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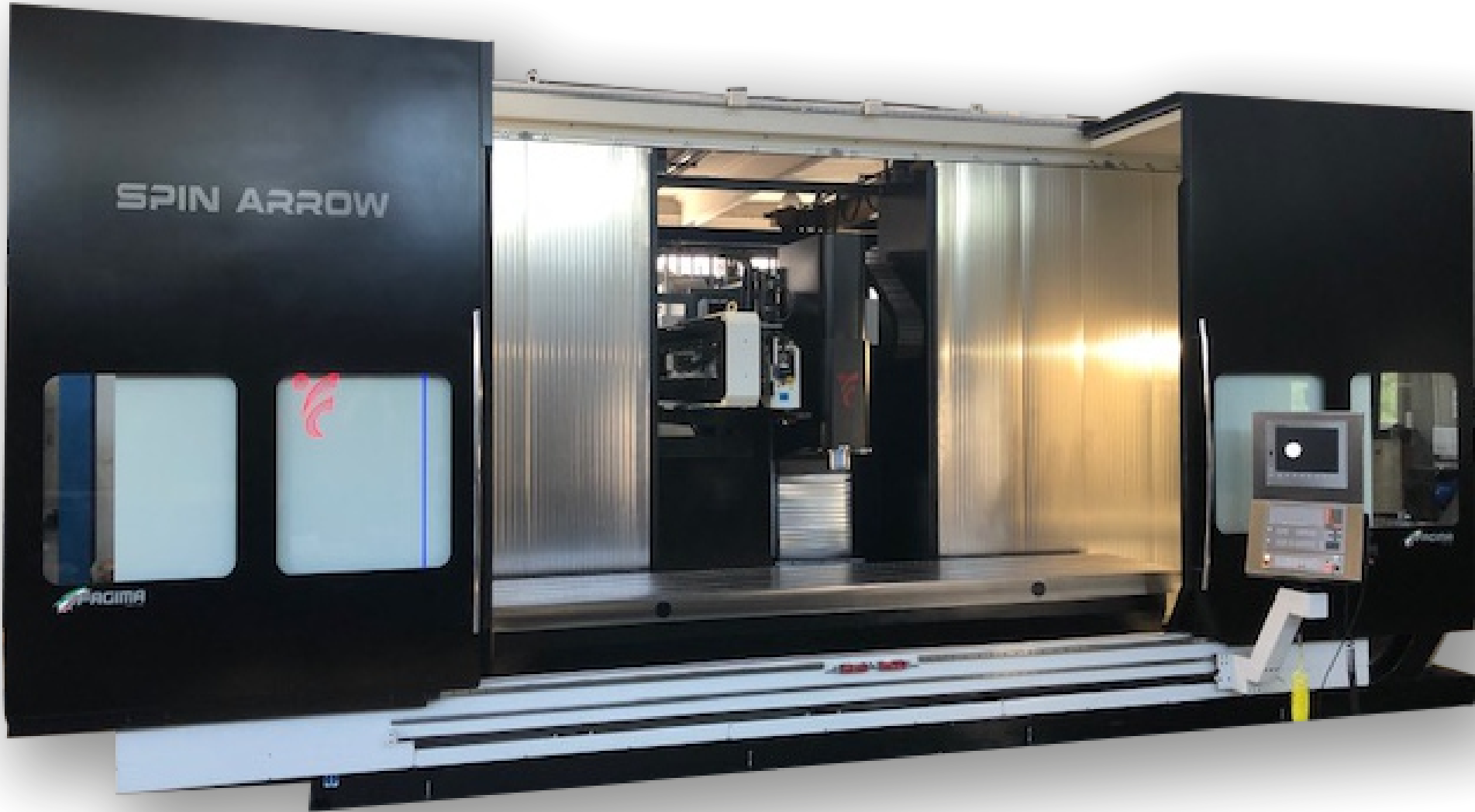
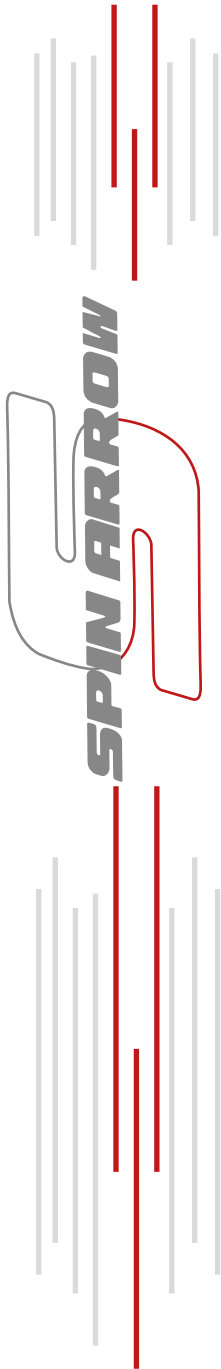
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SPIN ARROW
www.fagima.com

SPIN ARROW



3轴加工中心 · 3 AXIS MACHINING CENTERS



SPIN ARROW 是一款立柱移动式加工中心，具有高刚性结构；可以配置高达30KW 主轴电机和50型号主轴。固定式的工作台有着非常强的承载能力，可以加工大型、重型工件，同时工作台也可以通过中间加装隔断板的形式划分为两个独立的加工区域，实现小零件的双工位加工，在加工大型或长型零件时，把中间隔断板拆除，也可以作为一整体工作台使用。因此，在当今这个难以胜任连续加工强度的工作环境下，SPIN ARROW能够满足客户不同的加工需求，这种机型投资回报率高，已成为客户的主流需求。

SPIN ARROW is a moving column vertical machining center, with a very rigid structure that allows for the use of spinal motors up to 30Kw and #50work zone for pendulum operation. the SPIN ARROW offers appropriate response to different manufacturing needs. this is a typical requirement/need of nowadays work environments, machining of long&narrow parts) or to replace two machines (when machining smaller parts in pendular mode). Consequently, this type of machine will GUARANTEE A SHORTER RETURN ON THE INVESTMENT allowing for the possibility to re-invest in a new machine in a shorter time period.

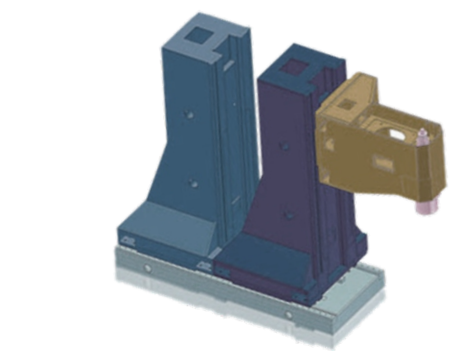
SPIN ARROW

标准配置 Stander Configuration

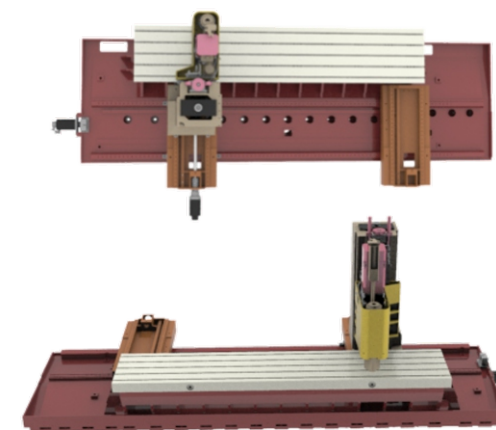
- 行程/ Strokes
 - X轴 X axis.....mm 2200/3200/4000/5000/6000
 - Y轴 Y axis.....mm 800
 - Z轴 Z axis.....mm 750
 - 双加工区域/Work zone pendular..... mm 845/1345/1745/2245/2745
- 进给/ Feed rates
 - X、Y轴(线轨)进给 /X,Y (Liner way) axis feedm/min 40
 - Z轴(硬轨/线轨)进给 / Z (Box way) axis feed..... m/min 20(24)
- 工作台参数 / Work table
 - 工作台尺寸/ Table dimensionsmm 2400/3400/4200/5200/6200 X800
 - T型槽/ T-slotsn° 6
 - 中央 / Central T-Slot.....mm 18H7
 - 其它 / Central T-Slot mm 18H12
 - 槽间距/ Pitch of grooves mm 120
 - T型槽尺寸与方式可按用户需求定制/T-slot size and mode can be customized according to user requirements
 - 工作台最大载重 / Max load on table.....Kg2000
- 皮带式机械主轴/ Belt type mechanical spindle
 - 主轴锥孔形式 / Cone dimensionsBT50
 - 主轴电机功率 / Motor spindle power (S1/S6-40%).....Kw 20/30
 - 电机扭矩减速比/ Torque motor reduction ratio..... 3.17
 - 最大主轴扭矩/ Max spindle motor torque(S1/S6-40%).....Nm 403.5/605.5
 - 主轴转速/ Spindle rotation speed.....rpm8000
 - 40位随机自动换刀系统/ 40 positions random tool change
- 主轴锥孔适用 / Spindle taper.....BT50
 - 最大刀具长度 / Max tool lenghtmm 320
 - 最大刀具直径满（邻空）刀时.....mm 115(225)
 - Tool max diameter with full (Adjacent empty) adjacent position
 - 最大刀具重量/ Total max tools weight.....Kg 15
 - 机床总重量/ Machine total weight.....Kg 16500 / 18000/ 20000/ 22000/ 23800
- 数控系统/CNC standard海德汉.发那科.西门子 / HEIDENHAIN .FANUC. SIEMENS
-

Y轴为立柱前、后移动的行程，赋予机床完善的几何精度、Y轴永不下垂。

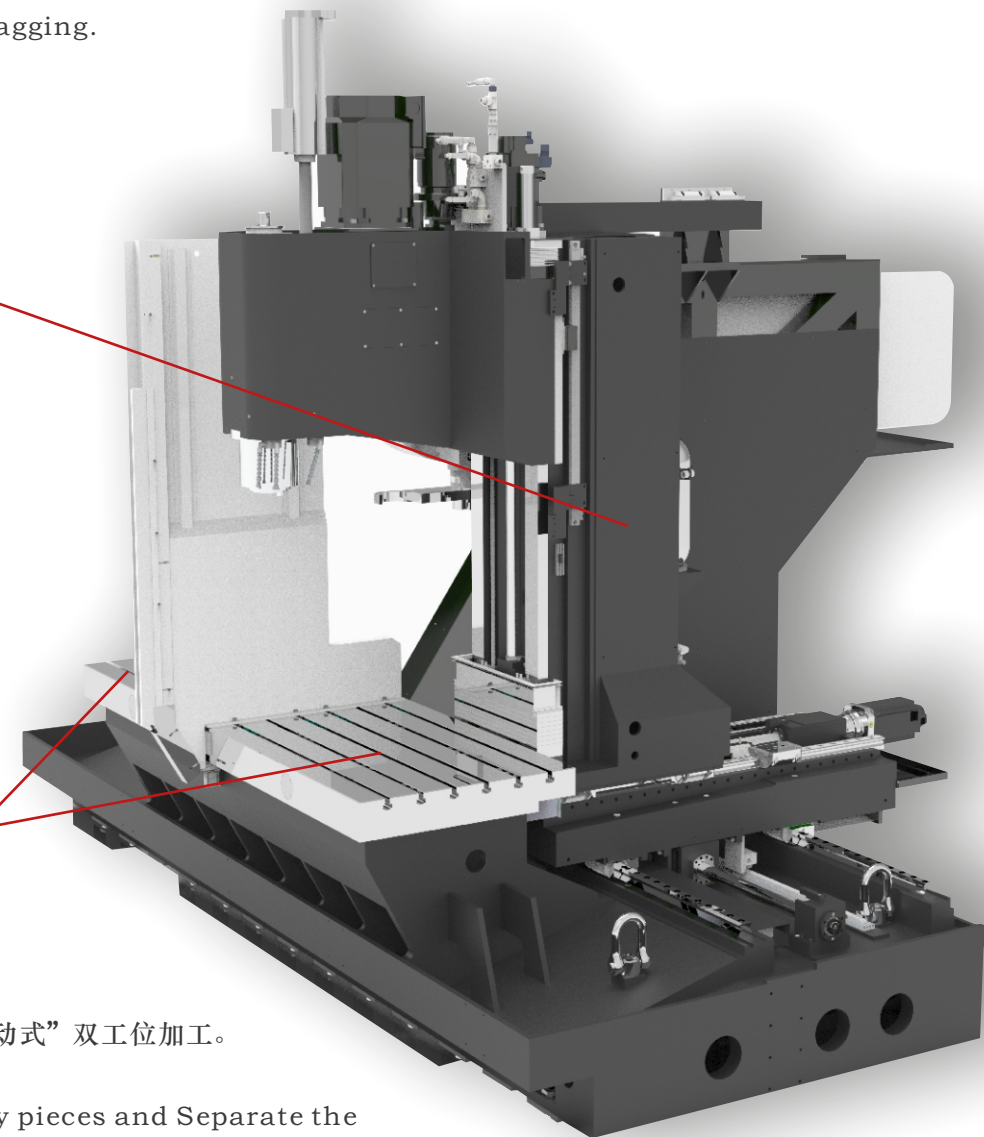
Y axis is the moving stroke of the column before and after, giving the machine perfect geometric precision and the Y axis never sagging.



■ 移动式Y轴立柱
Movable column Y axis



■ 双工位模式
Pendular mode



固定工作台可以承载重型工件，把工作台分隔成两个独立的区域“摆动式”双工位加工。

The fixed table configuration allows the loading of very heavy pieces and Separate the worktable into two independent areas "swing" double station processing.

请了解

- 动柱式结构，机床可作双工位使用，也可在Z轴完整行程上加工。
- X、Y轴为滚柱导轨，Z轴则为硬轨。
- 主轴可配置齿轮箱实现恒扭矩输出。

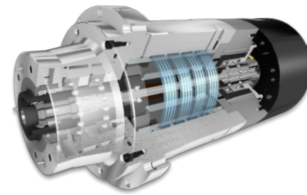
Things to know

- Movable column type structure, the machine can be used for double stations, also can be processed on the complete stroke of Z axis.
- X and Y axes are roller rails, and Z axes are hard rails.
- Spindle can be equipped with gearbox to achieve constant torque output.

标准配置—Stander configurations

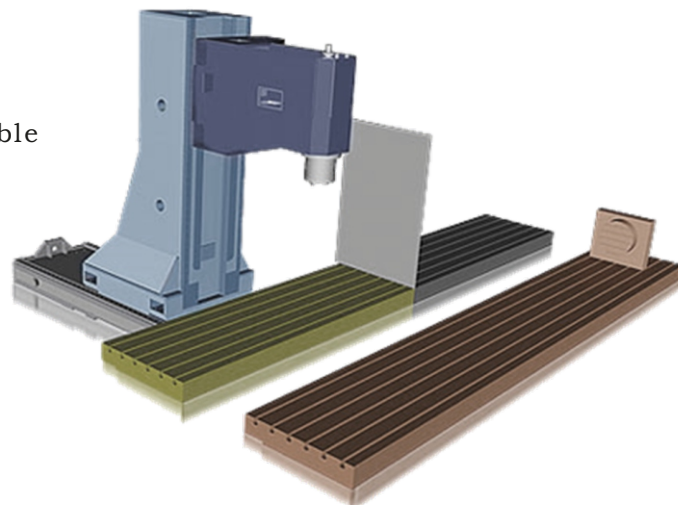
- 顶部全封闭的机床防护罩
Top surface is fully enclosed for external protection sheet metal
- 数控系统海德汉/发那科/西门子系统
CNC HEIDENHAIN / FANUC / SIEMENS
- 皮带式机械主轴/ 8000 Rpm BT50
Belt type mechanical spindle / 8000 Rpm BT50
- 主轴内外吹气清洁系统
Air blowing inside and outside the spindle for dry machining operations
- 主轴和主轴箱配置热补偿传感器
Spindle/spindle box with thermal compensation sensor
- 刀具外围自动冷却系统 5bar
Automatic cooling system for tool periphery 5bar
- X、Y、Z轴配置光栅尺/ Optical scales on X, Y, Z axes
- 主轴配置额外旋转编码器/ Encoder on Spindle
- 主轴中心出水冷却系统20bar
Spindle center water cooling system 20bar
- 100L切削液水箱
100L water tank for fluid coolant
- 链式排屑器/Belt type chip conveyor
- 电柜空调/Air conditioning for electrical cabinet
- 24位刀库随机自动换刀系统/ 24 Positions random tool change
- 自动润滑系统/Automatic guides and screws lubrication
- 工作照明灯/Light in the working area
- 操作说明书与相关测试合格证/Instruction manual and test certificate
- CE申明文件/CE declaration of conformity

- 标配BT50皮带式主轴（8000rpm或可选配更高转速主轴或电主轴）。
std spindle is a interchangeable cartridge, belt driver. it is offered BT50 taper 8000rpm.as an alternative electro spindle.

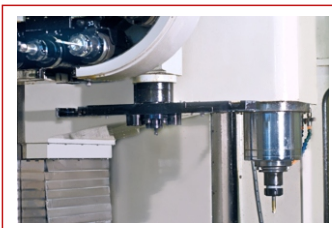


- 通过控制面板可以完全控制机床的所有功能，可推动式操作面板使操作者能方便自如地在各个工序阶段对机床进行操作。
It allows for the complete control of all machine functions. the swing arm and theremote-control panel give the operator the freedom to followthe workphases from the most convenient position.

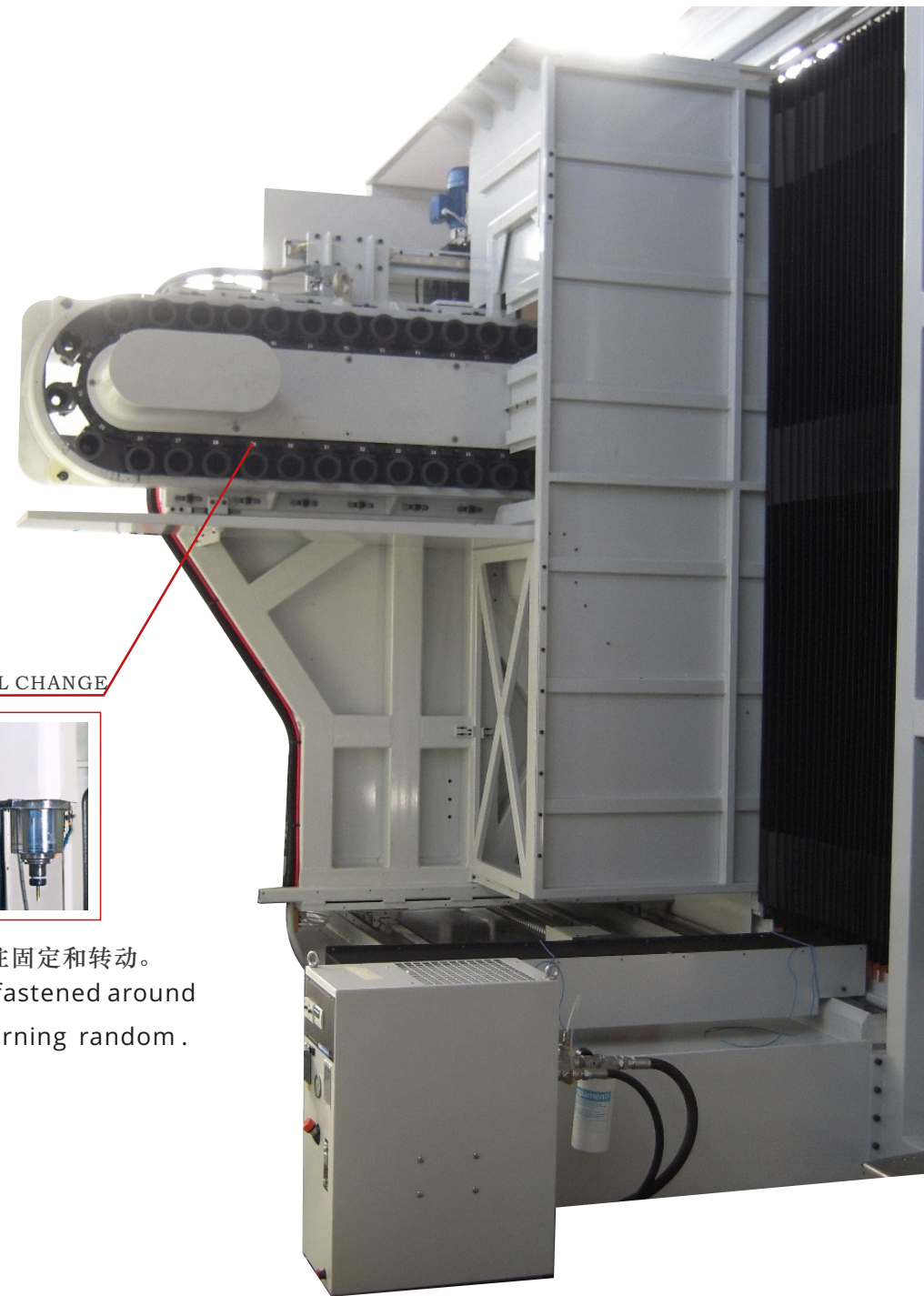
- 可选配四轴旋转工作台
Optional four axis rotating table



■ 自动换刀装置
AUTOMATIC TOOL CHANGE



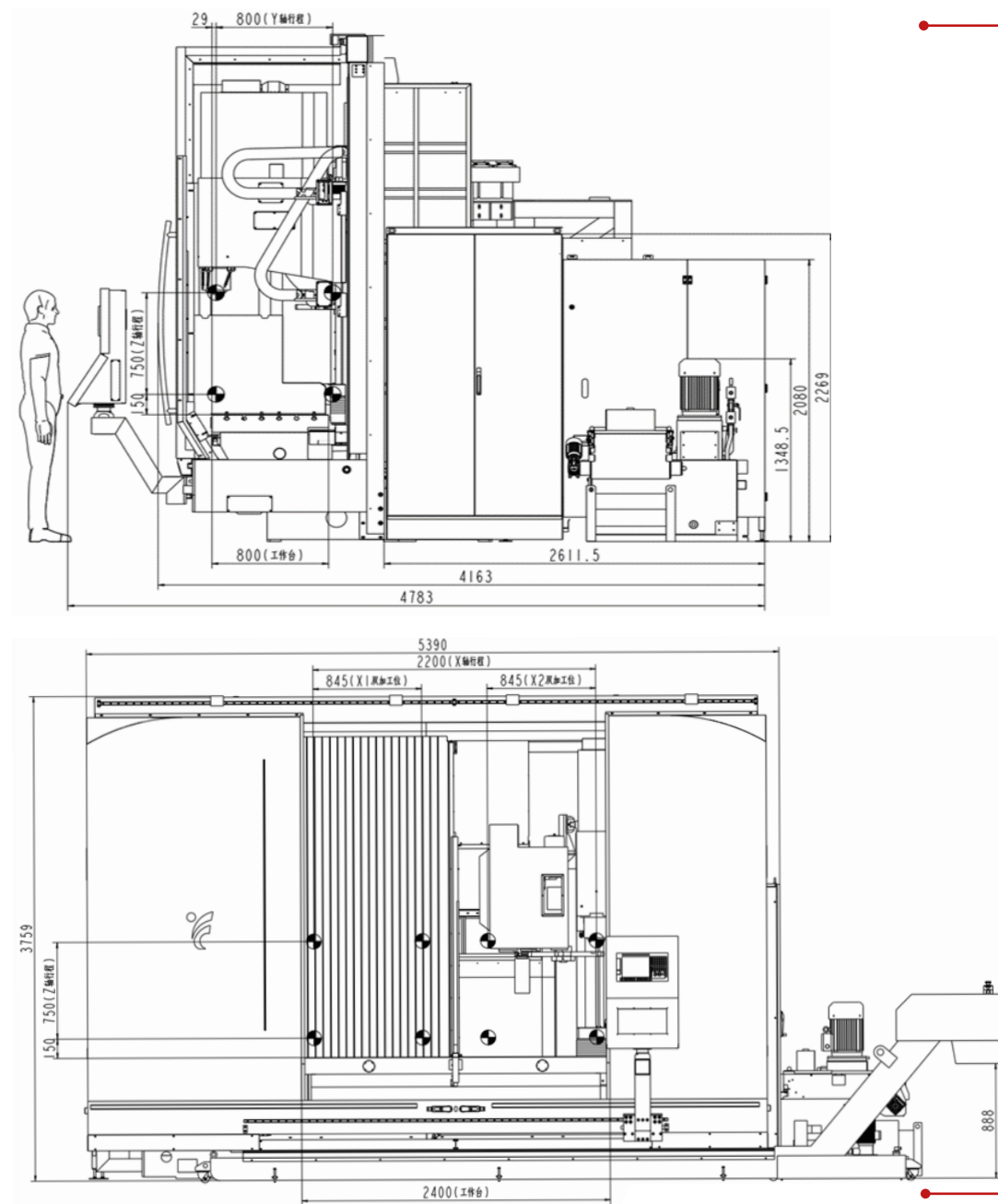
伺服控制、围绕立柱固定和转动。
servo controlled, fastened around the column and turning random .



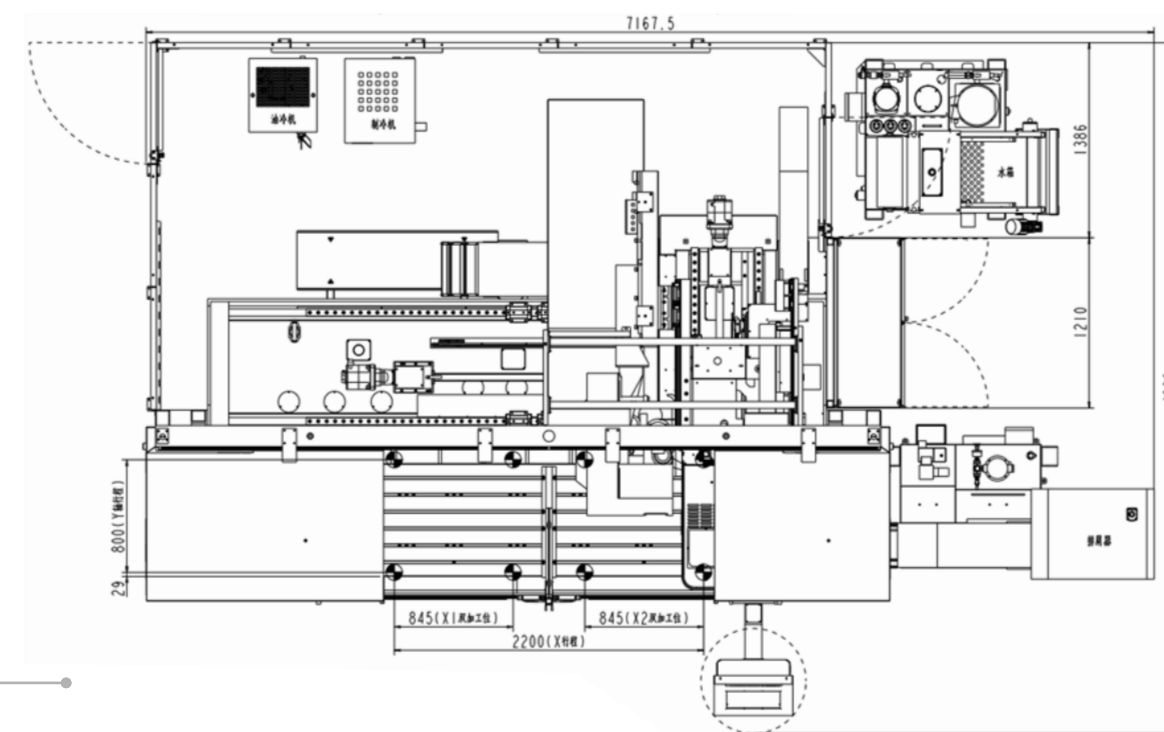
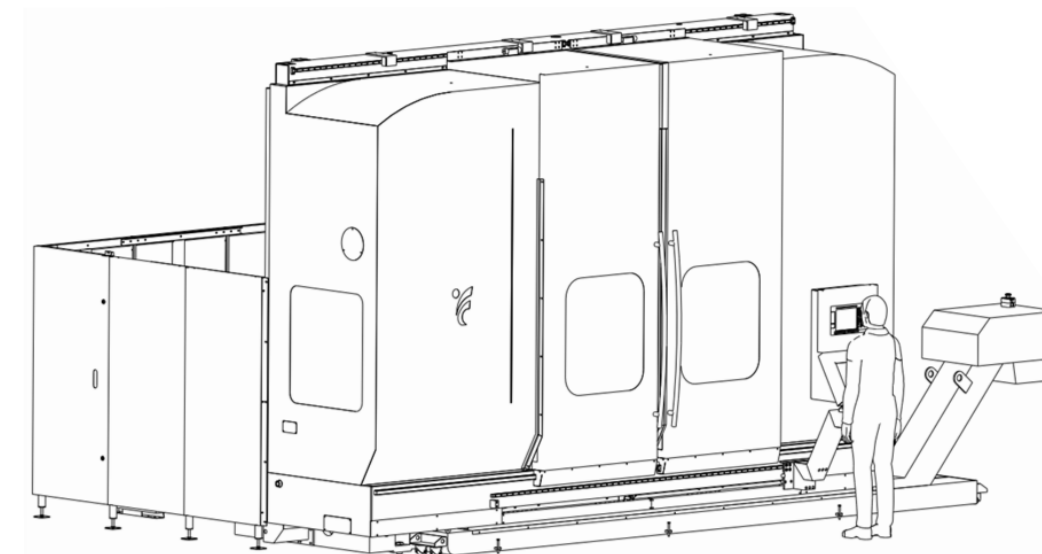
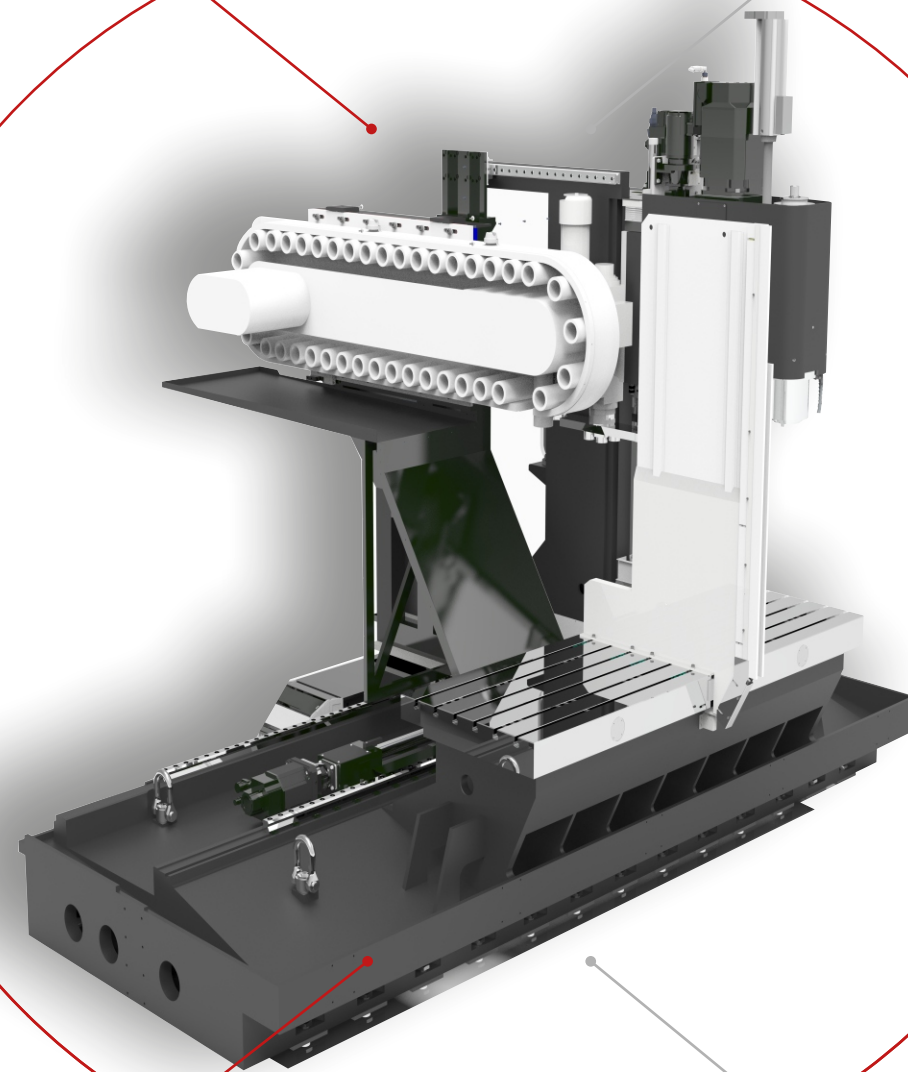
可选配置 - Optional configuration

- 主轴高压中心出水40-60 bar / High pressure through the spindle 40-60 bar
- 工作区内高压清洗系统/ High pressure washing system inside working area
- 自动开关门/Opening-closing doors automation
- 40-120位随机刀库 (BT40/ HSK63)/ 40-120 pos random tool magazine(BT40/ HSK63)
- 4 轴旋转工作台/ 4 axis turntable table
- 5 轴摇篮式工作台/ 5 axis tilting rotary table
- BT40(BBT40)12000Rpm机械主轴/ Machine spindle 12000Rpm BT40(BBT40)
- 电主轴 / Electrospindle
- META自动纸带过滤系统，配有1000L容量的水箱\过滤精度25μm
META automatic paper belt filter system with \ water tank 1000L\Filtration 25 μm
- 双工位模式分隔墙/Wall for pendular operations
- 气枪 / Air gun
- 水枪 / water gun
- 工件测量仪/ Tracking system for workpiece dimensions and alignment check
- 刀具测量仪 / System for measuring tool dimensions and integrity

SPIN ARROW 布局图



SPIN ARROW Layout



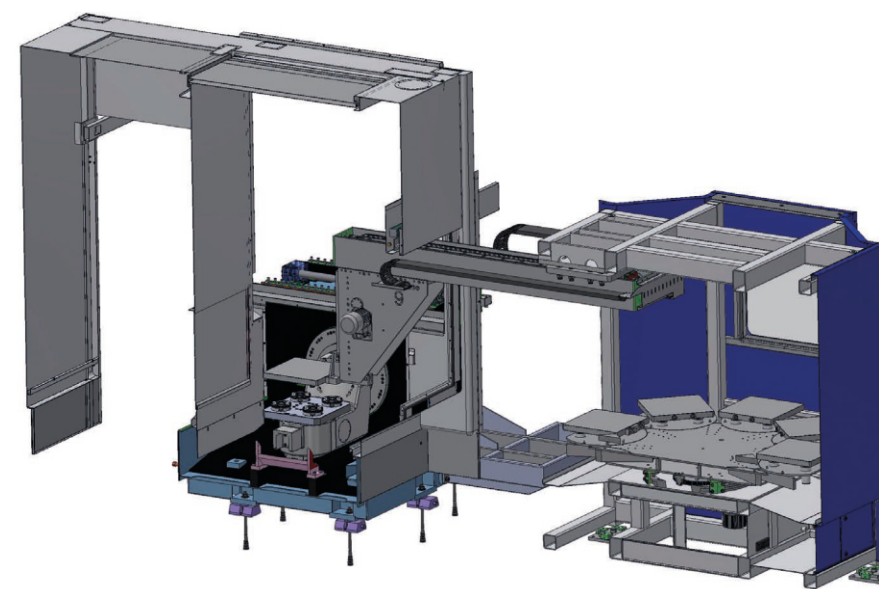


FAGIMA新设计的CrossArm托盘管理系统可与3、4、5轴铣床自动互锁。主要特点是具有非可变容积的仓库；托盘内部放置在旋转支架上，托盘的数量取决于所选托盘的大小（CA**）。

伸缩臂（可承载的最大重量为500公斤）从仓库出来，在仓库本身和机床之间交换托盘，机床上装有四个拉钉固定的接收位置（XCA）。可以通过Solver（带有专用面板的可选软件）自动管理操作。主要管理活动包括：分配处理优先级、记忆工作时间、按对象自动执行处理类型的关联。

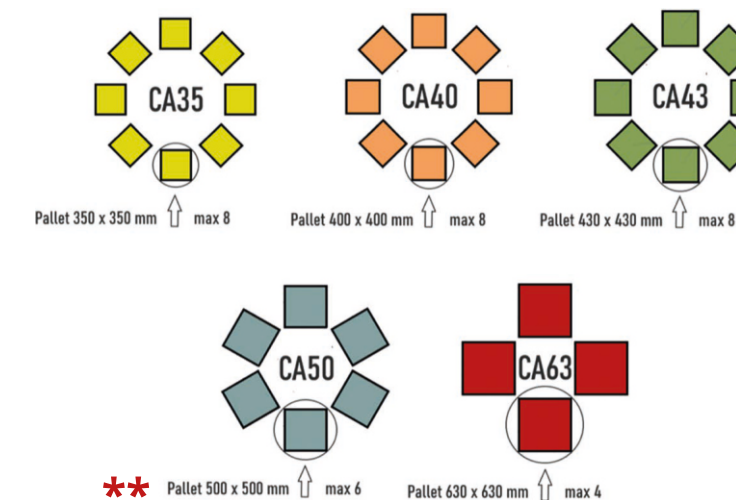
The new Crossarm pallet change system created by Bohai is the result of the experience gained in the combination of automatic interlocking systems for our 3,4and 5 axis milling machines. The main element is the warehouse with a non-variable volume; inside of it the pallets are placed on rotating supports, while their quantity depends on the size of chosen pallets(CA**)

The telescopic arm, with a handling capacity of up to 500 kg, comes out of the warehouse, exchanging the pallets between the warehouse itself and the machine tool, where the receiving table (XCA) having 4 fixing points, is positioned. The operations can be automatically managed by Solver, the optional software with a dedicated panel. The main management activities include: the assignment of processing priority, the memorization of working times, the automatic association of processing type to be performed by object.



- Rotating supports with pallet storage function, with telescopic arm for pallet handling
- Preparation of slots for handling the pallets
- Structural construction having a self-supporting frame with elements of electro-welded tubular, joined by additional paneled elements
- Protection panels around operating area of the telescopic arm
- Indexing of pallets on rotary support through absolute encoder
- X axis positioning through absolute encoder
- Z axis positioning through potentiometer
- Telescopic arm with total horizontal stroke 3400 mm /vertical stroke 250 / mm capacity 500 kg
- Possible access to the machine tool from front or side entry according to needs
- Operator interface with TFT screen for managing basic activities
- Push-button panel for manual controls
- Optional Solver software for automated management functions
- Overall dimensions 2300 mm x 2250 mm h 2330 mm approx
- CE Certification

- 托盘在旋转支架上储存，靠伸缩臂搬运
 - 托盘在行架上运输
 - 行架为焊接结构件，由具有良好支撑的钢板件组成
 - 伸缩臂操作区域周围具有防护板
 - 托盘通过绝对编码器在旋转支架上分度
 - X轴通过绝对值编码器进行定位
 - Z轴通过电位器定位
 - 伸缩臂总水平行程3400mm/垂直行程250/承载能力500Kg
 - 根据需要可以从正面或侧面进入机床
 - 带TFT屏幕的操作员界面，用于管理基本活动
 - 手动控制按钮面板
 - 自动化管理功能的可选解算器软件
 - 外形尺寸2300mmX2250mm高约2330mm
- CE认证



** Pallet 500 x 500 mm ↑ max 6 Pallet 630 x 630 mm ↑ max 4