



PIPE CUTTING

HIGH SPEED | HIGH QUALITY | HIGH EFFICIENCY

管切割系列

PIPE CUTTING SERIES



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BODA series

CNC Intersecting Pipe Cutting Machine (big diameter) 数控大直径管切割机

PIPE CUTTING



Cnc Intersecting Pipe Cutting Machine (Big Diameter)

BODACNC



产品概述 | DESCRIPTION

BD系列数控大直径管切割机由我公司最新研发的，专为锅炉压力容器制造行业以及化工设备行业开发的大直径圆管专用自动化切割设备。该设备从根本上解决了传统的手工相贯线工艺繁难、切割效率低、加工精度低的问题，推动了行业内对于管道技术的发展。

该机器采用钢结构主体，外形美观，动态性能卓越，采用ETHERCAT总线控制系统，人机交换更加方便、合理，配套全数字总线交流伺服电机控制方式，具有响应快，刚性好和精度高的特点。

编程软件参数化界面设置，强大的运算引擎，快速计算出母管与支管复杂的相贯线。3D显示切割轨迹，开孔位置、坡口一目了然。软件智能调整割炬姿态、单轴与多轴联动切换，并整合等离子切管引弧、速度控制等加工工艺，使机器切割更加高效。

设备搭载精细等离子切割电源，轻松实现中厚碳钢、不锈钢圆管的I、A、V、X坡口切割。

BD Series CNC Intersecting Pipe Cutting Machine (big diameter) is the big diameter round pipe automatic cutting equipment which is newly developed by our company, specially for boiler pressure vessel manufacturing industry and chemical equipment industry. This equipment fundamentally solves the problem of difficult work, low cutting efficiency and low processing precision in traditional manual intersecting and promotes the development of the pipeline technology in the industry.

This machine is made of steel structure with beautiful appearance and excellent dynamic performance. It adopts the Ether CAT bus control system. Human-machine exchange is more convenient and reasonable. It supports all digital bus AC servo motor control mode with fast response, good rigidity and high accuracy.

Programming software parameterization interface settings and the powerful calculation engine can quickly calculate the complex intersecting lines between the mother tube and the branch tube. 3D shows the cutting path, the location of the openings and bevel very clearly. The software intelligently adjusts the torch and single-axis & multi-axis linkage switching, and integrates plasma arcing speed control and other processing technologies to make machine cutting more efficient.

The equipment is equipped with the precise plasma cutting source to realize the I, A, V, X bevel cutting formed on thick carbon steel and stainless steel round tubes easily.

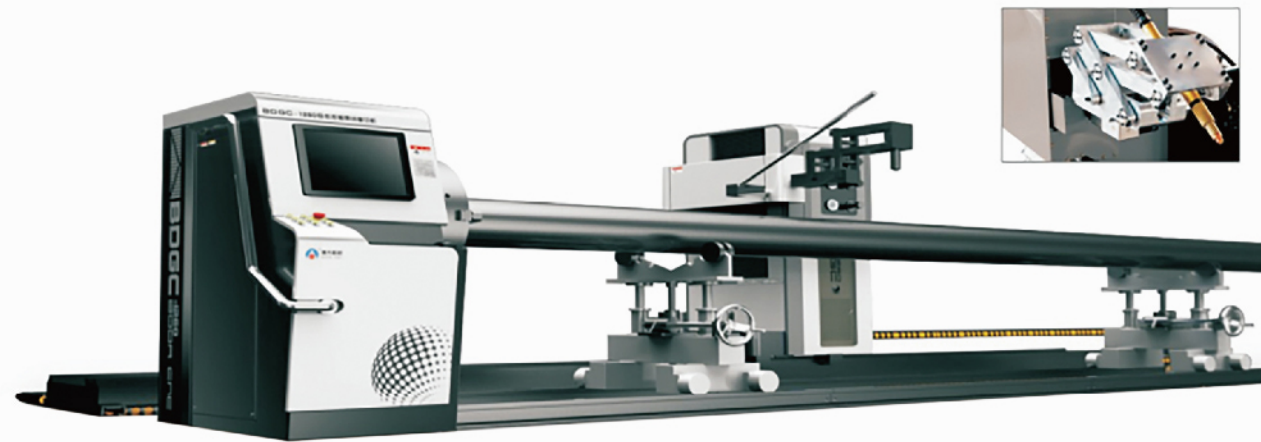
响应快
FAST RESPONSE

刚性好
GOOD RIGIDITY

精度高
HIGH PRECISION

BODA IV series

New Generation Moving Column Style CNC Intersecting Pipe Cutting Machine
新一代动柱式数控相贯线切管机



BODA H series

Combined Style CNC Intersecting Pipe Cutting Machine
复合式数控相贯线切管机



机床技术规格 | MACHINE TECHNICAL SPECIFICATIONS

- ◎ 动柱式切割头移动结构，行程≥6m
- ◎ 卡盘式钢管管夹持方式，手动或电动夹紧
- ◎ 托架式钢管支撑结构，可手动或液压传动
- ◎ 专用相贯线切割系统，定量内置相贯线展开切割宏图库
- ◎ 平面连杆式坡口控制结构±60°摆动角度范围
- ◎ 直线导轨、滚珠丝杠、齿轮齿条组合式传动机构
- ◎ Mobile column structure of cutting head moving, stroke≥6m.
- ◎ Manual or electrical steel tube chuck clamping.
- ◎ Bracket-type steel supporting manually or hydraulically.
- ◎ Dedicated intersecting line cutting system with inner ration unfolded intersecting cutting macro library.
- ◎ Plane pole link bevel control structure with the range of swing angle of±60°
- ◎ Linear guide rail, ball bearing transmit the leading screw rack and pinion assembled transmission system.

切割类技术规格 | CUTTING TECHNICAL SPECIFICATIONS

切割管型	Cutting Tube Type	圆管或者方管	Round or Square Tube
可切割形式	Figures Can Be Cut	相贯线展开后的各种图形，可带坡口	variety of graphics by outspreading intersecting line, can be with bevel
控制轴数	Control Axis	2-4-6轴，坡口切割标配6轴	2-4-6-axis. Bevel cutting with 6-axis
切割管径	Cutting Diameter	按客户要求	According to customer requirements
切割方式	Cutting	等离子或火焰	Plasma or gas
管材最大长度	Pipe Maximum Length	≤12m	≤12m
管材夹持方式	Pipe Clamping Method	卡盘式	Chuck
动力驱动	Power-Driven	高精度交流伺服+专用行星减速器	High-precision AC servo + dedicated planetary reducer
控制系统	Control System	专用相贯线切割系统:可控6轴，定量内置相贯线切割宏图库	A dedicated intersecting line cutting system:6-axis controlled, with quantitative intersecting line cutting macro library

产品概述 | DESCRIPTION

复合式数控相贯线切管机主要运用于小管径切割，是我公司开发的新型数控小管相贯线切割机。主要用于圆管、方管、矩形管的切割加工。通过数控系统控制，可在管上切割直线和任意形状的曲线。配备火焰、等离子可以方便地切割碳钢管、不锈钢管。

针对小截面管材优化设计可以有效的提高工作效率。主机采用目前世界上先进的双卡盘结构，其搭载在固定机架上异步夹景、同步驱动；数控系统五轴联动，带有外部遥控工作站；功能强大，操作方便；切割程序采用3D软件建模，整机界面友好，功能齐备，所见即所切，所切即所需。

具有以下特点：结构刚性高、稳定性好、切割效率及加工精度高；产品灵活性强、安全、操作方便、能耗低，属环保型产品；配有安全防护罩及管材上下工作台；产品整体布局紧凑、合理，占地面积小。

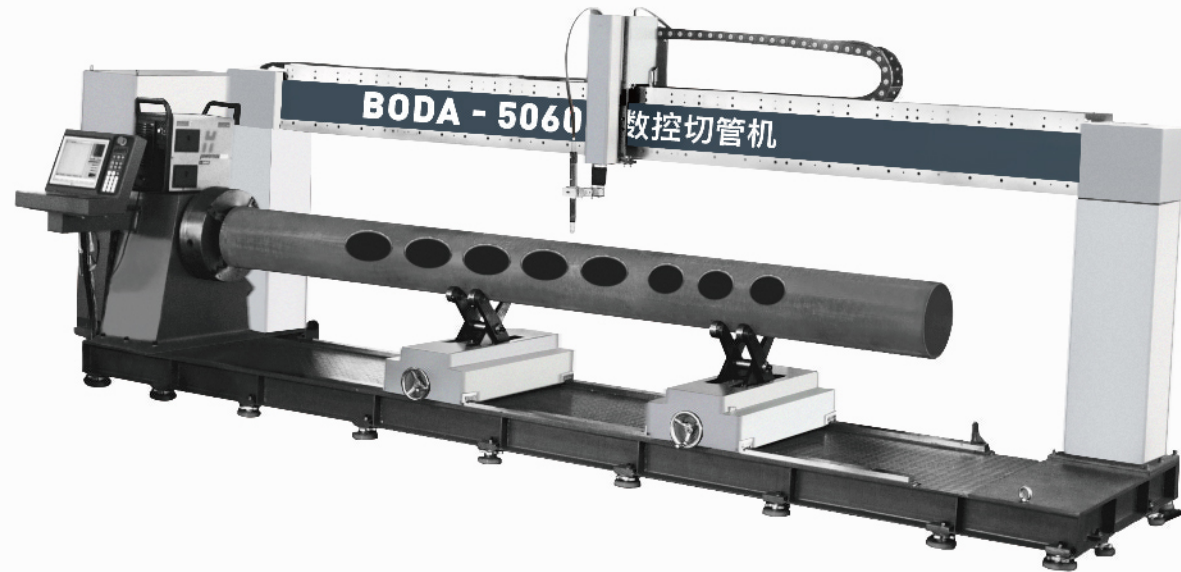
Combined Style CNC Intersecting Pipe Cutting Machine is mainly used to do cutting for small diameter tube. It is a new type small tube intersecting cutting machine developed by our company which mainly used in the cutting of round pipe, square pipe, rectangular pipe. It can cut straight line and any shape curve by the control of the CNC system. And it can be equipped with flame and plasma torch to cut the carbon steel and stainless steel tube easily.

The optimization design of the small cross section pipe can improve the work efficiency effectively. The machine adopts the double chuck structure which is advanced in the world at present on the fixed machine body to realize the asynchronous clamping and synchronous drive. The CNC system is five-axis linkage with the external remote workstation to offer powerful function and easy operation. The cutting program adopts 3D software modeling with friendly interface and full function. What you see is your cut, what your cut is your requirement.

It has the following features: high rigidity structure, good stability, high cutting efficiency and high precision processing. The product is high flexible, safe, easy operation, low consumption and environmental.

BODA
series

Gantry Style CNC Intersecting
Pipe Cutting Machine
龙门式数控相贯线切管机



产品概述 | DESCRIPTION

- ◎该型机主体采用龙门式结构，与管材平行布置，龙门上装有移动小车、升降装置；固定夹持火焰或等离子割炬。
- ◎钢管的夹持采用卡盘结构，支撑则利用钢管的长度方向上配有的可移动、可升降托盘。
- ◎切割时通过CNC系统控制小车移动和管子旋转，对管子的端头和孔进行全自动的数控切割。也可增配割炬摆动装置，调整相贯线轨迹与割炬角度，形成更好的焊接用坡口切割面。
- ◎整机运行稳定、寿命长；操作简单、工作效率高。
- ◎The machine adopts the gantry style structure which is parallel to the pipe. It is equipped with moving station, lifting device and fixed clamping of flame & plasma cutting torch on the gantry.
- ◎The pipe clamping adopts chuck structure. The support uses the removable, liftable and operable shelf which equipped on the pipe length direction
- ◎It can control the moving station and pipe rotation by CNC system to do the fully automatic CNC cutting for the pipe end and the hole when cutting. Also the machine can be equipped with the cutting torch swing device to adjust the intersecting line track and cutting torch angle, which can form the better bevel cutting surface for welding usage.
- ◎The whole machine has stable running long service life, simple operation, efficient working.

选型配置表—0504 | SELECTION CONFIGURATION TABLE—0504

		龙门式切管机 (2-3轴) Gantry style pipe cutting machine(2-3axis)	动柱式切管机 (4-6轴) Moving column style pipe cutting machine(4-6axis)	复合式切管机 (5-6轴) Combined style pipe cutting machine(5-6axis)	机器人相贯线切割机 The robot arm intersecting pipe cutting machine	
机床主机标准规格 Machine tool standard specifications	加工管材尺寸范围 Pipe dimension scope	按客户需求 According to customer need	√	√	√	
	加工管材形式 Pipe type	圆管 Round pipe	√	√	√	√
		方管/多棱管 Square pipe/multi pipe	□	□	√	√
		型材/角钢/槽钢 Profiles/angel steel/channel steel	×	×	□	√
	底座基础形式 Base foundation type	龙门式 Gantry style	√			
		动柱式 Moving column style		√	√	
	固定夹持 Fixed beam clamping	固定夹持 Fixed beam clamping	√		□	√
		单轴旋转 Rotary at one axis	□	□		
	工作台夹持运动方式 Working head clamping motion mode	单轴旋转 Rotary at one axis	□	□		
		两轴偏摆 Wing at two axis		√	√	
管材支撑托架 Pipe support bracket	机器人 Robot arm				√	
	移动式托架 Mobile bracket	√	√			
	辅助支撑架 Auxiliary support bracket		√			
	卡盘支撑架 Chuck support bracket			√		
割炬配置 Torch configuration	工作台 Working table				√	
	等离子 Plasma	√	√	√	√	
控制装置 Control device	火焰 Flame	□	□	□	□	
	博大定制控制系统 BODA customized control system	Bd CNC 3轴, 2-3轴联动 Bd CNC 3-axis, 2-3 axis linkage	√			
		Bd CNC 6轴, 4轴联动 Bd CNC 6-axis, 4-axis linkage		√	□	
		Bd CNC 6轴, 5轴联动 Bd CNC 6-axis, 5-axis linkage		□	√	
		博大机器人控制系统 Broad Robot Arm Control System				√
	驱动伺服电机 Drive servo motor	三菱伺服 Mitsubishi servo	√	√	√	
		其他 Other	□	□	□	
	中控模块 CCM BAT	三菱或其他 PLC Mitsubishi or other PLC	√	√	√	√
		触摸控制面板 Touch control panel	□	□	□	□
	割炬高度控制 Cutting torch height controller	调高装置控制 Height control device	√			
系统集成式控制 CNC Integrated control			√	√	√	
切割装置 Cutting device	进口精细电源 Imported precision plasma	□	□	□	□	
	等离子 Plasma	国产L+精细电源(六和) China LH precision plasma (LIUHE)	□	□	□	
	火焰 Flame	其他通用型等离子 Other general type plasma	□	□	□	
	割炬角度控制装置 Cutting torch angle control device	博大(专利)割炬升降装置 Boda cutting torch lifting device (patent)	√	√	√	
博大(专利)割炬破口控制装置 Boda cutting torch bevel control device (patent)			√	√		
定制机器人控制装置 Customized robot arm control device					√	
附件 Accessories	烟尘净化装置 Fume purification device	√	√	√	√	
	润滑装置 Lubricating device	×	√	□		
	激光指示装置 Laser pointer device	□	□	□		
精度质量 Precision quality	运行三色指示灯 Running three-color indicator	□	□	□		
	割炬形式 Cutting type	垂直切割 Straight cutting	√	√	√	√
		坡口切割 Bevel cutting	×	√	□	√
整机运行检测标准 Test standard for whole machine running	厂标 Factory standard	√	√	√	√	
其他 Other	其他 Other	□	□	□	□	
其他 Other	可按客户需求提供博大系列其他规格产品或按需求定制 We can provide BODA series products with other specifications according to customer needs or offer users to customize on demand.					

配置选择标示
Configuration choice marked

- √ 标准配置 Standard configuration
- 可选配置 Optional configuration
- × 无法选配 Not matching

备注：仅供参考，机床为非标设备，具体配置博大公司销售人员和技委会根据客户实际工艺情况来确定，并以最终与客户签订合同及技术协会为准，我们的最高宗旨是为客户提供一流的产品与服务。

Remark: for reference only, machine is non-standard equipment, BODA salesmen and technicians will confirm the configuration in details according to actual cutting process requirement of customers The configuration Will be confirmed by contract and technical agreement which signed by customer Our highest aim is to offer the fist-class products and services to customer.