

Reliable

Reliable quality products from only famous brand factories

Trustable

We put our reputation in first position

Responsible

What we promise what we do.

We believe, we can, we just do it.

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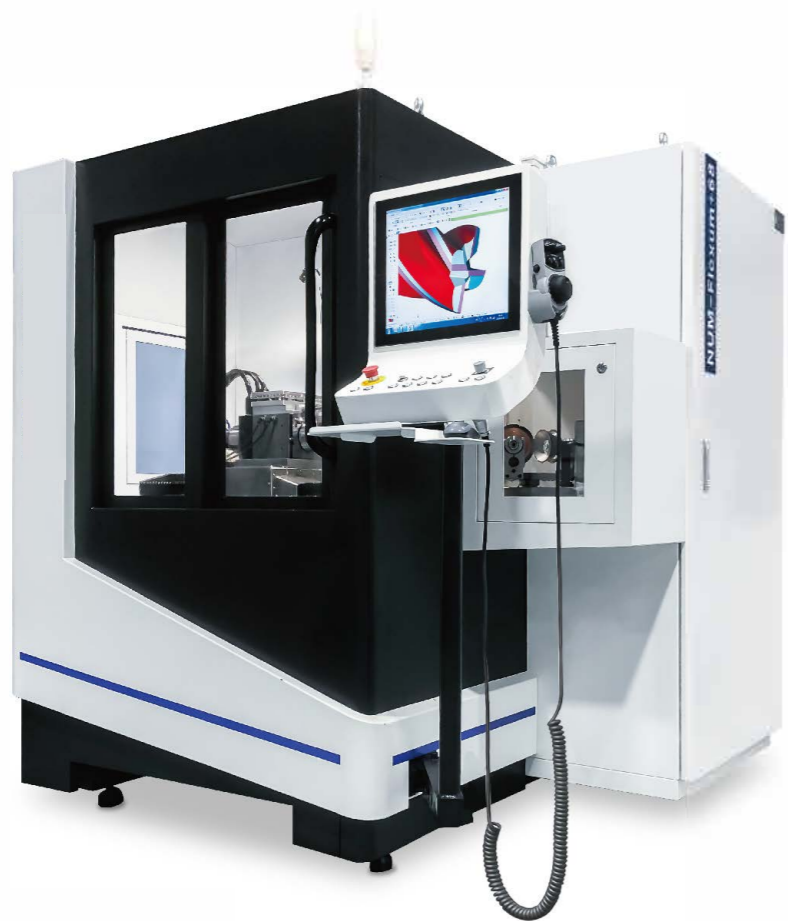
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德国设计 欧洲品质 中国智造
GERMAN DESIGN EUROPEAN QUALITY MADE IN CHINA



NUM-CONTROL

Goodwill is one machine tool company who focus on grinding solution. If you or your friends need solutions for grinding machining technology, we believe we can be one of choice for you reference.

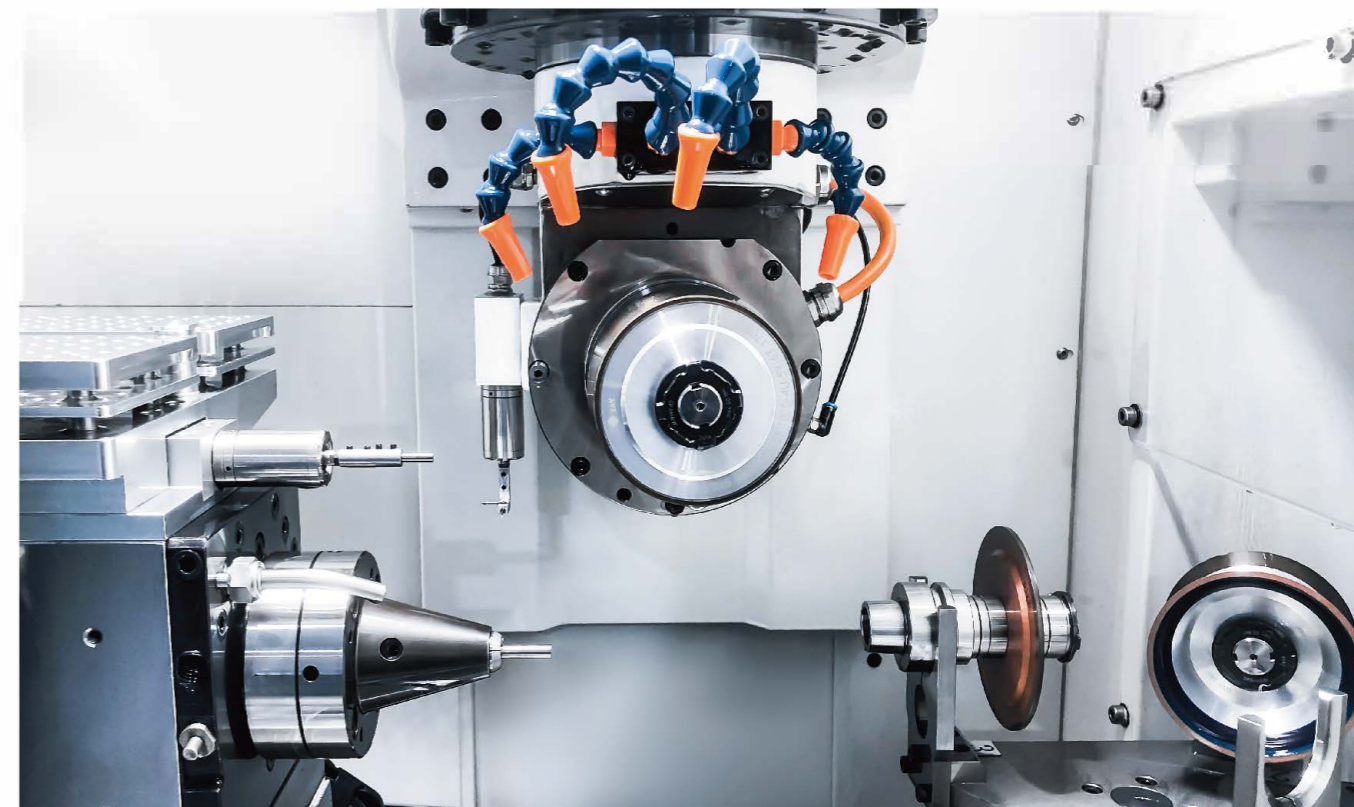
Goodwill based on our team reputation and ability, have built partner relationship with more than 50 factories related to grinding industry, and most of them are listed companies, leading enterprise and even international type groups.

Goodwill products range have more than 1000 models grinding machines and service range have cover automobile, hydraulic parts, motors, mould, tools, spindles, gears, aerospace, medical, 3C, green energy, machine tools and so on industries.

Goodwill what we can offer to the customers, reliable products, trustable service and responsible attitude, our sales team, service team, technical support, training center, showing and inspection room all are ready to meet any requirements from worldwide friends.

内部概览

Inside Overview



功能优势

Function Advantages

- 机床外形精致美观，床身小巧节省空间。
- 天然花岗石床身具有良好的减震性和耐热性，硬度高，耐磨性强。
- 独特的结构设计，行程短，加工效率高。
- X、Y轴高精度直线电机，超高推力密度；配有全闭环高精度直线光栅尺，稳定性持久。
- 单头磨削主轴，加工快捷，稳定性高；配有永磁电机，扭力大，低损耗。
- 工件、砂轮全方位自动在线测量系统高效准确，保证了加工刀具的稳定性。
- 采用全球领先的NUM控制系统与NUMROTO磨削软件，简单易学。
- 个性化操控面板，直观简便。
- The machine looks beautiful, exquisite and space-saving.
- Natural granite machine bed has a good shock absorption and heat resistance ability, high hardness and strong anti-abrasion property.
- The unique structure design is in short travel, bringing high processing efficiency.
- X, Y axis high precision linear motors have super-high thrust density, equipped with full closed-loop high precision linear scale, durably stable.
- Single-ended grinding spindle, fast processing, high stability, equipped with PM motor of high torque and low power loss.
- Automatic full-directionally internal measuring system for both work piece and grinding wheel are efficient and accurate, which ensure the tool machining stability.
- The worldwide leading NUM control system and NUMROTO grinding software are easy to learn.
- Individualized control panel is visually simple.

高精度直线电机

High-precision Linear Motor



X、Y轴直线电机，具有超高推力密度，低顿力，配有海德汉全闭环高精度直线光栅尺，直线光栅尺具有测量方向上的高刚性，热特性好等特点，全闭环控制模式能消除潜在的多个误差源，从而保证了机床高精度定位和高速加工时的稳定性，且长期持久。Z轴采用高扭矩输出NUM伺服电机，可配直线轴光栅尺。

The X and Y axis linear motors with super-high thrust density, equipped with HEIDENHAIN closed-loop high precision linear scale. The linear scale has the characteristics of high rigidity in measurement direction and good thermal property. The full-closed-loop control mode can eliminate potential multiple error sources, thus ensuring the stability of high precision positioning and high speed machining during tool machining in long term stability. Z axis is with high-torque output NUM servo motor, optionally equipped with linear scale.



可编程3工位砂轮库

Programmable 3-package wheel changer

3工位砂轮库，机内自动更换砂轮，最大砂轮直径125mm。

3-package wheel changer, automatically change the grinding wheel inside machine, wheel max diameter 125mm.

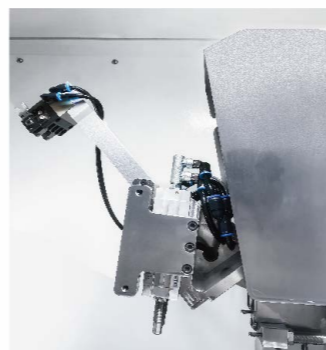


料盘

Loader

更换便捷，不同规格的工件均通用，不需要重新设定机械手位置。单个料盘54支一批，中等批量加工，避免因钨粉沉积导致刀具精度受影响。

Easy to replace, universal use of work pieces in different sizes to avoid robot repositioning. 54pcs per tray, medium batch production to avoid the tool run out caused by tungsten powder deposition.



机械手

Pick up robot

自动上下料，灵活高效，可实现无人化生产。

Automatic loading and unloading, highly flexible and efficient, realize unmanned production.

SK40工件轴

Work piece Axis



SK40工件轴(C轴)采用高扭矩直驱电机，分辨率可达0.0001°，最高转速1000rpm，为在线外圆磨削提供可能。

C、B轴配置独立油冷系统，保证精度的可靠性。

SK40 work piece axis (C axis) uses torque motor with resolution of 0.0001°, maximum speed of 1000rpm, making it possible for cylindrical grinding. C, B axis are equipped with separate oil cooling system to ensure the precision reliability.

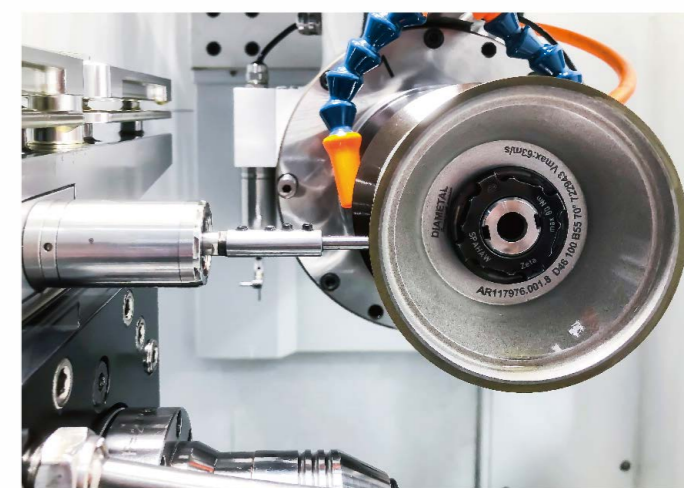


工件测量系统

Workpiece measuring system

在线对工件进行迅速定位，在刀具加工过程中测量并修整工件参数，保证了刀具加工的质量。

The work piece is internally rapid-positioned, and the work piece parameters are measured and adjusted in the process of tool machining to ensure the tool quality.



砂轮测量系统

Grinding wheel measuring system

机床在线测量砂轮参数，迅速便捷，有助于减少机外测量检测时间，避免人工检测错误，准确高效，从而保证刀具加工稳定性，提高加工效率。

Machine automatic internal measurement of grinding wheel parameters, fast and convenient, to helpfully reduce the measuring time outside the machine, avoid manual checking errors, accurately and efficiently, so as to ensure the stability of the tool machining and efficiency is improved as well.

稳定可靠的控制系统

Reliably Stable Control System

NUM-Flexium⁺68

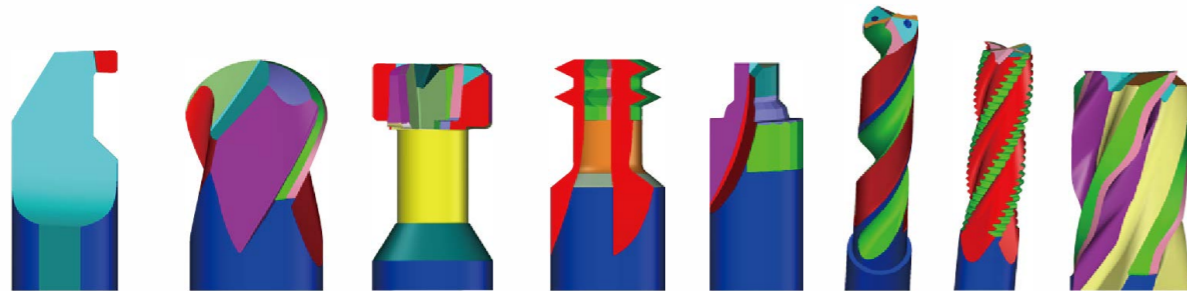
- 新一代NUM-Flexium⁺68数控轴系统；
- 高分辨率直驱电机；
- 17寸TFT彩色显示屏, 个性化操控面板, 直观简便；
- 优化设计的电器柜易于修理；
- 通过光纤链接的可旋转操作面板方便操作；
- 直接安装在机床电器柜里的电脑为今后的维护、更换、升级提供了便利从而节省了费用。

- Digital CNC control unit for highest requirement;
- High resolution direct drive motor;
- 17-inch TFT colour display with uniquely simple operating panel;
- Electrical cabinet with optimal arrangement and accessibility for easy servicing;
- Rotatable panel connected via Ether-cut simple for simple operation;
- An office PC can easily be integrated in the electrical cabinet to promote maintenance, rapid replacement and updates without high investment costs.



简单的磨削软件

Easy Grinding Software



NUMROTOplus[®]是全球领先的用户软件, 多年来成为高精度刀具磨削中的成功引领者。NUMROTOplus[®]软件简单易学, 普通工人即可在短时间内迅速学会并熟练操作, 大大降低工人培训难度, 为客户降低培训成本。

NUMROTOplus[®] is the worldwide leading user software, successful trendsetter in high-precision tool grinding for many years. NUMROTOplus[®] software is simple and easy to learn, ordinary workers can quickly acquire grinding skills and operate proficiently in a short time, greatly reducing the difficulty of training workers, and reducing training costs for customers.

技术参数

Technical Data

磨削范围 Grinding range		冷却方式 Cooling	
刀具加工直径范围 Diameter range for tool production	1-14mm	工件轴(C轴)及砂轮旋转轴(B轴) Workpiece axis(C axis) and grinding rotation axis(B axis)	独立油冷 Separate oil cooling
最大刀具修整直径 Max. diameter for tool regrinding	50mm	油雾接口 Oil mist interface	∅150mm
最大加工长度 Max. processing length	180mm	轴行程 Axis travel	
控制系统 Control System		横向 (X轴) Transverse X axis	375mm
CNC 控制部分 CNC control unit	NUM-Flexium ⁺ 68	纵向 (Z轴) Longitudinal Z axis	320mm
TFT液晶显示器 TFT liquid crystal display	17寸 Inch	垂直 (Y轴) Vertical Y axis	160mm
磨削软件 Grinding software		速度 (X-Z轴) Speed X-Z axis	25m/min 旋转运动 Rotational Movement
NUMROTOplus [®] 铣刀, 钻头, 非标刀具, 3D模拟软件 NUMROTOplus [®] milling cutters, drills, special tools, 3D simulation software		速度 (Y轴) Speed Y axis	15m/min 旋转运动 Rotational Movement
测量系统 Measurement system		工件旋转轴 (C轴) Workpiece rotational movement C axis	360°
刀具测量 Tool measurement	3-D 探针 Probe	分辨率 (C轴) Resolution C axis	0.0001°
砂轮测量 Grinding wheel measurement	3-D 探针 Probe	速度 (C轴) Speed C axis	1000rpm
高精度磨削电机 High precision grinding spindle motor	0-8000rpm	砂轮旋转轴 (B轴) Grinding rotation axis B axis	310°
主轴功率(HSK50F) Spindle power	15KW	速度 (B轴) Speed B axis	180°/s
砂轮 Grinding wheels		分辨率 (B轴) Resolution B axis	0.0001°
最大直径 Max diameter	125mm	轴驱动 (X, Z轴) Axis drives X Z axis	直线电机 Linear Motor
三工位砂轮库 3-package wheel changer	NC控制 NC Controlled	轴驱动(Y轴) Axis drives Y axis	高扭矩输出 NUM伺服电机 High torque output NUM servo motor
每个砂轮库可装 Grinding wheels per clamping arbour	1-3片砂轮 1-3 pcs grinding wheels	机床尺寸 Machine dimensions	
冷却阀 (程序控制) Cooling via cooling valve (Program-controlled)	2组 2 Valves	长度/宽度/高度 Length/Width/Height	2000mm*2000mm*2260mm
砂轮夹紧系统 Grinding wheels clamping system	HSK50F	重量 Weight	Appr.4200kg
C轴 (工件轴) C-axis (Workpiece axis)		电源 Power supply	3x400V-50HZ/32A
标准C轴 (锥度) Standard C-axis (Spindle taper)	SK40	功率输入 Power input	21kw
夹紧系统 Clamping system	自动 Automatic	压缩空气 Air Supply	≈ 6bar
驱动形式 (直驱) Drive (Direct drive)	力矩电机最大1000rpm Torque motor max.	颜色 Colour	RAL9005/RAL9003

