKYO

性能特点 Feature

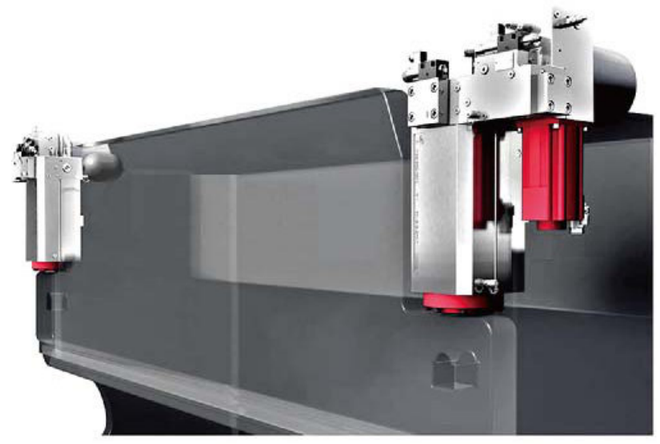
- 更精准的压力、位置及同步控制，系统重复精度达 5μm
- 更快速的工作性能
- 闭式液压系统，油箱容积减小了 75%
- 高稳定性和长久使用寿命的液压系统
- 高效节能，实现按需供能，显著降低电费支出
- 有效降低系统工作时噪音，待机时电机无转动，几乎无噪声

- More accurate pressure, position and synchronous control, and the repetition accuracy of the system is up to 5 μ m
- Faster performance
- Closed hydraulic system, tank volume reduced by 75%
- Hydraulic system with high stability and long service life
- High efficiency and energy saving, realize energy supply on demand, and significantly reduce electricity expenditure
- Effectively reduce the noise of the system during operation, and the motor has no rotation and almost no noise during standby.

CNC Press Brake

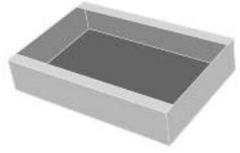
新一代油电混合驱动系统

搭载德国APAX原装进口控制系统，具有创新的伺服驱动系统，两套独立的液压控制单元，无外部管路连接。响应速度更快、定位精度更高、稳定性更好。



30% 效率（提高30%） Efficiency
70% 油量（降低70%） Oil Consumption
70% 能耗（降低70%） Electricity Consumption

时间周期比较 Time Cycle Comparison



实现这个 6 弯曲盒所需的弯曲时间 - 仅机器时间。
Bending time necessary to realize this 6-bend box -only machine time.

100t Hydraulic 75 mm/s
100t Hydraulic Servo 110 mm/s
EP-Servo 200 mm/s

SPS SERIES

Servo Main Motor CNC Press Brake

主伺服数控折弯机

- 主电机为高性能伺服电机，运用单伺服泵控技术，是高性价比的环保化、节能化的解决方案
- The main motor is a high-performance servo motor. Using single servo pump control technology, it is a cost-effective, environmentally friendly and energy-saving solution

节能 Energy Saving　环保 Environment Protection　高效 Efficient　低噪 Low Niose

SONKYO

性能特点 Feature

- 主电机标配伺服电机，实现按需供能，显著降低电费支出
- 伺服泵系统仅在需要时才旋转，噪音综合下降 30%
- 采用扭矩限制和模拟量速度的控制方式，消除阀的截流与溢流，大幅降低油液温度
- 延长使用寿命，降低维护成本

- The main motor is equipped with servo motor as standard to realize energy supply on demand and significantly reduce electricity expenditure
- The servo pump system only rotates when needed, and the comprehensive noise is reduced by 30%
- The control mode of torque limit and analog speed is adopted to eliminate the closure and overflow of the valve and greatly reduce the oil temperature
- Extend service life and reduce maintenance costs

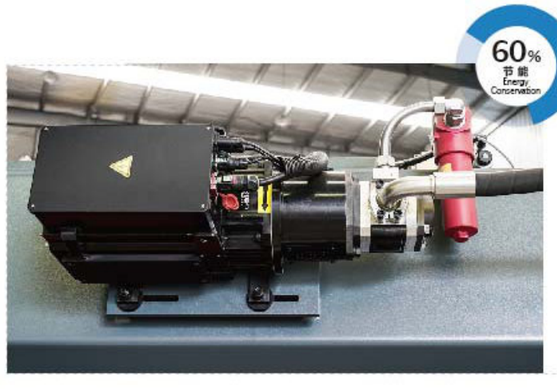
CNC Press Brake

高性价比节能型混合驱动系统

体积更小，安装结构简单，节能节油。
采用伺服电机驱动，噪音更低，效率更高。
配置力士乐阀和力士乐油泵，稳定可靠，使用更长久。
对油液清洁度由NS7级下降到NS9级，产品故障率更低。
消除了比例阀截流和压力阀溢流，热平衡温度低，液压油用量相比传统机床减少60%。

Smaller size, simple installation structure, energy saving and fuel saving.
Servo motor drive, lower noise, higher efficiency.
Standard with Rexroth valve and Rexroth oil pump, stable and reliable, longer use.
The cleanliness of the oil is reduced from NS7 to NS9, and the product failure rate is lower.
The proportional valve closure and pressure valve overflow are eliminated, the heat balance temperature is low, and the hydraulic oil consumption is reduced by 60% compared with traditional machine tools.

ESVP节能系统
ESVP Energy Saving System



SVP节能系统 SVP Energy Saving System

节约电能：伺服泵系统是按需供油，大大提高了节能效果。
降低噪音：伺服泵系统仅在需要时才旋转，噪音综合下降30%。
降低油温：采用扭矩限制和模拟量速度的控制方式，消除阀的截流与溢流，大幅降低油液温度。

Energy saving: The servo pump system is an on-demand oil supply, which greatly improves the energy effect.
Noise reduction: The servo pump system rotates only when needed, reducing noise by 30%.
Reduce the oil temperature: Torque limit and analog speed control mode, eliminate the valve bud interception and overflow, greatly reduce the oil temperature.

SPC SERIES

Electro-hydraulic Synchronized CNC Press Brake

电液同步数控折弯机

- 由数控系统、安装在工作台上的两个磁栅尺（Y1、 Y2）、电液比例阀及阀用电子放大器组成控制系统，准确地检测和控制了滑块与工作台的相对位置，控制滑块运行的速度与位置。使滑块保持同步运行，保证了折弯深度和折弯角度，同步精度高。

节能 Energy Saving　环保 Environment Protection　高效 Efficient　低噪 Low Niose

SONKYO

性能特点 Feature

- 进口配置，稳定可靠
- 板厚、料足的高强度机架
- 高精度的后挡料系统
- 标配 4+1 轴数控（Y1,Y2,X,R+V）
- 工作台自动机械挠度补偿闭环控制
- 喉口变形补偿机构

- Imported configuration, stable and reliable
- High strength frame with thick plate and sufficient material
- High-precision back gauge system
- Standard 4 + 1 axis NC (Y1, Y2, X, R + V)
- Closed loop control of automatic mechanical deflection compensation for worktable
- Throat deformation compensation mechanism

CNC Press Brake

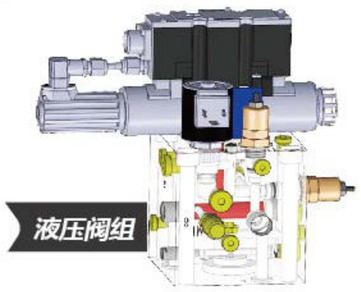
高性能的液压系统

高性能伺服阀系统：德国REXROTH/HAWE
全闭环同步控制，机床运行高速平稳。

High Performance Servo Valve System:
REXROTH/HAWE, Germany
Full closed-loop synchronous control, high-speed and stable operation of the machine tool.

Rexroth Bosch Group

HAWE HYDRAULIK



主电机 Main Motor

折弯机采用世界著名品牌电机，不仅在机器工作时噪音低，而且使用寿命长。

Appropriate press brake can be used for various bending processes. It can accurately and economically process various specifications of parts, which is simple and complicated.

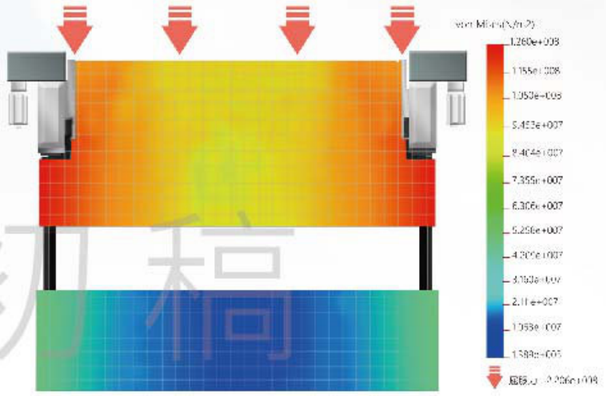
Rich Configuration Flexible Match

配置丰富 搭配灵活

板厚料足的高强度机架
High Strength Frame

机架加厚加强，滑块加厚加宽，将折弯时挠度变形量降至最低

The frame is thickened and strengthened, and the slider is thickened and widened, Minimize deflection deformation during bending



C型喉口变形补偿装置
C-type Throat Deformation Compensation Device

精准测量机床折弯受力发生的微小变形并反馈补偿，保证任何厚度、任何材质板材的折弯精度。

Accurately measure the small deformation caused by the bending force of the machine tool and feed back compensation to ensure the bending accuracy of plates of any thickness and material.

进口高精度位移传感器： 意大利 GIVI
Imported high-precision displacement sensor: GIVI, Italy

GIVI MISURE

SONKYO

Standard Configuration

数控折弯机标准配置

稳定可靠的后挡料系统
Stable And Reliable Back Gauge

进口滚珠丝杠传动、直线导轨导向，横梁双直线导轨结构，确保精准定位。装配精密多级挡指，加大定位范围，让折弯更方便。

Imported ball screw drive, linear guide, and double linear guide structure of the crossbeam ensure accurate positioning. Equipped with precise multi-level stopper, the positioning range is enlarged, making bending more convenient.

精密快速夹紧装置
Quickly Clamping

便于快速装夹上模，降低劳动强度，提高生产效率。具有精度高、易夹紧、不松动、不掉刀等优点。

It is convenient to quickly clamp the upper die, reduce labor intensity and improve production efficiency. The utility model has the advantages of high precision, easy clamping, no loosening, no tool dropping, etc.

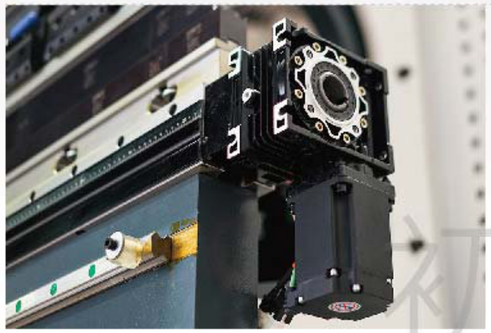
高性能的液压系统
High Performance Hydraulic System

德国 REXROTH/HAWE 高性能伺服阀系统，更高的频率响应，更低的故障率，全闭环同步控制，机床运行高速平稳。

High Performance Servo Valve System:REXROTH/HAWE, Germany. Higher Frequency Response, Lower Failure Rate, Full closed-loop synchronous control, high-speed and stable operation of the machine tool.

Rich Configuration
Flexible Match

配置丰富 搭配灵活



高精度自动机械补偿装置
High Precision Mechanical Crowning

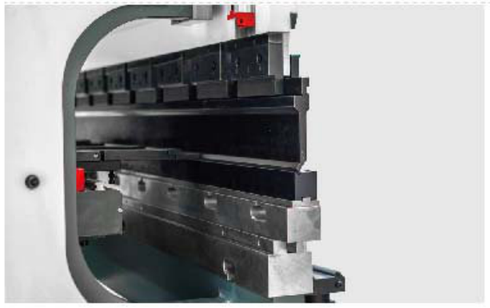
补偿闭环控制，控制精度高，补偿量由数控系统自动计算设定，保证了全长折弯角度的一致。

The compensation closed-loop control has high control accuracy, and the compensation amount is automatically calculated and set by the NC system to ensure the consistency of the full-length bending angle.

移动前托料架
Moveable Front Support System

移动式前托料支架，沿直线导轨移动，可任意位置停靠，带有旋转和高度调节功能，辅助您的折弯工作。

Moveable front support, moving along the linear guide rail, can be parked at any position,with rotation and height adjustment functions to help you to bend.



高品质折弯机模具
High Quality Press Brake Tooling

经锻打加工，整体淬火，经久耐用。高精度，高直线度，高重复度，最终获得理想的折弯效果。

After forging and quenching, it is durable. High precision, high straightness and high repeatability, and finally obtain the ideal bending effect.

SONKYO

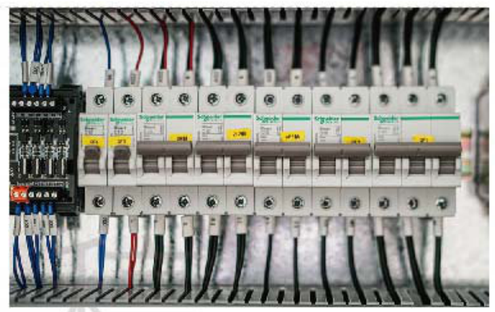
Standard Configuration

数控折弯机标准配置

施耐德电气元器件
Schneider Electric Components

选用施耐德电器元件，均符合 DIN 和 ISO 相关标准，安全可靠。

Schneider electric components, are up to the standards of DIN and ISO, safe and reliable.



石墨自润滑铜板
Graphite Self-lubricating Copper Plate

耐磨性能好，摩擦系数小。无油润滑或少油润滑，减少保养次数或免于保养。

Good wear resistance and low friction coefficient. No oil lubrication or less oil lubrication, reduce maintenance times or avoid maintenance.

下模装夹 Lower Tool Clamp

下模双 V-“T”型快换夹紧方式
2V-'T' Quick Change Bottom Die Clamping (standard)

下模采用双 V 快换夹紧方式，可选配单 V 机械夹紧或单 V 液压夹紧方式，可选配多 V 下模宽工作台夹紧方式。

The lower mold adopts double V quick-change clamping method. Single V mechanical clamping or single V hydraulic clamping method is optional. Multi-V lower mold wide workbench clamping method is optional.

CNC System

SONKYO-S15数控折弯机系统

15.6 寸（SONKYO-S15）彩色高清触摸屏搭配友好的人机界面；
“一页式”编程导航，一页即可显示全部数据，修改弯道信息更快捷；
系统支持 8 轴控制，满足 8+1 轴折弯机最高的控制条件；
Linux 操作平台稳定可靠，开机速度快，可直接断电关机；
折弯数据自动计算，每步折弯速度可编程、慢下中停可控制，首页有快速对模等便利功能，新手也能快速上手；
丰富的接口，可作为折弯单元简易方便的连接至自动化生产线。

15.6-inch (SONKYO-S15) color high-definition touch screen with friendly human-machine interface
"One-page" programming navigation, one page can display all data, and it is faster to modify the curve information
The system supports 8-axis control, meeting the highest control conditions of 8+1 axis bending machine
The Linux operating platform is stable and reliable, with fast startup speed and can be directly powered off and shut down
The bending data is automatically calculated, the bending speed of each step is programmable, the slow down and mid-stop can be controlled, and the home page has convenient functions such as fast mold alignment, so novices can quickly get started
Rich interfaces, can be easily and conveniently connected to the automated production line as a bending unit

CYBELEC
INFRANOR GROUP COMPANY

瑞士 CYBELEC CybTouch 12 PS

12" 彩色液晶显示，触摸屏，图标化识别功能；
“EasyBend” 页面进行轻松单次折弯加工；
完全高效的折弯编程满足大批量生产加工需要；
自动计算折弯角度、主压力和挠度补偿；
折弯数据自动计算；
压力和挠度补偿自动计算；上模深度自动计算；
角度，后挡料校正，2D 图形编程；
自动模拟折弯步序，提供最优折弯方案（选项）；

12 "color LCD display, touch screen, icon recognition function;
The "EasyBend" page is processed with easy single bending.
The fully efficient bending programming can meet the needs of mass production and processing.
Automatically calculate bending angle, main pressure and deflection compensation;
Automatic calculation of bending data;
Automatic calculation of pressure and deflection compensation; automatic calculation of upper die depth;
Angle, rear gear correction, 2D graphics programming;
Automatically simulate the bending sequence and provide the best bending scheme (option).

瑞士 CYBELEC CybTouch 15 PS

15" 现代流线型玻璃镜面触摸屏，可戴手套使用。
用户友好的人机界面，直观编程和易于设置的导航功能（自动优化机床参数）。
2D 手指画图编程（触摸文件）和精确地 2D 程序创建。
自动折弯步序计算。
便于单零件折弯的 EasyBend 页面。
存储容量更大。
内部备份和存储功能。
用于诊断和升级的无线通讯功能（使用笔记本电脑）。

15 "modern streamlined glass mirror touch screen, which can be used with gloves.
User friendly man-machine interface, intuitive programming and easy to set navigation function (automatic optimization of machine parameters).
2D finger drawing programming (touch file) and accurate 2D program creation.
Automatic bending step calculation.
Easybend page to facilitate single part bending.
Larger storage capacity.
Internal backup and storage functions.
Wireless communication function for diagnosis and upgrade (using laptop).

瑞士 CYBELEC VT-19

19" 现代流线型玻璃镜面触摸屏，可戴手套使用。
基于 CybTouch 软件，图形化操作界面，易学易用。独有自动导航调试功能，可轻松完成机床调试工作。
可控制各类前后挡料组合，例如 X 轴、X 挡指、X 从轴、R 从轴、Z 轴、随动托料。
通过 CANOpen 和 EtherCAT® 总线可扩展控制更多轴。
开放式系统架构，通过 User Cycles 和插件模块，实现用户定制化功能。
触摸屏上按钮图标也可进行颜色、位置、大小等个性化设定。

19 "modern streamlined glass mirror touch screen, which can be used with gloves.
Based on cybtouch software, graphical operation interface, easy to learn and use. The unique automatic navigation debugging function can easily complete the machine tool debugging.
It can control various front and rear material retaining combinations, such as x-axis, x-stop finger, x-slave axis, r-slave axis, Z-axis and follow-up material support.
Via CANopen and EtherCAT ® The bus can be extended to control more axes.
Open system architecture realizes user customization through user cycles and plug-in modules.
The button icon on the touch screen can also be personalized for color, position, size, etc.

SONKYO

Delem

荷兰 DELEM DA53T

“热键”触摸导航
10.1 寸高分辨率彩色 TFT
4 轴 (Y1,Y2 + 2 辅助轴)
最高的控制
工具 / 材料 / 产品库
伺服和变频器控制
先进的轴控制算法闭环和开环阀
TandemLink(选项)
USB 记忆棒接口
Profile-T 离线软件

"Hot-key" touch navigation
10.1" high resolution colour TFT
Up to 4 axes (Y1,Y2 + 2 aux axes)
Crowning control
Tool / material / product library
Servo and frequency inverter control
Advanced Y-axis control algorithms for closed-loop as well as
open-loop valves
TandemLink (option)
USB memory stick interfacing
Profile-T offline software

荷兰 DELEM DA58T

2D 触摸式图形编程
15" 高分辨率的 TFT 真彩显示
折弯工序计算
挠度补偿控制
伺服和变频器控制模式
先进的 Y 轴控制算法，即可控制闭环阀，也可控制开环阀
USB 接口

2D touch graphical programming
15" high-resolution TFT true color display
Bending process calculation
Deflection compensation control
Servo and drive control modes
Advanced Y-axis control algorithm, you can control the closed-loop valve can also control the open-loop valve
USB interface

荷兰 DELEM DA66T

2D 触摸式图形编程
3D 产品图形模拟显示
17" 高分辨率 TFT 真彩显示
存储器容量 1 GB
完整的 Windows 应用程序包
兼容 DELEM 模块化结构系统
USB，外设接口
大圆弧模具
支持瞬时关机
在线分析工具
PLC 编程

2D Touch graphical programming.
3D Product graphical simulation display
17" High-resolution TFT Color Display
Full Windows application package
Compatible DELEM modular structure
USB, Peripheral Interface
User program applications under multi-tasking environment
Angle detecting sensor interface

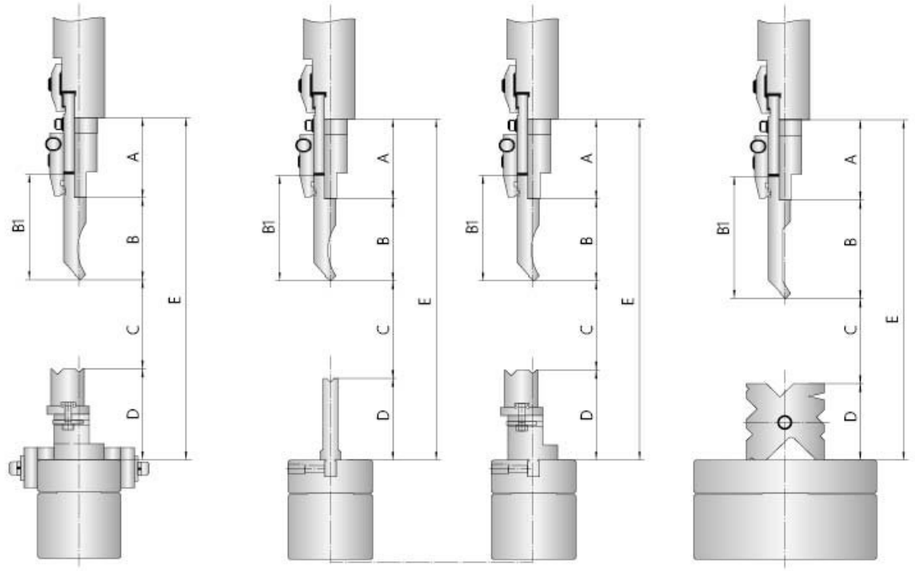
荷兰 DELEM DA69T

2D 和 3D 触摸式图形编程
3D 产品图形模拟显示
17"高分辨率 TFT 真彩显示
完整的 Windows 应用程序包
兼容 DELEM 模块化结构
USB，外设接口
多任务环境下用户程序应用
角度检测传感器接口

3D and 2D graphical touch screen programming mode
3D visualisation in simulation and production
17"high resolution colour TFT
Full Windows application suite
Delem Modusys compatibility(module scalability and adaptivity)
USB,peripheral interfacing
Open system architecture
Sensor bending &correction interface

Tool Installation Diagram

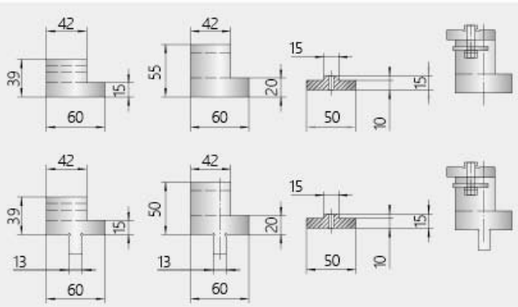
数控折弯机模具安装图



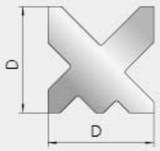
双V下模　　单V下模、双V下模两用　　多V方形下模

标准机床模具配置表 40T-400T

代 号	双V模具	单双V模具	多V方模
A (快夹高度)	100	100	100
B (上模净高度)	90/120	90/120	120
B1 (上模高度)	120/150	120/150	150
C (上下模间距)	E-A-B-D		
D (下模高度)	95/111	100/106	65/85/95/110 /130/140
E (开启高度)	详见技术参数表		



多V方型下模



规 格	开口尺寸
DF065	4、8、10、12、16、24、32、40
DF085	4、6、8、10、10∠30°、12、30、40、50
DF095	8、10∠30°、12、16、24、32、40、60
DF110	8、12、18、25、36、48、65、80
DF130	12、16、24、32、40、48、80、100
DF140	12、16、24、32、40、50、80、100

40T-220T标配双V下模，250T(含)以上标配多V方形下模。

SONKYO

Option Function

折弯机选配辅助功能

更多功能的后挡料系统

Powerful Back Gauge System

- 拥有多项创新专利技术
  It has a number of innovative patented technologies
- 多种后挡料可供选择
  A variety of back gauge are available

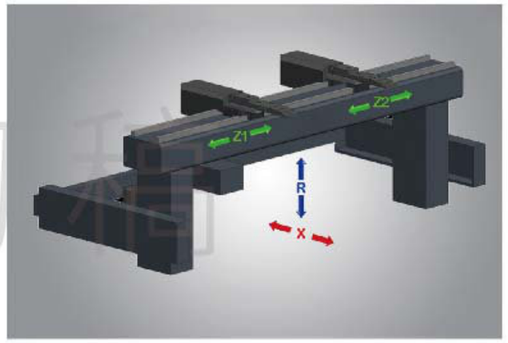
拥有多项专利，贴合用户使用情况作多项改进，让折弯更方便。
With a number of patents, it makes a number of improvements according to the user's use situation, making bending more convenient.

更高的配置，功能更强大，操作更简便
Higher configuration, more powerful functions and easier operation

X-R-Z1-Z2 四轴后挡料系统
4 Axis Back Gauge

X 轴采用滚珠丝杆及直线导轨传动，确保较高的定位精度和使用寿命。
加宽加长型定制挡指和双直线导轨的挡指支撑架，满足你的使用要求。

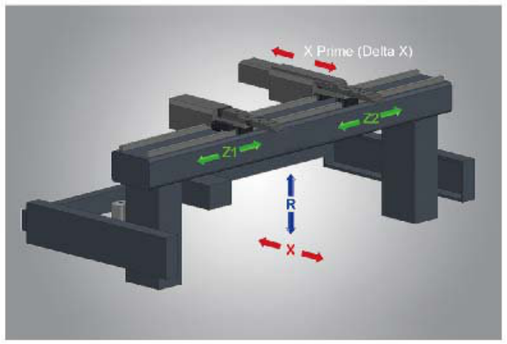
X axis adopts ball screw and linear guide,ensure high synchronization accuracy and very long life.Widened and extended custom stop fingers,Finger support frame with double linear guide,Meet your requirements.



X-R-Z1-Z2-X1 五轴后挡料系统
5 Axis Back Gauge

后挡料X为前后运动轴，R为上下运动轴，Z1和Z2为挡指左右移动轴，X1为挡指头前后移动轴，数控系统编程控制5个轴联动精确定位。

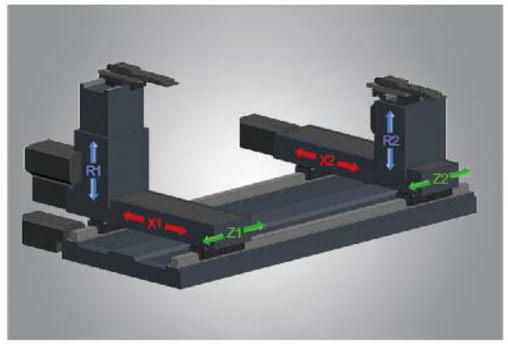
X axis move front and rear, R axis move upward and downward,Z1 axis and Z2 axis are two finger stops move left and right, X1 axis is finger stop moving front and rear, 5 axis controlled by CNC controller to make linkage positioning precisely.



X1-X2-R1-R2-Z1-Z2六轴后挡料系统
6 Axis Back Gauge

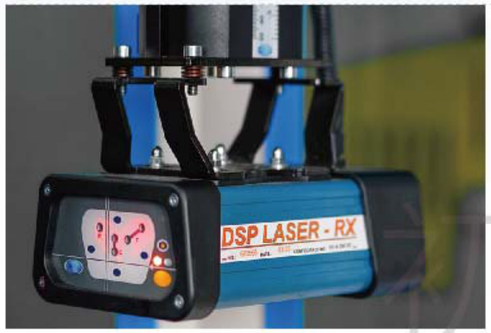
后挡料包括高刚性大底座、X轴驱动机构、R轴驱动机构及Z轴驱动机构；能够根据加工零件的的需要，将挡指自动调整到所需要的准确位置，保证工件的精确定位，从而加工出符合要求的工件。

The back gauge includes high rigidity big base, X-axis drive mechanism, R-axis drive mechanism and Z-axis drive mechanism; according to the needs of processing parts, the stopper finger can be automatically adjusted to the required accurate position to ensure the accurate positioning of the workpiece, so as to process the qualified workpiece.



Rich Configuration Flexible Match

配置丰富 搭配灵活



激光保护光幕

Safety Guards

意大利进口 DSP LASER 激光防护装置可全面有效地提供折弯机的安全保护，保护操作者人身安全。

The DSP laser laser protection device imported from Italy can comprehensively and effectively provide the safety protection of the bending machine and protect the personal safety of the operator.

折弯机激光角度检测系统

Laser Check Angle Measurement

使用激光角度测量系统，能保证获得稳定的工件折弯角度，提高自动化加工的效率和加工稳定性。

The use of laser angle measurement system can ensure a stable workpiece bending angle and improve the efficiency and stability of automatic machining.

数控随动前托料

CNC Follower Supports

工件折弯时，托料板可以实现翻转跟随功能，跟随角度和速度由数控系统自动计算并控制，可沿直线导轨左右移动。

When the workpiece is bent, the support plate can realize the turning following function. The following angle and speed are automatically calculated and controlled by the NC system, and can move left and right along the linear guide rail.

WILA

荷兰WILA上模液压夹紧装置

Holland Wila Upper Tool Clamping Systems

上模液压夹紧，夹紧松开动作由电气自动控制，夹紧力大而牢靠，换模轻松高效。

The upper die is hydraulically clamped, and the clamping and loosening action is automatically controlled by electricity. The clamping force is large and reliable, and the die change is easy and efficient.

荷兰WILA下模单V自动液压夹紧装置

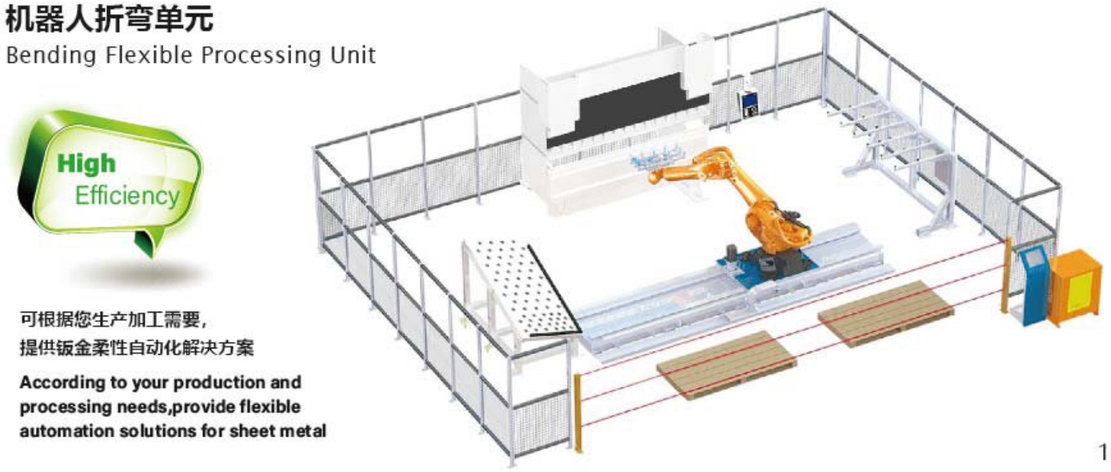
Holland WILA Lower Tool Holders

下模液压夹紧装置，夹紧松开动作由电气自动控制，换模更加轻松高效。

Lower die hydraulic clamping device, clamping and loosening action is automatically controlled by electricity, and die change is easier and more efficient.

机器人折弯单元

Bending Flexible Processing Unit



可根据您生产加工需要，
提供钣金柔性自动化解决方案

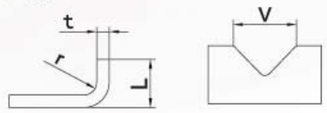
According to your production and processing needs,provide flexible automation solutions for sheet metal

Sheet Bending Force Table

板料折弯力表

下模V槽宽度	折弯半径	最短边长度	t	0.5~2.6			3.0~8.0			9.0~10			12 以上									
			v	6t			8t			10t			12t									
V	r	L	t0.5	0.6	0.8	1.0	1.2	1.4	1.6	2.0	2.3	2.6	3.0	3.2	3.6	4.5	5.0	6.0	9.0	12	16	19	22	25	30
4	0.7	2.8	4	6																					
6	1.0	4.0	3	4	7	11																			
7	1.1	5.0		3	6	10	14																		
8	1.3	5.5		3	5	10	12	15																	
10	1.5	7.0			4	7	10	13	17																
12	2.0	8.5				6	8	11	11	22															
14	2.3	10					7	10	13	19	25														
16	2.5	11					7	9	11	17	22	28													
18	3.0	13.5						8	10	15	19	25	37												
20	3.3	14							9	13	17	22	30	37											
25	4.0	18								11	14	18	24	27	37										
32	5.5	23									11	14	19	21	27	44									
40	6.5	28										11	15	17	21	34	42								
50	8	35											11	14	17	27	33	48							
63	10	45													14	21	26	38							
80	13.5	57															21	30	66						
100	16	71																24	54	96					
125	20	89																	43	76	139				
160	26	113																		60	106	150			
200	35	140																			85	119	160		
250	42	175																				95	128	165	238

V：下模 V 槽宽度
r：折弯半径
L：最短边折弯长度
t：板厚



表中数据为自由折弯时，折弯长度为1000mm钢板(Rm=450N/MM²)

1.双V下模使用时建议使用内侧槽口加工。
2.模具使用时，请勿超出所标示承压值。
3.模具如有裂纹、破损、凹陷等损伤请及时更换模具。
4.请使用推荐供应商或国内外知名供应商提供的模具产品。
5.本册仅供内部员工使用，如有内容更新、价格变动等情况，恕不另行通知。

The data in the table are for free bending, with a bending length of 1000mm steel plate (Rm=450N/MM²)

1. It is recommended to use the inner notch for double V lower mold.
2. When using the mold, please do not exceed the indicated pressure value.
3. If the mold is cracked, damaged, dented, etc., please replace the mold in time.
4. Please use mold products provided by recommended suppliers or well-known domestic and foreign suppliers.
5. This booklet is for internal employees only. If there are any content updates, price changes, etc., we will not notify you separately.

压平折弯压力的计算:
(折弯普通碳钢板，长度为1000mm时的压力)

折弯形状	开口折边		压扁折边	
板厚（mm）	压力（TON）	a（mm）	压力（TON）	2t（mm）
0.6	17	1.5	26	1.2
0.8	21	2.0	32	1.6
1.0	26	2.5	40	2.0
1.2	30	3.0	50	2.4
1.6	38	4.0	63	3.2
2.0	43	5.0	80	4.0
2.3	50	5.8	90	4.6
3.2	60	8.0	120	6.4

折弯压力吨位计算公式(参考值)
Determination of the bending force for air bending (approximation)

$$F\ (chart) = 65 \times t^2 / V\ (Ton/m)$$

折弯力/Bending force for

铝 Alu	δ b=300 MPa	F=F（表）× 0.65 F=F（chart）× 0.65
不锈钢 S.S	δ b=700 MPa	F=F（表）× 1.6 F=F（chart）× 1.6

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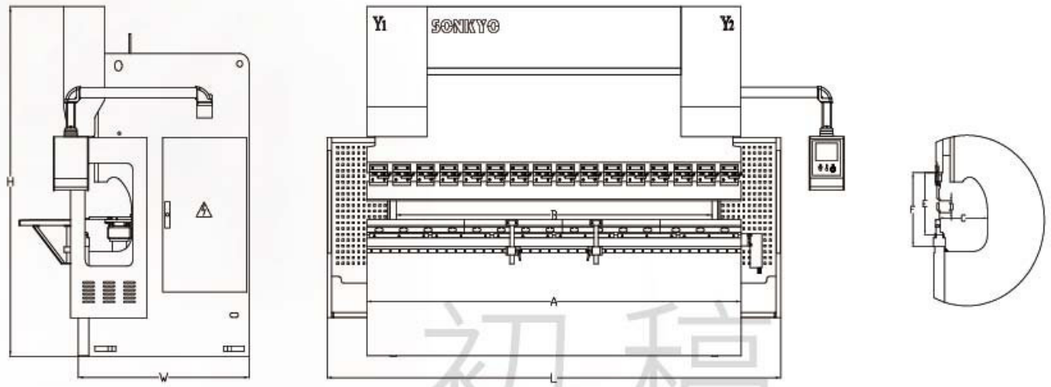
Technical Parameter

技术参数



SPC系列 电液数控折弯机主要参数

机床型号 Mode	折弯力 Nominal Pressure (KN)	A 可折长度 Max. bending width (mm)	B 立柱间距 Distance between uprights (mm)	C 喉口深度 Throat depth (mm)	D 油缸行程 Cylinder stroke (mm)	E 开启高度 Opening height (mm)	F 装模高度 Die setting height (mm)	主电机功率 Main power (kw)	液压油箱 Oil volume (L)	速度 Speed (mm/s) 驱进 Approaching speed	压制 Working speed	返程 Returning speed	外形尺寸 Dimensions(mm) L 长 Length	W 宽 Width	H 高 Height	重量 Weight (KG)
40-1600	400	1600	1200	300	150	450	545	3.7KW*2	50L*2	300	15	150	2200	1450	2155	4300
70-1600	700	1600	1200	350	170	460	555	3.7KW*2	50L*2	300	15	150	2200	1450	2155	4500
70-2500	700	2500	2000	350	170	460	555	3.7KW*2	50L*2	300	15	150	3220	1780	2650	5500
110-2500	1100	2500	2000	400	200	490	585	5.5KW*2	70L*2	280	13	150	3240	1780	2680	7000
110-3200	1100	3200	2700	400	200	490	585	5.5KW*2	70L*2	280	13	150	4030	1780	2680	8000
110-4100	1100	4100	3300	400	200	490	585	5.5KW*2	70L*2	280	13	150	4830	1780	2780	10000
130-3200	1300	3200	2700	400	200	490	585	7.5KW*2	90L*2	280	15	150	4030	1790	2750	8300
130-4100	1300	4100	2700	400	200	490	585	7.5KW*2	90L*2	280	15	150	4830	1790	2850	11300
130-5000	1300	5000	4100	400	200	490	585	7.5KW*2	90L*2	280	15	150	5830	1790	3100	14000
130-6000	1300	6000	4800	400	200	490	585	7.5KW*2	90L*2	280	15	150	6830	1790	3200	16000
170-3200	1700	3200	2700	400	200	490	585	7.5KW*2	90L*2	250	13	150	4050	1800	2730	10100
170-4100	1700	4100	3300	400	200	490	585	7.5KW*2	90L*2	250	13	150	4700	1800	2830	12100
170-5000	1700	5000	4100	400	200	490	585	7.5KW*2	90L*2	250	13	150	5700	1800	3080	15000
170-6000	1700	6000	5000	400	200	490	585	7.5KW*2	90L*2	250	13	150	6700	1800	3180	18000
220-3200	2200	3200	2700	400	200	490	585	8.5KW*2	150L*2	200	13	150	4020	1850	2850	12000
220-4100	2200	4100	3300	400	200	490	585	8.5KW*2	150L*2	200	13	150	4820	1850	3100	13900
220-5000	2200	5000	4100	400	200	490	585	8.5KW*2	150L*2	200	13	150	5820	1850	3250	18200
220-6000	2200	6000	5000	400	200	490	585	8.5KW*2	150L*2	200	13	150	6820	1850	3350	21000
250-3200	2500	3200	2700	450	250	540	635	13KW*2	200L*2	160	15	140	4050	1860	3000	14000
250-4100	2500	4100	3300	450	250	540	635	13KW*2	200L*2	160	15	140	4850	1860	3100	16000
250-5000	2500	5000	3800	450	250	540	635	13KW*2	200L*2	160	15	140	5850	1860	3250	21000
250-6000	2500	6000	5000	450	250	520	615	13KW*2	200L*2	160	15	140	6850	1860	3350	24000
300-3200	3000	3200	2700	450	250	520	615	13KW*2	200L*2	160	13	140	4600	2260	3400	17700
300-4100	3000	4100	3300	450	250	520	615	13KW*2	200L*2	160	13	140	5400	2260	3500	20300
300-5000	3000	5000	3800	500	250	520	615	13KW*2	200L*2	160	13	140	6430	2260	3680	26100
300-6000	3000	6000	5000	500	250	520	615	13KW*2	200L*2	160	13	140	7430	2260	3850	30400

*展示参数仅供参考，实际参数信息以产品实际为准

SONKYO

Processing **Equipment**
加工设备

" **SONKYO** " 品牌不断推进技术、智能的前行。以欧洲标准进行严格的质量检验，确保每一台设备完美交付。以强大的核心竞争力，为中国金属制造业提供优质的钣金加工设备。

精工细作 · 标准化生产

精良的装备和专业化制造，为三协新产品的规模化增长和品质保证提供了强有力的保障，三协现有多个专业产品安装调试车间和精密件加工车间，拥有数控龙门铣床、大型数控镗床、数控卧式加工中心等关键设备若干台。

以质为本 · 精益求精

质量是产品的"生命"，企业在"做大"的同时，必须"做精、做强"，南锻重工对产品质量不满足于既定的控制指标，坚持"没有最好，只有更好"的信念，让产品精中求精。

The SANXIE brand is a guarantee of quality and integrity

品牌是质量和诚信的保证

Processing Equipment